THE UNIVERSITY
OF ILLINOIS
LIBRARY
Q.610.5
BR
1922

Return this book on or before the **Latest Date** stamped below. A charge is made on all overdue books.
University of Illinois Library

JAN 29 1944
APR 8 1952
APR 18 1986

M32

10.5
BR. Biology
went to binding in
last shipment

THE

British Medical Journal.

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

EDITED BY

SIR DAWSON WILLIAMS, M.D., D.SC., D.LITT.,

AND

NORMAN GERALD HORNER, M.A., M.D.

VOLUME I, 1922.

JANUARY TO JUNE.

London:

PRINTED AND PUBLISHED AT THE OFFICE OF THE BRITISH MEDICAL ASSOCIATION,
429, STRAND, W.C.

KEY TO DATES AND PAGES.

THE following table, giving a key to the dates of issue and the page numbers of the BRITISH MEDICAL JOURNAL and SUPPLEMENT in the first volume for 1922, may prove convenient to readers in search of a reference.

Serial No.	Date of Issue.	Journal Pages.	Supplement Pages.
3184	Jan. 7th	1 – 44	1 – 8
3185	,, 14th	45 – 84	9 – 12
3186	,, 21st	85 – 128	13 – 16
3187	,, 28th	129 – 172	17 – 20
3188	Feb. 4th	173 – 212	21 – 28
3189	,, 11th	213 – 252	29 – 36
3190	,, 18th	253 – 296	37 – 44
3191	,, 25th	297 – 334	45 – 56
3192	Mar. 4th	335 – 374	57 – 64
3193	,, 11th	375 – 420	65 – 68
3194	,, 18th	421 – 462	69 – 76
3195	,, 25th	463 – 504	77 – 84
3196	Apr. 1st	505 – 546	85 – 96
3197	Apr. 8th	547 – 586	97 – 104
3198	,, 15th	587 – 630	105 – 108
3199	,, 22nd	631 – 666	109 – 112
3200	,, 29th	667 – 704	113 – 124
3201	May 6th	705 – 744	125 – 164
3202	,, 13th	745 – 786	165 – 180
3203	,, 20th	787 – 826	181 – 184
3204	,, 27th	827 – 862	185 – 200
3205	June 3rd	863 – 904	201 – 220
3206	,, 10th	905 – 940	221 – 228
3207	,, 17th	941 – 982	229 – 232
3208	,, 24th	983 – 1012	233 – 256

LIST OF ILLUSTRATIONS.

SPECIAL PLATES.

	PAGE
Bone Clip for the Operative Treatment of Fractures (Joseph E. Adams)	facing 259
Cancer of the Breast (Sir G. Lenthal Cheatle)	facing 870
Carelli Method of Perirenal Inflation (F. Hernaman-Johnson)	facing 90
Death from Cancer, Unusual Case of (E. A. Linell)	facing 871
Diaphragmatic Hernia (George J. Langley)	facing 91
Dissecting Aneurysm of the Aorta (Sir Henry Davy and Mabel Gates)	facing 467
Foreign Bodies in the Gastro-intestinal Tract in Appendicitis (William C. Allardice)	facing 467
Fracture of the End Phalanx of Finger (J. N. Laird)	facing 91
Hereditary Polydactylism (R. F. Young)	facing 91
Oral Sepsis in Relation to General Disease (J. M. Ackland)	facing 871
Pneumothorax in a Boy aged 7 (William B. Martin and Robert Knox)	facing 467
Pyelography: Three Cases illustrating the Value of (Clifford Morson and H. P. Winsburg White)	facing 258
(Frank Kidd)	facing 750, 751
Reproductive Organs in Relation to Mental Disorders (Sir F. W. Mott)	facing 466
Suture of Ruptured Left Dome of Diaphragm (C. Jennings Marshall)	facing 871
Traumatic Arterio-venous Aneurysm (George G. Farquhar)	facing 467

ILLUSTRATIONS IN THE TEXT.

	PAGE
After-treatment of Acute Abdominal Disease (H. W. L. Molesworth)	220
Aluminium Throat Swabs (Lachlan Grant)	434
Amputations at the Shoulder and at the Hip (H. Littlewood)	381
Arthritis Deformans, Surgical Treatment of (Harry Platt)	673
Aspirator, a Simple	109
Bacteria, the Digestibility of (C. E. Dukes)	430
Bone Clip for the Operative Treatment of Fractures (Joseph E. Adams)	259
Choroid Plexus and Psammomas (Sir John Bland-Sutton)	213
Death from Cancer, Unusual Case of (E. A. Linell)	872
Ethereal Extract of Strawberries for Treatment of Sprue (Aldo Castellani and K. C. Browning)	718
Fats in Relation to Goitre (Lieut.-Col. Robert McCarrison)	179
Gairdner, Sir William	21
Glasgow and District, Views of	21, 242, 649, 883
Haemorrhoids Treated by Suture, Instrument for	64
Heart Symptoms, Nature and Significance of (Sir James Mackenzie)	505, 552
Influenza Epidemics in Schools, Restriction of (A. I. Simey and John W. H. Eyre)	433
Intratracheal Medication	149
Non-rheumatic Aortic Stenosis (W. Gordon)	836
Obscure Intestinal Colic (H. Tyrrell Gray)	254
Pain, Clinical Aspects of (Henry Head)	2
Prostatic Enlargement in Old Age, Nature and Cause of (Kenneth M. Walker)	297
Puerperal Infection, a Method of Preventing (F. H. Whyte)	638
Radium Applicator Forceps	842
Radium Therapy (Robert Knox)	633
Reproductive Organs and Mental Disorders (Sir F. W. Mott)	463
Rhodesian Skull	198
Rivers, W. H. R.	977
Skull (?) of Sir Thomas Browne	726
Slipping Peroneal Tendons Treated by Kelly's Operation (D. W. Hume)	600
Spasmodic Stricture of the Uterus (M. A. Dobbin Crawford)	136
Specific Sensitiveness and Anaphylaxis (H. H. Dale)	45
Stomach and Duodenum, Secretion into (T. Izod Bennett and E. C. Dodds)	9
Synovitis of the Knee-Joint, Chronic (Captain G. Gelston Atkins)	948
Trichotillomania due to Threadworms (Henry C. Semon)	641
Urethroscope Tube for the Posterior Urethra	356
Vaginal Retractor, a Self-retaining	64
Valentine Mott's Aneurysm Needle (Alban H. G. Doran)	640

610.5
BR
1922
Biology

INDEX TO VOLUME I FOR 1922.

READERS in search of a particular subject will find it useful to bear in mind that the references are in several cases distributed under two or more separate but nearly synonymous headings—such, for instance, as Brain and Cerebral; Heart and Cardiac; Liver and Hepatic; Renal and Kidney; Cancer and Carcinoma, Epithelioma, Malignant Disease, New Growth, Sarcoma, etc.; Child and Infant; Bronchocele, Goitre, and Thyroid; Diabetes, Glycosuria, and Sugar; Light, Roentgen, Radium, *X* Rays; Status Lymphaticus and Thymus; Eye, Ophthalmia, and Vision; Bicycle and Cycle; Motor and Automobile; Association, Institution, and Society, etc. Subjects dealt with under various main headings in the JOURNAL have been set out in alphabetical order under their respective headings—for example, "Correspondence," "Leading Articles," "The Week," "Reviews," etc. Original Articles are indicated by the letter (O).

A.

AARON, C. D.: *Diseases of the Digestive Organs, with special reference to their Diagnosis and Treatment*, rev., 233
Abdomen, acute (E. Emrys-Roberts and H. A. Haig), 681
Abdomen, review of book on, 62
Abdominal disease, acute, some principles of after-treatment in (H. W. L. Molesworth), 218 (O)
Abdominal emergencies (Geary Grant), 680
Abdominal emergencies of childhood (John Fraser), 173 (O)
Abdominal emergencies, drainage in (A. Churchill), 591 (O)—Correspondence on, 697
Abdominal tuberculosis. *See* Tuberculosis
Aberdare, study of the industrial, social, and educational life in, 113
Aberdeen: Influenza in, 285—"Faith-healing" in, 619
Ability in children. *See* Children
Abortion and birth control, 334
ABRAHAM, J. Johnston: *My Balkan Log*, rev., 196
ABRAM, George Stewart: Knighthood conferred upon, 25
ABRAMS, Albert: Many inventions, 733
ABRAMSON, Leonard: Herpes and varicella, 172
ABREU, Manoel de: *Radio-diagnostic dans la Tuberculose Pleuro-Pulmonaire*, rev., 18
Abscess of liver, amoebic (Sir Leonard Rogers), 224, 264, 345 (O)
Abscess, subphrenic, and thoracic surgery (leading article), 320
Abscess, temporo sphenoidal (James Adam), 991 (O)
Absent treatment at sea, 666
Académie de Médecine: Election of foreign correspondent, 43—Election of foreign associate, 43—Inaugural address by Professor E. Sergent, 282—Madame Curie elected *membre associée libre*, 282—Pathology of influenza, 282—*Centenaire de l'Académie de Médecine* (1820–1920), 447
Academy of Medicine, Buenos Aires, centenary of, 1011

ACADEMY, ROYAL, OF MEDICINE IN IRELAND:
Section of Medicine.—Prognosis in mental disease, 606—The treatment of acute infections, 606—Brain tumour, 920—Case of meningitis which recovered, 920—Lymphatic leukaemia, 921—Hypothyroidism, 921
Obstetrical Section.—Obstetrical shock, 605—Supports of uterus, 606—Ovarian pregnancy, 682
Section of Pathology.—Food poisoning due to Gaertner's bacillus, 682
Section of State Medicine.—Milk and the public health, 681
Section of Surgery.—Suture of sciatic nerve, 391—Stiff metacarpo-phalangeal joints treated by Verrall's splint, 391—Myositis ossificans of the brachialis anticus, 391—Large spleen successfully removed from a case of haemolytic jaundice, 391—Results of a year's work with radium emanation, 391—Necrosis of the proximal phalanx leaves a flail thumb, 391—Arterio-venous aneurysms, 521—Intrathecal tumour of the cervical spinal cord, 522

ACHARD, Professor: *L'Encéphalite Lethargique*, rev., 802
Achondroplasia, bovine, 739, 817
ACKLAND, J. M.: Notes on oral sepsis in its relation to general disease, 872 (O)
ACOMB, J.: Mucocele of the frontal sinus, 345 (O)
Acquired characters and maternal impressions, the inheritance of, 167
Acromion process (right) and left anterior superior iliac spine, a half-way point between, 786
Action for damages for wrongful dismissal, 295
Actinomycosis of mandible and cheek (Neil Sinclair), 840
Acute abdomen. *See* Abdomen
ADAM, James: Temporo-sphenoidal abscess, 991 (O)
ADAMS, Alex. Maxwell: *A Dynasty of Doctors*, rev., 880
ADAMS, John: The ante-natal treatment of congenital syphilis with salvarsan and mercury, 56 (O)
ADAMS, John: Local results of dental infection, 145
ADAMS, John: Death of, 703; obituary notice of, 741
ADAMS, J. E.: Treatment of gastric ulcer, 229
ADAMS, Joseph E.: A bone-clip for the operative treatment of fractures: End-results in the case of growing femurs, 258 (O)
ADDISON, O.: Bronchial cyst, 192—Chronic empyema, 839
Addison's disease, case of rapidly fatal (Christian M. Fleming), 951
Addison's disease treated by suprarenal grafting (A. F. Hurst), 268
Adenoids and tonsils, operations for: Recommendations by the Council of the Section of Laryngology of the Royal Society of Medicine, 526—Leading article on, 527—Correspondence on, 740, 786
Adenoids and tonsils, end-results of removal of (Harold S. Sington), 341 (O)
Adenomyoma, extrauterine, decidual reaction in (C. D. Lochrane), 438
Adenomyoma of the recto-vaginal space (A. Donald), 839
Advertisement, an eighteenth-century, 44
Aesculapius and consumption, 586, 786
Africa, South, bilharzia disease in, 975
After-Care Association. *See* Association, Mental After-Care
After-treatment (R. H. Parry), 315
Air, suspended impurities in the (J. S. Owens), 654
Air Force, The Royal: Estimates, 493—Medical services for (parliamentary note), 534—Vaccination of recruits (parliamentary note), 777. *See also* Aviation
AITCHISON, H. H., presentation to, 629
AITKEN, Charles J. Hill: Otitis media in infants, 84—Flat-foot and toe troubles, 172—Hang-nails, 172—Blindness following influenza, 311—Pain in thigh, cerebral and pulmonary haemorrhage, death, 719—Functional amblyopia, 875
AITKEN, D. McCrae: The Orthopaedic Hospital of the Ministry of Pensions, an extravagant economy, 328—Remedial exercises in scoliosis, 436—Scoliosis, 960
"Alastrim," 699, 780, 856, 975
Alastrim epidemic in Jamaica, 461. *See also* Small-pox, mild
Albania, medical observations in, 781
Albuminuria in pregnancy: discussion at Harveian Society, 520
Alcohol, effects of on gastric digestion, 448
Alcohol in relation to industry, 574
Alcohol, medical men's attitude towards, 537
Alcohol prescriptions issued in 1921: In New York State, 311—In Chicago district, 311—In Ontario (in December, 1921), 419
Alcohol, questions on the uses of (America), 83
Alcoholic liquors, the consumption of (parliamentary note), 579
ALDRIDGE, George, presentation to, 861
ALEXANDER, Dr.: A plea for the earlier diagnosis of glaucoma, 642
ALEXANDER, J. Browning: Fragilitas ossium associated with blue sclerotics in four generations, 677 (O)
Alimentary toxaemia in nervous disorders (Theodore Thompson), 351
Alimentary tract, spasm in (G. de B. Turtle), 105
Alkaptonuria, 73
ALLARDICE, William C.: Foreign bodies in the gastro-intestinal tract in acute appendicitis, 473 (O)
ALLBUTT, Sir Clifford: Appreciation of Sir German Sims Woodhead, 40—The composition of scientific papers, 780—Elected a foreign honorary member of the American Academy of Arts and Sciences (Boston, Mass.), 861
ALLAN, James: Pins removed from bladder and prostate, 188
ALLWORTHY, S. W., No. 1 Casualty Clearing Station, 124
Alpine treatment of tuberculosis, 249. *See also* Tuberculosis
Altitudes, high, physiological effects at, 966; oxygen at, 1003. *See also* Mount Everest
Aluminium throat swabs (Lachlan Grant), 434 (O)
Amblyopia, functional (Charles J. Hill Aitken), 875
Ambulance competition, all-India, 695
America. *See* United States
American surgeons' tour to Europe, 861
Ammonium chloride in glycosuria, 420
Amoebicidal action of conessine (Major H. C. Brown), 993 (O)
Amputations at the shoulder and at the hip (Lieut.-Col. H. Littlewood), 381 (O)
Anaemia, pernicious, aplastic or toxic (J. F. Rey), 679 (O)
Anaemia, pernicious, and septic anaemia (William Hunter), 421 (O)—Correspondence on, 541, 659
Anaesthesia, ether, perhalation method of administration (Dr. Ogston), 762
Anaesthesia, general, post-anaesthetic complications (G. F. R. Smith), 513 (O)
Anaesthesia, general, and spinal analgesia, 165, 290. *See also* Analgesia
Anaesthesia in intracranial surgery (Z. Mennell), 518
Anaesthesia, nitrous oxide (A. L. Flemming), 348
Anaesthesia, nitrous oxide and oxygen (Holme Henderson), 763—Correspondence on, 858
Anaesthetic apparatus a combined, 443
Anaesthetics in general practice, 84
Analgesia, spinal, 165, 290. *See also* Anaesthesia
Anaphylaxis and anaphylatoxins (H. H. Dale and C. H. Kellaway), 268
Anaphylaxis and specific sensitiveness (H. H. Dale), 45 (O)
Anatomy, review of books on, 146, 922
ANDERSON, Sir Alan: The change in hospital finance, 899
ANDERSON, D. E.: Resuscitation after apparent death, 416
ANDERSON, Hugh Kerr, knighthood conferred upon, 928
Andes, the physiology of life on the (Joseph Barcroft), 648, 966
ANDREWES, Sir Frederick: The Schick reaction, 774
ANDREWS, Dr.: Syringomyelia, 517; cutaneous angeioma of the neck, 517—Conservative labour induction, 999
ANDREWS, H. Russell (and Comyns BERKELEY and J. S. FAIRBAIRN): *Diseases of Women*, rev., 722
Aneurysm of the aorta, dissecting (Sir Henry Davy and Mabel Gates), 471 (O)
Aneurysms of the thoracic aorta involving the lung (James Fanning), 758 (O)
Aneurysm, arterio venous (Sir W. I. de C. Wheeler), 521
Aneurysm, arterio-venous, treated by ligation of the left subclavian artery (Charles Noon), 714 (O)
Aneurysm, arterio-venous, traumatic (George G. Farquhar) 472 (O)
Aneurysm needle. *See* Needle
Angina faucium. *See* Throat, sore
Anglo-French Drug Co.: Intestinal disinfection in enteric fever, 504
Anglo-French relations, 283
Animal breeding, research in (Scotland), 619
Animal diseases: Report of the Advisory Committee on Research into, 487. *See also* Pathology, comparative
Animal Experimentation Protection, Committee formed in Boston, 333
Animals Bill, Cruelty to, 492—Leading article on, 528. *See also* Cruelty *and* Antivivisection
Animals, experiments on (parliamentary note), 812
Ankylostomiasis in Cornwall, 406. *See also* Hookworm
ANNETT, H. E., wins an action for damages for wrongful dismissal, 295
Ante-natal cases, routine pelvimetry in, 498
Ante-natal treatment of syphilis. *See* Syphilis
Ante-natal work, two and a half years' (Mary E. Weston), 837 (O)
Anthrax, case of (William Martin) 188
Anthrax spores in wool, etc., not destroyed by ultra-violet rays, 703

511379

Anti-anaphylaxis (Fernand Widal), 854
Antidysentery serum in treatment of asylum dysentery (P. Lornie and D. Ellis Jones), 949 (O)
Antigen, tuberculous egg, prepared, 109
Antigua, parasitology and clinical aspects of malaria in (W. M. McDonald), 597 (O)
Antimony, butter of, case of poisoning by (William Bell), 917 (O)
Antimony in leprosy (G. H. Wildish), 55 (O)—Note on, 939
Antimony in syphilis (F. G. Cawston), 266—Note on, 939
Antimony, tartarated, rectal administration of in bilharziasis (H. F. Wilson), 137 (O)
Antimony, therapeutic uses of, 296, 504
Antimony, a case of trypanosomiasis from West Africa cured by (Sir Percy Bassett-Smith), 311
Antiseptic dyes. *See* Dyes
Antityphoid vaccination by the mouth, 613
Antivenereal. *See* Venereal
Antivivisection Bill, a new (leading article), 528. *See also* Animals *and* Cruelty
ANTONI, N., awarded the Lennmalm prize, 43
Aortic aneurysm. *See* Aneurysm
Aortic incompetence, the recognition of (E. M. Brockbank), 181 (O)—(C. H. Broomhead), 266—Correspondence on, 246, 370, 454, 499, 540, 661
Aortic murmur (Thomas Lindsay), 759—Correspondence on, 902, 1010
Aortic stenosis, non-rheumatic (W. Gordon), 836 (O)
Apothecaries' Society of London, discontinuance of trading operations of, 861, 939, 1010
Appendicitis, acute, foreign bodies in the gastro-intestinal tract in (William C. Allardice), 473 (O)
Appendicitis, acute gangrenous, simulated by pneumococcal peritonitis (J. F. Rey), 347
Appendicitis, incipient acute, diagnosis of (Robert M. Rowe), 226
Appendicitis, review of books on, 393
Appendix dyspepsia (R. J. M. Buchanan), 800
Appendix removed at operation subsequently fixed and bisected in the longitudinal mesial plane (E. Emrys-Roberts and H. A. Haig), 681
Approved societies. *See* Insurance *and* Profession
ARCHIBALD, Major R. G. (and Lieut.-Col. W. BYAM, editors): *The Practice of Medicine in the Tropics*, rev., 315
ARCHDALE, M. A.: Lunacy administration, 150
Archives of Medical Hydrology, first number, 852
Areas, unhealthy (parliamentary note), 777
Argentine Medical Syndicate, note on, 939
ARMAND-DELILLE, P. F. (and L. NÈGRE): *Technique de la Réaction de Déviation du Complément de Bordet et Gengou*, rev., 686
ARMSTRONG, Gilbert R. A.: Resuscitation after apparent death, 141
ARMSTRONG, Henry E.: Carbonic oxide in tobacco smoke, 992 (O)
ARMSTRONG-JONES, Sir Robert: The ideal psychiatric clinic, 313—Recovery in mental cases, 643

ARMY, BRITISH:
Alexander Memorial Prize, 903
Army of occupation bonus for R.A.M.C. officers in India, 43
Auxiliary R.A.M.C. funds, 43, 976
Estimates 492
Hospitals in the Territorial Force, 35, 80, 166, 250, 980
Medical libraries, 585
Militia, revival of, 251
Parkes Memorial Prize, 904
Parliamentary notes, 492, 534, 617 853
Recruiting for the 8th (London) Sanitary Company, 461
Royal Army Medical Corps, 460, 617—Examination of officers for promotion, 700
Small-pox in, 853
Territorial army medical establishments, 534
Territorial army reductions, 406
Territorial decoration, 43, 623
Volunteer officers' decoration, 820

Army Council Instruction (No. 15 of 1922): Sanatorium treatment for tuberculous officers, 170
Army Instruction (India) No. 917: Army of Occupation bonus for R.A.M.C. officers in India, 43
Army medical libraries, 585
Army Orders *re* reduction of Service establishments, 812
Arsenobenzol compounds, action of on the liver (Mackenzie Wallis), 312
Arsenobenzol preparations, the action of: Discussion at the Royal Society of Medicine, 312
Arsenobenzol ("914") preparations, experimental method of determining the therapeutic efficiency of (H. H. Dale and Major C. E. White), 312
Art and medical science (leading article), 155
Art in industry (T. M. Legge), 1006
Arteries, innominate and subclavian, Valentine Mott's aneurysm needle for ligature of (Alban H. G. Doran), 639 (O)
Arterio-venous aneurysm. *See* Aneurysm
Artery, torn splenic—splenectomy (John Arthur Reed), 101
Arthritis deformans as a deficiency disease (G. C. Belcher), 186
Arthritis deformans of hip, operation for (H. Platt), 563, 672 (O)—Correspondence on, 738, 817
Arthritis, papers on condition of brain, spinal cord, etc., in, 545
Arthritis, rheumatoid, due to infection of the nasal accessory sinus (P. Watson-Williams), 88 (O)
Arthritis, rheumatoid, and its treatment (Leonard Dobson), 998
ARTHUS, M.: *Précis de Physiologie Microbienne*, rev., 148
Artificial legs (C. W. Cathcart), 391, 500
Artificial limbs: Demonstration of, 522
Ascites, following cirrhosis of liver: Operation for the relief of (James L. Bocarro), 101
Ascites, progressive, with splenomegaly (Arthur J. Hall), 592 (O)
ASCOLI, A.: *Grundriss der serologie*, rev., 723
ASH, W. M.: Hereditary microphthalmia, 558 (O)
ASHHURST, A. P. C. (and J. B. DEAVER): *Surgery of the upper abdomen*, rev., 62
Asphyxiating gas. *See* Gas
Aspirator, a simple, 109 234
Assam, medicine in, 165, 457
ASSMANN, Herbert: *Die Röntgendiagnostik der inneren erkrankungen*, rev., 148
Association, American, of Anatomists: Annual meeting, 51
Association, American Laryngological: de Roaldes prize, 127
Association, American Medical: Annual meeting, 743, 846—List of new and non-official remedies, 927
Association, American Public Health: Jubilee historical volume of, 804
Association, Certificated Blind Masseurs, 812
Association of British Chemical Manufacturers: New list of fine chemicals, 666
Association, British Hospitals: Annual conference, 899
Association, British Medical: Annual Meeting, Glasgow (1922), 29, 242 649, 850, 883, 889—Leading article on, 889—Pathological museum, 204—Surgical discussions, 447—Scientific Sections, 574, 614, 653, 693, 731, 810, 928—Reporting the Sections, 928—The medical institutions of Glasgow, 883—Visit to John Hunter's birthplace, 903—Bowling match, 980

ASSOCIATION, BRITISH MEDICAL, CLINICAL AND SCIENTIFIC PROCEEDINGS:
Bath and Bristol Branch—Rheumatoid arthritis due to infection of the nasal accessory sinus, 88
Birmingham Branch.—Diagnosis and treatment of intrathecal tumours of the spinal cord (Sir William Thorburn), 49
Border Counties Branch. — President's address on streptococcal infection by the nasal and buccal paths, 304
Cardiff Division.—Cyst of spermatic cord, 188—Case of intussusception, 188—Extreme case of molluscum fibrosum, 188—Specimen of intussusception, 188—Osteogenesis imperfecta in a young child, 138—Prostatic calculi, 188—Case of anthrax, 188
Edinburgh Branch.—Clinical meeting, 368
Exeter Division.—Clinical and pathological meeting, 919
Gloucestershire Branch.—Deep *x*-ray therapy in malignant disease, 92
Hampstead Branch.—Clinical meeting, 517—Syringomyelia, 517—Cutaneous angeioma of neck, 517—Enlarged cervical glands, 517—Horseshoe kidney, 517—Congenital spastic paraplegia, 517—Dislocation of the shoulder-joint, 517—Pseudo-coxalgia, 517—Diverticulitis of the colon, 517—Gastric ulcer, 517
Kent Branch.—Some principles of after-treatment in acute abdominal disease, 218
Leeds Division.—School medical work, 187—Treatment of ringworm, 187—Pathological aspects of sarcoma of bone, 188—Pins removed from bladder and prostate, 188
Malaya Branch.—Gastric syphilis, 217—Annual meeting, 561—Melioidosis, 561—Singapore Medical School, 561—A defect in the sterilization technique, 561—Quinine and the quinine controversy, 561—Influence of ethics in medical practice, 561—Small-pox in Singapore, 730
North Lancashire and South Westmorland Branch.—A plea for the earlier diagnosis of glaucoma, 642—Puerperal eclampsia, 642—Child of 4 with extraordinary malformation which was present at birth, 642—Exhibition of cases, 642
Nottingham Division—Pyelography, 748
Nuneaton and Tamworth Division.—Caesarean section with special reference to present day indications for operation, 909
Sheffield Division.—Specific sensitiveness and anaphylaxis (H. H. Dale), 45
South Australian Branch.—Election of president, 411—Listerian oration, 411
South-Western Branch.—The position of the thyroid gland in the endocrine system, 85—Some notes on oral sepsis in its relation to general disease, 872
Ulster Branch.—Winter meeting, 388—Branchial cyst, 388—Cystic hygroma of neck, 388—Tooth-plate removed by oesophagotomy, 388—Ankylosis of the left temporo-mandibular joint cured by excision of the head of the mandible, 388—Recent advances in cystoscopy and pyelography, 388—"Indigestion" since childhood in a female aged 40, 388—Obstruction of the duodenum, 388—Jaundice produced by enlargement of the head of the pancreas and relieved by cholecyst-duodenostomy, 388—Remarks on a series of nerve cases, 389—

ASSOCIATION, BRITISH MEDICAL (*continued*):
Clinical meeting, 996—Exhibition of cases and specimens, 996
Westminster Division. — The interstitial gland, 833
Worcestershire and Herefordshire Branch.—Hyperthyroidism, 905

Association, British Medical, hospital policy of. *See* Hospital
Association, British Orthopaedic: Annual meeting, 61—Late results of treatment of congenital dislocation of the hip, 61—Sacralization of the fifth lumbar vertebra, 61—Endosteal tumours, 61—Demonstration of patients and operations 61—Summer meeting at the Treloar Hospital for Crippled Children, Alton, 980
Association, Canadian Medical, 825
Association of Economic Biologists: "Gassed" plants, 851
Association, French, for the Advancement of Science, 769
Association, Glasgow Infant Health Visitors': Annual meeting, 369
Association, Glasgow Post-Graduate Medical, 737
Association, International Grenfell, establishes hospitals in Newfoundland and Labrador, 51
Association, Irish Medical Schools' and Graduates': Annual general meeting, 491
Association, Japanese Medical: Annual meeting, 353
Association, Liverpool Ladies' Sanitary, 855
Association, London, of the Medical Women's Federation: Ambulatory treatment of tuberculous disease of bones and joints, 104—Celluloid splints, 104—Influence of complications of pregnancy on infant mortality, 390—Employment of married women, 481—Medical aspects of penology, 840—Dinner, 1009
Association, Medical Defence, of South Australia: Annual meeting, 411
Association of Medical Officers of Schools decides to suspend *School Hygiene* pro tem., 861
Association, Medico-Psychological, of Great Britain and Ireland: Psychological analysis in diagnosis, 389 — Genetic origin of dementia praecox, 953
Association, Mental After-Care: Annual meeting, 364
Association, Mental Hospitals', issues a memorandum on asylum administration, 111
Association of Assistants in Pathological and Bacteriological Laboratories, new constitution of, 577
Association for Research in Nervous and Mental Diseases: Discussion on lethargic encephalitis, 694
Association of Surgeons of Great Britain and Ireland: Annual meeting, 779
Association, Women's Health: Annual meeting, 737
Association, Yorkshire, of Medical Women, 903
ASTEN, Walter: Professional secrecy and medical evidence, 124
Asthma, bronchial, tuberculin treatment of, 128, 212 252
Asthma and the radium menopause (J. N. MacBean Ross with a note by Sir Humphry D. Rolleston), 12 (O)—Correspondence on, 416, 455, 818
Astigmatism, the axis of, and its location (Joshua Keyms), 838
Asylum, Aberdeen Royal: Annual report, 245—Effects of the religious revival in N.E. Scotland, 245
Asylum administration, committee of investigation appointed, 73—Memorandum issued by the Mental Hospitals' Association: *Thirty Years' Administration of Public Asylums in England and Wales*, 111—Parliamentary note, 284—Correspondence on, 858. *See also* Lunacy administration
Asylum dysentery treated with antidysentery serum (P. Lornie and D. Ellis Jones), 949 (O)
Asylum, Glasgow Royal: Report, 410
Asylum methods, 858
Asylum, James Murray's Royal, Perth: Report, 537
Asylum patients, London, discharge of, (parliamentary note), 657
Asylum system, 893. *See also* Lunacy
Asylums, ex-service men in. *See* Ex-service
Asylums, number of persons sent to, in New York State, 331
Asylums, public, and mental hospitals (leading article), 651
Athletics, review of book on, 62
ATKIN, Lord Justice, professional secrecy, 535
ATKINS, Captain G. Gelston: Treatment of chronic synovitis of the knee-joint, 948 (O)
Atmospheric pollution (leading article), 527
Atrophy, progressive muscular, statistics as to prevalence amongst printers, 128
AUDEN, G. A.: Encephalitis lethargica and mental deficiency, 165
AULD, A. G.: Note on the peptone treatment, 835 (O)
AULD, Colonel S. J. M., suggests that the administration of the Rats and Mice Destruction Act be transferred to the Ministry of Health, 252
Auricular fibrillation and flutter (Dr. Harris), 564
Auricular fibrillation, quinidine in (John Hay), 564—(W. T. Ritchie), 801. *See also* Fibrillation *and* Heart
AUSTIN, Reginald F. E.: Expectant treatment of measles and influenza, 901

Australia, South: The Branch, 411—Medical Defence Association, 411—Medical legislation, 411—The University, 411
Austria: Distress among the medical profession in, Brazil doctors' contribution, 83—"Birth control" in, 281
Auto-suggestion and the Coué method, 575. *See also* Coué
Aviation, research work in, 26. *See also* Air
AXHAM, F. W., the case of, 936, 976, 1010

B.

Babies' weights, 774, 780. *See also* Infants
Baby welfare conferences, 861
BACH, H. (and others): *Anleitung und Indikationen für Bestrahlungen mit der Quarzlampe*, rev., 233
B. coli bacilluria, 704
B. diphtheriae, culture medium for (Captain S. R. Douglas), 268. *See also* Diphtheria bacillus
Backache and referred pain, discussion on, 960
BACOT, Arthur William, obituary notice of, 662—Funeral of, 703
Bacteria, digestibility of (C. E. Dukes), 430 (O)
Bacteria, absorption of ferments by (C. E. Dukes), 437
Bacteria, parasites of, 362
Bacterial diseases, acute, residual vaccines in (C. E. Jenkins), 596 (O)
Bacterial infection, review of books on, 148
Bacteriology, review of book on, 442
Bacteriophage, review of book on, 354—Note on, 362
BAGOTZKY, Serge: Preventive medicine in Soviet Russia, 574
BAIN, Lieut.-Col. David Stuart Erskine, obituary notice of, 664
BAIN, John: Alpine treatment of tuberculosis, 666
BAIRD, Harvey: Genetic origin of dementia praecox, 954
BAKER, Sara Josephine, dinner to, 743
BALFOUR, Andrew: Relations between vegetable and human pathology, 143—The outlook in tropical medicine, 775—The outlook in tropical hygiene, 819
BALLANCE, Sir C. A: The history of brain surgery, 39—Henry of Navarre, 371
BALLANCE, Sir Hamilton: Clayden *v.* Wood-Hill, 81, 209, 372, 501, 700, 902
BALLANTYNE, J. W.: Diagnosis and treatment of acute tubal peritonitis, 349—Induction of premature labour, 481
Balneotherapy in tuberculosis, 301. *See also* Metabolism *and* Sun
BANKART, A. S. Blundell: Excision of head of femur in arthritis deformans, 738
Bar, medical men called to the, 211, 824
BARCLAY, A. E.: Diagnosis of gastric ulcer, 189—The normal stomach, 958—Methods of stomach examination, 958
BARCROFT, Joseph: Delivers the New York Harvey Society lecture on "The *raison d'être* of the red corpuscle," 333—The physiology of life on the Andes, 648, 966
BARDSWELL, Noel: Re-education of tuberculous ex-service men, 409
BARENDT, Frank H.: Dermatitis exfoliativa, 564
BARHAM, C. F.: Lunacy administration, 150
Barium sulphate, pure, 395
BARKER, Lieut.-Col. Frederick Rowland, obituary notice of, 418
BARKER, Herbert Atkinson, knighthood conferred upon, 929
Barley water, 786
BARLOW, Sir Thomas: Appreciation of Sir German Sims Woodhead, 126
BARNARD, Joseph E.: The microscope in medical research, 489
BARNES, A. E.: Etiology and treatment of diabetes, 737, 857
BARR, Sir James: Hollow viscera and vessels, curvature and pressure, 371—Many inventions, 819
BARRAS, Dr.: Perhalation method of ether administration, 762
BARRATT, Mary M. (P. PARTHASARATHY and J. C. G. LEDINGHAM): The record of a brief experience with the Sachs-Georgi test, 594 (O)
BARRETT, Lady: Notification of venereal disease, 767
BARTLETT, Dr.: Ruptured left ventricle of heart from an epileptic patient, 919
BARTON, G. A. H.: Nitrous oxide anaesthesia, 349
BASKETT, B. G. M.: The Insurance Act and the public health, 740
BASSETT-SMITH, Sir Percy: Case of trypanosomiasis from West Africa cured by antimony, 311—The action of arsenobenzol preparations, 312
Baths, mud, at Pistany, 981
BATTEN, G. B.: Electrical methods in gynaecology, 144—Methods of stomach examination, 959
BATTESON, V. J.: The hospital policy of the Labour party, 660
BATTYE, W. R.: Spinal analgesia, 165
BAXTER, E. M. (and A. J. EAGLETON): The virulence of diphtheria-like organisms, 139 (O)
BAYLY, WANSEY: Policy of the Society for the Prevention of Venereal Disease, 1002
BAYLISS, W. M., knighthood conferred upon, 928
BEADLES, J. N.: Influenza (?) accompanied by convulsion, 226
BEADNELL, Surgeon Rear-Admiral C. Marsh: The interstitial gland and sex problems, 973
BEALS, Lester Hayes, Kaisar-i-Hind medal conferred upon, 25
BEATH, R. M.: *X*-ray therapy, its biological action and scope in medicine, 682
BEATON, Thomas: Recovery in mental cases, 643
BEATSON, Sir George T., presentation of his portrait to, 33
BECK, Conrad: *The Microscope, a Simple Handbook*, rev., 196
BÉCLÈRE: *X*-ray treatment of uterine fibroids, 402
BEDFORD, T.: The conditions in potters' shops, 929
BEDFORD, Major-General Sir Walter George, obituary notice of, 126
Bed-lift for fresh-air treatment, 629
BEEBE, W.: *The Edge of the Jungle*, rev., 957
BEEUWKES, Henry: Report on medical relief scheme initiated in Russia by the American Relief Administration, 629
BEGBIE, Colonel Francis Warburton, obituary notice of, 784
BEGG, Charles: Saline taste, 665
Beginnings of a cult, 280
Behring's Institute at Marburg given the title of Institute of Experimental Therapeutics, 34
Beit Memorial Fellowships, 655
BELCHER, G. C.: Arthritis deformans as a deficiency disease, 186
Belfast, medical advance and development in, 118—Death of Mr. Henry Musgrave, 119
BELL, R. H.: *Woman from Bondage to Freedom*, rev., 525
BELL, W. Blair: Problems involved in the Congress of the sexes, 121
BELL, William: Poisoning by butter of antimony, 917 (O)
Bell and Croyden, new showrooms of, 861
Bengal, leprosy in, 411, 849
BENIANS, T. H. C.: A clinical test for the presence of cellular elements in the urine, 100 (O)
BENNETT, R. R.: *Materia Medica and Pharmacy for Medical Students, with an Appendix on Incompatibility*, rev., 274 — *Medical and Pharmaceutical Latin for Students of Medicine and Pharmacy*, rev., 803
BENNETT, T. Izod (and E. C. DODDS): Secretion into the stomach and duodenum, with special reference to diabetes mellitus, 9 (O)—Diagnosis of gastric ulcer, 189
Bequests to hospitals and medical charities, 83, 111, 118, 127, 211, 294, 400, 419, 460, 543, 688, 825, 903, 972, 980
Berck-Plage, special course on orthopaedics at 939
BERGONIÉ, Professor, presented with the medal and diploma of the Franklin Institute of Philadelphia, 145
BERKELEY, Comyns: Treatment of carcinoma of the cervix, 37, 120, 208—(and H. Russell ANDREWS and J. S. FAIRBAIRN): *Diseases of Women*, rev., 722
Berlin: Rat extermination day, 101—Anti-venereal dispensaries in, 825
BERLIOZ, note on, 155
BERNARD, L.: *La Tuberculose Pulmonaire, Etudes de Phtisiologie Clinique et Sociale*, rev., 316
BÉROT-BERGER, Madame: *Science de l'enfance pour le développement général des tout-petits*, rev., 148
BERRY, R. J. A.: The modern psychology, 28
BESREDKA: Vaccines by the mouth, 108, 613—Tuberculous egg-prepared antigen, 109
BETT, Surgeon Rear-Admiral William, C.B. conferred upon, 25
BEVERIDGE, Colonel W. W. O., elected a foreign correspondent of the Académie de Médecine, 43
BEVERS, E. C: Hydronephrosis due to aberrant renal artery, 718 (O)
BIANCHI, Leonardo: *The Mechanism of the Brain and the Function of the Frontal Lobes*, rev., 802
BIGGER, J. W.: Milk and the public health, 681, 900
Bile duct, congenital stenosis of (J. F. Ward), 314
Bile salt as a vehicle for a pediculicide (B. A. Peters), 264 (O)
Bilharzia disease in South Africa, 975
Bilharzia haematobia in India (A. H. Harkness), 475 (O)
Bilharziasis, rectal administration of tartarated antimony in (H. F. Wilson), 137 (O)
Biliary diseases, the duodenal tube in the diagnosis and treatment of (Jonathan Meakins), 983 (O)
Biliary tract, a pulmonary sign in acute infections of the (D. P. D. Wilkie), 908 (O)—Correspondence on, 974, 1010
BILLING, E.: Restriction of influenza epidemics in schools, 539
BILLINGTON, William, elected a representative of the Birmingham Voluntary Hospitals Committee, 333
BINNIE, J. F.: *Manual of Operative Surgery*, rev., 395
Biology, experimental, lectures on at Lausanne, 665
Biology, review of books on, 686
Birds, British, Practical Handbook of, 19
BIRK, W.: *Leitfaden der Kinderkrankheiten für Studierende und Aerzte*, rev., 232
Birmingham: Influenza in, 326—Election of representatives of the Birmingham Voluntary Hospitals Committee, 333—Medical arrangements in, 696
Birth control, 81, 105—In Austria, 281—And abortion, 334—Deputation to Minister of Health from the Catholic Women's League, 419—International Conference on, 785. *See also* Sex
Birth, live, proof of in criminal cases (Harvey Littlejohn), 142
Birth, multiple, ten cases of in three generations (S. G. Floyd), 476
Births: In France, 939—In Germany, 939
Birthday honours, 928
BISHOP, R. W. S.: *My Moorland Patients*, rev., 878
"Bishopsgate" telephone exchange, 419
Bismuth in the treatment of syphilis, 443
BLACK, K.: Defect in the sterilization technique, 561
BLACKHALL-MORISON, Alexander, elected a corresponding member of the Medico-Chirurgical Society in Edinburgh, 938
Bladder and kidney, septic infections of, discussion on, 57
Bladder and prostate, pins removed from (James Allan), 188
Bladder, review of book on, 482
BLAIR, Mary Alice, Serbian Order of St. Sava conferred upon, 373
BLANCHARD, Phyllis: *The Care of the Adolescent Girl: a Book for Teachers, Parents, and Guardians*, rev., 525
BLAND-SUTTON, Sir John: The choroid plexus and psammomas, 213 (O)—*Tumours, Innocent and Malignant*, rev., 392—Calculi in animals, 877
BLANEY, A.: Large spleen successfully removed from a case of haemolytic jaundice, 391
BLAXLAND, A. J.: "Symptomless haematuria," 857
BLENKINSOP, Major-General A. P., appointed honorary physician to the King, 585—K.C.B. conferred upon, 929
Blind, the company of the (leading article), 25
Blind Masseurs Association, 812
Blind pensioners, ex-service (parliamentary question), 777
Blind, training of the: Report of St. Dunstan's Hostel, 894
Blindness as an immediate sequela of influenza: recovery (Stanley E. Denyer), 223 (O)—(Charles J. Hill Aitken), 311
BLOMFIELD, J.: Post-operative embolism and infarction, 60
Blood, the "buffering" of (A. V. Hill), 340 (O)
Blood films, stains for, 826, 900, 939
Blood pressure observations in functional bruits in children and young adults (A. F. Martin), 99 (O)
Blood, the surgery of the (Thomas Sinclair), 375 (O)
Blood transfusion, review of books on, 802
Blood volume, restoration of after haemorrhage and anaesthesia (Professor Boycott), 437
BLOXSOME, H. E.: Gigantism, 420
Blue sclerotics. *See* Sclerotics
Blushing, 546
Board, Central Midwives, 34, 285, 410, 585, 736, 971
Board, Central Midwives, Scotland, 856
Board of Control, appoints a committee to consider the nursing service in county and borough mental hospitals, 461—Appoints a committee to consider the system of keeping clinical records in mental hospitals, 545
Board of Education: Report of Departmental Committee on the Teaching of English, 23—And school medical officers, 113—Suspends approval of proposed open-air schools and schools for mentally defective children, 493
Board, Metropolitan Asylums, war memorial, 117
Board of Trade appoints a committee to inquire into the importation of optical and other scientific instruments from Germany, 743—Institutes an inquiry as to inclusion of boric acid and metaldehyde and exclusion of gallic acid and "R" tannic acid under the Safeguarding of Industries Act, 769
BOCARRO, James L.: An operation for the relief of ascites following cirrhosis of liver, 101
BOLTON, Charles: Diagnosis of gastric ulcer, 188
BOLTON, J. S.: Insanity and the reproductive glands, 445
BOLTON, Shaw: Lunacy administration, 149
Bombay, liquor reform in, 412—Malaria in, 695—School of Tropical Medicine: a broken undertaking, 892
BOND, Hubert: Lunacy administration, 150—The ideal psychiatric clinic, 313—Recovery in mental cases, 643
BOND, H. J.: Lunacy administration, 150
Bone disease, tuberculous. *See* Tuberculous
Bone grafting, technique of (C. Max Page and G. Perkins), 602, 817—Correspondence on, 738, 817
Bone injuries, the repair of (E. W. Hey Groves), 440
Bone, sarcoma of. *See* Sarcoma
Bone-clip for operative treatment of fractures (Joseph E. Adams), 258 (O). *See also* Fractures
BONNEY, Victor: Post-operative embolism and infarction, 60—Treatment of carcinoma of the cervix, 208

BOOBBYER, Dr.: Mild small-pox, 614
BOOKEY, Col. John Thomas Brownrigg, obituary notice of, 82
Book-keeping, medical, 461, 504, 630
Bookplates, exchange of, 545
Books, early medical, English catalogue of, 704
Borderland cases, suicide in, 79, 162, 287, 371, 415, 542, 630
BORDEU, Théophile de, second centenary of, 665
BOSE, Girindrashekhar: *Concept of Repression*, rev., 608
Botany, review of books on, 686
Bottles on motor cycles, 826
Botulism, anaerobic organism demonstrated in America, 558
Botulism, fatal, 893, 974
BOURNE, Aleck W.: Hyperthyroidism in functional menorrhagia, 102—*Synopsis of Midwifery*, rev., 194—Albuminuria in pregnancy, 520
BOURNE, Geoffrey (and J. M. SCOTT): Pertussis with a leucocytosis of 176,000, 387 (O)
Bovine achondroplasia. *See* Achondroplasia
Bowel, internal strangulation of (F. M. Caird), 391
BOWERS, Walter P., appointed editor of the *Boston Medical and Surgical Journal*, 442
BOWES, G. K., Serbian Order of St. Sava conferred upon, 373
Bowls at the Annual Meeting, 980
BOX, C. R.: Differential diagnosis of the exanthemata, 439
BOYCOTT, Professor: Restoration of the blood volume after haemorrhage and anaesthesia, 437
BOYD, Francis Darby: Death of, 577—Obituary notice of, 626, 663
BOYD, Surgeon Lieut.-Col. Herbert, obituary notice of, 938
BOYD, Mark F.: *Practical Preventive Medicine*, rev., 645
BOYD, Sidney: Congenital spastic paraplegia, 517—Dislocation of the shoulder-joint, 517—Pseudo-coxalgia, 517 — Diverticulitis of the colon, 517—Skiagrams of gastic ulcer, 517
BOYLE, Helen: The ideal psychiatric clinic, 312
BOYLE, H. E. G.: Nitrous oxide anaesthesia, 349
BRACHET, A.: *Traité d'embryologie des vertébrés*, rev., 879
BRACKENBURY, H. B.: The study of mental hygiene, 766
BRADFORD, Sir John Rose, elected vice-chairman of the University College Committee, 903
BRADY, George Stewardson, obituary notice of, 42
BRAIMBRIDGE, C Viney: Fracture of the terminal phalanx of finger, 838
Brain, rev., 395—The story of, 880
Brain, review of book on, 802
Brain surgery, the history of, 39
BRAMLEY, Rev. William Sturdy, obituary notice of, 502
BRAMWELL, Edwin, appointed to the Moncrieff-Arnott Chair of Clinical Medicine, Edinburgh, 972
BRAMWELL, William: Goitre, 541
BRAND, A. T.: A diploma in tuberculosis, 622
BRAITHWAITE, J. V. C.: Evidence of pancreatic disorder in rickets, 739
BRANTHWAITE, R. W.: Lunacy administration, 151
Brazil: Medical profession's contribution to relieve the distress among the medical profession in Austria and Germany, 83
Breast cancer. *See* Cancer
Breast, proemial, removal of the nipple in, 869, 936. *See also* Cancer of breast
Breath offensive, 629
Breathing, the physiology of (J. S. Haldane), 33
BREGMAN, L. E.: *Die Schlafstörungen und ihre Behandlung*, rev , 395
BREMNER, Dugald Charles, obituary notice of, 859
BREND, William A.: Professional secrecy and medical evidence, 64—*A Handbook of Medical Jurisprudence and Toxicology*, rev., 880
Bretonneau, Pierre, centenary of, 665, 981
BRIDE, J. W.: Specimens from an ectopic pregnancy, 145
BRIERLEY, James: Reduction of medical fees, 582
BRIGGS, Henry: Treatment of uterine fibroids, 604—Conservative labour induction, 998
BRIGGS, Captain Norman: Treatment of rat-bite fever with novarsenobillon, 185 (O)
BRINDLEY-JAMES, Joseph, obituary notice of 372
BRISCOE, John F.: Resuscitation after apparent death, 662
Bristol contributory hospital scheme, 397
British Chirurgical Club. *See* Club
British fire chemicals, 666
British Industries Fair, 410
British Medical Association. *See* Association
British Spa Federation: Reduction of tariff in operation at spas, 373, 533—Correspondence on, 542—The spas of France, 929
BROAD, W. H.: Remedial exercises in scoliosis, 583
BROADBENT, Sir John: Differential diagnosis of the exanthemata, 439
BROCK, B. G.: Sun or air, 781
BROCKBANK, E. M.: The recognition of aortic incompetence, 181 (O), 370, 540
Bronchial asthma *See* Asthma
Bronchitis and emphysema, suitable climate for patient suffering from, 862, 981
BROOKING, C. H., hundredth birthday of, 629
BROOKS, C. H.: *The Practice of Auto suggestion by the Method of Emile Coué*, 575
BROOKS, Samuel John, obituary notice of, 783
BROOMHEAD, C H.: The recognition of aortic incompetence, 266, 499
BROWDY, M. W.: Testicular neuralgia, 420
BROWN, Charlotte: Ambulatory treatment of tuberculous disease of bones and joints, 104—Celluloid splints, 104
BROWN, Edith M., Fellowship of the Punjab University conferred upon, 373—Kaisar-i-Hind Medal conferred upon, 929
BROWN, Evelyn D.: Factors in the causation of puerperal septicaemia, 348
BROWN, George E. (editor): *The British Journal Photographic Almanac and Photographer's Daily Companion, 1922*, rev., 63
BROWN, Major H. C: The amoebicidal action of conessine, 993 (O)
BROWN, R. Graham: Haemorrhage in tonsil operations, 456
BROWN, W. Langdon: The position of the thyroid gland in the endocrine system, 85 (O)—Letter on, 209
BROWNE, Francis J.: Pneumonia neonatorum, 469 (O)
BROWNE, Sir Thomas, the story of his skull, his wig, and his coffin plate (Rev. Canon F. J. Meyrick), 725
BROWNING, Carl: Septic infections of the bladder and kidney, 58
BROWNING, C. H. (J. B. COHEN and R. GULBRANSEN): The antiseptic properties of cyanine dyes, 514 (O)
BROWNING, K. C. (and Aldo CASTELLANI): An ethereal extract of strawberries for the treatment of sprue, 718 (O)
BROWNLEE, Alex.: Oesophageal pouch, 57
BROWNLEE, John: The meaning of death rates, 401—(and Matthew YOUNG) Epidemiology of summer diarrhoea, 519
BRUCE, John: Cause of death in electrical shock, 480
BRUCE, J. Mitchell (and Walter J. DILLING): *Materia Medica and Therapeutics*, rev., 957
Bruit, functional, blood pressure observations in, in children and young adults (A. F. Martin), 99 (O). *See also* Heart
Buccal and nasal paths, streptococcal infection by (Daniel C. Edington), 304 (O)
BUCHANAN, George Seaton: Knighthood conferred upon, 25—Prevention of diphtheria, 190
BUCHANAN, R. E.: *Agricultural and Industrial Bacteriology*, rev., 442
BUCHANAN, R. J. M.: Appendix dyspepsia, 800
BUCK, A. H.: *The Dawn of Modern Medicine*, rev., 196
BUCKLEY, J. Philip: Endothelioma of stomach, 315
Budget for 1922–23, 734—Leading article on, 772
Buenos Aires: National Academy of Medicine's centenary, 1011
"Buffering" of blood, 340. *See also* Blood
BUIST, H. Massac: Motor notes for medical men, 234, 485, 688—Motor taxation, 772
Bureau of Laboratories, City of New York, Collected Papers of, rev , 149
BURGESS, Arthur H.: Symptomless haematuria, 787 (O)
BURKE, Mr.: Lymphatic leukaemia, 921
BURNETT, Surgeon-General William Francis, obituary notice of, 784
BURNFORD, J.: Subacute infective polyarthritis, 192—Retro-bulbar neuritis associated with influenza, 192
BURNHAM, Cecil: Fracture of the terminal phalanx of a finger, with rupture of the common extensor tendon, 141
BURNHAM, Fred. E.: Medical observations in Albania, 781
BURNS, J. W.: Chronic endocervicitis, 839
BURT, Cyril: *Mental and Scholastic Tests*, 317
BURTON-FANNING, F. W. (and W. J. FANNING): The end-results of sanatorium treatment of tuberculosis, 306 (O)
BUSH, Col. James Paul, Belgian Ordre de la Couronne conferred upon, 585
BUTCHER, W. Herbert: Reduction of medical fees, 699
BUTTAR, Charles: The hospital policy of the Labour party, 660
BUTTER, Dr.: Epidemiology of summer diarrhoea, 519
BUTTER, E. J.: Relations between vegetable and human pathology, 143
Butter of antimony. *See* Antimony
BUZZARD, E Farquhar (and J. Godwin GREENFIELD): *Pathology of the Nervous System*, rev., 106—Certain aspects of pain, 206
BYAM, Lieut.-Col. W. (and Major R. G. ARCHIBALD, editors): *The Practice of Medicine in the Tropics*, rev., 315

C.

CABANÈS, Dr. (and Dr. WITKOWSKI): *L'Esprit d'Esculape*, rev., 923
CADE, H. M: Stain for blood films, 939
Caesarean section (Samuel J. Cameron), 911 (O)
Caesarean section (leading article), 277
Caesarean section and alternative treatment (J. Lamond Lackie), 480
Caesarean section in a multiple pregnancy (Wm. Fordyce), 192
Caesarean section scar, rupture of in a subsequent pregnancy (W. R. Mackenzie), 104
Caesarean section, with special reference to present-day indications for operation (Charles Joseph Gordon Taylor), 909 (O)
Caesarean section scar, rupture of uterus through (W. Gough), 390
CAHILL, M. F., called to the Bar, 211
CAIGER, F. Foord, appointed Emeritus Physician to St. Thomas's Hospital, 204
CAIGER, Herbert: Ophthalmic pensioners, 762
CAIRD, F. M.: Artificial legs, 391—Internal strangulation of the bowel, 391
Calcium colloid in treatment of tuberculosis (Edward E. Prest), 53 (O)—Correspondence on, 123
Calcium deficiencies, their treatment by parathyroid (W. R. Grove and H. W. C. Vines), 791 (O)
Calculi in animals (Professor Hobday), 876
Calculi, prostatic (Geary Grant), 188
Calculus, curiously barbed (C. D. Lochrane), 565
Calculus, renal (J. Bowson Ray), 314
Calculus, ureteric (C. D. Lochrane), 565
Calcutta School of Tropical Medicine. *See* Tropical
CALDERON, George: A visit to a Tahitian doctor, 280
Calf lymph. *See* Lymph
CALMETTE, A.: The protection of mankind against tuberculosis, 971, 997
CALWELL, William: Hemiplegia in a young child, followed later by locomotor ataxia, 11 (O)—Encephalitis lethargica affecting the nuclei of the mid-brain in an unusual manner, 514 (O)
CAMERON, A. F.: Differential diagnosis of the exanthemata, 439
CAMERON, H Charles: Diet and development, 79—Restriction of influenza epidemics in schools, 538
CAMERON, S. J.: Treatment of uterine fibroids, 604—Cancer of cervix extending to vagina, 605—Caesarean section, 911 (O)
CAMMIDGE, P. J.: Etiology and treatment of diabetes, 738, 857
CAMPBELL, C T, obituary notice of, 418
CAMPBELL, J. Argyll (and Leonard HILL and Sir Henry GAUVAIN: Metabolism of children undergoing open-air treatment, heliotherapy, and balneotherapy, 301 (O)—(and Leonard HILL and Bernard HUDSON): Observations on the resting metabolism of children and adults in Switzerland, 385 (O)
CAMPBELL, Robert, memorial to, 246—Memorial oration, 246, 375, 403
CAMPBELL, Susan: Kaisar-i-Hind medal conferred upon, 929
CAMPION, George: Growth of the face in man, 438
CAMUS, Lucien, made a corresponding member of the Royal Academy of Medicine of Brussels, 981

CANADA:
- Alcohol prescriptions issued in Ontario in December, 1921, 419
- Building to be erected in Winnipeg for exclusive use of doctors and dentists, 902
- Canadian Medical Association, 825
- Health of: Statistics of insurance companies, 97
- Medical practitioners in outlying districts, plan to keep them in touch with recent developments in medicine, 127
- Surgical tour in, 158
- Toronto Academy of Medicine war memorial tablet, 664
- *Union Médicale du Canada*, jubilee of, 197

Cancer of appendix (C. D. Lochrane), 565—(E. Emrys-Roberts and H. A. Haig), 681
Cancer of breast, 39
Cancer of breast: Treatment of the proemial breast (Sir G. Lenthal Cheatle), 869 (O)—Correspondence on, 936
Cancer of cervix following gonorrhoea cervicitis (Gordon Luker), 999
Cancer of cervix, treatment of, 36, 77, 120, 162, 208—Leading article on, 360
Cancer of cervix extending to vagina (Archibald Leitch), 604
Cancer cure, offer of a prize for the discovery of, 171, 200, 238, 289, 330. *See also* Cancer research
Cancer, unusual cause of death from (Eric A. Linell), 872 (O)
Cancer, early treatment of, Leicester issues instructions for the public, 776
Cancer, etiology of (leading article), 964
Cancer, general vascular (John B. Hunter), 103
Cancer investigation (parliamentary note) 409
Cancer of lung, primary (G. S. Haynes and J. F. Gaskell), 222 (O)
Cancer, mouse experimentally induced by coal tar (J. A. Murray), 511
Cancer in rats, experimental production of by means of radium (Dr Lazarus-Barlow), 437
Cancer research, 330, 904. *See also* Cancer cure
Cancer, review of books on, 607
Cancer of the skin, primary epithelial (J. Darier), 477
Cancer of tongue: excision of tongue: cancer of stomach thirty-four years later (J. S. Manson), 996
Cancer, *x*-ray treatment of (H. K. Ward), 313—Correspondence on, 415

Cancer. *See also* Epithelioma, malignant sarcoma, ulcer, etc.
CANDLER, Mr.: Septic infection of knee-joint, 919
CAPON, Norman B.: Intracranial traumata of the newborn, 76
Carbohydrates, the importance of, 449
Carbon monoxide in lighting gas, 323
Carbonic oxide in tobacco smoke (Henry E. Armstrong), 992 (O)
Carcinoma. *See* Cancer
Cardiac disease and occupation (R. O. Moon), 795 (O). *See also* Heart
Cardiology, review of book on, 921
Carelli method of perirenal inflation (F. Hernaman-Johnson), 91 (O)
CARMICHAEL, C. H. Ross: *X*-ray departments, 292
Carnegie Heroes' Fund awards, 204
CARR, R. T.: Acute haemorrhagic suprarenalitis, 61
CARRUTHERS, Thos.: Expectant treatment of measles and influenza, 786
CARSON, H. W.: Treatment of gastric ulcer, 229
CARSWELL, John: The psychiatric clinic, 478—Genetic origin of dementia praecox, 954
CARTER, F. Bolton: Removal of the nipple in the proemial breast, 936
Cartilage, loose, 78
CASEMAN, Dr.: Deep-seated radiotherapy, 959
CASPER, Leopold: *Handbuch der Cystoskopie*, rev., 19
Cassel Hospital. *See* Hospital
CASSELLS, Captain Andrew Cooper, obituary notice of, 418
CASSIDY, Louis: Elected Master of the Coombe Lying-in Hospital, Dublin, 83—Supports of the uterus, 606
CASSIRER, R.: *Krankheiten des Rückenmarks und der peripherischen nerven*, rev., 395
CASTELLANI, Aldo: Malarial glycosuria, 330—(and K. C. BROWNING) An ethereal extract of strawberries for the treatment of sprue, 718 (O)
Casualty clearing station No. 1, 124
Cataract in the capsule of the eye lens, extraction of (Edgar Stevenson), 76
Cataract, primary, etiology of (Lieut.-Col. Henry Kirkpatrick), 467 (O)
Cataract, review of books on, 194
Catheter gauge, a standard English, 782
Catheter lubricants, 461, 503
CATHCART, C. W.: Demonstration on artificial legs, 391
Cavell Memorial Fund, 816. *See also* Fund
CAVENAGH, J. B.: Mucocele of the frontal sinus, 457
CAWSTON, F. G.: Antimony in syphilis, 266—Therapeutic uses of antimony, 296—Bilharzia disease in South Africa, 975
Cellular elements in the urine. *See* Urine
Central Association for the Care of the Mentally Defective changes its name to the "Central Association for Mental Welfare," 503
Central Midwives Board. *See* Board
Centralblatt für Hals- Nasen- und Ohrenheilkunde, 861
"Century of Medicine at Padua." *See* Padua
Cerebral haemorrhage. *See* Haemorrhage
CHADWICK, J.: *Radioactivity and Radioactive Substances*, rev., 274
Chair, an old man's, 292
Chairs, parturition (C. J. S. Thompson), 721
CHALDECOTT, J. H.: Nitrous oxide anaesthesia, 349
CHALMERS, A. K.: Prevention of diphtheria, 191—Epidemiology of summer diarrhoea, 520—Nutrition and health, 1006
CHAMBERS, H.: Congenital absence of the right upper limb, 192
CHAPERON, Robert: *Etude anatomo-radiologique des vaisseaux de la base du coeur, vus de face*, rev., 685
CHAPLIN, Arnold: Appreciation of Dugald Charles Bremner, 860
CHAPMAN, Chaston: Industrial uses of micro-organisms, 115
CHAPMAN, C. L. Granville: Intestinal obstruction due to paralytic ileus, 347—Primary colectomy for acute intestinal obstruction in a patient aged 70, 516
CHARRIER, J. (and R. PROUST): *Chirurgie de l'Appareil Génital de la Femme*, rev., 957
Chauchard Trust Fund prizes to parents in France, 127
CHAUFFARD, Professor A., elected Vice-President of the Académie de Médecine for 1922, 333—*La Lithiase Biliaire*, rev., 685—The humoral syndrome of gout, 745 (O)
CHAUVEAU, J. B. A., monument to, 83
Chavasse's *Advice to a Wife*, rev., 108
CHEATLE, Sir G. Lenthal: Breast cancer, 39—Professional secrecy, 535—Cancer of the breast, treatment of the proemial breast, 869 (O)
CHEESEMAN, G. R.: German-made surgical instruments, 543—A standard English catheter gauge, 782
CHEINISSE, L.: *L'Année Thérapeutique*, rev., 723
Chemical analysis, review of books on, 62, 765
Chemicals for research work (parliamentary note), 969
Chemicals under the Safeguarding of Industries Act (parliamentary note), 579
Chemistry, the history of, 158
Chemistry, review of books on, 232, 646, 685, 879, 923
CHESSER, Sloan: Electrical methods in gynaecology, 144
CHETWOOD, C. H.: *The Practice of Urology*, rev., 272
CHEVERS, Martin J.: Reduction of medical fees, 740
Chicago: Death rate in, 294—Number of alcohol prescriptions issued in 1921, 311
Chilblains, parathyroid in treatment of, 128
Chilblains, broken, treatment of, 420, 461
Child Murder (Trial) Bill, 898
Child Welfare Institute for Scotland, 579, 658. *See also* Maternity
CHILDE, Charles P.: Treatment of carcinoma of the cervix, 120—Gastro-jejunostomy for gastric and duodenal ulcers, 696
Childhood, some aspects of the abdominal emergencies of (John Fraser), 173 (O)
Children, ability in (report of L.C.C. education officer), 317
Children, crippled, treatment of in Michigan, 635
China: Directory of medical graduates, 127—Peking Union Medical College, 241
"Chiropractors" and malpraxis in the United States, 127
Choirs, King's services, note on, 373
CHOKSY, Khan Bahadur Nasarvanji Hormasji, C.I.E. conferred upon, 25
Cholecystenterostomy, a modification of the operation of (Andrew Fullerton), 995 (O)
Cholecyst-gastrostomy, the operation of (Gerald Ralphs), 14
Cholecystectomy, advantages of over cholecystotomy (R. P. Rowlands), 269
Cholera, the menace of from Russia, 532
Cholera, volatile oils in treatment of early cases of (Lieut.-Col. G. O. F. Sealy), 918
Chorea gravidarum (Ewen Maclean), 720
Choroid plexus and psammomas (Sir John Bland-Sutton), 213 (O)
Chorion-epithelioma (R. G. McKerron), 919
CHOYCE, C. C.: Hospital lighting, 721
Christian University in India, proposed, 412
CHRISTIANSEN, V.: *Les Tumeurs du Cerveau*, rev., 273
CHRISTIE, Graham W.: Acute inflammation of a large diverticulum of the jejunum with perforation, 9.0 (O)
Chromaphil tissues, the function of, in relation to splanchnic stimulation (A. W. Sheen and Swale Vincent), 343 (O)
CHURCHILL, A.: Drainage in abdominal emergencies, 591 (O)
CIAMICIAN, Giacomo, death of, 294
"Cinematographs and vivisectors," a flank attack, 569—Note on, 577—Correspondence on, 666, 704
Circulatory disease, review of book on, 148
CLAPP, Colonel William Henry Baut, obituary notice of, 938
CLARK, A. J.: The action of arsenobenzol preparations, 312
CLARK, C. Somerton, obituary notice of, 783
CLARK, L. H.: Skin effects of ultra-violet and radium radiation, 448
CLARKE, Astley V.: Hospital policy of the Association, 620
CLARKE, Captain Sir Arthur, elected chairman of the Seamen's Hospital Society, 211
CLARKE, J. Tertius: Etiology of rheumatic fever, 540
CLARKE, William Henry, bequests of, 83
CLAUDE, Henri, appointed Professor of Mental Diseases in the Paris Faculty of Medicine, 333
CLAYDEN *v.* WOOD-HILL, 81, 201, 372, 501, 700, 902
CLAYTON, E. B.: Remedial exercises in scoliosis, 436
CLAYTON-GREENE, W. H.: The treatment of tuberculous glands, 352
Clearing houses and pensions clinics (parliamentary note), 451
CLEGG, J. Gray: Visual fields in lesions of the nervous system, 392
Cleido-cranial dysostosis (S. T. Irwin), 682
CLEMOW, F. G.: Peliosis rheumatica, 168, 254—A correction, 254
Climate suitable for bronchitis and emphysema, 862, 981
Clinical assistants at London mental hospitals, 368 *See also* Hospitals
Clinical information, the exchange of, 291
Clothing of natives in relation to tuberculosis, 504, 621
CLOWES, H. A.: Henry of Navarre, 331—Philip of Nassau (repeated trephinings), 456
Club, British Chirurgical, visit to Amsterdam, 655
Club, Edinburgh University, dinner, 294, 861
Club, Glasgow Medical Lunch, 118, 245, 327, 369, 411, 497, 537, 580, 665, 778
Club, Glasgow Royal Infirmary, annual dinner, 453
Club, Royal Navy Medical, 623
Coagulen-ciba, 108
Coal seams, systematic investigation of, 177
Coal-tar dyes. *See* Dyes
Coal tar in mouse cancer (J. A. Murray), 511
COBB, I. Geikie: *The Organs of Internal Secretion: Their Diseases and Therapeutic Application*, rev., 524
Cobra bite (V. St. John Croley), 951
Cocaine, 849
Cocaine, sale of (parliamentary note), 1008
Cocaine sniffers, perforation of the nasal septum in, 39
Cocao beans, analyses of, 419
COCHRANE, D. J.: Medical book-keeping, 630
Cockroach in the nasal passages, 982
Cod-liver oil, new season's, 395
COHEN, J. B. and C. H. BROWNING and R. GULBRANSEN): The antiseptic properties of cyanine dyes, 514 (O)
COHN, T.: *Leitfaden der Elektrodiagnostik und Elektrotherapie*, rev., 233
COKE, Frank: Asthma and the menopause, 455
COLE, A. S.: The welfare worker in factories and workshops, 291
COLE, R. H.: Lunacy administration, 151—The ideal psychiatric clinic, 313
COLEBROOK, Leonard (and Sir Almroth WRIGHT): *Technique of the Teat and Capillary Glass Tube*, rev., 522
Colectomy, after-results of: Discussion at the Royal Society of Medicine, 517—Correspondence on, 622
Colectomy, primary, for acute intestinal obstruction in a patient aged 70 (C. L. Granville Chapman), 516
COLERIDGE, Hon. Stephen: Cinematograph and vivisection, 666
COLEY, Frederick C.: Pulsatilla in dysmenorrhoea, 13 (O)
Colic, obscure intestinal (H. Tyrrell Gray, 253 (O)
Colitis haemorrhagic (J. W. Geary Grant), 308 (O)—Correspondence on, 412, 500—(John A. Hayward), 560—(T. MacCarthy), 560—(Lionel E. C. Norbury), 839
Collapse therapy in pulmonary tuberculosis (J. M. Johnstone), 954
College of Ambulance can supply a motor ambulance fully equipped, 461
College, Anderson, Glasgow, appointments, 580
College, Calcutta Medical: Students protest against the present Government policy to suspend duty in hospital and attendance at classes, 396
College, Gordon Memorial, Khartoum, annual report, 364
College, Livingstone: Annual report, 171—Commemoration day, 1011
College, North-East London Post-Graduate, 586
College, Peking Union Medical, 241
College, Royal, of Physicians of Edinburgh: Quarterly meeting, 784—Gifts to, 784—Honorary degrees, 784
College, Royal, of Physicians of Ireland: Degrees and pass lists, 664—Admission of Fellows, 664

COLLEGE, ROYAL, OF PHYSICIANS OF LONDON:
Accounts of the College, 743
Appointments, 211, 820
Censors Board, 820
Comitia, 210, 502, 628, 742, 820
Communications, 211, 502, 628, 743, 820
Councillors, 211
Degrees and pass lists, 210, 502, 742
Diplomas, 211
Elections, 743
Fellows elected, 742, 820
General Medical Council's recommendations, 502
Gifts to the College, 742
Licences, 502, 742
Members admitted, 742
Presidency of, 613, 628
Reports, 502, 820
University of Padua, seventh centenary, 820
Vote of thanks, 628

College, Royal, of Surgeons of Edinburgh: Silver bowl presented to as a memorial of services rendered by Fellows during the great war, 860—Admission of Fellows, 861

COLLEGE, ROYAL, OF SURGEONS OF ENGLAND:
Appointments, 293
The College in 1822, 240
Conjoint examination, 980
Correspondence on the control of, 334
Council, constitution of, 460
Council election, 293, 460
Council meeting, 628, 820
Councillors, nomination of, 502
Court of Examiners, 293, 980
Degrees and pass lists, 126, 293, 460, 628, 820, 1011
Demonstrations, 628
Diplomas, 126, 293, 820, 980
Election of examiners, 980
Examinership in dental surgery, 980
Fellows elected, 628, 980
Hunterian lectures, 170, 211, 743
Hunterian oration, 126
International Congress of the History of Medicine, 820
Jacksonian prize, 628
Lectures, 170, 211, 293
Licences, 460
Lives of the Fellows, 628
Ophthalmic medicine and surgery diploma, 293
Revised curriculum, 460
Votes of thanks, 628
War Office collection, 126

College, Royal, of Surgeons in Ireland: Pass lists and degrees, 585—Election of officers, 972
College of Science and Technology, the Imperial: Retirement of Sir Alfred Keogh from Rectorship, 812—Sir Thomas Holland appointed, 812, 852
College of Teachers of the Deaf, the National: Election of Vice-Presidents, 43
College, Trinity, Dublin: Degrees and pass lists 584—Regius professor of surgery, 899

College, University, London: Lectures, 628—Annual report, 628—Number of students enrolled, 628—Sharpey physiological scholarship, 903
College, University, of South Wales and Monmouthshire: *Re* Government grants, 326—Draft Supplemental Charter, 326
COLLIER, H. W: War wounds in relation to life assurance, 799
COLLIER, William: Hospital policy, 397
COLLIER, W. T. jr.: Cases illustrating embolism of the superior mesenteric artery, 390
COLLINS, B. K. Tenison: A self-retaining vaginal retractor, 64—Fibromyoma complicating pregnancy, 720
COLLINS, E. Tenison: Uterus and both appendages removed from a nullipara, 720—Large ovarian tumour, 720—Bone stilette passed for abortion, 720—Large stone removed by vaginal cystotomy, 720
COLLINS, Sir William: Professional secrecy, 535
Colloidal chemistry, review of book on, 879
Colloids, review of books on, 442
Colon, pain due to functional disturbance of (T. Stacey Wilson), 944 (O)
Colon, pelvic, obstruction of by the pedicle of an ovarian cyst (G. S. Woodman), 14
Colon, the sins and sorrows of the (Arthur F. Hurst), 941 (O)
Colour blindness, tests for in seamen, 155, 810
COLT, G. H.: Perhalation method of ether administration, 763
Columbia university. *See* University
COLWELL, Hector A.: *An Essay on the History of Electrotherapy and Diagnosis*, rev., 568
COLYER, Stanley: Multiple tooth extraction, 168
COMBER, C. T. T., reminiscences of, 878
Complement fixation test in the diagnosis of pulmonary tuberculosis (A. Lisle Punch and A. Hope Gosse), 509 (O)—Correspondence on, 739
Composition of Scientific Papers. *See* Scientific
COMRIE J. D.: Treatment of pneumonia in the older patient, 351—Professional secrecy, 580
Conessine, the amoebicidal action of (Major H. C. Brown), 993 (O)
Confusion of names. *See* Names
Congress on Accidents to Workmen, Spanish, 629
Congress, Cuban National Medical, 225
Congress on Diseases of the Alimentary Canal, 565
Congress of Esperantists (medical), election of officers, 34
Congress of the French Association of Surgery, 806
Congress of French-speaking dermatologists and syphilologists, 801
Congress of French-speaking paediatrists, 752
Congress of the History of Medicine, 811. *See also* Medicine, History of
Congress of Hygiene, National, Naples, 1922 615
Congress for Industrial Diseases, Italian, 798
Congress, Infant Welfare, of South America, 127
Congress of Internal Medicine, American, 785
Congress, International Neurological, 432, 619
Congress of the Italian Psychiatric Society, 971
Congress of Medical Education, Licensing, Public Health and Hospitals, Chicago, 171
Congress of Medical Jurisprudence, French, 432
Congress of Medical Radiology, Italian, 373
Congress of Medicine, French, 981
Congress of Mental Hygiene, French, 785
Congress of Obstetrics and Gynaecology, British, 971
Congress of Open-air Schools, International, 1011
Congress of the Ophthalmological Society, 204, 743. *See also* Society
Congress of Otology, International, 367, 693, 981
Congress, Oxford Ophthalmological, 365, 1007
Congress of Psychiatry, Paris, 449
Congress of Public Health, French Colonial, 83
Congress of Radiology, Italian, 216, 579
Congress of Radiology and Physiotherapy, 576, 903, 958—The normal stomach, 958—Methods of stomach examination, 958—Deep-seated radiotherapy, 959—Radium, 959—The re-education of muscles, 960—Scoliosis, 960—Backache and referred pain, 960—High-frequency currents, 960 - Close of the Congress, 960—Notes on, 965
Congress of Royal Institute of Public Health, 453, 785, 966
Congress of the Royal Sanitary Institute, 449
Congress for the sanitary reorganization of Spain, 801
Congress, South African Medical, 779
Congress of Surgery, German, 545
Congress of Thalasso-therapy postponed till 1923, 721
Congress, Uruguay National Medical, 22
Conjoint Board in Ireland: Degrees and pass lists, 585
Conjoint Board in Scotland: Degrees and pass lists, 211, 784, 938
CONNELL, Colonel Arthur M., Belgian Order of St. Leopold conferred upon, 126—The normal stomach, 958
CONNELL, A.: Extensive rupture of the choroid due to indirect violence, 762
Convulsions (C. R. Marshall), 16
CONWAY, Martin: Alpine treatment of tuberculosis, 249
COOK, A. R., C.M.G. conferred upon, 929
COOK, Herbert G.: Cyst of spermatic cord, 188
COOK, Sir Marriott: Lunacy administration, 150
COOK, William G. H.: *Insanity and Mental Deficiency in relation to legal responsibility. A study in Psychological Jurisprudence*, rev., 146
COOMBE, Russell: Appreciation of Sir Henry Davy, 822
COOPER, H. S.: Presentation to, 461
COPAUX, H.: *Introduction to General Chemistry: An Exposition of the Principles of Modern Chemistry*, 647
COPEMAN, S. Monckton: Prevention of diphtheria, 190
COPLANS, Major Myer: Italian medal "Al merito della Sanità Pubblica" conferred upon, 503—Preparation of vaccine lymph, 847, 934
CORBETT, Sir Julian S.: *Naval Operations*, vol. ii, rev., 195
CORE, Donald E.: *Functional Nervous Disorders, their Claisification and Treatment* rev., 840
Cornwall, hookworm in, 406
Coroner for the City of London, report of, 410
Coroner and the oath, 967
Coroner on unqualified practice, 615
Coroners (Emergency Provisions Continuance) Bill, 366, 409
Coroners' courts (parliamentary note), 617
Coroners' inquests, identification and the "view" at, 732
Coroners and Juries Acts (parliamentary note), 282
Coroners' juries, 76
Coroners' remuneration in London, 619
Coroner's verdict (Sandown, Isle of Wight), 692
Corpus luteum, the relation of, to menstruation and pregnancy (W. R. Mackenzie), 343 (O)
Corrections, 64, 252, 334, 504, 585, 783, 826

Correspondence:
Abdominal emergencies, drainage in, 697
Abdominal tuberculosis, clinical aspects of 457
Acquired characters and maternal impressions, the inheritance of, 167
"Alastrim," 699, 780; or "Parasmallpox," 780, 856, 975
Alpine treatment of tuberculosis. *See* Tuberculosis
Anaemia, pernicious and septic, 541, 659
Ante-natal treatment of congenital syphilis, 124
Antiseptic coal-tar dyes, 662
Aortic incompetence, the recognition of, 246, 370, 454, 499, 540, 661
Aortic murmur, 902, 1010
Arthritis deformans, excision of head of femur in, 738, 817
Artificial limbs, 500
Asthma and the menopause, 416, 455, 818
Asylum methods, 858
Axham, F. W., case of, 936, 976, 1010
Babies' weights, 780
Bilharzia disease in South Africa, 975
Birth control, 81. *See also* Sexes
Blood films, stain for, 900
Bone grafting in ununited fracture, 738, 817
Botulism, fatal, 974
Bovine achondroplasia, 739, 817
Brain surgery, history of, 39
Cancer of breast, 39
Cancer of cervix, treatment of, 36, 77, 120, 162, 208
Cancer, cure of, 289
Cancer research, 330
Cartilage, loose, 78
Catheter gauge, standard English, 782
"Century of medicine at Padua," 543
Chair for old men, 292
Clayden *v.* Wood-Hill, 81, 209, 372, 501, 902
Clinical information, exchange of, 291
Clothing of natives in relation to tuberculosis, 621
Colectomy, after-results of, 622
Complement fixation test for the exclusion of pulmonary tuberculosis, 739
Composition of scientific papers, 780
Conference of staffs of hospitals. *See* Hospital staffs
Confusion of names. *See* Names
Cystoscopes, English, 935
Dentists, registered, 210
Detoxicated vaccines, 858, 901, 976
Diabetes, etiology and treatment of, 737, 818, 857, 933
Diabetes mellitus, a suggestion, 622
Diet and development, 79
Diphtheria-like organisms, the virulence of, 415
Education authorities and the school medical service, 292
Empyema, treatment of, 329, 371, 416
Encephalitis lethargica and mental deficiency, 122, 165
England and venereal disease, 975
Fats and goitre, 287, 413, 500, 541
Fees, medical, reduction of, 538, 621, 661, 699, 740, 781
Fruit juice, value of, 168
Gastro-jejunostomy for perforated gastric and duodenal ulcer, 696
General practitioner and the hospitals report, 780, 819, 8 8
German-made *x*-ray apparatus, 331, 457—Surgical instruments, 543
Glycosuria of malarial origin, 290, 330
Goitre, 541, 932. *See also* Fats and goitre
Gonorrhoea, acute, treated by electrolysis, 37, 78, 167
Gonorrhoea, irrigation treatment of, 121
Haemato-porphyrinuria, 455
Haemorrhage in tonsil operations, 456
Haemorrhagic colitis, 412, 500

Correspondence (*continued*):
Heart symptoms, the nature and significance of, 661
Heliotherapy and the Wolfram arc reactions, 124
Henry of Navarre, 331, 371
Hip-joint disease in the tuberculosis dispensary, 935
Hollow viscera and vessels: Curvature and pressure, 370, 416, 455
Hospital policy, 35, 80, 122, 414, 501, 620, 660, 699—Of the Association, 620—Of the Labour party, 660, 699
Hospital staffs conference, 543, 582, 661
Hospitals in the Territorial Force, 35, 80, 166, 250
Hospitals, voluntary, 697
Influenza, 207, 247, 415, 500, 538—Clinical forms of, 500—Restriction of epidemics in schools, 538, 623
Insanity and the endocrine glands, 581
Insomnia, treatment of, 581
Insurance Act and the public health, 740
Interstitial gland and sex problems, 973, 1009
Ipecacuanha in combination with tannic acid, therapeutic effect of, 541
Lantern slides, an improved method of demonstrating, 331
Lymphoid diathesis, 933
Machine for crushing germs, 902, 976
Malarial glycosuria. *See* Glycosuria
Manson, Sir Patrick, the work of, 698
Many inventions, 819
Married medical women whose husbands are able to support them 820
Maternal impressions: the inheritance of acquired characters and of maternal impressions, 167
Measles and fresh air, 818
Medical aspects of delinquency, 164
Measles and influenza, expectant treatment of, 901
Medical fees, reduction of 581
Medical observations in Albania, 781
Medical Society for the Study of Venereal Diseases, 859
Medicine and the humanities, 1010
Medicine in Assam, 165, 457
Mental hygiene, a national council for, 538
Mental hospitals, 164, 207, 249, 287
Midwives and opium, 124
Miners' Nystagmus Committee, first report of, 932, 976
Mucocele of the frontal sinus, 457
Names, a confusion of, 331, 699
Nasal septum, perforation of, in cocaine sniffers, 39
Naval Medical Service, 292, 372, 416 542, 782
Nipple in the proemial breast, removal of, 936
Nitrous oxide and oxygen, 858
No. 1 Casualty Clearing Station, 124
Old man's chair, 292
Orthopaedic Hospital of the Ministry of Pensions, an extravagant economy, 328
Pain, certain aspects of, 161, 206, 249
Pancreatic disorder in rickets, evidence of, 739
Pathology, comparative, 581
Peliosis rheumatica, 168
Pelvimetry in ante-natal cases, routine, 498, 581, 621, 697
Peptic jejunal ulcer, 37
Physical education of girls, 501
Post-graduate courses in Vienna, 38, 81, 166
Professional secrecy, 580
Professional secrecy and medical evidence, 12
Prostatic enlargement, the Hunterian lecture on, 412, 454, 539, 622, 739
Public health statistics, 856, 900
Pulmonary sign in acute infections of the biliary tract, 974, 1010
Quackery in relation to diseases of the eye, 499
Remedial exercises in scoliosis, 583
Reports of societies, 699
Resuscitation after apparent death, 416, 662
Rheumatic fever, etiology of, 540
Rib, slipping, 622, 782
Rickets, 580, 739
Rubber dentures, 250
Rupture of extensor longus pollicis tendon, 580
"Sacrache," 416
Sarcoma of bone, 250
Search for specific remedies, 901
Senior Surgeon Commanders R.N., 1010
Sex, determination of, 291
Sexes, problems involved in the congress of, 121, 206. *See also* Birth control
Sight-testing opticians and presbyopia, 781
Society of Apothecaries of London, 1010
Spas, cheaper, 542
Spinal analgesia and general anaesthesia, 165, 290
Squint, the treatment of, 209, 290
"Stimulants," 123
Suicide in borderland cases, 79, 162, 287, 371, 415, 542
Sun or air? 456, 501, 781
Sunlight and rickets, 659
"Symptomless haematuria," 857
Thyroid and the endocrine system, 209
Tonsils and adenoids, the routine of operations for, 740
Tooth extraction, multiple, 80, 168, 250
Toxaemias of pregnancy, 498
Trephinings, repeated, 456
Tropical hygiene, the outlook in, 819, 935, 974
Tuberculosis, Alpine treatment of, 249, 292
Tuberculosis, diploma in, 329, 370, 414, 454, 622
Tuberculosis treated with colloid calcium, 123

Correspondence (*continued*):
Tuberculous diseases diploma (Wales), 902
Typhus, protective inoculation against, 455
Vaccine lymph, preparation of, 933
Vaccines, detoxicated, 858, 901, 934
Vaccines in whooping-cough, 781
Van den Bergh test in jaundice, 783
Venereal clinics, a lay point of view, 38
Venereal disease, incidence of, 77
Venereal disease prevention, 247, 288, 330, 413, 457, 499, 582, 975
Venereal disease prevention in the Australian Imperial Force, 330
Vienna kliniks, 661
Vienna and London, 167. *See also* Post-graduate
Welfare work in factories and workshops, 291
X-ray apparatus, German-made. *See* German
X-ray departments, 292, 456
X-ray therapy, deep, in malignant disease, 208
X-ray treatment of cancer, 415
X rays, biological effects of, 164, 250

COTTON, Henry A.: *The Defective Delinquent and Insane: the Relation of Focal Infections to their Causation, Treatment, and Prevention*, rev., 923
COTTON, William: Hospitals in the Territorial Force, 80
COUÉ, Emile, auto-suggestion and the method of, 575—and DUBOIS, 586–Note on, 618—*The Man and His Work* (Hugh Macnaghten), rev., 842
Council, General Medical: *Minutes of*, rev., 485—*General Index to the Minutes of 1903-1921*, rev., 485—Note on the old house of (299, Oxford Street), 491, 786—Reports on the inspection of examinations, 691—Delegate to India, 695—Next session, 730—Mental and dental education, 894—Demonstrations on the living, 894—Regulations for the D.P.H., 895—Midwifery in Indian universities, 895—Disciplinary cases, 895—An exchange of compliments, 896—Acoustics of the Council chamber, 896

COUNCIL, LONDON COUNTY:
Ability in children, 317
Clinical assistants at London mental hospitals, 368
Coroners' remuneration in London, 619
Inspection and treatment of London school children, 409
Medical inspection of secondary school pupils and intending teachers, 453
Medical remuneration at places of detention, 658
Small-pox diagnosis, circular *re*, 83
Tuberculous ex-service men, re-education of, 409
Venereal disease arrangements in London, 618

COWAN, John: Septic infection of the bladder and kidney, 59—Causes of death in chronic valvular disease of the heart, 192
COWEN, T. P.: Lunacy administration, 150
COX, Alfred: Appreciation of Edwin Rayner, 169—Appreciation of John Adams, 741
COX, A. Neville: A diploma in tuberculosis, 414—Artificial pneumothorax, 683
COX-CAVENDISH Electrical Company, catalogue of *x*-ray and electromedical apparatus, 226
CRAGG, Major F. W.: Relapsing fever in India, 435
CRAIG, C. F.: *The Wassermann Test*, rev., 441
CRAIG, Sir Maurice: *Nerve Exhaustion*, rev., 721—Study of mental hygiene, 767—Maudsley Lecture on some aspects of education and training in relation to mental disorder, 954
CRAIG, William, obituary notice of, 250
Cramp, treatment of, 744, 825, 862
Cranial surgery, a self-retaining tourniquet for (George Robertson), 476
CRAWFORD J. Dawson, obituary notice of, 742
CRAWFORD, J. Hamilton: The solubility of quinine hydrochloride, 874 (O)
CRAWFORD, M. A. Dobbin: Spasmodic stricture of the uterus, 135 (O), 145
Cremation, progress of in England, 116—Report on, 585
Creosote in treatment of pneumonia, 334
CREW, F. A. E.: Bovine achondroplasia, 739
Crichton Royal Institution, Dumfries: Report, 410
Crime, insanity and responsibility for (leading article), 891
Criminal cases, proof of live birth in, 142. *See also* Birth
Criminal cases, procedure in the defence of insanity in, 732, 891, 963
Criminal Law Amendment Bill, 282, 408, 853
Crippled children, treatment of in Michigan, 635
CROCKET, James: The local application of tuberculin, 679 (O)
CROFT, Dr.: Abdominal section for ectopic pregnancy, 145
CROFTON, W. M.: The treatment of acute infections, 606
CROLEY, V. St. John: Cobra bite, 951
CROOKSHANK, F. G.: The septal perforation of cocaine sniffers, 39—Fatal botulism, 974—(Editor) *Influenza: Essays by Several Authors*, rev., 999
CROOM, Sir Halliday, dinner to, 623
CROSS, Howard B., obituary notice of, 372
Crowley's Hygiene of School Life, rev., 484
CROWTHER, J. A.: *The Principles of Radiography*, rev., 841
Cruelty to Animals Bill, 492. *See also* Animals *and* Antivivisection
CRUISE, Richard Robert, K.C.V.O. conferred upon, 929
CRYMBLE, Mr.: Diagnosis and treatment of cases of enlarged prosta e, 230
Cuba: *Revista de Medicina Legal de Cuba*, 686
CUFF, Cyril H.: The application of fascia lata in plastic surgery, 599 (O)
CUMBERBATCH, E. P.: The causes of death in electrical shock, 478—Diathermy in surgical practice, 952—High-frequency currents, 960
CUMMINS, S. Lyle: A diploma in tuberculosis, 329, 454, 902—Tuberculosis in Wales, 338 (O)
CUMSTON, C. G. (and Georges PATEY): *Surgical Treatment of Non-malignant Affections of the Stomach*, rev., 523
CURIE, Madame, and the Académie de Médecine, 160; elected *membre associée libre* de l'Académie de Médecine, 282
Current Medical Literature, Quarterly Cumulative Index to, 569
CURTIN, L. J.: Stricture of the nasal duct, 645
CUSHING, Harvey: The field defects produced by temporal lobe lesions, 573—Takes over the directorship of the surgical unit of St. Bartholomew's Hospital for ten days, 968—Cavendish Lecture on the "meningiomas," 1001
CUSHMAN, A. S.: *Chemistry and Civilization*, rev., 647
Cyanine dyes, the antiseptic properties of (C. H. Browning, J. B. Cohen, and R. Gulbransen), 514 (O)
CYRIAX Edgar F.: Influenza, 247, 334—A correction, 334—Slipping rib, 586
Cyst of ovary, pedicle of, causing obstruction of the pelvic colon (G. S. Woodman), 14
Cyst of spermatic cord (Herbert G. Cook), 188
Cystoscopes, English, 935

D.

DAELS, Professor: Radium, 960
DALE, H. H.: Specific sensitiveness and anaphylaxis, 45 (O)—(and C. H. KELLAWAY) Anaphylaxis and anaphylatoxins, 268, 532—(and Major C. E. WHITE) Experimental method of determining the therapeutic efficiency of "914" preparations, 312—The search for specific remedies, 807
DALZIEL, Sir Kennedy: Septic infections of the bladder and kidney, 58
Dangerous drugs. *See* Drugs
DANYSZ, J.: *La Genèse de l'Energie Psychique*, rev., 316
DARCH, John: Hospital lighting, 720
DARIER, J.: Primary epithelial carcinoma of the skin, 477
DAVIDSON, C. M.: Woollen winding sheets, 172
DAVIDSON, H. S: Acute tubal peritonitis, 350
DAVIDSON, Maurice: Encephalitis lethargica, 721
DAVIES, J. C.: Labour complicated by malignant growth, 57
DAVIES, Sydney: Measles and fresh air, 818
DAVIES-COLLEY, R.; Slipping rib, 432 (O)
DAVIS, E. D. D.: Early diagnosis and drainage of otitic meningitis, 363
DAVIS, HALDIN: *Skin Diseases in General Practice*, rev., 567—Treatment of psoriasis, 1012
DAVY, Sir Henry (and Mabel GATES): A case of dissecting aneurysm of the aorta, 471 (O)—Death of, 785—Obituary notice of, 821, 860
DAWSON, Lord: Address on sexual relationships now issued in pamphlet form, 73—Review of above address—*Love, Marriage, Birth Control*, 105—Professional secrecy, 494, 536—Dyspepsia and the conditions underlying it, 863 (O)
Deaf, the education of the, 490
Deaf, National College of Teachers of, election of vice-presidents, 43—Annual meeting, 490
DEAN, H. R.: The Wassermann reaction, 193
Death of a boy? due to manipulations of a "chiropractor," 127
Death rates, the meaning of (leading article), 401
Deaths in the great towns, 170. *See also* Vital statistics
Deaths from starvation. *See* Starvation
DEAVER, J. B. (and A. P. C. ASHHURST): *Surgery of the Upper Abdomen*, rev., 62
DECK, Edw. Jas.: Heliotherapy and the Wolfram arc reactions, 124
D'HERELLE, F.: *Le Bactériophage, son Rôle dans l'Immunité*, rev., 354—Note on, 362
DELÉPINE, Sheridan, memorial to, 160
Delhi boil. *See* Oriental sore
Delinquency, medical aspects of, 164. *See also* Medical
DELMAS, J. (and J. FIOLLE): *The Surgical Exposure of the Deep-seated Blood Vessels*, rev., 354
Deltoid muscle. *See* Muscle
Dementia praecox, genetic origin of (Sir Frederick Mott), 953
DENING, Edwin, obituary notice of, 502
Denmark, disappearance of malaria in, 489
DENNETT, R. H.: *Simplified Infant Feeding, with Eighty Illustrative Cases*, rev., 274
Dental Act, A Century of, rev., 608
Dental infection, some local results of (W. G. Spencer), 131 (O), 144
Dental Students Register, 486
Dentists Act Regulations (parliamentary note), 451
Dentists under the Juries Bill (parliamentary note), 813
Dentists Register for 1922, rev., 485, 486—Note on, 617—Parliamentary note on, 893
Dentists, registered, 210
Dentures, rubber, 250
DENYER, Stanley E.: Blindness as an immediate sequela of influenza: recovery, 223 (O)
Depilatories, 252, 420
DE QUERVAIN, F.: *Clinical Surgical Diagnosis for Students and Practitioners*, rev., 231
Dermatitis exfoliativa (Frank H. Barendt), 564
Dermatitis venenata in the tropics, 504
Dermatology, review of books on, 566
DE REZENDE, Cassio: *Ligeiras reflexoes sobre a etiopathogenia e o tratamento da molestia de Graves*, rev., 394
DE ROALDES prize of the American Laryngological Association, 127
DE SOUZA, D. (and H. Willoughby LYLE): *Manual of Physiology for Students and Practitioners*, rev., 442
Detoxicated vaccines. *See* Vaccines
DEVEREUX, A. C.: Sun or air? 456
DE WESSELOW, O. L. V. S.: Chemical observations on pregnancy toxaemias, 605
Diabetes, etiology and treatment of (Arnold Renshaw and Thomas H. Fairbrother), 674 (O)—Correspondence on, 737, 818, 857, 933
Diabetes mellitus, a suggestion, 622
Diabetes mellitus, electro-vibration of the cerebellum and pancreas in, 296
Diabetes, review of books on, 354, 1000
Diabetic coma and cerebral haemorrhage, differential diagnosis between (E. D. Spackman), 918
Diabetic flour for bread making, 648
Diagnosis, psychological analysis in (T. S. Good), 389
Diagnosis, review of books on, 18, 194, 230, 483
Diagnostic shoulder straps, 1012
Diaphragm, suture of ruptured left dome of (C. Jennings Marshall), 871 (O)
Diaphragmatic hernia. *See* Hernia
Diarrhoea, summer, the epidemiology of (Matthew Young and John Brownlee), 519
Diathermy in surgical practice, discussion at Royal Society of Medicine, 952
DIBLE, Dr.: Laboratory tests, 605
Diet, common defects of, and their pathological significance (E. Mellanby), 790, 831 (O)
Diet and development, 79
Diet and gall stones, 461
Diet in nephritis (H. S. Pemberton), 271
Dietetics, review of books on, 273
DIEULAFOY, Georges, bequests of, 294
DIGBY, L. (and others): Bacteriology of pneumonia, 564
Digestion, gastric, the effect of alcohol on, 448
Digifoline, 19
DILLING, Walter J. (and J. Mitchell BRUCE): *Materia Medica and Therapeutics*, rev., 957
DILLON, T. W. T.: The nature and significance of heart symptoms, 661
DINGWALL-FORDYCE, A.: The significance and treatment of some abnormalities of urine in children, 97 (O)
Diphtheria bacillus, culture medium for (Captain S. R. Douglas), 268
Diphtheria cured by faith by the sect of the "Holy Rollers," 545
Diphtheria in London (parliamentary note), 325, 451—Report of M.A.B. Infectious Hospitals Committee, 495
Diphtheria, nasal, after enucleation of the tonsils (B. Seymour Jones), 474 (O)
Diphtheria, prevention of, discussion at Royal Society of Medicine, 190—Leading article on, 199
Diphtheria, preventive treatment on New York children, statistics, 516
Diphtheria, Schick test for (parliamentary note), 493, 657
Diphtheria-like organisms, the virulence of (A. J. Eagleton and E. M. Baxter), 139 (O)—Correspondence on, 415
Disabled men, Geneva meeting to consider the problems of, 545. *See also* Ex-service men
Disclaimers, 84
Disease and reversion (Dr. Macalister), 15
Diverticulum of the jejunum with perforation, acute inflammation of (Graham W. Christie), 990 (O)
DIXON, Dr.: Exchange of bookplates, 545
DIXON, W. E.: The action of arsenobenzol preparations, 312
DIXON, W. F.: *A Manual of Pharmacology*, rev., 17
DOBLE, Captain F. Carminow: A urethroscope tube for the posterior urethra, 356
DOBSON, Leonard: Rheumatoid arthritis and its treatment, 998
DOCK, Lavinia L. (and Isabel Maitland STEWART): *A Short History of Nursing from the Earliest Times to the Present Day*, rev., 684
DOCKRELL, M.: Suture of the sciatic nerve, 391—Demonstration of artificial limbs, 522

Doctors, male, bill introduced into New York Legislature to forbid the treatment of females by except in the presence of another female, 353
DODD, P. Vernon: Resuscitation after apparent death, 462
DODDS, E. C. (and T. Izod BENNETT): Secretion into the stomach and duodenum, with special reference to diabetes mellitus, 9 (O)—Evidence of pancreatic disorder in rickets, 511 (O)
DODDS-PARKER Mr.: Embolism of the superior mesenteric artery, 390
Dogs and scientific experimentation, resolution that they be exempted defeated at New York City Federation, 419
DOLAMORE, W. H., elected to a seat on the Board of the Medical Sickness, Annuity, and Life Assurance Society, 127
DON, A.: Roman surgery in the first century, 447
DONALD, A.: Adenomyoma of the recto-vaginal space, 839
DONALDSON, Malcolm: Surgical shock, 761
DONCASTER, L.: *Heredity in the Light of Recent Research*, rev., 724
DONKIN, Sir Bryan: Prevention of venereal disease, 247, 330, 413, 582
DORAN, Alban H. G.: Valentine Mott's aneurysm needle for ligature of the innominate and subclavian arteries, 639 (O)
DOUGAL, Dr.: Case of ectopic pregnancy which occurred twice within four and a half months, 390
DOUGLAS, C. E.: Appreciation of Sir German Sims Woodhead, 82
DOUGLAS, C. G., elected a Fellow of the Royal Society, 373
DOUGLAS, Captain S. R.: Culture medium for *B. diphtheriae*, 268—Selected for election into the Royal Society, 419
DOVER, Thomas, the inventor of Dover's powder, note on, 280
DOYLE, Lieut.-Col. Bernard, obituary notice of, 82
DRAGE, Charles, obituary notice of, 372
Drainage in abdominal emergencies (A. Churchill), 591 (O)
DREW, Douglas: Cancer of cervix extending to vagina, 605
DRINKWATER, H.: The inheritance of acquired characters and of maternal impressions, 167
"Dropped shoulder sign," 462
Drug addiction, 862
Drug habit, victims of the, 546
Drug traffickers, flogging for (parliamentary note), 777
Drugs Act, Dangerous: Parliamentary note on, 735, 854—Farmers and stock owners, 854
Drugs and appliances, import duty on (parliamentary note), 813
Drugs, illegal traffic in (parliamentary note), 777, 853
Drugs, noxious, and the League of Nations (leading article), 728
Drugs, smuggling of into England (parliamentary note), 534
Drugs, synthetic, review of books on, 108
DRUMMOND, Hamilton: The after-results of 21 cases of ilio-colostomy performed for tuberculous bones and joint diseases, 342 (O)
DRUMMOND, W. B: Encephalitis lethargica and mental deficiency, 122
Drunkenness, statistics in the Metropolitan Police District (parliamentary note), 409
Dublin, Regius professor of surgery at, 899
DUBOIS and COUÉ, 586
DUDFIELD, Reginald: Factors in the causation of puerperal septicaemia, 348—Epidemiology of summer diarrhoea, 519—Reforms needed in the notification of tuberculosis, 876
DUFF, Donald: Treatment of ununited fractures, 481
DUGUID, H., called to the Bar, 211
DUHEM, Paul: *L'Emploi des Rayons X en Médecine*, rev., 841
DUKES, C. E.: The digestibility of bacteria, 430 (O)—The absorption of ferments by bacteria, 437
DUNCAN, FLOCKHART, AND CO.'S pure protein solutions, 19
DUNDAS-GRANT, Sir James: Local results of dental infection, 144
DUNLOP, B.: Birth control, 81—Sterility with reference to the State, 546
Duodenal tube in the diagnosis and treatment of biliary diseases (Jonathan Meakins), 983 (O)
Duodenal ulcer. *See* Ulcer
Duodenum and stomach, secretion into, with special reference to diabetes mellitus (T. Izod Bennett and E. C. Dodds), 9 (O)
DURET, H.: *Traumatismes cranio-cérébraux*, rev., 764
Durham workhouse inquest: A coroner on the oath, 967
DYBALL, Dr.: Tuberculous hyperplasia of colon, 919—Twisted ovarian cyst, 919
Dyes, antiseptic coal tar (leading article), 612—Correspondence on, 662
DYKES, S. Norman: Rupture of the extensor longus pollicis tendon, 387
Dysentery, asylum, treated by means of anti-dysentery serum (P. Lornie and D. Ellis Jones), 949 (O)
Dysmenorrhoea, pulsatilla in (Frederic C. Coley), 13 (O)
Dysostosis, cleido-cranial (S. T. Irwin), 682
Dyspepsia and the conditions underlying it (Lord Dawson), 863 (O)

E.

EAGLETON, A. J. (and E. M. BAXTER): The virulence of diphtheria-like organisms, 139 (O)—Prevention of diphtheria, 190
EAGLETON, Wells P.: The operative treatment of suppurative meningitis, 363
Ear affections in pensioners (parliamentary note), 451
Ear disease in the tropics (Dr. Salisbury Sharpe), 143
EASTHAM, T., appointed a King's Counsel, 449
ECCLES, W. McAdam: Post-operative embolism and infarction, 60—Appreciation of Sir German Sims Woodhead, 126—Flat-foot, 314—War wounds in relation to life assurance, 799—Rheumatoid arthritis, 998
Eclampsia, evolution as a causative factor (S. E. Kark), 912 (O)
Eclampsia, puerperal (G. A. Johnston), 642
Economy and information (Report of Registrar-General for Scotland) 1005
EDEN, T. W.: Sterility and the State, 438
Edinburgh. *See* Scotland
EDINGTON, Daniel C.: Streptococcal infection by the nasal and buccal paths, 304 (O)
EDINGTON, G. H.: Sarcoma affecting an undescended testicle, 192, 475 (O)
Education authorities and school medical officers (leading article), 113—Correspondence on 292
Education vote, 734
Education. *See also* Board of Education
EDWARDS, J. Hall, awarded a medallion and an annuity by the Carnegie Heroes' Fund, 204
Egg prepared antigen. *See* Antigen
EHLERS, Professor, honorary degree of doctor conferred upon by the University of Paris, 545
EICKEN, V., appointed to chair of oto-rhino-laryngology at Berlin, 629
Eighteenth-century advertisement, 44
Electrical methods in gynaecology (A. Zimmern), 143
Electrical shock, cause of death in, discussion on, 478
Electrolysis in treatment of acute gonorrhoea, 37, 78, 167. *See also* Gonorrhoea
Electrotherapy, review of books on, 568 606
Electroscope and endoscopic tubes, 109
Electro-vibration of the cerebellum and pancreas in diabetes mellitus, 296
Elephantiasis of the labium (Ralph W. Mendelson), 839
ELLERMANN, Vilhelm: *The Leucosis of Fowls and Leucemia Problems*, rev., 721
ELLIOT, A. Macbeth: Streptococcal sore throat, 760
ELLIOT, R. H.: *A Treatise on Glaucoma*, rev., 841
ELLIOTT, John, obituary notice of, 41
ELLIS, H. A.: Tuberculosis treatment, 683
ELLIS, W. McD.: Reduction of medical fees, 538 661
ELLISON, John: Electrical methods in gynaecology, 144
ELMSLIE, R. C.: Remedial exercises in scoliosis, 437—Scoliosis, 960
ELSWORTH, Richard Cogswell, obituary notice of, 978
"Eltringham's Exercises," 274
Emancipation of Indian women. *See* India
EMBLETON, Dr.: Intestinal infection, 437
Embolism, post-operative, and infarction, discussion on, 59
Embryology, review of book on, 879
EMERSON, C. P.: *Clinical Diagnosis*, rev., 18—A correction, 64
EMERY, W. D'Este: *Clinical Bacteriology and Haematology for Practitioners*, rev., 18
Emetine, action of in amoebae, 901. *See also* Specific remedies
Empyema, chronic (O. L. Addison), 839
Empyema, surgical treatment of (J. A. Nixon), 239—Correspondence on, 329, 371, 416
EMRYS-ROBERTS, E. (and H. A. HAIG): Primary pulmonary tuberculosis followed by tuberculous meningitis, 521—Acute abdomen, 681—Cancer of proximal end of the appendix, 681—Appendix removed at operation subsequently fixed and bisected in the longitudinal mesial plane, 681
Employees, medical examination of, 296
Encephalitis lethargica affecting the nuclei of the mid-brain in an unusual manner (William Calwell), 514 (O)
Encephalitis lethargica and mental deficiency, 122, 165
Encephalitis lethargica, deaths from in the United States, 55, 939
Encephalitis lethargica, discussion on in New York City, 694
Encephalitis lethargica, review of book on, 802
Encyclopaedia of Religion and Ethics, medicine in, 240
Encyclopédie française d'Urologie, Tome IV: Maladies de la Vessie, rev., 482
Endocervicitis, chronic (J. W. Burns), 839
Endocrine glands and insanity, 581. *See also* Insanity
Endocrine system, the position of the thyroid gland in (W. Langdon Brown), 85 (O)—Correspondence on, 209
Endocrinology, review of book on, 524
Endoscopic tubes, 109
Endoscopy, medical, the history of (D. R. Paterson), 939
Endothelioma of the larynx (Walter Howarth), 267
Endothelioma of stomach (J. Philip Buckley), 315
England and venereal disease, 975
English, the teaching of in England: Report of Departmental Committee (leading article), 23—Correspondence on, 128
ENGLISH, Howard: Treatment of gonorrhoea by electrolysis, 78
Enteric fever. *See* Fever
ENTRICAN, Lieut.-Col. James, C.I.E. conferred upon, 25
Epidemics in Eastern Europe, 653
Epidemiological intelligence work, 278
Epidemiological statistics of Eastern Europe, 238
Epilepsy, pathology of (A. G. Gibson), 315
Epithelial carcinoma. *See* Cancer of skin
Epithelioma of skin, benign (Louis Savatard), 878
ERBEN, S.: *Diagnose der Simulation nervöser Symptome auf Grund einer differential diagnostischen Bearbeitung der einzelnen Phänomene*, rev., 5 9
Erlangen, notes on a visit to (J. Curtis Webb), 92. *See also* Cancer *and X* rays
Errata. *See* Corrections
ERSKINE, James, obituary notice of, 502
Eruption resembling varicella in lobar pneumonia (Wm. Salisbury Sharpe), 14
Erythema nodosum associated with acute rheumatism (Hugh Wetherbee), 995
Esperanto Congress at Prague, 34
ESPINA Y CAPO, Dr., professional jubilee of, 939
ESTCOURT-OSWALD, Agnes: An emergency method in presbyopia and hypermetropia, 140, 212
Ether administration by the perhalation method (Dr. Ogston), 762
Ethyl iodide treatment of ringworm (M. W. Geffen), 267
Europe, Eastern: Epidemiological statistics of, 238—Report on the health situation in, 488—Resolutions of the European Health Conference on the epidemics in, 653—Famine and disease in, 774
EVANS, E. Laming: Late results of treatment of congenital dislocation of the hip, 61
EVANS, T. Stenner: Thrombophlebitis of the femoral veins following lobar pneumonia, 602
EVANS, Willmott: Case of multiple exostoses in a dwarf man, 145
Everest. *See* Mount Everest
Evolution of the human intellect (G. Elliot Smith), 778
Evolution, review of book on, 316
EWALD, G.: *Die Abderhaldensche Reaktion, mit Besonderer Berüchsichtigung ihrer Ergebnisse in der Psychiatrie*, rev., 197
EWART, R. J.: The determination of sex, 291—Factors in the causation of puerperal septicaemia, 348
EWART, William: Alpine treatment of tuberculosis, 292—Slipping rib, 622
Examinations, inspection of, 691
Exanthemata, differential diagnosis of, discussion at Medical Society of London, 439
Exchange lectures. *See* Lectures
Exercise and freedom after operations, value of (R. P. Rowlands), 52 (O)
Exophthalmic goitre. *See* Goitre
Experiments on animals. *See* Animals
Ex service men, disabled (parliamentary note), 282, 853—Kensington clinic for, 284—Malaria in (parliamentary note), 325—Medical treatment of (parliamentary note), 408—Number of under notice of discharge from the Ministry of Health (parliamentary note), 409—Tuberculous, re-education of, 409—Treatment centres for in London (parliamentary note), 534—Meeting at Geneva to consider the problems of men disabled in war or industry, 545—In asylums (parliamentary note), 578—University education for (parliamentary note), 657—Blind pensioners (parliamentary note), 777—Pensions and allowances in second schedule (parliamentary note), 777
Extension lectures for Canadian medical practitioners in outlying districts, 127
Extensor longus pollicis tendon, rupture of (S. Norman Dykes), 387 (A. Stuart Mactavish), 476 (F. G. Gardner), 476—Correspondence on, 580
Eye diseases, quackery in relation to (leading article), 446—Correspondence on, 499
Eye refraction, value of the cinematograph in the teaching of the mechanism of (John Rowan), 192
Eye, review of books on, 146
EYRE, John: Intestinal disinfection in enteric fever, 462
EYRE, John W. H. (and A. I. SIMEY): Restriction of influenza epidemics in schools by the use of "local" prophylactic vaccines, 433 (O)—Letter on above, 623

F.

Face in man, growth of (Sir Arthur Keith and George Campion), 438, 449
Factories and workshops, accidents in, remarkable statistics (parliamentary note), 534
Factories and workshops, the welfare worker in (leading article), 153—Correspondence on, 291
FAIRBAIRN, John S.: *A Textbook for Midwives*, rev., 63—Minor displacements of the uterus as a cause of disability in women, 587 (O)—and Comyns BERKELEY and H. Russell ANDREWS), *Diseases of Women*, rev., 722

FAIRBANK, H. A. T.: Late results of treatment of congenital dislocation of the hip, 61—Flat-foot and some of its complications, 314
FAIRBROTHER: Antiseptic dyes, 612
FAIRBROTHER, Thomas H. (and Arnold RENSHAW): The etiology and treatment of diabetes, 674 (O), 818, 933
FAIRLIE, Dr.: Perhalation method of ether administration, 763
"Faith-healing" in Aberdeen, 619
Famine and disease in East Europe, 774
FANNING, James: Aneurysms of the thoracic aorta involving the lung, 758 (O)
FANNING, W. J. (and F. W. BURTON-FANNING): The end-results of sanatorium treatment of tuberculosis, 306 (O)
FARINGTON, Joseph, diary of, 490
FARMER, Eric: Industrial fatigue and motion study, 157, 280
FARQUHAR, George G.: Traumatic arterio-venous aneurysm, 472 (O)
FARRAR, Reginald Anstruther, obituary notice of, 41
Fascia lata in plastic surgery (Cecil H. Cuff), 599 (O)
Fatigue, industrial. *See* Industrial
Fats in relation to the genesis of goitre (Lieut.-Col. Robert McCarrison), 178 (O)—Correspondence on, 287, 413, 500, 541
FAUGHT, Francis A.: *The Essentials of Laboratory Diagnosis*, rev., 483
FAULHABER, M. (and L. KATZ): *Die Röntgendiagnostik der Magenkrankheiten*, rev., 274
FAWSITT, Thomas, honorary freedom of Oldham conferred upon, 703—Presentation to, 703
Febricula and influenza (A. I. Simey), 133 (O)
Fecundity, unusual, 462
Federation of the American Society of Experimental Biology, annual meeting, 51
Federation of Medical and Allied Services, annual dinner, 960
Federation of Medical Women. *See* Medical
Fee-paying hospital patients (in Paris), 160. *See also* Hospital patients
Fees, medical, reduction of, 538, 581, 621, 661, 699, 740, 781
FEILING, Anthony: Goulstonian lectures on the interpretation of symptoms in disease of the central nervous system, 515, 559, 600 (O)
FELKIN, Henry George, obituary notice of, 824
FELL, Group Captain Matthew Henry Gregson, K.C.B. conferred upon, 25
Fellowship of Medicine and Post-Graduate Medical Association, 615, 655, 743, 785, 894, 932—*Bulletin* of, 967. *See also* Post-graduate
Female ailments, review of book on, 355
Feminist question (in France), 160
Femur, excision of head of, in arthritis deformans. *See* Arthritis deformans
Fencing and physic, 666
FERGUS, Freeland: Post-operative haemorrhage, 54 (O)—Classification of squint, 102
FERGUSON, Haig: Inversion of the uterus, 192—Diagnosis and treatment of acute tubal peritonitis, 349—Induction of premature labour, 481
FERGUSON, Joshua: Septic infections of the bladder and kidney, 57
FERRIER, John, 531
Fever, enteric, incubation and contact carriers of, 27
Fever, enteric, intestinal disinfection in (Thos. E. Francis), 388—Correspondence on, 462 504
Fever, enteric, compulsory vaccination for, in Spain when epidemics are prevailing, 262
Fever, rat-bite, treatment of, with novarsenobillon (Norman Briggs), 185 (O)
Fever, relapsing, in India (Major F. W. Cragg), 435
Fever, rheumatic, etiology of, 540
Fever, scarlet, in London, report of M.A.B. Infectious Hospitals Committee, 496
Fever, scarlet, in New York, Health Commissioner makes a grant for employment of extra doctors, nurses, and inspectors, 333
Fever, scarlet, and scarlatiniform rashes (R. W. Marsden), 270
Fever, typhus, etiology of, 849, 930
Fever, typhus, at Frankfurt-on-the-Oder, 743
Fever, typhus, in Poland, report of Typhus Research Committee, 955
Fever, typhus, prophylaxis against for travellers, 404
Fever, typhus, protective inoculation against, 455
Fever, typhus, review of book on, 196, 955
Fever, typhus, the Russian menace, 532
Fevers, review of book on, 646
Fibrillation and flutter (Dr. Harris), 564. *See also* Auricular *and* Heart
Fibroid, necrotic submucous (C. E. Purslow), 565
Fibroids of uterus, treatment of (W. Fletcher Shaw), 603—Discussion, 603
Fibroids of uterus, *x*-ray treatment of (leading article), 402
Fibromyoma of the cervix uteri (Ewen Maclean), 61
Fibromyoma of uterus complicating pregnancy (Walter Swayne), 61
Fibrositis, recognition and treatment of minor degrees of (Thomas Marlin), 677 (O)
Fife practitioner and his assistant, 899
FINDLAY, Leonard: Septic infections of the bladder and kidney, 57—The ante-natal treatment of congenital syphilis, 124
Finger, fracture of the end phalanx of, with rupture of the common extensor tendon (John N. Laird), 101—(Cecil Burnham), 141—(W. J. Foster), 226—(C. Viney Braimbridge), 838
Finger injuries, operative treatment of (R. R. Kerr), 563
Finger, mallet (W. J. Foster), 226
FINNEY, J. M. T.: Appreciation of Sir William Osler, 127
FINZI, N. S.: Deep-seated radiotherapy, 959
FIOLLE, J. (and J. DELMAS): *The Surgical Exposure of the Deep-seated Blood Vessels*, rev., 354
First aid to the injured, 586, 630
FIRTH, Sir Robert H.: *Health in a Few Words*, rev., 724
FISCHER, Martin H.: *Oedema and Nephritis*, rev., 272—(and others) *Soaps and Proteins: Their Colloid Chemistry in Theory and Practice*, rev., 274
FISK, Sidney: Rubber dentures, 250
Fistula, jejuno-colic, case of, following gastro-enterostomy (Claude Frankau), 184 (O)
FITZGIBBON, Dr.: Milk and the public health, 681
FITZWILLIAMS, Duncan: The treatment of tuberculous glands, 353
FITZWILLIAMS, D. C. L.: *A Pocket Surgery*, rev., 394
Flail thumb. *See* Thumb
Flat-feet and toe troubles, 172
Flat-foot and some of its complications (H. A. T. Fairbank), 314
Flea trap, 1012
FLEMING, Christian M.: Case of Addison's disease rapidly fatal, 951
FLEMING, R. A.: The treatment of pneumonia in the older patient, 350
FLEMMING, A. L.: Nitrous oxide anaesthesia, 348
FLEMMING, Chas. E. S.: Reduction of medical fees, 621
FLETCHER, William: Incubation and contact carriers of enteric fever, 27
FLETCHER, W. (and A. T. STANTON): Melioidosis, 561
Flies, review of book on, 608, 803
FLINT, E. R.: A case of megacolon, 310 (O)—The after-results of colectomy, 517
Flogging for drug traffickers (parliamentary note), 777
Flour, dietetic, for bread making, 648
FLOYD, S. G.: Ten cases of multiple birth in three generations, 476
FLÜGEL, J. C.: *The Psycho-Analytic Study of the Family*, rev., 645
"Focal infection" in skin diseases. *See* Skin
"Following up" in V.D. clinics. *See* Venereal disease clinics
Food and milk for mothers and children (parliamentary note), 325
Food poisoning due to Gaertner's bacillus (Dr. O'Kelly), 682
Foot and mouth disease (parliamentary note), 409—Circular from the Ministry of Health, 810
Forceps, radium applicator, 842
FORDE, W. G.: Medicine in Assam, 457
FORDYCE, Wm.: Caesarean section in a multiple pregnancy, 192
Foreign bodies in the gastro-intestinal tract in acute appendicitis (William C. Allardice), 473 (O)
FORSDIKE, Sidney: Treatment of carcinoma of the cervix, 120—Treatment of uterine fibroids, 603
FORSTER, Aquila (and Robert C. FREDERICK): *Public Health Chemical Analysis*, rev., 765
FORSTER, H. V.: Ulceration of malignant oesophagus into the tracheal bifurcation, 267
FOSS, R. Stafford: Routine pelvimetry in ante-natal cases, 581
FOSTER, Gregory: The University of London, 326
FOSTER, W. J.: Mallet finger, 226
FOTHERGILL, W. E.: *A Handbook for Midwives and Maternity Nurses*, rev., 356—*Manual of Diseases of Women*, rev., 722—*Manual of Midwifery*, rev., 764—Three years of pelvic surgery, 830 (O)
FOULKES, Dr.: Compound palmar ganglion, 919
FOURCADE: Tartrobismuthate in nervous syphilis, 444
FOURNIER: Bismuth in the treatment of syphilis, 443
FOWLER, J. S.: Significance and treatment of glycosuria, 350
FOWLER, Thomas (of Fowler's solution), note on, 115
FOX, E. L.: The diagnostic value of the plantar extensor response, 513 (O)
FOX, Herbert (and Herbert STENGEL): *A Textbook of Pathology*, rev., 764
FOX, R. Fortescue: Cheaper spas, 542
Fracture of the end phalanx of a finger with rupture of the common extensor tendon (John N. Laird), 101—(Cecil Burnham), 141—(W. J. Foster), 226—(C. Viney Braimbridge), 838
Fracture in osteitis deformans. *See* Osteitis
Fractures, a bone-clip for the operative treatment of: end-results in the case of growing femurs (Joseph E. Adams), 258 (O)
Fractures, depressed, operative treatment of in infants and children (G. Jefferson), 563
Fractures, review of books on, 394
Fractures, ununited, bone grafting in, 738, 817
Fractures, ununited, treatment of (Donald Duff), 481
Fragilitas ossium associated with blue sclerotics in four generations (J. Browning Alexander), 677 (O)
France: Association for the Advancement of Science, 769—Birth and death rates, 935—Chauchard Trust Fund prizes to parents, 127—Feminist question, 160—Foreign medical students in, 334—Foreign post-graduate student in France, 32—Ligue d'Hygiène Mentale establishes dispensaries in the Department of the Seine, 545—Population of Paris, 971—Post-graduate work in, 32, 419, 461—Spas in, 929. *See also* Paris
FRANCIS, Thos. E.: Intestinal disinfection in enteric fever, 388
FRANKAU, Claude: A case of jejuno-colic fistula following gastro-enterostomy, 184 (O)
FRANKE, Gustav: *Uber Wachstum und Verbildung des Kiefers und der Nasenscheidewunde, auf Grund veraleutender Kiefermessungen und experimentelles Untersuchungen über Knockenwachstum*, rev., 231
Frankfurt-on-the-Oder, typhus fever at, 743
FRANKLIN, Marjorie: The psychiatric clinic, 478
FRASER, Hugh Ernest, obituary notice of, 741
FRASER, J. A., presentation to, 704
FRASER, John: Some aspects of the abdominal emergencies of childhood, 173 (O)
FREDERICK, Robert C. (and Aquila FORSTER): *Public Health Chemical Analysis*, rev., 765
Free insurance, 462
FRENCH, Ronald E.: Intestinal disinfection in enteric fever, 462
FRESENIUS, Th. W.: *Introduction to Qualitative Chemical Analysis*, rev., 62
FREW, Dr.: Perhalation method of ether administration, 763
FRIEL, A. R.: Intratracheal medication, 149
FRIEND, Herbert E.: Appreciation of the Rev. James George, 372, 459
FRITCH, F. E (and E. J. SALISBURY): *Botany for Students of Medicine and Pharmacy*, rev., 686—*An Introduction to the Structure and Reproduction of Plants*, rev., 686
"From Grave to Gay," 491
Frontal sinus, mucocele of (J. Acomb), 344 (O)—Correspondence on, 457
Fruit juice, the value of, 168
FRY, H. S.: *Electronic Conception of Valence and the Constitution of Benzene*, rev., 647
FRY, L. S.: Case of meningitis simulating tetanus, 56
FRY, Margery: The medical aspects of penology, 840
Fuel Research Board institutes a systematic investigation of coal seams, 177
FULLERTON, Andrew: Hints on the diagnosis and treatment of cases of enlarged prostate, 229—Rupture of extensor longus pollicis tendon, 580—A modification of the operation of cholecystenterostomy, 995 (O)
Fund, Edith Cavell Memorial: Home for nurses erected in Sydney, 816
Fund, Hospital Saturday: Annual meeting, 609—Address by Sir James Galloway, 609
Fund, King Edward's Hospital: Special Council meeting *re* a contributory scheme for the London hospitals, 419, 444—An appeal for the London hospitals, 536—Annual report, 619
Fund: Leeds workpeople's hospital, 497
Fund, Royal Medical Benevolent, 168, 485, 579, 657, 806, 957
Funds, Auxiliary R.A.M.C., 43
FURLONG, W. V.: Drug addiction, 862

G.

GABRILOVITCH, J: *Recherches sur le "Principe Curateur" contenu dans la Tuberculine*, rev., 442
Gaertner's bacillus causing food poisoning (Dr. O'Kelly), 682
GALLOWAY, David J.: Gastric syphilis, 217 (O)
GALLOWAY, Sir James: Hospital policy, 609
GALLOWAY, John, obituary notice of, 126
Gall stones and diet, 461
Gall stones, review of books on, 685
Games for girls: a disclaimer, 84
GAMLEN, H. E.: Deep *x*-ray therapy in malignant disease, 208
Gamma rays from a large quantity of radium, effects of, 405
GARDNER, F. G.: Rupture of the extensor longus pollicis tendon, 476—Herpes and varicella, 546
Garibaldi Franco-Italian Prize, 1007
GARRATT, G. C.: Hospital policy, 35, 122, 414, 620—Conference of staffs of hospitals, 543, 661, 744
GARRETT, Dr.: Treatment of ringworm, 188
GARRISON, Lieut.-Col. Fielding H.: *An Introduction to the History of Medicine*, rev., 921
GARROD, Sir Archibald: Haemato-porphyrinuria, 390, 455
GARROW, R. P.: "Alastrim" or "parasmallpox," 780, 975
GARRY, T. Gerald: The Pistany mudbaths, 981
Gas, asphyxiating (parliamentary note), 579
Gas, lighting, carbon monoxide in, 323
Gas and oxygen (Holme Henderson), 763
Gas poisoning experiments (parliamentary note), 366
Gas supply of London, quality of, 658
Gaseous distension of the splenic flexure, 73
GASK, G. E.: War wounds in relation to life assurance, 799

GASKELL, J. F. (and G. S. HAYNES): A case of primary carcinoma of the lung, 222 (O)
"Gassed" plants, 851
GASSUL, R.: *Die Bedeutung der Verschiedenartigen Strahlen für die Diagnose und Behandlung der Tuberkulose*, rev., 233
Gastric digestion. *See* Digestion
Gastric ulcer. *See* Ulcer
Gastro-enterostomy and some dietetic rules (Sir John O'Conor), 310 (O)
Gastro-enterostomy followed by jejuno-colic fistula (Claude Frankau), 184 (O)
Gastro-jejunostomy for perforated gastric and duodenal ulcer, 696. *See also* Ulcer
GATES, Mabel (and Sir Henry DAVY): A case of dissecting aneurysm of the aorta, 471 (O)
GAUVAIN, Sir Henry (and Leonard HILL and J. Argyll CAMPBELL): Metabolism of children undergoing open-air treatment, heliotherapy, and balneotherapy, 301 (O)—The treatment of tuberculous glands, 353
GEDDES, Sir Auckland, K.C.M.G. conferred upon, 929
Geddes Reports (leading article), 275—Note on, 281, 406—The Government and, 406, 407—Parliamentary note on, 407. *See also* SUPPLEMENT Index
GEFFEN, M. W.: Ethyl iodide treatment of ringworm, 267
GEISELBRECHT, John Christopher, bequests of, 688
General Medical Council. *See* Council
General Nursing Council. *See* Nursing
General practitioner and the Hospitals Report, 780. *See also* Hospitals, voluntary
Geneva, meeting at to consider the problems of men disabled in war or industry, 545
GEORGE, Dr: Enlarged cervical glands, 517
GEORGE, Rev. James, obituary notice of, 372, 459
GEORGESON, J. Wilfred: Motor cars, spare parts, 172
GÉRARD, Georges: *Manuel d'Anatomie Humaine*, rev., 922
German books, English purchasers advised to find the price in England before buying, 197
German-made *x*-ray apparatus, 331, 457, 543—Surgical instruments, 543
Germany: Behring's Institute at Marburg given the title of Institute of Experimental Therapeutics, 33—Birth and death rates, 939—Distress among the medical profession, contribution from medical men of Brazil, 83—Salvarsan adulteration, Hamburg manufacturer sentenced for, 127—War losses, statistics, 418
Germs, machine for crushing, 902, 976. *See also* Vaccines, detoxicated
GERVIS, J. B., appointed chairman of the Seaford Urban District Council, 703
Gestation, ectopic, case of full term, with living foetus (H. T. Hicks), 141
Gestation. *See also* Pregnancy
GIBB, C de W.: Cerebral abscess secondary to bronchiectasis, 521
GIBBONS, L.: A stereoscopic head mirror, 940
GIBBONS, R. A.: Sterility with reference to the State, 427 (O)
GIBBS, Charles: Prevention of venereal disease, 288, 499, 768
GIBBS, H. J.: Influence of ethics in medical practice, 561
GIBNEY, Virgil P., dinner to, 127
GIBSON, A. G.: Pathology of epilepsy, 315
GIBSON, C. R.: Fats and goitre 413
GIBSON, R. B.: Alkaptonuria, 73
GIBSON, William, obituary notice of, 126
Gigantism, 420
GILCHRIST, Marion: Septic infections of the bladder and kidney, 59
GILES, Arthur: Sterility and the State, 438—Carcinoma of the cervix, 999
GILES, A. E: Treatment of uterine fibroids, 604—Extension of cancer of cervix to vagina, 604—Surgical shock, 762
GILES, P. Broome: Medical aspects of delinquency, 165
GILLBARD, Richard: Royal College of Surgeons of England, 334—Medicine and the humanities, 1010
GILMOUR, John, presentation to, 295
Girls, physical education of, 501
Gland, interstitial (Leonard Williams), 833 (O)—Correspondence on, 940 973, 1009
Gland, suprarenal, some functions of the (Evelyn E. Hewer), 138 (O)
Gland, thyroid, position of in the endocrine system (W. Langdon Brown), 85 (O)
Glands of reproduction and insanity (leading article), 445—(Sir Frederick W. Mott), 463 (O)—Correspondence on, 581
Glands, tuberculous, treatment of (G. Grey Turner), 352—Discussion, 352
Glasgow. *See* Scotland
Glasgow, Annual Meeting of the Association at, 29. *See also* Association, British Medical, Annual Meeting
Glaucoma, plea for earlier diagnosis of (Dr. Alexander), 642
Glaucoma, review of books on, 841
Gleichen's *Theory of Modern Optical Instruments*: Second edition of English translation published, 503
GLENNY, Elliott T.: Influenza with extreme hyperpyrexia, 434
GLENNY, Mr.: Prevention of diphtheria, 190
Glycosuria, ammonium chloride in, 420
Glycosuria, significance and treatment of (Harry Rainy), 350
Glycosuria, malarial, 209, 290, 330
Glycosuria and obesity (leading article), 890
GLYNN, Ernest (and others): Bacteriology of pneumonia, 564
GOIFFON, R.: *Manuel de Coprologie Clinique*, rev., 18
Goitre, 541
Goitre exophthalmic, in congenital syphilis (Noel F. Rowstron), 347
Goitre, exophthalmic, treatment of (G. R. Murray), 392
Goitre, fats in relation to the genesis of (Lieut.-Col. Robert McCarrison), 178 (O)—Correspondence on, 287, 413, 500, 541
Goitre, review of books on, 394. *See also* Graves's disease
Goitre, simple (Lieut.-Col. Robert McCarrison), 636 (O)—Correspondence on, 932
Gold Coast, small-pox epidemic on (leading article), 691
GOLDSMITH, B. K. (and J. A. TURNER): *Sanitation in India*, rev., 956
Golfing Society, Medical, 1012
Gonococcal septicaemia (James A. Jenkins), 641
Gonorrhoea, acute, electrolysis in treatment of, 37, 78, 167
Gonorrhoea, irrigation treatment of, 121
GOOD, T. S.: Lunacy administration, 149—Psychological analysis in diagnosis, 389—The psychiatric clinic, 478
GOODALL, Edwin: Lunacy administration, 149—Mental hospitals, 207, 287—Causation of puerperal septicaemia, 348—Differential diagnosis of the exanthemata, 439
GOODHART, G. W.: Diagnosis of gastric ulcer, 189
GOODWIN, Sir John: Professional secrecy, 495—Term of office as Director-General Army Medical Services extended for a year, 577—Study of mental hygiene, 767
GORDON, G. A. C: Small-pox in Singapore, 730
GORDON, H. L.: The treatment of pneumonia, 420
GORDON, Knyvett: Rheumatoid arthritis, 998
GORDON, Mary: Venereal clinics, a lay point of view, 38
GORDON, R. G. (and J. LINDSAY): Case of osteitis deformans, 678 (O)
GORDON, W.: Diagnosis of gastric ulcer, 189—The recognition of aortic incompetence, 246—A case of non-rheumatic aortic stenosis in a young subject, 836 (O)—Specimens from a case of chloroma, 919
GORDON-WATSON, Sir Charles: Post-operative embolism and infarction, 60
GORELL, Lord: Prevention of venereal disease, 289
Gorgas Memorial Institute, election of officers, 294
GOSSE, A. Hope (and A Lisle PUNCH): The value of the complement fixation test in the exclusion of active pulmonary tuberculosis, 509 (O)
GOUGH, W.: Rupture of the uterus through the scar of a two-year-old Caesarean section, 390
GOULD, Sir Alfred Pearce, death of, 655—Obituary notice of, 700
Gout, the humoral syndrome of (A. Chauffard), 745 (O)
Government and the Geddes Report. *See* Geddes
GOYDER, F. W.: Continuous treatment in surgical tuberculosis, 914 (O)
GRABHAM, Michael: Biological studies in the Madeiras, 775
GRAHAM, Harris, obituary notice of, 502
GRAHAM, T. O.: Stricture of the nasal duct, 645
GRAHAM-HODGSON, H.: Routine pelvimetry in ante-natal cases, 697
GRANT, Sir J. Dundas: Differential diagnosis of the exanthemata, 440
GRANT, J. W. Geary: Specimen of intussusception in a child, 188—Osteo-genesis imperfecta, 188—Prostatic calculi, 188—Haemorrhagic colitis, 308 (O), 500—Left kidney with wedge-shaped caseating masses, 521—Abdominal emergencies, 680
GRANT, Lachlan: Aluminium throat swabs 434 (O)
GRAVES, Thomas Chivers: Lunacy admistration, 151
Graves's disease, review of books on, 394. *See also* Goitre
GRAY, Major A. C. H.: Mobile laboratories, 362
GRAY, A. Charles: War wounds in relation to life assurance, 799
GRAY, H. Tyrrell: Obscure intestinal colic, 253 (O)—After-results of colectomy, 518
GRAY, St. George B. Delisle: Herpes and varicella, 252
Greece, The Legacy of, rev., 193
GREEN, Clayton: Diathermy in surgical practice, 952
GREENFIELD, J. Godwin (and E. Farquhar BUZZARD): *Pathology of the Nervous System*, rev., 106
GREENWAY, Lieut.-Col. Alexander Stevenson, obituary notice of, 418
GREENWOOD, Major: Factors in the causation of puerperal septicaemia, 348—Appreciation of Arthur William Bacot, 663—Milroy lectures on the influence of industrial employment upon general health, 667, 708, 752 (O)—Scientific value of life tables, 840—Statistics of public health, 900
GREGORY, A. John: Clothing of natives in relation to tuberculosis, 621
GREGORY, Sir R. A., Hon. D.Sc. of Leeds conferred upon, 743
GREGORY, Sir Richard, elected president of the Decimal Association, 824
Grenfell Association, International, establishes hospitals in Newfoundland and Labrador, 51
GRIFFITH, Thomas Wardrop. Hon. LL.D. of Aberdeen conferred upon, 585
GRIFFITHS, Cornelius: Extreme case of molluscum fibrosum, 188
GRIFFITHS, John Howell Knight, obituary notice of, 824
GRIFFITHS, John S., appointed a Deputy Lieutenant for Gloucestershire, 544
GROSS, L: The after-results of colectomy, 518
GROVE, W. R. (and H. W. C. VINES): Calcium deficiencies, their treatment by parathyroid, 791 (O)
GROVES, E. W. Hey: *On Modern Methods of Treating Fractures*, rev., 394—The repair of bone injuries, 440
Growth and injurious agents (Murk Jansen), 970
GUBB, Alfred S.: The complement fixation test for the exclusion of pulmonary tuberculosis, 739
GUÉNOT: Bismuth in the treatment of syphilis, 443
GUILLAIN, Georges (and Guy LAROCHE and P. LECHELLE): *La réaction du benjoin colloïdal et les réactions colloïdales du liquide céphalo-rachidien*, rev., 765
GUINNESS, A F. Grattan: Knot in umbilical cord as a cause of accidental haemorrhage, 875
GUITRY, Lucien: And the play *Pasteur*, 966
GULBRANSEN, R. (and C. H. BROWNING and J. B. COHEN): The antiseptic properties of cyanine dyes), 514 (O)
GUNEWARDENE, H. O.: A simple aspirator, 109
GUNTER, F. E: Tuberculin in asthma, 252
GUNZBERG, Dr.: Backache and referred pain, 960
GUTHRIE, Douglas: Plastic surgery of the nose, 801
Gynaecological affections, the prevention of (W. D. Macfarlane), 644
Gynaecological diagnosis, pneumoperitoneum of the pelvis in (Lance Impey), 15
Gynaecological sequelae of genital tuberculosis of childhood (Miles Phillips), 389
Gynaecology, electrical methods in (A Zimmern), 143
Gynaecology, review of books on, 722, 922

H.

HAAS, P.: The importance of carbohydrates, 449—(and T. G. HILL) *An Introduction to the Chemistry of Plant Products, Vol. I, On the Nature and Significance of the Commoner Organic Compounds of Plants*, rev., 647
HABGOOD, W.: An eighteenth-century advertisement, 44
HACKWORTH, V. C.: Oxyuris, 939
Haemato-porphyrinuria (Sir A. E Garrod), 390, 455. *See also* Hydroa aestivale
Haematuria, symptomless (Arthur H. Burgess), 787 (O)—Correspondence on, 857
Haemorrhage, accidental, knot in umbilical cord as a cause of (A. F. Grattan Guinness), 875
Haemorrhage, accidental, mimicked by rupture of varicose veins (Charles J. Hill Aitken), 875
Haemorrhage and anaesthesia, restoration of blood volume after (Professor Boycott), 437
Haemorrhage, cerebral, and diabetic coma; differential diagnosis between (E. D. Spackman), 918
Haemorrhage, cerebral and spinal, diagnostic value of lumbar puncture in (Wilfred Harris), 635 (O)—(Charles J. Hill Aitken), 719
Haemorrhage, post-operative (Freeland Fergus), 54 (O)
Haemorrhage, potassium permanganate in, 982
Haemorrhage in tonsil operations, 456
Haemorrhagic colitis. *See* Colitis
Haemorrhoids, instrument for the treatment of, by suture, 64
Haemorrhoids, the radical cure of, modified Whitehead operation (Sir John O'Conor), 759 (O)
HAIG, H. A. (and E. EMRYS-ROBERTS): Primary pulmonary tuberculosis followed by tuberculous meningitis, 521—Acute abdomen, 681—Carcinoma of the proximal end of the appendix, 681—Appendix removed at operation, subsequently fixed and bisected in the longitudinal mesial plane, 681
Haiti, small-pox in, 665
HALDANE, J. S.: The physiology of breathing, 33
HALE-WHITE, Sir William: The treatment of gastric ulcer, 214 (O)—Addison's disease treated by suprarenal grafting, 269—Advantages of cholecystectomy over cholecystotomy, 269—Appreciation of Sir Henry Davy, 822
HALL, Arthur J.: Splenomegaly with progressive ascites and loud venous hum, 592 (O)
HALL, Basil: Appointed honorary consulting surgeon to the Bradford Royal Infirmary, 43
HALL, H. C.: *La Dégénérescence Hépato-lenticulaire: Maladie de Wilson—Pseudo-Sclérose*, rev., 607

HALL, Walker: Research into the part played by different dilute acids in septic infections, 61
HALLIBURTON, W. D.: The teeth of the nation, 323
HAMER, W. H.: Causation of puerperal septicaemia, 348—Epidemiology of summer diarrhoea, 519
HAMILTON, Duchess of: The cinematograph and vivisection, 704
HAMMICK, D. L.: *An Introduction to Organic Chemistry*, rev., 232
HAMMOND, T. E.: Prostatic enlargement, 539, 739
HANDLEY, Sampson: Radium, 959
HANEBORG, Aksel O: The effects of alcohol upon digestion in the stomach, 448
Hangnails, 172
HANKIN, E. H., Kaisar-i-Hind medal conferred upon, 929
HANNA, William: Notification of venereal disease, 768
HANRAHAN, the late J. A., appeal on behalf of the widow of, 370
HARAN, J. A.: A "Rat Barrack," 940
HARDWICKE, Major Laurence Campbell Vigor, obituary notice of, 83
HARDY, Thomas, anthology of, 956
HARE, H. A.: *Symptoms in the Diagnosis of Disease*, rev, 232
HARFORD, Charles F.: Appreciation of Sir Patrick Manson, 702
HARKNESS, A H.: *Bilharzia haematobia* in India, 475 (O)
HARMAN, N. Bishop: Hospital policy, 80–Conference of staffs of hospitals, 582, 662—(and Peter MACDONALD) Detachment of the retina, probably due to exposure to light during an eclipse, 637 (O)—The general practitioner and the hospitals report, 819
HARMER, Captain Charles Gerald, Légion d'Honneur conferred upon, 585
HARMER, Douglas: Diathermy in surgical practice, 952
HARRIES, D. J.: A pulmonary sign in acute infections of the biliary tract, 1010
HARRIES, T. D.: Prevention of venereal disease 457
HARRIS, Dr.: Fibrillation and flutter, 564
HARRIS, J. Delpratt: *The Royal Devon and Exeter Hospital*, rev., 841
HARRIS, Norman McLeod, appointed chief of the division of medical research, Canadian Dominion Health Department, 665
HARRIS, Wilfred: Diagnostic value of lumbar puncture in cerebral and spinal haemorrhage, 635 (O)
Harrogate, handbook of, 831
HARROW, B.: *Vitamines: Essential Food Factors*, rev., 63
HARTMANN, Henri, admitted an honorary fellow of the Medical Society of London, 269—Inflammatory stricture of the rectum, 269
HARVEY, Gideon, note on, 202
HATSCHEK, E.: *An Introduction to the Physics and Chemistry of Colloids*, rev., 442
Havana, Cuban National Medical Congress, 225
HAVERS, Clopton, 930
HAWK, P. B.: *Practical Physiological Chemistry*, rev., 274
HAWTHORNE, C. O.: Hospital policy, 35, 122—Pulse tracings and their meanings, 315—The case of Mr. F. W. Axham, 936, 1010
HAY, John: Quinidine in auricular fibrillation, 564
HAY, P. J.: Ophthalmic pensioners, 762
HAYCRAFT, J. Berry: Abdominal emergencies, 681
HAYES, Maurice R. J., appointed Professor of Materia Medica and Therapeutics, University College, Dublin, 703—Methods of stomach examination, 959
HAYNES, G. S. (and J. F GASKELL): A case of primary carcinoma of the lung, 222 (O)
HAYWARD, John A.: Haemorrhagic colitis, 560
Hazell Annual and Almanack for the Year 1922, The New, rev., 196
HAZELL, Frank G.: Hospital economies, 899
HEAD, Henry: Certain aspects of pain, 1 (O)—The study of mental hygiene, 766—The diagnosis of hysteria, 827 (O)—Complimentary dinner to, 880—Appreciation of W. H. R. Rivers, 977
HEAD, Ruth: *Pages from the Works of Thomas Hardy*, rev., 956
Head injuries, review of book on, 764
Head injury, case of: death (L G. Jacob), 719
Head mirror, a stereoscopic, 940
Health of the Irish nation, 327

HEALTH MINISTRY:
Economies, 366
Foot and mouth disease, circular *re*, 810
Foreign meat regulations, circular *re*, 861
Housing statistics, 282
Insurance deparment, 578
Medical service at Willesden, 282
Outside staff of, 898
Parliamentary notes, 282, 325, 366, 578, 898, 969
Supplementary votes, 450
Tuberculosis Care Committee, circular *re*, 855
Vote, 969

Health services expenditure (parliamentary note), 578
Health services, South Wales (parliamentary note), 534
Health visitors, salaries of (parliamentary note), 578
Heart, review of books on, 685, 921
Heart, rhythmic irregularity of, 882, 982
Heart, ruptured (J. Angell James), 798
Heart symptoms, the nature and significance of (Sir James Mackenzie), 505, 551, 590 (O)—Correspondence on, 661
Heart, valvular disease of, causes of death in (John Cowan), 192
Heart. *See also* Auricular, Cardiac, *and* Bruit
HEATH, Dr.: Prevention of diphtheria, 191
HEATH, Surgeon-Major Robert Edward, obituary notice of, 664
HEATHERLEY, Francis: The recognition of aortic incompetence, 246
HEGGS, T. B.: Protective inoculation against typhus, 455
HEHIR, Major-General Sir Patrick: The cure of cancer, 289—Effects of chronic starvation during the siege of Kut, 865 (O)
HEIRON, G. Murray: Treatment of gonorrhoea by electrolysis, 167
Heliotherapy, physiological principles underlying (Leonard Hill), 562
Heliotherapy in tuberculosis, 301. *See also* Metabolism *and* Sun
Heliotherapy and the Wolfram arc reactions, 124
"Helpful health hints," 127
Hemiplegia in a young child, followed later by locomotor ataxia (William Calwell), 11 (O)
Hempyema, 704
HENDERSON, Holme: Some considerations on gas and oxygen, 763
HENDERSON, Patrick Jobson, obituary notice of, 126
HENKEN, Otto, honorary degree of M.D. conferred upon by University of Jena, 980
Henry of Navarre, 331, 371
HEPWORTH, F. Arthur: Medical bookkeeping, 630
HERBERT, Arthur Stanley: *The Hot Springs of New Zealand*, rev., 195
Heredity, mechanism of (T. H. Morgan), 965
HERING, H. E.: *Pathologische Physiologie*, rev., 19
HERNAMAN-JOHNSON, F.: The Carelli method of perirenal inflation, 91 (O)
Hernia, diaphragmatic (George J. Langley), 90 (O)—(With surgical notes by John Morley and radiological notes by J. M. Woodburn Morison), 90
Hernia, strangulated direct inguinal (E. E. Hughes), 798 (O)
Herpes and varicella, 172, 252, 546, 630
HERRINGHAM, Sir Wilmot, appointed chairman of the General Nursing Council, 204
HERSCHELL, G.: *Cookery for Dyspeptics*, rev., 63
HESS: Sunlight and rickets, 611
HEUSTON, Professor: Clean milk, 900
HEWER, C. Langton: Spinal analgesia and general anaesthesia, 290
HEWER, Evelyn E.: Some functions of the suprarenal glands, 138 (O)
HEWLETT, R. Tanner: Machine for crushing germs, 902
HICKS, H. T.: A case of full-term ectopic gestation with living foetus, 141
HIGGS, Thomas Frederic, obituary notice of, 627
High altitudes, physiological effects at (Joseph Barcroft), 966—Oxygen at, 1003. *See also* Mount Everest
High-frequency currents, discussion on at Congress of Radiology, 960
HILL, Alfred, obituary notice of, 373, 417
HILL, A. V.: The "buffering" of blood, 340 (O)
HILL, Leonard (and J. Argyll CAMPBELL and Sir Henry GAUVAIN): Metabolism of children undergoing open-air treatment, heliotherapy, and balneotherapy, 301 (O), 501—(and J. Argyll CAMPBELL and Bernard HUDSON) Observations on the resting metabolism of children and adults in Switzerland), 385 (O)—Physiological principles underlying heliotherapy, 562
HILL, Surgeon Vice-Admiral Sir Robert, K.C.B. conferred upon, 929
HILL, T. G. (and P. HAAS): *An Introduction to the Chemistry of Plant Products. Vol. i: On the Nature and Significance of the Commoner Organic Compounds of Plants*, rev., 647
Hip amputations (Lieut.-Col. H. Littlewood), 381 (O). *See also* Amputations
Hip, congenital dislocation of, late results of treatment of (H. A. T. Fairbank), 61
Hip, osteo-arthritis of, operation for (H. Platt), 63, 672 (O)
Hip-joint disease in the tuberculosis dispensary, 935
Hippocratic oath (leading article), 808
HIRSCH, Charles T. W.: Nitrous oxide and oxygen, 858
Historical document (Geddes Reports), 281. *See also* Geddes
History of Medicine. *See* Medicine
HOBBS, Remington: Factors in the causation of puerperal septicaemia, 348
HOBDAY, Professor: Calculi in animals 876
HOBHOUSE, E.: The treatment of empyema, 371
HOCH, August: *Benign Stupors: A Study of a New Manic-Depressive Reaction Type*, rev., 194
HODGES, R. Hamer: Intractable vomiting due to cerebral syphilis, 187
HODGETTS, Col. Charles Alfred, Belgian Ordre de Léopold conferred upon, 585
HODGSON, Sir William: Lunacy administration, 150
HOLDEN, G. H. R, presentation to, 665
HOLDER, William, obituary notice of, 459
Holland: Tuberculosis statistics, 629
HOLLAND, C. Thurstan: Sacralization of the fifth lumbar vertebra, 61—Appendix dyspepsia, 800—Methods of stomach examination, 959
HOLLAND, Eardley; Treatment of uterine fibroids, 603—Cancer of cervix extending to vagina, 605—Albuminuria in pregnancy, 520—Backache and referred pain, 960
HOLLAND, Sir Thomas, appointed rector of the Imperial College of Science and Technology, 812
HOLLIS, S.: Appreciation of W. Ainslie Hollis, 583
HOLLIS, W Ainslie, death of, 533; obituary notice of, 583
Hollow vessels. *See* Vessels
"Holy Rollers," a sect who cure diphtheria by faith, 545

HONOURS:
25, 43, 126, 295, 373, 503, 585, 703, 743, 928
Order of the Bath:
K.C.B., 25, 929
C.B., 25
Order of St. Michael and St. George:
G.C.M.G., 929
C.M.G., 25, 929
Order of the Indian Empire:
C.I.E., 25
Royal Victorian Order
K.C.V.O., 929
M.V.O., 929
Order of the British Empire:
G.B.E., 25
K.B.E., 928
C.B.E., 25
Baronet, 928
Knighthood, 25, 928
Birthday, 928
New Year, 25
I.S.O., 929
Kaisar-i-Hind medal, 25, 929
Foreign decorations, 125, 295, 373, 503, 585, 703, 743
Territorial decorations, 43

HOOKER, Marion O. (and others): *Soaps and Proteins: Their Colloid Chemistry in Theory and Practice*, rev., 274
Hookworm disease, bibliography of, 204
Hookworm in Cornwall, 406
HOPKINS, F. Gowland, elected a member of the Athenaeum Club, 373
HOPKINSON, Emilius, C.M.G. conferred upon, 929
HORDER, Sir Thomas: The route of renal infection, 562–Calculi in animals, 877
HORNE, Sir Andrew: Milk and the public health, 681
HORNE, A. E., C.M.G. conferred upon, 929
HORNSBY, M.: *The Queen Newspaper Book of Travel*, rev., 923
Hospital accounts, simplified uniform system of, 171
Hospital accounts and patients' payments, 117
Hospital administration, lectures and demonstrations on, 373
Hospital, Ancoats, Manchester: Report, 536
Hospital, Bellahouston: Resolution of Fellows of the Royal Faculty of Physicians and Surgeons of Glasgow, 118
Hospital bill for New South Wales, a new, 283
Hospital, Bloomingdale, New York, centenary of, 654
Hospital, Cassel, for Functional Nervous Disease, 774
Hospital economies (Frank G. Hazell), 899
Hospital, Edinburgh Royal Maternity: Annual meeting, 856
Hospital, Edinburgh Royal Victoria Tuberculosis Trust, 286
Hospital, Edinburgh Sick Children's: Annual meeting, 931
Hospital, Edinburgh Women's: Report, 537
Hospital finance, the change in (Sir Alan G. Anderson), 899
Hospital finance in London, the problem of (leading article), 70
Hospital, Gasscube Cottage, Glasgow: Note on, 931
Hospital, Glasgow Lock: Annual meeting, 619
Hospital, Glasgow Royal Cancer: Report, 579
Hospital, Glasgow Royal Maternity: Annual meeting, 537
Hospital, Glasgow Samaritan: Annual meeting, 537
Hospital, Guy's: *Reports*, vol. lxxi, rev., 482—Vol. lxxi, No. 2, rev., 956
Hospital, Kashmir Mission: Report, 695
Hospital, King's College: *Pharmacopoeia*, rev 525
Hospital lighting, discussion on, 720
Hospital, Liverpool Maternity: Annual meeting, 815
Hospital, Liverpool Northern: Annual meeting, 496
Hospital, Liverpool Royal Children's: Annual meeting, 658—Appointments, 658
Hospital, Liverpool Royal Southern: Annual meeting, 496—Appointments, 932
Hospital, Liverpool Stanley: Annual meeting, 971
Hospital, London: Course for school medical officers, 27—No more women students to be trained at, 373, 657, 777—Parliamentary notes, 657, 777—Medical College prize distribution, 1009
Hospital, Long Grove Mental, Epsom: Inquiry into alleged ill-treatment at, 665

Hospital, Maudsley, for Mental Disease (leading article), 319—Courses in practical psychology, 491—Medical superintendent appointed, 586
Hospital nurses. *See* Nurses
Hospital, Orthopaedic, at Shepherd's Bush, 321, 364—Correspondence on, 328—Parliamentary notes on, 325, 365, 450, 854—Note on, 530
Hospital patients, fee-paying (in Paris), 160
Hospital policy, 35, 80, 122, 366, 397, 414, 501, 503, 529, 570, 609, 620, 660, 699—Article by the chairman of the Hospitals Committee, 366—Article by a Country Practitioner, 367—The contributory system at Oxford, 397—Arrangements in the Bristol hospitals for the reception of paying patients, 397—Article by a Midland Practitioner, 398—Article by a London General Practitioner, 399—Conference to discuss the report of the Council of the British Medical Association, 503, 571—Hospital policy of the Labour party, 570, 571, 660, 699—Address by Sir James Galloway, 609—Correspondence on, 620, 699. *See also* Hospitals, voluntary
Hospital, Queen Charlotte's: Annual meeting, 815
Hospital, Royal Bath, Harrogate, reopening of, 835
Hospital, Royal Bucks, Aylesbury: Resignation of Dr. Horace Rose, 461—Appointment of Dr. J. Steele, 461
Hospital, Royal Devon and Exeter, History of (J. Delpratt Harris), rev., 841
Hospital, Royal Edinburgh Mental: Annual report, 368
Hospital, Royal Portsmouth: Report, 545
Hospital, St. Bartholomew's: *Pharmacopoeia*, rev., 19—Octocentenary of, 204—*St. Bartholomew's Hospital Journal* and free insurance, 462
Hospital, St. Luke's International, Tokyo: Proposal to make it the nucleus of a medical centre, 43
Hospital, St. Mark's, for Fistula, etc.: Annual meeting, 295
Hospital, St. Mary's: Pathological research lectures, 703
Hospital, Saint-Michel, Paris, new buildings opened, 939
Hospital, St. Thomas's: Scholarships, 860
Hospital staffs, conference of, 529. *See also* Hospitals, voluntary
Hospital, Sussex, for Women and Children: Opening of the new, 409
Hospital, Tyrone County: Report, 34
Hospital, University College: *Pharmacopoeia*, rev., 149
Hospital for Women, Soho, post-graduate teaching at, 295
Hospitals of the future (H. J. Waring), 760
Hospitals, London mental, clinical assistants for, 368
Hospitals, mental, 164, 207, 249, 287—Committee appointed to consider the keeping of clinical and other records, 545
Hospitals, mental, and public asylums (leading article), 651
Hospitals and paying patients. *See* Hospitals, voluntary
Hospitals, Pensions: Orderlies in (parliamentary note), 325—Statistics (parliamentary note), 813
Hospitals in the Territorial Force, 35, 80, 166, 250. *See also* Army, British
Hospitals, union (Ireland), amalgamation of, 34

HOSPITALS, VOLUNTARY:
Accounts simplified uniform system of, 171
Combined appeal for, 536, 618
Commission, 658, 897, 904
Conferences of representatives of Hospital Committees, 904
Conference of staffs of, 503, 529, 543, 582, 661, 744
Contributions to by employers, 70, 326
Correspondence on, 699, 780
General practitioners and the Report, 780, 819, 858
Grants, 407, 657, 658, 776
King Edward's Hospital Fund's contributory scheme, 419, 444
Local Hospital Committees, 285
Parliamentary notes, 407, 657, 897
Paying patients, 324
Policy, 35, 80, 122, 366, 397, 414, 501, 503, 529, 570, 571, 609, 699
Retrospect and a prospect (W. Thelwall Thomas), 899

Hospitals Welfare Society, the "Wilfred Allen scheme" for collecting small amounts, 117
Housing question in India, 119
Housing statistics (parliamentary note), 282
HOWARD, Campbell: Alkaptonuria, 73
HOWARTH, Mr.: The newer methods of pathological investigation, 605
HOWARTH, Walter: Endothelioma of the larynx, 267—Sarcoma of the ethmoid and antrum in a child aged 9, 267
HOWARTH, W. G.: The treatment of tuberculous glands, 353
HOWAT, R. Douglas: *The Threshold of Motherhood: A Handbook for Pregnant Women*, rev., 525—The interstitial gland and sex problems, 973
HOWELL, J. Morton: Appointed diplomatic representative and Consul-General for United States to Egypt, 111
How it strikes a contemporary, 965
HOWITT, G. G.: War wounds in relation to life assurance, 800
HOWSON, G. (editor): *Handbook for the Limbless*, rev., 107, 274
HUDSON, Bernard (and Leonard HILL and J. Argyll CAMPBELL): Observations on the resting metabolism of children and adults in Switzerland, 385 (O)
HUGEL (and others): *Comment Interpréter en clinique les Réponses de Laboratoire*, rev., 317
HUGHES, Daniel: Reaction to treatment by Kiebs-Loeffler's bacillus vaccine, 387
HUGHES, E. E.: Strangulated direct inguinal hernia, 798 (O)
HUGHES, E.: Treatment of cramp, 825
Human intellect, evolution of (G. Elliot Smith), 778
HUME, D. W.: A case of slipping peroneal tendons treated by Kelly's operation, 600 (O)
Humour, unconscious, 212
HUNTER, Major-General George Douglas, obituary notice of, 742
HUNTER, John, note on, by Joseph Farington, 490—Visit to the birthplace of, 903
HUNTER, John B.: General vascular carcinoma, 103
HUNTER, William: "Pernicious anaemia" and "septic anaemia," 421 (O)
HURLEY, James, obituary notice of, 459
HURST, A. F.: Gaseous distension of the splenic flexure, 73—Addison's disease treated by suprarenal grafting, 268—The after-results of colectomy, 517—The sins and sorrows of the colon, 941 (O)
HUSKIE, David, presentation to, 703
HUTCHINSON, Lieut. Francis Hope Grant, C.I.E. conferred upon, 25
HUTCHISON, Harry S.: Rickets in India, 351, 611—Sunlight and rickets, 659
HUTCHISON, Robert: *Food and the Principles of Dietetics*, rev., 273
HUTT, C. W.: *Crowley's Hygiene of School Life*, rev., 484
HUXLEY, Julian S.: The determination of sex, 157
HYDE, Rev. R. R.: *The Boy in Industry and Leisure*, rev., 233
Hydroa aestivale, 546. *See also* Haemato-porphyrinuria
Hydrocephalus, external (Cecil E. Reynolds), 950 (O)
Hydronephrosis due to aberrant renal artery (E. C. Bevers), 718 (O)
Hygiene Institute in London, 325, 447—Leading article, 361—Parliamentary note, 365, 813—Committee appointed, 447—Site for, 665—The Rockefeller gift, 813
Hygiene, review of books on, 484, 723
Hypermetropia and presbyopia, an emergency method in (Agnes Estcourt-Oswald), 140, 212
Hypernephroma of right kidney (Ewen Maclean), 61
Hyperpiesia, review of book on, 441
Hyperpyrexia during influenza (Elliott T. Glenny), 434—(William George McKenzie), 601
Hyperthyroidism (George R. Murray), 905 (O)
Hyperthyroidism in functional menorrhagia (Aleck W. Bourne), 102
Hyperthyroidism in pregnancy (Leyland Robinson), 230
Hyperthyroidism, treatment of (G. R. Murray), 392
Hypochlorite solutions for disinfection of water, electrical machine for making, 334
Hysteria, diagnosis of (Henry Head), 827 (O)

I.

Icterus neonatorum (Farquhar Murray), 919
Identification and coroners' inquests. *See* Coroners
Ilio-colostomy for tuberculous disease of bones and joints (Hamilton Drummond), 342 (O)
Illegitimacy statistics (parliamentary note), 534
Imperial College of Science. *See* College
IMHOFER, R.: *Gerichtliche Ohrenheilkunde*, rev., 524
IMPEY, Lance: Pneumoperitoneum of the pelvis in gynaecological diagnosis, 15
Income tax: 44, 128, 172, 212, 252, 295, 334, 374, 409, 420, 461, 504, 545, 586, 617, 629, 666, 704, 735, 744, 786, 826, 862, 904, 939, 982, 1012—And superannuation funds, 361—The burden of (parliamentary note), 409—And professional protection societies, 531—Assessments (parliamentary note), 617—And supertax (parliamentary note), 735—Motor taxation, 773—Effect of the Budget proposals on income tax payable, 777—And locumtenents, 894
Indexes, half-yearly, 281

INDIA:
All-India ambulance competition, 695
Calcutta Medical College, 396
Christian university in, 412
Emancipation of Indian women, 817
General Medical Council delegate to India, 695
Housing question in, 119
Indian medical schools, 695
Indigenous medicine in, 119
Infant mortality in India, 695
Kashmir Mission Hospital, 695
Leprosy in Bengal, 411
INDIA (*continued*):
Liquor reform in Bombay, 412
Malaria in Bombay, 695
Maternity and child welfare, 618
Medical education in India, 816
Midwifery training, 411
Plague in, 119, 618, 665
Red Cross Society, 119
St. John Ambulance and child welfare, 817
Sanitation in, 956

Indian Medical Service: Dinner, 664, 1011
Indian medical questions (parliamentary note), 1008
Indian women, emancipation of, 817
Industrial employment, influence of upon general health (Major Greenwood), 667, 708, 752 (O)—Correspondence on, 856, 900—*See also* Public health
Industrial fatigue and motion study, 157
Industrial Fatigue Research Board: Report No. 16, "Three Studies in Vocational Selection," 279—Annual report, 322—Conditions in potters' shops, 929
Industrial fatigue, review of books on, 16
Industrial hygiene: Workers' Health Bureau founded in the United States, 776
Industrial legislation and medicine (Sir Thomas Oliver), 966
Industry, alcohol in relation to, 574
Industry, vocational selection in, 279
Inecto, Ltd., action against, 373
Infant mortality. *See* Mortality
Infant welfare conferences, 861
Infants, weight of, 774, 780. *See also* Babies
Infarction and post-operative embolism, discussion on, 59
Infections, acute, treatment of (W. M. Crofton), 606
Infective disease, review of book on, 393
Infirmary, Edinburgh Royal: Annual meeting of the court of contributors, 77
Infirmary, Glasgow Eye, a correction, 972
Infirmary, Glasgow Royal: Appeal to preserve Lord Lister's ward, 295, 327, 411, 696—Club dinner, 453
Infirmary, Glasgow Western: Presentation to Lord Glenarthur, 453—Member of nursing staff to train as sister-tutor at King's College for Women, London, 461
Infirmary, Leeds General: Statistical tables, 452—Orthopaedic surgery at, 695—Appointments, 779
Infirmary, Liverpool Eye and Ear: Annual meeting, 932
Infirmary, Liverpool Royal: Annual meeting, 496
Infirmary, Manchester Royal: War memorial, 77—Report, 368—Radiological department, 696
Infirmary, Royal Alexandra, Paisley. Extensions, 856
Influenza: Deaths from, 83, 117, 211, 251, 279, 295, 333, 373, 419, 461, 545, 585, 704, 743—In Scotland, 118, 205, 285—Correspondence on 207, 246, 415, 500—In Manchester, 283; in Liverpool, 284; in Newcastle-upon-Tyne, 284; in Edinburgh, 285; in Glasgow, 285; in Aberdeen, 285; in Birmingham, 326; in New York, 419
Influenza, an abdominal form of (?) (D. A. Rice and H. O. Williams), 680
Influenza (?) accompanied by convulsion (J. N. Beadles), 226
Influenza, blindness as an immediate sequela of, recovery (Stanley E. Denyer), 223 (O)—(Charles J. Hill Aitken), 311
Influenza, clinical forms of, 207, 246, 415, 500, 546
Influenza epidemics in schools, restriction of by the use of "local" prophylactic vaccines (A. I. Simey and John W. H. Eyre), 433 (O)—Correspondence on, 538, 623
Influenza, expectant treatment of, 786, 901, 974
Influenza and febricula (A. I. Simey), 133 (O)
Influenza, hyperpyrexia during (William George McKenzie), 601
Influenza with extreme hyperpyrexia (Elliott T. Glenny), 434
Influenza, leading article on, 69, 154
Influenza, pathology of (M. Letulle), 282
Influenza, recurrent vesicular eruption after (A. W. Panton), 995
Influenza, review of books on, 62, 999
Influenza, scarlatina-like rash in, 296, 334
Influenza treated by salicin (E. B. Turner), 641
INGLIS, Elsie, memorial to, 538
INGRAM, T. A. (editor): *The New Hazell Annual and Almanack for the Year 1922*, rev., 196
Iniencephaly (G. I. Strachan), 61
Injurious agents and growth (Murk Jansen), 970
INNES, John, obituary notice of, 502
Innsbrück Medical Faculty, admissions to suspended, 168
Inoculation tests for protein therapy, 19
Inquests, viewing the body at (parliamentary note), 534
Insanity and criminal cases. *See* Criminal
Insanity and responsibility for crime (leading article), 891
Insanity and the endocrine glands, 581
Insanity and the reproductive glands (leading article), 445—(Sir Frederick W. Mott), 463 (O)—Correspondence in, 581
Insanity, review of books on, 146, 923. *See also* Mental
Insomnia, review of book on, 395
Insomnia, the treatment of (Robert Dawson Rudolf), 377 (O)—Correspondence on, 581
Inspection of examinations. *See* Examinations
Institute of Hygiene in London. *See* Hygiene

Institution, Liverpool Medical: Some relationships between disease and reversionary characteristics, 15—Vaccine therapy, 16—Extraction of cataract in the capsule of the eye lens, 76—Intracranial traumata of the newborn, 76—Treatment of surgical tuberculosis by the sun cure, 76—Abnormalities of urine in children, 97—Rutter Memorial Tablet, 205—Exanthem subitum, 271—Diet in nephritis, 271—The peptic ulcer, 271—Treatment of hyperthyroidism and exophthalmic goitre, 392—Surgical treatment of gastro-jejunal ulcer, 392—Visual fields in lesions of the nervous system, 392—Some observations of post-anaesthetic complications, 513—Dermatitis exfoliativa, 564—Fibrillation and flutter, 564—Quiridine in auricular fibrillation, 564—A summary of investigations on acute lobar and broncho-pneumonia, 564—The lymphoidocyte and the Türk cell, 644—Hugh Owen Thomas lectureship established, 655—Appendix dyspepsia, 800—Syphilis of the nervous system, 801—Arsenical content of the cerebro-spinal fluid, 801
Instituto Storico Italiano dell' arte Sanitaria issues a *Bolletino*, 395
Insurance, National: The bill, 365, 408, 578, 616, 896—Higher contributions dropped, 408—Explanation by the Government actuary, 616—Funds, 408—Increase of sickness amongst insured persons, 408—Parliamentary notes on, 408, 492, 534, 578, 616, 777, 852, 896—Cost of medical benefit, 492—Information relating to insured persons, 493—Statistics of registered persons who had no recourse to a doctor, 534—Insurance Department, Ministry of Health, 578—Insurance cards, 578—Nurses and unemployment insurance, 578—Pharmacy terms, 617—Cost of, 617—And the public health, 740—Conference of Representatives of Local Medical and Panel Committees, 848—The profession and approved societies, 848—Insurance practitioners' remuneration, 852, 896—Drugs and panel patients, 898
Insurance, Irish (parliamentary note), 408
Internal secretions, review of books on, 879
Internationales Centralblatt für Laryngologie, Rhinologie und verwandte Wissenschaften ceases publication, and will reappear under the title, *Centralblatt für Hals- Nasen- und Ohren-heilkunde*, 861
Interstitial gland. *See* Gland
Intestinal colic. *See* Colic
Intestinal disinfection in enteric fever (Thos. E. Francis), 388—Correspondence, 462, 504—A correction, 826
Intestinal infection (Dr. Embleton), 437
Intestinal obstruction, acute (D. P. D. Wilkie), 104
Intestinal obstruction, acute, in a patient aged 70, primary colectomy for (C. L. Granville Chapman), 516
Intestinal obstruction due to paralytic ileus (C. L. Granville Chapman), 347
Intoxications, pre-anaesthetic (J. Johnston), 104
Intracranial surgery, anaesthesia in (Z. Mennell), 519
Intracranial traumata of the newborn (Norman B. Capon), 76
Intratracheal medication, 149
Intussusception, 188
Ipecacuanha combined with tannic acid, therapeutic combination of, 541

Ireland:
Belfast: Death of a Belfast philanthropist (Henry Musgrave), 119—Medical advance and development in, 118
Campbell, Robert, memorial, 246
General Nursing Council, 497
Hanrahan, J. A., appeal on behalf of the widow of, 370
Health of the Irish nation, 327
Irish doctors in the Free State, 206
Little, James, memorial to, 161
Milk, bad, danger of, 900
Regius Professor of Surgery, Dublin, 899
Royal College of Surgeons in Ireland, 972
Tyrone County Hospital, 34
Ulster Medical Society, 497, 972
Union hospitals, amalgamation of, 34
Women's Health Association, 737

Irish doctors in the Free State, 206
Irish Medical Schools Association. *See* Association
Irish nation, the health of, 327
IRWIN, S. T.: Diagnosis and treatment of cases of enlarged prostate, 230—Case of hereditary cleido-cranial dysostosis, 682—Drainage in abdominal emergencies, 697
Italy: New radium institute opened at Naples, 419
IVENS, Miss: Primary carcinoma of the Fallopian tube, 145

J.

JACKSON, George Scott, appointed a deputy lieutenant for the county of Northumberland, 1007
JACOB, L. G.: A case of head injury, 719
Jamaica, epidemic of alastrim in, 461
JAMES, J. Angell: Ruptured heart, 798
JAMES, Warwick: The treatment of tuberculous glands, 353
JAMESON, Dr.: Ulcer of tongue with acid dyspepsia, 145—Head injury developing spastic paralysis of legs, 145—Transposition of thoracic and abdominal viscera, 721
JANSEN, Murk, awarded the Umberto I Prize of Rizzoli Orthopaedic Institute, Bologna, 252, 743—Injurious agents and growth, 970
Japan: Proposed nucleus for a medical centre at Tokyo, 43—Suggested reforms for the milk supply, 619—Report of school medical officers of Tokyo, 715
Japanese Medical Association, annual meeting, 353
JAUCH, J. Joselin: Tuberculous pericarditis, 798
Jaundice (Farquhar Murray), 919
Jaundice, epidemic, in New York, 589
Jaundice, use of the Van den Bergh test in the differentiation of obstructive from other types of (J. W. McNee), 716 (O)—Note on, 731—Correspondence on, 783—A correction, 783
Java, plague in, 43, 503, 824
JEFFERSON, G.: Operative treatment of depressed fractures in infants and children, 563—The normal stomach, 958
JEFFREY, Rutherford: Lunacy administration, 150
Jejunal ulcer. *See* Ulcer
Jejuno-colic fistula. *See* Fistula
Jejunum, acute inflammation of a large diverticulum of, with perforation (Graham W Christie), 990 (O)
JENKINS, C. E.: Residual vaccines in acute bacterial diseases, 596 (O)—Detoxicated vaccines, 858, 935, 976
JENKINS, James A.: Gonococcal septicaemia, 641
JENNER, Edward, note on, by Joseph Farington, 490—An unpublished letter of Edward Jenner, 968
JERVIS, J. Johnstone: "Alastrim," 699, 856
JOBLING, E.: *Catalysis and its Industrial Applications*, rev., 232
Johns Hopkins University. *See* University
JOHNSON, Raymond: Post-operative embolism and infarction, 61—Diathermy in surgical practice, 952
JOHNSTON, Dr.: Perhalation method of ether administration, 763
JOHNSTON, G. A.: Puerperal eclampsia, 642
JOHNSTON, J.: Pre-anaesthetic intoxications, 104
JOHNSTONE, J. M.: Collapse therapy in the treatment of pulmonary tuberculosis, 954
JOHNSTONE, R. J.: Hospital policy of the Association, 620
JOHNSTONE, R. W.: Acute tubal peritonitis, 350—Induction of premature labour, 481—Some unsolved problems in gynaecology and obstetrics, 850
Joint disease, tuberculous. *See* Tuberculous
JOLL, C. A.: Young woman with right clavicle removed, 145—Potts's disease of the spine, 145
JOLLY, W. A.: A disclaimer, 84
JOLTRAIN, E.: *La Peste: Etiologie, Formes Cliniques, Prophylaxie, et Traitement*, rev., 232
JOLY, Swift: Calculi in animals, 877
JONES, Arnold: Nasal obstructions during the first year of life, 564
JONES, B. Seymour: Nasal diphtheria after enucleation of the tonsils, 474 (O)
JONES, D. Ellis (and P. LORNIE): The treatment of asylum dysentery by means of antidysentery serum, 949 (O)
JONES, Herbert, presentation to, 899
JONES, John Robert, obituary notice of, 860
JONES, O. Clayton: Influenza, 415
JONES, Sir Robert: Accepts invitation to become president of the Association of Blind Masseurs, 211—The treatment of paralysis in children, 705 (O)—Hugh Owen Thomas memorial lecture, 736
JONES, Wallace (and others): Bacteriology of pneumonia, 564
JORDAN, Furneaux: Myxosarcoma of Fallopian tube, 145—Parovarian cyst complicating pregnancy, 145
JOSEPH, M.: *Lehrbuch der Geschlechtskrankheiten für Aerzte und Studierende*, rev., 64
JOSEPH, Max: *Lehrbuch der Hautkrankheiten für Aerzte und Studierende*, rev., 647
Journal of Metabolic Research, first number, 654
Journal of Obstetrics and Gynaecology of the British Empire, 64
Journal of Orthopaedic Surgery (Boston, U.S.A.) in future to become a quarterly under the name of the *Journal of Bone and Joint Surgery*, 43, 317
Journal of Scientific Instruments, first number, 809
JOYCE, J. L.: Voluntary hospitals, 699

K.

Kankakee City Medical Society discharge duties usually performed by the county and township medical officer, 303
KARK, S. E.: Asthma and the menopause, 416, 818—Eclampsia: evolution as a causative factor, 912 (O)
KATZ, L. (and M. FAULHABER): *Die Röntgendiagnostik der Magenkrankheiten*, rev., 274
KAYE, Major G. W. C.: Mackenzie Davidson memorial lecture on radiology and physics, 323
KAYE, Henry Wynyard, obituary notice of, 703
KAY-MOUAT, J. R.: Singapore Medical School, 561
KEANE, Major G. J. (and Capt. D. G. TOMBLINGS): *The African Native Medical Corps in the East African Campaign*, rev., 484
KEEBLE, F. W., knighthood conferred upon, 929
KEITH, Sir Arthur: Growth of the face in man, 438—The after-results of colectomy, 517, 622
KELLAWAY, C. H. (and H. H. DALE): Anaphylaxis and anaphylatoxins, 268, 532
KELLY, J. A. (and J. B. ROBERTS): *Treatise on Fractures*, rev., 569
KELLY, Michael W: Bottles on motor cycles, 826
KELLY, R. E.: Comparative pathology, 581
Kelly's operation in treatment of slipping peroneal tendons (D. W. Hume), 600 (O)
KEMP, Squadron Leader W. Rous: First aid to the injured, 586
KEMPSTER, Christopher: Multiple tooth extraction, 250
KENDALL, Theo. M.: Clinical forms of influenza, 501
KENNETH, John H.: Osmics and psycho-analysis, 904
Kensington clinic for ex-service men, 33, 284, 855
KEOGH, Sir Alfred, retirement of, 812, 852
KER, C. B.: *A Manual of Fevers*, rev., 646
KERR, J. Graham: *Zoology for Medical Students*, rev., 567
KERR, R. R.: Operative treatment of injuries to the fingers, 563
Kew Gardens, 116
KEYMS, Joshua: The axis of astigmatism and its location, 838
KEYNES, Geoffrey: *Blood Transfusion*, rev., 802
KHALIL, M. (and others): Hookworm in Cornwall, 406
KIDD, Frank: The route of renal infection, 562—Pyelography, 748 (O)—Calculi in animals, 877—English cystoscopes, 935
KIDD, H. Cameron: Treatment of empyema, 416—The expectant treatment of measles and influenza, 974
KIDD, Leonard: Treatment of psoriasis, 1012
Kidney, effect of arsenobenzol treatment on (T. H. G. Shore), 312
Kidney and bladder, septic infections of, discussion on, 57
Kidney, review of books on, 146
Kidney. *See also* Renal
Kinematograph. *See* Cinematograph
KING, D. Barty: *Studies in Influenza and Its Pulmonary Complications*, rev., 62
KING, Norman C.: Registered dentists, 210
KING, Richard: Simple goitre, 932
KING, Colonel W. G.: Fats and goitre, 287—The outlook in tropical hygiene, 935, 974
King's Services Choirs, note on, 373
KINGSCOTE, Ernest: Electro-vibration of the cerebellum and pancreas in diabetes mellitus, 296
KINGSFORD, Bertram Harold, obituary notice of, 332
KINGZETT, C. T.: *The Popular Chemical Dictionary: A Compendious Encyclopaedia*, rev., 647
KIRK, Sir John, obituary notice of, 125
KIRKPATRICK, Lieut.-Col. H.: *Cataract and Its Treatment*, rev., 194—The etiology of primary cataract, 467 (O)
KIRKPATRICK, T. P. C.: Treatment of acute infections, 606
Klebs-Loeffler's bacillus vaccine, reaction to treatment by (Daniel Hughes), 387
KLEMPERER, Felix: *Die Lungentuberkulose; ihre Pathogenese, Diagnostik und Behandlung*, rev., 106
KNAPP, L.: *Die Prophylaxe und Therapie der Enteroptose*, rev., 686
Knee-joint infections, acute, rest treatment in (Sir John O'Conor), 182 (O)
Knee-joint, treatment of chronic synovitis of the (Captain G. Gelston Atkins), 948 (O)
KNOX, Robert (and William B. MARTIN): Pneumothorax in a boy aged 7: recovery, 472 (O)—Radium-therapy, 631 (O)—Comments in a case of suture of ruptured left dome of diaphragm, 871—Deep-seated radiotherapy, 959
KNUTSFORD, Lord: Hospitals of the future, 761
KOUINDJY, P.: The re-education of muscles, 960
KREHL, L. (and F. MARCHAND): *Handbuch der Allegemeinen Pathologie*, rev., 196
KRITCH, N.: The etiology of typhus fever, 849, 930
KUSAMA, Professor: Prophylaxis against typhus for travellers, 404
Kut, effect of chronic starvation during the siege of (Major-General Sir Patrick Hehir), 865 (O)

L.

Labium, elephantiasis of the (Ralph W. Mendelson), 839
Laboratories, mobile, 362
Laboratory diagnosis, review of book on, 483
Laboratory tests (Mr. Howarth), 605
Labour complicated by malignant growth (J. C. Davies), 57
Labour Office, International, and the problem of disabled men, 545
Labour party, the hospital policy of, 570—Leading article on, 571—Correspondence on, 660, 699
Labour induction, conservative (Henry Briggs), 998
Labour, premature, induction of (Oliphant Nicholson), 481
Labrador, Grenfell Association Hospitals in, 51

LACAPÈRE, G. (and Pierre VALLERY-RADOT): *Traitement de la Syphilis Héréditaire et de la Syphilis Infantile Acquise*, rev., 1000
LACKIE, Lamond: Acute tubal peritonitis 350—Caesarean section and alternative treatment, 480
LAING, Andrew Ross, obituary notice of, 294
LAIRD, John N.: Fracture of the end phalanx of a finger, with rupture of the common extensor tendon, 101
LAMB, Dr.: Perhalation method of ether administration, 763
LAMB, Philip W.: Victims of the drug habit, 546
LAMBERT, G. O.: Voluntary hospitals, 699
LAMBERT, Florence Barrie: Remedial exercises in scoliosis, 436
Lamps, miners' safety (parliamentary note), 777
LAMSON, Paul Dudley: *The Heart Rhythms*, rev., 922
LANE, Dr.: Ovarian pregnancy, 682
LANE, Sir Arbuthnot: Inflammatory stricture of the rectum, 270—The after-results of colectomy, 518
LANE-CLAYPON, Dr.: Epidemiology of summer diarrhoea, 520
LANGDON-DOWN, R.: Professional secrecy, 535
LANGLEY, George J.: Case of diaphragmatic hernia, 90 (O)—Laboratory tests, 605
LANGLEY, J. N.: *The Autonomic Nervous System*, rev., 230
Lantern slides, an improved method of demonstrating, 331
Larbert Institution: Annual meeting, 537
LARKIN, Reginald: The search for specific remedies, 901
LAROCHE, Guy (and Georges GUILLAIN and P. LECHELLE): *La réaction du benjoin colloïdal et les réactions colloïdales du liquide céphalo-rachidien*, rev., 765
Laryngology, the rise and progress of (Sir William Milligan), 547 (O)
Larynx, endothelioma of (Walter Howarth), 267
LASLETT, E. E.: Hollow viscera and vessels, curvature and pressure, 416
LATHAM, Arthur: Post-operative embolism and infarction, 60
Lausanne: Biological lectures by Professor Arthus, 665
LAVARAN, Charles Louis Alphonse, obituary notice of, 979
LAW, W. F.: Three cases of hypothyroidism, 921
LAWRENCE, James, obituary notice of, 170
LAWSON, James: Collapse therapy in pulmonary tuberculosis, 954
LAYCOCK, John Alfred, obituary notice of, 860
LAZARUS-BARLOW, W. S.: An improved method of demonstrating lantern slides, 331—Experimental production of carcinoma in rats by means of radium, 437—Radium in deep-seated cancer, 959
Lead poisoning, regulations to prevent, 773
Lead, white, use of for paint (New South Wales Board of Trade inquiry), 283

Leading Articles:
Annual meeting, 889
Antiseptic dyes, 612
Antivivisection bill, a new, 528
Art and medical science, 155
Atmospheric pollution, 527
Budget, the, 772
Caesarean section, 277
Cancer of the cervix uteri, 360
Cancer, etiology of, 964
Company of the blind, 25
Comparative pathology, 487
Death rates, the meaning of, 401
Diphtheria prevention, 199
Drugs, noxious, and the League of Nations, 728
Education authorities and school medical officers, 113
Exchange lectures, 770
Geddes reports, 275
Glasgow meeting, 889
Glycosuria and obesity, 890
Health situation in Eastern Europe, 488
Hippocratic oath, 808
Hospital finance in London, the problem of, 70
Hospital policy of the Labour party, 571
Influenza, 69, 154
Insanity and the reproductive glands, 445
Insanity and responsibility for crime, 891, 963
Institute of Hygiene, the new, 361
Lunacy reform, 199, 237
Maudsley Hospital for Mental Disease, 319
Medical curriculum, 727
Medical periodicals, 690
Mental disorder, treatment of, 199, 237
Mental hygiene, 771
Miners' nystagmus, 651
Mother tongue, 23
"New and non-official remedies," 927
Noxious drugs and the League of Nations, 728
Opening of the Fourth Seal, 488
Oxygen at high altitudes, 1003
Pain, clinical significance of, 24
Pathology, comparative, 487
Profession and approved societies, 848
Public asylums and mental hospitals, 651
Public health in America, 1003
Quackery in relation to diseases of the eye, 446
Renal efficiency tests, 728
Reporting of the Sections, 928
Search for specific remedies, 807

Leading Articles (*continued*):
Small-pox epidemic on the Gold Coast, 691
Small-pox, mild, and vaccination, 319
Sunlight and rickets, 611
Temporal lobe tumours, 573
Thoracic surgery and subphrenic abscess, 320
Tonsils and adenoids, routine of operations for, 527
True, Ronald, case of, 963. *See also* Insanity
Vaccine lymph, preparation of, 847
Vitamins, destruction of, 236
Vitamins, the sources of, 112
Welfare worker in factories and workshops, 153
Welsh National Medical School, 963
X-ray treatment of uterine fibroids, 402

League of Nations: and an epidemiological intelligence service, 238, 278—And the opium traffic, 238—International Committee and war disablement, 419—Report on the health situation in Eastern Europe in January (1922), 488, 653, 774—Health organization of, 692—Opium Commission of, 724, 728
League of Red Cross Societies. *See* Red Cross
LECHELLE, P. (and Guy LAROCHE and Georges GUILLAIN): *La réaction du benjoin colloïdal et les réactions colloïdales du liquide céphalo-rachidien*, rev., 765
Lecture, Cavendish: The "meningiomas" (Harvey Cushing), 1001
Lecture, Croonian: The mechanism of heredity (T. H. Morgan), 965
Lecture, Hugh Owen Thomas Memorial: Hugh Owen Thomas—the man and his work (Sir Robert Jones), 736
Lecture, Hunterian: The nature and cause of old-age enlargement of the prostate (Kenneth M. Walker), 297
Lecture, Mackenzie Davidson Memorial: Radiology and physics (Major G. W. C. Kaye), 323
Lecture, the Maudsley (Sir Frederick Mott), 445—(Sir Maurice Craig), 954
Lecturers, international exchange of, 654
Lectures, Chadwick, 404, 503—Transmission of plague by rats (J. J. van Loghem), 404
Lectures, exchange (leading article), 770—Note on, 971
Lectures, Goulstonian: Interpretation of symptoms in disease of the central nervous system (Anthony Feiling), 515, 559, 600 (O)
Lectures, the Lettsomian: Amoebic liver abscess (Sir Leonard Rogers), 224, 264, 344 (O)
Lectures, the Milroy: Influence of industrial employment upon general health (Major Greenwood), 667, 708, 752 (O)—Correspondence on, 856
Lectures, the Morison: (Sir Frederick Mott), 445—(G. Elliot Smith), 658, 778
Lectures, Oliver-Sharpey: Some common defects of diet and their pathological significance (E. Mellanby), 790, 831 (O)
Lectures, the Stewart: The modern psychology (R. J. A. Berry), 28
LEDINGHAM, J. C. G.: Development of flocculation tests for syphilis, 594 (O)
Leeds: New plans of the medical school, 21, 844—Workpeople's Hospital Fund, 497—Meeting of the Association of Surgeons at, 779—The teaching of medicine and surgery, 844
Leeds system of school medical inspection, 187
LEES, David: An alternative method of administering vaccines, 801
LEGGE, T. M.: Cause of death in electrical shock, 479—Art in industry, 1006
Legs, artificial (C. W. Cathcart), 391. *See also* Artificial
LEGUEU, F.: *Traité chirurgicale d'Urologie*, vols. i and ii, rev., 107
Leicester: Importance of the early treatment of cancer, 776
LEIPER, R. T.: Hookworm in Cornwall, 406
LEITCH, Archibald: Extension of carcinoma of cervix to vagina, 604
LEITCH, John W.: Neuro-syphilis with severe laryngeal crisis: tracheotomy, 949 (O)
LELEAN, Lieut.-Col. P. S., appointed an inspector under the Cruelty to Animals Act, 83
Le Maroc Médicale, 111
LE MOTTÉE, Lieut.-Col. George Herbert, obituary notice of, 332
Lennmalm prize awarded, 43
Lenticular degeneration, review of book on, 607
Leprosy: Antimony in (G. H. Wildish), 55 (O)—Attention of Governments called to, 939
Leprosy: In Bengal, 411, 849—In Great Britain (parliamentary note), 451—In New York, 589
Leprosy in the Philippines, treatment of, 240
Leprosy, the spread, probable mode of infection, and prophylaxis of (Sir Leonard Rogers) 987 (O)
LESLIE, John Gordon, obituary notice of, 332
LESLIE-ROBERTS, H.: Focal infection in relation to the etiology of skin diseases, 262 (O)
LETULLE, M.: Pathology of influenza, 282
Leucocytic count in infants, 576
Leukaemia, a case resembling (F. J. Poynton), 191
Leukaemia, myelogenous, treatment of (Adam Patrick), 481
Leukaemia, review of book on, 721
LEVADITI: Bismuth in the treatment of syphilis, 443
LEVI, J.: Dermatitis venenata in the tropics, 504
LEVY, Goodman: Cause of death in electrical shock, 479
LEWIN, Octavia: Mental hospitals, 164, 249
LEWIS, Sir Thomas: Appreciation of Augustus D. Waller, 459
LEWIS, W. C. McC.: *A System of Physical Chemistry*, vol. ii, *Thermodynamics*, rev., 647
LEY, Gordon, obituary notice of, 937
Libraries, army medical, 585
Lice and man, 157
Lice, bile salt as a vehicle for a pediculicide (B. A. Peters), 264 (O)
Life assurance, war wounds in relation to (McAdam Eccles), 799—Discussion, 799
Life insurance, review of book on 272
Life tables, the scientific value of (Major Greenwood), 840
Light, biological actions of, Committee appointed, 324
Limbless Men, Handbook for, rev., 107, 274—"Eltringham's Exercises," 274
Limbs, artificial, 500. *See also* Artificial
LINDSAY, J. (and R. G GORDON): Case of osteitis deformans, 678 (O)
LINDSAY, Thomas: The recognition of aortic incompetence, 661—An aortic murmur, 759, 1010
LINELL, Eric A: An unusual cause of death from cancer, 872 (O)
LINOSSIER, Dr.: School children, 452
Lip-reading lessons (parliamentary note), 366
Liquor control, State (parliamentary note), 777, 853
Liquor reform in Bombay, 412
Liquor traffic, State management (parliamentary note), 451
Lister Institute, annual report, 729
LISTER, Lord, site for London memorial to, 127—Glasgow memorial, 245—Appeal to preserve Lister's ward in the Glasgow Royal Infirmary, 295, 327, 411, 696
LISTER, T. D.: *Medical Examination for Life Insurance*, rev., 272
Lithopaedion, tubal (Beckwith Whitehouse), 103
LITTLE, Graham: Anti-anaphylaxis, 854
LITTLE, James, memorial to, 161
LITTLEJOHN, Harvey: Proof of live birth in criminal cases, 142
LITTLEWOOD, Lieut.-Col. H.: Amputations at the shoulder and at the hip, 381 (O)—Estate and bequests of, 903
Liver abscess. *See* Abscess
Liver, effect of arsenobenzol treatment on (T. H. G. Shore), 312
Liver, recent physiology of (Sir Humphry Rolleston), 743
Liver, toxic action of arsenobenzol compounds on (Mackenzie Wallis), 312
Liverpool: Influenza in, 284—Annual meetings of the voluntary hospitals (Royal Infirmary, Royal Southern Hospital, and the Northern Hospital), 496—Ladies' Sanitary Association, 855—Congress of Obstetrics at, 971
LIVINGSTON, John: Simple test for sugar, 719
Livingstone College. *See* College
LIVINGSTONE, R. W. (editor): *The Legacy of Greece*, rev., 193
LOBEDANK, Dr.: *Kurze praktische Anleitung zur Erkennung aller Formen des Kopfschmerzes*, rev., 608
Local Government officers' superannuation (parliamentary note), 616
LOCHRANE, C. D.: Decidual reaction in an extrauterine adenomyoma, 438—Sarcoma of uterus and ovary, 565—Primary carcinoma of appendix, 565—Skiagrams of a ureteric calculus and a curiously barbed calculus, 565
LOCK, Norman: Deformity of femur, 919—Skiagrams illustrating diseases and deformities of the hip-joint, 919
LOCKHART-MUMMERY, J. P.: Post-operative embolism and infarction, 59—Inflammatory stricture of the rectum, 270—Haemorrhagic colitis, 412—The after-results of colectomy, 518
LOCKWOOD, Ambrose: Developments and possibilities of thoracic surgery, 321
Locumtenents and income tax. *See* Income tax

LONDON:
Association of Medical Women. *See* Association
Asylum patients discharge (parliamentary note), 657
City Coroners' annual report, 410
Coroners' remuneration, 619
County Council. *See* Council
Diphtheria in (parliamentary note), 325, 451—Report of M.A.B. Infectious Hospitals Committee, 496
Gas supply, quality of, 658
Institute of Hygiene in, 325. *See also* Institute
Inter-Collegiate Entrance Scholarships and Exhibitions, 1922, 784
Mental hospitals. *See* Hospitals
Neurological clinic: dinner, 245
Operation circle in, 491
Post-graduate courses in, 116, 159, 167, 244, 295, 577, 615, 686, 694, 703, 743, 785, 894, 932, 939, 981
Plague in, in Shakespeare's time, 156
Scarlet fever in, 496
Traffic fatalities in, 736
Venereal disease arrangements in, 618
Water supply in a dry summer, 1009

Long Grove Mental Hospital. *See* Hospital
Longus pollicis tendon, extensor, rupture of (S. Norman Dykes), 387—(A. Stuart Mactavish), 476—(F. G. Gardner), 476—Correspondence on, 580
LORD, Colonel J. R., lunacy administration, 150
LORNIE, P. (and D. Ellis JONES): The treatment of asylum dysentery by means of antidysentery serum, 949 (O)

LOTHIAN, Robert Bain, obituary notice of, 627
LOW, George C. (and H. B. G. NEWHAM): Case of trypanosomiasis from Portuguese East Africa apparently cured, 96 (O)—Appreciation of Sir Patrick Manson, 626
LOW, Robert Bruce, obituary notice of, 822
LOWE, E. Cronin: Rationale of vaccine therapy, 16
LOWRY, C. G.: Maternal mortality, a retrospect, 104—Vienna school in its earlier days and the struggles of Semmelweis, 104
LUCAS, Albert, elected a representative of the Birmingham Voluntary Hospitals Committee, 333
LUCAS-CHAMPIONNIÈRE, Just, monument to, 981
LUDENDORFF, General, receives the honorary title of Doctor of Medicine from the University of Königsberg, 980
LUKE, Thomas Davy: Suicide in borderland cases, 163—*Manual of Physio-therapeutics*, rev., 441
LUKER, Gordon: Surgical shock, 761—Conservative labour induction, 999—Carcinoma of the cervix following gonorrhoea cervicitis, 999
LULHAM, Habberton: *Kettle-Songs*, rev., 923
Lumbar puncture in cerebral and spinal haemorrhages, diagnostic value of (Wilfred Harris), 635 (O)
Lunacy administration: Committee of investigation appointed, 73—Memorandum issued by the Mental Hospitals' Association: *Thirty Years' Administration of Public Asylums in England and Wales*, 111—Conference of medical superintendents and chairmen of visiting committees, 149—Leading article on, 199, 237—Parliamentary notes on, 282, 325, 366, 617—Verbatim report of the conference issued by the Stationery Office, 419, 647
Lunacy. *See also* Insanity *and* Mental
Lunatics in Chancery (parliamentary note), 777
Lung cancer. *See* Cancer
LYLE, H. Willoughby (and D. DE SOUZA): *Manual of Physiology for Students and Practitioners*, rev., 442
Lymph, calf, supply of (parliamentary note), 853
Lymph, vaccine. *See* Vaccine
Lymphatic system, tuberculosis of (Sir Robert Philip), 129 (O)
Lymphoid diathesis, 933
Lymphoidocyte and the Türk cell (J. C. Matthews and C. V. Pearson), 644
LYNSDALE, Major, I.S.O. conferred upon, 929
LYON, Murray: Significance and treatment of glycosuria, 350

M.

MACALISTER, C. J.: Notification of venereal disease, 767
MACALISTER, Dr.: Some relationships between disease and reversionary characteristics, 15
MACALPINE, J. B.: Exhibits urinary specimens, including a ureterocele, 315—Laboratory tests, 605
MCARDLE, J. S., presentation to, 824
MACBETH, A. Killen: *Organic Chemistry for Medical, Intermediate Science, and Pharmaceutical Students*, rev., 232
MACCALLUM: Nature of the virus of vaccinia, 405
MCCANN, F. J.: Treatment of carcinoma of the cervix, 77, 162—*Treatment of Common Female Ailments*, rev., 355
MCCARRISON, Lieut.-Col. Robert: Fats in relation to the genesis of goitre, 178 (O)—Simple goitre, 636 (O)
MACCARTHY, T.: Haemorrhagic colitis, 560
MCCAW, J.: *Aids to the Diagnosis and Treatment of Diseases of Children*, rev., 233
MCCLURE, St. Clair: Scarlet fever and scarlatiniform rashes, 271
MCCOMBIE, F. C.: Treatment of pneumonia, 940
MCCULLAGH, J. T.: Demonstration of artificial limbs, 522
MCDONAGH, J. E. R.: Early syphilis of the prostate, 226—The action of arsenobenzol preparations, 312
MACDONALD, Angus: The virulence of diphtheria-like organisms, 415
MACDONALD, David: Antiseptic coal-tar dyes, 662
MACDONALD, Ian, elected a corresponding member of the Society of Surgeons of Paris, 83
MACDONALD, Joseph, obituary notice of, 294
MACDONALD, Peter (and N. Bishop HARMAN): Detachment of the retina, probably due to exposure to light during an eclipse, 637 (O)
MCDONALD, W. M.: The parasitology and clinical aspects of malaria in Antigua, 597 (O)
MCDOUGALL, John B.: *How to Become an Efficient Athlete*, rev., 62
MCDOWALL, R. J. S.: Aesculapius and consumption, 786
MCDOWELL, Ephraim (August SCHACHNER), 925
MACEWEN, John A. C.: *Textbook of Surgery for Students and Practitioners*, rev., 646
MACFADYEN, Norman: The interstitial gland, 940
MACFARLANE, W. D.: Prevention of gynaecological affections, 644
Machine for crushing germs, 902, 976. *See also* Vaccines, detoxicated
MCILROY, A. Louise: The investigation of the toxaemias of pregnancy, 335 (O)—Influence of complications of pregnancy upon infant mortality, 390
MACKEE, G. M.: *X Rays and Radium in the Treatment of Diseases of the Skin*, rev., 273
MACKEITH, Dr.: Professional secrecy, 535
MACKENZIE, Sir James: Appreciation of Sir German Sims Woodhead, 81—Certain aspects of pain, 162—The nature and significance of heart symptoms, 505, 551, 590 (O)
MACKENZIE, Sir Leslie: The outlook in preventive medicine, 497—Venereal disease in Scotland, 778
MACKENZIE, Marion E.: Married medical women whose husbands are able to support them, 820
MACKENZIE, Murdoch, obituary notice of, 742
MCKENZIE, William George: Hyperpyrexia during influenza, 601
MACKENZIE, W. R.: Rupture of a Caesarean section scar in a subsequent pregnancy, 104—The relation of the corpus luteum to menstruation and pregnancy, 343 (O)
MCKERRON, R. G.: Chorion-epithelioma, 919
MCKINSTRY, W. H.: A serological investigation of Oriental sore, 185 (O)
MACKNESS, G. O. C., presentation to, 333
MACLACHLAN, John T.: The lymphoid diathesis, 933
MACLAREN, W. S: Significance and treatment of glycosuria, 350
MCLAUGHLIN, G. D. (and others): *Soaps and Proteins: Their Colloid Chemistry in Theory and Practice*, rev., 274
MACLEAN, Captain Archibald Lang, obituary notice of, 938
MACLEAN, Ewen: Hypernephroma of right kidney, 61—Large fibromyoma of the cervix uteri removed by panhysterectomy, 61—Large semi-pedunculated fibroma, 521—Chorea gravidarum, 720
MACLEAN, Hugh: *Modern Methods in the Diagnosis and Treatment of Renal Disease*, rev., 146
MACLENNAN, W.: *A Manual of Diseases of the Stomach*, rev., 484
MCLEOD, J. W., appointed to the Sir Edward Brotherton Chair of Bacteriology, Leeds, 1011
MACMILLAN, John, presentation to, 743
MACMILLAN, Major James Neal, obituary notice of, 418
MACMUNN, James: Instrument for the treatment of haemorrhoids by suture, 64
MACNAGHTEN, Hugh: *Emile Coué: The Man and his Work*, rev., 842
MCNEE, J. W.: A case resembling leukaemia, 191—The use of the van den Bergh test in the differentiation of obstructive from other types of jaundice, 716 (O), 783—A correction, 783
MACPHERSON, John, appointed Professor of Psychiatry, Sydney, 812—Knighthood conferred upon, 929—Presentation to, 972
MACPHERSON, Sir William: Epidemiology of summer diarrhoea, 519
MACTAVISH, A. Stuart: Rupture of the extensor longus pollicis tendon, 476
MCVAIL, J. C., retirement of, 32—Causation of puerperal septicaemia, 348—Appreciation of Alfred Hill, 417—Epidemiology of summer diarrhoea, 520—A half-century of public health in North America, 804, 845, 881, 924, 961
MACWILLIAM, J.: Cause of death in electrical shock, 480
Madeiras, biological studies in the (Michael Grabham), 775
Madison County, New York, tuberculosis hospital to be erected as a memorial to the soldiers of, 311
MAGIAN, A. C., incorrectly described in the current *Medical Directory*, 84—*The Practitioner's Manual of Gynaecology*, rev., 922
MAGROU, J. (and M. NICOLLE): *Les Maladies Parasitaires des Plantes*, 931
MAHON, R. B.: Slipping rib, 602
MAINGOT, R.: Chronic myositis ossificans traumatica, 192—Central dislocation of the head of the femur, 193—Acute osteomyelitis, 840
MAKINS, Sir George Henry, appointed a director of the Clerical, Medical, and General Life Assurance Society, 938
Malaria in Antigua, parasitology and clinical aspects of (W. M. McDonald), 597 (O)
Malaria in Bombay, 695
Malaria, disappearance of, in Denmark, 489
Malaria in ex-service men (parliamentary note), 325
Malaria, review of books on, 17
Malarial glycosuria. *See* Glycosuria
MALCOLM, John D.: Surgical shock, 761
MALDEN, Georgina F.: Anaesthetics in general practice, 84
Male doctors. *See* Doctors
Malformation in a child of 4, which was present at birth (Dr. Reed), 642
Malignant disease: Deep *x*-ray therapy in (J. Curtis Webb), 92 (O)—Correspondence on, 208
MALLAM, E.: Pityriasis rosea, 390
Mallet finger (W. J. Foster), 226
Malthusian replaced by *The New Generation*, 111
Man and the louse, 157
MANASSEH, A. J.: Treatment of pneumonia, 666
Manchester: Medical school celebrations at, 245—Influenza epidemic in, 283—Radium Institute report, 395—Causes of tuberculosis at, 409—Radiological work in, 696—Medical officer of health for, 1005
MANIFOLD, Major-General C. C., K.C.B. conferred upon, 25
MANN, M.: *Textbook of Tracheo-bronchoscopy (Technical and Practical)*, rev., 684
MANSON, J. S.: Fats and goitre, 500—The case of Mr. F. W. Axham, 976—Cancer of tongue: excision of tongue: cancer of stomach thirty-four years later, 996
MANSON, Sir Patrick: Portrait of unveiled at the London School of Tropical Medicine, 159—Obituary notice of, 623—Memorial service at St. Paul's, 664—The work of, 698—Appreciations of, 702—Estate and bequests of, 980
MANSON-BAHR, Philip: Appreciation of Sir Patrick Manson, 702
Many inventions, 733, 819
MAPLESTONE, P. A.: Prevention of venereal disease, 289
MAPOTHER, E.: The psychiatric clinic, 478—Appointed medical superintendent of the Maudsley Hospital, 586
MARCHAND, F. (and L. KREHL): *Handbuch der Allegemeinen Pathologie*, rev., 196
MARCHAND, Werner: *The Early Stages of Tabanidae (Horse-Flies)*, rev., 803
MARIE: Tartrobismuthate in nervous syphilis, 444
MARION, G.: *Traité d'Urologie*, vols. i and ii, rev., 107
MARKWELL, N. W.: Coué and Dubois, 586
MARLIN, Thomas: The recognition and treatment of minor degrees of fibrositis, 677 (O)
Maroc médicale, 111
Married women. *See* Women *and* Medical
MARSDEN, R. W.: Scarlet fever and scarlatiniform rashes, 270
MARSH, F. Douglas: Post-graduate courses in Vienna, 81
MARSHALL, Augustine, obituary notice of, 332
MARSHALL, C. F.: Venereal clinics, a lay point of view, 38
MARSHALL, C. Jennings: Slipping rib, 516—Suture of ruptured left dome of diaphragm, 871 (O)
MARSHALL, C. R.: Convulsions, 16
MARTIN, A. F.: Blood pressure observations in functional bruits in children and young adults, 99 (O)—The Hunterian lecture on prostatic enlargement, 412
MARTIN, Christopher: Sarcoma of uterus 565
MARTIN, C. J.: Prevention of diphtheria, 191
MARTIN, Franklin H.: *South America from a Surgeon's Point of View*, rev., 355
MARTIN, Frank W., dinner and presentation to, 665
MARTIN, H. J. W., presentation to, 43
MARTIN, Louis, made a corresponding member of the Royal Academy of Medicine of Brussels, 981
MARTIN, William: Case of anthrax, 188
MARTIN, William B. (and Robert KNOX): Pneumothorax in a boy aged 7, recovery, 472 (O)
MARTINDALE, W. Harrison: British chemical and pharmaceutical industries, 861
MASON, Alfred, estate of, 400
Masseurs, Blind, Association of, 812
Maternal impressions and acquired characters, the inheritance of, 167
Maternal mortality, a retrospect (C. G. Lowry), 104—The problem of in New Zealand, 114
Maternity and child welfare: Institute for Scotland, 579, 658, 856, 899—Report of the Lady Chelmsford All-India League for, 618—Success of the St. John Ambulance Association's work on in India, 817—Conference in London, 861—Glasgow Home for, 899
MATTHEWS, J. C. (and C. V. Pearson): The lymphoidocyte and the Türk cell, 644
MATHISON, Arthur J.: Treatment of pneumonia, 420
Maudsley Hospital. *See* Hospital
MAY, Otto: War wounds in relation to life assurance, 799
MAY, Percy: *The Chemistry of Synthetic Drugs*, rev., 108
MAYER, Professor, appointed successor to the late François Franck at the Collège de France, 825
MAYLAND, A. Ernest: Peptic jejunal ulcer, 37
Mayo Clinic, Collected Papers, vol. 12, rev., 523
MEACHEN, G. Norman: The Rotarian ideal and the medical profession, 296
MEAKINS, Jonathan: The duodenal tube in the diagnosis and treatment of biliary diseases, 983 (O)
Measles and fresh air, 818
Measles and influenza, expectant treatment of, 786, 901, 974
Meat (foreign), Ministry of Health's circular *re* official certificates for certain labels, 861
Meat inspection, 575
Medical Annual, 1922, rev., 722
Medical aspect of religious revivals, 44
Medical aspects of delinquency, 164. *See also* Delinquency
Medical barristers, 211, 824
Medical boards in West Scotland (parliamentary note), 813
Medical book-keeping, 461, 504, 630
Medical books, early, English catalogue of, 704
Medical clinics, proposed daily, 440
Medical curriculum (leading article), 727—(Ralph Stockman), 778
Medical Defence Association. *See* Association
Medical education, difficulties of, 778
Medical education in India, 816
Medical evidence and professional secrecy. *See* Professional
Medical examination of employees, 296
Medical fees. *See* Fees

Medical Golfing Society, 1012
Medical History. *See* Medicine, history of
Medical History, Annals of, 1921. iii, No. 3 (edited by F. R. Packard), 196; No. 4, 524
Medical Insurance Agency, 26
Medical magistrates, 939
Medical men and alcohol (W. L. Reid), 537
Medical missions, meeting in connexion with the 221st anniversary of the S.P.G., 743
Medical mortality in America, 156
Medical observations in Albania, 781
Medical officer of health for Manchester, 1005. *See also* Manchester
Medical officers of health: An honour to, 324—Luncheon at the Guildhall, 324
Medical Officers of Schools Association. *See* Association
Medical periodicals (leading article), 690
Medical portraits at the Royal Academy, 732
Medical profession: and the Rotarian ideal, 296—And prohibition, 448
Medical Record of New York now combined with the *New York Medical Journal*, 724
Medical Register for 1922, rev., 485, 486
Medical remuneration under the Insurance Act. *See* Insurance
Medical remuneration at places of detention, 658

MEDICAL RESEARCH COUNCIL:
Report of on the vitamin theory in rickets, 20
Report of for 1920–21, 74, 109, 151, 201
Note on, 201
Appoints a committee to advise it on the biological actions of light, 324
Report on the meaning of death rates (John Brownlee), 401
Issues a catalogue of the national collection of type cultures, 403
Report on the effects of gamma rays from a large quantity of radium, 405
Report on pneumonia neonatorum (Francis J. Browne), 469
The microscope in medical research, 489
Report on the evidence of pancreatic disorder in rickets (E. C. Dodds), 511
The antiseptic properties of cyanine dyes (C. H. Browning, J. B. Cohen, and R. Gulbransen), 514
Bacteriology of pneumonia (Ernest Glynn, L. Digby, and Wallace Jones), 564
Report to on miners' nystagmus, 651

Medical School of Columbia University, N.Y., 968
Medical schools, Indian, 695
Medical science and art. *See* Art
Medical science and the theatre, 966
Medical secrecy, 904
Medical service at Willesden. *See* Willesden
Medical students, number of foreign in France, 334
Medical Students Register, 486
Medical students, women: No more to be trained at the London Hospital, 373—Parliamentary note on, 657, 777

MEDICAL AND SURGICAL APPLIANCES:
Anaesthetic apparatus, a combined, 443
Aspirator, a simple, 109, 234
Electroscope and endoscopic tubes, 109
Instrument for the treatment of haemorrhoids by suture, 64
Intratracheal medication, 149
Radium applicator forceps, 842
Urethroscope tube for the posterior urethra, 356
Vaginal retractor, a self-retaining, 64

Medical terms in the vernacular and in dialects, 66, 72, 814, 970—Agnail's or hangnails, 66—Andicomb, ancome, uncome, or income, 814—Smittle and smit, 970
Medical treatment of ex-service men, 408. *See also* Ex-service
Medical Women's Federation, 809—Discussion on venereal diseases, 809
Medical women, married, whose husbands are able to support them, 820

MEDICINAL AND DIETETIC PREPARATIONS:
Barium sulphate, pure, 395
Coagulen-ciba, 108
Cod-liver oil, new season's, 395
Diabetic flour for bread-making, 648
Digifoline, 19
Inoculation tests for protein therapy, 19
Iodinosol, 233
Phyllosan, 317
Salicylosol, 233
Tuberculous egg-prepared antigen, 109
Vaccines by the mouth, 108

Medicine in Assam, 165, 457
Medicine bottles: Suggestion that all necks should be of one size to take an ordinary 6 oz. size cork, 334
Medicine in the *Encyclopaedia of Religion and Ethics*, 240
Medicine, history of: Royal Society of Archaeology of, Brussels forms a section of, 127—International Society of, permanent committee meets in Paris, 159—Third congress, London, 811—Review of book on, 921
Medicine and the humanities, 1010
Medicine, indigenous, in India, 119
Medicine and industrial legislation (Sir Thomas Oliver), 966
Medicine, metric system in, 400
Medicine, progress in, 617
Medicine in Soviet Russia, 203
Medicine and surgery, the teaching of (Sir George Newman), 21, 844
Medicines, proprietary, American Medical Association's list of, 927

MEDICO-LEGAL:
Action for damages for alleged negligence, 503
Action for damages for wrongful dismissal, 295
Fife practitioner and his assistant, 899
Inecto, Ltd., action against, 373
Ironworker summoned for assault by Dr. J. C. Wilson 461
Manslaughter charge (Edward Ernest Willis found guilty), 419
Parental rights and the medical examination of school children, 210

Megacolon, a case of (E. R. Flint), 310 (O)
MEHTA, Vallabhdas N.: Treatment of pneumonia, 826—Potassium permanganate in haemorrhage, 982
Melioidosis (W. Fletcher and A. T. Stanton), 561
MELLANBY, E.: The vitamin theory in rickets, 20—Rickets, 580—Oliver-Sharpey lectures on some common defects of diet and their pathological significance, 790, 831 (O)
MELLAND, Charles H.: Pernicious anaemia, 659
MENA, Carteado, elected president of the Portuguese Medical Association,
MENDELSON, Ralph W.: Elephantiasis of the labium, 839
Meningitis, operative treatment of, 363
Meningitis simulating tetanus (L. S. Fry), 56
"Meningiomas," the (Harvey Cushing), 1001
MENNELL, J. B.: Remedial exercises in scoliosis, 437—Backache and referred pain, 960
MENNELL, Z.: Anaesthesia in intracranial surgery, 519
MENON, M. P. K.: Saline taste, 744
Menopause, radium. *See* Radium *and* Asthma
Menorrhagia, functional, hyperthyroidism in (Aleck W. Bourne), 102
Menstruation and pregnancy, relation of the corpus luteum to (W. R. Mackenzie), 343 (O)
Mental After-Care Association. *See* Association
Mental cases, recovery in, discussion at Royal Society of Medicine, 643
Mental defectives: School for, 171—Accommodation afforded by the Lancashire Asylums Board (parliamentary note), 409—Care of, in Scotland, 899—Mental deficiency (parliamentary note), 325
Mental deficiency, conference on, in London, 903
Mental deficiency and encephalitis lethargica, 122, 165
Mental deficiency, review of books on, 146. *See also* Insanity *and* Lunacy
Mental deficients, Larbert Institution, annual meeting, 537
Mental disease, the nitrogen method as an aid to differential diagnosis in (R. V. Stanford), 915 (O)
Mental disease, prognosis in (H. R. C. Rutherford), 606
Mental disorder, some aspects of education and training in relation to (Sir Maurice Craig), 954
Mental disorders, free clinics for, in New York State, 743
Mental disorders, early and preventive treatment of, in France, 545
Mental disorder, treatment of (leading article), 199
Mental disorders and the reproductive organs (Sir Frederick W. Mott), 463 (O)
Mental Hospitals, 164. *See also* Hospitals
Mental Hygiene: A National Council for, 538, 694—Appointment of council, 766—The study of mental hygiene, 766—Leading article, 771
Mental and physical efficiency, the relation between, 27
Mental and Scholastic Tests (Cyril Burt), 317
Mental. *See also* Lunacy
MENZIES, W. F.: Lunacy administration, 150—Genetic origin of dementia praecox, 954
Merchant Shipping (Venereal Disease) Bill, 813
MERCK'S *Jahresberichte ueber Neuerungen auf den Gebieten der Pharmakotherapie und Pharmazie, 1919–20*, rev., 232
Mercury and salvarsan in ante-natal treatment of congenital syphilis (John Adams), 56 (O)—Correspondence on, 124—(Noel F. Rowstron), 918
Mercy and Truth changes its name to *The Mission Hospital*, 127
Metabolism of children undergoing open-air treatment, heliotherapy, and balneotherapy (Leonard Hill, J. Argyll Campbell, with the co-operation of Sir Henry Gauvain), 301 (O)—Correspondence on, 456, 501, 781. *See also* Sun *and* Tuberculosis
Meteorological Office report on atmospheric pollution, 527
Metric system in medicine, 400
Metropolitan Asylums Board: War memorial, 117—Report of Infectious Hospitals Committee, 496
MEYRICK, Rev. Canon F. J.: Sir Thomas Browne: the story of his skull, his wig, and his coffin-plate, 725
Michelin Guide to Great Britain, rev., 1001
Michigan, treatment of crippled children in, 635
Micro-organisms, industrial uses of, 115
Microphthalmia, hereditary (W. M. Ash), 558 (O)
Microscope in medical research, 489
MIDELTON, W. J.: Papers on condition of the brain, spinal cord, etc., in chronic arthritis, 545
MIDDLEMASS, James: Lunacy administration, 151—Obituary notice of, 783
Middleton, small-pox in (in 1920), 319
Midhurst Sanatorium. *See* Sanatorium
Midwifery training in India, 411
Midwifery. *See also* Obstetrics
Midwives Board. *See* Board
Midwives and opium, 124
Midwives registration (New South Wales), 283
MILES, Ernest: Inflammatory stricture of the rectum, 270
Militia, revival of the, 251. *See also* Army British
Milk, bad, danger of (J. W. Bigger), 681, 900
Milk Bill, Pure, 333
Milk, clean, 363
Milk, condensed (parliamentary note), 735, 1008
Milk, grading of (parliamentary note), 579
Milk, imported (parliamentary note), 657
Milk impurities (parliamentary notes), 325
Milk for mothers and children (parliamentary notes), 325
Milk and the public health (J. W. Bigger), 681, 900
Milk supply, pure (parliamentary note), 333, 409, 534, 617, 657, 777, 898
Milk supply of Japan, suggested reforms, 619
Milk supply of Newcastle-upon-Tyne, 853
Milk supply of Sydney, 816
Milk for tuberculous cases (parliamentary note), 365
MILLARD, C. Killick: Problems involved in the congress of the sexes, 121—Importance of the early treatment of cancer, 776
MILLER, Douglas: Omphalorrhagia, 919
MILLER, H. Crichton: Treatment of psychoses, 103—The ideal psychiatric clinic, 313—*The New Psychology and the Teacher*, rev., 523
MILLIGAN, Sir William: The rise and progress of laryngology, 547 (O)
Miners, health precautions for (parliamentary note), 853
Miners' nystagmus. *See* Nystagmus
Miners' safety lamps. *See* Lamps
Mirror, stereoscopic head, 940
Mission Hospital in future to be the title of *Mercy and Truth*, 127
Missions, medical, 743
MITCHELL, P. Chalmers, elected a vice-president of the Cremation Society of England, 1011
MITCHELL, T. Houghton: Ammonium chloride in glycosuria, 420
Mobile laboratories, 362. *See also* Laboratories
MOLESWORTH, H. W. L.: Some principles of after-treatment in acute abdominal disease, 218 (O)
MOLIÈRE, tercentenary of, 72
Molluscum fibrosum, case of extreme (Cornelius Griffiths), 188
MOND, Sir Alfred: Lunacy administration, 149, 893
Moneylenders, touting, 704
MONSARRAT, K. W.: The peptic ulcer, 271, 553 (O)
MONTAGU, Mr., resignation of, 490
MONTGOMERY-SMITH, E. C., wins his case in action for damages for alleged negligence, 503
MOON, R. O.: Cardiac disease and occupation, 795 (O)
MOORE, Benjamin, obituary notice of, 417, 459
MOORE, C. A., presentation to, 419
MOORE, Irwin: Electroscope and endoscopic tubes, 109—*Intrinsic Cancer of the Larynx and the Operation of Laryngo-Fissure*, rev., 607
MOORE, Sir John: Milk and the public health, 681
MOORE, R. Foster: *Medical Ophthalmology*, rev., 723
MOORE, W. D.: Lunacy administration, 151
MORGAN, T. H.: Croonian lecture on the mechanism of heredity, 965
MORISON, J. M. Woodburn: Radiological notes on a case of diaphragmatic hernia, 90
MORLEY, John: Surgical notes on a case of diaphragmatic hernia, 90—Clinical aspects of abdominal tuberculosis, 383 (O)
Morocco bound, 826
Morphine, licences for (parliamentary note), 451
MORRISON, Dr.: Diagnosis and treatment of cases of enlarged prostate, 230
Morrison, Steinie, the Trial of, rev., 568
MORSON, Clifford (and H. P. Winsbury WHITE): Three cases illustrating the value of pyelography, 257 (O)—Horse-shoe kidney, 517
Mortality, infant: Influence of the complications of pregnancy upon (Louise McIlroy), 390—In India, 695
MORTON, Reginald: Recent developments in *x*-ray therapeutics, 683
MOSELEY, C. K.: Suction apparatus for nose and throat operations, 268
Mosquito Investigation Committee to resume work, 585
Mosquitos, Danish (C. Wesenberg-Lund), 489
MOSS, Major E. L.: Aortic murmur, 902
Mother tongue (leading article), 23—Correspondence on, 128. *See also* English
Motor cars, the spare parts problem, 67, 84, 172—The starting of in cold weather, 296
Motor cycles, bottles on, 826
Motor insurance, 172
Motor notes for medical men (H. Massac Buist), 234, 485, 688
Motor taxation, 772, 826

MOTT, Sir Frederick: *Lunacy Administration*, 150–Insanity and the reproductive glands, 445, 463 (O)—Genetic origin of dementia praecox, 953
MOTTRAM, J. C.: Biological effects of *x* rays, 164
Mount Everest expedition, 1003, 1006. *See also* Oxygen
MOUNT STEPHEN, Lord, bequests of, 211
MOURE, Professor, made a Commander of the Legion of Honour, 457
MOYNIHAN, Sir Berkeley: Treatment of gastric ulcer, 227—*Essays on Surgical Subjects*, rev., 271—The after-results of colectomy, 517—Baronetcy conferred upon, 928
Mucocele of the frontal sinus (J. Acomb), 344 (O)—Correspondence on, 457
Mud baths at Pistany, 981
MUIR, E.: Researches on leprosy, 849
MUMFORD, Alfred A: The relation between mental and physical efficiency, 27
MUNK, Fritz: *Grundriss der gesamten Röntgen diagnostik innerer Krankheiten für Aertze und Studierende*, rev., 273
MURRAY, Farquhar: Icterus neonatorum, 919—Secondary abdominal pregnancy following incomplete tubal abortion, 919—Two months' pregnancy in a rudimentary uterine horn, 919
MURRAY, G. R.: Treatment of hyperthyroidism and exophthalmic goitre, 392—Hyperthyroidism, 905 (O)
MURRAY, J. A.: Experimentally induced squamous carcinomata of the skin in the mouse following repeated applications of coal tar, 511
MURRAY, W. A.: Notes on a case of trypanosomiasis from Portuguese East Africa apparently cured, 96—Medicine in Assam, 165
MUSCIO, B.: Vocational selection in industry, 279
Muscle, deltoid, congenital absence of (E. J. Tyrrell), 719
Muscles, re-education of (P. Kouindjy), 960
Muscular atrophy. *See* Atrophy
MUSGRAVE, Henry, benefactions of, 118; obituary notice of, 118
Myelogenous leukaemia. *See* Leukaemia
MYERS, C. S.: Psychology in industry 532
Myositis ossificans of the brachialis anticus (H. Stokes), 391

N.

NAISH, A. E.: Functional blindness, 762
Names, a confusion of, 331, 374, 699
Naples, new radium institute opened at, 419
Nasal accessory sinus. *See* Sinus
Nasal and buccal paths, streptococcal infection by (Daniel C. Edington), 304 (O)
Nasal diphtheria. *See* Diphtheria
Nasal duct, stricture of (T. O. Graham), 645
Nasal obstruction during the first year of life (Arnold Jones), 564
Nasal passages, cockroach in, 982
Nasal septum, perforation of in cocaine sniffers, 39
Nasal sinus. *See* Sinus
National Academy of Medicine, Buenos Aires, centenary of, 1011
National Council for Combating Venereal Disease. *See* Venereal
National Institute of Industrial Psychology. *See* Psychology
Naval Medical Compassionate Fund, 294
Naval Medical Service, 292, 372, 416, 542, 782, 1010—Gilbert Blane medal, 860
Navy, Army, and Air Force Medical Services, proposed amalgamation of (parliamentary note), 493
Navy, Royal: Estimates, 493—Temporary naval rank, 664—Parkes memorial prize, 903—Senior Surgeon Commanders, 1010
Needle, Valentine Mott's aneurysm, for ligature of the innominate and subclavian arteries (Alban H. G. Doran), 639 (O)
NÈGRE, L. (and P. F. ARMAND-DELILLE): *Technique de la Réaction de Déviation du Complément de Bordet et Gengou*, rev., 686
NEMCOVÁ, Bozena: *The Disobedient Kids*, rev., 19
Neo-cerebellum, the human (C. Winkler), 769
Néoplasmes, les, first number of, 317
Nephritis, acute diffuse, in children (A. R. Sami), 642
Nephritis, diet in (H. S. Pemberton), 271
Nephritis, review of books on, 272
Nerve exhaustion, review of book on, 721
Nerve, peripheral, review of book on, 440
Nerve, sciatic, suture of (R. A. Stoney), 391
Nervous disorders, alimentary toxaemia in (Theodore Thompson), 351
Nervous disorders, review of books on, 840
Nervous symptoms and their diagnostic significance (S. A. Kinnier Wilson), 230
Nervous system, central, interpretation of symptoms in disease of (Anthony Feiling), 515, 559, 600 (O)
Nervous system, central, localization of toxi-infective lesions in (David Orr and A. Corsar Sturrock), 877
Nervous system, review of books on, 106, 230, 231, 566, 721
Nervous system, visual fields in lesions of (J. Gray Clegg), 392
NETTER, Arnold, gold medal presented to on his retirement from hospital service, 457
NEUBURGER, Max: *Die Wiener Medizinische Schule im Vormärz*, rev., 803
Neuralgia of testicle, 374, 420
Neurasthenia, treatment for (parliamentary note), 1008
Neurasthenic pensions cases. *See* Pensions
Neurological Clinic, the London, 245
Neuro-syphilis with severe laryngeal crisis: tracheotomy (John W. Leitch), 949 (O)
NEVE, E. F.: Sunlight and rickets, 611
Newcastle-upon-Tyne: Influenza in, 284–Milk supply (parliamentary note), 853—Post-graduate courses, 932
NEWELL, A. G., re-elected councillor for the Harringay division of Tottenham, 665
Newfoundland and Labrador, Grenfell Association hospitals in, 51
New Generation, The, replaces the *Malthusian*, 111
NEWHAM, H. B. G. (and George C. Low): Case of trypanosomiasis from Portuguese East Africa apparently cured, 96 (O)
NEWLAND, Major-General Sir F. R., Italian silver medal "Al Merito della Sanita Pubblica" conferred upon, 585
NEWMAN, Sir George: The School Medical Service, 235—A century of medicine at Padua, 489
NEWMAN, H. H.: *Readings in Evolution Genetics, and Eugenics*, rev., 647
New and non-official remedies (leading article), 927
New remedies. *See* Medicines, proprietary
NEWSHOLME, Arthur: Statistics of public health, 856

NEW SOUTH WALES:
Edith Cavell Memorial Fund, 816
Hospital Bill, a new, 283
Midwives' registration, 283
Milk supply, 816
Plague in Sydney, 283, 816
Technical college for Sydney, 816
Tuberculosis, 816
White lead, use of for paint, 283
See also Sydney

NEWTON, Surgeon-Major Isaac, obituary notice of, 623
New Year honours, 25. *See also* Honours
New York: Death rate in, 294—Number of alcohol prescriptions issued in 1921, 311—Number of persons sent to asylums in 1921, 331—Scarlet fever in: Grant for the employment of extra doctors, nurses, and inspectors, 333—Bill introduced forbidding a male doctor to treat a female except in the presence of another female, 353—Influenza in, 419—Pneumonia in, 419—Defeat of resolution that dogs be exempted from scientific experimentation, 419—Proposed daily medical clinics, 440—Lower tuberculosis death rate owing to larger Jewish population, 444—Number of children who have received preventive treatment against diphtheria, 516—Deaths from encephalitis lethargica, 558, 939—Stringent regulations *re* *x*-ray laboratories, 570—Epidemic jaundice in, 589—Leprosy in, 589—Centenary of Bloomingdale Hospital, 654—Lethargic encephalitis, 694—*Medical Record* now combined with the *New York Medical Journal*, 724—Free clinics for mental disorders, 743—Farm presented to Physicians' Home by Drs. W. H. and S. V Mountain, 939
New Zealand, maternity mortality problem in, 114
NICHOLSON, Oliphant: Induction of premature labour, 481
NICHOLSON, Ruth, Médaille de la Reconnaissance Française conferred upon, 503
NICOLLE, M. (and J. MAGROU): *Les Maladies Parasitaires des Plantes*, 931
NIMMO, Surgeon Commander Frank Hutton, C.V.O. conferred upon, 929
"Nine hundred and fourteen" preparations. *See* Arsenobenzol
Nipple in the proemial breast, removal of, 936. *See also* Cancer of breast
NITCH, Cyril: Technique of bone grafting, 603
Nitrogen method as an aid to differential diagnosis in mental disease (R. V. Stanford), 915 (O)
Nitrous oxide anaesthesia, 348. *See also* Anaesthesia
Nitrous oxide and oxygen (Holme Henderson), 763—Correspondence on, 858
NIXON, J. A.: The surgical treatment of empyema, 239—Hospital policy: Bristol scheme for paying patients, 397
No. 1 Casualty Clearing Station. *See* Casualty
NOON, Charles: An arterio-venous aneurysm treated by ligation of the left subclavian artery, 714 (O)
NORBURY, Lionel E. C.: Haemorrhagic colitis, 839
NORMAN, Hubert: Recovery in mental cases, 644
North America. *See* United States
Nose, plastic surgery of (Douglas Guthrie), 801
Nose and throat operations, suction apparatus for, 268

Notes, Letters, and Answers:
Absent treatment at sea, 666
Acromion process, right and left anterior superior iliac spine, half-way point between, 786
Aesculapius and consumption, 586, 786
Alpine treatment of tuberculosis. *See* Tuberculosis
Ammonium chloride in glycosuria, 420
Anaesthetics in general practice, 84
Antimony, therapeutic uses of, 296, 504
Arthritis, chronic, references as to the condition of the brain, etc., in, 545
Asthma, bronchial, treatment, 128, 212, 252
B. coli bacilluria, 704
Barley water, 786
Bed lift to run patient on to a terrace, 629
Birth control and abortion, 334
Blood films, stains for, 826, 939
Blushing, 546
Book plates, exchange of, 545
Bottles on motor cycles, 826
Breath, offensive, 629
British fine chemicals, 666
Bronchitis and emphysema, climate for patient with, 862
Catheter lubricants, 461, 503
Chilblains, broken, treatment for, 420, 461
Cinematograph and vivisection, 666, 704
Climate for patient with bronchitis and emphysema, 862, 981
Clothing of natives in relation to tuberculosis 504
Cockroach in the nasal passages, 982
Confusion of names, 374
Corrections, 252, 334, 826
Coué and Dubois, 586
Cramp, treatment of, 744, 825, 862
Depilatories, 252, 420
Dermatitis venenata in the tropics, 504
Diagnostic shoulder straps, 1012
Diet and gall stones, 461
Disclaimers, 84
"Dropped shoulder sign," 462
Drug addiction, 862
Drug habit, the victims of, 546, 862
Eighteenth-century advertisement, 44
Electro-vibration of the cerebellum and pancreas in diabetes mellitus, 296
Fecundity, unusual, 462
Fencing and physic, 666
First aid to the injured, 586, 630
Flat-feet and toe troubles, 172
Flea trap, 1012
"Following up" in V.D. clinics, 744
Free insurance, 462
Games for girls, a disclaimer, 84
General Medical Council's old house in Oxford Street, 786
Gigantism, 420
Hangnails, 172
Hempyema, 704
Herpes and varicella, 172, 252, 546, 630
Horrors of prohibition, 666
Hospital staffs conference, 744
Hydroa aestivale, 546
Income tax, 44, 128, 172, 212, 252, 295, 334, 374, 420, 461, 504, 545, 586, 629, 666, 704, 744, 786, 826, 862, 904, 939, 982, 1012
Influenza, clinical forms of, 546
Interstitial gland, the, 940
Intestinal disinfection in enteric fever, 462, 504, 826—A correction, 826
Measles and influenza, expectant treatment of, 786
Medical aspect of religious revivals, 44
Medical book-keeping, 461, 504, 630
Medical examination of employees, 296
Medical Golfing Society, 1012
Medical secrecy, 904
Medicinal paraffin as a dressing for septic wounds, 940
Mental defectives, 171
Morocco bound, 826
Mother tongue, 128
Motor cars: Spare parts, 84, 172—Starting of in cold weather, 296—Taxation of, 826
Motor insurance, 172
Neuralgia of testicle, 374, 420
Ophthalmic surgeon, training of an, 128
Osmics and psycho-analysis, 904
Otitis media in infants, 84
Oxyuris, 939, 981
Paralysis agitans, treatment of, 744
Parathyroid in the treatment of chilblains 128
Parathyroid, symptoms produced by, 904
Parkinson's disease, 665
Peliosis rheumatica, 252
Pityriasis rubra, 252
Pneumonia, treatment of, 420, 666, 826, 940
Pneumonia treated with creosote, 334
Potassium permanganate in haemorrhage, 982
Presbyopia and hypermetropia, an emergency method in, 212
Printers, prevalence of muscular atrophy among? 128
Psoriasis, treatment of, 982, 1012
Quinine, the nauseating effect of, 128
"Rat Barrack," 940
Resuscitation after apparent death, 462
Rhythmic irregularity of the heart, 982
Right Way in Photography, 546
Rotarian ideal and the medical profession, 296
Royal College of Surgeons of England, 334
Saline taste, 665, 744
"Salivary test" as a routine, 862

Notes, Letters, and Answers (*contd.*):
Scarlatiniform-like rash in influenza, 296
Slipping rib, 586
Spas in Austrian Tyrol where treatment could be obtained for rheumatic fibrositis of hip and thigh muscles, 629
Stammering, 546, 666
Stereoscopic head mirror, 940
Sterility with reference to the State, 546
Suicide in borderland cases, 630
Taeniasis, treatment of, 334
Tinnitus aurium, 826
Tipping problem, a solution of the, 84
Toe, congenital deformity of, 44
Tonsils and adenoids, operations for, 786
Touting money lenders, 704
Tremor, treatment of, 461
Tuberculin in asthma. *See* Asthma
Tuberculosis, Alpine treatment of, 374, 666
Tuberculosis, diploma in, 940
Unconscious humour, 212
Vaccination vesicles, area of, 939
Vienna clinics, 786
Vitamins, 420
Woollen winding sheets, 172
Working hours, 504

Nova et Vetera: Sir Robert Sibbald's library, 888
Novarsenobillon in treatment of rat-bite fever (Captain Norman Briggs), 185 (O)
Nurses, hospital training of (parliamentary note), 813
Nurses' registration (parliamentary note), 533
Nurses, tuberculous, pensions, 418
Nurses and unemployment insurance (parliamentary note), 578, 777
Nursing Council for England and Wales, the General: Communication from Ministry of Health, 245—Annual meeting, 374—Parliamentary notes on, 578
Nursing Council, International, meeting in Copenhagen, 861
Nursing Council for Ireland, the General: Half-yearly meeting, 497
Nursing, a History of, rev., 584
Nutrition and health (A. K Chalmers), 1006
NUTTALL, George H. F., elected a corresponding member of the Société de Biologie, Paris, and of the Society of American Bacteriologists, 981
Nystagmus, miners' (leading article), 651—Correspondence on the committee's report, 932, 976

O.

Oath, the, a coroner and, 967
Obesity and glycosuria (leading article), 890
O'BRIEN, Lieut.-Col. Joseph, obituary notice of, 82
O'BRIEN, R.: Prevention of diphtheria, 190
Obstetrical shock (Hastings Tweedy), 605
Obstetrics, physiological problems in (R. W. Johnstone), 850
Obstetrics, review of books on, 194, 722, 764
Obstruction, intestinal. *See* Intestinal
O'CONOR, Sir John: The treatment by rest of acute infection of the knee-joint, 182 (O)—Gastro-enterostomy, and some dietetic rules, 310 (O)—The radical cure of haemorrhoids, modified Whitehead operation, 759
Oedema, review of books on, 272
Oesophageal pouch (Alex. Brownlee), 57
Oesophagus, malignant, ulceration of, into the tracheal bifurcation (H. V. Forster), 267
O'FARRELL, Thomas T.: *Elementary Parasitology*, rev., 607
Officers, tuberculous, 170, 418 *See also* Pensions
O'GORMAN, Flight Lieutenant Edward Gerald, obituary notice of, 938
OGSTON, Dr.: The administration of ether by the perhalation method, 762
O'HEA, J. P.: Barley water, 786
Oil, cod-liver, new season's, 395
Oils, volatile, in cholera. *See* Cholera
O'KEEFFE, Surgeon Commander Thomas Francis, obituary notice of, 83
O'KELLY, Dr.: Food poisoning due to Gaertner's bacillus, 682
Oklahoma, U.S.A., small-pox in, 258—Compulsory vaccination in force, 258
Old man's chair. *See* Chair
OLDERSHAW, John, C.B.E. conferred upon, 25
OLDFIELD, Carlton: Treatment of pernicious vomiting of pregnancy, 230, 789 (O)
OLDFIELD, Josiah: The value of fruit juice, 168
OLIVER, Dr.: Laboratory tests, 605
OLIVER, Sir Thomas: Alcohol in relation to industry, 574—Medicine and industrial legislation, 966
O'MALLEY, John F.: Septal perforation of cocaine sniffers, 39
Omphalorrhagia (Douglas Miller), 919
Ontario, alcohol prescriptions issued in December, 1921, 419
Open-air treatment, metabolism of children undergoing, heliotherapy, and balneotherapy (Leonard Hill, J. Argyll Campbell, with the co-operation of Sir Henry Gauvain), 301 (O). *See also* Tuberculosis
Opening of the Fourth Seal (leading article), 488
OPENSHAW, T. H.: Remedial exercises in scoliosis, 437
Operation circle in London, 491
Operations, value of freedom and exercise after (R. P. Rowlands), 52 (O)
Ophthalmic pensioners (Herbert Caiger), 762
Ophthalmic surgeon, the training of an, 128
Ophthalmology, review of books on, 723
Opium Commission of the League of Nations, 724, 728 (leading article), 728
Opium and midwives, 124
Opium traffic and the League of Nations, 238
OPPENHEIMER: The nature of the virus of vaccinia, 405
OPPENHEIMER, Son, and Co.: Therapeutic uses of antimony, 504
Optical and other scientific instruments, committee appointed to inquire into the importation of from Germany, 743
Opticians, sight-testing, and presbyopia, 781
Oral sepsis in its relation to general disease (J. M. Ackland), 872 (O)
Orderlies in Pensions hospitals. *See* Hospitals
Oriental sore, a serological investigation of (W. H. McKinstry), 185 (O)
ORLEBAR, Alexander: Malarial glycosuria, 209
ORR, David (and A. Corsar STURROCK): Localization of toxi-infective lesions in the central nervous system, 877
ORRIN, H. C.: *First Aid X-ray Atlas of the Arteries*, rev., 841
Orthopaedic Hospital. *See* Hospital
ORTON, Harrison: Hyperthyroidism in functional menorrhagia, 102
OSBORN, H.: *Golden Rules of Dental Mechanics*, rev., 232
OSLER, Sir William, appreciation of, 127—Dedication of Osler Hall, Toronto, portrait of Sir William Osler presented, 629
Osmics and psycho-analysis, 904
Osteitis deformans, case of (J. Lindsay and R. G. Gordon), 678 (O)—(J. Anderson Smith), 838
Osteo-arthritis. *See* Arthritis deformans
Osteo chondritis coxae (D Denham Pinnock), 840
Osteo-genesis imperfecta (Geary Grant), 188
Osteomyelitis, acute (Rodney Maingot), 840
Otitis media in infants, 84
Otology, review of books on, 524
Ovarian cyst. *See* Cyst
OWEN, Ambrose W.: Two hundred and twenty-five cases of pneumonia: an analysis, 946 (O)
OWEN, Lieut.-Col. Charles William, obituary notice of, 938
OWENS, J. S.: Suspended impurity in the air, 654
Oxford and Cambridge report. *See* University grants
Oxford contributory hospital scheme, 397
Oxygen at high altitudes (leading article), 1003. *See also* Mount Everest *and* Altitude
Oxygen and nitrous oxide (Holme Henderson), 763—Correspondence on, 858
Oxyuris, 939, 981. *See also* Worms, thread

P.

PACKARD, F. R. (editor): *Annals of Medical History, 1921*, vol. iii, No. 3, rev., 196—Vol. iii, No. 4, rev., 524
Paddington scheme *re* venereal disease notification, 735
Padua, a century of medicine at, 489, 543
PAGE, C. Max: The technique of bone grafting, 602—Bone grafting for ununited fractures, 817
PAGE, H. M.: Nitrous oxide anaesthesia, 349
Paget's disease, case of (J. Lindsay and R. G. Gordon), 678 (O)
Pain, certain aspects of (Henry Head), 1 (O)—Leading article on, 24—Correspondence on, 161, 206, 249
Pain due to functional disturbance of the colon (T. Stacey Wilson), 944 (O)
Pain in thigh, cerebral and pulmonary haemorrhage, death (Charles J. Hill Aitken), 719
Paint, use of white lead in (New South Wales Board of Trade inquiry), 283
PALFREY, Francis W. (S. Burt WOLBACH and John L. TODD): *The Etiology and Pathology of Typhus*, rev., 954
Pancreatic disorder in rickets, evidence of (E. C. Dodds), 511 (O)—Correspondence on, 739
PANTON, A. W.: Recurrent vesicular eruption after influenza, 995
Paraffin, medicinal, as a dressing for septic wounds, 940
Paralysis agitans, treatment of, 744
Paralysis in children, treatment of (Sir Robert Jones), 705 (O)
Paralysis, general, centenary of first description of, 629
PARAMORE, R. H.: The toxaemias of pregnancy, 498
Parasites of bacteria, 362. *See also* Bacteriophage
Parasitology, review of books on, 607
Parasmallpox. *See* Alastrim *and* Small-pox, mild
Parathyroid, symptoms produced by, 904
Parathyroid in treatment of calcium deficiencies (W. R. Groves and H. W. C. Vines), 791 (O)—Correspondence on, 904
Parathyroid in the treatment of chilblains, 128
Parental rights and the medical examination of school children, 210
Paris: The foreign post-graduate student in France, 32—Fee-paying hospital patients, 160—The feminist question, 160—Inaugural address by Professor E. Sergent, 282—Pathology of influenza, 282—Anglo-French relations, 283—Purchase of radium for use of public hospitals for treatment of cancer, 432—School children (Dr. Linossier), 452—Lectures in English by English lecturers, 585—Progress in medicine, 617—Centenary of Bayle's first description of general paralysis, 629—Four leading dermatologists to resign their hospital appointments owing to the age limit, 665—Faculty of Medicine, 737—Opening of the new buildings of the Hôpital Saint-Michel, 939—Population, 971. *See also* France
PARK: Sunlight and rickets, 611
PARK, W. H.: *Collected Studies from the Bureau of Laboratories (Foot of East 16th Street), City of New York*, rev., 149
PARKER, Rushton: Bone grafting in ununited fracture, 738
Parkes Memorial Prize, 903
Parkinson's disease, 665

Parliament, Medical Notes in:
Air Force: Estimates, 493—Medical services for, 534
Alcoholic liquors, consumption of, 579
Animals, experiments on, 812
Army estimates, 492
Army, Territorial: Medical establishments, 534
Asphyxiating gas, 579
Asylum administration, 282, 325, 366
Blind pensioners, ex-service, 777
Budget, 734
Calf lymph, supply of, 853
Cancer investigation, 409
Chemicals for research work, 969
Chemicals under the Safeguarding of Industries Act, 579
Child Murder (Trial) Bill, 898
Cocaine, sale of, 1008
Contagious disease in Uganda, 534
Coroners' courts, 617
Coroners and Juries Acts, 282
Coroners (Emergency Provisions Continuance) Bill, 366, 409
Cruelty to Animals Bill, 492
Criminal Law Amendment Bill, 282, 406, 853
Dangerous Drugs Acts, 735
Deaths from starvation, 365, 451, 617, 777
Dentists Act Regulations, 451
Dentists under the Juries Bill, 813
Dentists Register, 617
Diphtheria in London, 325, 451
Diphtheria, Schick test for, 493
Disabled ex-service men. *See* Ex-service
Drug smuggling into England, 534
Drug traffickers, flogging for, 777
Drugs Act, Dangerous, 735—Farmers and stock-owners, 854
Drugs and appliances, import duty on, 813
Drugs, illegal traffic in, 777, 853
Drunkenness statistics in the Metropolitan Police District, 409
Ear affections in pensioners, 451
Education vote, 734
Experiments on animals. *See* Animals
Ex-service men: Disabled, 282, 853—Malaria in, 325—Medical treatment of, 408—Number under notice of discharge from the Ministry of Health, 409—Treatment centres for, in London, 534—In asylums, 578—University education for, 657—Blind pensioners, 777—Pension and allowance, alteration in rates, 777
Factories and workshops, accidents in, remarkable statistics, 534
Food and milk for mothers and children, 325
Foot and mouth disease, 409
Gas, asphyxiating, 579
Gas poisoning experiments, 366
Geddes Committee's report: The Government's intentions, 407
General Nursing Council, 578
Health Ministry: Economies, 366—Supplementary votes, 450—Insurance department, 578—Outside staff of, 898—The vote, 969
Health services: Expenditure, 578
Health services: South Wales, 534
Health visitors, salaries of, 578
Hospital nurses. *See* Nurses
Hospitals, voluntary, grant to, 407, 657, 776
Hospitals, Voluntary, work of the Commission, 897
Housing statistics, 282
Hygiene institute for London, 365, 813—Rockefeller gift, 813
Illegitimacy statistics, 534
Income tax, the burden of, 409—Assessments, 617—Approximate amounts unpaid on March 31st, 735
Indian medical questions, 1008
Inquests, viewing the body at, 534
Institute of Hygiene for London. *See* Hygiene
Insurance Bill, 365, 408, 578, 616, 896—Higher contributions dropped, 408—Explanation by the Government actuary, 616
Insurance, Irish, 408
Insurance, National: Funds, 408—Increase of sickness amongst insured persons, 408—Cost of medical benefit, 492—Information relating to insured persons, 493—Registered persons who have not had recourse to doctor, 534—Insurance Department, Ministry of Health, 578—Insurance card, 578—Nurses and unemployment insurance, 578—Pharmacy terms, 617—Cost of health insurance, 617—Insurance practitioners' remuneration, 852, 896—Drugs for panel patients, 898

Parliament, Medical Notes in (*contd.*):
Leprosy in Great Britain, 451
Lip-reading lessons, 366
Liquor traffic, State management, 451, 853
Local Government officers' superannuation, 616
London asylum patients' discharge, 657
London Hospital women students, 657, 777
London University site, 493
Lunacy reform, 617
Lunatics in Chancery, 777
Malaria in ex-service men, 325
Medical boards in West Scotland, 813
Medical examination of Post Office clerks, 493
Medical service at Willesden, 282
Mental defectives, accommodation afforded for by the Lancashire Asylums Board, 409
Mental deficiency, 325
Merchant Shipping (Venereal Disease) Bill, 813
Milk, condensed, 735, 1008
Milk, grading of, 579
Milk, imported, 657
Milk impurities, 325
Milk for mothers and children, 325
Milk supply, pure, 409, 534, 617, 777 898; of Newcastle-on-Tyne, 853
Milk for tuberculous cases, 365
Miners, health precautions for, 853
Miners' safety lamps, 777
Morphine, licences for, 451
Naval estimates, 493
Navy, Army, and Air Force Medical Services, amalgamation of, 493
Neurasthenia, treatment of, 1008
Neurasthenic pensions cases *See* Pensions
Nurses' training, hospital, 813
Nurses' registration, 533
Nurses and unemployment insurance, 578, 777
Orderlies in pensions hospitals, 325
Orthopaedic Hospital at Shepherd's Bush, 325, 365, 450, 854
Pensions: Revision of diagnosis, 365—Wound, 365—Temporary medical staff, 366—Neurasthenic cases, 366—Appeal tribunals, 408—Appeal tribunal statistics, 408—Conditional pensions, 408—Tuberculosis cases, 408 534—Ear affections in pensioners, 451—Clearing houses and pensions clinics, 451—Assessment of, 493—Disability, for tuberculosis, 534—Appeal statistics, 578—Administration debate, 656—Naval disability, 657—Disability, 735—Latest statistics, 735—Ex service blind pensioners, 777—Alteration in rates of, 777—Pensions hospitals statistics, 813—Assessment by Medical Boards, 1008
Public assistance expenditure, 616
Rabies outbreak, the end of the, 325—A new case near Southampton, 853
Railway vouchers for medical examinations, 813
Royal Army Medical Corps, 617
Safeguarding of Industries Act, chemicals under, 579
Schick test for diphtheria, 493 657
School children, medical treatment of, 534
School of Hygiene. *See* Hygiene
School Medical Service, 734
Schools, open-air, and for mentally defective children, proposals for suspended, 493
Service establishments, reduction of, 812
Session, the new, 202, 241
Sewage purification, 735
Small-pox in the British army, 853
Small-pox hospital for Southampton, 617
Small-pox in the Philippines, 579, 813
Spahlinger treatment for tuberculosis, 365
State liquor trading, 777
Strychnine poisoning, accidental, 853
Summer Time Bill, 1008
Thermometers (Clinical) Bill, 409
True, Ronald, the case of, 969, 1008
Tuberculosis cases, 408
Tuberculosis, notifications of and deaths from, 777
Tuberculosis statistics, 451
Unhealthy areas, 777
University education for ex service men, 657
Vaccination of Air Force recruits, 777
Venereal Disease Bill, 813
Venereal disease, 409 - Disinfection policy, 776—Merchant shipping, 813
Water supply, 1008
Women health visitors, salaries, 813
Women medical students, 657, 777
Workmen's compensation, 777

Parliamentary candidates, 333
PARRY, L. A.: Hospital policy of the Association, 621
PARRY, R., honorary freedom of Carnarvon conferred upon, 43
PARRY, R. H.: "After-treatment," 315
PARSONS, Charles, death of, 533; obituary notice of, 584
PARSONS, John Herbert, knighthood conferred upon, 25
PARTHASARATHY, P. (and Mary M. BARRATT and J. C. G. LEDINGHAM): The record of a brief experience with the Sachs-Georgi test, 594 (O)
Parturition chairs, their history and use (C. J. S. Thompson), 721
Pasteur centenary, celebrations at Strasbourg, 613
Pasteur (a play), 966
PATERSON, Donald (and James M. SMELLIE): The value of vaccines in whooping-cough, 713 (O)
PATERSON, D. R.: History of medical endoscopy, 939
PATERSON, Keppie: Induction of premature labour, 481
Pathological investigation, the newer methods of (Mr. Howarth), 605. *See also* Laboratory tests
Pathological Laboratory Assistants Association. *See* Association
Pathologie Médicale de Thérapeutique Appliquée, Traité de: Tomes xvii and xviii, *Tuberculosis*, 106; Tomes xix and xx, *Syphilis*, 147; Tome xx, *Infections à germe connu*, 393
Pathology, comparative (leading article), 487—Correspondence on, 581
Pathology, experimental, 437
Pathology, review of books on, 106, 764
Pathology, vegetable and human, relations between (E. J. Butler), 143
PATON, D. Montgomerie: *Hormone Therapy by Sera, Vaccines, and Drugs*, rev., 955
PATON D. Noël: Etiology of rickets, 351—Rickets, a theory of the metabolic disturbances and of its association with tetany, 379 (O)
PATON, Robert Thomson, C.M.G. conferred upon, 25
PATRICK John: Treatment of myelogenous leukaemia, 481
PATRY, Georges (and C. G. CUMSTON): *Surgical Treatment of Non-Malignant Affections of the Stomach*, rev., 523
PAUCHET, Victor: The after-results of colectomy, 518
PAUL, Frank T.: The Hunterian lecture on prostatic enlargement, 412
PAULI, W.: *Colloidal Chemistry of the Proteins*, rev., 879
PAYNE, W. W.: Certain aspects of pain, 249
PEARSON, Karl: Babies' weights, 780
PEARCE, E. K.: *Typical Flies: a Photographic Atlas*, rev., 608
PEARSE, J. S.: Clothing of natives in relation to tuberculosis, 504
PEARSON, C. V. (and J. C. MATTHEWS): The lymphoidocyte and the Türk cell, 644
PEARSON, F. J., presentation to, 545
PEARSON, W.: Necrosis of the proximal phalanx leaves a flail thumb, 391—Intrathecal tumours of the cervical spinal cord, 522
Pediculicide, bile salt as a vehicle for (B. A. Peters), 264 (O). *See also* Lice
PEDLEY, R. Dennison: Multiple tooth extraction, 80
PEDLEY, Thomas Franklin, obituary notice of, 332
Peking Union Medical College, 241
Peliosis rheumatica, 168, 252—A correction, 252
Pelvic colon. *See* Colon
Pelvic surgery, three years of (W. E. Fothergill), 830 (O)
Pelvimetry in ante-natal cases, routine, 498, 581, 621, 697
Pelvis, pneumoperitoneum of, in gynaecological diagnosis (Lance Impey), 15
PEMBERTON, H. S.: Diet in nephritis, 271
PEMBREY, M. S., elected Fellow of the Royal Society, 373
PENNA, José, bust of unveiled, 665
Penology, medical aspects of (Margery Fry), 840
Pensions hospitals. *See* Hospitals
Pensions Orthopaedic Hospital. *See* Hospital, orthopaedic
Pensions: Administration, 656—Annual report of the work of the Ministry of, 68—Parliamentary notes on, 365, 408, 451, 493, 534, 578, 656, 735, 777, 813, 1008—Tuberculous officers and nurses, 418—Naval disability, 657—Arrangements with Ministry of Health for the provision of tuberculosis treatment, vocational training combined with treatment, etc., for disabled men, 904—Asessment by medical boards, 1008
Peptic ulcer *See* Ulcer
Peptone treatment (A. G. Auld), 835 (O)
PERCIVAL, A. S.: Treatment of squint, 209—First report of the Miners' Nystagmus Committee, 932, 976
PEREMANS, Dr.: The normal stomach, 958
Pericarditis, tuberculous (F. Joselin Jauch), 798
Periodicals, medical, 690
Periodicals, scientific, list of, 71, 693
Perirenal inflation, the Carelli method of (F. Hernaman-Johnson), 91 (O)
Peritonitis, pneumococcal, simulating acute gangrenous appendicitis (J. F. Rey), 347
Peritonitis, acute tubal, diagnosis and treatment of (J. W. Struthers), 349
PERKINS, G.: The technique of bone grafting, 602
Pernicious anaemia. *See* Anaemia
Peroneal tendons. *See* Tendons
PERRY, Walter Dymock, obituary notice of, 584
Persia, awards in the campaigns in, 820
Perth, health of, 696
Pertussis with a leucocytosis of 176,000 (Geoffrey Bourne and J. M. Scott), 387 (O). *See also* Whooping-cough
PESCHER, J.: *L'Entraînement Respiratoire par la Méthode Spiroscopique*, rev., 316
PETERS, B. A.: Bile salt as a vehicle for a pediculicide, 264 (O)
PFISTER, Oskar: *Psycho-analysis in the Service of Education*, rev., 608
PETRI, J., death of, 665
Pharmacology, review of books on, 17
Pharmacopoeia: Of St. Bartholomew's Hospital, 19—Of University College Hospital, rev., 145—Of King's College Hospital, rev., 525
Philip of Nassau (repeated trephinings), 456
PHILIP, Sir Robert: Tuberculosis of the lymphatic system, 129 (O)—The treatment of pneumonia in the older patient, 350—A diplom in tuberculosis, 370
Philippines: Treatment of leprosy in, 240—Small-pox in (parliamentary note), 579, 813
PHILLIPS, Miles: Spasmodic stricture of the uterus, 145—Gynaecological sequelae of genital tuberculosis of childhood, 389
PHILLIPS, P. G.: Suicide in borderland cases, 163
PHILPOT, Mrs. (and others): Hookworm in Cornwall, 406
PHISALIX, Marie: *Animaux Venimeux et Venins*, rev., 482
Photography, review of book on, 63
Phyllosan, 317, 968, 1007
Physical education of girls, 501
Physician on the surgical treatment of empyema, 239
Physicians' Home, New York State, farm presented to, 939
Physics and radiology (Major G. W. C. Kaye), 323
Physiological effects at high altitudes, 966
Physiological problems in obstetrics (R. W. Johnstone), 850
Physiology of life on the Andes. *See* Andes
Physiology and the war, 239
Physio therapeutics, review of book on, 441
PICTON, Lionel Jas.: "Sacrache," 416
PIERCE, Bedford: Lunacy administration, 150—The psychiatric clinic, 477—Presentation to, 585—Recovery in mental cases, 643—Appreciation of James Middlemass, 783
PIKE, J. B.: *Permeating Mastoid Meningitis: A Clinical Note for the General Practitioner*, rev., 395
Piles. *See* Haemorrhoids
PINCH, Hayward: Radium in deep-seated cancers, 959
PINEY, Alfred: Pernicious anaemia and septic anaemia, 541—Stain for blood films, 900
PINKERTON, Charles, obituary notice of, 544
PINNOCK, D. Denham: Osteochondritis coxae, 840—Coxa vara, 840
Pins removed from bladder and prostate (James Allan), 188
PIRIE, William Rattray, obituary notice of, 82
Pistany mud baths, 981
PITT, Newton: Diagnosis and treatment of gastric ulcer, 190, 229
Pityriasis rubra, treatment of obstinate case of, 252
Plague: In Java, 43, 503, 824; in India, 119, 618, 665; in Queensland, 127; in Sydney, 283, 816
Plague, transmission of by rats, 404
Plague in Shakespeare's London, 156
Plant diseases, 931
Plantar extensor response, the diagnostic value of (E. L. Fox), 513 (O)
Plants, "gassed" (J. H. Priestley), 851
Plastic *See* Surgery
PLATT, Harry: Endosteal tumours, 61—*The Surgery of the Peripheral Nerve Injuries of Warfare*, rev., 440—Operation for osteo-arthritis of hip, 563—Excision of the head of the femur in arthritis deformans (osteo-arthritis) of the hip-joint, 672 (O), 817
PLIMMER, Violet G. (and R. H. A. PLIMMER): *Vitamins and the Choice of Food*, rev., 955
PLUMMER, E. C.: Suicide in borderland cases, 371
Plymouth, Public Health Congress, 453
Pneumococcal peritonitis. *See* Peritonitis
Pneumonia in New York, 419
Pneumonia, an analysis (Ambrose W. Owen), 946 (O)
Pneumonia, bacteriology of (Ernest Glynn, L. Digby, and Wallace Jones), 564
Pneumonia treated with creosote, 334
Pneumonia, experimental prophylactic inoculations against: Statement by New York Academy of Medicine, 608
Pneumonia, lobar, eruption resembling varicella in (William Salisbury Sharpe), 14
Pneumonia, lobar, followed by thrombophlebitis of the femoral veins (T. Stenner Evans), 602
Pneumonia neonatorum (Francis J. Browne), 469 (O)
Pneumonia in the older patient, treatment of (R. A. Fleming), 350
Pneumonia, treatment of, 420, 665, 826, 940
Pneumoperitoneum of the pelvis in gynaecological diagnosis (Lance Impey), 15
Pneumothorax, artificial (Neville Cox), 683
Pneumothorax in a boy aged 7: recovery (William B. Martin and Robert Knox), 472 (O)
Pocket book, practitioner's loose-leaf, 880
Poisoning by butter of antimony (William Bell), 917 (O)
Poisoning, food, due to Gaertner's bacillus (Dr. O'Kelly), 682
Poisoning, lead, regulations to prevent, 773
Poisoning by strychnine, accidental (parliamentary note), 853
Polydactylism, hereditary (Roy F. Young), 91 (O)
POMARE, Hon. Maui, K.B.E. conferred upon, 929
POQUELIN. *See* Molière
PORTER, Abraham: Midwives and opium, 124
PORTER, F.: Significance and treatment of glycosuria, 350
Post-anaesthetic complications (G. F. R. Smith), 513 (O). *See also* Anaesthesia
Post-graduate courses: At Berck-Plage, 939—In Edinburgh, 855—In France, 32, 419, 461, 629, 665, 981—In Glasgow, 579—At Lausanne, 665—In London, 116, 159, 167, 244, 295, 577, 615, 655, 686,

694, 703, 743, 785, 894, 932, 939, 981—Existing facilities in London, 686—At the National Hospital, Queen Square, 83—At Newcastle-upon-Tyne, 932—In Paris, 419, 629—In Pennsylvania, 719—At St. Andrews Institute, 171—At Toronto University, 333—In the United States, 719—In Vienna, 28, 38, 81, 167, 466
Post-Graduate Lectures, rev., 842
Post office clerks, medical examination of (parliamentary note), 493
Potassium permanganate in haemorrhage, 982
POTTER, Bernard E.: Scarlatina-like rash in influenza, 296
Potters' shops, the conditions in, 929
POTTS, W. A.: Psychotherapy in relation to obstetrics and gynaecology, 145—The ideal psychiatric clinic, 313
POULTON, E. P.: Treatment of gastric ulcer, 229—Certain aspects of pain, 249
POWELL, Arthur: Therapeutic effect of ipecacuanha in combination with tannic acid, 541
POWELL, W. Wyndham: Treatment of acute gonorrhoea by electrolysis, 37—The irrigation treatment of gonorrhoea, 121
POWERS: Sunlight and rickets, 611
POYNTON, F. John: A case resembling leukaemia, 191—Slipping rib, 516
POZERSKI, M.: Experiments to prevent sea-sickness, 617
Practice, unqualified. *See* Unqualified
Practitioner's loose-leaf pocket book, 880
PRAIN, Sir David, retirement of, 116
PRASAD, Lieut.-Colonel Kanta, obituary notice of, 126
PRATT, C. E.: Oxyuris, 981
Pre-anaesthetic intoxication. *See* Intoxication
Pregnancy, secondary abdominal, following incomplete tubal abortion (Farquhar Murray), 919
Pregnancy, albuminuria in: Discussion at Harveian Society, 520
Pregnancy, complications of, influence of upon infant mortality (Louise McIlroy), 390
Pregnancy, ectopic, case of, occurring twice within four and a half months (Dr. Dougal), 390
Pregnancy, hyperthyroidism in (Leyland Robinson), 230
Pregnancy and menstruation, the relation of the corpus luteum to (W. R. Mackenzie), 343 (O)
Pregnancy, multiple, Caesarean section in (William Fordyce), 192
Pregnancy, ovarian (Dr. Lane), 682
Pregnancy, pernicious vomiting of (Carlton Oldfield), 230, 789 (O)
Pregnancy in a rudimentary uterine horn (Farquhar Murray), 919
Pregnancy, toxaemias of (A. Louise McIlroy), 335 (O)—Correspondence on, 498—Chemical observations on (O. L. V. S. de Wesselow and J. M. Wyatt), 605
Pregnancy. *See also* Gestation
Presbyopia and hypermetropia, an emergency method in (Agnes Estcourt-Oswald), 140, 212
Presbyopia and sight-testing opticians, 781
Presentations, 33, 43, 295, 333, 419, 457, 461, 545, 585, 629, 665, 703, 704, 743, 785, 824, 825, 861, 899, 972
PREST, Edward E.: Treatment of tuberculosis with colloid of calcium, 53 (O)
Preventive medicine, the outlook in (Sir Leslie Mackenzie), 497
Preventive medicine in Soviet Russia, 574
PRIDIE, John Francis, obituary notice of, 251
PRIESTLEY, A. H.: Detoxicated vaccines, 901
PRIESTLEY, J. H.: "Gassed" plants, 851
PRIMMER, J. Boyd: The medical aspect of religious revivals, 44—Influenza, 246
Princess Mary's Wedding Present Fund, 171
Printers, progressive muscular atrophy in, 128
PRITCHARD, Eric, appointed medical director of the Infants' Hospital, Vincent Square, 1011
PRITCHARD, Harold: Hard nodes on fibula and tibia after acute septic meningitis, 145—Collosol manganese in pernicious anaemia, 145
Prizes for research, 200. *See also* Cancer
Profession and approved societies (leading article), 848. *See also* Insurance
Professional Classes Aid Council, 733
Professional protection societies and income tax, 531.—*See also* Income tax
Professional secrecy to be allowed by law in Sweden, 585
Professional secrecy and medical evidence (William A. Brend), 64—Correspondence on, 124, 580—Discussion at Medico-Legal Society, 494, 535
Professor of psychiatry, Sydney, 812
Prohibition, the horrors of, 666
Prohibition and the medical profession, 448
Proprietary medicines. *See* Medicines
Prostate, enlarged, diagnosis and treatment of (A. Fullerton), 229
Prostate, old-age enlargement of (Kenneth M. Walker), 297 (O), 454, 622—Correspondence on, 412, 454, 539, 541, 622, 739
Prostate, early syphilis of (J. E. R. McDonagh), 226
Prostatic calculi (Geary Grant), 188
Protein therapy, inoculation tests for, 19
Psammomas and the choroid plexus (Sir John Bland-Sutton), 213 (O)
Psoriasis, treatment of, 982, 1012
Psychiatric clinic, the ideal (Helen Boyle), 312, 477
Psychiatric milestone (centenary of the Bloomingdale Hospital, New York), 654
Psycho-analysis and osmics, 904
Psycho-analysis, review of books on, 607, 645
Psychological analysis in diagnosis (T. S. Good), 389
Psychology, Industrial, National Institute of: annual meeting, 460, 532
Psychology, the modern (R. J. A. Berry), 28
Psychology, practical, the Maudsley courses in, 491
Psychology, review of book on, 523
Psychoses, modern methods in the treatment of (R. G. Rows), 103
Public assistance expenditure (parliamentary note), 616
Public Health Congress. *See* Congress
Public health and the Insurance Act, 740
Public health in North America, a half-century of, 804, 845, 881, 924, 961, 1003—Leading article, 1003
Public health, review of books on, 483, 645, 765
Public Health (Officers) Act, 1921, 575
Public Health Service, U.S.A., arranges for wireless telephone messages *re* advice on the health of the average man and woman, 127
Public health statistics, 856, 900. *See also* Industrial employment
Public health training in America, 533
Publications, new and forthcoming, 333, 704, 861, 923, 1011
Puerperal infection, a method of preventing (F. H. Whyte), 638 (O)
Puerperal septicaemia, factors in the causation of (Evelyn D. Brown), 348
Pulmonary sign in acute infections of the biliary tract (D. P. D. Wilkie), 908 (O)—Correspondence on, 974, 1010
Pulsatilla in dysmenorrhoea (Frederic C. Coley), 13 (O)
Pulse tracings and their meaning (C. O. Hawthorne), 315
PUNCH, A. Lisle (and A. Hope GOSSE): The value of the complement-fixation test in the exclusion of active pulmonary tuberculosis, 509 (O)
PURSER, F. C.: Case of meningitis which recovered, 920
PURSLOW, C. E.: Necrotic submucous fibroid removed by abdominal hysterectomy, 565
PURSLOW, Dr.: Specimen of foetus compressus, 720
Pyelography (Frank Kidd), 748 (O), 935
Pyelography, three cases illustrating the value of (Clifford Morson and H. P. Winsbury White), 257 (O)

Q.

Quackery in relation to diseases of the eye (leading article), 446—Correspondence on, 499
Queen Newspaper Book of Travel, rev., 923
Queensland, plague in, 127
QUERVAIN. *See* DE QUERVAIN
Quinidine in auricular fibrillation (John Hay), 564—(W. T. Ritchie), 801
Quinine hydrochloride, the solubility of (J. Hamilton Crawford), 874 (O)
Quinine, the nauseating effect of, 128
Quinine and the quinine controversy (Malcolm Watson), 561

R.

RABAUD, Étienne: *Eléments de Biologie Générale*, rev., 686
Rabies outbreak, the end of the (parliamentary note), 325
Rabies near Southampton (parliamentary note), 853
Radio-diagnosis, review of books on, 18
Radiology and physics (Major G. W. C. Kaye), 323
Radiotherapy, deep-seated, discussion at Congress of Radiology, 959
Radiotherapy, review of books on, 273, 685, 841
Radium: Discussion at Congress of Radiology, 959
Radium applicator forceps, 842
Radium emanation, results of work with (W. C. Stevenson), 391
Radium, effects of gamma rays from a large quantity of, 405
Radium Institute, London: Annual report, 356—Annual report of the Manchester Institute, 395—New institute opened at Naples, 419
Radium, medical uses of, 405
Radium, menopause, and asthma (J. N. MacBean Ross, with a note by Sir Humphry D. Rolleston), 12 (O)—Correspondence on, 416, 455
Radium, purchase of by the city of Paris for cancer treatment in public hospitals, 432
Radium radiation, skin effects of, 448
Radium therapy (Robert Knox), 631 (O)
Railway vouchers for medical examinations (parliamentary note), 813
RAINY, Harry: The significance and treatment of glycosuria, 350
RALPHS, Gerald: The operation of cholecystgastrostomy, 14
RAM, Scott: Cause of death in electrical shock, 479
RAMON Y CAJAL, national demonstration on the occasion of the retirement of, 704
RAMSAY, W. R.: *Care and Feeding of Infants and Children*, rev., 356
RANSON, S. W.: *The Anatomy of the Nervous System from the Standpoint of Development and Function*, rev., 231
RANVIER, Louis, obituary notice of, 937
RAPHAEL, C.: Hospital lighting, 721
"Rat barrack," 940
Rat-bite fever. *See* Fever
Rat extermination in Berlin, 101
Rats and Mice Destruction Act, 1919: Suggested transfer of administration of to the Ministry of Health, 252
Rats as transmitters of plague, 404. *See also* Plague
RAVENEL, M. P. (editor): *A Half-century of Public Health*, rev., 804
RAY, J. Howson: Large renal calculus of unusual size and shape, 314
RAYNER, Dr: Rupture of uterus during natural delivery, 720
RAYNER, Edwin, obituary notice of, 169—Estate of, 545
READ, Stanford: Recovery in mental cases, 643
Rectum, inflammatory stricture of (Henri Hartmann), 269
Red Cross clinics at Kensington, 33, 284, 855
Red Cross Societies, League of, general assembly, 373
Red Cross Society, Indian, 119
Red Cross war work in Scotland, 33
REDDING, J. M.: Diagnosis of gastric ulcer, 189
REECE, Richard J.: Appreciation of Reginald Anstruther Farrar, 41
REED, Dr.: Child of 4 with extraordinary malformation which was present at birth, 642
REED, John Arthur: Torn splenic artery—splenectomy, 101
REED, Colonel Joseph, knighthood conferred upon, 26
REES, Ferdinand: Hospital policy, 501
Registrar-General for Scotland's report, 1005
Registrar-General's returns. *See* Vital statistics
Registration and Education State Department, Illinois, alleged irregularities in issuing licences and certificates, 779
REID, George, presentation to, 861
REID, Sir G. Archdall: Influenza, 207—Prevention of venereal disease, 247, 413, 582—Methods of stomach examination, 958
REID, William C., bequests of, 111, 127
REID, W. L.: Medical men and alcohol, 537
REINDORF, A.: *Die Wurmfortsatzenündung*, rev., 393
REISS, Captain R. L.: Town planning and the medical profession, 920
Relapsing fever. *See* Fever
Religious revivals. *See* Revivals
Remedial exercises in scoliosis. *See* Scoliosis
Remuneration, medical. *See* Medical
Renal disease, review of books on, 146. *See also* Kidney
Renal efficiency tests (leading article), 728
Renal infection, the route of (Kenneth Walker), 561
RENSHAW: Antiseptic dyes, 612
RENSHAW, ARNOLD (and Thomas H. FAIRBROTHER): The etiology and treatment of diabetes, 674 (O), 818, 933
RENTON, J. Mill: Septic infections of the bladder and kidney, 59
RENTOUL, J. L.: Tuberculin in asthma, 212
RENTOUL, J. S.: Clinical aspects of abdominal tuberculosis, 457
Reporting of the Sections (leading article), 928. *See also* Association
Reports of societies. *See* Societies
Reproductive glands. *See* Glands
Reproductive organs and mental disorders (Sir Frederick W. Mott), 463 (O). *See also* Mental
Research Defence Society. *See* Society
Research Institute: Scottish Western Asylums report, 696
Research, prizes for, 200. *See also* Cancer
Respiratory appliances, new bi-monthly publication—*Safety News and Chronicle*, 503
Rest treatment of acute infection of knee-joint (Sir John O'Conor), 182 (O)
Resting metabolism of children and adults in Switzerland (Leonard Hill, J. Argyll Campbell, and Bernard Hudson), 385 (O)
Resuscitation after apparent death (Gilbert R. A. Armstrong), 141—(A. H. Southam), 186—Correspondence on, 416, 462, 662
Retina, detachment of, probably due to exposure to light during an eclipse (N. Bishop Harman and Peter Macdonald), 637 (O)

Reviews of Books:

Abderhalden's reaction: Die Abderhaldensche Reaktion, mit Besonderer Berüchsichtigung ihrer Ergebnisse in der Psychiatrie (G. Ewald), 197
Advice to a Wife on the Management of Her Own Health (Pye Chavasse), 108
Aesculapius: L'Esprit d'Esculape (Dr. Cabanès and Dr. Witkowski), 923
African Native Medical Corps in the East African Campaign (Major G. J. Kenne and Captain D. G. Tomblings), 484
Analysis, Introduction to Qualitative Chemical (Th. W. Fresenius), 62
Anatomy: Manuel d'Anatomie Humaine (Georges Gérard), 922
Anatomy of the Human Orbit and Accessory Organs of Vision (S. E. Whitnall), 146

Reviews of Books (*continued*):
Anatomy of the Nervous System from the Standpoint of Development and Function (S. W. Ranson), 231
Animaux Venimeux et Venins (Marie Phisalix), 482
Annals of Medical History. *See* Medical
Appendicitis and Worms: Die Wurmfort Satzentzündung (A. Reindorf), 393
Athlete, How to become an Efficient (John B. McDougall), 62
Autonomic Nervous System, Part I (J. N. Langley), 230
Bacterial Infection: Précis de Physiologie Microbienne (M. Arthus), 148
Bacteriology, Agricultural and Industrial (R. E. Buchanan), 442
Bacteriology and Haematology, Clinical, for Beginners (W. D'Este Emery), 18
Bactériophage, Le, son Rôle dans l'Immunité (F. d'Herelle), 354
Balkan Log, My (J. Johnston Abraham), 196
Beloved Ego (Wilhelm Stekel), 607
Benign Stupors: A Study of a New Manic-Depressive Reaction Type (August Hoch), 194
Biology: Eléments de Biologie Générale (Etienne Rabaud), 686
Birds, British, Practical Handbook of, 19
Bladder: Maladies de la Vessie, 482
Blind Soldier: Über das Schicksal der Kriegsblinden und ihre Versorgung, mit besonderer Berücksichtigung der Kriegsblinden Schlesiens (K Uhthoff), 356
Blood Transfusion (Geoffrey Keynes), 802
Blood Vessels: Surgical Exposure of the Deep-seated (J. Fiolle and J. Delmas), 354
Botany: An Introduction to the Structure and Reproduction of Plants (F. E Fritch and E. J. Salisbury), 686
Botany for Students of Medicine and Pharmacy (F. E. Fritch and E. J. Salisbury), 686
Bowel Diseases in the Tropics: Cholera, Dysentery, Liver Abscess, and Sprue (Sir Leonard Rogers), 231
Boy in Industry and Leisure (Rev. R. R. Byde), 233
Brain (Vol. xliv, Part IV), 395
Brain, the Mechanism of, and the Function of the Frontal Lobes (Leonardo Bianchi), 802
British Journal Photographic Almanac and Photographer's Daily Companion, 1922 (edited by George E Brown), 63
Bureau of Laboratories (Foot of East 16th Street), City of New York, Collected Studies from, 149
Cancer of the Larynx, Intrinsic, and the Operation of Laryngo Fissure (Irwin Moore), 607
Cardiac Arrhythmia and the Neocardiology (A. Webster), 921
Catalysis and its Industrial Applications (E. Jobling), 232
Cataract and its Treatment (Lieut.-Col. H. Kirkpatrick), 194
Chavasse's Advice to a Wife, 108
Chemical Analysis. *See* Analysis
Chemical Dictionary: A Compendious Encyclopaedia (C. T. Kingzett), 647
Chemistry of the Carbocyclic Compounds (V. von Richter), 685
Chemistry and Civilization (A. S. Cushman), 647
Chemistry, General, Introduction to: An Exposition of the Principles of Modern Chemistry (H. Copaux), 647
Chemistry, Inorganic, Recent Advances in (A. W. Stewart), 646
Chemistry, Organic, or Chemistry of the Carbon Compounds (V. von Richter), 685
Chemistry, Organic, An Introduction to (D. Ll. Hammick), 232
Chemistry, Organic: Laboratory Manual for Medical Students (M. Steel), 232
Chemistry, Organic, for Medical, Intermediate Science, and Pharmaceutical Students (A. Killen Macbeth), 232
Chemistry, Organic, Recent Advances in (A. W. Stewart), 646
Chemistry, Physical, Recent Advances in (A. W. Stewart), 646
Chemistry, Physical A System of: Vol. II, Thermodynamics (W. C. McC. Lewis), 647
Chemistry of Plant Products, Introduction to: Vol I, On the Nature and Significance of the Commoner Organic Compounds in Plants (P. Haas and T. G. Hill) 647
Chemistry, Practical Physiological (P. B. Hawk), 274
Chemistry of Synthetic Drugs (Percy May), 108
Children's Diseases, Aids to the Diagnosis and Treatment of (J. McCaw), 233
Children's Diseases: Leitfaden der Kinderkrankheiten für Studierende und Aerzte (W. Birk), 232
Circulatory Disease in General Practice: The Clinical Study of the Early Symptoms and Treatment of (R. M. Wilson), 148
Colloidal Chemistry of the Proteins (W. Pauli), 879
Colloids, An Introduction to the Physics and Chemistry of (E. Hatschek), 442
Conception of Repression (Girindrashekhar Bose), 608
Cookery for Dyspeptics (G. Herschell), 63
Coprologie Clinique, Manuel de (R. Goiffon), 18
Coué, Emile: The Man and his Work (Hugh Macnaghten), 842

Reviews of Books (*continued*):
Crowley's Hygiene of School Life (C. W. Hutt) 484
Cystoscopy: Handbuch der Cystoskopie (Leopold Casper), 19
Cystoscopy: Kystoskopischer Atlas (E. Wossidlo), 232
Dawn of Modern Medicine (A. H. Buck), 196
Defective Delinquent and Insane, the Relation of Focal Infections to their Causation, Treatment, and Prevention (Henry A. Cotton), 923
Dental Art, a Century of, 608
Dental Mechanics, Golden Rules of (H. Osborn), 232
Dental Surgery and Pathology, Notes on (T. W. Widdowson), 18
Dentists Register for 1922, 485
Depths of the Soul (Wilhelm Stekel), 607
Dermatology: Lehrbuch der Hautkrankheiten für Aerzte und Studierende (Max Joseph), 647
Dermatology, an Introduction to (Norman Walker), 567 (*See also* Skin diseases)
Diabetes, its Causation and Treatment, with Special Reference to the Tropics (Lieut.-Col. Ernest E. Walters), 1000
Diabetes: Über den Jetzigen Stand der Diabetestherapie (Carl von Noorden), 354
Diagnosis, Clinical (C. P. Emerson), 18—A correction, 64
Diagnosis, Clinical Surgical, for Students and Practitioners (F. de Quervain), 231
Diagnosis of Disease, Symptoms in the (H. A. Hare), 232
Diagnostic Errors: Diagnostische und therapeutische Irrtümer und deren Verhütung innere Medizin (J. Schwalbe), 395
Dictionary, Chemical (C. T. Kingzett), 647
Digestive Organs, Diseases of, with special reference to their Diagnosis and Treatment (C. D Aaron), 233
Disobedient Kids (Bozena Němcová), 19
Drugs, Synthetic, The Chemistry of (Percy May), 108
Duodenum, Surgery of (James Sherren), 17
Dynasty of Doctors (Alex. Maxwell Adams), 880
Dysentery Sequelae: Nachkrankheiten de Ruhr (H. Strauss), 63
Edge of the Jungle (W Beebe), 957
Edinburgh Obstetrical Society's Transactions, vol. xli, 803
Education of Behaviour: a Psychological Study (I. B Saxby), 484
Electricity from Hot Bodies, Emission of (O. W. Richardson), 63
Electricity: Leitfaden der Elektrodiagnostik und Elektrotherapie (T. Cohn), 233
Electronic Conception of Valence and the Constitution of Benzine (H. S. Fry), 647
Electrotherapy and Diagnosis: an Essay on the History of (Hector A. Colwell), 568
Electrotherapy, the Principles of, and their Practical Application (W. J. Turrell). 606
Embryology: Traité d'Embryologie des Vertébrés (A. Brachet), 879
Encephalitis: L'Encéphalite Léthargique (Professor Achard), 802
Encyclopédie française d'Urologie, Tome iv: Maladies de la Vessie (edited by A. Pousson and E. Desnos), 482
Endocrinology: the Organs of Internal Secretion: their Diseases and Therapeutic Application (I. Geikie Cobb), 524
Enteroptosis: Die Prophylaxe und Therapie der Enteroptose (L. Knapp), 686
Evolution, Genetics and Eugenics, Readings in (H. H. Newman), 647
Ex-Service Man and Woman, the Rights of the (W. Sherren), 64
Female Ailments, Common, Treatment of (Frederick John McCann), 355
Fevers, Manual of (C. B. Ker), 646
First Aid Atlas of the Arteries (H. C. Orrin), 841
Flies, the Early Stages of Tabanidae [Horse Flies] (Werner Marchand), 803
Flies, Typical, a Photographic Atlas (E. K. Pearce), 608
Focal Infections and Insanity (Henry A Cotton), 923
Food and Dietetics (Robert Hutchison), 273
Fractures, On Modern Methods of Treating (E. W. Hey Groves), 394
Fractures, Treatise on (J. B. Roberts and J. A. Kelly), 569
Functional Nervous Disorders. *See* Nervous
Gall Stones: La Lithiase Biliaire (A. Chauffard), 685
General Medical Council and its Various Committees: Minutes of for the year 1921, with Fourteen Appendices, 485—General Index to the Minutes of the General Medical Council, of its Executive and Dental Committees, and of its Three Branch Councils, 1903–21, 485
Girl, Care of the Adolescent: A Book for Teachers, Parents, and Guardians (Phyllis Blanchard), 525
Glaucoma, A Treatise on (Lieut.-Colonel R. H. Elliot), 841
Graves's Disease: Ligeiras Reflexoes Sobre a Etiopathogenia e o Tratamento da Molestia de Graves (Cassio de Rezende), 394
Guy's Hospital Reports, vol. lxxi (edited by Arthur F. Hurst), 482—Vol. lxxi, No. 2, 956
Gynaecology, the Practitioner's Manual of (A. C. Magian), 922

Reviews of Books (*continued*):
Gynaecology: Chirurgie de l'Appareil Génital de la Femme (R. Proust and J. Charrier), 957
Hardy, Thomas: Pages from the works of (Ruth Head), 956
Hazell Annual and Almanack for 1922, the New (edited by T. A. Ingram), 196
Headache: Kurze praktische Anleitung zur Erkennung aller Formen des Kopf schmerzes (Dr. Lobedank), 608
Head Injuries: Traumatismes cranio-cérébraux (H. Duret), 764
Health in Few Words (R. H. Firth), 724
Heart: Etude anatomo-radiologique des vaisseaux de la base du coeur, vus de face (Robert Chaperon), 685
Heart Rhythms (Paul Dudley Lamson), 922
Heredity in the Light of Recent Research (L. Doncaster), 724
History of Medicine. *See* Medical *and* Medicine
Hormone Therapy by Sera, Vaccines, and Drugs (D. Montgomerie Paton), 955
Hot Springs of New Zealand (Arthur Stanley Herbert), 195
How to be Useful and Happy from Sixty to Ninety (A. Lapthorn Smith), 316
Hygiene of the School Child (Lewis M. Terman), 723
Hygiene of School Life, Crowley's (C. W. Hutt), 484
Hyperpiesia and Hyperpiesis (Hypertension): A Clinical, Pathological, and Experimental Study (H. Batty Shaw), 441
Industrial Fatigue and Efficiency (H. M. Vernon), 16
Infancy: Science de l'Enfance pour le développement général des Tout-Petits (Madame Bérot-Berger), 148
Infant Feeding Simplified: with eighty illustrative cases (R. H. Dennett), 274
Infants and Children, Cure and Feeding of (W. R. Ramsey), 356
Infections à germe connu, 393
Influenza and its Pulmonary Complications Studies in (D. Barty King), 62
Influenza: Essays by Several Authors (edited by F. G. Crookshank), 999
Insanity and Mental Deficiency in Relation to Legal Responsibility; a Study in Psychological Jurisprudence (William G. H. Cook), 146
Insomnia: Die Schlafstörungen und ihre Behandlung (L. E. Bregman), 395
Internal Secretion and the Ductless Glands (Swale Vincent), 879
Jaw and Palate Deformities: Über Wachstum und Verbildung des Kiefers und der Nasenscheidewande, auf Grund Vergleutender Kiefermessungen und experimentelles Untersuchungen über Knockenwachstum (Gustav Franke), 231
"Journal of Orthopaedic Surgery" in future to be known as the "Journal of Bone and Joint Surgery," 317
Kettle Songs (Habberton Lulham), 923
Laboratory Diagnosis, The Essentials of (F. A. Faught), 483
Laboratory Reports: Comment Interpréter en Clinique les Réponses de Laboratoire (Hugel, Delater, and Zoeller), 317
Latin, Medical and Pharmaceutical, for Students of Medicine and Pharmacy (R. R. Bennett), 803
Legacy of Greece (by various authors, edited by R. W. Livingstone), 193
Lenticular Degeneration: La Dégénérescence Hépato-lenticulaire: Maladie de Wilson—Pseudo-Sclérose (H. C. Hall), 607
L'Esprit d'Esculape (Drs. Cabanès and Witkowski), 923
Leucosis of Fowls and Leucemia Problems (Vilhelm Ellermann), 721
Light. *See* Electricity *and* Roentgen
Limbless, Handbook for the (edited by G. Howson), 107, 274
Love, Marriage, Birth Control (Lord Dawson of Penn), 105
Lunacy Administration Conference, Official Report, 647
Malaria in the Federated Malay States, Prevention of (M. Watson), 17
Marriage, Safe, a Return to Sanity (Ettie A. Rout), 923
Mastoid Meningitis, Permeating: A Clinical Note for the General Practitioner (J. B. Pike), 395
Materia Medica and Pharmacy for Medical Students, with an Appendix on Incompatibility (R. R. Bennett), 274
Materia Medica and Therapeutics (J. Mitchell Bruce and Walter J. Dilling), 957
Mayo Clinic, Rochester, Minnesota: Collected Papers, vol. xii, 523
Medical Annual (1922), 722
Medical Examination for Life Insurance (T. D. Lister), 272
Medical History, Annals of, III, No. 3 (edited by F. R. Packard), 196; No. 4, 524
Medical History. *See also* Medicine
Medical Jurisprudence and Toxicology, Handbook of (W. A. Brend), 880
Medical Ophthalmology (R. Foster Moore), 723
Medical and Pharmaceutical Latin for Students of Medicine and Pharmacy (R. R. Bennett), 803

Reviews of Books (*continued*):
Medical Register for 1922, 485
Medicine, Introduction to the History of (Lieut.-Colonel Fielding H. Garrison), 921
Mental Hygiene of Childhood (W. A. White), 525
Merck's Jahresberichte ueber Neuerungen auf den Gebieten der Pharmakotherapie und Pharmazie, 232
Michelin Guide to Great Britain, 1001
Microscope, The (Conrad Beck), 196
Midwifery, Manual of (W. E. Fothergill), 764
Midwifery, Synopsis of (Aleck W. Bourne), 194
Midwives, A Textbook for (John S. Fairbairn), 63
Midwives and Maternity Nurses, Handbook for (W. E. Fothergill), 356
Morrison, Steinie, The Trial of (edited by H. Fletcher Moulton), 568
Mother, the Prospective: A Handbook for Women during Pregnancy (J. Morris Slemons), 525
Motherhood, The Threshold of: A Handbook for the Pregnant Woman (R. Douglas Howat), 525
My Moorland Patients (R. W. S. Bishop), 878
Naval Operations, Vol. ii (Sir Julian S. Corbett), 195
Néoplasmes, Les, first number, 317
Nerve Exhaustion (Maurice Craig), 721
Nerves, Peripheral, Surgery of the Injuries of, in Warfare (H. Platt), 440
Nerves, Peripheral: Krankheiten des Rückenmarks und der peripherischen Nerven (R. Cassirer), 395
Nervous Disorders, Functional; Their Classification and Treatment (Donald E. Core), 840
Nervous Symptoms: Diagnose der Simulation nervöser Symptome auf Grund einer differentialdiagnostischen Bearbeitung der einzelnen Phänomene (S. Erben), 569
Nervous System, the Anatomy of, from the Standpoint of Development and Function (S. W. Ranson), 231
Nervous System, the Autonomic, Part I (J. N. Langley), 230
Nervous System, the Central, the Forms and Functions of (F. Tilney and H. A. Riley), 566
Nervous System, Pathology of the (E. Farquhar Buzzard and J. Godwin Greenfield), 106
Nursing, a Short History of, from the Earliest Times to the Present Day (Lavinia L. Dock and Isabel Maitland Stewart), 684
Oedema and Nephritis (Martin H. Fischer), 272
Ophthalmology, Medical (R. Foster Moore), 723
Orbit and Accessory Organs of Vision, Anatomy of (S. E. Whitnall), 146
Organic Chemistry. *See* Chemistry
Otology: Gerichtliche Ohrenheilkunde (R. Imhofer), 524
Parasitology, Elementary (Thos. T. O'Farrell), 607
Pathologie Médicale et de Thérapeutique appliquée:—Volumes xvii and xviii: Tuberculose, 106; Volume xix: Syphilis généralisée et syphilis de l'adulte, 147; Volume xx: Syphilis acquise et héréditaire de l'enfance; Syphilis héréditaire tardive, 147; Volume xv: Infections à germe connu, 393
Pathology: Handbuch der Allegemeinen Pathologie (F. Marchand), 196
Pathology, Textbook of (Alfred Stengel and Herbert Fox), 764
Peripheral Nerve. *See* Nerve
Pharmocology, Manual of (W. E. Dixon), 17
Pharmacopoeia: Of St. Bartholomew's Hospital, 19; of King's College Hospital, 525; of University College Hospital, 149
Pharmacopoeias and Formularies, a Compendium of the (C. J. S. Thompson), 803
Physical Diagnosis (W. D. Rose), 194
Physiological Chemistry, Practical (P. B. Hawk), 274
Physiology, Experimental (Sir Edward Sharpey Schafer), 608
Physiology, Manual of, for Students and Practitioners (H. Willoughby Lyle and D. de Souza), 442
Physiology: Pathologische Physiologie—I: Die Funktionsstörungen des Herzens, des Gefässe und des Blutes (H. E. Hering), 19
Physio-therapeutics, Manual of (Thomas Davy Luke), 441
Plague: La Peste: Etiologie, Formes Cliniques, Prophylaxie et Traitement (E. Joltrain), 232
Post-graduate Lectures, 842
Practice of Medicine in the Tropics (edited by Lieut.-Colonel W. Byam and Major R. G. Archibald), 315
Practitioner's Loose-Leaf Pocket Book, 880
Preventive Medicine, Practical (Mark F. Boyd), 645
Prostitution und Tuberkulose (I. W. Samson), 196
Psychical Energy: La Genèse de l'Energie Psychique (J. Danysz), 316
Psychiatric Diagnosis: Erkennung der Geisterstörungen [Psychiatrische Diagnostik] (W. Weygandt), 485
Psycho-Analysis: Various Works on (W. Stekel), 607
Psycho-Analysis in the Service of Education (Oskar-Pfister), 608
Psycho analytic Study of the Family (J. C. Flügel), 645
Psychology and the Teacher, The New (H. Crichton Miller), 523
Reviews of Books (*continued*):
Public Health Chemical Analysis (Robert C. Frederick and Aquila Forster), 765
Public Health: Manual of (W. G. Aitchison Robertson), 483
Public Health, Practical Preventive Medicine (Mark F. Boyd), 645
Quarterly Cumulative Index to Current Medical Literature, 569
Quartz Lamp: Anleitung und Indikationen für Bestrahlungen mit der Quarzlampe (H. Bach and others), 233
Queen Newspaper Book of Travel, 923
Radio-activity and Radio-active Substances (J. Chadwick), 274
Radio-diagnosis: Le Radiodiagnostic dans la Tuberculose Pleuro-pulmonaire (Manoel de Abren), 18
Radiography: The Principles of (J. A. Crowther), 841
Radiology: Etude anatomo-radiologique des vaisseaux de la base du coeur, vus de face (Robert Chaperon), 685
Readings in Evolution, Genetics, and Eugenics (H. H. Newman), 647
Renal Disease, Modern Methods in the Diagnosis and Treatment of (Hugh Maclean), 146
Respiratory Training: L'Entraînement Respiratoire par la Méthode Spiroscopique (J. Pescher), 316
Revista de Medicina Legal de Cuba, 686
Ringworm and its Successful Treatment (John P. Turner), 647
Röntgen Rays: Die Bedentung der verschiedenartigen Strahlen für die Diagnose und Behandlung der Tuberkulose (R. Gassul), 233
Röntgen Rays: Die physikalischen und technischen Grundlagen der Messung und Dosierung der Röntgenstrahlen (F. Voltz), 233
Röntgen Rays: Die Röntgendiagnostik der Magenkrankheiten (M. Faulhaber and L. Katz), 274
Röntgen Rays: Dosierungstafeln für die Röntgentherapie (F. Voltz), 233
Röntgen Rays: Grundriss der gesamten Röntgendiagnostik innerer Krankheiten für ärtze und studierende (Fritz Munk), 273
Röntgen. *See also X* rays *and* Radiology
Royal Devon and Exeter Hospital (J. Delpratt Harris), 841
Safe Marriage, a Return to Sanity (Ettie A. Rout), 923
Sanitation in India (J. A. Turner and B. K. Goldsmith), 956
Serology: Grundriss Serologie (A. Ascoli), 723
Sex and Sexual Aberrations: Nervöse Angstzustände (W. Stekel), 607; Onanie und Homosexualität (W. Stekel), 607; Die Geschlechtskälte der Frau (W. Stekel), 607; Die Impotenz des Mannes (W. Stekel), 607
Sex for Parents and Teachers (W. L. Stowell), 525
Sex and Psycho-analysis, Twelve Essays on (William Stekel), 607
Skin Diseases (R. L. Sutton), 567
Skin Diseases in General Practice (H. Davis), 567
Skin Diseases, an Introduction to (Norman Walker), 567
Skin Diseases, a Treatise on, for Advanced Students and Practitioners (H. W. Stelwagon), 566
Skin Diseases: Lehrbuch der Hautkrankheiten für Ärzte und Studierende (Max Joseph), 647
Soaps and Proteins: their Colloid Chemistry in Theory and Practice (M. H. Fischer, G. D. McLaughlin, and Marion O. Hooker), 274
South America from a Surgeon's Point of View (Franklin H. Martin), 355
Spiritualism: The Fallacies of (A. Leonard Summers), 957
Stomach Affections, Surgical Treatment of Non-malignant (C. G. Cumston and Georges Patry), 523
Stomach Diseases, a Manual of (W. MacLennan), 484
Stomach Surgery (James Sherren), 17
Stools: Manuel de Coprologie Clinique (R. Goiffon), 18
Surgery of the Upper Abdomen (J. B. Deaver and A. P. C. Ashhurst), 62
Surgery, Operative, Manual of (J. F. Binnie), 395
Surgery, a Pocket (D. C. L. Fitzwilliams), 394
Surgery of the Stomach and Duodenum, Lectures on (James Sherren), 17
Surgery, Textbook of, for Students and Practitioners (John A. C. Macewen), 646
Surgical Cases, the Clinical Examination of: a Handbook for the Use of Students and Practitioners (J. Renfrew White), 765
Surgical Diagnosis, *See* Diagnosis
Surgical Exposure of the Deep-seated Blood Vessels (J. Fiolle and J. Delmas), 354
Surgical Subjects, Essays on (Sir Berkeley Moynihan), 271
Synthetic Drugs. *See* Drugs
Syphilis acquise et héréditaire de l'enfance; syphilis héréditaire tardive (P. Fernet and Edmond Fournier), 147
Syphilis généralisée et syphilis de l'adulte (by various authors), 147
Syphilis: Traitement de la syphilis héréditaire et de la syphilis infantile acquise (G. Lacapère and Pierre Vallery-Radot), 1000
Reviews of Books (*continued*):
Syphilis, Reaction for: La réaction du benjoin colloïdal et les réactions colloïdales du liquide céphalo-rachidien (Georges Guillain, Guy Laroche, and P. Lechelle), 765
Syphilis: Technique de la réaction de déviation du complément de Bordet et Gengou (P. F. Armand-Delille and L. Nègre), 686
Tabanidae [Horse-flies], the Early Stages of (Werner Marchand), 803
Teat and Capillary Glass Tube, Technique of (Sir Almroth Wright and Leonard Colebrook), 522
Therapeutics: L'année thérapeutique (L. Cheinisse), 723
Therapeutics: Taschenbuch der Therapie (edited by M. T. Schnirer), 1001
Tracheo-bronchoscopy, Textbook of [Technical and Practical], (M. Mann), 684
Tuberculin: Recherches sur le "Principe Curateur" contenu dans la Tuberculine (J. Gabrilovitch), 442
Tuberculose, 106
Tuberculosis: La Tuberculose Pulmonaire. Études de Phtisiologie Clinique et Sociale (L. Bernard), 316
Tuberculosis: Die Bedentung der verschiedenartigen Strahlen für die Diagnose und Behandlung der Tuberkulose (R. Gassul), 233
Tuberculosis, Domiciliary Treatment of (F. Rufenacht Walters), 106
Tuberculosis: Die Lungentuberkulose: ihre Pathogenese, Diagnostik und Behandlung (Felix Klemperer), 106
Tuberculosis: Tuberculose (by a number of authors), 106
Tumours, Cerebral: Les Tumeurs du Cerveau (V. Christiansen), 273
Tumours, Innocent and Malignant (Sir John Bland-Sutton), 392
Typhus, Etiology and Pathology of (S. Burt Wolbach, John L. Todd, and Francis W. Palfrey), 955
Union Médicale du Canada, 197
Urology: Encyclopédie française d'Urologie. Tome IV, Maladies de la Vessie, 482
Urology, the Practice of (C. H. Chetwood), 272
Urology: Traité Chirurgicale d'Urologie, Vols I and II (F. Legueu), 107
Urology: Traité d'Urologie, Vols. I and II (G. Marion), 107
Venereal Diseases: Lehrbuch der Geschlechtskrankheiten für Aerzte und Studierende (M. Joseph), 64
Venereal Disease, National Council for Combating: Sixth Annual Report, 108
Venomous Animals: Animaux Venimeux et Venins (Marie Phisalix), 482
Vienna: Die Wiener Medizinische Schule im Normärz (Max Neuburger), 803
Vitamins and the Choice of Food (Violet G. Plimmer and R. H. A. Plimmer), 955
Vitamins: Essential Food Factors (B. Harrow), 63
Vitamins, The (H. C. Sherman and S. L. Smith), 840
Wassermann Test (C. F. Craig), 441
Willing's Press Guide, 108
Woman from Bondage to Freedom (R. H. Bell), 525
Women, Diseases of (edited by Comyns Berkeley, H. Russell Andrews, and J. S. Fairbairn), 722
Women, Manual of Diseases of (W. E. Fothergill), 722
X ray Atlas of the Arteries, First Aid (H. C. Orrin), 841
X-Ray Diagnosis: Die Roentgendiagnostik der Inneren Erkrankungen (Herbert Assmann), 148
X rays: L'emploi des Rayons X en médecine (Paul Duhem), 841
X Rays and Radium in the Treatment of Diseases of the Skin (G. M. MacKee), 273
X Rays *See also* Röntgen *and* Radiology
Year Book of the Scientific and Learned Societies of Great Britain and Ireland, 108
Zoology for Medical Students (J. Graham Kerr), 567

Revista de Medicina Legal de Cuba: First member, 686
Revista de medicina y Cirugia, twenty-fifth anniversary of, 127
Revivals, religious, medical aspects of, 44—Effects of in N.E. Scotland, 245
Revivalism in the east of Scotland, 33
REY, J. F.: Pneumococcal peritonitis simulating acute gangrenous appendicitis, 347—Diabetes mellitus: A suggestion, 622—"Pernicious anaemia," aplastic or toxic, 679 (O)—Vaccines in whooping-cough, 781
REYNOLDS, Cecil E.: Further observations upon external hydrocephalus, 950 (O)
Rheumatic fever, etiology of, 540
Rheumatic fibrositis, Austrian Tyrol spas for 629
Rheumatism, acute, and erythema nodosum (Hugh Wetherbee), 995
Rheumatoid arthritis due to infection of the nasal accessory sinus (P. Watson-Williams), 88 (O)
Rheumatoid arthritis and its treatment (Leonard Dobson), 998
RHODES, E. C.: *On the Relationship of Conditions of the Teeth in Children to Factors of Health and Home Environment*, 569
Rhodesian skull (G. Elliot Smith), 197

Rib, slipping (R. Davies-Colley), 432 (O)—(C. Jennings Marshall), 516—(F. John Poynton), 516—(H. K. V. Soltau), 516—Correspondence on, 586, 622—(R. B. Mahon), 602—Correspondence on, 782
RICE, David: Lunacy administration, 151
RICE, D. A. (and H. O WILLIAMS): An abdominal form of influenza (?), 680
RICE-OXLEY, H. J., knighthood conferred upon, 929
RICHARDSON, O. W.: *The Emission of Electricity from Hot Bodies*, rev., 63
RICHTER, V. von: *Organic Chemistry in Chemistry of the Carbon Compounds*, rev., 685—*Chemistry of the Carbocyclic Compounds*, rev., 685
Rickets, 580
Rickets in the bronze age (R. E. Mortimer Wheeler), 851
Rickets, etiology of (Harry S. Hutchison), 351—(Noël Paton), 351
Rickets, a theory of the metabolic disturbances and of its association with tetany (D. Noël Paton), 379 (O)
Rickets, evidence of pancreatic disorder in (E. C. Dodds), 511 (O)—Correspondence on, 739
Rickets and sunlight (leading article), 611—Correspondence on, 659
Rickets, the vitamin theory in (E. Mellanby), 20
RIDDELL, Lord: Professional secrecy, 495
Right Way in Photography, 546
RILEY, H. A. (and F. TILNEY): *The Form and Functions of the Central Nervous System*, rev., 566
Ringworm, ethyl iodide treatment of (M. W. Geffen), 267
Ringworm, treatment of (L. A. Rowden), 187
RITCHIE, James: Protection of mankind against tuberculosis, 998
RITCHIE, Lieut.-Colonel T. F.: Notification of venereal disease, 768
RITCHIE, W. T.: Therapeutic value of quinidine sulphate in auricular fibrillation, 801
RIVERS, William Halse Rivers: Adopted as Labour parliamentary candidate for the University of London, 333—Elected a member of the Athenaeum Club, 373—Obituary notice of, 936, 977
ROBERTS, Ernest T.: The routine of operations for tonsils and adenoids, 740
ROBERTS, J. B. (and J. A. KELLY): *Treatise on Fractures*, rev., 569
ROBERTS, Morley: Aesculapius and consumption, 586
ROBERTS, W. H.: Syphilis of the nervous system, 801
ROBERTSON, George: A self-retaining tourniquet for cranial surgery, 476
ROBERTSON, George M.: Suicide in borderland cases, 162—Genetic origin of dementia praecox, 954
ROBERTSON, John: The incidence of venereal disease, 77
ROBERTSON, W. G. Aitchison: *Manual of Public Health*, rev., 483
ROBINSON, Arthur Henry, obituary notice of, 978
ROBINSON, C. A.: Electrical methods in gynaecology, 144
ROBINSON, Leyland: Hyperthyroidism during pregnancy, 230—Sarcoma of cervix, 390
ROCHE, Redmond, chosen President of the Society of Members of the Royal College of Surgeons of England, 785
Rockefeller Foundation, the example of the, 201
RODERICK, H. B.: "Loose cartilage," 78
ROGERS, Bertram M. H.: Hospitals in the Territorial Force, 35, 250
ROGERS, Brevet-Colonel Sir John Godfrey, obituary notice of, 294
ROGERS, Sir Leonard: Lettsomian lectures on amoebic liver abscess, 224, 264, 344 (O)—*Bowel Diseases in the Tropics: Cholera, Liver Abscess, and Sprue*, rev., 231—The spread, probable mode of infection, and prophylaxis of leprosy, 987 (O)
ROLLESTON, Sir Humphry D.: Asthma and the radium menopause, 13—A case resembling leukaemia, 191—Elected President of the Royal College of Physicians, 613—Recent physiology of the liver, 743
Roman surgery in the first century, 447
ROPER, Dr.: Leukaemia, 919
ROSE, W. D.: *Physical Diagnosis*, rev., 194
ROSS, J. N. MacBean: Asthma and the radium menopause, 12 (O)
ROSS, J. S: Perhalation method of ether administration, 763
Ross, Sir Ronald: Elected a foreign associate of the Académie de Médecine, 43—The work of Sir Patrick Manson, 698
ROSSI, F., awarded the Garibaldi Franco-Italian prize, 1007
Rotarian ideal and the medical profession, 296
ROTH, Paul Bernard: Remedial exercises in scoliosis, 436
ROUT, Ettie A.: Prevention of venereal disease in the Australian Imperial Force, 331—*Safe Marriage: A Return to Sanity*, rev., 923—England and venereal disease, 975
ROUTH, Amand: Sterility and the State, 438
ROWAN, John: Value of cinematograph in teaching the mechanism of refraction of the eye, 192
ROWCROFT, Colonel G. F.: The nauseating effect of quinine, 128
ROWDEN, L. A.: Treatment of ringworm, 187
ROWDEN, Leonard: Methods of stomach examination, 958
ROWE, Robert M.: Diagnosis of incipient acute appendicitis, 226
ROWLANDS, R. P.: The value of freedom and exercise after operations, 52 (O)—Advantages of cholecystectomy over cholecystotomy, 269
ROWNTREE, Cecil: Diathermy in surgical practice, 952
ROWS, R. G.: Modern methods in the treatment of psychoses, 103—The psychiatric clinic, 478
ROWSTRON, Noel F.: Exophthalmic goitre in congenital syphilis, 347—The ante-natal treatment of congenital syphilis with salvarsan and mercury, 918
Royal Academy, medical portraits at the, 732
Royal Faculty of Physicians and Surgeons of Glasgow: Resolution *re* Bellahouston Hospital, 118—Admission of Fellows, 293, 460—Action against, 659
Royal Institute of Public Health: Congress, 453, 785—Medicine and industrial legislation, 966. *See also* Congress
Royal Institution: Physiological effects at high altitudes (Joseph Barcroft), 966
Royal Sanitary Institute: Congress, 160, 449—Examination in tropical hygiene for sanitary inspectors established, 461—The outlook in tropical medicine, 775
Royal Scottish National Institution for Mental Deficients at Larbert: Annual meeting, 537
Rubber dentures, 250. *See also* Dentures
RUDD, W. A.: Sunlight and rickets, 660
RUDOLF, Robert Dawson: The treatment of insomnia, 377 (O)—The recognition of aortic incompetence, 454
RUGG-GUNN, A.: Treatment of squint, 290
RUSS, Charles: Treatment of gonorrhoea by electrolysis, 78, 167
RUSS, Sidney: Deep-seated radiotherapy, 959
RUSSELL, Earl: Professional secrecy, 495
RUSSELL, E. J., knighthood conferred upon, 929
Russia: Medicine in, 203—Books received from British Committee for aiding men of letters and science in, 334—Epidemic menace, 532—Preventive medicine in, 574—American Relief Administration report, 629
RUTHERFORD, H. R. C.: Insanity and the endocrine glands, 581—Prognosis in mental disease, 606
Rutter memorial tablet, 205
RYFFEL, J. H.: Diagnosis of gastric ulcer, 189
RYLE, J. A.: Diagnosis of gastric ulcer, 189

S.

St Dunstan's Hostel for the Blind, 894. *See also* Blind, training of
St. Dunstan's Review, 171
ST. GEORGE, George, obituary notice of, 860
St. Louis, amenities of, 846
SABERTON, C. W.: Methods of stomach examination, 959
Sachs-Georgi test, record of a brief experience with (P. Parthasarathy and Mary M. Barratt), and an historical account of the development of flocculation tests for syphilis (J. C. G. Ledingham), 594 (O)
"Sacrache," 416
Sacralization of the fifth lumbar vertebra (C. Thurstan Holland), 61
Safeguarding of Industries Act: Chemicals under (parliamentary note), 579—Board of Trade inquiry into inclusion of boric acid and metaldehyde and exclusion of gallic acid and "R" tannic acid, 769
Safety News and Chronicle, 503
Salaries of health visitors. *See* Health
Salicin in treatment of influenza (E. B. Turner), 641
Salicylosol, 233
Saline taste, 665, 744
SALISBURY, E. J. (and F. E. FRITCH): *Botany for Students of Medicine and Pharmacy*, rev., 686—*An Introduction to the Structure and Reproduction of Plants*, rev., 686
SALISBURY-SHARPE, Dr.: Ear disease in the tropics, 143
"Salivary test" as a routine, 862
Salpingotomy *versus* salpingectomy (Beckwith Whitehouse), 103
Salvarsan adulteration, Hamburg manufacturer sentenced for, 127
Salvarsan, the dangers and limitations of, 530
Salvarsan and mercury in the ante-natal treatment of congenital syphilis (John Adams), 56 (O)—Correspondence on, 124—(Noel F. Rowstron), 918
SAMI, A. R.: Acute diffuse nephritis in children, 642
SAMSON, I. W.: *Prostitution und Tuberkulose*, rev., 196
SAMWAYS, D. W.: Hollow viscera and vessels, curvature and pressure, 455
Sanatorium treatment of tuberculosis, the end-results of (F. W. Burton-Fanning and W. J. Fanning), 306 (O)
Sanatorium traatment for tuberculous officers, 170
Sanatoriums for tuberculosis: Report of the King Edward VII (Midhurst) Sanatorium, 536, 851
SANDEMANN, L. Stewart: Notification of venereal disease, 768
SANDERSON, Dr.: War wounds in relation to life assurance, 800
SANDISON, Dr.: Treatment of tuberculosis, 683
San Domingo, Haiti, small-pox at, 665
SANGUINETTI, Harold H.: *X*-ray departments, 456
Sanitary officers order (1922), 575
Sanitation, review of book on, 956
Sarcoma of bone (M. J. S. Stewart), 188—Correspondence on, 250
Sarcoma of cervix (Leyland Robinson), 390
Sarcoma of the ethmoid and antrum in a child of 9 (Walter Howarth), 267
Sarcoma of ovary (C. D. Lochrane), 565
Sarcoma affecting an undescended testicle (G. H. Edington), 192, 475 (O)
Sarcoma of uterus (C. D. Lochrane), 565—(Christopher Martin), 565
SARGENT, Percy: Appointed honorary consultant surgeon to the Ministry of Pensions, 251—Reviews H. Platt's book on the surgery of the peripheral nerve injuries of warfare, 440—Anaesthesia in intracranial surgery, 519
SAVATARD, Louis: Benign epithelioma of skin, 878
SAVILLE, Agnes: Electrical methods in gynaecology, 144
SAVY, Félix: Alpine treatment of tuberculosis, 374
SAXBY, I. B.: *The Education of Behaviour: A Psychological Study*, rev., 484
SAZERAC: Bismuth in the treatment of syphilis, 443
Scarlatina-like rash in influenza, 296
Scarlatiniform rashes and scarlet fever (R. W. Marsden), 270
Scarlet fever. *See* Fever
SCHACHNER, August: Ephraim McDowell, 925
SCHAFER, Sir Edward Sharpey: Appreciation of Benjamin Moore, 459—*Elementary Physiology*, rev., 608
Schick test and the prophylaxis of diphtheria: Discussion at the Royal Society of Medicine, 190—Parliamentary note on, 493, 657—Note on, 774. *See also* Diphtheria
SCHNIRER, M. T.: *Taschenbuch der Therapie*, rev., 1001
SCHOLEFIELD, R. E.: Herpes and varicella, 630
School children (Dr. Linossier), 452
School children: Medical examination of, parental rights and the, 210—Inspection and treatment in London, 409—Parliamentary notes on, 534
School hygiene, 484. *See also* Hygiene
School Hygiene to suspend publication for the present, 861
School medical officer's salary (Worcester), 815
School pupils, secondary, and intending teachers, medical inspection of, 453
School medical officers, a course for, 27
School medical officers and education authorities (leading article), 113—Correspondence on, 292
School medical service (Sir George Newman), 235—(Parliamentary note), 734
School medical work (Dr. Wear), 187—In Glasgow, 286
Schools, open-air, and for mentally defective children, building of, suspended for financial considerations, 493
SCHWALBE, J.: *Diagnostiche und therapeutische Irrtümer und deren Verhütung innere Medizin*, rev., 395
Sciatic nerve. *See* Nerve
Scientific Papers, The Composition of, 780
Scientific periodicals, list of, 71, 693. *See also* Periodicals
Scientific Societies, Conjoint Board of, 71
Sclerotics, blue, associated with fragilitas ossium in four generations (J. Browning Alexander), 677 (O)
Scoliosis, discussion at Congress of Radiology, 960
Scoliosis: Remedial exercises in, discussion at Royal Society of Medicine, 436—Correspondence on, 583

Scotland:
Aberdeen Medico-Chirurgical Society, 160, 286—Influenza in, 285—"Faith-healing" in, 619
Action against the Royal Faculty of Physicians and Surgeons, 659
Animal breeding, research in, 619
Breathing, physiology of, 33
Central Midwives Board, 856
Child Welfare Institute for Scotland, 579, 658, 856
Crichton Royal Institution, Dumfries, report, 410
Edinburgh:
Calmette, Professor, lecture by, 971
Chair of Botany at, 327
Children's Hospital, 931
Edinburgh Branch, clinical meeting, 368
Influenza, 285
Moncrieff Arnott chair at, 972
Morison lectures, 658
Paris Faculty of Medicine, 737
Post-graduate courses, 855
Royal Edinburgh Mental Hospital, 368
Royal Infirmary, 77
Royal Maternity Hospital, 856
Surgical Appliance Society, 453
University Club dinner, 294
University extensions, 931
Victoria Hospital Tuberculosis Trust, 286
Women's Hospital, 537
Fife practitioner and his assistant, 899

Scotland (*continued*):
Glasgow:
Action against the Royal Faculty of Physicians and Surgeons, 659
Anderson College of Medicine, 580
Bellahouston Hospital, 118
Child Welfare Home, 899
Eye Infirmary, 972
Gasscube Cottage Hospital, 931
Glasgow medical appointments, 737
Health of school children in, 161
Health Visitors' Association, 369
Influenza, 285
Lister Memorial, 245
Lister ward at the Glasgow Royal Infirmary, 295, 327, 411, 696
Lock Hospital, 619
Medical appointments, 737
Medical lunch club, 118, 245, 327, 369, 411, 497, 537, 580, 665, 778
Medical societies, 855
Post-graduate Medical Association, 737
Post-Graduate teaching in, 579
Royal Alexandra Infirmary, Paisley, 856
Royal Asylum, 410
Royal Cancer Hospital, 579
Royal Infirmary Club, 453
Royal Maternity Hospital, 537
Samaritan Hospital, 537
School medical work in, 286
University appeal, 117
Western Infirmary, 453
Human intellect, evolution of, 778
Influenza, 118, 205, 285
Inglis, Elsie, memorial to, 538
Larbert Institution, 537
Macpherson, Sir John, presentation to, 972
McVail, J. C., retirement of, 32
Medical education difficulties, 778
Medical men and alcohol, 537
Mental defectives, case of, 899
Morison lectures, 778
Murray's Royal Asylum, Perth, 537
Outlook in preventive medicine, 497
Paris Faculty of Medicine, 737
Perth, health of, 696
Red Cross work in Scotland, 33
Registrar-General's report, 1005
Revivalism in the East of Scotland, 33, 245—Effects of, 245
Scottish Western Asylums' Research Institute, 696
Southfield Tuberculosis Colony, 931
Sturrock, J. P., appointed a Medical Commissioner to the General Board of Control, 285
Venereal disease in, 778

Scotland, West, Medical Boards in (parliamentary note), 813
SCOTT, David J., called to the Bar, 824
SCOTT, Gilbert: The normal stomach, 958—Methods of stomach examination, 958—Deep-seated radiotherapy, 959
SCOTT, J. M. (and Geoffrey BOURNE): Pertussis with a leucocytosis of 176,000, 387 (O)
SCOTT, Sir Leslie: The study of mental hygiene, 767
Scottish Western Asylums' Research Institute, 696. *See also* Research
SCRIPTURE, E. W.: Vienna Kliniks, 661, 786
Sea, absent treatment at, 666
SEALY, Lieut.-Colonel G. O. F.: Treatment of early cases of cholera with volatile oils, 918
Sea-sickness, experiments for the prevention of, 617
SEIDELIN, Harald: Glycosuria of malarial origin, 290
SELWYN-CLARKE, P. S.: *A Monograph on Small-pox in the Negro and Negroid Tribes of British West Africa, with Special Reference to the Gold Coast Colony*, 691
Semmelweis, the struggles of, 104
SEMON, Henry C.: Trichotillomania due to threadworms, 641 (O)
Senior Surgeon Commanders. *See* Navy, Royal
Sensitiveness and anaphylaxis. *See* Anaphylaxis
Septic anaemia. *See* Anaemia
Septicaemia, gonococcal (James A. Jenkins), 641
SERGEANT, Edward, obituary notice of, 293
SERGENT, Emile: Inaugural address at the Académie de Médecine, 282
SERJEANT, David Maurice, knighthood conferred upon, 929
Serology, review of books on, 723
Service establishments, reduction of (parliamentary note), 812
Sewage purification (parliamentary note), 735
Sex, determination of, 157, 291
Sex problems and the interstitial gland, 973, 1009. *See also* Gland
Sexes in man, problems involved in the congress of the (Arthur Thomson), 5 (O)—Correspondence on, 121, 206
SEXTON, Colonel Michael John, obituary notice of, 820
Sexual relationships, Lord Dawson's address on now issued in pamphlet form, 73—Review of pamphlet, 105
Shakespeare's London, plague in, 156
SHARPE, Wm. Salisbury: Eruption resembling varicella in lobar pneumonia, 14
Shaving brushes made of horsehair, sale of, forbidden in New York owing to danger of anthrax, 127
SHAW, A. F. Bernard: Bovine achondroplasia, 817
SHAW, B. H.: Lunacy administration, 150
SHAW, H. Batty: *Hyperpiesia and Hyperpiesis (Hypertension): A Clinical, Pathological, and Experimental Study*, rev., 441
SHAW, T. Wilson: Reduction of medical fees, 581, 781
SHAW, William, elected chairman of the Larne Urban Council, 211
SHAW, Wm. Fletcher: Treatment of carcinoma of the cervix, 78—Spasmodic stricture of the uterus, 145—Treatment of uterine fibroids, 603—Extension of cancer of cervix to vagina, 604
SHEARD, Arthur: Cockroach in the nasal passages, 982
SHEEN, A. W. (and Swale VINCENT): The function of the chromaphil tissues in relation to splanchnic stimulation, 343 (O)—Radiographs of three "chip" fractures of the phalanges, 521
Shell shock. *See* Shock
Shepherd's Bush Orthopaedic Hospital. *See* Hospital, orthopaedic
SHERA, J. E. P.: Lunacy administration, 151
SHERMAN, H. C. (and S. L. SMITH): *The Vitamins*, rev., 840
SHERREN, James: *Lectures on the Surgery of the Stomach and Duodenum*, rev., 17—Treatment of gastric ulcer, 227
SHERREN, W.: *The Rights of the Ex-service Man and Woman*, rev., 64
SHERRINGTON, C. S., G.B.E. conferred upon, 25—Hon. D.Sc. of Leeds conferred upon, 743
SHIPWAY, F. E.: Nitrous oxide anaesthesia, 349—A combined anaesthetic apparatus, 443
Shock, Shell, meetings of Committee, 824
Shock, obstetrical (Hastings Tweedy), 605
Shock, surgical (John D. Malcolm), 761
SHORE, T. H. G.: Effect of arsenobenzol treatment on the kidney and liver, 312
Shoulder amputations (Lieut.-Col. H. Littlewood), 381 (O). *See also* Amputations
Shoulder straps, diagnostic, 1012
SHUFFLEBOTHAM, H.: Large teratoma of ovary, 145—Large pedunculated fibromyoma, 145
SHULMAN, J.: Stains for blood films, 826
SIBBALD, Sir Robert: His library, 888
SICHEL, Alan W.: Sight-testing opticians and presbyopia, 781
SICHEL, Surgeon Gerald: The Naval Medical Service, 292, 416, 782
Sickness and insurance, 733
Sight-testing opticians. *See* Opticians
SILLAR, W. C.: The metric system in medicine, 400
SIMEY, A. I.: Febricula and influenza, 133 (O)—(and John W. H. EYRE), Restriction of influenza epidemics in schools by the use of "local" prophylactic vaccines, 433 (O)—Letter on, 623
SIMMONDS, S.: Ossifying spindle-celled sarcoma, 192—Congenital deformities in an infant, 192
SIMMONS, George H.: Medical periodical literature, 690
SIMMS, S.: Albuminuria in pregnancy, 520
SIMPSON, John, obituary notice of, 126
SIMPSON, W. J.: Cancer research, 330
SIMS, J. Marion, bronze memorial tablet to, 861
SINCLAIR, N.: Cystic swelling in the neck of an infant, 192—Actinomycosis of mandible and cheek, 840
SINCLAIR, Thomas: Robert Campbell Memorial Oration on the Surgery of the Blood, 375 (O)
Singapore, small-pox in, 730
SINGTON, Harold S.: The end-results of removal of tonsils and adenoids, 341 (O)
Sins and sorrows of the colon. *See* Colon
Sinus, nasal accessory, rheumatoid arthritis due to infection of (P. Watson-Williams), 88 (O)
Skin, benign epithelioma of (Louis Savatard), 878
Skin cancer. *See* Cancer
Skin diseases, focal infection in relation to the etiology of (H. Leslie-Roberts), 262 (O)
Skin effects of ultra-violet and radium radiation, 448
Skin. *See also* Dermatology
SKINNER, E. F.: Conjunctivitis artefacta, 762
Skull, the Rhodesian (G. Elliot Smith), 197
SLEMONS, J. Morris: *The Prospective Mother: A Handbook for Women during Pregnancy*, rev., 525
SLESINGER, E. G.: The after-results of colectomy, 518
Slipping rib. *See* Rib
Small-pox in the British army (parliamentary note), 853
Small-pox epidemic on the Gold Coast (leading article), 691
Small-pox, importance of the early diagnosis of: Circular from London County Council, 83, 116
Small-pox hospital for Southampton (parliamentary note), 617
Small-pox, mild, 614, 680, 780, 856. *See also* Alastrim
Small-pox in Oklahoma, U.S.A., 258—Towns isolated by barbed-wire entanglements and guarded by armed men, 258
Small-pox in the Philippines (parliamentary note), 579, 813
Small-pox at San Domingo, Haiti, 665
Small-pox in Singapore, 730
Small-pox and vaccination, 116, 319—Leading article on, 319
Smell. *See* Osmics
SMELLIE, James M. (and Donald PATERSON): The value of vaccines in the treatment of whooping-cough, 713 (O)
SMITH, A. Lapthorn: Electrical methods in gynaecology, 144—*How to be Useful and Happy from Sixty to Ninety*, rev., 316—Treatment of tuberculous glands, 353—Sterility and the State, 438—Treatment of uterine fibroids, 604—Cancer of cervix extending to vagina, 505—Surgical shock, 761
SMITH, G. Elliot: The Rhodesian skull, 197—Evolution of the human intellect, 778
SMITH, G. F. R: Some observations on post-anaesthetic complications, 513 (O)
SMITH, Gladys Miall: Employment of married women, 481
SMITH, Lieut.-Colonel Henry: Treatment of Squint, 13 (O)—A surgical tour in the United States and Canada, 158
SMITH, H. B. Willoughby: Herpes and varicella, 252
SMITH, J. Anderson: Fracture in osteitis deformans, 838
SMITH, Major-General John Blackburn, C.I.E. conferred upon, 25
SMITH, R. J., called to the Bar, 211
SMITH, R. Percy: Treatment of psychoses, 103
SMITH, Robert Shingleton, obituary notice of, 701
SMITH, S. Alwyn: End-results of bone grafting, 521
SMITH, S. L. (and H. C. SHERMAN): *The Vitamins*, rev., 840
SMITH, Thomas Hanson, obituary notice of, 544
Smittle and Smit, 970
Smoke prevention and public apathy, 614
Smoke, tobacco, carbonic oxide in (Henry E. Armstrong), 992 (O)
SMYLY, Sir William: Obstetrical shock, 606
Snook apparatus, 149
Social study of a community (Aberdare), 113
Societies, Conjoint Board of Scientific: List of scientific periodicals, 71, 693
Societies, professional protection, and income tax, 531
Societies, South-Eastern Union of Scientific: Mosquito Investigation Committee to resume work, 585
Society, Aberdeen Medico-Chirurgical: Convulsions, 16—Annual dinner, 16—Votes of condolence, 160—Discussion on a certain part of the Hippocratic oath, 286—Collapse therapy in pulmonary tuberculosis, 954
Society for the Advancement of Clinical Study in New York: Plan to provide daily medical clinics in the hospitals open to all members of the profession, 440
Society, American, of Experimental Biology Annual meeting, 51
Society, American Pediatric, 461
Society of Anaesthetists, Scottish: Some pre-anaesthetic intoxications, 104—Clinical facts of the cases of death during the administration of anaesthetics in Glasgow in the past thirteen years, 104—Notes on the administration of ether by the perhalation method, 762—Nitrous oxide and oxygen, 763
Society, Anglo-Batavian, note on, 776
Society, Assurance Medical: War wounds in relation to life assurance (McAdam Eccles), 799—Discussion, 799
Society, Berlin Medical: The dangers and limitations of salvarsan, 530
Society, Blackburn and District Medical: Dinner, 295
Society, Bradford Medico-Chirurgical: Blood-pressure observations in functional bruits in children and young adults, 99—Continuous treatment in surgical tuberculosis, 914
Society, Bristol Medico-Chirurgical: Opening of session, 446—Presidential address on quackery in relation to diseases of the eye, 446
Society, British, for the Study of Orthodontics: Growth of the face in man, 438
Society, Cambridge University Medical: Inaugural meeting, 815
Society, Cardiff Medical: Cases and specimens, 521, 681—Cerebral abscess secondary to bronchiectasis, 521—Left kidney with wedge-shaped caseating masses, 521—Primary pulmonary tuberculosis followed by tuberculous meningitis, 521—Semi-pedunculated fibroma, 521—"Chip" fractures of phalanges, 521—End-results of bone grafting, 521—Anencephaly, 521—Uterus with placenta *in situ* removed *post mortem*, 521—Abdominal emergencies, 680—Rickets in the bronze age, 851—History of medical endoscopy, 939
Society, Chelsea Clinical: The physiology of life in the Andes, 648
Society of Chemical Industry: Antiseptic action of the coal-tar dyes, 612
Society, Church Missionary: Annual meeting of the Medical Mission Auxiliary of, 785
Society, Cremation: Report, 585
Society, Dutch, for combating tuberculosis, 629
Society, Edinburgh Medico-Chirurgical: The significance and treatment of glycosuria, 350—The treatment of pneumonia in the older patient, 350—Demonstration of artificial legs, 391—Internal strangulation of the bowel, 391—An alternative method of administering vaccines, 801—Plastic surgery of the nose, 801—Therapeutic value of quinidine sulphate in auricular fibrillation, 801—The protection of mankind against tuberculosis, 971, 997
Society, Edinburgh Obstetrical: Pneumoperitoneum of the pelvis in gynaecological diagnosis, 15—Inversion of the uterus, 192—Caesarean section in multiple pregnancy, 192—Diagnosis and treatment of acute tubal peritonitis, 349—Caesarean section and alternative

treatment, 480—Induction of premature labour, 481—*Transactions*, vol. xli, rev., 803—Icterus neonatorum, 919 — Omphalorrhagia, 919—Chorion-epithelioma, 919—Secondary abdominal pregnancy following incomplete tubal abortion, 919—Two months' pregnancy in a rudimentary uterine horn, 919
Society, Edinburgh University Physiological: Some unsolved problems in gynaecology and obstetrics, 850
Society, Eugenics Education, 980
Society, German Ophthalmological, 840
Society, Glasgow Northern Medical: Annual meeting, 856—Election of officers, 856
Society, Glasgow Obstetrical and Gynaecological: The prevention of gynaecological affections, 644
Society, Glasgow Royal Medico-Chirurgical: The diagnosis and treatment of septic (non-venereal) infections of the bladder and kidney, 57—Causes of death in chronic valvular disease of the heart, 192—Specimens of a sarcoma affecting an undescending testicle, 192, 475—Cinematograph film illustrating the mechanism of the refraction of the eye, 192—Etiology of rickets, 351—Treatment of ununited fractures, 481—Treatment of myelogenous leukaemia, 481—Annual meeting, 855—Election of officers, 855
Society, Glasgow Southern Medical:—Presidential address: "After-treatment," 315
Society, Harrogate Medical: The sins and sorrows of the colon, 941
Society, Harveian: Annual meeting, 105—Some points on spasm in the alimentary tract, 105—Albuminuria in pregnancy, 520—Annual dinner, 1007
Society, Hospitals Welfare: "Wilfred Allen scheme" for collecting small amounts, 117
Society, Hunterian, some local results of dental infection, 144—Alimentary toxaemia in nervous disorders (the Hunterian oration), 351
Society of Hydrology, International, 283
Society, Illuminating Engineering: Discussion on hospital lighting, 720
Society, Irish Ophthalmological, discussion on stricture of the nasal duct, 645—Exhibition of cases, 645
Society, London and Counties Medical Protection: Annual meeting, 778
Society, Manchester Clinical, discussion on the Wassermann reaction, 193—Physiological principles underlying heliotherapy, 562
Society, Manchester Medical, scarlet fever and scarlatiniform rashes, 270—The rise and progress of laryngology, 547—Treatment of finger injuries, 563—Operation for osteo-arthritis of hip, 563, 672—Operative treatment of depressed fractures in infants and children, 563—Nasal obstruction during the first year of life, 564
Society, Manchester Pathological, acute intestinal obstruction, 104—Congenital stenosis of the bile duct, 314—Large renal calculus of unusual size and shape, 314—Endothelioma of the stomach, 315—Five urinary specimens, including a ureterocele, 315—Exhibition of specimens, 316 — Experimentally induced squamous carcinomata of the skin of the mouse following repeated application of coal tar, 511—The newer methods of pathological investigation (laboratory tests), 605—Localization of toxi-infective lesions in the central nervous system, 877—Benign epithelioma of the skin, 978
Society, Manchester Statistical: The relation between mental and physical efficiency, 27
Society, Medical Golfing, 1012
Society, Medical, of London: A case resembling leukaemia, 191 — Amoebic liver abscess (Lettsomian lectures), 224, 264—Inflammatory stricture of the rectum, 269—Admission of Honorary Fellow, 269—Discussion on the treatment of tuberculous glands, 352—Discussion on the differential diagnosis of the exanthemata, 439—Annual dinner, 449—Annual oration on the future of hospitals, public and private, 760—Election of President, 776
Society of Medical Officers of Health: Luncheon at the Guildhall, 324
Society, Medical Sickness, Annuity and Life Assurance, 733
Society, Medico-Legal: Proof of live birth in criminal cases, 142—Discussion on professional secrecy, 494, 535—To establish a library at the house of the Medical Society of London, 544
Society, Midland Obstetrical and Gynaecological: The part played by different dilute acids in septic infections, 61—Fibromyoma of uterus complicating pregnancy, 61—Hypernephroma of right kidney, 61—Large fibromyoma of the cervix uteri, 61—Iniencephaly, 61—Thoracophagous twins, 61—Acute haemorrhagic suprarenalitis, 61—Myxosarcoma of the Fallopian tube, 145—Parovarian cyst complicating pregnancy, 145—Teratoma of ovary, 145—Psychotherapy in relation to obstetrics and gynaecology, 145—Acute torsion of the uterus, 565—Sarcoma of uterus and ovary, 565—Sarcoma of uterus, 565—Necrotic submucous fibroid, 565—Primary carcinoma of appendix, 565—Skiagrams of a ureteric calculus, 565—Chorea gravidarum, 720—Removal of uterus and both appendages, 720—Large ovarian tumour, 720—Bone stilette removed from a woman who used it to procure abortion, 720—Large stone removed by vaginal cystotomy, 720—Specimen of foetus compressus, 720 Rupture of uterus during natural delivery, 720—Anencephaly, 720—Placental apoplexy, 720—Fibromyoma complicating pregnancy, 720
Society, Moscow Medical: The etiology of typhus fever, 849, 930
Society, National Health: General meeting, 825
Society, Newcastle-upon-Tyne and Northern Counties Medical: Common nervous symptoms and their diagnostic significance, 230
Society, North of England Obstetrical and Gynaecological: Spasmodic stricture of the uterus, 135, 145—Primary carcinoma of the Fallopian tube, 145—Specimens removed from an ectopic pregnancy, 145—Abdominal section for a full-term ectopic pregnancy, 145—Election of President, 230—Treatment of pernicious vomiting of pregnancy, 230, 789—Hyperthyroidism during pregnancy, 230—Gynaecological sequelae of genital tuberculosis of childhood, 389—Ectopic pregnancy occurring twice within four and a half months, 390—Sarcoma of cervix, 390—Rupture of uterus through a Caesarean section scar, 390—Election of officers, 522—Adenomyoma of the recto-vaginal space, 839—Chronic endocervicitis, 839
Society, Nottingham Medical: Pyelography, 748
Society, Odonto-Chirurgical: Annual dinner, 440
Society, Ophthalmological, of the United Kingdom: Annual Congress, 204, 743
Society, Oxford Medical: Problems involved in the congress of the sexes in man, 5—*X*-ray treatment of cancer, 313—Haemato-porphyrinuria, 390—Exhibition of cases, 390—Town planning and the medical profession, 920
Society, Pharmaceutical: The metric system in medicine, 400—The importance of carbohydrates, 449
Society for the Propagation of the Gospel in Foreign Parts, 221st anniversary of, 743
Society of Public Analysts: Analysis of cocao beans, 419
Society, Quaker Medical: Public asylums and mental hospitals, 651
Society of Radiographers: Result of examination for diploma of membership, 545
Society, Research Defence: Leaflet on small-pox and vaccination, 116
Society, Röntgen: Election of officers, 1011
Society, the Royal: Election of Fellows, 373—Anaphylaxis and anaphylatoxins, 532—Suspended impurity in the air, 654—Conversaziones, 825—Mechanism of heredity, 965
Society, the Royal, of Edinburgh: Election of Fellows, 460
Society, Royal, of Arts: The biological theory of sex, 157—Alcohol in relation to industry, 574

SOCIETY, ROYAL, OF MEDICINE:
Discussion on the diagnosis and treatment of gastric ulcer, 188, 214, 227
President's reception, 197, 1006—Address on the Rhodesian skull, 197
Address on art in industry, 1006
New by-law *re* election of Associates, 373
Primary epithelial carcinoma of the skin (lecture by Dr. J. Darier), 477
Section of Anaesthetics.—Discussion on the utility and limitations of nitrous oxide anaesthesia, 348—Anaesthesia in intracranial surgery, 519
Section of Children's Diseases.—Treatment of paralysis in children, 705
Clinical Section.—Addison's disease treated by suprarenal grafting, 268 — Advantages of cholecystectomy over cholecystotomy, 269
Section of Electro-Therapeutics.—Electrical methods in gynaecology, 143—The cause of death in electrical shock, 478
Section of Epidemiology and State Medicine.—Discussion on the Schick test and the prophylaxis of diphtheria, 190—Factors in the causation of puerperal septicaemia, 348—Epidemiology of summer diarrhoea, 519—Reforms needed in the notification of tuberculosis, 876
Section of Laryngology. — Endothelioma of the larynx, 267—Sarcoma of the ethmoid and antrum in a child aged 9, 267—Ulceration of malignant oesophagus into the tracheal bifurcation, 267—Suction apparatus for nose and throat operations, 268—Recommendations of the Council on operations for tonsils and adenoids, 526—Presidential badge presented by Sir William Milligan, 785
Section of Obstetrics and Gynaecology.—Hyperthyroidism in functional menorrhagia, 102—Salpingotomy *versus* salpingectomy, 103—General vascular carcinoma, 103—Tubal lithopaedion, 103—Sterility and the State, 438—Decidual reaction in an extrauterine adenomyoma, 438—Treatment of uterine fibroids, 603—Extension of carcinoma of cervix to vagina, 604—Chemical observations on pregoancy toxaemias, 605—Surgical shock, 761—Conservative labour induction, 998—Carcinoma of the cervix following cervicitis, 999
Section of Ophthalmology.—Discussion on hospital lighting, 720
Section of Orthopaedic Surgery.—Formation of the Section, 285—Dinner, 285—Remedial exercises in scoliosis, 436
Section of Pathology.—Anaphylaxis and anaphylatoxins, 268—Culture medium for *B. diphtheriae*, 268—Experimental pathology, 437—Absorption of ferments by bacteria, 437—Intestinal infection, 437—Restoration of blood volume after haemorrhage and anaesthesia, 437—Resolution *re* publication in the medical press of papers and discussions, 699

SOCIETY, ROYAL, OF MEDICINE (*continued*):
Subsection of Proctology.—Discussion on the after-results of colectomy performed for colon stasis, 517
Section of Psychiatry.—Modern methods in the treatment of psychoses, 103—The ideal psychiatric clinic, 312, 477—Recovery in mental cases, 643
Section of Surgery.—Discussion on post-operative embolism and infarction, 59—The technique of bone grafting, 602 — Hospital lighting, 720—Diathermy in surgical practice, 952
Section of Therapeutics.—The action of arsenobenzol preparations, 312
Section of Tropical Medicine.—Hookworm in Cornwall, 406—The spread, probable mode of infection, and prophylaxis of leprosy, 987
Section of Urology.—The route of renal infection, 561—Comparative urology: Calculi in animals, 876

Society, Royal Microscopical: The microscope in medical research, 489
Society, Royal Statistical: The scientific value of life tables, 840
Society, Royal, of Tropical Medicine and Hygiene: Relations between vegetable and human pathology, 143—Ear disease in the tropics, 143—Relapsing fever in India, 435
Society, Sheffield Medico-Chirurgical: Certain aspects of pain, 1—Pathology of epilepsy, 315—Repair of bone injuries, 440—Ophthalmic pensioners, 762—Conjunctivitis artefacta, 762—Extensive rupture of choroid due to indirect violence, 762 — Functional blindness, 762 — Apparatus illustrating the resonance theory of hearing as applied to the cochlea, 762
Society, Statistical and Social Inquiry, of Ireland: Clean milk, 900
Society, Surgical Appliance: Annual meeting, 453
Society, Tuberculosis: Discussion on the treatment of tuberculosis, 683—Artificial pneumothorax, 683—The therapeutic measures for the relief of pulmonary tuberculosis, especially in relation to dispensary treatment, 921
Society, Tuberculosis, of Scotland: Membership statistics, 586—Officers, 586
Society, Ulster Medical: Maternal mortality: a retrospect, 104—The Vienna School in its earlier days and the struggles of Semmelweis, 104—Rupture of Caesarean section scar in subsequent pregnancy, 104—Relation of the corpus luteum to menstruation and pregnancy, 343—Annual public health meeting, 497—Case of hereditary cleido-cranial dysostosis, 682—*X* ray therapy, 682—Recent developments in *x*-ray therapeutics, 683—Annual meeting, 972—Election of officers, 972
Society for Study of Venereal Diseases: Proposed formation of, 859—Its formation, 980—Its policy, 1002
Society, Vermin Repression: Suggestion that the administration of the Rats and Mice Destruction Act (1919) be transferred to the Ministry of Health, 252
Society, Vocal Therapy, 743
Society, West Kent Medico-Chirurgical: Multiple exostoses, 145—Removal of right clavicle, 145—Pott's disease of the spine, 145—Hard nodes on one fibula and one tibia after acute septic meningitis, 145—Pernicious anaemia treated by intramuscular injections of collosol manganese, 145—Stricture of stomach from swallowing sulphuric acid, 145—Ulcer of tongue with acid dyspepsia, 145—Head injury followed by spastic paralysis, 145—Pulse tracings and their meaning, 315—Pathological meeting, 522—Encephalitis lethargica, 721 — Parturition chairs, their history and use, 721—Transposition of thoracic and abdominal viscera, 721—Presidential address, 878
Society, West London Medico-Chirurgical: Clinical meeting, 192—Ossifying spindle-celled sarcoma, 192—Congenital deformities in an infant, 192—Congenital absence of right upper limb, 192—Bronchial cyst in a woman, 192—Cystic swelling in neck of a child shown for diagnosis, 192—Interstitial hernia, 192—Subacute infective polyarthritis, 192—Retro-bulbar neuritis associated with influenza, 192—Chronic myositis ossificans traumatica, 193—Central dislocation of the head of the femur, 193—Flat-foot and some of its complications, 314—Syphilis of the heart, 683—Chronic empyema, 839—Osteochondritis coxae, 840—Pronounced coxa vara, 840—Actinomycosis of the mandible and cheek, 840—Acute osteomyelitis, 840—Annual dinner, 967—Rheumatoid arthritis and its treatment, 998—Cavendish lecture, 1001
Sodium taurocholate. *See* Bile salt
SOLLY, Dr.: Specimens from a case of chloroma, 919
SOLOMONS, Dr.: Obstetrical shock, 606—Milk and the public health, 681
SOLTAU, A. B.: Treatment of gastric ulcer, 228
SOLTAU, H. K. V.: Slipping rib, 516
SOMERVILLE, Dr.: Significance and treatment of glycosuria, 350
SOMERVILLE, W. F.: Treatment of insomnia, 581
SOSNOWSKA, Dr.: Backache and referred pain 960
South Australia. *See* Australia
SOUTHAM, A. H.: Resuscitation after apparent death, 186—The treatment of perforating gastric and duodenal ulcers, 556 (O)

Southampton: Small-pox hospital for (parliamentary note), 617—Medical dinner, 736—Rabies near (parliamentary note), 853
Southfield Tuberculosis Colony opened, 931
SPACKMAN, E. D.: Differential diagnosis between cerebral haemorrhage and diabetic coma, 918
Spahlinger treatment for tuberculosis. *See* Tuberculosis
Spain: Vaccination against typhoid fever now compulsory where epidemics are prevailing, 262—Congress on accidents to workmen, 629—Congress for the sanitary reorganization of, 801
SPANTON, William Dunnett, obituary notice of, 859
Spas, cheaper, 533. *See also* British Spa Federation
Spas of France, 929
Specific remedies, the search for (leading article), 807—Correspondence, 901
SPENCE, Dr.: The action of arsenobenzol preparations, 312
SPENCER, F. D.: Diet and gall stones, 461
SPENCER, Herbert R.: Treatment of carcinoma of the cervix, 36, 162—Inflammatory stricture of the rectum, 270—*A Century of Medicine at Padua*, 543—Conservative labour induction, 999
SPENCER, W. G.: Some results of dental infection, 131 (O), 144 - Diathermy in surgical practice, 953
SPICER, W. T. Holmes: Hospital lighting, 721
SPILSBURY, Bernard: Diagnosis of gastric ulcer, 189—Cause of death in electrical shock, 479
Spinal analgesia. *See* Analgesia
Spinal cord, tumours of. *See* Tumours
Spiritual healing, 72, 322
Splanchnic stimulation, function of the chromaphil tissues in relation to (A. W. Sheen and Swale Vincent), 343 (O)
Splenectomy for torn splenic artery (John Arthur Reed), 101
Splenic flexure, gaseous distension of, 73
Splenomegaly with progressive ascites and loud venous hum (Arthur J. Hall), 592 (O)
Splints, celluloid (Charlotte Brown), 104
Splints, Verrall's, in cases of stiff metacarpophalangeal joints (Sir W. I de C. Wheeler), 391
SPRIGGS, E. T.: Methods of stomach examination, 959
Sprue, ethereal extract of strawberries for the treatment of (Aldo Castellani and K. C. Browning), 718 (O)
Squint, treatment of (Lieut.-Col. Henry Smith), 13 (O)—(A. Freeland Fergus), 102—Correspondence on, 209, 290
SQUIRES, Henry C., Order of the Nile conferred upon, 295
Stains for blood films. *See* Blood
STALLYBRASS, C. O.: Case of exanthem subitum, 271
Stammering 546, 666
STANDAGE, Lieut.-Col. Robert Fraser, C.I.E. conferred upon, 25
STANFORD R. V.: The nitrogen method as an aid to differential diagnosis in mental disease, 915 (O)
STANTON, A. T. (and W. FLETCHER): Melioidosis, 561
STARK, A. Campbell: Hospital policy of the Labour party, 699
STARKIE, R. W., name of removed from the medical list of the London Insurance Committee, 503
STARLING, E. H.: "Cinematographs and vivisectors," 570
Starvation, chronic, effects of during the siege of Kut (Major-General Sir Patrick Hehir), 865 (O)
Starvation, deaths from (parliamentary note), 365, 451, 617, 777
STEEL, M.: *A Laboratory Manual of Organic Chemistry for Medical Students*, rev., 232
STEKEL, Wilhelm: *The Depths of the Soul*, rev., 607—*The Beloved Ego*, rev., 607—*Twelve Essays on Sex and Psycho-analysis*, rev., 607 - *Nervöse Angstzustände*, rev., 607—*Onanie und Homosexualität*, rev., 607—*Die Geschlechtskälte der Frau*, rev., 607—*Die Impotenz des Mannes*, rev., 607
STELWAGON, H. W.: *A Treatise on Diseases of the Skin for Advanced Students and Practitioners*, rev., 566
STENGEL, Alfred (and Herbert FOX): *A Textbook of Pathology*, rev., 764
STEPHENS, Arbour: A query from *re* a half-way point between the right acromion process and the left anterior superior iliac spine, 786
Stereoscopic head mirror, 940
Sterility with reference to the State (R. A. Gibbons), 427 (O)—Discussion on, 438—Correspondence on, 546
Sterling Hall of Medicine at Yale, 225
STEVENS, T. G.: Spasmodic stricture of the uterus, 145 — Decidual reaction in an extra-uterine adenomyoma, 438
STEVENSON, Edgar: Extraction of cataract in the capsule of the eye lens, 76
STEVENSON, W. C.: Results of a year's work with radium emanation, 391
STEWART, A. W.: *Recent Advances in Physical and Inorganic Chemistry*, rev., 646—*Recent Advances in Organic Chemistry*, rev., 646
STEWART, George Clark: Quackery in relation to diseases of the eye, 499
Stewart lectures. *See* Lectures
STEWART, Isabel Maitland (and Lavinia L. DOCK): *A Short History of Nursing from the Earliest Times to the Present Day*, rev., 684
STEWART, M. J.: Pathological aspects of sarcoma of bone, 188, 250
STILES, Sir Harold: Internal strangulation of the bowel, 392—Hon. D.Sc. of Leeds conferred upon, 743, 784
STILL, George F.: Physical education of girls, 501
"Stimulants," 123
STOBIE, Dr.: Congenital heart disease, 390—Aortic stenosis, 390
STOCKMAN, Ralph: Difficulties in medical education, 778
STODDART, W. H. B.: Treatment of psychoses, 103
STOKES, H.: Myositis ossificans of the brachialis anticus, 391
Stomach and duodenum, secretion into, with special reference to diabetes mellitus (T. Izod Bennett and E. C. Dodds), 9 (O)
Stomach examination, methods of, 958
Stomach, the normal (A. E. Barclay), 958—Discussion at Congress of Radiology, 958
Stomach, review of books on, 484, 523
STONE, Gilbert: *Laws and Regulations relating to Lead Poisoning; being an Analysis with Texts of the Laws and Regulations made in the Chief Industrial Countries to Prevent Plumbism*, 773
STONEY, R. A.: Suture of the sciatic nerve, 391
STOPES, Marie C.: Birth control and abortion, 334
STOREY, W. L.: The mother tongue, 128
STOWELL, W. L.: *Sex for Parents and Teachers*, rev., 525
STRACHAN, Benjamin, obituary notice of, 860
STRACHAN, G. T.: Iniencephaly, 61—Thoracophagous twins, 61—Anencephaly, 521, 720—Section of uterus with placenta, 521—Placental apoplexy, 720
Strathpeffer joins the British Spa Federation, 503
STRAUSS, H.: *Nachkrankheiten der Ruhr*, rev., 63
Strawberries in the treatment of sprue (Aldo Castellani and K. C. Browning), 718 (O)
Street accidents. *See* Traffic fatalities
Streptococcal infection by the nasal and buccal paths (Daniel C. Edington), 304 (O)
Streptococcal sore throat (A. Macbeth Elliot), 760
STRETTON, J. Lionel, appointed a justice of the peace, 939
STRUTHERS, J. W.: Diagnosis and treatment of acute tubal peritonitis, 349
Strychnine, accidental poisoning by (parliamentary note), 853
STURROCK, A. Corsar (and David ORR): Localization of toxi-infective lesions in the central nervous system, 877
STURROCK, J. P., appointed a medical commissioner to the General Board of Control for Scotland, 285
STYAN, T. G., presentation to, 785
Suction apparatus for nose and throat operations, 268
Sugar, simple test for (John Livingston), 719
Suicide in borderland cases, 79. *See also* Borderland cases
Summer Time Bill, 1008
SUMMERS, A. Leonard: *The Fallacies of Spiritualism*, rev., 957
Sun or air? 456, 501, 781. *See also* Metabolism *and* Tuberculosis
Sun-cure treatment of surgical tuberculosis (A. Robertson Wilson), 76
Sunlight and Rickets. *See* Rickets
Superannuation Funds and Income Tax. *See* Income Tax
Suprarenal gland. *See* Gland
Suprarenal grafting in treatment of Addison's disease (A. F. Hurst), 268
Suprarenalitis, haemorrhagic (R. T. Carr), 61
Surgery, plastic, application of fascia lata in (Cyril H. Cuff), 599 (O)
Surgery, plastic, of the nose (Douglas Guthrie), 801
Surgery, review of books on, 17, 62, 354, 355, 523, 646
Surgery of thorax and subphrenic abscess (leading article), 320
Surgical instruments, German-made, 543
Surgical practice, diathermy in. *See* Diathermy
Surgical shock. *See* Shock
Surgical Union: Members visit King's College Hospital, 629
SUTTON, R. L.: *Diseases of the Skin*, rev., 567
SWAYNE, Walter: Fibromyoma of uterus complicating pregnancy, 61
Sweden: Professional secrecy now legal in, 585—Report of a Swedish Government committee on venereal disease and sex education, 842
Switzerland, resting metabolism of children and adults in (Leonard Hill, J. Argyll Campbell, and Bernard Hudson), 385 (O)
SYDENHAM, G. F.: An old man's chair, 292
Sydney: Appointments, 812 — Edith Cavell Memorial Fund, 816—Milk supply, 816—Plague in, 283, 816—Professor of psychiatry in the university, 812—Technical College, 816. *See also* New South Wales
SYMONS, A. D.: Treatment of tuberculosis with colloid calcium, 123
SYMPSON, Edward Mansel, obituary notice of, 125
Symptoms in disease of the central nervous system. *See* Nervous
SYNGE, V. M.: Brain tumours, 920
Synovitis of the knee joint, chronic, treatment of (Captain G. Gelston Atkins), 948 (O)
Syphilis, antimony in (F. G. Cawston), 266—Attention of Governments called to, 939
Syphilis, bismuth in the treatment of, 443
Syphilis, cerebral, intractable vomiting due to (R. Hamer Hodges), 187
Syphilis, congenital, ante-natal treatment of with salvarsan and mercury (John Adams), 56 (O)—Correspondence on, 124—(Noel F. Rowstron), 918
Syphilis, congenital, exophthalmic goitre in (Noel F. Rowstron), 347
Syphilis, flocculation tests for (J. C. G. Ledingham), 594
Syphilis, gastric (David J. Galloway), 217 (O)
Syphilis of the heart (Harold Wiltshire), 683
Syphilis of the nervous system (Baker Young), 801
Syphilis of the prostate, early (J. E. R. McDonagh), 226
Syphilis, review of books on, 147, 765, 1000
Syphilis, Sachs-Georgi tests for. *See* Sachs-Georgi
Syphilis. *See also* Venereal

T.

Taeniasis, treatment of, 334. *See also* Tapeworm
TAGGART, J. G.: Lunacy administration, 150
Tahitian village doctor, a visit to (George Calderon), 280
TANNER, W. E.: Addison's disease treated by suprarenal grafting, 269
Tannic acid in combination with ipecacuanha, therapeutic effect of, 541
Tapeworm, treatment of, 334
Tartarated antimony. *See* Antimony
Tartrobismuthate in nervous syphilis, 444
TAYLOR, Charles Joseph Gordon: Caesarean section with special reference to present-day indications for operation, 908 (O)
TAYLOR, Edward Henry, obituary notice of, 740
TAYLOR, Gordon: Treatment of gastric ulcer, 229—Inflammatory stricture of the rectum, 270
TAYLOR, Macrae: Significance and treatment of glycosuria, 350
TAYLOR, Seymour: Rheumatoid arthritis, 998
TAYLOR, Sir William, appointed Regius Professor of Surgery, Dublin, 899
Teeth, health, and the home, 569
Teeth of the nation (W. D. Halliburton), 323
Telephone, new exchange opened, the "Bishopsgate," 419
Telephones, 811
Temporo-sphenoidal abscess. *See* Abscess
Tendon, extensor longus pollicis, rupture of (S. Norman Dykes), 387—(A. Stuart Mactavish), 476—(F. G. Gardner), 476 - Correspondence on, 580
Tendons, slipping peroneal, case of, treated by Kelly's operation (D. W. Hume), 600 (O)
TERMAN, Lewis M.: *The Hygiene of the School Child*, rev., 723
Testicle, neuralgia of, 374, 420
Testicle, undescended, abdominal, sarcoma of (G. H. Edington), 475 (O)
Tetanus simulated by meningitis (L. S. Fry), 56
THACKRAH, Margaret G.: Games for girls, a disclaimer, 84
Theatre and medical science: the play *Pasteur*, 966
Therapeutics, review of books on, 232
Thermometers (Clinical) Bill, 409
THOMAS, J. Lewis: Hip-joint disease in the tuberculosis dispensary, 935
THOMAS, Rev. Frederick Vincent, Kaisar-i-Hind Medal conferred upon, 25
THOMAS, Hugh Owen: Memorial lecture. *See* Lecture
THOMAS, W. Thelwall: Appendix dyspepsia, 800—The voluntary hospital: a retrospect and a prospect, 899
THOMPSON, C. J. S.: Parturition chairs, their history and use, 721—*A Compendium of the Pharmacopoeias and Formularies*, rev., 803
THOMPSON, Eleanore, Kaisar-i-Hind Medal conferred upon, 929
THOMPSON, Ralph: Calculi in animals, 877
THOMPSON, Theodore: Alimentary toxaemia in nervous disorders, 351
THOMPSON, Sir William: Clean milk, 900
THOMSON, Alexis: Appreciation of Francis Darby Boyd, 627
THOMSON, Arthur: Problems involved in the congress of the sexes in man, 5 (O)—Letter on, 206
THOMSON, Sir Courtauld: A national council for mental hygiene, 538, 766
THOMSON, David (and Robert THOMSON): Researches on detoxicated vaccines, 796 (O), 934—Machine for crushing germs, 976
THOMSON, D. G.: Lunacy administration, 151
THOMSON, Douglas L.: Treatment of cramp, 825
THOMSON, Frederic: Differential diagnosis of the exanthemata, 440
THOMSON, John: Septic infections of the bladder and kidney, 58
THOMSON, J. Gordon, goes to Rhodesia to investigate protozoological diseases, 171
THOMSON, Robert (and David THOMSON): Researches on detoxicated vaccines, 796 (O), 934—Machine for crushing germs, 976

THOMSON, W. W. D.: Diagnosis and treatment of cases of enlarged prostate, 230
Thoracic surgery and subphrenic abscess (leading article), 320
THORBURN, Sir William: Diagnosis and treatment of intrathecal tumours of the spinal cord, 49 (O)
THORNE, R. Thorne: Routine pelvimetry in antenatal cases, 498, 621
Threadworms causing trichotillomania (Henry C. Semon), 641 (O)
Throat and nose operations, suction apparatus for, 268
Throat, streptococcal sore (A. Macbeth Elliot), 760
Throat swabs, aluminium (Lachlan Grant), 434 (O)
Thrombophlebitis of the femoral veins following lobar pneumonia (T. Stenner Evans), 602
Thumb, flail following necrosis of the proximal phalanx (W. Pearson), 391
Thyroid gland, position of in the endocrine system (W. Langdon Brown), 85 (O)—Correspondence on, 209
TIBBITS, Major Walter, obituary notice of, 418
TILNEY, F. (and H. A. RILEY): *The Form and Functions of the Central Nervous System*, rev., 566
TIMBERG, R. T.: Remedial exercises in scoliosis, 436, 960
TIMMS, Alec Boswell, obituary notice of, 784
Tinnitus aurium, 826
Tipping problem, a solution of the, 84
TIRARD, Sir Nestor, appointed a member of the General Medical Council by the King, 449
Tobacco smoke, carbonic oxide in (Henry E. Armstrong), 992 (O)
TODD, John L. (S. Burt WOLBACH and Francis W. PALFREY): *The Etiology and Pathology of Typhus*, rev., 955
Toe, congenital deformity of, 44
Toe troubles and flat-foot. *See* Flat-foot
Tokyo: Proposal to make St. Luke's International Hospital the nucleus of a medical centre, 43—Report of the school medical officers of, 715
TOMBLINGS, Captain D. G. (and Major G. J. KEANE): *The African Native Medical Corps in the East African Campaign*, rev. 484
Tonsil enucleation followed by nasal diphtheria (B. Seymour Jones), 474 (O)
Tonsil operations, haemorrhage in, 456
Tonsils and adenoids, operations for, recommendations by the Council of the Section of Laryngology of the Royal Society of Medicine, 526—Leading article on, 527—Correspondence on, 740, 786
Tonsils and adenoids, end-results of removal of (Harold S. Sington), 341 (O)
Tooth extraction, multiple, 80, 168, 250
TOPLEY, W. W. C.: Reports of societies, 699
Toronto Academy of Medicine: War memorial tablet, 664
TOTTENHAM, R. E.: Routine pelvimetry in antenatal cases, 697
Tourniquet for cranial surgery, a self-retaining (George Robertson), 476
Toxaemias of pregnancy. *See* Pregnancy
Toxi-infective lesions of the central nervous system, localization of (David Orr and A. Corsar Sturrock), 877
Town planning and the medical profession (Captain R. L. Reiss), 920
Tracheo-bronchoscopy, review of books on, 684
Traffic fatalities in London, 736
Treatment centres for ex-service men. *See* Ex-service
Tremor, treatment of, 461
Trephinings, repeated (Philip of Nassau), 456
TREVOR, A. H.: Lunacy administration, 150
Trials, Notable British: Steinie Morrison, 568
Trichotillomania due to threadworms (Henry C. Semon), 641 (O)
Tropical Diseases Research Fund and the use of antimony in leprosy and syphilis, 939
Tropical diseases, review of books on, 231, 315
Tropical hygiene, the outlook in, 775, 819, 935, 974
Tropical Medicine, Bombay School of, a broken undertaking, 892
Tropical Medicine, Calcutta School of, 530
Tropical Medicine, London School of: Pass lists and degrees, 628, 664
Tropical medicine, the outlook in (Andrew Balfour), 775. *See also* Tropical hygiene
Tropics, review of books on, 231, 315—Medical practice in, 315
True, Ronald, trial of, 891—Leading article on, 963—Parliamentary note on, 969, 1008
TRUSCOTT, Sir George: Lunacy administration, 150
Trypanosomiasis from West Africa cured by antimony (Sir Percy Bassett-Smith), 311
Trypanosomiasis from Portuguese East Africa apparently cured (George C. Low and H. B. G. Newham), 96 (O)
Tuberculin, the local application of (James Crocket), 679 (O)
Tuberculin treatment of bronchial asthma, 128, 212, 252
Tuberculosis, abdominal, clinical aspects of (John Morley), 383 (O)—Correspondence on, 457
Tuberculosis, Aesculapius on, 586, 786
Tuberculosis, Alpine treatment of, 249, 292, 374, 666
Tuberculosis Care Committees: Circular from Ministry of Health, 855
Tuberculosis cases (parliamentary note), 408
Tuberculosis, clothing of natives in relation to, 504, 621
Tuberculosis, colony opened at Southfield, near Edinburgh, 931
Tuberculosis courses at Manchester, 409
Tuberculosis, deaths from (parliamentary note), 777
Tuberculosis, a diploma in, 324, 329, 333, 370, 414, 454, 622, 902, 940
Tuberculosis, disability pensions for (parliamentary note), 534
Tuberculosis dispensary, hip-joint disease in the, 935
Tuberculosis, genital in childhood, gynaecological sequelae of (Miles Phillips), 389
Tuberculosis in Holland, statistics, 629
Tuberculosis hospital to be erected as a memorial for the soldiers of Madison County, New York, 311
Tuberculosis, International Union against, Conference, 950
Tuberculosis of the lymphatic system (Sir Robert Philip, 129 (O)
Tuberculosis: Metabolism of children undergoing open-air treatment, heliotherapy, and balneotherapy (Leonard Hill, J. Argyll Campbell, with the co-operation of Sir Henry Gauvain), 301 (O)—Correspondence on, 456, 501, 781. *See also* Sun or air?
Tuberculosis, National Association for the Prevention and Cure of: Report of New South Wales Branch, 816
Tuberculosis in New York: Lowered death rate owing to increase in Jewish population, 444
Tuberculosis, notifications of (parliamentary note), 777—(Reginald Dudfield), 876
Tuberculosis, protection of mankind against (A. Calmette), 971, 997
Tuberculosis, pulmonary, collapse therapy in the treatment of (J. M. Johnstone), 954
Tuberculosis, pulmonary, complement fixation test in the diagnosis of (A. Lisle Punch and A. Hope Gosse), 509 (O)—Correspondence on, 739
Tuberculosis, pulmonary, followed by tuberculous meningitis (E. Emrys-Roberts and H. A. Haig), 521
Tuberculosis, pulmonary, therapeutic measures for the relief of, especially in relation to dispensary treatment (Dr. Wilson), 921
Tuberculosis, review of books on, 106
Tuberculosis, sanatorium treatment of, end-results of (F. W. Burton-Fanning and W. J. Fanning, 306 (O)
Tuberculosis, Spahlinger treatment for (parliamentary note), 365
Tuberculosis statistics (parliamentary note), 451
Tuberculosis, surgical, continuous treatment in (F. W. Goyder), 914 (O)
Tuberculosis, surgical, sun-cure treatment of (A. Robertson Wilson), 76
Tuberculosis treated with colloid of calcium (Edward E. Prest), 53 (O)—Correspondence on, 123
Tuberculosis treatment, discussion at Tuberculosis Society, 683
Tuberculosis Trust: Edinburgh Royal Victoria Hospital, 286
Tuberculosis in Wales (S. Lyle Cummins), 338 (O)
Tuberculosis in Wales: circular from the Welsh Board of Health, 76
Tuberculous cases, milk for (parliamentary note), 365
Tuberculous disease of bones and joints (Charlotte Brown), 104
Tuberculous disease of bones and joints, iliocolostomy for (Hamilton Drummond), 342 (O)
Tuberculous egg-prepared antigen, 109. *See also* Antigen
Tuberculous ex-service men, re-education of, 409
Tuberculous glands, treatment of (G. Grey Turner), 352—Discussion, 352
Tuberculous officers and nurses, 418
Tuberculous officers, sanatorium treatment for, 170
Tuberculous pericarditis (F. Joselin Jauch), 798
Tumour of the cervical spinal cord, intrathecal (W. Pearson), 522
Tumours of the brain (V. M. Synge), 920
Tumour, endosteal (Harry Platt), 61
Tumours, review of books on, 273, 392
Tumours of the spinal cord, intrathecal, diagnosis and treatment of (Sir William Thorburn), 49 (O)
Tumours, temporal lobe, 573
Türk and lymphoidocyte cell (J. C. Matthews and C. V. Pearson), 644
TURNBULL, J. C.: The general practitioner and the hospitals report, 780, 858
TURNBULL, R. C.: Lunacy administration, 151
TURNER, Aldren: War wounds in relation to life assurance, 799
TURNER, E. B.: Prevention of venereal disease, 288, 499—Influenza treated by salicin, 641
TURNER, G. Grey: The treatment of tuberculous glands, 352
TURNER, J. A. (and B. K. GOLDSMITH): *Sanitation in India*, rev., 956
TURNER, John, obituary notice of, 544
TURNER, John P.: *Ringworm and its Successful Treatment*, rev., 647
TURNER, Philip: The treatment of empyema, 329—Diathermy in surgical practice, 953
TURNER, Thomas, obituary notice of, 627
TURRELL, W. J.: Electrical methods in gynaecology, 144—*X*-ray treatment of cancer, 314, 415—*The Principles of Electrotherapy and their Practical Application*, rev., 606
TURTLE, Frederick, obituary notice of, 979
TURTLE, G. de B.: Some points on spasm of the alimentary tract, 105
TWEEDY, Hastings: Obstetrical shock, 605
Twins, thoracophagous (G. I. Strachan), 61
TYLECOTE, F. E.: Scarlet fever and scarlatiniform rashes, 271
Type cultures, national collection of, 403
Typhoid fever. *See* Fever, enteric
TYRRELL, E. J.: Congenital absence of deltoid muscle, 719
TYSON, W. J.: Appreciation of Charles Parsons, 584

U.

Uganda, contagious diseases in (parliamentary note), 534
UHTHOFF, K.: *Über das Schicksal der Kriegsblinden und ihre Versorgung mit besonderer Berücksichtigung der Kriegsblinden Schlesiens*, rev., 356
Ulcer, duodenal, in a newborn infant (H. G. K. Young), 311
Ulcer, duodenal, treatment of perforated (A. H. Southam), 556 (O)
Ulcer, gastric, diagnosis and treatment of: Discussion at Royal Society of Medicine, 188
Ulcer, gastric, perforating, treatment of (A. H. Southam), 556 (O)—Correspondence on, 696
Ulcer, gastric, treatment of (Sir William Hale-White), 214 (O)
Ulcer, gastro-jejunal, surgical treatment of (Garnett Wright), 392
Ulcer, peptic (K. W. Monsarrat), 271, 553 (O)
Ulcer, peptic jejunal, 37
Ultra-violet radiation, skin effects of, 448
Ultra-violet rays not successful in disinfecting wool, etc., infected with anthrax, 703
UMBERTO I prize, award of, 252
Umbilical cord, knot in as a cause of accidental haemorrhage (A. F. Grattan Guinness), 875
Unconscious humour, 212
UNGER: Sunlight and rickets, 611
Union Médicale du Canada, jubilee of, 197

UNITED STATES:
American Association of Anatomists: Annual meeting, 51
Alcohol prescriptions issued in 1921: In New York State, 311—In Chicago, 311
Alcohol, questions on the uses of, 83
American Congress of Internal Medicine and the College of Physicians: Annual meeting, 785
American Medical Association, 743, 846
American Public Health Association, fiftieth anniversary of, 804
American Society of Experimental Biology, Federation of: Annual meeting 51
American surgeons' European tour, 861
An anaerobic organism producing a soluble toxin (botulism organism), 558
Animal Experimentation Protection Committee formed in Boston, 333
Baker, Sara Josephine, dinner to on completion of twenty-five years' work in the Public Health Service, 743
Bloomingdale Hospital centenary, 654
Botulism, fatal, 893
"Chiropractors" and malpraxis, 127
Congress of medical education—licensing, public health, and hospitals, 171
Crippled children in Michigan, treatment of, 635
Daily medical clinics, proposed, 440
Death rate of New York City, 294; of Chicago, 294
Encephalitis lethargica, deaths from, 558, 939—Discussion on in New York, 694
Gorgas Memorial Institute: Election of officers, 294
Half-century of public health in North America, 804, 845, 881, 924, 961, 1003
Harvey Society lecture on "The *raison d'être* of the red corpuscle" (Joseph Barcroft), 333
Health of: Statistics of insurance companies, 97
"Helpful health hints," 127
Jaundice, epidemic, in New York, 589
Kankakee City Medical Society discharge the duties usually performed by the county and township medical officer, 503
Leprosy in New York, 589
Male doctors and female patients, 353
Medical mortality in, 156
Medical School of Columbia University, N.Y., 968
Mental disorders: Free clinics for, 743
New York: scarlet fever in—additional doctors, nurses, and inspectors to be employed, 333—Influenza and pneumonia in, 419—Resolution that dogs should be exempted from scientific experimentation defeated, 419—Proposed daily medical clinics open to all members of the medical profession, 440—Lower tuberculosis mortality owing to larger Jewish population, 444—Number of children who have received preventive treatment for diphtheria, 516

UNITED STATES (*continued*):
New York State: Number of persons admitted to asylums in 1921, 331—Bill introduced forbidding a male doctor to treat a female except in the presence of another female, 353
Free clinics for mental disorders, 743—Farm presented to physicians' home by Drs. W. H. and S. V. Mountain, 939
Pneumonia, experimental prophylactic inoculation against, statement by New York Academy of Medicine, 608
Post-graduate study in Pennsylvania, 719
Prohibition and the medical profession, 448
Proprietary medicines, list of new and non-official, 927
Public health in North America, 804, 845
Public health training in, 533
Russia, relief administration in, 629
St. Louis, amenities of, 846
Shaving brushes made from horsehair, sale of prohibited in New York owing to danger of anthrax, 127
Small-pox in Oklahoma, 258
State Department of Registration and Education (Illinois), committee appointed to inquire into alleged irregularities in issuing of licences and certificates, 779
Sterling Hall of Medicine at Yale, 225
Surgical tour in, 158
Tuberculosis hospital to be erected as a memorial to soldiers of Madison County, New York, 311
X-ray laboratories, stringent regulations by New York Board of Health, 570
Workers' Health Bureau founded, 776

Unity History School, 400
University of Aberdeen: Degrees and pass lists, 43, 584—Honorary degrees, 585
University of Adelaide: Resignations and appointments, 411
University of Belfast, Queen's: Pass lists and degrees, 544, 628
University of Belgrade: Representatives from visit England, 127
University of Birmingham: Medical arrangements, 696—Ingleby lectures, 700
University of Bristol: Degrees and pass lists, 332, 742
University of Cambridge: Appointments, 293, 903—Degrees and pass lists, 42, 126, 170, 210, 293, 332, 460, 544, 700, 742, 820, 860, 938, 979, 1011—Examination plan, 742—Mathematics to rank *pari passu* with the existing subjects for Part I Natural Science Tripos, 460 — Psychological medicine, diploma in, 627, 903
University, Christian, in India, 412
University, Columbia, New York, medical school of, 968
University of Dublin: Honorary degree of Master of Surgery, 460—Degrees and pass lists, 584—School of Physic, Trinity College, 584—Regius Professor of Surgery, 899. *See also* College, Trinity
University of Durham: Pass lists and degrees, 544, 584
University of Edinburgh: Appointments, 501, 972—Chair of Botany, 327—Degrees and pass lists, 43, 544—Extensions, 931—Honorary degrees, 544—Moncrieff-Arnott chair, 972—Paris Faculty of Medicine, 737
University education for ex-service men (parliamentary note), 657. *See also* Ex-service
University of Glasgow: Appeal, 117—Degrees and pass lists, 664—Gold medals awarded, 210
University grants, 71, 245—Report of Royal Commission, 525
University of Jena: Honorary degrees, 980
University of Jerusalem: Volumes collected for the library, 127
University, Johns Hopkins: New division of biophysics established in the department of pharmacology, 39—Donation for the school of hygiene from the Rockefeller Foundation, 585—Tuition fees to be increased, 704
University of Königsberg: Honorary title of Doctor of Medicine conferred upon General Ludendorff, 980
University of Lausanne: Lectures on experimental biology, 665
University of Leeds: Appointments, 1011—New plans of the medical school, 21, 844—Conferment of the honorary degree of Doctor of Science on Sir Harold Stiles, 784—William Hey medal in medicine and surgery, 373
University of Liverpool: Degrees and pass lists, 126, 502, 860—Honorary degrees, 860 — Orthopaedic surgery, course for the degree of Master of, 938

UNIVERSITY OF LONDON:
Admission to faculties, 460
Annual service, 628
Applications for grants, 628
Appointments, 292, 373, 418, 460, 544, 627, 979, 1011
Brown Animal Sanatory Institution, bequest to, 43
Bucknill scholarship, 860
Correction, 585
Degrees and pass lists, 419, 544, 585, 742, 903
Examiners, 979
Lectures, 43 293, 628, 820
Lindley studentship, 628
London Hospital Medical College to admit men students only in the future, 43
M.B., B.S. examination papers (for October, 1921) now obtainable, 177, 293

UNIVERSITY OF LONDON (*continued*):
Matriculation results, 419
Meeting of Senate, 293, 373, 460, 544, 585, 627
Parliamentary notes, 493
Parliamentary representation of, 72
Psychological medicine diploma regulations, 460
Recognition of teachers, 43, 460, 627
Regulations for the M.D. examination, 980
Report, 815
St. Thomas's Hospital, 860
Scholarships, 293, 860
Site, 284, 326, 493
Studentships, 293
University College, 628
University medals awarded, 43, 293
University of Padua centenary, appointment of Lord Dawson of Penn as representative, 628
University studentship, 628
Vice-Chancellor appointed, 1011

University of Louvain receives a legacy for erecting a special building for cancer research, 461
University, McGill: Entrance standard for students to be raised, 127
University of Manchester: Roll of honour, 205—Lectureship in pharmaceutics, 211—Medical school, 245—Tuberculosis courses, 409—Resignations, 418, 584, 860, 938, 1011—Congratulations, 418—Appointments, 460, 1011—Delépine Fellowship, 502—Degrees and pass lists, 584, 860

UNIVERSITY OF OXFORD:
Appointments, 460
Boyle lecture, 903
Christopher Welch Scholarship in Biology, 1922, 210
Degree days, 293
Degrees and pass lists, 42, 210, 251, 373
Litchfield Lectures in Surgery, 460
Radcliffe Prize, 293
Radcliffe Travelling Fellowship, 251, 501
Rolleston Memorial Prize, 1922, 210, 979
Romanes Lecture, 293
Science departments, 251

University of Padua: Seventh centenary of, 34, 373, 778 848—A century of medicine at, 489, 543
University of Pennsylvania: Undertakes to establish (in association with the Medical Society of the State of Pennsylvania) a number of points of post-graduate medical extension groups, 719
University of St. Andrews: Degrees and pass lists, 43, 170—Honorary degrees, 8 0
University of Sheffield: Appointments, 293—Degrees and pass lists, 293
University of Sydney: Professor of psychiatry appointed, 812
University of Toronto: Post-graduate course for diploma in radiology, 333
University of Vienna: Personal donation to from the Japanese ambassador, 565
University of Wales: A diploma in tuberculosis, 324, 329, 333—Honorary degrees, 664—Welsh National Medical School, 963. *See also* Wales
University of Yale: Anonymous gift to found a professorship in honour of W. H. Carmalt, 444
Unqualified practice, a coroner on, 615
Ureterocele (J. B. Macalpine), 315
Urethroscope tube for the posterior urethra, 356
Urine abnormalities in children, the significance and treatment of (A. Dingwall-Fordyce), 97 (O)
Urine, cellular elements in, a clinical test for the presence of (T. H. C. Benians), 100 (O)
Urology, comparative (Professor Hobday), 876
Urology, review of books on, 107, 272, 482
Uterus, fibroids of. *See* Fibroids
Uterus, inversion of (Haig Ferguson), 192
Uterus, minor displacements of the uterus as a cause of disability in women (John S. Fairbairn), 587 (O)
Uterus, rupture of through Caesarean section scar (W. Gough), 390. *See also* Caesarean
Uterus, sarcoma of (C. D. Lochrane), 565—(Christopher Martin), 565
Uterus, spasmodic stricture of (M. A. Dobbin Crawford), 135 (O), 145
Uterus, supports of (L. Cassidy), 606
Uterus, acute torsion of (Beckwith Whitehouse), 565

V.

Vaccination and small-pox, 116
Vaccination of Air Force recruits (parliamentary note), 777
Vaccination compulsory in Oklahoma, U.S.A., 258
Vaccination against typhoid fever. *See* Fever, enteric
Vaccination vesicles, area of, 939
Vaccine, Klebs-Loeffler's bacillus, reaction to treatment by (Daniel Hughes), 387
Vaccine lymph, preparation of (leading article), 847—Correspondence on, 933
Vaccine therapy (E. Cronin Lowe), 16
Vaccines, an alternative method of administering (David Lees), 801
Vaccines, detoxicated, further researches on (David Thomson and Robert Thomson), 796 (O)—Correspondence on, 858, 901, 934, 976
Vaccines by the mouth, 108
Vaccines, residual, in acute bacterial diseases (C. E. Jenkins), 596 (O)
Vaccines in treatment of whooping-cough, the value of (Donald Paterson and James M. Smellie), 713 (O)—Correspondence on, 781
Vaccinia, the nature of the virus of, 405
Vaginal retractor, a self-retaining, 64
VAILLANT: Antityphoid vaccination by the mouth, 613
Valentine Mott's aneurysm needle. *See* Needle
VALLERY-RADOT, Pierre (and G. LACAPÈRE): *Traitement de la Syphilis Héréditaire et de la Syphilis Infantile Acquise*, rev., 1000
Valvular disease of the heart. *See* Heart
Van den Bergh test in jaundice (J. W. McNee), 716 (O)—A correction, 783
VAN LOGHEM, J. J.: Transmission of plague by rats, 404
Varicella and herpes. *See* Herpes
Varicose veins, rupture of, mimicking accidental haemorrhage (Charles J. Hill Aitken), 875
VAZIFDAR, Major S. S.: Parkinson's disease, 665
VEALE, F. de Coverly: Exchange of clinical information, 291
Veins, femoral, thrombophlebitis of, following lobar pneumonia (T. Stenner Evans), 602
Veins, varicose. *See* Varicose
Venereal disease: Antivenereal disease dispensaries in Berlin, 825
Venereal disease arrangements in London, 618
Venereal disease clinics: A lay point of view, 38—"Following up" in, 744
Venereal disease: Committee of inquiry appointed, 655 812
Venereal disease: Disinfection policy (parliamentary note), 776
Venereal disease: Discussion at Medical Women's Federation, 809
Venereal disease and England, 975
Venereal disease, incidence of, 77
Venereal Diseases, National Council for Combating: Sixth annual report, 108—Urges further steps to be taken to secure adequate prevention and treatment, 295—Conference at the Guildhall, 703
Venereal disease notification: Meeting at Paddington, 735—Conference at the London Guildhall, 767
Venereal disease, parliamentary notes on, 409, 776, 812, 813
Venereal disease prevention, 247, 288, 295, 330, 413, 457, 499, 582—In the Australian Imperial Force, 330
Venereal disease, review of books on, 147
Venereal disease in Scotland (Sir Leslie Mackenzie), 778
Venereal disease and sex education: Report by a Swedish Government committee, 842
Venereal Disease, Medical Society for Study of: Proposed formation of, 859—Formation of, 980—Policy of, 1002. *See also* Society
Venereal disease. *See also* Syphilis
Venomous animals and their poisons, review of book on, 482
VERCO, Sir Joseph, retires from some of his activities, 411
Vernacular medical terms. *See* Medical
VERNON, C. Heygate: "Following up" in V.D. clinics, 744
VERNON, H. M.: *Industrial Fatigue and Efficiency*, rev., 16—The conditions in potters' shops, 929
VERRALL, Sir Jenner: Appreciation of Edwin Rayner, 169—Appreciation of Charles Parsons, 584
VERRALL, P. Jenner: The technique of bone grafting, 603
Vertebra, fifth lumbar, sacralization of (C. Thurstan Holland), 61
VESEY, D: Alpine treatment of tuberculosis, 292
Vesicular eruption after influenza. *See* Influenza
Vessels, relation of the curvature of, and of hollow viscera to their internal pressure (Cranston Walker), 260 (O). *See also* Viscera
Vienna: Post-graduate courses in, 28, 38, 81, 167, 466, 661—Early days of the medical school at (C. G. Lowry), 104—The Academy of Military Medicine converted into a museum for the history of medicine, 216
Vienna kliniks, 661, 786
Vienna Medical School, review of book on, 803
VILVANDRE, G. E.: Methods of stomach examination, 958—Deep-seated radiotherapy, 959
VINCENT, Swale (and A. W. SHEEN): The function of the chromaphil tissues in relation to splanchnic stimulation, 343 (O)—*Internal Secretion and the Ductless Glands*, rev., 879
VINES, H. W. C. (and W. R. GROVE): Calcium deficiencies: their treatment by parathyroid, 791 (O)
Viscera, hollow, and vessels, curvature and pressure (Cranston Walker), 260 (O)—Correspondence on, 370, 416, 455
Visual fields in lesions of the nervous system (J. Gray Clegg), 392
Vital statistics for England and Wales (1921), 170—Deaths in the great towns, 170—Report of Registral-General for Scotland, 1005
Vitamin theory in rickets (E. Mellanby), 20
Vitamins, the destruction of (leading article), 236—Note on, 420
Vitamins, review of books on, 840, 955
Vitamins, the sources of (leading article), 112
VIVIAN, Margaret C.: Medicinal paraffin as a dressing for septic wounds, 940
"Vivisectors and cinematographs": A flank attack, 569—Note on, 577—Correspondence on, 666, 704

VLIELAND, Dr.: Syphilitic paronychia, 919
Vocal Therapy Society *See* Society
Volatile oils in cholera. *See* Cholera
VOLTZ, F.: *Die physikalischen und technischen Grundlagen der Messung und Dosierung der Röntgenstrahlen*, rev., 233 — *Dosierungstafeln für die Röntgentherapie*, rev., 233
Vomiting, intractable, due to cerebral syphilis (R. Hamer Hodges), 187
Vomiting of pregnancy. *See* Pregnancy
VON NOORDEN, Carl: *Über den Jetzigen Stand der Diabetestherapie*, rev., 354
VOS, George H.: Rhythmic irregularity of the heart, 982
"Voyage d'Études Médicales," 981, 1011

W.

WADSWORTH, Raymond V.: Analyses of cocao beans, 419
WAKELEY, C. P. G.: Radium applicator forceps, 842
WALDO, F. J.: Annual report as Coroner for the City of London, 410—Identification and the "view" at coroners' inquests, 732—Suggestions for the avoidance of street accidents, 736
WALDO, Henry: Treatment of psoriasis, 1012

WALES:
Health Service, South Wales (parliamentary note), 534
Memorial tablet to members of the 1st Welsh Field Ambulance (R.A.M.C.T.) unveiled at Christ Church, Ebbw Vale, 1011
Tuberculosis in. *See* Tuberculosis
Welsh Board of Health, 76
Welsh National School of Medicine, 33, 117, 205, 326, 333, 963—Leading article on, 963. *See also* University of Wales

WALKER, B.: A diploma in tuberculosis, 940
WALKER, Cranston: The relation of the curvature of vessels and of hollow viscera to their internal pressure, 260 (O), 371
WALKER, Cyril: Quackery in relation to eye diseases, 446
WALKER, E. W. Ainley: A confusion of names, 331
WALKER, Jane: Treatment of tuberculosis, 683
WALKER, J. T. Ainslie: A confusion of names, 374
WALKER, J. W. Thomson, knighthood conferred upon, 25—Calculi in animals, 877
WALKER, Kenneth M: Hunterian lecture on the nature and cause of old-age enlargement of the prostate, 297 (O)—Letter on above, 454, 622—The route of renal infection, 561
WALKER, Norman: *An Introduction to Dermatology*, rev., 567—Appreciation of F. D. Boyd, 663—Medical education in India, 816
WALKER, P. H.: Suicide in borderland cases, 630
WALL, Vivian: Treatment of gonorrhoea by electrolysis, 168
WALLACE, Sir Cuthbert: Diagnosis of gastric ulcer, 188
WALLER, Augustus D., obituary notice of, 458
WALLIS, Mackenzie: Toxic action of arsenobenzol compounds on the liver, 312—Albuminuric in pregnancy, 520
WALSH, David: Intestinal disinfection in enteric fever, 462
WALSHE, M. C.: Diagnostic shoulder straps, 1012
WALTER, R. Hensleigh, receives permission to wear the insignia of the Belgian Médaille du roi Albert, 703
WALTERS, F. Rufenacht: *Domiciliary Treatment of Tuberculosis*, rev., 106—Treatment of tuberculosis, 683
WALTON, A. J.: Treatment of gastric ulcer, 228
WANKLYN, W. McC.: Differential diagnosis of the exanthemata, 439
War wounds in relation to life assurance, discussion on, 799. *See also* Life assurance
WARD, Gordon: A case resembling leukaemia, 191
WARD, H. K.: The *X*-ray treatment of cancer, 313
WARD, J. A., presentation to, 825
WARD, J. F.: Congenital stenosis of bile duct, 314
WARD, Ogier: War wounds in relation to life assurance, 799
WARDE, A. A.: The "salivary test" as a routine, 862
WARDILL, W. E. M.: Bovine achondroplasia, 817
WARING, H. J.: Hospitals of the future, 760 – Elected Vice-chancellor of the University of London, 1011
Wassermann reaction, history of (H. R. Dean), 193
Wassermann test, review of book on, 441
Water disinfection, machine to produce hypochlorites for, by electrolysis, 334
Water shortage, conference of experts to consider, 171
Water supply (parliamentary note), 1008
Water supply of London in a dry summer, 1009
WATERS, Lieut.-Col. Ernest E.: *Diabetes, its Causation and Treatment; with Special Reference to the Tropics*, rev., 1000
WATERSTON, J.: *The Louse as a Menace to Man*, 157
WATKINS-PITCHFORD, Dr.: Notes on a case of trypanosomiasis from Portuguese East Africa apparently cured, 96
WATSON, Benjamin Philp, appointed Professor of Midwifery in Edinburgh University, 501
WATSON, Bingham: Society of Apothecaries of London, 1010
WATSON, Mrs. Chalmers: Employment of married women, 481
WATSON, J. R.: Unusual fecundity, 462
WATSON, Malcolm: *The Prevention of Malaria in the Federated Malay States*, rev., 17—Quinine and the quinine controversy, 561
Watson and Sons, Ltd., report on *x*-ray protection work and appliances, 939
WATSON-WILLIAMS, P.: Rheumatoid arthritis due to infection of the nasal accessory sinus, 88 (O)
WALTERS, B. D.: Skin effects of ultra-violet and radium radiation, 448
WAUGH, G. H.: Treatment of broken chilblains, 461—Treatment of psoriasis, 1012
Waziristan campaign: Dispatch from General Lord Rawlinson, 743
WEAR, Dr.: Some aspects of school medical work, 187
WEATHERHEAD, E.: "Stimulants," 123
WEBB, Ella: Milk and the public health, 681
WEBB, J. Curtis: Deep *x*-ray therapy in malignant disease, notes on a visit to Erlangen, 92 (O)—Biological effects of *x* rays, 250
WEBER, F. Parkes: A case resembling leukaemia, 191—Hydroa aestivale, 546
WEBSTER, Alfred: *Cardiac Arrhythmia and the Neocardiology*, rev., 921
WEBSTER, Douglas: The normal stomach, 958
WEBSTER, Dr.: Treatment of pneumonia in the older patient, 351

The Week:
Académie de Médecine of Paris, centenary volume of, 447
Air, suspended impurity in, 654
Alcohol, effect of on gastric digestion, 448
Alcohol in relation to industry, 574
Alkaptonuria, 73
Anaphylaxis and anaphylatoxins, 532
Anglo-Batavian Society, 776
Annual Meeting at Glasgow, 850—The Pathological Museum, 204—Surgical discussions, 447—Scientific sections, 574, 614, 653, 693, 731, 810
Antityphoid vaccination by the mouth, 613
"Archives of Medical Hydrology," 852
Art in industry, 1006
Association of Certified Blind Masseurs, 812
Asylum administration, 73
Asylum system, 893
Auto-suggestion and the Coué method, 575
Beginnings of a cult, 280
Beit Memorial Fellowships, 655
Biological Actions of Light, Committee on, 324
Biological studies in the Madeiras, 775
"Birth control" in Austria, 281
Birthday honours, 928
Blind, training of, 894
Bombay School of Tropical Medicine: A broken undertaking, 892
Botulism, fatal, 893
Calcutta School of Tropical Medicine, 530
Campbell, Robert, memorial oration, 403
Cancer, importance of early treatment of, 776
Cancer research, 200, 238
Carbohydrates, the importance of, 449
Carbon monoxide in lighting gas, 323
Cassel hospital for functional nervous disease, 774
Century of medicine at Padua, 489
Chemistry, the history of, 158
Cinematograph and vivisection, 577
Cocaine, 849
College of Surgeons in 1822, 240
Colour blindness in seamen, tests for, 155, 810
Congress of the History of Medicine, International, 811
Congress of the Ophthalmological Society, 204
Congress of Otology, International, 693
Congress of Radiology and Physiotherapy, 965
Coroner and the oath, 967
Coroner on unqualified practice, 615
Coroner's verdict, 692
Cremation, progress of in England, 116
Criminal cases, procedure in the defence of insanity in, 732
Deaf, education of the, 490
Dentists Register, 893
Dover's powder, the inventor of, 280
Economy and information, 1005
Encephalitis lethargica, 694
Enteric fever, incubation and contact carriers of, 27
Epidemics in Eastern Europe, 653
Epidemiological intelligence work, 278
Epidemiological statistics of Eastern Europe, 238
Face, human, the growth of the, 449
Famine and disease in East Europe, 774
Fellowship of Medicine and Post-graduate Medical Association, 615, 655, 967
Ferrier, John, 531
Foot and mouth disease, 810
Fowler Dr. Thomas: History of Fowler's solution, 115
"From grave to gay," 491
Gamma rays from a large quantity of radium, effects of, 405
"Gassed" plants, 851
Gaseous distension of the splenic flexure, 73

The Week (*continued*):
Geddes Committee's report, 281, 406—The Government and, 406
General Medical Council, 730
Gordon Memorial College, Khartoum, 364
Harveian Society, 1007
Harvey, Gideon, 202
Havers, Clopton, 930
Health Organization of the League of Nations, 692
Historical document, 281. *See also* Geddes Report
Hookworm in Cornwall, 406
Hospital staffs, Conference of, 529
Hospitals and paying patients, 324
How it strikes a contemporary, 965
Hunter and Jenner, 490
Hygiene, the new school of, 447
Identification and the "view" at coroners inquests, 732
Income tax and locumtenents, 894
Income tax and superannuation funds, 361
Indexes, half-yearly, 281
Industrial fatigue and motion study, 157
Industrial Fatigue Research Board, report, 722
Industrial hygiene 776
Industrial uses of micro-organisms, 115
Infants' weights, 774
Influenza, 117, 279
Inspection of examinations, 691
International exchange of lecturers, 654
International Society of the History of Medicine. *See* Medicine
Irish Medical Schools' and Graduates' Association, 491
Jaundice, diagnosis of obstructive, 731
Jenner, Edward, a letter of, 968
Journal of Metabolic Research, 654
Journal of Scientific Instruments, 809
Keogh, Sir Alfred, 852
Kew Gardens, 116
King Edward VII Sanatorium, Midhurst, 851
Lead poisoning, regulations to prevent, 773
League of Nations and the opium traffic, 238—Health organization of, 692
Leprosy research in Bengal, 849
Leprosy treatment in the Philippines, 240
Lethargic encephalitis. *See* Encephalitis
Leucocytic count in infants, 576
Lister Institute, 729
Malaria in Denmark, disappearance of, 489
Man and the louse, 157
Manson, Sir Patrick, 159
Many inventions 733
Maternal mortality problem in New Zealand, 114
Maudsley courses in practical psychology, 491
Meat inspection, 575
Mechanism of heredity, 965
Medical Insurance Agency, 26
Medical mortality in America, 156
Medical officer of health for Manchester, 1005
Medical officers of health, an honour to, 324
Medical portraits at the Royal Academy, 732
Medical Postmaster-General of the United States, 614
Medical Research Council, 201
Medical School of Columbia University, 968
Medical science and the theatre, 966
Medical Society of London, 449
Medical Women's Federation, 809
Medicine in the *Encyclopaedia of Religion and Ethics*, 240
Medicine, History of, International Society of the, 159
Medicine and industrial legislation, 966
Medicine in Soviet Russia, 203
Meningitis, operative treatment of, 363
Mental After-Care Association, 364
Mental Hygiene: National Council for, 694
Mental and physical efficiency, the relation between, 27
Microscope in medical research, 489
Milk, clean, 363
Mobile laboratories, 362
Molière, 72
Montagu, Mr., 490
Motor taxation, 772
Mount Everest achievement, 1006
New Year's honours list, 25
Nutrition and health, 1006
Operation circle in London, 491
Oxford Ophthalmological Congress, 365, 1007
Padua, century of medicine at, 489, 848
Parasites of bacteria, 362
Parliamentary session, the new, 202 241
Pasteur centenary at Strasbourg, 613
Pathological and Bacteriological Laboratory Assistants' Association, 577
Pathological Museum at the Annual Meeting, 204
Peking Union Medical College, 241
Pensions Orthopaedic Hospital, Shepherd's Bush, 321, 364
"Phyllosan," 968, 1007
Physician on the surgical treatment of empyema, 239
Physiological effects at high altitudes, 966
Physiological problems in obstetrics, 850
Physiology and the war, 239
Plague transmitted by rats, 404
Plague in Shakespeare's London, 156
Plant diseases, 931
Post-graduate courses in London, 116, 159, 577, 694, 894
Post-graduate course in paediatrics, 894
Potters' shops, conditions in, 929

The Week (*continued*):
Presidency of the Royal College of Physicians of London, 613
Preventive medicine in Soviet Russia, 574
Prizes for research, 200
Procedure in the defence of insanity in criminal cases, 732
Professional Classes Aid Council, 733
Professional protection societies and income tax, 531
Professor of Psychiatry, Sydney, 812
Prohibition and the medical profession, 448
Psychiatric milestone, 654
Psychology in industry, 532
Public health training in America, 533
Radiology and physics, 323
Radiology and Physiotherapy Congress, 576
Research, prizes for, 200
Research work in aviation, 26
Rickets in the Bronze Age, 851
Rockefeller Foundation, the example of, 201
Roman surgery in the first century, 447
Russian epidemic menace, 532
St Bartholomew's Hospital octocentenary, 204
Salvarsan, dangers and limitations of, 530
Sanitary Officers Order (1922), 575
Schick reaction, 774
School medical officers, a course for, 27
Scientific periodicals, list of, 71, 693
Sex, determination of, 157
Shepherd's Bush Special Surgical Hospital, 530
Sickness and insurance, 733
Skin effects of ultra-violet and radium radiation, 448
Small-pox, mild, 614
Small-pox in Singapore, 730
Small-pox and vaccination, 116
Smoke prevention and public apathy, 614
Social study of a community (Aberdare), 113
Spas, cheaper, 533
Spas of France, 929
Spiritual healing, 72, 322
Stewart lectures at Melbourne, 28
Supperannuation funds and income tax, 361
Surgical tour in the United States and Canada, 158
Suspended impurity in the air, 654
Teeth of the nation, 323
Telephones, 811
Territorial Army reductions, 406
Tropical medicine, the outlook in, 775
Tuberculosis, diploma in, 324
Type cultures, national collection of, 403
Typhus fever, etiology of, 849, 930
Typhus fever, prophylaxis for travellers, 404
University grants, 71
University of London, representation of, 72
Venereal disease inquiry, 812
Vernacular medical terms, 72
Vienna, 28—Post-graduate courses, 28
Virus of vaccines, nature of, 405
Vocational selection in industry, 279
West London Medico-Chirurgical Society, 967

WEIR, Colonel Patrick Alexander, obituary notice of, 976
Welfare magazines, over 200 being published, 545
Welfare workers in factories and workshops (leading article), 153—Correspondence on, 291
Welsh Board of Health issues a circular *re* tuberculosis, 76
Welsh Committee and the Welsh National School of Medicine, 326
Welsh National Medical School. *See* University and Wales
Welsh. *See* Wales
WENCKEBACH, K. P.: Post-graduate courses in Vienna, 38
WESENBERG LUND, C.: Danish mosquitos, 489
WEST, Lieut.-Col. J. W., appointed honorary surgeon to the King, 938
WESTBY, George, obituary notice of, 502
WESTMAN, Carl: Remedial exercises in scoliosis, 436
WESTON, Mary E.: Observations on two and a half years' ante-natal work, 837 (O)
WETHERBEE, Hugh: Erythema nodosum associated with acute rheumatism, 995
WELTERWALD, Dr.: Backache and referred pain, 960
WEYGANDT, W.: *Erkennung der Geisterstörungen* [*Psychiatrische Diagnostik*], rev., 485
WHEELER, R. E. Mortimer: Rickets in the bronze age, 851
WHEEEER, Sir W. I. de C.: Stiff metacarpophalangeal joints treated by Verrall's splint, 391—Arterio-venous aneurysms, 521—Appreciation of Edward Henry Taylor, 741—Clean milk, 900—A pulmonary sign in acute infections of the biliary tract, 974
WHITE, Clifford: Treatment of uterine fibroids, 604—Cancer of cervix extending to vagina, 605
WHITE, Major C. E. (and H. H. DALE): Experimental method of determining the therapeutic efficiency of "914" preparations, 312
WHITE, G. B. Mower, appointed emeritus surgeon to the Royal Northern Hospital, 83
WHITE, H. P. Winsbury (and Clifford MORSON): Three cases illustrating the value of pyelography, 257 (O)
WHITE, J. Renfrew: *The Clinical Examination of Surgical Cases: a Handbook for the Use of Students and Practitioners*, rev., 765
WHITE, S. E.: Suicide in borderland cases, 79, 287, 542—Asylum methods, 858
WHITE, W. A.: *The Mental Hygiene of Childhood*, rev,, 525
White lead. *See* Lead
WHITEHOUSE, A. Landon: Fencing and physic, 666
WHITEHOUSE, Beckwith: Salpingotomy *versus* salpingectomy, 103—Tubal lithopaedion, 103—Acute torsion of the uterus, 565
WHITNALL, S. E.: *The Anatomy of the Human Orbit and Accessory Organs of Vision*, rev., 146
Whooping-cough, value of vaccines in the treatment of (Donald Paterson and James M. Smellie), 713 (O)—Correspondence on, 781
Whooping-cough. *See also* Pertussis
WHYTE, F. H.: A method of preventing puerperal infection, 638 (O)
WIDAL, Fernand: Anti-anaphylaxis, 854
WIDDOWSON, T. W.: *Notes on Dental Surgery and Pathology*, 18
WILCOCKSON, G. M.: Catheter lubricants, 503
WILD, George Samuel, obituary notice of, 332
WILDEY, Surgeon Rear Admiral A. G., Order of the Crown of Italy conferred upon, 743
WILDISH, G. H.: Antimony in leprosy, 55 (O)
WILKIE, D. P. D.: Acute intestinal obstruction, 104—Acute tubal peritonitis, 350—Internal strangulation of the bowel, 392—A pulmonary sign in acute infections of the biliary tract, 908 (O)
WILKINSON, George: Apparatus illustrating the resonance theory of hearing as applied to the cochlea, 762
WILLCOX, Sir W. H.: Treatment of gastric ulcer, 228—Albuminuria in pregnancy, 521—Rheumatoid arthritis, 998
Willesden Medical Services (parliamentary note), 282
WILLIAMS, Bowen: Stricture of stomach due to swallowing sulphuric acid, 145
WILLIAMS, D. Owen: Clinical forms of influenza, 546
WILLIAMS, H. O (and D. A. RICE): An abdominal form of influenza (?), 680
WILLIAMS, J. Price: The case of Mr. F. W. Axham, 976
WILLIAMS, Leonard: Morocco bound, 826—The interstitial gland, 833 (O), 1010
WILLIAMS, Stenhouse: Clean milk, 363
WILLIAMS, Lieut.-Col. T. S. B.: Sterility with reference to the State, 546
WILLIAMSON, Herbert: Pregnancy toxaemias, 605
Willing's Press Guide, rev., 108
WILLIS, Edward Ernest, sentenced for manslaughter, 419
WILLIS, Sir Frederick J.: Lunacy administration, 149
WILLMORE, J. Graham: Malarial glycosuria, 330
WILLOCK, E. H.: Appreciation of Charles Wray, 332
WILSON, Arthur Edward, obituary notice of, 783
WILSON, A. Robertson: Treatment of surgical tuberculosis by sun cure at Leysin, 76
WILSON, C. M.: Another confusion of names, 699
WILSON, Dr.: The therapeutic measures for the relief of pulmonary tuberculosis, especially in relation to dispensary treatment, 921
WILSON, George Dunn, obituary notice of, 824
WILSON, H. F.: Intrarectal tartarated antimony in bilharziasis, 137 (O
WILSON, James Alexander: Functional amblyopia, 875
WILSON, J. C., summons a man for assault, 461
WILSON, R. M.: *The Clinical Study of the Early Symptoms and Treatment of Circulatory Diseases in General Practice*, rev., 148
WILSON, S. A. Kinnier: Common nervous symptoms and their diagnostic significance, 230
WILSON, T. Stacey: A physiological explanation of pain due to functional disturbance of the muscles of the colon, 944 (O)
WILTSHIRE, Harold: Syphilis of the heart, 683
Winding sheets, woollen, 172
WINKLER, C.: The human neo-cerebellum, 769
Winnipeg: Building to be erected exclusively for medical practitioners and dentists, 902
WISHART, Robert MacLaren, obituary notice of, 824
WITKOWSKI, Dr. (and Dr. CABANÈS): *L'Esprit d'Esculape*, rev., 923
WOLBACH, S. Burt (John L. TODD and Francis W. PALFREY): *The Etiology and Pathology of Typhus*, rev., 955
Wolfram arc reactions and heliotherapy, 124
WOLSELEY-LEWIS, Dr.: Lunacy administration, 150
Women health visitors, salaries (parliamentary note), 813
Women, married, employment of (Mrs. Chalmers Watson and Gladys Miall Smith), 481
Women, married medical, whose husbands are able to support them, 820
Women medical students. *See* Medical
Women's Health Association. *See* Association
WOODHEAD, Sir German Sims, obituary notice of, 39, 81—Memorial service in London, 126—Estate of, 251
WOOD-HILL and Clayden. *See* Clayden
WOODMAN, G. S.: Obstruction of the pelvic colon by the pedicle of an ovarian cyst, 14
WOODS, H. Fergie: Slipping rib, 783
WOODS, Robert H.: Hollow viscera and vessels, curvature and pressure, 370, 455
Wool, etc., infected with anthrax found not to be disinfected by ultra-violet rays, 703
WOOLDRIDGE, Professor: Calculi in animals, 877
Woollen winding sheets *See* Winding
Worcester Education Committee and its school medical officer's salary, 815
WORK, Hubert, Postmaster-General of the United States, 396, 614
Workmen's compensation (parliamentary note), 777
Working hours, 504
Worms and appendicitis, 393
Worms, thread, 939. *See also* Oxyuris
WORSLEY, R. C.: Medical book-keeping, 504
WORTH, R.: Lunacy administration, 151
WORTHINGTON, Lieut.-Col. Sir E. S., appointed Honorary Physician to the King, 585
WOSSIDLO, E.: *Kystoskopischer Atlas*, rev., 232
Wound pensions *See* Pensions
Wounds, septic, medicinal paraffin as a dressing for, 940
Wounds, war, in relation to life assurance, discussion on, 799. *See also* Life
WRAY, Charles, obituary notice of, 332
WRIGHT, Sir Almroth (and Leonard COLEBROOK): *Technique of the Teat and Capillary Glass Tube*, rev., 522—Anti-anaphylaxis, 854
WRIGHT, Garnett: Surgical treatment of gastro-jejunal ulcer, 392
WYATT, J. M.: Chemical observations on pregnancy toxaemias, 605

X.

X-ray apparatus: Catalogues, 226—German-made, 331, 457, 543
X-ray departments, 292, 456
X-ray laboratories: Stringent regulations by New York Board of Health, 570
X-ray protection, pamphlet on, 939
X-ray therapeutics, recent developments in (Reginald Morton), 683
X-ray therapy, its biological action and scope in medicine (R. M. Bath), 682
X-ray therapy, deep, in malignant disease (J. Curtis Webb), 92 (O)—Correspondence on, 208
X-ray treatment of cancer (H. K. Ward), 313—Correspondence on, 415
X-ray treatment of uterine fibroids (leading article), 402
X rays, biological effects of, 164, 250
X rays, review of books on, 148, 233

Y.

Yale Medical School, to erect a new building to be called the Sterling Hall of Medicine, 225
Year Book of the Scientific and Learned Societies of Great Britain and Ireland, rev., 108
Yorkshire Association of Medical Women, 903. *See also* Association
YOUNG, Archibald: Septic infections of the bladder and kidney, 59
YOUNG, Baker: Syphilis of the nervous system, 801
YOUNG, H. G. K.: Duodenal ulcer in a newborn infant, 311
YOUNG, James: Acute tubal peritonitis, 350
YOUNG, Lieut.-Col. James, appointed deputy lieutenant for the county of Gloucester, 585
YOUNG, MacGregor: Spasmodic stricture of the uterus, 145
YOUNG, Matthew (and John BROWNLEE): Epidemiology of summer diarrhoea, 519
YOUNG, R. A: War wounds in relation to life assurance, 799
YOUNG, Roy F.: Hereditary polydactylism, 91 (O)

Z.

ZIMMERN, A.: Electrical methods in gynaecology, 143
ZOELLER (and others): *Comment Interpréter en Clinique les Réponses de Laboratoire*, rev., 317
Zoology, review of books on, 567

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

THE

British Medical Journal.

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

LONDON: SATURDAY, JANUARY 7TH, 1922.

An Address
ON
CERTAIN ASPECTS OF PAIN.

DELIVERED BEFORE THE SHEFFIELD MEDICO-CHIRURGICAL SOCIETY, DECEMBER 8TH, 1921.

BY

HENRY HEAD, M.D., F.R.S.

PAIN and discomfort are the oldest defensive reactions of the organism, and potentially unpleasant stimuli form the basis of most primitive reflexes. Even the simplest animal shuns pain and moves in the direction of pleasure. All such impulsive actions allow of little choice, and any part of the body exposed to a harmful form of stimulation is urgently withdrawn. Sensory impulses capable of evoking pain or discomfort are therefore most important factors in the life of even the highest organism, although their action may be almost automatic.

In man, however, where they not only cause impulsive reflexes, but also produce conscious discomfort, pain is the most urgent symptom with which the medical man is compelled to deal. At the same time it forms one of the most important diagnostic aids, if rightly interpreted. But in so many cases its meaning is misunderstood; the intensity of the patient's suffering cries for relief, and attention is more often focussed on easing the pain than upon its diagnostic significance. These difficulties of interpretation are greatly enhanced by misunderstanding of what is generally comprised under the term "pain." Almost any stimulus of great intensity is liable to produce discomfort. Tickling the sole of the foot is extremely disagreeable, but in no circumstances can it be strictly said to be painful. Localized pressure, steadily increasing in amount, becomes more and more uncomfortable, until at last it evokes a sensation that can be justly called pain. But when a faradic current is applied to a sensitive part like the foot, the first disagreeable sensation is strictly one of pain, and the impulses upon which it is based pass up the spinal cord in adjacent and analogous tracts to those for heat and cold. Supposing, however, that these paths are interrupted, so that the patient cannot experience pain in the strict sense of the word, a strong faradic current, which appears to him first of all as a kind of tingling, will rapidly become so disagreeable that he withdraws the limb exactly as if he was still exposed to painful impressions. At the same time he may complain that it causes intense discomfort.

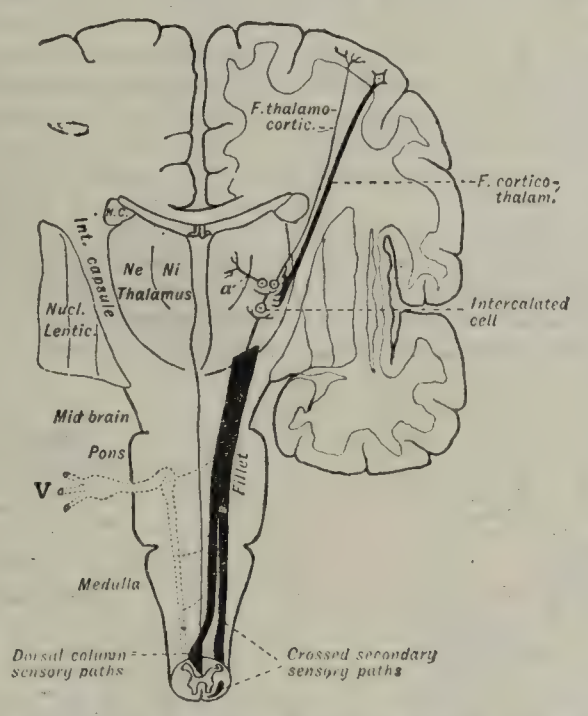


FIG. 1.—To represent diagrammatically the anatomical arrangement of the paths and centres concerned in sensation. Two distinct paths exist in the spinal cord: a crossed secondary path in the ventro-lateral column, which conveys impressions of pain, temperature, and touch, and a second uncrossed path in the dorsal column, which also conducts tactile impulses, together with those that underlie the sense of posture, appreciation of movement, discrimination of two points and the recognition of vibration, size, shape, form, weight and consistence. This second path decussates in the medulla oblongata, but runs separate from the first path, at least as high as the pons. All these secondary sensory fibres, now crossed, terminate in the ventro-lateral region of the optic thalamus. Here the impressions they carry are regrouped and distributed along two distinct paths. The one carries impulses to the cerebral cortex, the other towards the more mesial parts of the optic thalamus. In addition, fibres pass from the cortex to terminate in the lateral nucleus of the optic thalamus. (From Head and Holmes, *Brain*, 1 11 12, vol xxxiv, p. 172, and *Studies in Neurology*, vol. ii, p. 593.)

Obviously, then, what is popularly called pain may contain two elements: First of all, there is a true specific sensation, exactly equivalent to that of heat, cold, and touch. Secondly, there is discomfort or that unpleasant feeling tone, which may accompany many other sensations besides those which have a right to be called specifically painful. This unpleasant feeling may be associated with touch in the form of tickling or itching, with pressure, as an intolerable sensation we call "crushing pain," with heat as "burning," and with cold as that disagreeable state that we know so well when our hands and feet are chilled.

But it is a matter of no importance from the point of view of the organism whether the sensation evoked be a strictly specific one of pain, or what should be more truly called discomfort. Both lead to the production of reflexes that tend to remove the affected part or even the whole animal from the place or object productive of such unpleasant experiences. Reactions of this kind are impulsive and urgent; once they come into being, the movements they produce are uncontrolled; they permit of no choice. It is therefore most important that the impulses which underlie any of these disagreeable sensations should be diminished in extent, or actually inhibited, in favour of those sensory impressions more capable of leading to discriminative action. But, on the other hand, the mechanism underlying the production of pain and discomfort must remain in full physiological activity, so that it can play its part in defence of the organism, whenever noxious stimuli reach a high grade of intensity.

Such dominance of a higher centre over the activities of another, subserving more primitive modes of response, is exemplified by the relation between the cortex and optic thalamus. This is the end-station for all those afferent impulses subserving the more affective forms of sensation, such as pain, heat, cold, tickling and all forms of discomfort. On the other hand, the functions of the cerebral cortex are responsible for the more discriminative aspects: the appreciation of size, shape, weight, texture, together with the relative intensity and spacial relationships of various external stimuli. These two sensory centres are not independent of one another, but the activity of the cortex exerts a dominant influence over the response of the optic thalamus. Now it sometimes happens that a gross organic lesion destroys the path of these controlling influences, and the thalamus is set free to manifest its reactions unchecked. Every stimulus capable of evoking discomfort or pain, and even in some cases pleasure, now produces an exaggerated effect on that half of the body opposite to the lesion.

Here we see expressed, in the form of two anatomically separable centres, that dominance of higher and more discriminative functions over those inducing impulsive reactions, which is so characteristic of the activity of the central nervous system. The same laws are at work in painful manifestations of visceral origin; but here no structural changes can separate the controlling mechanism from the centres which receive these potentially disagreeable impulses.

We are now dealing with a delicate equipoise, which can be upset by additional weights thrown into either scale.

Pain of Visceral Origin.

Afferent impulses from the viscera do not normally enter consciousness. The eupeptic knows nothing of the processes of digestion beyond a gentle sense of well-being; but under normal conditions afferent impressions from the internal organs are capable of arousing pain and discomfort. Some have tried to maintain that the viscera are "insensitive" and incapable of generating afferent impulses of this order; but no one who has ever suffered from the passage of a renal calculus or a true referred pain from inflammation of the pulp of a tooth will look upon such statements as anything but hair splitting dialectic. All power of conscious response to heat, cold, and touch is certainly absent from the great part of the stomach and intestines, and pain cannot be produced by burning, cutting, the prick of a pin or other sharp instrument. Internal surfaces are unable to respond to such artificial stimuli to which they have never been exposed during the life of the individual or the race. But the hollow viscera, such as the stomach and the bladder, react briskly to changes in tension, which are their natural mode of stimulation.

Even if a stimulus is capable of exciting these sheltered parts of defective sensibility, it does not usually produce a sensation on account of the resistance of the nervous system to such potentially disagreeable impressions. But a sensory response may follow, whenever these visceral impulses become sufficiently strong to overcome the inhibition by which they are normally held in check, or when the forces opposing their passage are in any way diminished. Once the path has been opened and the dominance of the higher centres overcome, a weaker visceral stimulus will be followed by sensation; to this diminished resistance is due the production of pain from otherwise inadequate causes, especially where visceral irritation has been long continued.

Bearing these facts in mind, let us examine some actual examples of pain produced by visceral disease and see to what further laws we are led by such consideration.

Now, we have reason to believe that the viscera have a double afferent supply. One of these corresponds to that deep system, which in the limbs supplies muscles, tendons, and joints; this remains intact when all cutaneous nerves are severed. The peculiar aptitude, possessed by a part innervated from this deep afferent mechanism, is the power of responding to stimuli, which produce alterations in form or pressure. Excessive tension may even evoke pain, and "cramp" is the reply of the end-organs of this system to abnormal muscular contractions. Parts innervated in this manner are insensitive to light contacts, pricking, heat and cold; but they are endowed with definite local signature, and the patient is capable of appreciating within certain limits the site of the stimulated spot.

Thus, when the pleura is inflamed, the pain, stabbing in character, is intensified by every respiratory movement, and becomes agonizing during the long deep inspiration which follows a cough, a laugh, or a sneeze. It is absent when the side is at rest, and is relieved by any treatment that fixes the chest, such as successful strapping.

This pain is frequently associated with tenderness on pressure or percussion in the intercostal spaces. By this means an area of distinct deep tenderness can sometimes be marked out, and it is within these limits that pleuritic friction can usually be heard. The pain and tenderness seem to be due definitely to inflammation of the parietal pleura and possibly even to that which covers the lung; both disappear when serous fluid is effused, but may persist over the upper border of purulent effusion in empyema.



FIG. 2.—To show the area of deep tenderness evoked by pressure or percussion in a case of acute pleurisy. (From *Brain*, 1896, vol. xix, p. 233.)

Whenever a serous cavity is affected and the parietal wall is inflamed, local tenderness of this kind, evoked by deep pressure, is liable to make its appearance. This is often of profound diagnostic value. With pericarditis it is frequently possible to elicit tenderness on pressure. Placing the end of the stethoscope lightly upon the chest in an intercostal space produces no pain, and friction may not be audible, but, on increasing the pressure, not only does the patient complain of pain, but the rub becomes more evident. Such an association between the increase of tenderness on pressure and the clearness with which friction becomes audible is often an equally definite diagnostic point in pleurisy.

In many cases of inflammation of the appendix the same law can be applied. In the early stages, before perforation has taken place, widespread pains may be present in the abdomen, corresponding to the afferent supply of the upper parts of the digestive tract. Such pains are due to abnormal movements of the stomach and intestine, and express the reaction of normal parts to a lesion situated in some allied physiological system. But when the appendix becomes perforated and inflammation of the peritoneum ensues, these referred pains are replaced by local manifestations, accompanied by deep tenderness over inflamed parts. Sometimes it is difficult to determine whether tenderness of the abdominal wall is due to its deeper or more superficial structures, and whether it has a local significance or is part of the manifestations of a referred pain. This can be decided by the following method of examination: When the pain is due to local peritonitis, the loin is not tender either to superficial stimulation or to deep pressure; but on passing steadily forwards a point is at last reached, about the level of the tip of the eleventh rib, where pressure evokes pain. In front of this a considerable area of deep tenderness can usually be discovered occupying the right iliac fossa. Had the pain been referred, superficial tenderness would have been found in the loin corresponding to the posterior portion of the segmental areas affected.

When serous membranes, such as the pleura, pericardium, and peritoneum, are inflamed, the pain has a definite local significance, and the tenderness is increased by pressure—in fact, these cavities behave like the inner surface of joints.

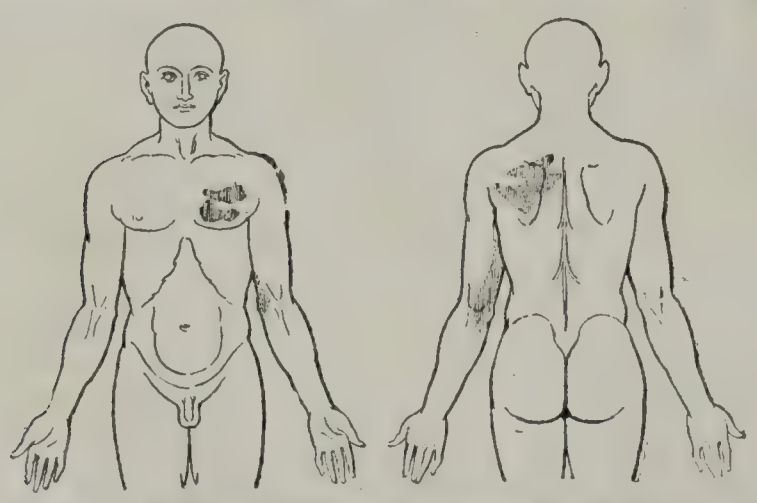


FIG. 3.—To show the superficial tenderness present in a case of aneurysm of the ascending portion of the aorta. (From *Brain*, 1896, vol. xix, p. 171.)

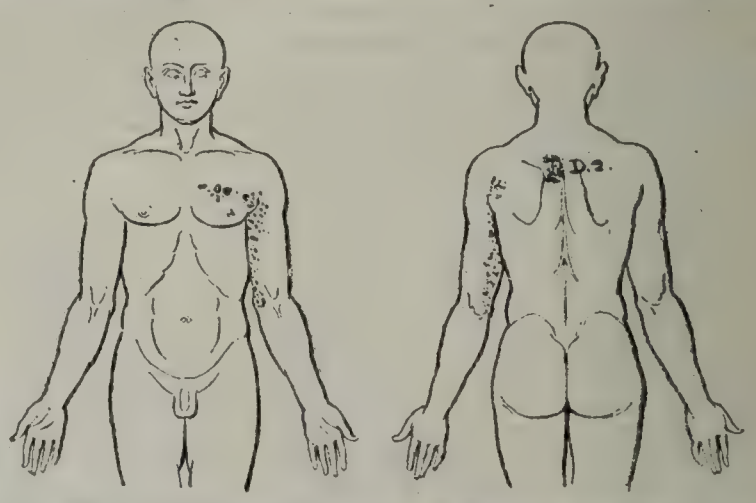


FIG. 4.—To show the distribution of the eruption in a case of herpes zoster. The *post-mortem* examination showed an inflammatory lesion in the second thoracic posterior root ganglion. (From Head and Campbell, *Brain*, 1900, vol. xxiii, p. 439.)

This deep system of afferent nerves supplies not only the muscular and other subcutaneous tissues of the limbs and trunk, but also innervates similar parts of the internal organs. Some forms of colic belong to this order; they are the equivalent in the intestine of muscular cramp. Abnormal movements produce disagreeable sensations, associated with distinct impressions of some change in posture. These are the conscious results evoked by the painful aspect of those proprioceptive impulses, which Sherrington has shown to have

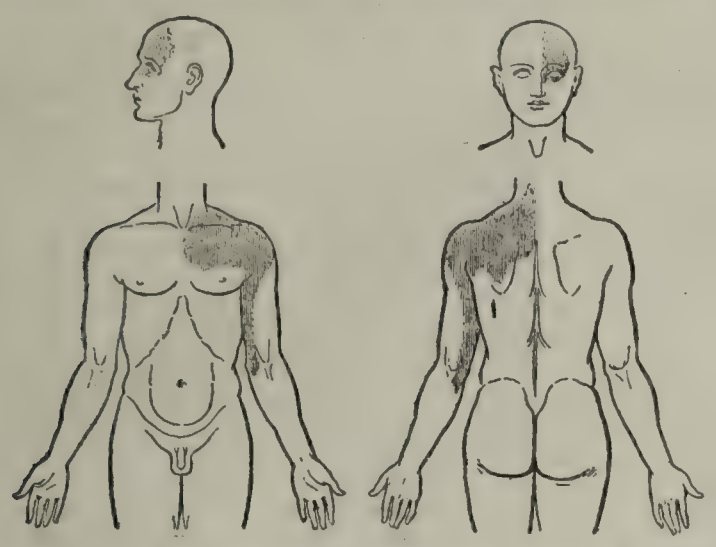


FIG. 5.—To show the superficial tenderness present in a case of aneurysm of the aorta. (From *Brain*, 1896, vol. xix, p. 175.)

so profound an influence on the regulation of posture and movement.

But the majority of pains arising from visceral disease have not this localizing value. They are referred into parts remote from the site of the lesion. They cannot be interpreted without a knowledge of the relation of afferent impulses to the segments of the central nervous system.

The distribution of the pain in a man who suffered from an aneurysm of the first part of the aorta is illustrated in Fig. 3. The point of greatest intensity was situated just above the inner condyle of the humerus; distinct superficial tenderness was present over the area marked on the figure. To what does this area correspond?

You are aware that the common form of herpes zoster is due to inflammation of the posterior root ganglion. Now it so happens that, when this structure is subjected to a violent irritative process of this kind, severe necrotic changes occur over the peripheral distribution of certain of its fibres associated with severe pain its centripetal manifestation. The system to which these fibres belong is what Bayliss called "ant dromal"; they are capable of conducting impulses in either direction according to the specific nature of the end-organs to which they are attached. Some of them conduct centralwards like all other afferents, and their impulses evoke pain and discomfort; others produce a so-called "trophic" effect on the periphery.

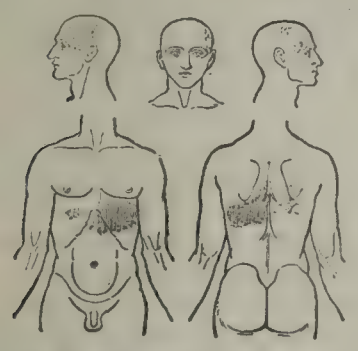


FIG. 6.—To show the extent of the superficial tenderness in a case of mitral stenosis. The mitral valve was a long buttonhole slit, extremely rigid, with fine beadlike vegetations on the free surface of the valve. The left auricle was dilated; its wall was tough and fibrous. The muscular substance was diminished, except round the base of the appendix where it was hypertrophied. (From *Brain*, 1896, vol. xix, p. 192.)

Thus, by a fortunate chance, the extent of a herpetic eruption, when fully developed, represents the distribution of the fibres of this system which pass through some particular ganglion. Now, the distribution of these fibres corresponds closely with the segmental arrangement of painful impulses in the spinal cord; consequently it is possible, by studying the extent of the eruption in cases of herpes zoster, to obtain a knowledge of the form assumed by the areas of segmental distribution and also their numerical significance.

I therefore give a drawing of a case of herpes zoster, which was proved by *post-mortem* examination to be due to inflammation of the second thoracic posterior root ganglion. (Fig. 4.) You will notice how extraordinarily closely its distribution corresponds with that of the tenderness present in the man who suffered from aneurysm.

But such isolated and restricted areas of pain and tenderness rarely occur as a consequence of visceral disease; they are of great scientific interest but of little practical importance. The next figure (Fig. 5) shows a more common condition produced by aortic disease. The tenderness not only occupies the second thoracic area, but spreads into parts supplied by the nerves of the cervical plexus.

The next figure (Fig. 6) shows the extent of the tenderness in a patient who suffered from severe mitral stenosis, where the rigid slit-like valve permitted some regurgitation. I give for comparison, first (Fig. 7) the distribution of a herpetic eruption, proved by *post-mortem* examination to be due to inflammation of the sixth thoracic posterior root ganglion, and then another (Fig. 8) showing the parts supplied by the seventh thoracic. It is obvious how closely the pain and tenderness in the case of mitral stenosis corresponded to the sixth and seventh thoracic areas.

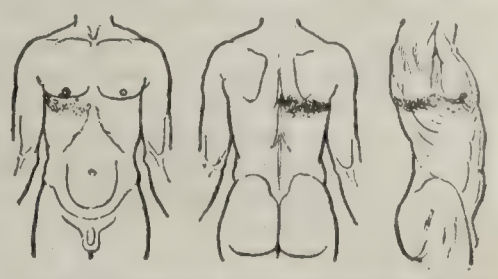


FIG. 7.—To show the distribution of the eruption in a case of herpes zoster. This proved on *post-mortem* examination to be due to inflammation of the sixth thoracic posterior root ganglion. (Head and Campbell, *Brain*, 1900, vol. xxiii, p. 470.)

To what, then, are these areas of referred pain and tenderness due? It is evident that they must be produced by abnormal physical conditions within the cavities of the heart or the aorta. Tension is the most effective stimulus to any hollow organ; experiments on the gall bladder have shown that it may be cut or burnt without the production of any reflex changes, but the injection of even a small quantity of fluid so as materially to raise the pressure, will cause a profound disturbance due to the afferent impulses so generated. But to return to the conditions within the heart: it is obvious that in such a case of mitral stenosis as I have just mentioned, the work of the auricle is obstructed by the severe narrowing of the orifice, and in addition, blood is forced back into it, at the moment of its diastole, from the contracting ventricle through the incompetent valve. These abnormal conditions set up afferent impulses which pass to the central nervous system. There they excite certain segments of the spinal cord to such an extent, that all potentially painful impulses passing into them produce an exaggerated effect. Certain areas on the body, such as those shown in Fig. 8, become tender to such stimuli as the dragged point of a pin, or pinching up the skin between the thumb and forefinger.

The balance of afferent impressions in the central nervous system is upset by the potentially disagreeable impulses impinging on these segments of the spinal cord. At first the central resistance may be sufficient to inhibit them, or at any rate to prevent a disturbance of consciousness. But, if they

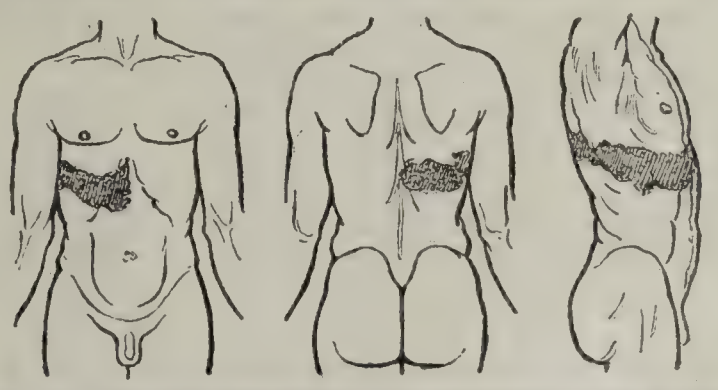


FIG. 8.—To show the distribution of the eruption in a case of herpes zoster. This proved on *post-mortem* examination to be due to inflammation of the seventh thoracic posterior root ganglion. (Head and Campbell, *Brain*, 1900, vol. xxiii, p. 411.)

are sufficiently intense or of long standing, sensation is aroused; the pain is then projected to those parts of the surface of the body supplied by the affected segments, and these areas become tender, reacting excessively to any potentially disagreeable stimulus. They therefore reveal the afferent supply of the organ, which gave rise to the potentially painful impulses. It is obvious, therefore, that certain abnormal conditions of tension within the auricle can produce pain and tenderness, referred to the sixth and seventh thoracic and adjacent segmental areas. On the other hand, diseased conditions of the aorta and the ventricle may be associated with similar areas higher up on the chest, or in the region of the third and fourth cervical.

For the explanation of this remarkable phenomenon it is necessary to recall the embryological development of the heart. Evidently its afferent visceral innervation is upside down in relation to the present position of the adult organ. At one stage of its development, the heart consisted of a single tubular vessel, the hinder end of which was continuous with the great veins, whilst the anterior end bifurcated into two primitive aortae. At this time the heart lay in the middle line and clearly showed a division into three chambers; the hindermost of those becomes the auricle, the middle portion the ventricle, the most headward the bulbus aortae and ultimately the ascending arch of the aorta. This tube then becomes bent on itself, so that the hindmost or auricular portion comes in the adult to lie higher than the middle or ventricular portion.

Thus, the plan upon which the sensory supply of the visceral afferent system is laid down seems to be very antique and to represent an early stage of vertebrate development. Afferent impulses from the heart enter the segments of the central nervous system, just as if the auricles were still the hindmost portion of the heart and as if it was a median organ. Moreover, the segments affected jump from the fourth cervical to the first or second thoracic, omitting the upper limb, which has budded out at a later stage of development.

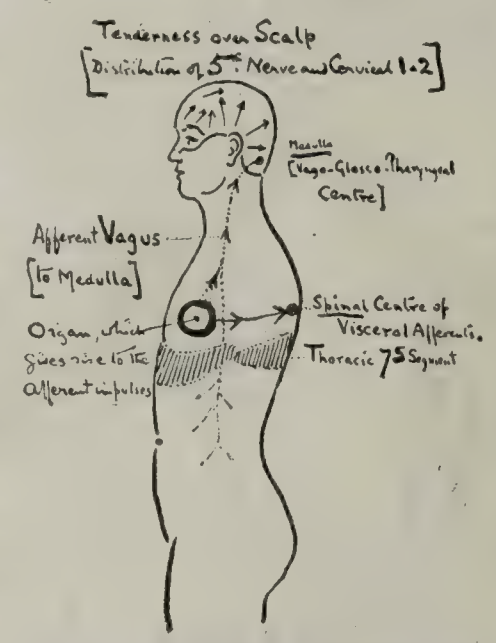


FIG. 9.—A diagram to explain the occurrence of headache and superficial tenderness of the scalp due to some affection of an organ within the chest or abdomen.

It will be noticed that Figs. 5 and 6 show not only areas of tenderness upon the trunk, but also upon the scalp. This is an aspect of referred pain arising from visceral disease which has been unaccountably neglected. It is obvious that, if some organ in the head, such as an eye, ear, or tooth, is affected, referred pain may be produced occupying areas on the face or scalp. But it is not usually recognized that tenderness, due to afferent impulses from some organ in the thorax or abdomen, may be accompanied by areas of tenderness on the scalp. What is the explanation of this remarkable phenomenon?

I must again ask you to follow me in certain developmental considerations (Fig. 9). That nucleus of the trigeminal nerve which supplies the greater part of the scalp, together with central connexions of the first and second cervical, form the somatic portion of a great complex of segments of which the visceral part is represented by what may be called the vago-glosso-pharyngeal. This supplies afferent fibres to the heart, the lungs, the œsophagus, stomach, and upper part of the intestine.

Now we have already seen that, when visceral afferent end organs are exposed to a suitable stimulus capable of exciting them to action, impulses are poured into the central nervous system, and parts on the surface of the body in connexion with those segments become tender and over-react to external stimulation. Supposing that some organ supplied with afferent fibres from what may be called the vagus-complex sets up such impulses, the scalp becomes tender, because it is that portion of the surface of the body which is in direct relation with the excited segments.

The site of the headache and tenderness does not indicate directly the organ which is responsible for their production; they cannot be classed as "cardiac" or "gastric" neuralgias. The position of the tender areas on the scalp depends more on the segmental level of innervation of the painful focus than on the actual organ affected. Thus, the higher the areas of tenderness present upon the trunk, the further forward will they be found upon the scalp and vice versa.

Spread of Visceral Pain and Decreased Central Resistance.

Referred pain of visceral origin and the tenderness which accompanies it may be confined to the territory of a few segments only, representing the nerve supply of the affected organ. But in the larger number of cases met with in daily practice this is not the case; if the stimulus is extremely severe—as, for example, during an attack of gall stones or renal colic—the pain may spread widely, even in otherwise normal persons; not only does it become bilateral, but it is liable to extend both upwards and downwards into regions that stand in no direct nervous relation with the affected organ (Fig. 10).

Should a referred pain become chronic, this forms an even more important cause for its diffusion; it tends to spread by the fact of its duration. For not only is the general resistance of the patient worn down by the disease, but the passage of painful impulses is facilitated by time; impulses can now excite pain which previously failed to do so.

Certain segmental areas seem to make their appearance with especial ease when central control is diminished, although they are situated far apart upon the body; thus, pain in the loins or over the forehead is liable to occur whenever general resistance is lowered. Organs, such as the uterus and breast, stand in close mutual connexion, and within twelve hours of labour referred pains not uncommonly appear in the front of the chest and in the scapular regions. These come and go with the "after-pains," and can be increased by the action of ergot or by manipulating the uterus.

These phenomena of generalization or spread of visceral pain and tenderness are of such common occurrence that they form an important factor in the clinical picture of many diseases. Diffusion of potentially painful impulses is normally prevented by that natural inhibition exercised by the central nervous system over disagreeable impressions; once this is relaxed, they spread widely. Normally, they would have been prevented from influencing consciousness, or would have been strictly confined to areas appropriate to the organ affected.

Certain general bodily states form potent causes of such diminished automatic control. Of these, menstruation is one of the most important in women. This physiological act may be accompanied by referred pain, confined strictly to those segments which stand in direct relation with the pelvic organs; or the morbid sensations may occupy the whole of the body and lower extremities below the level of the umbilicus, with or without the cervical areas and occipital region of the scalp; finally, the head, trunk, and even the limbs may become painful and tender in parts that have no direct relation to stimuli within the pelvic organs. The extent to which such widespread generalization occurs depends more on the temperamental condition of the patient than on the intensity of the painful irritation or severity of the underlying organic changes.

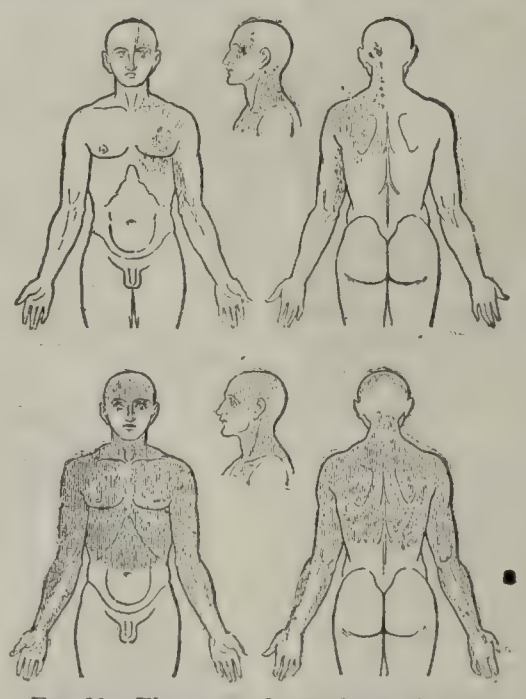


FIG. 10.—The upper figure shows the superficial tenderness which was present before an attack of paroxysmal pain of cardiac origin. The lower figure shows the wide diffusion which appeared when the attack was over. (From *Brain*, 1895, vol. xix, pp. 210–211.)

Many women have a tendency to be what is called "neurasthenic"; strictly speaking, this unsatisfactory term should be confined to symptoms expressive of chronic nervous exhaustion. This state is characterized by a profound diminution of general control, exercised in the nervous system by the activities of one level over those of a lower one. This applies not only to physiological processes in the spinal cord and lower parts of the brain, but also to the mental activities of the patient. Attention wanders, memory is defective; sleep, that most salutary means of increasing central control, fails. Under such circumstances any cause for pain, even the normal passage of blood through the lower segments of the uterus, may start painful impulses, which, in consequence of diminished automatic resistance, spread widely over the body.

A sudden rise of temperature frequently causes widespread generalization of pain. Follicular tonsillitis or any parenchy-

matous affection of the tonsils is frequently associated with superficial tenderness on the same side, extending from the lower part of the mastoid almost to the middle line in front; this I have called the "hyoid" area. Suppose, however, that the onset is sudden and is associated with fever, we may now discover pain and tenderness on both sides of the neck, over the forehead, the occipital region, and even in the back or other parts of the body or limbs.

Anaemia is another cause of diminished general resistance to painful impressions. The patient may be profoundly anaemic and yet suffer from no pain or tenderness; but as soon as some source of pain is present, it at once begins to spread; toothache in an anaemic patient is a diffuse affection, extending far beyond the areas directly connected with the affected organ. If the local cause is removed, pain does not of necessity cease, at any rate immediately; for when central resistance has once broken down, control is recovered with difficulty.

In all these cases the pain originated in some definite and recognizable cause; it spreads widely because of the severity or long duration of the stimulus, or in consequence of the relaxation of central control. But sometimes pain and tenderness of this order may become widely diffused, in consequence of some debilitating psychological state, such as anxiety or emotional shock. Neuralgia and superficial tenderness of dental origin not uncommonly assume undue proportions owing to insomnia and worry, and the mental state of the patient has a notoriously profound influence over pains originating in the pelvic viscera.

Occasionally, central resistance to potentially disagreeable impulses is temperamentally so low that pain may appear without any obvious cause for peripheral stimulation. Some women are rarely free from tender spots in various parts of the body, representing the maxima of one or more of these tender areas. They form foci from which pain may generalize widely under the influence of emotion or other conditions, which lessen the dominant power of higher centres. No gross visceral stimulus is required. The central apparatus is already in an explosive condition, and any relaxation of physiological control leads to an outburst of energy manifested in widespread discomfort. In such cases, the order in which the phenomena appear does not follow rules that can be laid down for pain of visceral origin. Severe pain over the lower part of the abdomen and back may be accompanied by headache and tenderness situated over the forehead; the trunk can be widely affected without the head and neck, or vice versa. Such want of harmonious correlation points to the central origin of these morbid phenomena; they are not the direct expression, however extensive, of peripheral stimulation.

If we responded constantly and inevitably to all stimulation of peripheral end-organs, we should be automata, the victims of indiscriminate reactions. But, with the gradual evolution of its functions, the central nervous system acquires ever-increasing control over afferent impressions produced by the action of external forces. Such development takes place not only in the race, but in the life of the individual; and it is to this that we owe our power of acquiring new reactions and facilities.

Even in the fully developed nervous system of man, the acquisition of some new aptitude is associated with increasing central control over sensory impressions; we learn to adapt ourselves to the conditions around us, and cease to be the victims of unco-ordinated reactions. These are controlled or suppressed, not by the will, but by the power of adaptation, which is one of the most potent automatic factors in the activity of the central nervous system.

During the evolution of function, the power of responding in a more primitive manner is not lost. The mechanism of the older and more immediate reaction remains intact; but its activity is held in check, ready to become manifest, should the noxious stimulus grow unduly intense. Everyone, however healthy, is liable to suffer from pain during the passage of a renal calculus. But, in states of disease, this automatic control is likely to break down, less from the violence of the stimulus than from causes which lower physiological vitality. These may be both physical and mental; exhaustion and anaemia are no more potent than fear and anxiety.

The extent of this automatic control over sensory impressions not only varies from time to time, but is subject to extreme temperamental differences. As an automatic process, it takes its place with the other subconscious activities, which are of such fundamental importance in physiological aptitudes and instinctive reactions.

Pain and discomfort are among the most important of these conditions. I hope I have convinced you that, when the afferent impulses underlying these sensations and affective states impinge on the central nervous system, they disturb its balanced activity as a whole. The result they produce depends on the constitution of the organism, and not only on the site of the affected organ or the nature of the disease.

An Address

ON

PROBLEMS INVOLVED IN THE CONGRESS OF THE SEXES IN MAN.

DELIVERED TO THE OXFORD MEDICAL SOCIETY

BY

ARTHUR THOMSON,

LEES PROFESSOR OF ANATOMY, OXFORD.

I AM deeply sensible of the honour you have conferred upon me by inviting me to give your annual address. I confess in many instances such appeals are rather irksome—for they entail the preparation of an elaborate address. Now the delivery of such addresses is not in my line, and to impose on you the dreary task of listening to one would, I feel certain, not be fruitful of any good results. But in this instance I welcome the invitation, since it provides me with an opportunity of acquiring much-needed information, based on personal experience. Doubtless in the practice of your profession many of you must have pondered over some of the problems it will be my privilege to submit to you, and it will be to everyone's advantage if you will freely express your opinion.

My address, if address it can be called, will rather take the shape of a statement of the problems which still beset us in our attempt to unravel the mysteries of Nature.

Who that has studied the structure of the mucous membrane of the uterus has failed to be struck by the richness of its glandular elements? When we proceed further, however, and come to inquire what the function of these glands may be, we are at once plunged into the realms of uncertainty. The generally accepted views are far from satisfying. We are told that it is an admirable arrangement whereby Nature provides a suitable bed in which the impregnated ovum may be nourished, but a little reflection proves that this is not altogether a satisfactory explanation. The fertilized ovum, through the agency of its outer or trophoblastic layer, possesses the remarkable power of making a bed for itself, as exemplified in the many instances on record of extra-uterine foetations. May I recall to your memory the fact that the zygote may establish perfectly effective nutritive relations with the tissues with which it may happen to be in contact, be they tubal, peritoneal, or ovarian? The effective cause of its final destruction is the absence of such mechanism as the uterus provides for its ultimate expulsion into the outer world. This, and the fact that, according to modern views the glands play no part in the formation of the placenta, disproves the theory that these glands are an essential feature in the mechanism necessary to establish a nutritional connexion between the mother and the foetus.

As glands, what then is their function? Are they secretory or absorbent? In truth the views on the subject are very vague. Marshall,[1] a recognized authority on the physiology of reproduction, is discreetly silent on this subject, though he quotes the opinion of others to the effect that in the pre-menstrual period the increase in the size of the glands is supposed to be due to a collection of the secretion of the gland cells within the lumen of the gland.

Young,[2] in discussing the changes in the mucosa prior to and during menstruation, referring to the factors concerned, says: "Whether these are due to an activity of a secretory nature on the part of the epithelial cells, or whether an activity on the part of the stroma, also secretory in nature, can only be a matter of theory." On the other hand, whilst describing[3] the pre-embedding changes in pregnancy, he describes the changes which occur in the pig as of the nature of marked "infiltration of the superficial layers of the mucosa with lymph. At the same time there is an active glandular secretion in process which leads to a marked expansion of the gland lumina." Similar changes, says he, are seen in the sheep and cow, where the blastodermic vesicles

are free for a considerable time, and where apparently there is need for some such nutritive material as has been referred to as "uterine milk." He admits that, whilst it seems unlikely that the minute human ovum can exert, before attachment, anything more than a small influence on the uterine mucosa, yet, where it comes to rest, the structure of the mucosa would be so altered as to permit of a ready flushing of the subepithelial tissues with fluid and blood in response to the extra chorionic activity. As will be observed, this conclusion is of a purely speculative kind, and there is no material evidence in support of it.

So, too, is the opinion expressed by Fujimura,[4] in a recent paper, that a part of the secretion and detritus of the uterine glands, at least in a little advanced stage of pregnancy, are naturally absorbed by the mother on account of the closure of the ducts.

I have quoted from these authorities because most of the physiological textbooks I have consulted are silent on the matter. There is one investigator, K. Beiling,[5] who expresses his opinion in no uncertain words. In a research entailing the examination of many animals (mole, rat, rabbit, guinea-pig, dog, cat, pig, calf, cow, sheep, goat, deer, horse, orang, but *not including man*), he comes to the conclusion, based on his own personal observations, that mucus is only present on the surface epithelium of the cervical canal, and that the uterine glands fail to react to mucin tests. He describes, in the gland cells, a disintegration of the protoplasm whereby the body of the cell was converted into a granular, more or less retracting, mass of dead tissue, which appeared to form an emulsion-like fluid which may serve as a source of nutrition in the earlier stages of development, and which corresponds to the so-called uterine milk of sheep (Bonnet). He further adds that it is "very doubtful whether the uterine glands possess a secretory function at all." Fujimura,[6] referring to the morphological changes which he describes as occurring in the early stages of pregnancy, records the increase in size of the gland cells as due to the presence of great numbers of lipoid granules and vacuoles. The cells subsequently are detached from the basement membrane and become isolated in the gland lumen. The latter he considers are for the most part drained into the uterine cavity, taking part in the formation of the so-called uterine milk.

In view of the evidence quoted, it is extremely hazardous to accept the opinion, so universally held, that the uterine glands exert a secretory function.

If, then, their function be not secretory, it is obvious that we must account for their presence in some other way. Can they be absorbent in nature? Let us see what evidence there is in support of this view. Leopold[7] has claimed to have demonstrated the presence of lymph channels and spaces within the uterine mucosa—in other words, he described the mucous membrane as to be regarded as a spread-out lymph gland permeated by glands and blood vessels. Hoggan,[8] whilst not agreeing with Leopold, records the fact that in large mammals a great development of lymphatics takes place on the mucous surface (of the muscular layer) and in the mucosa itself, though he states that the uterine glands have no connexion with the lymphatics, either in the pregnant or in the non-pregnant uterus, and their functions seem entirely suspended in pregnancy.

Everyone who has devoted any attention to the examination of the uterine mucosa at different stages of its development must be familiar with the different appearances of the glands and their immediate surroundings. Within the glands appear not infrequently "gland inclusions." The use of this expression is convenient, for it commits us to no definite view as to their nature; they may possibly be the products of secretion, or the breaking down of the gland epithelium; on the other hand, they may be derived from material which has been introduced from without into the gland lumen, and is there undergoing a process of absorption. That, at certain stages of the menstrual cycle, these inclusions consist of the detritus resulting from the breaking down of the gland wall coincident with the changes associated with the occurrence of the premenstrual stage is admitted, but, on the other hand, there is positive evidence that the gland lumen may contain matter which is derived from without. Thus Marshall[9] figures a case in which, in a dog in the last stage of recuperation of the mucosa, he observed large numbers of spermatozoa within the cavity of the gland; he further adds that, if copulation has taken place, spermatozoa in great numbers may be observed in the deeper portions of the uterine glands as well as along the edges of the uterine cavity.

So too, in 1909, Kohlbrugge,[10] in his researches on the bat, states that the spermatozoa penetrate into the glands of the mucosa which appear to exercise some chemotactic influence over them. As a result, these glands exhibit cyst-like enlargements which may be mistaken for young blastulae. He points out that the vaginal mucous membrane has no such chemotactic properties, and it is a generally accepted view that spermatozoa soon lose their vitality if detained within the vagina, whilst if they reach the upper parts of the sexual tract they may retain their fertility for lengthy periods. It is known, as for example in the sheep and guinea-pig, that the male ejaculate is thrown directly into the uterus. As a consequence of his observations Kohlbrugge suggests that it may be maintained that a coitus is certainly comparable to an injection of serum.

A detail, regarding which there is much difference of opinion, is the appearance frequently met with in sections of the uterine mucosa of women leading a life of sexual activity—it not unfrequently happens that around the glands there appear spaces separating them from the surrounding stroma. These spaces may well be called periglandular spaces. By a considerable number of histologists these spaces are dismissed as artefacts, due to the irregular shrinkage of the tissues in the process of preparation. That this may possibly be a contributory cause cannot be refuted, but my own observations lead me to believe that the matter cannot thus easily be explained, for in the many mucous membranes I have examined I have found that these spaces are best marked where either the lumen of the tube is dilated or there is evidence of "gland inclusions." Further, it is remarkable that in some membranes submitted to exactly the same hardening processes, there is an absence of these periglandular spaces, whilst in others they are almost the rule. So, too, it is noteworthy that in some sections they occur around some glands, particularly those showing enlarged lumina or exhibiting "gland inclusions," whilst other glands within the same section do not display these periglandular spaces around them. What impresses me most, however, is that in some cases I have seen the periglandular spaces in part occupied by a coagulum, which would seem to indicate that they existed during life and were occupied by a fluid. The fact that they are most pronounced around the glands displaying contents, or a cystic formation, would seem to suggest that they were in some way associated with an absorbent process, an observation in part confirmed by the suggestion of Fujimura already referred to.

If the anatomical and physiological evidence in support of such a view be admittedly unsatisfactory, the same objection can hardly be urged in view of the deductions forced upon us by clinical experience. There is perhaps no mucous surface in the whole body so liable to rapid toxic infection as the mucous membrane of the uterus. You are all so familiar with this aspect of the question that I need hardly enlarge upon it. The rapidity with which the toxic effects are induced is clear proof that there exists an absorbent arrangement in close association with a rich lymphatic distribution, which ensures this swift reaction to the injurious influences. What more reasonable than to suppose that the surface and glandular epithelium play an important part in this process?

In summing up what we know regarding the mucous membrane of the uterus, it seems that the weight of the evidence goes to prove that its function is more likely to be absorbent than secretive, and that as such it plays an important part in the animal economy. Let us endeavour to see how this is brought about.

The male ejaculate is composed of an admixture of the secretions of certain glands. These comprise the testis, the vesiculae seminales, the prostate, and Cowper's gland. For the purpose of this paper we may dismiss from our consideration the last named, for Cowper's gland has its homologue in the female in the shape of Bartholin's gland. Both seem to be employed in the provision of the necessary discharge to lubricate the passages involved in the sexual act.

In respect of the prostate, whilst it may be possible that the rugae developed to such an extent in the upper vaginal wall in the foetus and child may to some extent be homologous with the prostatic *anlage* in the male, the only evidence we have of a survival of the glandular elements in the female is possibly the paraurethral or Skene's ducts. These are, so far as we know, a mere remnant, and functionless.

So, too, in regard to the vesiculae seminales. R. Meyer[11] states that in the female the persisting Gärtner's canal may also form, in the fifth month, an ampulla and a vesicula seminalis, and the ampulla then lies at the level of the

cervix uteri, of the upper part of the portio vaginalis, and extends to the fornix of the vagina and into the uppermost part of the lateral wall of the vagina. Here again in the female the vesiculae are only represented by a vestigial remnant, without any function.

From the above brief statements it appears that in the female there is nothing comparable to the secretions discharged by those important glands in the male.

In many mammals both prostate and vesicular glands are present, but in some—for example, the dog and the cat—the prostate is alone represented. This seems to suggest that, in some cases, nature can dispense with the secretion of the vesicular glands without detriment to the performance of the sexual function, whilst the more frequent combination of the two glands (prostatic and vesicular) seems to point to the advantage of their combined secretions in other instances.

A very brief review of their anatomy and supposed function may be helpful in the consideration of the question before us. The vesiculae seminales, associated, as they are in man, with the vasa deferentia, are oftentimes regarded as overflow cisterns for the storage of the surplus secretions of the testes. The vesicula seminalis, and vas deferens, as you are aware, in man, discharge their contents into the urethra by a common duct, the common ejaculatory duct. This arrangement appears to give support to the view expressed above—that the vesiculae may be regarded as overflow reservoirs. Unfortunately, however, it is open to the objection that in certain animals—hedgehog and guinea-pig—the ducts of the vesicular glands open independently of the vasa deferentia, consequently it is difficult to understand how they can act in the manner suggested. Opinions vary as to the nature of their contents. All agree in recording the presence of a light brownish coloured gelatinous fluid, but there is much diversity of view as to the amount of their spermatozoal contents. It was Hunter who first recorded the fact that in cases where a testicle had been removed, long antecedent to death, the vesicula on the castrated side was as full of secretion as that of the opposite side, an observation since confirmed experimentally on animals by Lode.[12]

It would thus appear that they possess a secretory function independent of the supposition that they act as storehouses for the excess of testicular secretion.

An interesting observation was recorded by S. P. Pittard[13] as long ago as 1852. In the guinea-pig, where there is an independent duct to the vesicula, he found that on expressing its contents into the urethra there was formed a solid coagulum "as hard and elastic as the cartilage of a ray fish." When, however, at the same time he expelled the contents of the vasa deferentia, he was "highly interested to observe" that the immediate solidification of the mucus did not occur. It appears that comparatively recently (1910) G. Walker[14] has described in the guinea-pig and the rat an accessory gland, which he names the coagulating gland, the secretion of which acts like a ferment upon the secretion of the seminal vesicles, causing it to coagulate. This is interesting, in association with the fact that in the rodents the clotting of the fluid after its entrance into the female passages is supposed to prevent the escape of the spermatozoa and so help to ensure fertilization, though Steinbach[15] states that rats whose seminal vesicles have been removed still retain their desire for copulation, although their fertility is diminished.

Although in the case of the rodents we have thus positive evidence of some particular function associated with the secretion of the vesicular gland, we are not much wiser in regard to the influence it may exercise in other animals, for Marshall[16] contents himself with suggesting that "in the majority of animals which possess vesiculae seminales the secretion of these glands serves to dilute the semen, and so assists in providing a fluid medium for the transference of the spermatozoa."

Throughout the mammalia the prostate is met with in a variety of forms as regards structure, position, and relative size. With these we are not immediately concerned, except to point out that they are each associated with the functions they are called upon to discharge, and that these functions may be particularly modified to fulfil the requirements of specific variations. In man alone does the gland completely surround the urethra. There is abundant evidence to prove the intimate association of this gland with the sexual function. If the male be castrated in childhood, the prostate fails to develop; if when adult, the healthy gland then undergoes atrophy. It is common knowledge that in animals, during the rutting season, both testes and prostate undergo enlargement, and it is noteworthy that in man the gland only begins to attain its full proportions at puberty.

When, again, we come to inquire as to the function of the prostate, we must confess that our knowledge is of the scantiest. Marshall[17] sums it up as follows: "Little is definitely known regarding the function of the prostate, beyond the fact that it contributes additional fluid to the semen."

Luciani[18] does not enlighten us much further, for Fürbringer's view that the prostatic secretion renders the movements of the spermatozoa more active is disputed by Exner and Nagel, who found spermatozoa collected from the epididymis of the guinea-pig as lively as those subjected to the influence of the prostatic secretion. Luciani quotes Walker to the effect that, as a result of his experiments on dogs (1899), he concluded that the prostatic secretion stimulates the spermatozoa to movement by diluting the liquid; but it contains also nutritive substances for the spermatozoa, thus explaining the fact observed by Steinbach that the movements of the spermatozoa are prolonged for a greater length of time when they are immersed in the prostatic secretion.

In regard to the manner in which the secretion is retained within the prostate, Griffith[19] draws attention to an interesting point. He explains that the secretion is stored in those parts of the gland lumina which are nearest the urethra, and consequently these collections are expelled during the sexual act by the contraction which begins at the distal end of the non-striped muscular sheath which surrounds each tubule in its whole length.

To these suggested functions of the prostatic secretion must be added the observation that the increase in bulk of the ejaculate thus effected will mechanically facilitate the action of the muscles concerned in its expulsion.

As concerns the nature of the secretion itself little need here be said. It is described as a milky, slightly alkaline fluid, containing protein, but free from mucin. In the dead body it contains a great number of crystals of spermine (which are absent in the living) to which is due the characteristic odour of the semen. The biochemical analysis of the ejaculate is as yet, so far as I know, almost entirely confined to a study of the spermatozoal contents; the difficulties of isolating the different secretions are naturally great, so that we are treated rather to a consideration of the whole than an isolated analysis of each contributing factor. It is not with this aspect of the question that I wish to deal, even were I competent, but with certain general considerations which must have attracted the notice of most observers.

According to Marshall, the average amount of the ejaculate in man is 5 grams. What becomes of it? Even admitting the loss of a considerable portion of it by escape from the vagina, there must remain a surplus which is passed higher up the genital tract. We are not concerned with the mechanism whereby this is effected, be it by the method suggested by Beck,[20] in which, from observations on a prolapsed uterus, he had reason to believe that an aspirating effect was exercised by the uterus—or possibly through the agency of some chemotactic properties on the part of the spermatozoa.

The fact remains that a considerable part of the ejaculate reaches the uterus. We have already seen that in some animals, such as the sheep and guinea-pig, the ejaculate enters the uterus directly. What becomes of it? We have already shown that, in the present state of our knowledge of the functions of the uterine mucosa, there is as much if not more reason to believe that the uterine glands act as absorbing agents, as that they exercise a secretory function. The observations of Kohlbrugge and Marshall on animals, to the effect that they have seen spermatozoa within their lumen, is evidence of a kind which cannot be disregarded. I confess I have not seen anything that I could identify as spermatozoa, but Kohlbrugge and Marshall's figures seem to leave no doubt on the matter. If, then, spermatozoa may be got rid of by entering the glands, it follows that they must be accompanied by some of the fluid in which they are immersed—namely, the secretions of the vesiculae seminales and prostate. Having once gained entrance, it is not difficult to realize how they may be absorbed, just as we know from clinical experience how easily infection takes place through the absorption of toxic products. I wish to emphasize this point, and to make clear the issue. One only of the many thousands of spermatozoa which enter the genital tract is required for the purposes of fertilization, and it by no means follows that each or any ejaculate provides the favoured spermatozoon. It is clear, therefore, that a considerable bulk of them never

serve the purpose for which they were designed, but die and disappear. At the same time it must be admitted that the spermatozoal content of the semen forms but a small proportion of the ejaculate, the bulk of which is made up of the secretions of the vesiculae seminales and the prostate. We have already seen how this increase in the bulk of the ejaculate may favour its expulsion, but as yet we have not had any satisfactory explanation why two glands of separate origin and structure should be required for this purpose. The reasonable way of looking at the question is to suggest that the glands concerned furnish secretions which serve different purposes. But, excepting the function exercised over the secretion of the vesiculae seminales in the rodents by the presence of a coagulating gland, and the subsequent formation of a vaginal plug, there is no suggestion that can be offered, other than that in some way the secretions of the vesiculae seminales and the prostate tend to maintain the vitality and activity of the spermatozoa, and to supply them with some appropriate nutriment; also, by dilution, they increase the bulk of the ejaculate. These conclusions are, in the main, a confession of our ignorance. At present they hold the field for lack of anything better.

In considering the question as it applies to man, it must be pointed out that in his sexual relations man is not controlled by such seasonal conditions as regulate the congress of the sexes in other animals. There may have been a time when such restrictions were imposed on him, and even now, in some races, there is evidence of a periodicity determined by local circumstances, but under existing conditions the bulk of mankind is at liberty to indulge in sexual congress throughout the entire length of their sexual life, except during the occurrence of the menstrual flux, and this is not always a deterrent.

It happens frequently, therefore, that sexual union may occur when no ova are present to be fertilized. I do not intend here to discuss the question of ovulation in respect of its periodicity or association with the menstrual cycle. I am alone concerned with the fact that insemination may occur for periods, undetermined, without the female being impregnated, in other words, without an ovum being fertilized. It is to this aspect of the case that I wish to direct your attention.

Is any change effected in the female by the act of insemination apart from the specific act of fertilization? Your experience must provide the answer.

I fancy that it is within the knowledge of most of you that marriage has resulted in greatly improved health in the case of women who, prior to their indulgence in normal sexual intercourse, were of sickly habit and imperfect physique, and this without the necessity of pregnancy intervening. I would be inclined to regard the pregnancy as the accident that may happen, not as the forceful influence which works to bring about such profound changes in the economy of woman, both as regards her functions and her psychic outlook. That some such change occurs at the first act of sexual congress is an old-standing belief. In one of the poems of Catullus (*Carmina*, lxiv, 11, 376–378) the following lines occur:

> Non illam nutrix orienti luce revisens
> Hesterno collum poterit circumdare filo,

which being literally translated, reads: "The nurse revisiting her charge at daybreak shall not be able to encircle her neck with yesterday's thread." A footnote appended in the edition consulted reads as follows: "A thread was measured round the neck of the bride before night, if next morning her neck had not become large enough to prevent the thread from reaching right round, it was thought a sure sign that the marriage had not been properly consummated." The application of this test is an old custom which, according to Havelock Ellis,[21] still survives in the South of France.

What is the significance of this custom? It is well known that the thyroid gland is intimately associated with the sexual system, and that it responds, by increase in size, to pregnancy, and in some cases undergoes periodic enlargement corresponding to the menstrual cycle. That it often increases in size at the onset of puberty is common knowledge, but the suggestion in the above quotation, and the practice of the ancient custom associated with it, is that the change involved in the increase in size of the thyroid—for it is this that leads to the increase in the diameter of the neck—is rapidly and apparently directly induced by the first insemination. If this be so—and there is apparently no reason why this belief should not be confirmed by actual observation—then there is absolute proof that the ejaculate contains other ingredients than those alone concerned with fertilization. May there not be some hormone or endocrine secretion, call it what you will, which, by rapid absorption through the tissues of the female, sets agoing, through the agency of the thyroid, the complex mechanism involved in the elaborate preparations of the sexual system to meet its reproductive obligations? The matter is surely worthy of investigation. McCarrison[22] briefly refers to this aspect of the subject when, dealing with the life-history of the thyroid apparatus, he says: "The sexual act and marriage in both sexes increases the gland's activity, and it is known to swell in consequence, a fact well known to primitive races."

Sir W. Arbuthnot Lane[23] makes many suggestive observations regarding the disabilities and compensations entailed by the reproductive function in the female. As to the part played by the thyroid gland, he notes how its enlargement is accentuated by intercourse and by pregnancy, and is of opinion that it alters with the intensity of the sexual appetite. As regards the sexual life of woman, he dwells on the necessity of considering two factors: One is the action of the prostatic secretion on the woman, and the other is that of pregnancy. He regards the prostate as possessed of a double function—an internal, the effect of which on the man is to act as a powerful stimulant; an external, the action of which on the woman is very far-reaching and active in its results. He recites his experience in cases of chronic intestinal stasis in the female, to the effect that frequently the condition is associated with breasts which he describes as "hard and nobbly." If, says he, the prostatic secretion is in sufficient quantity, the hardness does not develop, or if it already exists, it will subside or disappear altogether.

Now all these observations appear to give support to the view already expressed, that the male ejaculate possesses other properties than those directly associated with the male fertilizing elements. As yet, owing to the fact that hitherto zoologists and anatomists have mainly been concerned with the phenomena associated with the congress of the germ and sperm cells, and their consequent results, it happens that relatively little attention has been directed to the other potentialities of the male secretions so far as their effect on the female is concerned.

I only know of one other piece of evidence having a bearing on the question. I give it for what it is worth, but I have been informed by one whose opinion I respect that amongst musicians it is recognized that the female voice never attains to its full pitch of excellence until marital relations have been established.

Possibly within your own personal experiences there may be other observations which have a bearing on the question. It is with this idea in view that I have addressed you to-night, in order, if possible, to acquire further information regarding a subject about which our views are still uncertain and ill defined. There is an aspect of it which one approaches with some hesitation. So far we have considered the question on the assumption that the congress of the sexes is effected under normal and natural conditions, and no account has been taken of the use of artificial checks to prevent conception. It does appear, however, that the employment of such methods, whilst preventing fertilization, may also be the means of depriving the female of certain secretions which may exercise a far-reaching influence on her economy. Amongst obstetricians I have heard the opinion expressed that indulgence in these practices is accountable for some of the neuroses from which modern woman so frequently suffers. As a rule, we cannot interfere with the normal courses of nature without some consequent evil result. May this not be an instance in which, for some apparent gain in one direction, woman pays the penalty?

It befits us to weigh these matters wisely and well, for surely the problem is one which is worthy of our most serious consideration.

REFERENCES.

[1] *The Physiology of Reproduction*. London, 1910. [2] *Reproduction in the Human Female*. Edinburgh, 1911. [3] Op. cit., pp. 161, 162. [4] *Amer. Journ. of Morphology*, vol. 35, November, 1921, p. 544. [5] *Archiv f. mikros. Anat.*, vol. 67, 1905. [6] Loc. cit. [7] *Archiv f. Gynäk.*, vi, 1887. [8] *Journ. Anat. and Phys.*, xvi, 1881. [9] *Physiology of Reproduction*, p. 105. [10] *Zeit. f. Morph. u. Anthrop.*, xii, 2, 1909. [11] *Archiv f. mikros. Anat.*, vol. 73, 1 09. [12] *Sitzungsberger d. kais. Akad. d. Wissenschaft in Wien*, vol. civ, 1895 (quoted from Marshall, p. 232). [13] Todd's *Encyclopaedia of Anat. and Phys.*, vol. iv, pt. 2, p. 1432. [14] Quoted from Schäfer's *Textbook of Microscopic Anatomy*, 1912, p. 614. [15] Quoted from Marshall, *Physiology of Reproduction*, p. 234. [16] Marshall, loc. cit. [17] *Physiology of Reproduction*, p. 236. [18] *Human Physiology*, vol. v; 1921: English translation, edited by M. S. Pembrey. [19] *Journ. Anat. and Phys.*, vol. xxiv, 1890, p. 38. [20] *Amer. Journ. Obstet.*, vol. viii, 1875. [21] *Man and Woman*, 1894, p. 253. [22] *The Thyroid Gland*, London, 1917, p. 28. [23] *Guy's Hospital Gazette*, vol. xxxii, 1918, p. 384.

Observations
ON
SECRETION INTO THE STOMACH AND DUODENUM:
WITH SPECIAL REFERENCE TO DIABETES MELLITUS.

BY

T. IZOD BENNETT, M.D., M.R.C.P.,
ASSISTANT PHYSICIAN, MIDDLESEX HOSPITAL; BEIT MEMORIAL FELLOW FOR MEDICAL RESEARCH;

AND

E. C. DODDS, M.R.C.S., L.R.C.P.,
ASSISTANT IN BIOCHEMISTRY, BLAND-SUTTON INSTITUTE OF PATHOLOGY, MIDDLESEX HOSPITAL.

(From the Bland-Sutton Institute of Pathology, Middlesex Hospital.)

THIS communication is not meant to be of more than a preliminary character, the data on which it is based are insufficient for conclusions of any final nature to be drawn from them; but our results point in a direction so different from that of the majority of existing views concerning diabetus mellitus, and at the same time are so readily brought into line with existing data concerning the disease that we feel it advisable to bring them to the immediate notice of the profession.

Some time ago one of us (E. C. D.) drew attention[1] to the inconstancy of the alveolar CO_2 tension in any individual in the course of the day. Samples of alveolar CO_2 being collected by the Haldane-Priestley method and analysed by the Haldane apparatus at successive intervals, the mean tension of an expiratory and an inspiratory sample was calculated; the result of these observations may be summarized as follows:

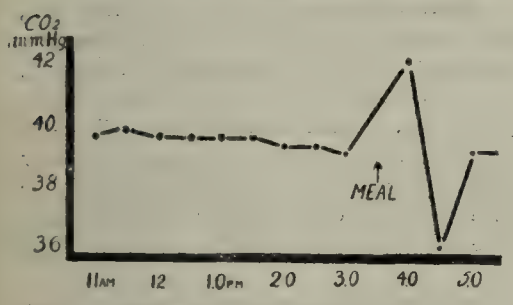


FIG. 1.—Curve of alveolar CO_2 tension to show the continuous level when fasting, interrupted by a rise, followed by a fall, on taking a meal.

1. In a fasting subject, whilst at rest, the alveolar CO_2 tension is constant to within 0.5 mm. Hg.

2. If such a fasting subject be given a meal the CO_2 tension is found to rise, the tension increasing usually about 3 to 5 mm., reaching its highest point during the first hour; it then regains the original lev l and proceeds to fall below it to a depth of about 3 to 5 mm., finally rising once more to the fasting level, which it regains about two to two and a half hours after the meal; it then remains at this level until the next meal be taken (vide Fig. 1).

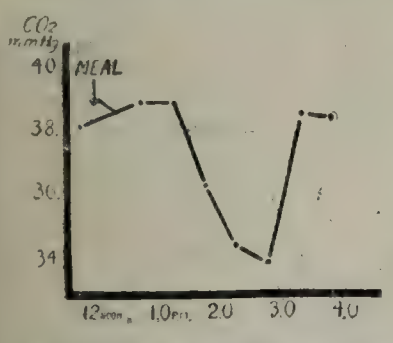


FIG. 2.—Curve of alveolar CO_2 tension following a meal, from a patient whose stomach had been almost completely excised.

3. Similar observations taken on a subject who had had gastrectomy performed showed that in such a subject the rise in tension following a meal is absent, though the later fall still occurs (Fig. 2); from this it was concluded that the rise in CO_2 tension was due to the secretion of HCl by the stomach, and it was suggested that the subsequent fall was due to the alkaline secretion below the pylorus.

That such gastro-intestinal secretions can alter the composition of the alveolar air is at first sight difficult to believe; but when it is realized that these secretions must be derived from the blood supplying the glands of the alimentary canal, it becomes clear that the outpouring of HCl by the stomach must tend to shift the reaction of the blood to the alkaline side. Now the tendency of the body as a whole is to maintain the reaction of the blood at a constant level, and a rapid method of doing this is to retain in the blood stream the volatile acid CO_2 in proportion as HCl is lost; such retention of CO_2 will result in an increased tension of the gas in the blood and hence a rise in the tension of alveolar CO_2.

Similarly the evolution of alkali during later stages of digestion will occur at the expense of the blood stream, where less CO_2 will now be necessary for the maintenance of neutrality, and hence there will be a lowered tension of CO_2 both in blood and in alveolar air.

That the rise of CO_2 tension following a meal does correspond very exactly to the extent of gastric secretion of acid we were able to establish by a series of observations on healthy men, it being shown[2] that those with marked gastric hypersecretion showed an enormous rise of CO_2 tension, whilst those with no secretion of HCl at any time gave no rise in CO_2 tension whatsoever; the contrast between a case with complete achlorhydria and one with secretion slightly above the average is seen in Fig. 3.

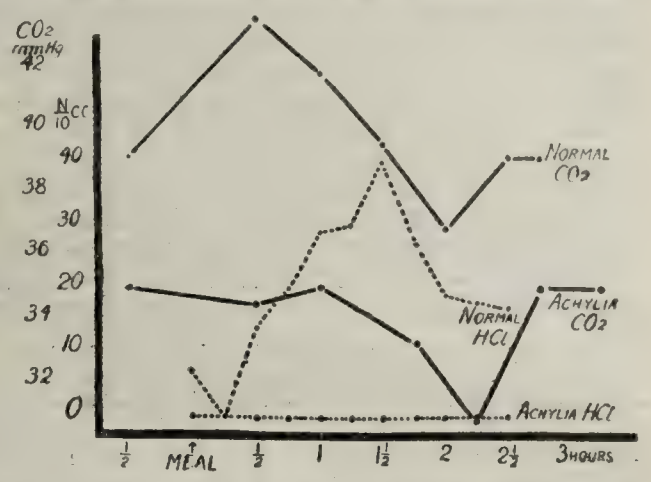


FIG. 3.—Curves of alveolar CO_2 tension, and of free gastric HCl in two healthy subjects following test meals; one subject (marked normal) had a secretion of HCl slightly above the average; the other (marked achylia) at no time has any HCl in gastric contents. Gastric analyses made by the fractional method.

It has been more difficult to establish the exact significance of the drop in CO_2 tension in the later stages of digestion, but by introducing a modified Einhorn's tube into the duodenum we have been able to demonstrate that the direct introduction of food in this situation is, in the normal man, immediately followed by a sharp fall in alveolar CO_2 tension.

Such an experiment is illustrated in Fig. 4, which shows the immediate drop in CO_2 tension produced whenever food is injected into the duodenum (A and B); when, however, the tube was drawn

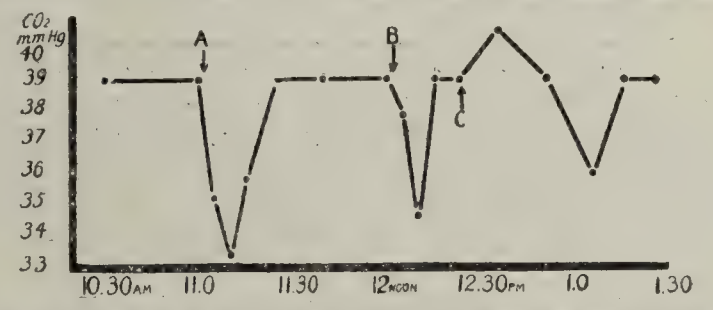


FIG. 4.—Curve of alveolar CO_2 tension to show the effect of direct introduction of food into duodenum: at points A and B food was injected through duodenal tube; at point C the same process was repeated after tube had been pulled up into stomach.

up into the stomach and the food introduced into that organ (C), a rise followed by a fall, such as is seen after an ordinary meal, was produced.

These experiments, a full account of which will be found in the forthcoming number of the *Journal of Physiology*, have, when examined in conjunction with the curves obtained from normal subjects and those with achlorhydria, confirmed our belief that the fall in CO_2 tension which occurs in the later stages of digestion corresponds with the outpouring of alkali when food has traversed the pylorus.

The alkali secreted into the small intestine is of threefold origin, coming from:

1. The liver.
2. The mucous membrane of the intestine.
3. The pancreas.

The secretion of bile is considered to be a continuous process, and, such being the case, cannot periodically affect the CO_2 tension; of the other two factors the work of Boldyreff[3] shows that the pancreatic secretion is by far the more important as a source of alkali. That such is the case is indicated by an observation which was obtained from a patient proved by exploratory laparotomy to have chronic pancreatitis (a fuller account of this case will appear in our paper in the *Journal of Physiology*); the curve of alveolar CO_2 tension is shown in Fig 5, and it will be seen that the

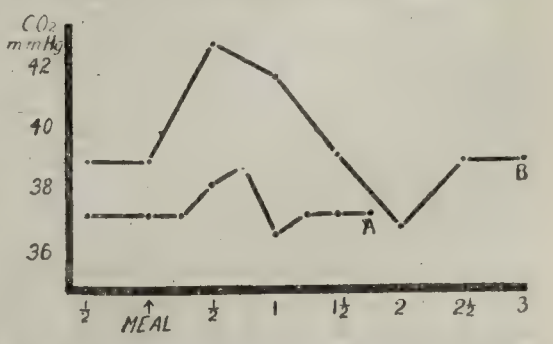


FIG. 5.—Curve of alveolar CO_2 tension from subject suffering from chronic pancreatitis (A), to show small extent of fall in tension when contrasted with average normal subject (B).

drop in tension is notably diminished when compared either with an average man, or with a case of achlorhydria.

Working with normal human subjects, we have found that the respiratory response to food can be affected by the local application of atropine solution to the gastric or duodenal mucous membrane. Thus if the gastric mucosa be washed with a weak solution of atropine the secretion of HCl, as shown by aspiration of samples of the gastric contents, can be abolished, and we have found that, when a test meal is given after such lavage, the rise in CO_2 tension does not occur, although the later fall in tension still takes place. By means of the duodenal tube we have been able to apply a similar solution of atropine to the mucosa of the duodenum, and in this experiment we found that we had succeeded in abolishing the response which normally follows the entry of food in this situation.

The experiment is illustrated in Fig. 6. The duodenal tube having traversed the pylorus and the fasting subject having a constant tension of O_2, food was injected through the tube at the point marked A, the result being a typical fall in tension. At the point B the duodenum was washed with atropine solution and the

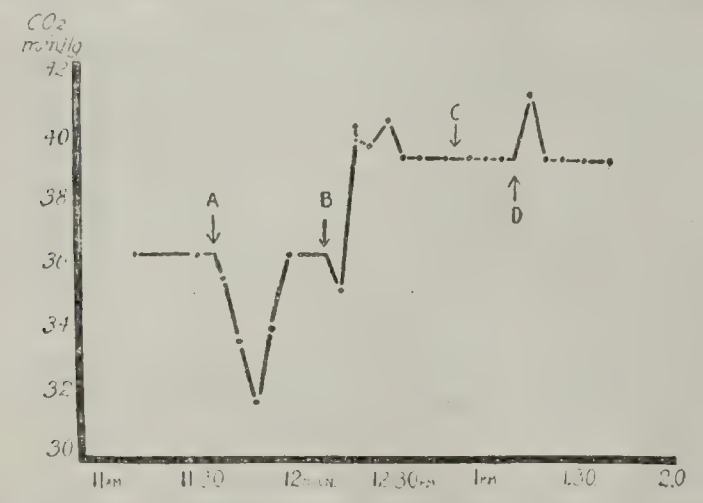


FIG. 6.—Curve of alveolar CO_2 tension to show effect of atropine when applied to duodenal mucosa. A Food injected direct into duodenum with normal response. B Weak solution of atropine injected into duodenum through tube, producing a rise in the fasting level of O_2 (at point marked "?" difference between samples of alveolar air was too great to allow of accurate measurement) C. Food injected into duodenum with no response. D. Food injected into stomach causing gastric response without subsequent fall.

CO_2 tension, after fluctuations, assumed a constant, though higher, level once more. At the point C food was again injected into the duodenum, but this time it produced no response whatever; when, however, the tube was pulled up into the stomach and food injected into that viscus at the point D, a gastric rise of tension at once occurred without any fall at a later period.

This, with other experiments with atropine, to be published shortly, bears out and amplifies the local effects of that drug which one of us has referred to in a previous paper.[4] These effects may be summarized as follows:

1. Gastric lavage with atropine solution diminishes or abolishes the secretion of acid by the stomach.
2. Gastric lavage with atropine solution can abolish the rise of alveolar CO_2 tension which normally occurs when food enters the stomach, it does not affect the fall of CO_2 tension which occurs after the food has traversed the pylorus.
3. Gastric lavage with atropine solution causes the fasting level of alveolar CO_2 tension to fall to a lower level.
4. Duodenal lavage with atropine solution can abolish the fall of alveolar CO_2 tension which occurs when food is injected into the duodenum, it does not affect the rise of CO_2 tension which occurs on the entry of food into the stomach.
5. Duodenal lavage with atropine solution causes the fasting level of alveolar CO_2 tension to rise to a higher level.

It here becomes necessary to discuss the meaning of the change in the fasting level of CO_2 tension summarized under headings 3 and 5.

Carlson, in his admirable study, *Hunger in Health and Disease*, has drawn attention[5] to the continuous nature of gastric secretion; aspiration of the fasting stomach will frequently yield appreciable quantities of juice containing HCl; this is a product of that continuous gastric secretion which goes on in the healthy man at all times, being interrupted at intervals by a much greater flow in response to the approach or entry of a meal. As such a secretion of acid must be made at the expense of the blood stream, it will entail the constant retention in the blood of a corresponding amount of CO_2; if, then, by means of atropine, itbe temporarily checked, its arrest will be shown by a lessened retention of CO_2, and hence by a lowering in the fasting level of alveolar CO_2 tension.

Our experiment, illustrated in Fig. 6, shows that a converse phenomenon occurs when atropine is applied to the duodenal mucosa; there is an immediate *rise* in the fasting level of alveolar CO_2 tension. We would suggest the following explanation of these experimental facts:

1. Gastric secretion is known to occur continuously, even when the stomach contains no food; arrest of this continuous secretion will very naturally lessen the continuous loss of acid from the blood stream, and so will lower the fasting level of alveolar CO_2 tension.
2. It is known that salivary and gastric secretion continue even between meals; it is probable that pancreatic secretion continues in a similar manner.
3. The rise of alveolar CO_2 pressure to a new and higher fasting level which follows atropinization of the duodenum is the result of the arrest of such continuous secretion of alkali into the duodenum.
4. Further, it may be logically deduced from the above that *the fasting level of alveolar CO_2 tension in any subject represents a balance between the continuous loss of acid via the stomach, and the continuous loss of alkali via the duodenum.* That some such explanation would be arrived at we had suggested in our previous paper, wherein we drew attention to our observation that cases with an excessive secretion of gastric HCl have a high fasting level of alveolar CO_2 tension, whilst in those with achylia gastrica the CO_2 tension is at a low level.

It was this deduction that led us to make further investigation into the problem of diabetes mellitus.

The clinical application of alveolar air analysis in diabetes is due chiefly to the work of Beddard, Pembrey, and Spriggs, who showed that the onset of ketosis and coma might be diagnosed at an early stage by the lowering of the percentage, or tension, of CO_2 in the alveolar air; this effect has been explained by the presence of aceto-acetic acid in the blood stream, which replaces a certain amount of CO_2 in such cases, a view with which we are in entire agreement; at the same time we have been impressed by the fact that many diabetics, even when exhibiting no sign of ketosis, have an unusually low level of alveolar CO_2 tension. Gastric analysis on such cases has not, in our experience, shown an abnormally low secretion of gastric HCl, and the question was raised in our minds as to whether this lowering of alveolar CO_2 tension might not possibly be due to a hypersecretion of alkali by the pancreas.

We have now had the opportunity of examining six cases of severe diabetes mellitus, and we have found that in all of them the curve of alveolar CO_2 tension following a meal is of a type not seen in any other disease which we have investigated. The following is a typical example:

Case 1.—Male, aged 50. Admitted to the Middlesex Hospital in June, 1921, under the care of Dr. A. F. Voelcker. Wasting, thirst, and polyuria. Glucose present in large quantities in the urine, aceto-acetic acid also positive. Reduction of the diet gave slight improvement only. Gastric analysis on July 4th, 1921, showed a secretion of HCl by the stomach slightly lower than the average normal picture (Fig. 7.); alveolar CO_2 estimation following a test

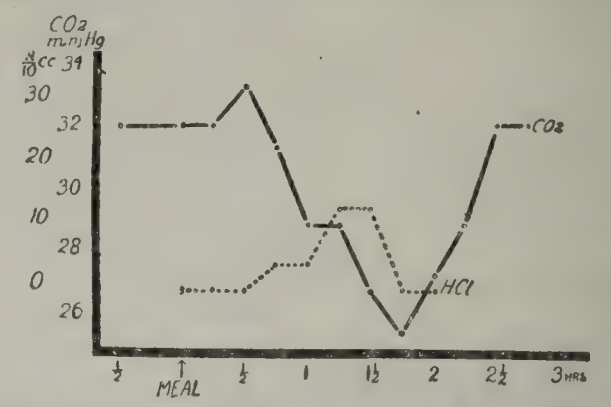


FIG. 7.—Curves of alveolar CO_2 tension and of gastric HCl from a severe case of diabetes mellitus. The gastric HCl is rather below the average normal amount; the CO_2 curve shows a small preliminary rise followed by a fall far greater than that seen in the normal subject.

meal on July 5th showed a slight gastric rise followed by a fall of 7 mm. Hg, the tension not returning to the fasting level for more than an hour and a half. In spite of careful dieting this case showed only a moderate degree of improvement on discharge four weeks later.

The results of alveolar CO_2 estimation in this and subsequent cases of diabetes are shown plotted together in Fig. 8, a typical curve from an average healthy subject being plotted in the same figure for comparison. All were diabetics of the severe type, brief clinical notes of their condition being as follows:

Case 2.—Male, aged 55. One month's history of thirst, weakness, and polyuria. Admitted under care of T. I. B., August, 1921. On admission had pyrexia and signs of early diabetic coma,

urine contained much glucose, acetone, and aceto-acetic acid. Condition improved slightly, but pyrexia continued; signs at bases of both lungs. Ten days later patient became comatose and died. *Post mortem* examination showed purulent prostatitis, septic bronchopneumonia, and slight macroscopic changes in pancreas, sections of which are being cut.

Case 3.—Male, aged 25. Admitted under Dr. R. A. Young, September, 1921, for thirst and loss of weight. Much sugar, acetone, and aceto-acetic acid in urine. Patient refused strict diet and was eventually discharged unimproved.

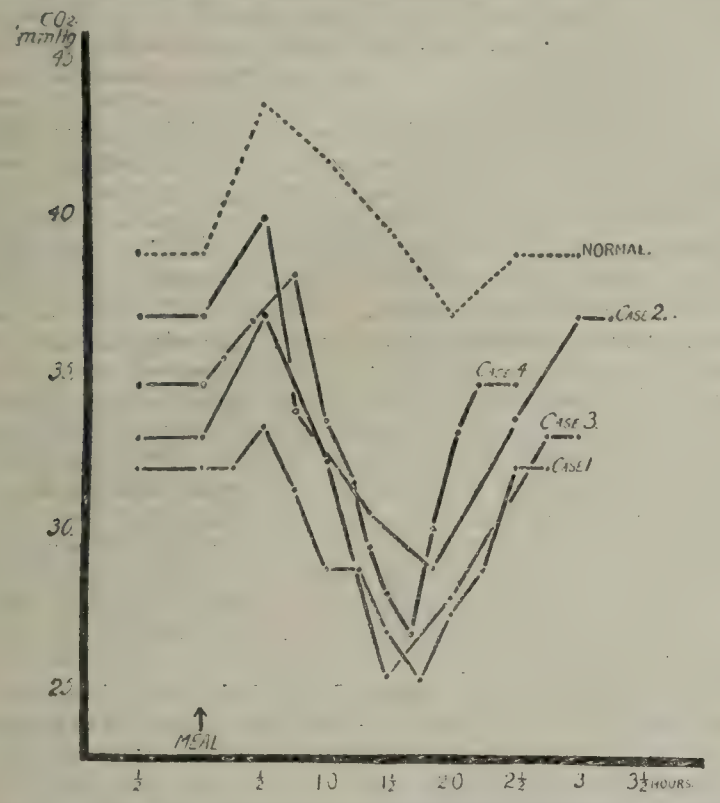


FIG. 8.—Curves of alveolar CO_2 tension from a series of cases of severe diabetes mellitus: an average normal curve is shown for comparison. In this figure the readings recorded at the moment of the meal are, in Case 2 and Case 3, assumed; several readings were taken in each case before the meal, but not actually at the last moment before giving it. The normal curve is the average of a series of observations.

Case 4.—Female, aged 25. Severe diabetes for four years. Has been sugar-free on diet of less than 1,000 calories per diem for over a year; during last three months tolerance has fallen lower, and she now passes small amounts of sugar on lowest diet compatible with N-equilibrium. No acetone or diacetic acid in urine. Blood sugar curve typical of diabetes mellitus.

A few milder diabetics rendered sugar-free by dieting and having now a fair sugar tolerance, whom we have been able to investigate, have shown curves of alveolar CO_2 not differing from the normal picture seen in health.

If the interpretation which we have given above of the normal curve of alveolar CO_2 tension following a meal be correct, the extreme and protracted drop in tension seen in severe cases of diabetes indicates that in this disease there is hypersecretion of the pancreas. Now, it has been pointed out by Allen and others that the internal secretion of the pancreas is inversely proportional to its external secretion, and, on that hypothesis, the success which has attended the treatment of the disease by the principle of "alimentary rest" is explained. We would suggest that, in severe cases of diabetes, the external secretion of the pancreas is of an extreme degree, analogous to the hypersecretion of the stomach seen in patients suffering from Reichmann's disease. Alimentary hypersecretion is a phenomenon which is exceedingly difficult to demonstrate by any direct method; in the case of the stomach it can be done by accurate measurement both of the amount of juice aspirated at varying periods, and the degree of concentration of this juice; there being no convenient sphincter below the pylorus, it is impossible to collect more than small samples of the pancreatic juice in man, but we are at present devising means of confirming our findings by some such direct method. We wish in the meantime to draw attention to our observations, and to note that our belief that they indicate a condition of pancreatic hypersecretion is not in disaccord with existing clinical and laboratory data, even though the conception itself be a novel one.

The parallelism between these curves of CO_2 tension and the curve of blood sugar commonly seen in a diabetic is a fact which must strike anyone familiar with the latter, and we hope in a later paper to bring forward further evidence as to this. The comparative rarity of macroscopic or microscopic evidence of gross pancreatic disease in cases of diabetes seen *post mortem* has long troubled students of this disorder, and has made it almost impossible to harmonize theory with Minkowski's experimental production of the disease by pancreatectomy; we feel that the present observations supply valuable evidence towards the elucidation of this problem.

As to treatment our experiments with atropine suggest that a considerable degree of control over pancreatic activity may be acquired by the direct application of the drug to the duodenal mucosa; we are not yet in a position to produce clinical evidence in support of this suggestion, but hope to do so at a later date.

We would, in conclusion, express our thanks to our colleagues and co-workers at the Middlesex Hospital for their valuable help and permission to investigate cases under their care. The respiratory observations here recorded form part of a report to the Medical Research Council; the expenses of one of us incurred in this research have been partly defrayed by a Government grant made through the Royal Society.

SUMMARY.

1. The variations in alveolar CO_2 tension after a meal depend, in a subject at rest, on the secretions of acid and alkali into the stomach and duodenum.

2. Confirmation of this is given by the curves of alveolar CO_2 pressure from subjects with varying degrees of gastric secretion, or with pancreatic insufficiency.

3. Further confirmation is supplied by the results of experimental introduction of food direct into the duodenum.

4. The application of atropine to the mucosa of the stomach or duodenum appears to arrest the secretion of acid or alkali into the organ to which the drug is applied.

5. The writers believe that, like salivary and gastric secretion, pancreatic secretion must be a slow, continuous process interrupted by a more vigorous flow whenever food traverses the pylorus.

6. The fasting level of alveolar CO_2 tension in any subject represents a balance between the continuous loss from the blood stream of acid via the stomach, and alkali via the pancreas and duodenum.

7. Cases of severe diabetes frequently show a low fasting level of alveolar CO_2 tension even when no ketosis is present.

8. Cases of severe diabetes investigated by the writers have, after a test meal, shown a fall of alveolar CO_2 tension greater than that seen in any other condition so far examined.

9. It is suggested that this is due to a condition of hypersecretion of the pancreas, analogous to the gastric hypersecretion seen in cases of Reichmann's disease.

REFERENCES.

[1] E. C. Dodds: *Journ. of Physiol.*, liv, 342, 1921. [2] T. Izod Bennett and E. C. Dodds: *Brit. Journ. of Exper. Path.*, ii, 58, 1921. [3] W. Boldyreff: *Quart. Journ. Exper. Physiol.*, viii, 1, 1914 [4] T. Izod Bennett: *Guy's Hosp. Reports*, lxxii, 51, 1921. [5] A. J. Carlson: *The Control of Hunger in Health and Disease*, Chicago, University Press, 1916.

HEMIPLEGIA IN A YOUNG CHILD, FOLLOWED LATER BY LOCOMOTOR ATAXIA.

BY

WILLIAM CALWELL, M.D.,

PHYSICIAN TO THE ROYAL VICTORIA HOSPITAL, BELFAST.

THE explanation of the rather complicated signs in the following case is probably as follows. The patient inherited syphilis, and developed a vascular lesion at the base of the brain when 3 years old, probably a syphilitic thrombosis in an artery at the left internal capsule. This gave rise to the right hemiplegia and aphasia at the time, and to the slight diminution of size and strength of the right side, which is the more marked where there is the greater differentiation of function—that is to say, most in the hand, least in the trunk—and to the right Babinski, and to the increased jerks in the right arm. A couple of years ago locomotor ataxia set in, and she developed the droop and the diplopia; we have no proof that the Argyll Robertson pupil, the inequality of the pupils, and the loss of knee-jerks developed at the same time, but we surmise it.

A girl, aged 17 years, was admitted to the Royal Victoria Hospital, Belfast, on August 19th, 1921, under Dr. Calwell. Her father had died, aged 48, from angina pectoris. She is the only child alive; four sisters and one brother died before two years of age; two were premature, one died aged 7 weeks and the other aged 8 months. Her personal history, as given by the mother, is that she had a sudden attack of right-sided paralysis with aphasia when 3 years old; she recovered her speech in two weeks and the use of the arm and leg was regained in a year. Ever since she has had a "halt" in her gait, and no spring in the right foot; she says the right side is weaker than the left.

On admission, the various systems were found normal, except as follows: The right upper and lower extremities are smaller than the left, and this holds both as regards length and circumference; the difference varies from one 1/4 inch to 1½ inch. It is more marked in the arm than in the leg, and most marked in the hands; the left metacarpus measures 6¾ inches round, the right only 6 inches. No difference is seen in abdomen, buttock, or back: the left knee-joint is slightly swollen, but the *x* rays show no bony change.

The right foot is pes cavus with some equino-varus; there are some slight athetoid movements of the right foot which interfere somewhat in taking the reflex. The gait is not characteristic; she lifts the right foot as in high stepping, gives it a slight indefinite shake, and brings it down awkwardly more on the toes; the left foot comes down a little on the heel.

With reference to her reflexes, there is no plantar reflex on the left; there is a true Babinski type on the right, but obtained satisfactorily only once every three or four times; no knee nor ankle jerks are present in either. Co-ordination and topognosis with feet is poor, slow, uncertain, and clumsy. In the upper extremities, supinator, triceps, and biceps jerks clearly more marked in right, indeed exaggerated; co-ordination and topognosis is good with both. Romberg is doubtful, although the patient was uncertain in standing and bending with her eyes closed. The sensory system is normal, the speech normal.

In the eyes there is ptosis of left lid, sometimes marked, sometimes slight; there is paralysis of the left external rectus; fine lateral nystagmus is present in the right eye when looking upwards and outwards. The discs are normal and sight good; there is diplopia when looking to the left, and in the left eye the field of vision is slightly contracted. Argyll Robertson pupil is present in both eyes; the left pupil is larger than the right. A Wasserman test of the blood was returned from the laboratory as double positive, by both Harrison's and Fleming's methods.

It is interesting to notice the presence of the Babinski reflex and the loss of knee-jerk in the same limb; this latter reaction depends on the condition of the tone of the muscle. If the tone is marked we have a brisk reaction; if excessive we have a clonus; but in this case where we would expect an excessive tone as we have in the arm, the tone is lost owing to the syphilitic affection of the posterior roots, containing the sensory fibres of tendon and muscles, and so we get loss of both knee-jerks. A weak point here is the absence of any history of lightning pains.

A plantar reflex has the following explanation: a family group of congeries of cells in one or two adjacent segments of the spinal cord has in time past been so often subjected to the same stimulus, and called upon to react in exactly the same manner that the total forms an organic whole, and the reaction is automatic or "a reflex." The cells in the lumbar enlargement are influenced by not only the cortical fibres through the crossed and uncrossed pyramidal fibres, but also by the descending tecto-, rubro-, cerebello-, and Deiters'-spinal fibres. When the influence of the cortical fibres is removed by a lesion, say in the internal capsule, the other descending fibres have full sway and the type of reflex goes still further back, say from that of our arboreal ancestors to that of our still more remote ancestors of the plains, and so we get a dorsi-flexor or Babinski instead of a plantar flexor reflex. This reflex does not depend on a tone condition, and so in this case it is retained.

The patient has greatly improved in general health and weight since admission to hospital; she feels stronger and says she has more control of the ptosis and locomotion. She has received one injection of 0.3 gram and twelve of 0.45 gram of novarsenobillon; but the Wassermann is still positive.

ASTHMA AND THE RADIUM MENOPAUSE.

BY

J. N. MACBEAN ROSS, M.C., M.D., F.R.C.S.EDIN.

With a Note by

SIR HUMPHRY D. ROLLESTON, K.C.B., M.A., M.D., F.R.C.P.

WHILST it is frequently found that women with an asthmatic personal or family history are peculiarly liable to develop the disease in a more severe form during the period of the menopause, there appears to be no case on record of exceedingly intractable asthma due, at any rate in part, to the artificial completion of the menopause by the introduction of radium into the uterine cavity.

So many instructive conclusions and interesting surmises can be drawn from the following case that it appears worth while to publish the details.

The patient, Mrs. X., had lived in the same house for three years, and during that time had not suffered from asthma. She is now aged 47 years. There is no asthmatic, unstable, or neurotic family history. In 1906 she had the radical operation performed on both maxillary antra for acute suppuration in those cavities. In 1909 she had an attack of asthma, which was the only one prior to her present illness.

In October, 1920, she developed a peculiar mental condition, which Sir Maurice Craig diagnosed as being due to cerebral anaemia caused by excessive monthly loss of blood. On his advice the menopause was artificially induced by the introduction of radium into the uterine cavity. This radium was lent by Dr. N. S. Finzi and the dosage worked out by him. In ten days she was mentally quite normal and menstruation has permanently ceased.

As soon as she commenced to resume partially her ordinary life a purulent secretion appeared from both antra, accompanied by exceedingly troublesome asthmatic attacks. At that time I considered the asthma to be purely an anaphylactic symptom caused by organisms from the nasal discharge, to which organisms or their products the patient was hypersensitive. On this assumption I asked Mr. Philip Franklin to put her nose thoroughly in order. He straightened the septum, removed a large spur of bone, scraped away some carious bone from the ethmoidal region on the right side, and enlarged the openings into both antra to allow of more adequate drainage of the cavities. At the time of operation Sir Kenneth Goadby made a bacteriological examination of the sputum and swabs from the right and left antra and high up in the nasal fossa. He reported that the sputum contained large numbers of pus cells and long chain streptococci, whilst both nasal and antral swabs showed large numbers of streptococci and also Gram-negative bacilli (probably Friedländer's).

An autogenous vaccine was made, and she was given twelve progressively increasing doses. No improvement was noticed. Asthma was practically continuous; bronchitis was marked at both bases; the patient was losing weight, could get no rest by day or night, and was rapidly going downhill.

During this time I made exhaustive trials of practically every known medicine, inhalation, nasal spray, hypodermic injection, and powder which had any reputation whatsoever in controlling asthmatic attacks, but none had the slightest beneficial effect. At that stage I was still hopeful that, the nose being now in excellent order, the vaccine treatment would ultimately be curative. This belief was bolstered up by the fact that the eleventh and twelfth injections were followed by a generalized urticaria, especially round the site of injection, and these two injections definitely excited two particularly severe asthmatic attacks. This was taken to imply that the patient was undoubtedly sensitive to the products of the nasal discharge, and consequently it was logical to continue the vaccine, though, of course, in smaller doses until tolerance was obtained.

In August, 1921, Sir Humphry Rolleston saw the patient in consultation with me. His opinion, now proved to be entirely accurate, was that, whereas the nasal discharges were certainly the main factor in the production of the asthma, some other factor must also be present, in view of the fact that the vaccine was not curative. Feather pillows, dogs, cats, eggs, etc., were all in turn excluded, and the patient was going from bad to worse.

On October 2nd her condition was extremely critical. The asthma was perpetually present both day and night, and was most distressing both to herself and to her relations. The pulse was weak, irregular, and almost imperceptible at times; the temperature ran up to 102° F., and a fatal issue appeared imminent. Dr. Canti saw her in consultation with me, and made an exhaustive pathological examination, including even a spectroscopic examination of the blood, but no light could be thrown on the subject. Oxygen inhalations and hypodermic injections of strychnine were urgently necessary.

On October 10th, thinking that the menopause might be the additional factor I had been looking for the patient was given by the mouth ova-mammoid compound (British Organotherapy Company, Ltd.), consisting of ovarian extract 1 grain and mammary gland extract 1 grain, four times daily. The result was as unexpected as it was striking. On the following day the asthma and bronchitis, which for a year had never been absent, were markedly improved, and by the third day the asthma had entirely disappeared with the exception of a very minor attack in the early morning. The treatment was persevered with and she improved progressively. She is now to all intents and purposes cured.

During the whole course of treatment neither peptone nor serum was given.

Conclusions.

1. One application of radium to the uterine cavity is sufficient to complete the menopause. Hence operative procedures are unnecessary purely for this purpose.
2. The method is not free from distressing or even dangerous results.
3. Just as in oöphorectomy and panhysterectomy so also in all methods which suddenly induce the menopause ovarian extract should be given as a routine proceeding.
4. Many illnesses at the time of the menopause may be due, either wholly or in part, to ovarian insufficiency, and in all such illnesses ovarian extract should be given a trial.
5. Asthma may be due to a deficiency in one of the internal secretions, and this may possibly account for the success of adrenaline in certain cases, of pituitrin in others, and of ovarian extract in this case.
6. In asthma two factors may be at fault and both must be treated to obtain a satisfactory result.

Note by SIR HUMPHRY ROLLESTON.

Dr. MacBean Ross's account of this remarkable case is so clear that little remains, except, perhaps, unfruitful speculation as to the relation between the administration of the ova-mammoid compound and the cessation of the grave asthmatic state.

That the beneficial effect of this preparation was solely due to suggestion seems improbable, because other forms of treatment just as likely to produce such an influence had proved futile. As the ova-mammoid preparation was given by the mouth and not hypodermically it can hardly be argued that it acted, like the intramuscular or intravenous injection of peptone (Auld), as a non-specific desensitizer. Lastly, it is difficult in the present state of our knowledge to say that the sudden production of ovarian insufficiency caused, by means of the resulting upset of the endocrine balance, a metabolic asthma; it is just conceivable that from sudden withdrawal of an ovarian internal secretion the thyroid secretion might become relatively excessive and so render the central nervous system susceptible to stimulation by the "foreign" protein provided by the antral suppuration, with the result that asthmatic manifestations followed.

Such speculation, though attractive to the speculator, is not based on the proper basis of experiment, but it renders all the more desirable investigation of cases of asthma occurring after the artificial production of the menopause.

A NOTE ON THE TREATMENT OF SQUINT.

BY

HENRY SMITH, C.I.E., LIEUT.-COLONEL I.M.S.,

LONDON.

UNDER the term "squint" I include all non-paralytic errors of muscle balance of the eye. There has been a large amount of interesting work done on the anatomy of the extrinsic muscles of the eye, and on operative procedures to correct errors of muscle balance. I recently attended discussions on these issues in the United States of America. The only comment I made during these discussions was that we would do well to shake ourselves free from all that had been done and revert to first principles.

From the mechanical point of view it seems to me that nature has inserted the extrinsic muscles of the eye in such a position that each shall obtain the same maximum leverage and that this leverage shall be constant whatever the position of the eye. That is to say, the recti muscles are inserted well in front of the equator, the equator or any point in front of it being equally the position of maximum mechanical advantage. Hence the retarding of any tendon would be mechanically unsound. From the physiological point of view it is well known that the force with which a muscle contracts increases with the degree to which it is stretched within limits before contraction. Tendon tucking or advancement stretches one of the muscles of the eye and introduces a factor which cannot be gauged.

From the surgical point of view any cutting operation leaves a scar tissue which is subsequently liable to contract, and none is more likely to do so than tendon tucking. The latter almost invariably means muscle tucking, hence it can be seen that no operative procedure can pretend to anything like scientific accuracy. In fact, in almost all cases the final result is practically cosmetic.

I wish to draw attention to the case of an Indian banker who came to me at Amritsar in 1917. He had had an ordinary seventh-nerve paralysis, from which he had recovered a few months previously. The muscle balance of his mouth had gone wrong and was a disfigurement—permanent, as is usual in such cases. I gave him an electro-magnetic apparatus and showed him how to use it. After a couple of months he came back to me with the mouth pulled to the opposite side—that is to say, towards the nerve originally paralysed. The last I saw of him was two years afterwards. The shortening he had produced had remained permanent.

The muscle balance of the eye is exactly analogous to the muscle balance of the mouth. If we can alter the Indian banker's mouth permanently by a course of electrical stimulation of the muscle on one side, we can similarly alter the muscle balance of the eye. There is no means of getting away from this issue.

While on a holiday with a friend recently in a village in Nova Scotia, a girl of 10 years of age was brought to me; she had 7½ degrees of external squint. I had no dark room nor apparatus with me. A local doctor kindly lent me an electro-magnetic apparatus. I spent a few sittings with the child, allowing her to play with the instrument so as to gain her confidence. I used an ordinary sewing needle as one pole, placing the other pole on the nape of the neck. With the eye cocainized I pushed the needle through the conjunctiva not more than one-eighth of an inch towards the affected muscle. She could not stand the hum of the instrument, so my friend did the make and break of the current with his hand. I gave her about fifty shocks of such strength as the child would put up with over the internal rectus of one eye in the morning, and over the internal rectus of the other eye in the evening. At the end of five days—ten sittings—the squint, as examined in open daylight, was reduced to 2 degrees.

I had then of necessity to leave this very interesting case, and the best I could do was to order her a pair of 1 D prisms. At this stage I secured a piece of red glass, and found that with it she had 7½ D, and without it had 2 D, showing that she was exercising 5½ fusion power.

It was noticeable in this child that the little shock produced caused the child to vomit occasionally after the sitting, and this tendency naturally limited the length of the sitting and the strength of the current used. This is not surprising, as in children or adults any shock associated with surgical interference with the eye often causes a vomiting of this kind. The right technique for this procedure has yet to be settled.

I would suggest that the patient should be put under gas for the minute or two required at each sitting, the eye being also cocainized, a meridional slit made in the conjunctiva about one-eighth of an inch over the muscle, the pole insulated with sealing-wax to near the point, and the muscle submitted to a fairly strong current in this way twice a week.

If this is done I have no doubt the operator will get what shortening he requires with very few sittings; that he will be able to adjust the length of any extrinsic muscle of the eye to the physiological length; and that he will run no risk of mutilation. To emphasize the main issue of the procedure I advocate: If one can rapidly by means of a series of electric shocks shorten permanently and to any degree required the muscles which balance the mouth, by analogy you can similarly shorten permanently any of the extrinsic muscles which balance the eye. The procedure which I advocate would do away with all operations for muscle balance and with the use of prisms for this purpose.

PULSATILLA IN DYSMENORRHOEA.

BY

FREDERIC C. COLEY, M.D.,

PHYSICIAN TO THE NORTHERN COUNTIES HOSPITAL FOR DISEASES OF THE CHEST; CONSULTING PHYSICIAN TO THE HOSPITAL FOR CHILDREN, NEWCASTLE-UPON-TYNE.

THIRTY-ONE years ago a patient came to me suffering, amongst other things, from dysmenorrhoea. It was very severe, causing nausea and prostration, and the pain sometimes reduced her to helplessness. She was then over 30, and had suffered in this way since her third period, at the beginning of which she had "taken cold." I prescribed, by a fortunate inspiration, pulsatilla, a remedy which I had previously been led to regard as useless. The result was such that the patient afterwards told me that the fee she paid me was the best investment she had ever made in her life. Since then I must have used pulsatilla in hundreds of cases. In many it has been entirely successful. In most it has given great relief. I believe those in which it has completely failed have been few.

The cases in which I prescribe pulsatilla give a history of this kind: They have pain for the first day or two of each

catamenial period. Sometimes it begins a day or so before the period. The loss is usually small. I have not been accustomed to use it where the amount is excessive, lasting six days or more, and attended with passage of clots, pain continuing through the whole of the period, or nearly so. Most of the patients that I have treated have been unmarried. Married women having this type of dysmenorrhoea are apt to be sterile.

I do not pretend to know the precise pathology of these cases. I never make a vaginal examination in them, which is mischievous where it is not necessary. I am quite satisfied with the knowledge that in the great majority of patients giving the history above detailed pulsatilla affords wonderful relief. When I prescribe it I usually give the following explanation: "You may get great and immediate relief at the first trial of the medicine. That often happens. But do not be disappointed if it does not. If you get any relief at all at first, you may expect with great confidence that the benefit when you use it at the next period will be much greater. Probably when it has been used at five or six periods the pain will be entirely abolished, after which the medicine may be given up with very little fear of a relapse. But if that should occur at any time, the medicine may be resumed with good effect." The cases in which these prophecies have been unfulfilled have been in my experience very few. How pulsatilla relieves dysmenorrhoea I do not know. I have never known it to produce any undesirable effect, or indeed any other effect at all than that for which it was prescribed. It is certainly not a narcotic. The formula I use is:

R Tr pulsatilla	... ...	... 3iv
Spt. chlorof.	... ...	... 3ij
Aq. chlorof.	... ...	ad 3vj

Two teaspoonfuls of this to be taken as soon as menstrual (or pre-menstrual) pain begins, and every three hours while pain continues.

It cannot be supposed that the minute quantity of chloroform contained in 3ij of this mixture materially aids the pulsatilla. But it is most efficient as a preservative, so that I tell the patient that if the bottleful is not finished when pain ceases the rest of it may be kept for use at the next period.

It may be objected that suggestion is largely concerned in the success of this treatment. Absolutely to disprove this would be difficult. But the remarkable uniformity of the results makes it exceedingly improbable. To me it is a question of merely academic interest. What I care for is that severe pain, often producing serious disability, is relieved, and in many cases entirely abolished, by a remedy which is quite harmless and in no way disagreeable. And these are advantages which certainly cannot be claimed for the stem pessaries which were in vogue in my younger days, or the operations for dilatation of the cervix which I have seen described in recent works.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

OBSTRUCTION OF THE PELVIC COLON BY THE PEDICLE OF AN OVARIAN CYST.

THE notes of the following case, in which the obstruction was caused in a remarkable manner, seem to merit publication.

On August 28th, 1921 I was called by a local Muslim doctor to see his mother-in-law, a lady of 55, who was obviously suffering from symptoms indicating an obstruction of the bowel, incomplete in character. On the previous day she had had a sudden attack of moderately severe pain in the lower abdomen, followed by vomiting (once). An enema given in the evening had resulted in the passage of a little faeces and flatus, but did not relieve the pain. When I saw her, her abdomen was slightly distended, particularly over the caecal and sigmoid areas; tenderness was not marked, and there was no rigidity. The pulse rate was 80, the temperature normal. She gave no history of genito-urinary trouble.

Castor oil was ordered, but was returned, and an enema with turpentine produced a small motion without passage of flatus. On the following day her condition was much the same, and she was removed to hospital for further observation, and in case the necessity for operation should arise. A further enema resulted in the passage of considerable flatus. During this and the following day her condition was chiefly remarkable for the variation in the severity of the local symptoms. Pulse and temperature remained unelevated. The spasms of pain varied in their intensity and duration, and frequent enemas only occasionally produced flatus. Abdominal distension was, on the whole, less marked. A small stool was passed on the 30th after an enema. On the 31st the pulse rose to 96 and the temperature to 99° F., and her general condition was obviously worse. She complained bitterly of the increase of pain after the enemas. I advised a laparotomy, but first insisted on making a vaginal examination. This revealed an ill-defined lump on the right side. The fundus uteri could not be felt.

On opening the abdomen under spinal anaesthesia (stovaine) by a subumbilical incision, the omentum was seen passing down to become attached to a right-sided ovarian cyst about the size of a cricket ball. The uterus was displaced to the left and the pelvic colon was found to be ensnared by the cyst pedicle in a most remarkable manner. The pedicle, under considerable tension, about the thickness of the index finger, and showing several twists, passed from the uterus posterior to the obstructed loop, then over the latter from behind forwards, and finally to the left and posterior to its proximal portion, emerging under cover of this to reach the base of the cyst. The cyst was lying horizontally, with its apex to the right and pointing downwards slightly. The loop of colon was moderately distended, and showed a fairly pronounced ring at the point of constriction.

After ligaturing and dividing the partially adherent omentum, the obstruction was first relieved by division of the pedicle between ligatures at the point where it appeared from behind the loop and the cyst removed. The remaining (proximal) portion of pedicle was then ligatured and removed from its uterine attachment. The broad ligament on the side of the cyst was extremely rudimentary. The abdomen was closed in layers without drainage. Apart from a rise of temperature on the third and fourth days due to malaria, which promptly yielded to intramuscular injections of quinine, the patient made an uneventful recovery.

The cyst was incised after removal and proved to be a dermoid containing a large quantity of hair in about 12 ounces of viscid dark yellow fluid. The total length of the pedicle was about 8 inches; it was dark red in colour, due to extravasation of blood, and it presented an unusual feature in that its diameter was uniform throughout.

How the cyst and its pedicle came to establish the relations found at operation it is almost impossible to guess, but it seems reasonable to suppose that the omentum was to a large extent responsible for their maintenance. The adhesions were recent, and probably followed the twisting of the pedicle. This being abnormally long must, I think, be regarded as the primary factor in the causation of the obstruction, and no doubt the weight of the cyst, aided by gravity, prevented the bowel escaping from the noose.

I wish to thank the Director of Health Services in Irak for permission to publish these notes.

G. S. WOODMAN, M.B., B.S.Dunelm., F.R.C.S.Edin.
Mosul.

ERUPTION RESEMBLING VARICELLA IN LOBAR PNEUMONIA.

As there has recently been correspondence relating to the possible identity of the virus of herpes with that of varicella it may be opportune to place on record a case of lobar pneumonia accompanied by herpes labialis, and, on the approach of crisis, also by an eruption clinically identical with or resembling very closely that of varicella.

A young man, aged 24, was admitted to the Mildmay Mission Hospital at Bethnal Green on August 1st, 1921, suffering from acute lobar pneumonia. There was a good deal of herpes around the nose and mouth. He stated that after feeling unwell for a few days he was taken suddenly ill three days before admission with pain in the chest and vomiting. He was found to have dullness at the base of the right lung, and a well marked patch of consolidation extending from the second to the sixth costal cartilage and three to four finger-widths from the right sternal border. Diminution of resonance extended considerably below this, but cleared up without further sign of effusion.

On August 4th there was an outbreak of red spots, quite irregularly distributed, on the upper part of the chest. These took five or six days to clear up, but only a very few of them showed vesicles. On August 6th there was an extensive vesicular outbreak on the back, covering the whole of it in an irregular manner and showing no tendency to group along the nerve tracks. The larger of these became pustular and terminated by scabbing. Umbilicated vesicles were not observed.

The whole eruption was not simultaneous in development, and it lasted many days; but I regret to say that the date of the termination of scabbing is not marked in my notes.

London, W. WM. SALISBURY SHARPE, M.D., M.R.C.P.

THE OPERATION OF CHOLECYSTGASTROSTOMY.

To your issue of November 19th, 1921, Mr. C. A. Moore, of Bristol, contributed an interesting case of pancreatic tumour, and added a valuable review of the literature of cholecystgastrostomy. His remark that "cases in the literature since 1914 are naturally scarce" prompts me to add the following case of malignant disease of the pancreas to the list.

A railwayman, aged 45, was admitted to hospital in August, 1920, suffering from chronic obstructive jaundice of several months' duration. He complained of intermittent pain in the upper abdomen, and intolerable itching from jaundice, which was deep and progressive. In the preceding six months he had lost 14 lb. There was slight uniform distension of the abdomen, and a distended gall

bladder was easily palpable as a mobile globular tumour, situate midway between the umbilicus and the right costal margin. The stools were pale, bulky, and greasy. No trace of urobilin was present, but an abundance of undigested muscle fibre and an excess of unsplit fat. Glycosuria was present, Loewi's test was negative, and the excretion of diastase in the urine, normal in amount.

On account of the intolerable pruritus, the abdomen was opened and cholecystgastrostomy performed, after aspiration of the gall bladder. The head of the pancreas was found to be enlarged, nodular, stony hard, and overhanging the duodenum. The latter was deeply placed and firmly held by adhesions, rendering anastomosis of it with the stomach impossible without undue traction.

I feel diffidence in drawing inferences from a single experience of the operation, but I was impressed by the ease of its performance, the rapid disappearance of the jaundice with the attendant itching, and the remarkable tolerance of the stomach to the free drainage of bile into its lumen. At no time subsequent to operation was he troubled with nausea or vomiting. The patient lived six months in comparative comfort, despite the onset of hydroperitoneum, which necessitated tapping on two occasions.

From the standpoint of technique, cholecystgastrostomy would seem to possess many advantages, as Mr. Moore points out.

The barium skiagrams were interesting, for in the most recent contribution[1] to the literature to which I have had access it is stated that "Roentgen-ray studies following cholecystgastrostomy have shown that bismuth and barium do not enter the gall bladder." In the case here reported the barium skiagram clearly showed the passage of a portion of the meal through the stoma into the gall bladder, and its accumulation in the latter viscus. In fact, the appearance depicted on the plates was not unlike that of an hour-glass stomach with two unequal pouches.

GERALD RALPHS,
Assistant Surgeon, Ashton-under-Lyne Infirmary.

Dukinfield.

Reports of Societies.

PNEUMOPERITONEUM OF THE PELVIS IN GYNAECOLOGICAL DIAGNOSIS.

AT a meeting of the Edinburgh Obstetrical Society held on December 14th, 1921, with the President, Dr. LAMOND LACKIE, in the chair, Dr. LANCE IMPEY read a paper on "Pneumoperitoneum of the pelvis as an aid to gynaecological diagnosis."

Dr. Impey said that for the past two years extensive work on pneumoperitoneum of the pelvis had been carried out at the Michigan University Hospital, Ann Arbor, by Peterson and Van Zwaluwenburg. No expensive or elaborate apparatus was necessary. The table was an ordinary operating table which could be lowered at one end. Carbon dioxide was used and was stored in a commercial cylinder, the flow of gas from the cylinder being controlled by a gas pressure valve. The quantity of gas injected was accurately measured by an inverted siphon pulsating meter, commonly used by engineers for the measurement of chlorine gas. A manometer indicated the pressure under which the gas passed into the patient. If the gas was injected through the uterus a metal cannula was passed into the cervix. The backward flow of gas was prevented by a rubber obturator, which fits into the external os. When the abdominal route was indicated, a lumbar puncture needle was used to perforate the abdominal wall. Numerous tests showed that the CO_2 in ordinary commercial cylinders contains no bacteria. Carbon dioxide was used in preference to oxygen, as it is absorbed in fifteen to thirty minutes. A portable *x*-ray apparatus was used and the photograph taken immediately after the inflation. Unless there were definite contra-indications, such as a recent inflammatory condition, or a pregnancy, the first attempt was made to pass the gas by the transuterine method. If the tubes were permeable the gas passed into the peritoneal cavity with the manometer showing a low pressure of 30 to 40, if there was resistance the pressure rose to 200. It was not advisable to allow the pressure to rise above 200. If the gas would not pass through the tubes it was injected through the abdominal wall. The point of election for the puncture, unless there were contraindications such as adherent intestines, or a tumour, was two inches below the umbilicus in the mid line. The patient was next placed face downwards in the knee-chest position on the tilting table, an inclined board, with the upper border cut away to fit the pendulous abdomen, being used to support the thigh. The table was tilted forward to an angle of 20 degrees, and the *x*-ray photographs taken, stereograms being taken in all cases. The photographs showed very clearly all of the pelvic organs. The uterus was shown as two cross-sections—the one representing the body and the other the supracervical portion, or isthmus. The broad ligament, ovaries, and tubes were clearly seen. In some cases even the round ligaments could be made out. Fibroids of the uterus showed an irregular outline, and the mass had a greater density than normal. Ovarian cysts produced a picture that would rarely leave one in doubt. The most characteristic picture was of a bilateral salpingitis. In a number of cases pregnancy had been recognized as early as the sixth week. The signs consisted in the symmetrical enlargement laterally of the isthmus. This was probably due to the increase in the blood supply and to the early softening of the lower uterine segment. The uterus itself was also enlarged, but its density was less than normal, and the shadow was homogeneous and uniformly smoothly rounded.

Dr. Impey added that early cases of tuberculous salpingitis, when the tubes were soft and pliable and offered no resistance to the examining finger, had been discovered in *x*-ray photographs. A differential diagnosis between tumours arising from the pelvis or abdominal cavity was made easier by pneumoperitoneum. Though detailed notes had been kept in all cases, of which there had been over 300, there was no evidence of any harm being caused by the inflation.

In the discussion that followed, Dr. BARBOUR doubted whether there was much real advantage in diagnosing pregnancy as early as the sixth week. Dr. BALLANTYNE thought that there might be danger of causing abortion or of causing peritonitis by driving infected matter from the tubes into the peritoneal cavity.

Mr. HARTLEY had seen the method used frequently in the Royal Infirmary in abdominal diagnosis. They had used oxygen, and there did not seem to be much discomfort to the patient. His opinion was that, while in certain cases it might be helpful, it would not revolutionize surgical diagnosis. Dr. H. S. DAVIDSON thought the method might be of service in cases of doubtful diagnosis, and especially in tuberculous conditions.

Dr. FORDYCE thought that patients in this country would not submit to the ordeal, but judging by the photographs shown the method might be of value when adhesions were present. He thought there might be a risk of driving pus from a tube into the peritoneal cavity, or of causing abortion. Dr. HAIG FERGUSON was also of opinion that difficulty would be experienced in getting patients to submit to it, and that in most cases an expert bimanual examination would give all the necessary information.

Dr. R. W. JOHNSTONE suggested the possibility of the patient being poisoned by absorption of carbon dioxide in the rapid disappearance of the gas from the peritoneal cavity. The PRESIDENT was interested to hear that among 300 cases there had not been a single accident, as he also had been struck by the possible danger of causing abortion, or of infecting the peritoneal cavity.

DISEASE AND REVERSION.

A MEETING of the Liverpool Medical Institution was held on December 22nd, with the vice-president, Dr. R. W. MACKENNA, in the chair, when Dr. MACALISTER read a paper on "Some relationships between disease and reversionary characteristics." He pointed out that man's present stage of development had probably been acquired owing to conditions of environment and opportunity by which his ancestors were surrounded. This had led to his having structural and physiological complexities presenting considerable variations, and sometimes involving deviation from perfection. His habits as to food had undergone most extraordinary changes, and it was probable that the conditions which had rendered him capable of metabolizing any type of food, whether animal or vegetable, must have resulted in great developmental changes. Dr. Macalister proceeded to speak of anatomical and physiological imperfections which represent reversion to types characteristic of some of those ancestries from which man was originally evolved, limiting his observations to the metabolic side of the question. He referred to variations, sometimes towards the carnivorous type

[1] Heyd: Cholecystgastrostomy. *Surgery, Gynecology, and Obstetrics* (abstract of Surgery), November, 1920.

of metabolism, sometimes towards the vegetarian type, and suggested that the stocks from which man originated when on the carnivorous side might be regarded as having a latent vegetarian metabolism, whereas on the vegetarian side it would be latent carnivorous one. This hypothesis would explain the possibility of there being an adaptability to new dietetic conditions in the early stages of evolution. He spoke of the important part played by the vestigial structures in the study of this subject, and pointed to the physiological idiosyncrasies, which were sometimes unusually well marked. He dwelt especially on the functional capacity of the organs of metabolism, and showed that whereas the majority of people were furnished with organs adequate in size for dealing with a variety of food, some were provided with too small a liver or pancreas, or kidneys which were unable to eliminate some specialized materials, or in which the general eliminative functions were apt to be slow. Those people probably represented variations to ancestral types of metabolism, and disease might be avoided by adherence to diets corresponding to the type to which they belonged. He referred particularly to polymastia, not only in its relation to multiparous births, but also to the fact that subjects of that vestigial condition also presented metabolic reversions. He indicated that if the personal idiosyncrasy was met there was no reason why these variants should be regarded as abnormal, or should suffer ill health if they could only be taught to diet themselves in accordance with their physiological requirements. Having spoken of the metabolic changes which were associated with the various climacteric periods of life, Dr. Macalister concluded by alluding to racial reversions, and by way of illustration gave examples of types where one child in a family presented pure Anglo-Saxon characteristics, whereas the other children had none. In three such cases it was interesting that the families had old Anglo-Saxon names, which had quite possibly descended through many generations.

Vaccine Therapy.

Dr. E. CRONIN LOWE read a paper upon the rationale of vaccine therapy, illustrated by several diagrammatic lantern slides showing primarily that in the maintenance of a natural immunity in health, endocrine glandular functions as well as normal hygienic conditions should be essentially considered when undertaking the vaccine treatment of any case. He pointed out that vaccine therapy was not an alternative mode of treatment but essentially an accessory one. Most of the charts dealt with details concerning the necessarily full examination of any case before undertaking vaccine treatment. Ordinary detoxicated and sensitized vaccines were dealt with and two diagrammatic charts shown, which attempted to differentiate the comparative usefulness of these vaccine preparations for various conditions. A particular point was made of the need for attempting to assess the importance of bacterial findings in any case by means of the details obtainable from blood count pictures and other serological tests. Particular stress was laid upon the importance of observing focal reactions as an essential guide in vaccine treatment, particularly concerning dosage and the intervals between doses.

A MEETING of the Aberdeen Medico-Chirurgical Society was held on December 1st, 1921, with the President, Mr. J. SCOTT RIDDELL, in the chair. Professor C. R. MARSHALL, in an address on the subject of "Convulsions," held that convulsive movements, considered as involuntary contractions of volitional muscles of central origin, were of the same order whether they were true tremors, as in paralysis agitans, or typical convulsive seizures as in epilepsy. Movements of cerebral origin were alone considered and the motor area was stated to possess no automatism. The causes of convulsions were briefly dealt with and the effects of a slowly acting cerebral convulsant poison, as an example of a uniformly diffuse stimulus, were described and illustrated. The flaccidity of the muscles in chorea was regarded as an important factor in the production of the characteristic movements. The difficulty of explaining the commencement of epileptic attacks was referred to. Powerful psychical stimuli did not necessarily cause them, but Professor Marshall suggested that these might possibly be initiated by psychical stimuli which were associated with altered vagotonus. In nocturnal epilepsy such psychical stimuli might occur in dreams. The subject matter of the address was discussed by members present.

On December 16th the annual dinner of the society was held in the society's rooms. The attendance numbered 68 members and guests.

Reviews.

INDUSTRIAL FATIGUE AND EFFICIENCY.

THERE can be few English men or English women of adult age in 1914 and surviving the Armistice who have not amongst their most vivid memories what they did or suffered in the great war. Many war-time experiences were more dramatic, yet none, perhaps, were stranger than those of the little band recruited by the Health of Munition Workers Committee. Rich and poor, learned and unlearned, have fought side by side in many previous campaigns; this was the first to send academic physiologists and professors of philosophy into armament factories there to apply to industrial problems intellectual methods acquired for other purposes.

To the now scattered members of that regiment Dr. VERNON'S book on *Industrial Fatigue and Efficiency*[1] will recall many strenuous hours, some failures, some successes; to a wider public it should demonstrate the enduring value of the scientific habit of mind. We do not wish to exaggerate the importance of the work done by Dr. Vernon and his colleagues; some of their results may be open to the criticism passed, we think by Mr. Bernard Shaw, on a result of Jevons—namely, that he proved by the help of the differential calculus what the working man had discovered without any calculus a generation earlier. Dr. Vernon, again, although a lucid is not exactly an exhilarating writer, and does not always resist the temptation to digress into speculative political economy with which he has no special concern. But when all discounts properly chargeable have been made, the difference between such a book as this and such works as—to cite one very famous example—Taylor's *Principles of Scientific Management*, is the difference between the product of a trained scientific intelligence and that of an acute but undisciplined mind.

Dr. Vernon in the first place describes how industrial output may be measured statistically, how it varies from hour to hour, from shift to shift, and from day to day. He shows the effects of changing the length of the working time and the arrangement of the shifts. He then illustrates the efficacy of rest periods and explains a statistical method of detecting deliberate limitation of output. In the next two chapters the etiology of "Lost Time," and the connexion between industrial employment and sickness or mortality are examined. Then the causation and prevention of industrial accidents are discussed, and the book concludes with a summary of work on general factory environmental conditions and a brief statement of practical inferences.

A large proportion of the volume is necessarily devoted to the exposition of results published in the reports and memoranda of the Health of Munition Workers Committee or of the Fatigue Research Board, upon which we commented at the time of first publication and need not therefore particularize. Amongst the most strikingly important general results are the evidence, amounting to demonstration, that "overtime" and Sunday work are always evils and that the optimum hours of labour cannot be the same for all branches of industry. Much eminently practical advice as to how output may be improved is given, and the quality of the scientifically trained mind is shown by the caution with which Dr. Vernon eschews promises that if such or such a plan be followed output will go up by leaps and bounds. His critical remarks on pp. 111–112 will probably be resented by those who speak of Taylor and Taylorism in the style of an enthusiastic advertiser, but seem to us very much to the point.

From the academic point of view, the value of the book would have been enhanced had the actual data been given more frequently, a remark which especially applies to the statistical study of limitation of output, since the goodness of fit of the curves there used cannot be tested on the bas s of the information provided. Sometimes (for example, on p. 94) the statistical data seem hardly adequate to support inferences attempted to be drawn. But, taken as a whole, the book reaches a far higher standard than any work on a similar subject which we have seen before, and should be a source of inspiration to future investigators. Dr. Vernon is one of the most recent, and not one of the least successful,

---

[1] *Industrial Fatigue and Efficiency.* By H. M. Vernon, M.A., M.D. London: J. Routledge and Sons, Ltd. 1921. (Demy 8vo, pp. 272. 12s. 6d. net.)

examples of men who, having attained success in pure science, have earned still higher praise in applying scientific methods to the study of everyday life.

DIXON'S PHARMACOLOGY.

THE new edition of DIXON'S *Pharmacology*[2] is very welcome. It does not aim at being a manual of materia medica nor yet of therapeutics, and, as the author indicates, therapeutics are introduced chiefly in illustration of the pharmacological action of drugs. Due mention is made of drugs little used in therapeutics when their discussion serves to illustrate important group relationships, but they are not unduly laboured. The object of the author is to illustrate clearly the mode of action of the principal drugs and to emphasize the importance of accuracy of thought and the application of physiological methods and reasoning to their study. To this end the book is well illustrated with tracings and records of experiments.

Standardization, recent work on ergot and its constituents, on thyroid medication, on the cinchona alkaloids, and on organic arsenic preparations and the modern application of antimony, are all included, but under digitalis no mention is made of the case with which effects can rapidly be produced if sufficiently large doses of the drug be given. The anthelmintic action of thymol might have been given more prominence, for it is extensively used, especially in the tropics, in the treatment of ankylostomiasis. In the case of many drugs in common use the precise mode of action is still in doubt or not as yet readily demonstrable by animal experiment, hence in such a book as this there is almost necessarily a certain disproportion between the amount of space devoted to a group of drugs and their importance in practical therapeutics. This is doubtless the result of the regulations of universities and examining bodies which make pharmacology a subject of the second examination taken before clinical work has been commenced. It is greatly to be hoped that the student will carry with him to the wards the fruits of the author's teaching and have constantly in mind the analytical method of inquiry inculcated in this book.

The popularity which Professor Dixon's manual has enjoyed in the past will be enhanced by the thorough revision which it has undergone for the present edition.

MALARIA IN MALAYA.

DURING the present century a great deal of progress has been made in the prevention of malaria throughout the Federated Malay States, and in 1911 an account of what was being done was written by Dr. M. WATSON of the Government Medical Service. His book has long been out of print, but has recently reached its second edition.[3] In this excellent and ably-written volume the reader will find how much can be done in the control of malaria by the method of anopheline reduction in rural areas.

The stock example of practical success attained by this method, the destruction of mosquitos, to put it roughly, is, of course, the Panama Canal zone; but for the prevention of malaria among the workers the canal could not have been made. In the Federated Malay States the problems of the antimalaria campaign are far more complicated, as Dr. Watson points out. Here the work has been done by Government in the ordinary course of its sanitary administration, and by the estates which are commercial undertakings: the area of operations extends over thousands of square miles, and not a mere fifty square miles as at Panama; and the population is under only a certain amount of discipline, the labour being free and not indentured. In Malaya many varieties of *Anopheles* are malaria carriers, each with its own special taste in habitat. Thus, in the non-malarial coastal mangrove zones when the forest is felled and the tide obstructed *A. ludlowi* may appear and make the area intensely malarial. The part of the mangrove zone covered only by the spring tides and the coastal plains are naturally malarial from the presence of *A. umbrosus;* both these anophelines are got rid of by clean weeded drains and good drainage. In the low coastal hills malaria persists after *A. umbrosus* has been eliminated by drainage, because of the appearance of *A. maculatus;* this mosquito can be completely abolished from ravines by subsoil drainage or by spraying with oil. The inland plains, healthy when opened, may become malarial if the natural malaria carrier, *A. aconitus*, appears; the inland hills, like the coastal hills, become intensely malarial when the ravines are opened, because *A. maculatus* then appears in them. Dr. Watson considers that in opening land in the inland hills malaria can in future be avoided by refraining from felling the jungle in the ravines.

Leaving the countryside and turning to the towns of Malaya, the history of the antimalarial campaigns in the town of Klang and in Port Swettenham is detailed by their originator, the author; and special chapters are given to the antimalarial work undertaken in various estates, in the swamps, in the plains, and in the hills. There are chapters also on the effects of malaria on Europeans and coolies, on the use of quinine, on the destruction of mosquito larvae by the use of mineral oil, on screening against mosquitos, and on other subjects of great interest to all dwellers in malarial countries. Dr. A. R. Wellington contributes an account of the successful antimalarial campaign in the town of Kuala Lumpur, and Dr. P. S. Hunter a chapter on the antimalarial work carried out at Singapore.

The economic importance of the prevention of malaria in countries like the Federated Malay States can hardly be over-estimated, and Dr. Watson's volume gives a singularly clear and complete account of the methods found successful in bringing about this most desirable result. The book is well got up, and contains over a hundred first-rate photographic illustrations. It should be in the hands of all medical men, whether in the public services or no, whose work lies in malarial areas.

SURGERY OF THE STOMACH AND DUODENUM.

MR. JAMES SHERREN has published in the form of a slim book a short series of lectures on *The Surgery of the Stomach and Duodenum*.[4] The little volume is a valuable addition to medical literature. Its chief claim to consideration is the fact that it is an absolutely personal record, based on the author's wide experience. Here will be found no sheaves of symptoms and signs gleaned from other people's fields. The facts set down are those which Mr. Sherren has himself observed. Naturally a certain dogmatism pervades the writing, but since the lectures are presumably intended for students, this is an advantage. Students, both qualified and unqualified, will derive great pleasure and great gain from reading the book.

It opens with a short chapter on the etiology and pathology of gastric and duodenal ulcer, brief mention being made of the more important experimental work. Mr. Sherren comes down heavily on the side of those who believe infection to be the chief cause of ulceration, stasis and hyperacidity being added factors. Histories are given of several interesting cases illustrating the dependence of ulcer on inflammation elsewhere within the abdomen. The symptoms of acute and chronic gastric ulcer follow. There are some interesting remarks on the uselessness of gastro-enterostomy in bleeding from acute ulcers and on gastrostaxis.

In chronic ulcer Mr. Sherren lays down some very sound rules as to diagnosis, without troubling greatly to differentiate clear cut symptom complexes according to the precise site of the lesion. For students this is a wise course; conditions in which questions arise are partly covered during the discussion of hour-glass stomach and pyloric stenosis. But it would be interesting to know what the author really thinks. The reader is left similarly unsatisfied in many places and we can only hope that some day a larger book may be forthcoming on the lines of the present. Two or three good cases are recorded illustrating the difficulty of distinguishing a duodenal ulcer from gall stones and even from renal calculus in certain circumstances.

Mr. Sherren proposes that gastro-enterostomy should be performed three months after perforation of a duodenal ulcer, if it has been deemed unwise to proceed with the short circuit at the primary operation.

Two chapters on carcinoma of the stomach close the book. Mr. Sherren is, of course, a firm believer in the existence of a close relation between chronic gastric ulcer and malignant growth. Reference is made to records of the Mayo clinic, which, as is well known, give an exceedingly high cancer

[2] *A Manual of Pharmacology.* By W. E. Dixon, M.A., M.D., B.S., B.Sc., D.P.H., F.R.S. Fifth edition, completely revised. London: Edward Arnold. 1921. (Demy 8vo, pp. 480; 92 figures. 18s. net.)

[3] *The Prevention of Malaria in the Federated Malay States.* By M. Watson, M.D., with contributions by P. S. Hunter, M.A., M.B., and A. R. Wellington, M.R.C.S., L.R.C.P., and a preface by Sir R. Ross, K.C.B., M.D., F.R.S. Second edition, revised and enlarged. London: J. Murray. 1921. (Med. 8vo, pp. xxvii + 281; 115 figures. 30s. net.)

[4] *Lectures on the Surgery of the Stomach and Duodenum.* By James Sherren, C.B.E., F.R.C.S. London: H. K. Lewis. 1921. (Cr. 8vo, pp. 9[illegible]. 4s. 6d. net.)

incidence in cases of chronic ulcer. The Rochester evidence is largely histological and is the expression of an opinion; it is not necessarily the expression of a universal truth. Of 165 ulcers removed as simple by Mr. Sherren there were definite evidences of malignancy in eleven. This corresponds more nearly with Moynihan's 10 per cent. than with the Mayo figures. There can, however, be little doubt that earlier and more efficient treatment of gastric ulcer would reduce largely the death roll from cancer of the stomach.

The book is a sober, well-reasoned summary of facts observed in an intensive experience of gastric and duodenal disease, and the story is told with a remarkable economy of words.

RADIO-DIAGNOSIS IN PULMONARY TUBERCULOSIS.

Le Radiodiagnostic dans la Tuberculose Pleuro-Pulmonaire,[5] by Dr. ABREU, fills what has been a gap in French medical literature. After a short introduction by Dr. Rist, who collaborated in the work from the clinical side, there is an excellent explanation of the exact technique required to ensure the best results, both radiographic and radioscopic, definite rules of procedure being laid down for both. Considerable stress is laid on the necessity of always working at a definite distance from anticathode to plate (or screen); this distance, it is maintained, should be at least 32 inches. A further desideratum, especially in cases of phthisis, is that plates should be taken every 5, 10, 20, or 30 days in order to see whether a lesion is undergoing any changes; by doing this, old cured lesions can be distinguished from active disease. An important point is made for the accurate measurement of the various *x*-ray densities of the different thoracic shadows. The chapter which deals with this part of the subject is full of interest. It is pointed out that expressions such as "loss of transparency," "half opaque shadow," "complete opacity," etc., are entirely unscientific and may be misleading. The suggestion is that shadows on the *x*-ray plate should be definitely compared with the shadows cast by so many—one, two, three, or more—centimetres of water; and the normal opacities of the clavicles, the heart, the ribs, the liver, and so on, are put down in terms of centimetres of water. Without accepting all that the author endeavours to substantiate there can be no doubt that this method is one worthy of consideration.

Following upon this introductory portion of the book comes the main part, which deals with the *x*-ray changes seen in tubercle affecting the lungs and pleura. This part is profusely illustrated by radiographs of chest conditions, which are reproduced by a special process and printed on fine paper. There are sixteen of these, and each one illustrates a special feature or features of disease. These, and the other thirty-one figures, are very much better than those usually seen in French books on *x*-ray work. On the page opposite to each radiograph is set out a detailed description of the radiograph and what it shows, whilst the reasons for the diagnosis which follows are given. The work concludes with a short chapter in which the author discusses the real value of radiographic examination, and points out the many ways in which such an examination is not only of use but may be essential for the proper treatment of the case.

The writing is clear, lucid, and concise, and any one who possesses only a rudimentary knowledge of the French language should be able to understand it. We consider that this is a book which should be read by every radiologist, but it is not only the expert in this subject who will find it of use. The general practitioner, as well as the consulting physician, will find valuable information as to the possibilities of an *x*-ray examination of the chest in tubercle and the help that such an examination may afford, not only as regards actual diagnosis, but also in the study of the progress of the disease in any individual case.

CLINICAL DIAGNOSIS.

THE fifth edition of *Clinical Diagnosis*,[6] by Dr. C. P. EMERSON, Professor of Medicine in the Indiana University School of Medicine, is an excellent work for students and practitioners of medicine who want an account of the methods whereby the pathological laboratory turns out its results. Its seven chapters describe in detail the chemical and microscopical methods of investigating the sputum, the urine, the contents of the stomach and of the intestine, the blood, the cerebro-spinal fluid, and various other pathological fluids. Those described are such as have been tested and approved by experience; the author shows much sound sense in his estimates of the value to be given to the several pieces of evidence brought out by these methods, and in his general interpretation of the laboratory findings.

Professor Emerson's style is clear and simple, and he writes with the authority conferred by wide experience. The book is well turned out; the illustrations are admirable and refreshingly free from the clichés with which so many of the books dealing with clinical diagnosis have made us familiar. We can strongly recommend Professor Emerson's volume to medical men and medical students in search of a trustworthy and complete textbook on the subject with which it deals.

NOTES ON BOOKS.

IT is difficult to add anything about the second edition of Mr. WIDDOWSON'S *Notes on Dental Surgery and Pathology*[7] to what was said when the first edition was noticed in 1915. The dual objective of the book, which is intended to serve as a notebook for students and as a ready work of reference for practitioners, is perhaps hardly to be attained. The author endeavours to codify accepted signs and symptoms and the treatment and sequelae of dental disease. The result sometimes verges on the absurd; for instance, are we seriously to believe that all patients suffering from general debility and nervous irritation must before extraction be prepared by a tonic, or that a general anaesthetic is an absolute necessity before extraction? Again, many pages on which difficulties, complications, accidents, and sequelae of tooth extraction are enumerated might make the unwary think that it was one of the most serious operations in surgery. In the section on the treatment of fractures of the jaw, where it is directed that the mouth must be kept clean, we come across the statement that some advise rectal feeding owing to the great difficulty of attaining cleanliness of the mouth. Fuller details as to what local treatment might be of use would have been more helpful. In this edition illustrations showing the commoner forms of root canals are given; they are conventional, and only a small percentage of root canals actually approach the simplicity of formation shown. As we observed when reviewing the earlier edition, faults of this kind spoil the author's excellent intentions.

Dr. EMERY'S *Clinical Bacteriology and Haematology for Practitioners*[8] is a book of established position, well known in pathological laboratories for its merits of conciseness and accuracy. The sixth edition now before us closely resembles the fifth; beginning with an account of the apparatus and technical processes recommended, it next gives a hundred pages to the diagnosis of about twenty infectious diseases. Then follows a section on the collection and examination of a number of morbid materials—pus, urine, exudates, and the like, with directions for the culture of bacteria and the preparation of sections. The last seventy pages are given to haematology and cyto-diagnosis. The plates and cuts with which the book is illustrated serve their purpose well; it may be noted that the word "streptothricosis" on pages ix, 77, and 309, should be "streptotrichosis." The book is to be warmly recommended to the attention of pathologists and of medical practitioners who like to do some of their own laboratory work.

The *Manuel de Coprologie Clinique*,[9] by M. GOIFFON, sets out the ways in which laboratory examination of the stools may be of assistance in the diagnosis and treatment of intestinal diseases and disorders. It begins with a brief account of the physiology of digestion. The second part of the book, occupying over 140 pages, describes in detail the methods—microscopical, chemical and bacteriological—used in examining the stools. The third part describes the various characters of the motions in diseases of the different digestive organs and glands; the fourth part gives the therapeutic indications and suggestions to be derived from the results of the examination mentioned above. The book is clearly and temperately written; it should be of considerable service in the clinical laboratory.

---

[5] *Radiodiagnostic dans la Tuberculose Pleuro-Pulmonaire.* Par Dr. Manoel de Abreu. Préface du Dr. E. Rist. Paris: Masson et Cie. 1921. (Post 8vo, pp. 168; 16 plates, 31 figures. Fr.15 net.)

[6] *Clinical Diagnosis.* A Textbook of Clinical Microscopy and Clinical Chemistry for Medical Students, Laboratory Workers, and Practitioners of Medicine. By C. P. Emerson, A.B., M.D. Fifth edition, entirely rewritten and reset. London: W. Heinemann (Medical Books), Ltd. 1921. (Med. 8vo, pp. xxx + 726; 5 plates, 151 figures. 35s. net.)

[7] *Notes on Dental Surgery and Pathology.* By T. W. Widdowson, L.D.S., R.C.S. Second edition. London: J. Pale, Sons, and Danielsson, Ltd. 1921. (Fcap. 4to, pp. 285; 131 figures. 21s. net.)

[8] *Clinical Bacteriology and Haematology for Practitioners.* By W. D'Este Emery, M.D., B.Sc.Lond. Sixth edition. London: H. K. Lewis and Co., Ltd. 1921. (Demy 8vo, pp. 324; 54 figures, 11 plates. 15s. net.)

[9] *Manuel de Coprologie Clinique.* Par R. Goiffon. Préface de J. Ch. Roux. Paris: Masson et Cie. 1921. (Cr. 8vo, pp. 240; 36 figures, 2 plates. Fr.12 net.)

There are persons admitting to late middle age and called by their friends old who, though they have heard much about the sun myth and have been chastened by Sir J. G. Frazer, yet like a fairy story for its own sake; to such we may commend *The Disobedient Kids*,[10] a copy of which reached us only a day or two before Christmas. It is an unusual production, having been turned into English, illustrated, and printed in Prague; it contains ten stories chosen from among those written over half a century ago by a Czecho-Slovakian lady, Bozena Němcová. The translation is by Dr. Tolman, at whose request the book has been sent to us. In the circumstances we cannot be sure how far the stories are indigenous; we find a Tom Thumb story, and a repetition story of the style of the House that Jack Built, and others which may be either parallels or reminiscences. The volume is illustrated with much skill and humour by Artus Scheiner, whose drawings in colour and in black and white have been most excellently reproduced under the direction of the publisher. The English is good and clear, but some of the turns of expression have a transatlantic character. It is termed "literary," but we do not take the antithesis; is it colloquial or commercial?

Earlier numbers of the *Practical Handbook of British Birds*,[11] which is being issued in serial form under the editorship of Mr. H. F. WITHERBY, have been noticed in this column. During the past year two more parts, the tenth and eleventh, have appeared: these include pages 81 to 256 and Plates 2 to 5 of Vol. ii. Part X is devoted to birds of prey—owls, falcons, eagles, hawks, harriers, kites, kestrels, and their brethren; Part XI covers storks, herons, ibises and spoonbills, and a number of swans and geese. The standard of the letterpress and illustrations is well maintained. One of the six contributors to this excellent handbook—and the writer of all the notes on migration of birds—is Mr. N. F. Ticehurst, F.R.C.S., of St. Leonards, who is a representative of medicine in the select company of scientific British ornithologists which includes (to name but two others) Dr. A. F. R. Wollaston and Dr. Philip Gosse.

The first part of Professor HERING'S book on pathological physiology[12] deals with the functional disorders of the heart, the vessels, and the blood, each described under two headings; the causes (or coefficients) giving rise to the disorder are first explained, and then the results to which these causes give rise. The book is clearly written, but gives no details of the experimental work or the literature upon which it is based. It is intended primarily for the use of medical students and their teachers, but also for medical men.

The *Handbuch der stoskopie*,[13] by Professor Dr. LEOPOLD CASPER, is one of the most complete works on the theory and practice of cystoscopy that we have come across. The earlier chapters deal with the history and the construction of the modern cystoscope. The optics and mathematics of the subject are fully dealt with and provide somewhat stiff reading for those not especially interested in this somewhat technical side of cystoscopy. After describing the anatomy and appearance of the normal bladder the author considers the commoner pathological conditions encountered by the cystoscopist. These are illustrated both by means of black and white and of coloured plates, which are collected into an atlas at the end of the book. Some of these illustrations are unconvincing, and few of them can be considered first class. The work concludes with a chapter on radiography, pyelography, photography of the bladder, and operative cystoscopy. The work is one that will appeal to experts rather than to medical practitioners in general.

We have received an interleaved copy of the *Pharmacopoeia of St. Bartholomew's Hospital*,[14] in which the doses are given in both imperial and metric measures, as in the *British Pharmacopoeia* of 1914. A few pages are devoted to the treatment of cases of poisoning, and a posological table is included. The book is of convenient size, and contains much additional information of service to those for whose use it is designed.

[10] The agents in London are Philip Allan and Co., and the price 6s. In America the agents are Harper Bros., New York, and the price 1 dollar. There seems to be a preference against this country, which is not explained.

[11] London: Witherby and Co. 1921. 4s. 6d. net per part.

[12] *Pathologische Physiologie.* I. Abteilung: *Die Funktionsstörungen des Herzens, des Gefässe und des Blutes.* By Dr. H. E. Hering. Leipzig: G. Thieme. 1921. (Med 8vo, pp. viii+120. M.39.)

[13] *Handbuch der Cystoskopie.* Von Dr. L. Casper 4 Auflage. Leipzig: G. Thieme. 1921. (Lge. roy. 8vo, pp. 396; 161 figures, 12 plates. Bound, M.264.)

[14] *Pharmacopoeia of St. Bartholomew's Hospital.* Edited by J. Langford Moore, F.C.S., Pharmacist to the Hospital. London: Spottiswoode, Ballantyne and Co., Ltd. 1921. (3¼ × 5¼, pp. 100.)

MEDICINAL AND DIETETIC PREPARATIONS.

Inoculation Tests for Protein Therapy.

BLACKLEY may be regarded as the discoverer of specific skin reactions in diseases due to hypersensitiveness to proteins, for in 1873 he showed that pollen rubbed into the scarified skin produced large urticarial wheals in patients suffering from hay fever. The observations of Pirquet and Schick upon the local reactions in serum disease, and the work of Arthus upon the local reactions in anaphylaxis, showed that in hypersensitive individuals and animals the injection of the specific protein to which they were hypersensitive produced a strong local reaction.

Auer and Lewis in 1910 pointed out that spasm of the bronchial muscles was characteristic of the anaphylactic reaction in guinea-pigs, and this drew attention to the probability that asthma in man was due to hypersensitiveness to specific proteins. The fact that asthma is very frequently due to hypersensitiveness to proteins has since been established by numerous workers. Asthma may be caused by a very large number of different proteins of animal or vegetable origin, and the only way to ascertain the protein responsible is to test the sensitiveness of the patient's skin with a variety of pure proteins. The technique of determining, by means of skin reactions, the protein responsible for producing asthma was worked out by Walker and Wodehouse in 1916 and 1917. The method is now coming into general use and the technique is very simple; a light scratch, insufficient to draw blood, is made in the skin, and a dilute solution of protein is applied; if the patient is not sensitive there is no reaction, but if the patient is hypersensitive to the particular protein applied an urticarial wheal appears in from fifteen to thirty minutes. The severity of the reaction varies, a mild reaction consists in a wheal about one-quarter of an inch in diameter; in a severe reaction the wheal may be an inch in diameter and surrounded by an erythematous ring. The only hindrance in applying the test is the difficulty of obtaining a supply of purified sterile proteins.

Messrs. Duncan, Flockhart, and Co. of Edinburgh (104, Holyrood Road), have prepared pure protein solutions in a very convenient form; the solutions are in glass capillary tubes; they supply thirty-two different kinds of proteins, which are obtained from all the commonest animal and vegetable foods, and from substances, such as horse dandruff and pollen, which may be inhaled as dust. This outfit makes the testing of specific hypersensitiveness a very simple matter, for a dozen different proteins can easily be tested in less than an hour. Selections of dried proteins for these reactions have been available for some time, but the supply of the proteins in a soluble form ready for immediate use is obviously a great convenience, as it saves the trouble of preparing a large number of solutions. The exact clinical value of these tests is not yet fully known. About 50 per cent. of asthmatics show definite dermal hypersensitiveness to proteins, but unfortunately a large number of cases show dermal hypersensitiveness to several proteins. In these cases of multiple dermal hypersensitiveness the asthma usually is due only to one particular protein. A considerable number of normal persons, moreover, show dermal hypersensitiveness. A positive reaction with a particular protein in a case suffering from symptoms resembling asthma, therefore, does not prove conclusively either that the patient is an asthmatic, or that, even if he has asthma, the disease is due to the protein to which he has reacted. If due regard is paid to the clinical history, the tests are, however, of great value in determining the cause of asthma. The advantage of knowing the cause of asthma is obvious, for it enables the patient to avoid the exciting cause, and also in many cases the patient can be desensitized by vaccine treatment.

Digifoline.

"Digifoline" is claimed to be a standard, constant, and permanent liquid preparation of digitalis suitable for internal, hypodermic, and intravenous use. It is a clear, light-coloured fluid, which does not produce any marked local reaction when injected hypodermically, and which, when tested on the frog, we find to have an activity equal to that of standardized tincture of digitalis. The manufacturers claim that digifolin (this spelling is, we think, to be preferred) is free from the irritant saponins which occur in the tincture of digitalis, and that it contains all the active glucosides of digitalis. The difficulties attending the administration of tincture of digitalis in full doses are well known; gastric irritation is very liable to be produced by oral

administration, and no preparation of digitalis has hitherto been prepared which is satisfactory for hypodermic or intravenous administration. Satisfactory therapeutic results have been reported to follow oral and hypodermic administration of digifolin, and the preparation appears to represent a distinct advance in digitalis preparations. Its exact value can only be known after more prolonged therapeutic trials have been made, but it seems to deserve a full trial. Digifolin is supplied in tablet and fluid form for oral administration, and in ampoules for hypodermic injection, by the Clayton Aniline Company, 68½, Upper Thames Street, London, E.C.4.

THE VITAMIN THEORY IN RICKETS.

THE Report of the Medical Research Committee on Accessory Food Factors (Vitamins),[1] published in 1919, included a section dealing with rickets, which definitely placed it among the deficiency diseases. This conclusion was largely based upon the experimental work of E. Mellanby upon puppies, and stated that the cause of rickets in dogs was the lack in their food of an antirachitic factor, which had "in many respects a similar distribution to the fat-soluble A factor, and is possibly identical with that substance."

Dr. Mellanby himself in several later articles further expounded this new and interesting doctrine of rickets. It soon aroused wide interest, drew upon itself active discussion and criticism, and stimulated experimental study of the subject along these new lines he had laid down. Meanwhile he has been actively prosecuting his experiments, and he now sums up the results of five years' research in an interim report on "Experimental Rickets," just published.[2]

The broad statement may be fairly made that Dr. Mellanby takes now a larger view of the etiology of rickets than he did in the first account of his research. He does not put rickets in the same category of deficiency diseases as scurvy and beri-beri, where the withdrawal of one single element in diet, and that a factor unconnected with the provision of energy, is the decisive cause of the disease. He now admits the co-operation in rickets of other prejudicial factors—a disturbed balance of the main constituents of the diet, an unwholesome environment, lack of exercise. Beri-beri and scurvy are "nutritional diseases very limited in their etiology, but this does not hold in rickets" (p. 6).

Dr. Mellanby's Results.

Throughout the investigation the important criterion of rickets in the young dog was disturbed calcification in the growing bones, these changes being established by radiograms, by chemical analysis, and by histological evidence. The histological examination was the decisive one, and the crucial test was the presence of osteoid tissue.

It is clear that the diagnosis of rickets in these experiments has been made with scrupulous and strict accuracy; and the report is enriched by a beautiful series of radiograms and microscopic photographs of the bones. The conditions which produce the bony changes characteristic of rickets are given in the following order: "A deficiency of calcium and phosphorus in diet; a deficiency of fat containing the antirachitic vitamin in diet; excess of bread, other cereals and carbohydrates; absence of meat; excess of the protein moiety of caseinogen free from calcium; confinement." He goes on to say: "Because of the interdependence of all these dietetic factors, it is impossible to say what is the absolute amount of each necessary to produce the optimum result." But he adds: "Probably the most common cause of rickets in children is a combination of relatively deficient antirachitic vitamin and excessive bread" (p. 75). It will be readily seen that these conclusions are much more cautious and ambiguous than the original statement in the report concerning accessory food factors, "there is good evidence that rickets is a deficiency disease . . . " (p. 91).

Dr. Mellanby found that the diet most favourable to the rapid production of rickets in a young puppy was one containing an adequate amount of protein (separated milk), an excess of carbohydrate (bread), a sufficiency of water-soluble B and C vitamins and of salt, but very defective in fat. By adding measured amounts of various animal and vegetable fats and by observing the degree of rickets produced, he was able to estimate the antirachitic power of each variety of fat. The broad result was that animal fats were powerfully antirachitic; the vegetable oils were either feebly so, or destitute of this power. Now experiments on young rats showed that the animal and vegetable fats fell into the same groups in respect of their power to promote growth, or according to the vitamin hypothesis in their content of fat-soluble A. There are discrepancies in this general statement; but on the whole it is true, and it led Mellanby to the conclusion that the disease in each species, lack of growth in the rat, and rickets in the puppy, is probably due to the same vitamin fat-soluble A. He finds other points in favour of this identity, in the fact that in each animal the disease took several weeks to develop, and also that beyond a certain age in the young rat and in the puppy, the respective diseased condition became very difficult to produce. These were the points in favour of rickets as a vitamin-deficiency disease, and of the identity of that vitamin with fat-soluble A shown to be essential for growth in rats.

But there are difficulties and objections to this interpretation. (1) In the first place, the puppies with rickets did not cease to grow; on the contrary, the worst degrees of rickets were found in those with most rapid growth, while if growth ceased, the rickety changes in bone were not produced. That is to say, we are asked to believe that this same vitamin stops growth in the young rat, while in the puppy it causes rickets but allows growth to proceed. (2) Then lean meat, a food poor in fat-soluble A for rats, was shown to possess definite antirachitic power in puppies. Several explanations of this difficulty are suggested, but they are conjectural and unsupported by evidence, and the discrepancy remains. (3) Green leaves are substances specially rich in fat-soluble A as shown by experiments on rats. In puppies a few experiments were made with cabbage and extracts of cabbage, and these failed to prevent rickets and set up diarrhoea. Further experiments in this direction are promised, and the importance of their success or failure is admitted.

Each of these difficulties is by itself not of small account: together they create a formidable obstacle to the acceptance of fat-soluble A as an antirachitic vitamin.

The report contains also interesting observations on other factors of diet and environment that favour the production of rickets. An excess of carbohydrate has an important effect in doing so; so has confinement; so also a defect of the caseinogen moiety of milk containing calcium. But these conditions only act when the diet is also defective in fatty substances rich in fat-soluble A. These observations are interesting both scientifically and clinically, but they need not be discussed in connexion with the present question of the vitamin theory in rickets. By increasing the complexity and number of agencies that produce rickets they certainly do not strengthen the vitamin theory, but, on the other hand, they do not seem to directly oppose it.

Other Investigations.

Now let us examine the results of other investigations carried out to test the doctrine of rickets as a deficiency disease produced by a defect of a vitamin similar to or identical with fat-soluble A. Noël Paton, Findlay, and Watson[3] are strongly opposed to the vitamin theory in rickets. Taking pups from the same litter they produced rickets in some of these, confined in the laboratory but on a liberal diet of porridge and full-cream milk; while in others, at liberty in the country but fed on skimmed milk and porridge, no rickets developed. And in their last series of experiments by paying strict attention to cleanliness they have reared pups free from rickets on a series of diets with a low fat intake (even as low as 0.5 gram of milk fat per kilo of body weight), always provided that the total energy value of the diet was sufficient. They thus claim to have produced rickets in pups on a diet rich in fat-soluble A (an abundant supply of full-cream milk); and to have reared pups free from rickets on a diet very poor in fat-soluble A (separated milk and bread). From experimental and clinical evidence they propound the view that the primary factor in rickets is not dietetic but is the result of overcrowding and insanitary conditions, and that some kind of non-specific bacterial infection may be an important factor.

While in Britain most of the recent experimental work on rickets has been carried out on the dog, in America the rat has been chiefly used. In the last few months Hess, McCann and Pappenheimer, and Shipley, McCollum and co-workers have published interesting experimental work on rickets in the rat. This work is the more important in that the rat is the animal on which the work upon fat-soluble A has been done, and from which our knowledge of this accessory food factor has been derived. Hess's research[4] dealt with a large series of young rats fed on a diet which was complete except

for a lack of fat-soluble A. The rats all failed to grow, and most developed a varying degree of keratitis, thus presenting the typical features of this deficiency disease. But none of the animals showed clinical evidence of rickets; and this test was strictly verified in 22 cases where microscopic examination of the bones failed to show the bony changes of rickets. Hess therefore concludes against the operation of fat soluble A as a factor in rickets; and finds in these experiments a confirmation of his clinical experience that bad rickets in children is met with in almost every diet and independent of its high or low content of fat-soluble A.

Shipley and McCollum's work[5] also bears directly on the subject. Using, like the other American investigators, a synthetic diet, with all its constituents, organic and inorganic, exactly measured, they fed young rats with two diets, one defective in both fat-soluble A and phosphorus, the other defective alone in fat-soluble A. With each of these diets there were arrest of growth and keratitis, but in a number of animals on the first diet (not in all) the bones showed changes having a fundamental resemblance to, though not identical with, human rickets; while on the second diet, which included adequate phosphorus but defective fat-soluble A, no bony changes resembling rickets were produced. These experiments are interesting. In the first place, they show that rickets in the rat can be produced, though with difficulty, even if the animal has ceased to grow, but that the bony changes are not completely typical. Secondly, that a deficiency of fat-soluble A alone, the diet being otherwise complete, does not produce rickets. Thirdly, that lack of phosphorus, as of calcium, may be an important factor in the production of rickets; and in this connexion the authors quote an unpublished observation of Howland and Kramer, that in rickety children the phosphorus in the blood plasma is low, and that the administration of cod-liver oil, though itself lacking in phosphorus, increases the phosphorus in the blood. Shipley and McCollum, however, do not exclude fat-soluble A as a factor in rickets; it cannot be the sole factor, but it may influence it indirectly by its effect upon the metabolism of calcium and phosphorus.

A Summing Up.

In attempting to bring together and sum up this diversity of views upon the causation of rickets it will be easier to start from ground common to Mellanby and his critics. Mellanby himself no longer maintains the doctrine of rickets as a deficiency disease in the strict sense of that term as applied to beri-beri and scurvy. In his present interim report he gives the antirachitic vitamin ("probably identical with fat-soluble A") an important place among a number of other factors, dietetic and environmental. His experimental work has led him to the belief that, without a certain defect of fat-soluble A, rickets cannot be produced in the young dog, but that it is common for other factors to co-operate, though in varying degree. As stated already, his view is that the commonest cause of human rickets is a defect of the antirachitic factor, combined with an excess of bread. The experimental evidence that he and other workers have collected is very strongly in favour of a defect of certain fatty substances being the most important agent in the production of rickets in animals. That position seems definitely established by experiment, and also supported by clinical experience. But the crucial question is: Does the influence of these fats depend upon their content of fat-soluble A, or upon some other property or influence of cod-liver oil or milk fat? Let us take cod-liver oil, the most potent agent in the prevention and cure of rickets. What is the mechanism of its action: is it by virtue of its content in fat-soluble A, or is it by some obscure effect upon general metabolism and in particular upon the calcium metabolism of growing bones; is it the effect of its vitamin, or something else?

In the first place, let the facts against the vitamin theory be stated. (1) A diet defective only in fat-soluble A does not produce rickets in rats, but simply arrest of growth and osteoporosis (Shipley and McCollum, and Hess.) Rickets is a disease of growth, and develops rarely and with difficulty when growth is arrested. (2) A substance rich in fat-soluble A—cabbage leaves—has failed to prevent rickets in puppies. (3) A substance poor in fat-soluble A—lean meat-fibre—has a definite antirachitic action in puppies. (4) Where the diet is adequate in fat-soluble A—10 grams of milk-fat per kilo—rickets has been produced in puppies confined in unwholesome conditions (Noël Paton, Findlay, and Watson). (5) Well attested cases of rickets in children on an abundant milk diet are reported (Hess and Unger and others).

In favour of the vitamin theory, Mellanby brings three considerations: (1) There is general correspondence of certain fats and oils in their antirachitic power with their potency as sources of fat-soluble A. (2) Rickets in the dog, like arrest of growth in the rat, takes a number of weeks to develop. (3) Both are diseases of young animals, and can only be produced with difficulty after a certain age.

Though further research may redress the balance, in the meantime the weight of the evidence, experimental and clinical, seems to be against the view that the specific action of certain fats and oils in rickets is due to their associated vitamin, fat-soluble A. Another explanation of their undoubted pre-eminence in the prevention and cure of rickets is that in some way these food subtances influence general metabolism, and especially the deposit of calcium in growing bone; and that their withdrawal from the diet deranges that metabolism. They are certainly the most powerful single agents in promoting calcium metabolism.

But other factors of diet and environment also have their influence in the same mechanism. It does not seem possible to reject the evidence, experimental and clinical, that genuine rickets may be produced where the diet is adequate both in the balance of its food elements and in its content of vitamin, but where the young and growing child or animal is kept in an insanitary and sunless environment. Such cases seem to contradict the vitamin theory of rickets, and to be only explained by some wider explanation of its causation.

REFERENCES.

[1] Medical Research Council, Special Report Series, No. 38. [2] Ibid., No. 61. [3] Noël Paton, Findlay, and Watson: BRITISH MEDICAL JOURNAL, 1918, ii, 625; and 1921, i, 594. [4] Hess, McCann, and Pappenheimer: *Journ. Biol. Chem.*, 1921, vol. xlvii, 395. [5] Shipley, McCollum, and others; *Bull. Johns Hopkins Hosp.*, 1921, vol. xxxii, p. 160.

THE TEACHING OF MEDICINE AND SURGERY.

NEW PLANS OF THE LEEDS MEDICAL SCHOOL.

(From our Correspondent.)

THE well known and much discussed report of Sir George Newman on the subject of medical education has been under the careful consideration of those concerned in Leeds since it was issued. From the first the desirability of securing the services of whole-time professors was called in question, if the object of this was to form units which should be responsible for the education of the general body of the students of a school. It was also deemed unlikely that any physician or surgeon of established reputation as a teacher would consent to devote himself entirely to hospital work to the complete exclusion of private consulting practice, even for a much larger sum than it was at all likely would be available as his recompense. Even if this difficulty were overcome, it was thought to be undesirable that at the head of the organization for clinical teaching there should be one who had, from the conditions of his appointment, restricted the field of his experience. It was thus felt that if whole-time professors were to be appointed in the departments of Medicine and Surgery, they would have to be young men of promise rather than teachers of experience, and it was not seen how these men could be supplied with an adequate amount of clinical material under the local conditions which prevailed.

Thus, while the Leeds teachers considered that in certain centres the formation of units on the general lines suggested by Sir George Newman might be conducive to the encouragement of research, and might also be accessory to the general teaching, they felt that some scheme should be devised which would act by improving the teaching opportunities enjoyed by the present staff and thereby secure the continuance of their whole-hearted co-operation in the education of the students. It is the duty of a medical school, whether it be associated with a university or not, to foster and to encourage research, and one test of the success of a university is the amount of work based upon research which it is able to show that it has put out. On the other hand, the schools and universities are charged with the great responsibility of educating and instructing students for the practice of their profession, and any arrangement which might lead to the teaching being carried out without the full benefit of the more experienced members of the staff was viewed with apprehension.

Even, therefore, at a time when it was thought that substantial financial support would be obtained from Government, a scheme was drawn up by Professors Wardrop Griffith and

Moynihan, with the co-operation and approval of their colleagues, which it was believed would meet the local conditions, would encourage research, and would improve the teaching of the students without involving any of the risks which have been mentioned above. This scheme has had to be somewhat curtailed in view of the vanished hopes of Government support; but, acting on the strong advice of the two heads of the departments of medicine and surgery, the Council of the University of Leeds, at a recent meeting, decided to adopt their modified suggestions. This decision has caused much satisfaction, and it is held to be one of the greatest steps that has been taken in connexion with the instruction of medical students in Leeds for many years.

The Leeds Tutorial Scheme.

The central feature of the scheme is the appointment of whole-time tutors—one on the medical and two on the surgical side. These appointments will have attached to them salaries of £500 a year, and this will involve the allocation by the university of £1,650 when the scheme of insurance is taken into consideration. A sum of £250 will provide the services of a lecture attendant and some extra clerical help, and the sum of £100 per annum will be allotted to each department for apparatus and for the provision of such things as lantern slides and diagrams. The university has, however, for some years paid £250 in respect of two part-time men who have acted as tutors, and as these will now be superseded, the net amount that the scheme will require is £1,850 per annum.

In the near future some mention may be made of the arrangements and improvements which it will be possible to carry out on the surgical side in connexion with these appointments. At present the teaching on the medical side will be discussed. Prior to the year 1910 the systematic lectures on medicine which were given at the School of Medicine numbered three per week and the course was spread over four terms. In the year 1910 the number of lectures which had to be attended by each student was diminished; they attended three terms instead of four. The students began their attendance on the lectures as soon after passing their second professional examination as was feasible. The lectures during the first term were of a general and introductory character; those during the next term were especially directed to the various systems such as the circulatory, respiratory, digestive or nervous. This part of the course was attended by infirmary students both in their first year of hospital study and in their second; and as the course during the second of the two terms never dealt with the same matter two years in succession things have worked well. It may be that in the future the number of terms during which the students are required to attend the systematic lectures will be reduced to two; but it is very strongly felt that it is eminently desirable that, when students have passed their examinations in anatomy and physiology, they should, at an early stage in their subsequent career, attend a course of medicine, carried out on the lines indicated, by one who occupies a senior position on the staff. It is felt that this cannot be replaced by any amount of tutorial instruction or by any kind of systematic instruction given by a junior man in the position of tutor.

Clinical Instruction in Medicine.

The clinical teaching at the infirmary (including that of the pathological department and the teaching of venereal diseases) will be regulated by a subcommittee consisting of the honorary physicians and assistant physicians, the pathologist, and the medical officer in charge of the venereal department, with the professor of medicine as *ex officio* chairman, and with power to co-opt others. This power of co-opting will, it is hoped, lead to greater continuity of teaching, so that the instruction that a student has received in chemistry, anatomy, and physiology will be carried on into his clinical work instead of running the risk of being looked upon merely as milestones which have been passed.

The ordinary ward teaching will go on as at present; any alterations will merely be in the nature of improvements; any profound alteration in this the most characteristic feature of British hospital teaching would be matter for regret. Each teacher must, and should, go his own way, and should teach his students by the methods that he considers the best; his teaching may be didactic or Socratic; it may be conducted by the students being called upon to read the notes of the cases that have been allotted to them, and by the subsequent discussion of the cases by selected members of the class, by the investigation and discussion of the symptoms and signs of the disease which are presented by the patients, or in any other way that the teacher may select.

In relation with the diminution in number of the systematic lectures, it is intended to inaugurate a series of short courses of lecture-demonstrations of a clinical character by the various members of the honorary staff on the medical side. The number of lectures in each course, the subjects and the order of the courses, will be determined at a meeting of the above-noted committee. Each man will know a long time—it may be many months beforehand what subject he is to deal with. In this way he can prepare for the successful result of his course by special study, by the preparation of diagrams and lantern slides under his own direction, and above all, perhaps, by the accumulation of suitable illustrative cases, in which he will be loyally assisted by his colleagues.

The Whole-time Medical Tutor.

The new officer will devote the whole of his time to the teaching of the students under the direction of the professor of medicine, who will act in concert with his colleagues, but care will be taken to secure for him a certain amount of time for research. He will conduct tutorial classes and supervise the men in their note-taking, and a very important part of his work will be the introduction of the junior students to their hospital work during the period of their preliminary clerkships. It is hoped that, by the appointment of newly qualified men as clinical assistants, the students may be encouraged to a fuller investigation of the cases entrusted to them, for there is no education so valuable as this.

It is intended that great care shall be exercised in the selection of the man to fill this position. He should have proved his ability to teach by having already done some teaching as a senior resident, for there is no considerable hospital where a senior resident has not the opportunity of teaching, and there are many men who have won their teaching spurs when acting in this capacity. He should either be qualified to come on the honorary staff in due course by the possession of the necessary degrees and diplomas, or he should be likely to become so. If and when a vacancy occurred on the honorary staff, a man who had held this position would be a very strong candidate if he had done his work well. Probably in a large medical school the ideal training for a position on the honorary staff of its hospital would be that, after a studentship at the school or elsewhere, a man should become a junior resident and go through his appointments preferably at the hospital concerned. He should then fill the senior position of resident medical officer, in this case by great preference at the hospital to which he hopes to become attached. This position he will probably hold for three or four years, and it will be during his tenure of office in all probability that he will decide to aim at consulting work and a position on the honorary staff. If after this training he is, on the recommendation of the honorary staff, elected to the post of medical tutor, he will, during the time he may have to wait for the occurrence of a vacancy on the honorary staff, have the greatest opportunity a man can have for enlarging his knowledge and experience for developing his teaching faculties and for legitimately paving the way to success in consulting practice, in connexion with his own school if he is fortunate to secure a position on the honorary staff, or elsewhere if the choice falls on some other candidate. The hospital will be manned chiefly by those who, for the early years of anxiety and for those years after a man ceases to be a resident but before he gets a position on the honorary staff, have been fortunate to substitute a period of years free from financial anxiety and endowed with the best opportunity a young man can have for developing his faculties and preparing himself for service on the staff.

To secure the fullest advantage from the appointment of these three men—one on the medical side and two on the surgical side—an effort is to be made to provide an instructional block at the infirmary, but this will be dealt with in a later article, along with the arrangements for the surgical teaching.

THE second Uruguay National Medical Congress was held at Montevideo in October, 1921; among the resolutions adopted were one calling for a permanent committee to study anthrax and another recommending the introduction of chlorination for drinking water. The next congress will be held at Montevideo in 1925.

British Medical Journal.

SATURDAY, JANUARY 7TH, 1922.

THE MOTHER TONGUE.

THE Departmental Committee appointed by the President of the Board of Education to inquire into the position of English in the educational system of England has issued its report.[1] This inevitably challenges comparison with the report on the teaching of classics reviewed in these columns a short time ago.[2] While most fully in sympathy with the objects of the English Committee, we regret that their excellent case was not stated more concisely. It might have been considerably condensed, and does not escape the charge of unnecessary repetition. A much shorter report would have been more arresting, and would have been far more widely read. Nevertheless, for those having the leisure, the knowledge, and the interest, it is an absorbing document, and much of it would serve as a model of English prose. A word of praise is due to the Stationery Office for the form in which the report has been produced—a convenient small octavo volume of some 400 pages.

The primary demand on our system of education, and especially of elementary education, must be for a good working knowledge of English. All medical men will therefore be in agreement with the aims of this Committee. The possession by all citizens of our empire of the power to speak and write pure, concise English is a direct and vital interest of all. The spread of this power through all the classes and nationalities that make up the commonwealth of British peoples could go far to remove those misunderstandings, prejudices, and aversions that prevent men of different race, religion, status, and colour from living at peace, goodwill, and healthful commerce one with the other.

But pure English can yield something more and richer than even such a vast practical gain. English has a literature which may be made a source of that mental health which is itself both the origin and the end of health of body. It was at one time pleaded that if the child were but well taught the three R's, his knowledge and enjoyment of the literature in his mother tongue could be safely left to take care of itself. It was claimed that while there are departments of literature closed to all who have not special parts and training, yet there remain also wells of English undefiled from which all may drink deep draughts of solace and refreshment. Surely there are many who so drink; yet while human nature remains as it is, the child that is father to the man will need encouragement, help, guidance and even restraint in his reading. *Video meliora proboque, deteriora sequor* is as true of the young as of the old. The heirs of all the ages must be prepared for the appreciation and wise use of the legacy that is theirs.

Happy indeed are those boys and girls who grow up in homes where that heritage is cherished, where the levity and perversity of the bastard jargon that has arisen in our great cities is avoided as something unclean and corrupting. We may reasonably rejoice that there is an increasing number of such homes in every class: but other influences are at work. The street and the music hall contribute the flippancy and distortion of urban and exotic slang, and against this evil influence the school must strive. Yet even the school itself is not without its contribution to the complexity of the problem. At many schools, for instance, is still taught a language called "Commercial English," against the hideous solecisms of which the great business houses are, to their honour, emphatic in their protest in this Report; from its bondage they implore to be delivered. Nor is it only in the affairs of business that the gift of simple and straightforward writing needs cultivating. All who had to censor letters of our soldiers during the war—and this was a task that fell at some time to nearly every medical man of military age—must have been struck by the extreme illiteracy of the great majority of the troops. Men known to be intelligent, prompt, and responsive in regimental life became almost inarticulate when they tried to put their thoughts on paper, till at last it became the rule for meaningless formulae to be substituted for any expression of real feeling. The men were shut off from those they loved at home by a barrier, the impassableness of which can hardly be realized by those to whom writing is as easy and normal as speech.

The Committee has summarized its principal conclusions and recommendations in 105 propositions, arranged in sixteen sections. We cannot pretend to follow it through all these sections, the majority of which deal with matters that directly concern teachers, head masters, and professors. We would confine our attention to two points only: one is the recommendation "that care should be taken to insist on the accurate use of the English language by pupils specializing in mathematics or natural science." In the body of the report, after insisting on the universal importance of English at all ages the Committee goes on to observe that "in understanding and in expression, as in all else, it is the business of the university to crown and complete the effort of the school." Whether the student, the report continues, "reads literature or natural science, theology or history, or philosophy, he will need the fullest command of the highest resources of his own language if he is to learn all that books and teachers in his subject can give him, and to make it a possession of his own. English, then, is needed in every faculty. It is the one subject which for an Englishman has the claim of universality. Without it he cannot attain to full powers either of learning or of teaching in any." "English is not merely an indispensable handmaid without whose assistance neither the philosopher, nor the chemist, nor classical scholar can do his work properly. It is one of the greatest subjects to which a university can call its students." These views are reinforced by a quotation from the report of the Natural Science Committee, which insisted that: "All through the science course the greatest care should be taken to insist on the accurate use of the English language, and the longer the time given to science the greater becomes the responsibility of the teacher in this matter. The conventional jargon of laboratories, which is far too common in much that is written on pure and on applied science, is quite out of place in schools. . . . Some literary study, including English, should have the first claim on the balance of the time of all science students."

The other point to which we would direct attention is that contained in the last recommendation—namely, "That in all schools the reading of the Bible should not be confined to the time set apart for religious instruction, but that its claim upon the time devoted to English studies should also be recognized." There is undoubtedly a decline in the practice, once almost universal, of reading the Bible; the origin and cause of this decline we cannot discuss, but the Committee is certainly right in affirming that on the score of the survival of virile and sonorous English alone—basing

[1] *The Teaching of English in England.* Published by His Majesty's Stationery Office, Imperial House, Kingsway, W.C.2. 1921. (1s. 6d. net.)
[2] BRITISH MEDICAL JOURNAL, September 24th, 1921, p. 495.

the case only on that ground—the decline ought to be arrested, unless there is inevitably to be inflicted great injury, not only on the language itself, but on the power of appreciation of that English literature of which the Authorized Version is an essential and organic part. Professor Huxley, who was certainly no advocate of Biblical doctrine, foresaw most clearly the effect of this neglect, and was an ardent supporter of the study of what is, even as literature, something far more than the greatest work of translation in any language.

Let us think, if we can, of the state of the Englishman who has never read of the war horse that "smelleth the battle from afar off, the thunder of the captains and the shouting," who has never heard of the time "when the morning stars sang together, and all the sons of God shouted for joy," in whom there is no awakening of old memories with the words, "He maketh me to lie down in green pastures, He leadeth me beside the still waters," and for whom "while I was musing the fire burned, then spake I with my tongue," conveys no association. Surely he can be no true Englishman for whom these things mean nothing. A great authority on English has said that "when a nation has achieved this manner of diction, these rhythms for its dearest beliefs, a literature is surely established." Many writers had worked to this end before the appearance of the English Bible, but that great achievement, setting a seal on all, set also a seal on our national style. It has its cadences, homely and sublime, yet so harmonizes them that the voice is always one. "Simple men," says Sir A. Quiller-Couch, one of the members of the Committee, who doubtless had much to do with the report, "holy and humble men of heart like Izaak Walton and Bunyan, have their lips touched and speak to the homelier tune. Proud men, scholars—Milton, Sir Thomas Browne—practise the rolling Latin sentences; but upon the rhythms of our Bible they, too, fall back—'The great mutations of the world are acted, or time may be too short for our designs.' 'Acquaint thyself with the Choragium of the stars.' 'There is nothing immortal but immortality.' The precise man Addison cannot excel one parable in brevity or in heavenly clarity; the two parts of Johnson's antithesis come to no more than this, 'Our Lord has gone up to the sound of a trump; with the sound of a trump our Lord has gone up.' The Bible controls its enemy Gibbon as surely as it haunts the curious music of a light sentence of Thackeray's. It is in everything we see, hear, feel, because it is in us, in our blood."

The report rightly ends with an eloquent appeal for the wider, earlier, and better study of this best and most accessible of all English literature, a literature so rich and so accessible that we may, without irreverence, repeat of it the words, "Ho everyone that thirsteth, come ye to the waters, and he that hath no money, come ye, buy, and eat."

THE CLINICAL SIGNIFICANCE OF PAIN.

WHEN a disease is attended by pain, this one symptom is likely to surpass all others in the patient's estimation. Yet it is often the most baffling and misleading symptom to the doctor, so much so that we are sometimes tempted to belittle it and suspect that our patients are guilty of exaggeration. Even then we cannot always ignore it or persuade our patients to stop telling us about it. Dr. Henry Head's efforts to explain the causation and significance of pain are a welcome contribution to clinical medicine, and his address to the Sheffield Medico-Chirurgical Society, published this week, will, we feel sure, be read by all of us with interest. In it he has summarized in a very helpful way the known physiological facts regarding pain sensations, and has set out some important points in their interpretation. Some other aspects of the subject were discussed in an article on the physiology of pain published last year.[1]

His address deals particularly with pain of visceral origin. So long as the internal organs are discharging their functions normally the afferent impulses which they may originate do not enter consciousness. This Dr. Head explains by suggesting that the cerebral cortex, which is responsible for the discriminative functions of sensation, exercises a dominant influence over the lower centres, represented by the optic thalamus, whose reactions are impulsive and urgent. These impulsive reactions may be evoked either by a noxious stimulus, which reaches a high enough grade of intensity to overcome the inhibition of the cortex, or by disease or injury interfering with the paths through which the cortex normally exerts its control. But even when no such interference exists there is reason to think that "once the path has been opened and the dominance of the higher centres overcome a weaker visceral stimulus will be followed by sensation," so that long continued visceral irritation may give rise to pain from apparently inadequate causes. Certain general bodily states may produce a diminution of automatic control, so that not only will a weaker stimulus cause painful sensations, but there may be a diffusion or spread of visceral pain and tenderness beyond the areas normally involved. It is important to appreciate this possibility, since it throws light on those puzzling cases in which the extent of the pain or tenderness appears disproportionate to the exciting cause. As examples of this Dr. Head mentions conditions in which the stimulus is extremely severe, as in gall stones or renal colic, or a referred pain becomes chronic, so that not only is the resistance of the patient worn down by the disease, but the repetition of painful impulses facilitates their passage. Menstruation, anaemia, and debilitating psychological states, such as worry or emotional shock, may produce similar effects.

Putting on one side, however, these instances of undue generalization of painful sensations, much valuable information is to be gained from careful study of superficial pain and tenderness. It has to be determined whether tenderness of the parietes is due to the deep or superficial structures, and whether it has a local significance or is a manifestation of referred pain. The criterion appears to be that, if the pain is referred, superficial tenderness will be found corresponding to the posterior portion of the segmental areas affected. These areas of superficial hyperaesthesia are well enough known in connexion with gastric ulcer, but their study has not been carried as far as it might have been by clinicians. To interpret these referred pains a knowledge of the relation of afferent impulses to the segments of the central nervous system is necessary. Considerable contributions have been made to this study by Sherrington and by Head himself. Sherrington's work is only influencing our textbooks slowly, far too slowly indeed. In books devoted to the nervous system it meets with due attention, but internal medicine as a whole has not sucked out the full advantage from it. The task of correlation is difficult, as Head admits, but it should be done. One striking example is worth quoting; it relates to the distribution of referred pain in heart disease. Certain abnormal conditions of auricular tension, Head observes, can produce pain and tenderness of the skin supplied by the sixth and seventh thoracic segments; disease of the aorta and ventricle may be associated with similar areas higher up on the chest, in the region of the third and fourth cervical. The explanation of this can be found in the embryological development of the heart. Its afferent visceral innervation is upside down in relation to the present position of the adult organ. At one stage in its

[1] BRITISH MEDICAL JOURNAL, 1921, vol. i, p. 571.

development the heart consists of a single tubular vessel divided into three chambers, of which the hindmost becomes the auricle, the middle portion the ventricle, and the anterior, or headmost, the ascending arch of the aorta. Afferent impulses from the heart enter the segments of the central nervous system just as if the auricle were still the hindmost organ. Moreover, the segments concerned with cardiac innervation jump from the fourth cervical to the first or second thoracic, omitting the upper limb, which has budded out at a later stage of development.

Clearly the time has come for a new book on applied anatomy and physiology which shall do for internal medicine what Holden's *Landmarks* did for the surgery of a former generation. Will Dr. Head give us his book of landmarks in similar compact shape?

THE COMPANY OF THE BLIND.

THERE are many upon whom severe affliction falls who bear their loss with noble fortitude. There are a few to whom it is given to turn their loss into a gain, at least to others. The late Sir Arthur Pearson was one to whom it was given in superabundant measure to redeem his physical affliction by the labour for others that came of his affliction. A man of intense energy and great capacity, he had proved his powers in one of the most difficult fields of life—that of daily journalism. Smitten with blindness in the heyday of his success, his blindness seems not to have brought home to him his own deprivation so much as the deprivation suffered by all the company of the blind. The energy which he had exhibited in his profession of journalist was diverted to the organization of measures for the betterment of the blind. Before his day there were many and excellent institutions for the training and assistance of the blind. Yet there seemed to cling to the public mind much more the familiar legend, "Pity the Poor Blind" than an appreciation of the possibilities of usefulness so often demonstrated by blind persons. Sir Arthur showed in his own person that pity was less worthy or desired than a recognition of capacity for service. In that he did a great thing—it is the greatest debt the company of the blind owe to him.

Of his works for the blind, St. Dunstan's for the training of blinded sailors and soldiers stands in the forefront in public appreciation. In earlier days his blindness would have been justified as "providential," so greatly did its effects meet the exceptional needs arising out of the war. It was little less than a re-education itself for a blinded youth to meet a blinded man who had shown how greatly life still mattered. But no less important and of more permanent interest will be the effects of his administration at the National Institute for the Blind. This is nothing less than the university of the blind, not only of this country, but throughout the commonwealth of nations within the British Empire. It prints in Braille and circulates a wealth of books, and there is no boon so precious to the blind as a book. It arranges training for those past school age, and itself is responsible for two colleges, for boys and girls respectively of the professional class, and for a home for blinded infants. Besides, it is the "Enquire Within" of the blind, for there is no position of difficulty arising in the life of a blind person in which some help and leading cannot be given from the institute.

To secure these institutions upon a satisfactory basis it is proposed to raise a fund as a memorial to Sir Arthur Pearson. One-third of the fund will go to St. Dunstan's; one-third to the National Institute for the Blind; and one-third for division amongst all other recognized charities for the blind throughout the Empire. Doubtless the inclusion of these other charities within the scope of the fund will lead to a working arrangement amongst all of them so desirable in the best interests of the great cause they are designed to serve. But before any allocation is made from the fund $2\frac{1}{2}$ per cent. of the total will go to the "Fresh Air Fund," the earliest of Sir Arthur's public interests, and one which has brought spells of happiness to thousands of little ones whose homes in our great cities afford no glimpse of woods and pleasant pastures. Queen Alexandra has become Patroness of the fund, but even without that endorsement we feel that the purpose of this memorial will appeal to many of our profession, who best know the needs of the blind.

THE NEW YEAR'S HONOURS LIST.

THE honour in the New Year's List which will most certainly command the universal applause of men of science, and of members of the medical profession in particular, is the G.B.E. to Dr. C. S. Sherrington, Professor of Physiology in the University of Oxford. Its conferment at the present time is no doubt related to the fact that he is President of the Royal Society, but were State honours always given in direct recognition of the recipient's achievements and the distinctions he has conferred on his country, this one would have been given earlier. The honour of knighthood is conferred upon Dr. George Seaton Buchanan, C.B., senior medical officer of the Ministry of Health, and British representative on the League of Nations Health Conference and on the Office Internationale d'Hygiène Publique. Sir George Buchanan, whose father was principal medical officer to the Local Government Board, joined the medical department of that Board in 1905, and was at one time chief inspector of foods and chief assistant medical officer to the Board. During the war he rendered important services to the army, holding the rank of honorary lieutenant-colonel R.A.M.C.; he was a member of the War Office committees for the prevention of disease, and of the Medical Advisory Committees for the Mediterranean area and for Mesopotamia. The same honour is received by Mr. John Herbert Parsons, F.R.C.S., F.R.S., surgeon to the Royal London Ophthalmic Hospital and ophthalmic surgeon to University College Hospital, whose researches into the pathology of diseases of the eye have made his name well known both to physiologists and practitioners; by Dr. George Stewart Abram, senior physician to the Royal Berkshire Hospital and Mayor of Reading in 1918–20; and by Mr. J. W. Thomson Walker, F.R.C.S., lecturer on urology at King's College Hospital. The K.C.B. (military) is conferred on Major-General C. C. Manifold, a distinguished officer of the Indian Medical Service, who received the C.M.G. for services during the war; and on Group Captain (Acting Air Commodore) Matthew Henry Gregson Fell, C.M.G., until recently Medical Director to the Royal Air Force Medical Service. Surgeon Rear Admiral William Bett, M.V.O., principal medical officer of the Royal Naval Hospital, Haslar, receives the C.B. Dr. Robert Thomson Paton receives the C.M.G. in recognition of his services as Director-General of Public Health and President of the Board of Health, New South Wales. The C.I.E. is awarded to Major-General John Blackburn Smith, C.B., I.M.S., Deputy Director, Medical Service, Eastern Command; Lieutenant Francis Hope Grant Hutchinson, I.M.S., Public Health Commissioner with the Government of India; Lieutenant-Colonel James Entrican, I.M.S., Inspector-General of Civil Hospitals, Burma; Lieutenant-Colonel Robert Fraser Standage, I.M.S., Residency Surgeon in Mysore, Bangalore; and Khan Bahadur Nasarvanji Hormasji Choksy, retired medical officer, Bombay Municipality. Dr. John Oldershaw, Mayor of Wallasey in 1911–12, receives the C.B.E. for public services in Liverpool and district. The Kaisar-i-Hind medal (first class) is conferred on Lester Hayes Beals, American Marathi Mission, physician and surgeon, Bombay, and the Rev. Frederick Vincent

Thomas, M.B., C.M.Edin., Baptist Medical Mission, Palwal, Gurgaon District, Punjab. We note with pleasure that the honour of knighthood has been conferred on Colonel Joseph Reed, chairman of the Press Association and managing director of the *Newcastle Chronicle*, who took a great interest in the preparations for receiving the British Medical Association at its annual meeting in Newcastle last summer.

MEDICAL INSURANCE AGENCY.

A MEETING of the Committee of Management of the Medical Insurance Agency was held on December 9th, 1921, when the chairman, Dr. G. E. Haslip, presented an interim report dealing with the business transacted during the nine months ended September 30th, 1921. The business of the agency showed a steady increase in all directions. During the period under review eighty-four policies in life assurance had been negotiated, the contracts being spread over a group of offices of the highest standing, thus continuing the principle of combining security for the assured with complete freedom of action for the agency. The advice which should be given with regard to motor car insurance has been very carefully considered in view of the fact that not only have all the leading offices increased their rates, but in the case of cars of small horse-power have begun to enforce a minimum rate—for example, a car originally costing £400, the value of which, owing to use and age, has decreased to £250, is assessed in premium at the same rate as a new car of similar horse-power and a value of £400. The explanation offered by the principal company accepting these risks was that for some years offices granting motor car policies had steadily lost money, the losses in 1920 being somewhat serious. Naturally the cost of repairs and replacement of parts and the "third party risk" are the same whether a car is new or old. Further, it was found that a large percentage of the claims arising under motor car policies related to the smaller horse-power cars; it appears, therefore, that the higher rates must be regarded as equitable. The agency lays itself out to give advice to clients with regard to all forms of policies, and in recent times has freely been consulted with regard to household policies; the advice given has been to take out the full comprehensive policies now issued by all the leading offices, which in addition to the usual risks covered by fire, burglary, and workmen's compensation, also include special perils, such as riot, civil commotion, strikes or labour disturbances, damage to household goods, etc., arising from burst or overflowing water tanks, apparatus, or pipes, damage to mirrors, and liability to the public, etc. The tariff offices do not grant policies securing medical men against larceny and thefts committed in the surgery or waiting-room—a risk to which general practitioners are particularly liable; the agency has been able to arrange with Lloyd's underwriters to grant policies which secure a medical man against these risks. The agency is always ready to reply to inquiries, and is in a position to advise medical men as to policies best adapted to their special needs. The Chairman stated that the sum in hand available for grants to medical charities was £1,055. The following interim grants were made: To the Royal Medical Benevolent Fund, the Royal Medical Benevolent Fund Guild, and Epsom College Benevolent Fund £315 each; to the Royal Medical Benevolent Fund Society of Ireland and to the Birmingham and Lincolnshire Medical Benevolent Societies £25 each. These grants raise the total so distributed in 1921 to £2,000; the total sum voted to medical charities by the agency since its foundation amounts to £3,400. This very substantial contribution to the charities of the profession is in addition to the rebates made to insurers, which amount to over £10,500. On the ground alone of the grants made to charities we venture to express the hope that members of the profession who are thinking of taking out new policies will consult the Medical Insurance Agency, which, by the courtesy of the British Medical Association, has its offices at 429, Strand. By so doing they will both advantage themselves and benefit less fortunate members and their widows and orphans.

RESEARCH WORK IN AVIATION.

IN our recent notice of the first *Report on the Health of the Royal Air Force* (BRITISH MEDICAL JOURNAL, December 31st, 1921) reference was made to the research work that had been carried on both in this country and in India, where much of the flying is done under war conditions. During 1920 the total number of examinations made in this country by means of the special tests to determine flying fitness was 674, and of these more or less picked individuals 207 were rejected, 78, or 38 per cent., failing on account of defective physical efficiency, and 49, or 24 per cent., for visual defects. The ten tests for physiological assessment include: the pulse rate, at rest, and response to graduated exercise together with rate of return to normal; measurement at rest of systolic and diastolic blood pressure; presence of tremor of eyes, tongue, and fingers; degree of ability to balance on either leg for fifteen seconds; degree of ability to raise a rod on a board from a table to the shoulder level; the character of the knee-jerk; the vital capacity; the length of time that the breath can be held after full expiration and full inspiration; the height to which a column of mercury can be forced with the lips and cheeks held; and the fatigue test—the length of time that a column of 40 mm. of mercury can be sustained with the breath held after full expiration and full inspiration, together with the nature of the pulse during this time. In addition, in the case of candidates with a history of train or swing sickness or of ear disease the rotatory chair was used, and in the re-examination of flying officers the measurement of reflex times was undertaken. In the preliminary examination it was, generally speaking, found that a history of aptitude at sports demanding co-ordination of eye and limb is of the same value as a comparatively elaborate test carried out on a special occasion in circumstances rather trying to the candidate. The causes of rejection, apart from visual, aural, nasal, and throat defects, were generally conditions of the respiratory, circulatory, and nervous systems, which have been found to be absent in successful pilots and present in pilots who broke down, such as poor vital capacity, low diastolic with a high pulse pressure, poor response of the pulse to graduated exercise, tachycardia, and tremor and other signs of deficient nervous control. It is interesting to note that the average of post-war results obtained by these tests is higher than those given during the war: this difference is attributed to the influence exerted by the nervous strain of war conditions. Investigations in India did not lend any support to the view that some unexplained accidents to pilots who had suffered from malaria were due to loss of control owing to an acute attack of the disease while flying. But evidence is accumulating to show that malaria and its sequels, and possibly the administration of quinine in this connexion, are closely related to the development of oxygen want and flying stress at high altitudes. There is, however, no reason why, after malaria has been thoroughly treated, a pilot should not be in every way as efficient as before. After residence in any station in India there is a lowering of the physical efficiency reached in England; the strain of frontier flying is considerable, and there is also the liability to various infections and fevers. The onset of failing health is revealed by the efficiency tests, which give better results in new arrivals and in winter than in summer. From the experience gained in more than 300 detailed examinations of the personnel at various Royal Air Force stations in India some slight modifications in the standards of the efficiency tests are recommended. The effects of glare are considered under the headings of subjective and objective effects; in connexion with heterophoria it is stated that at present few pilots suffer in any marked degree from this condition, and that although bumpy landings are not uncommon few minor flying accidents can be ascribed to inco-ordinated ocular muscular balance. A remarkable point brought out by routine eye examination is the peculiar reaction so consistently found to the official Air Force test for true judgement of distance (the orthotelemeter). Even when tests for convergence and heterophoria are normal, the readings as to judgement of distance often vary in a noticeable manner.

Possibly the explanation of this feature of the orthotelemeter readings may be found in the effect of glare: in producing slight tonic or clonic spasm of the ciliary muscles, with resulting variations in the thickness of the lens, this would in turn cause a state of alternating myopia and hypermetropia, and so the abnormal readings observed. There is, however, some evidence that a mental factor also plays a part.

INCUBATION AND CONTACT CARRIERS OF ENTERIC FEVER.

THE existence of incubation carriers, meaning by this phrase persons who pass the infecting organisms in their excreta during the incubation period and before symptoms of enteric fever appear, has been assumed by some writers, but the idea has not received much support in this country. In 1915 Colonel D. Harvey failed to isolate the bacilli from the faeces and urine of patients before the end of the first week of enteric fever, and concluded that, entering by the mouth, the bacilli gain a footing in the bile passages, where they multiply, and then invade the lymphatic system and blood stream. According to this view the specific organisms would not appear in the excreta until clinical evidence of infection was obvious, and therefore incubation carriers would not occur. Dr. William Fletcher,[1] Bacteriologist to the Institute for Medical Research, Kuala Lumpur, Federated Malay States, records an accidental infection of several men with *Bacillus paratyphosus* B, which conforms to the alternative view that the typhoid and paratyphoid bacilli when taken by the mouth multiply rapidly in the small intestine and are excreted in the faeces, invasion of the blood stream and the onset of symptoms occurring later. Three carriers of dysentery bacilli were being treated with gruel containing a lactose-fermenting streptococcus; the gruel became accidentally contaminated with *B. paratyphosus* B. The men's stools were examined daily; within a fortnight they were found to contain the latter organism, although none of the men at that time exhibited any symptoms of that infection; two of them, three and nine days after the isolation of bacilli from their faeces, were taken ill with paratyphoid fever, and were therefore incubation carriers. The third man never had any such symptoms, and was merely a contact carrier. Agglutinins were absent from the blood at first, but appeared later in all three of these carriers. Dr. Fletcher mentions other cases of contact carriers of paratyphoid bacilli, and confesses that he formerly (1917) accepted the interpretation that the specimens of faeces had somehow been mixed with the excreta of a chronic carrier. In the light of further experience he would regard such cases as transitory contact carriers, comparable to those widely recognized in diphtheria and cerebro-spinal fever. Although the bacilli of chronic typhoid carriers have been found to be as virulent as those of acute cases, there is some reason to think that those of contact carriers are diminished in virulence, and possibly the decline of an epidemic may be due not only to the production of immunity but to the comparative harmlessness of bacilli which have passed through a series of healthy contact carriers. The immunity of the seasoned laboratory worker and the old resident in an endemic area when they have not had the disease may be due to immunization induced by a transitory contact carrier state, for in many of them there are immune bodies in the blood.

[1] *Incubation and Contact Carriers of Enteric Fever.* Studies from the Institute for Medical Research, Federated Malay States. Kuala Lumpur: At the F.M.S. Government Printing Office. 1921.

THE RELATION BETWEEN MENTAL AND PHYSICAL EFFICIENCY.

DR. ALFRED A. MUMFORD read before the Manchester Statistical Society, on December 14th, 1921, a paper relating some of the results of a research work he has undertaken to determine the relation between mental and physical efficiency of boys at the Manchester Grammar School. The need for scholars and others of sedentary habits to take bodily exercise in order to maintain a proper condition of health was recognized and taught by the very earliest physicians of whom there is any record; and the diversity of character and capacity among different individuals was tacitly recognized in the ancient doctrine of temperaments, which taught that the greater activity of certain parts of the human body—the liver, the spleen, and the brain—gave individuals their distinctive qualities. Modern research into the capacity of school children shows a marked correlation between certain physical attributes, notably the respiratory function, and the general physical and mental fitness of the subject. The simplest individual act of intellectual attention involves a diminution of bodily movement, and therefore in the range of breathing. Extreme attention is often correctly described by the term "breathlessness." Recovery from the effects of prolonged attention is accompanied by a deep sigh, and one of nature's most potent methods of relief is by laughter which causes a series of violent diaphragmatic movements. Dr. Mumford had noted the close relation between the improvement in health and respiration of a group of rickety children under continuous treatment. As their breathing powers became developed their attacks of fearfulness and their night terrors disappeared, and they voluntarily associated with their fellows in the games and romping. He thought it worth while to see whether the conclusions about the intimate association between the range of breathing and vigour would shed light on the capacity of boys at the Manchester Grammar School to withstand the stress of indoor and prolonged study, and to inquire whether there was any intimate relation between school attainment and respiratory capacity. The boys were classified in four groups: brilliant, above average, average, below average, according to the judgement of the form master, checked by the terminal report. Boys in different education grades were examined, including a group of new boys. The first calculations of respiratory efficiency were carried out, according to the method of Professor Dreyer of Oxford, by measuring the largest amount of air a person can exhale after deep inspiration, or the "vital capacity." The comparison between the respiratory grading and form masters' reports showed that there was a marked relation between respiratory grading on Dreyer's method and school attainment at the early ages of school life, but this became less marked at the later ages of 16 to 18, the probability being that the more robust boys formed a smaller proportion of the whole number at the higher ages. It was also found that intensive study for examination tended to reduce the respiratory power, but that this was fully recovered after a holiday. His experiments led Dr. Mumford to attempt the measurement by the direct record of the movement of the chest wall. The test was in the nature of a persistence test. The time was noted during which a boy could hold his breath against a column of mercury some 40 mm. in height. It is a test of will as well as of physique. In a class in the middle school the five top boys of the class held the mercury for an average period of thirty-three seconds, the five bottom boys for nineteen seconds only. In the matriculation forms the five top boys held it for thirty-one seconds, the five bottom for twenty-five. In order to introduce an element of competition a number of boys were made to repeat the test before the whole class; it was then found that the best boys bettered their record, and the worst boys failed to attain their previous standard. It seemed as if the top boys often had powers in hand which they could use in emergency, and that the less successful either could not or would not exert themselves further. "This," we are told, "is something allied to what Sir James Mackenzie has called the reserve power of the heart, and may, for the time being, be designated as vital resources." The research is distinctly suggestive, and will no doubt attract the attention of school doctors. It appears from the diagram in the paper that the apparatus used is an adaptation of the sphygmometer, a jacket being substituted for an armlet.

A COURSE FOR SCHOOL MEDICAL OFFICERS.

WE are informed that the London Hospital Medical College has arranged a special course of instruction in the work of school clinics and on diseases of children in order to provide the necessary training for junior practitioners proposing to

undertake work (whether part-time or whole-time) under the School Medical Service. The course will begin on February 1st and extend over six months; at its conclusion certificates of efficiency will be issued to those qualified to receive them. An introductory lecture will be given by Sir George Newman, Chief Medical Officer of the Ministry of Health and the Board of Education. The syllabus includes lectures and clinical instruction by members of the London Hospital staff in the general welfare of children; diseases of the ear, nose and throat; diseases of the eye; and diseases of the skin, including the *x*-ray treatment of ringworm. Lectures on the hygiene of schools, with visits to school buildings, will be given by Dr. C. J. Thomas, Principal Assistant Medical Officer of the London County Council. The course is not restricted to former students of the London Hospital, but the number of those attending it will be limited. The fee is 20 guineas, and applications should be forwarded to the Dean, Professor William Wright, London Hospital Medical College, Mile End, E.

THE STEWART LECTURES AT MELBOURNE.

THE first course of Stewart Lectures before the University of Melbourne were delivered in 1911 by Professor Osborne on "Climatology"; the second, in 1913, by Dr. Breinl, on "Tropical medicine and conditions affecting white settlement in tropical Australia." The courses were suspended during the war, but resumed last November, when Dr. R. J. A. Berry, professor of anatomy in the university, gave a course of three lectures on "The modern psychology." The lectures owe their origin to a bequest of over £25,000 made by Dr. James Stewart, F.R.C.S.I., who as a young man emigrated from the north of Ireland and practised in Ballarat from 1853 to 1876. He was one of the original honorary medical officers of the Ballarat Hospital and was the second mayor of Ballarat West. He retired to England and died on June 30th, 1906, aged 76. He had made a large fortune, founded on success in practice and extended by fortunate mining investments. He left a bequest of £25,000 to the University of Melbourne, and with it were founded the University's Stewart lectures in medicine and in surgery, its Stewart scholars in anatomy, in medicine, and in surgery, provision was made for apparatus in these and other departments, and a biennial course of Stewart lectures on some subject of national importance to Australia was instituted. In addition, the same benefaction enabled the University indirectly to appoint its Stewart lecturers in anatomy and in pathology, and assisted in the appointment of a lecturer in physiology. Provision was also made out of it towards a future department of neurology. In addition to his bequest to the University, Dr. Stewart left large sums to educational institutions in Ballarat and to Trinity, Ormond, and Queen's Colleges for theological purposes. Professor Berry began his course by accepting McDougall's definition of modern psychology as the "positive science of the behaviour of living things." Every living thing, he said, reacts to stimuli derived from the internal bodily or somatic world and the external physical world. The mode of reaction constitutes behaviour, which depends on the number and nature of the incoming afferent impressions, and the number, nature and relative state of development of the brain cells or neurones. He devoted his first lecture to a consideration of the evolution of a brain throughout the ages as the physical organ of the mind. In his second lecture he considered brain growth in relation to education. He expressed the view that the cessation of general education in the masses at the most critical period of life was unfortunate, since brain centres little used do not develop normally. He described three types of head abnormality. In every school, he said, not far from 2 per cent. of the children were small-headed, and had a grade of intelligence which, however long they lived, would never develop beyond the intelligence of a child 11 or 12 years old; they could be taught a certain amount of rote learning, such as to read and work simple arithmetic, but could not be taught to meet new conditions effectively, or to think, reason, and judge as normal people do. In the second type of abnormality the head was big; in the third were classed superintelligent children, who were as approximately numerous as the "feeble-minded." Such children were apt to be misunderstood by teachers, and unless given a class of work which called forth their best efforts, ran the risk of falling into lifelong habits of submaximum efficiency. Professor Berry concluded this lecture by describing his method of diagnosing cerebral under-development in childhood and of establishing a prognosis of future adult social inefficiency. The third lecture dealt with the psychological failures of life. Pronounced cases of idiocy, mongolian imbecility, and cretinism could, Professor Berry said, easily be recognized even by a layman, but they constituted only from 20 to 30 per cent. of the total number of mentally defectives. The remaining 70 per cent. could only be diagnosed by specially trained experts. Professor Berry concluded his course by urging the need of the establishment in Australia of an institution for the scientific study of the child.

VIENNA.

SOME inquiries received as to post-graduate courses in Vienna, and conflicting statements as to the fees for such courses and the cost of living in Vienna, induced us to ask for information from Professor Wenckebach, director of the first medical clinic in the University of Vienna, who visited this country shortly after the armistice to enlist sympathy with the position of the Vienna population and university. Professor Wenckebach's reply, in which he gives some general particulars, is published elsewhere in this issue. The full programme, which is much too long for reproduction, shows that the arrangements for the first three months of 1922 are very elaborate; they include courses in medicine, children's diseases, neurology and psychiatry, surgery and orthopaedics, as well as in various specialities; there are courses also in pathological histology, bacteriology, and the preparation and use of serums. The courses last for various periods from a fortnight upwards, and we gather are so arranged throughout the day that several could be attended during the same period. The fees vary; we observe a course in metabolism for which the fee is 10,000 kronen, and another in the use of the bronchoscope and oesophagoscope in which it is 200,000 kronen. Professor Wenckebach is no doubt justified in saying that prices in Vienna are wild; in recent months the rate on Vienna has generally been quoted as 10,000 to 12,000 kronen to the £, but on one day last week business was actually done at 23,000 kronen to the £. At the same time we observe that in the case of some courses no fixed price is mentioned and that the fee is a matter of arrangement between teacher and taught. It will be seen that foreigners attending the Vienna post-graduate courses must sign a declaration to the effect that they disapprove of the exclusion of German-speaking doctors from international congresses, and that Professor Wenckebach talks of the University of Vienna as still a German university. We had supposed that it was an Austrian university using the German language, and we would be inclined to think that Vienna would be well advised not to identify itself too closely with the German State. Germany still seems to be disposed to maintain its reputation as the arch-mischief-maker of Europe. German is the mother tongue of nations other than those included in the German State, and we conceive the way to approach this matter, in the beginning at any rate, is to ask for discrimination between nationalities in this respect.

THE Lettsomian lectures before the Medical Society of London will be given by Sir Leonard Rogers, C.I.E., on January 30th, February 8th, and February 20th at 9 p.m., the subject being "Amoebic Liver Abscess: its Pathology, Prevention, and Cure." The annual oration will be delivered by Mr. H. J. Waring, C.B.E. The anniversary dinner of the Society will be held at the Wharncliffe Rooms, Hotel Great Central, on Wednesday, March 8th.



Photograph by] GLASGOW UNIVERSITY. *[Annan, Glasgow.*

NINETIETH ANNUAL MEETING

of the

British Medical Association,

GLASGOW, 1922.

THE UNIVERSITY OF GLASGOW.



THE LATE SIR WILLIAM GAIRDNER, M.D., President of the British Medical Association, Glasgow, 1888.

GLASGOW is justly proud of its university. In the series of articles on the city which we intend to publish from time to time the first place must be given to that great institution. The University had its origin in mediaeval times; in antiquity it is second only to the Cathedral, and it was a dominant influence long before Glasgow became a municipality.

The history of the University has been divided by Mr. Coutts, its latest and best historian, into periods of approximately a century each: the first from the founding of the University in 1451 to the Reformation, the second from the Reformation to the Revolution, the third from the Revolution to the end of the eighteenth century, and the fourth the nineteenth century and later. In this sketch we can only indicate some salient features and perhaps whet the appetite for more information.

Origin of the University.

The University of Oxford came into being in the twelfth century, Cambridge early in the thirteenth century, St. Andrews in the beginning of the fifteenth century, Glasgow in the middle of that century, and Aberdeen at its close. These were all founded by the Church, and it was William Turnbull, Bishop of Glasgow, who obtained from Pope Nicholas V, whose five thousand manuscripts formed the nucleus of the Vatican Library, a Bull for the foundation of a *studium generale* in Glasgow. James II of Scotland was the first, however, to write of the "University" of Glasgow—"our most beloved daughter" were his words. The universities founded by the Church were apparently of two types. The *studium generale* was governed by a guild. In Italy and in provincial France the guilds were guilds of students, and the *studia generalia* over which they ruled were "student universities." In Paris, Oxford, and Cambridge the guilds were guilds of masters, and the type of institution was the University of Masters. Glasgow University, with Bologna as model, was to be a combination of the two systems; the head was to be the Chancellor, who was always to be the Bishop of Glasgow, and who was to delegate his power to the Rector, an office characteristic of the student-universities. The Rector was elected then, and still is, by the students, divided into four nations according to place of birth.

The death of the good Bishop Turnbull hindered the development of the scheme and the only faculty which really obtained a firm hold was the Faculty of Arts. This faculty in time became the most powerful body in the University. The Regent or Master of the Faculty of Arts was the head of the Pedagogium, a building situated in the Rottenrow, a once fashionable but now less than indifferent street near the Cathedral, and in it the students were compelled to live under very strict discipline and conditions not specially conducive to study. The students in time ceased to be members of the congregation and one element of the student-university thus disappeared. In 1460 James, Lord Hamilton, bequeathed to the "College of Arts" a tenement in High Street with four acres of land adjoining. And it was in buildings on this ground that the classes of the University continued to meet for upwards of four hundred years.

Second Period.

When the Reformation came, changes were inevitable in the teachers and in the government of the University, its members being Catholic clergymen and its revenues derived mainly from the Church. A period of profound depression and poverty followed and frantic efforts were made by the few remaining officers of the University to revive its fortunes

It was then that one of the greatest men that Scotland ever produced came to the rescue. The learning, teaching power, and organizing capacity of Andrew Melville restored the University. Through his efforts it was raised again to the level of influence enjoyed in the most prosperous years of the Catholic period. It is generally believed that Melville played a notable part in formulating the provisions and regulations of the "Nova Erectio," a charter granted by James VI of Scotland in 1577, by which provision was made for the support of a principal who taught theology, the scriptures, and Hebrew, and three regents teachers of morals, politics, arithmetic, and geometry. At the Restoration the establishment of Episcopacy deprived the University of great part of its revenues, and the college was again reduced. The next twenty-eight years were years of further depression till after the Revolution, when again good fortune came and within another generation seven new professorships were founded or revived, amongst them medicine in 1712 (its original date is 1637) and anatomy in 1718.

The masters who taught subjects in the Faculty of Arts were known as Regents till about 1727, and each regent began with a class of freshmen, and taught them all the subjects of the curriculum till the end of their four years' course. The institution of separate professorships for individual subjects belongs to the eighteenth century. Students resided compulsorily within the college till the close of the seventeenth century, when the buildings were required for class-room purposes. When the last student in residence had to seek a home elsewhere he demanded and received a certificate from the Faculty that his expulsion was in no way a reflection on his conduct.

Third Period.

From the Revolution to the end of the eighteenth century the history is one of continuous progress and increase. Just before the Revolution the students probably numbered 120 to 150. In 1702 there were 400 students, and about this time the great influx of students drove the authorities to set about increasing the professorships and expanding the buildings. The story of the frequent appeals to the public and to the Sovereign of the day (often made directly) forms an interesting side-light on history. A group of distinguished teachers of world-wide fame adorns this period, the middle of the eighteenth century: Thomas Reid the Philosopher; Adam Smith, the author of the *Wealth of Nations;* William Cullen, Professor of Chemistry, then Professor of Medicine, and the founder of clinical teaching; Joseph Black of "latent heat" fame. Cullen had the additional merit of being the first to discard Latin and lecture in English. No less eminent were some of the alumni of this time: Smollett, Boswell, William Hunter, "Jupiter" Carlyle, the elder William Hazlitt, Dugald Stewart, Jamieson, the author of the *Scottish Dictionary*, and "Christopher North" were men of calibre fit to meet the great teachers on their own ground.



FRONT OF OLD COLLEGE IN HIGH STREET, GLASGOW.
(From an old photograph.)

The Nineteenth Century.

In the first half of the nineteenth century the growth of the city in size and in importance, and its tendency to spread towards the west, left the University buildings in High Street isolated and surrounded by all the activities and turmoil of commerce, as well as inadequate in accommodation. In 1870 the great migration took place to the elegant Gothic building designed by Sir Gilbert Scott. On the site of the ancient University, after centuries of academic adventure, there is now a noisy goods railway station; where once stood the pillared and domed Hunterian Museum there is now an underground railway station, smoky and smelly. The casual visitor knows of the former glory of learning only from a bronze mural tablet on the railway offices with the inscription:

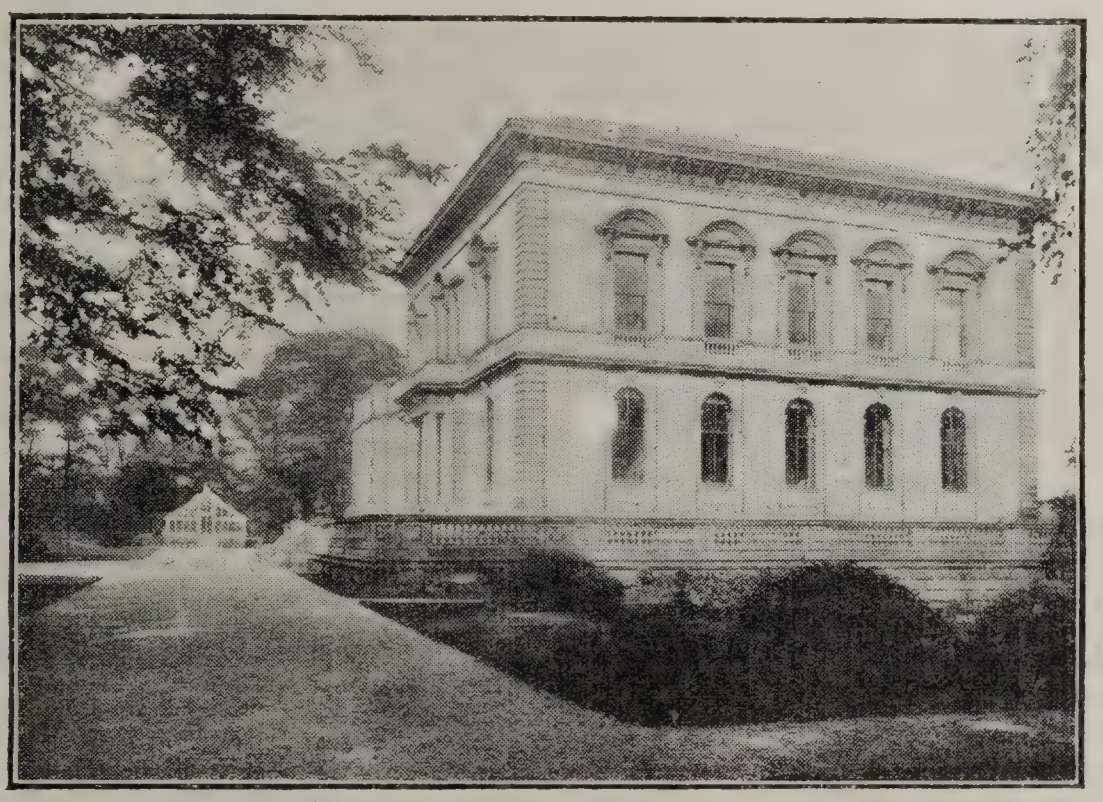
"On this site stood the University of Glasgow, 1460 to 1870. The main gateway re-erected at Gilmorehill stood opposite College Street."

The change to Gilmorehill was a most happy one. The graceful building facing south over the West End Park crowns the hill. Its tower is a landmark visible for many miles around. And from it one may see the Peaks of Arran, the rounded mass of "Tintock Tap," the rugged heights of "The Cobbler" and Ben Lomond, while the great stretch of the harbour and shipbuilding yards lies beneath, and the busy active city spreads out towards the east, murky and grey, its factory chimneys and church steeples projecting into the smoke-cloud. And so it comes about that the University finds itself placed guardian-like in the midst of Glasgow's industry and commerce. The boom of the great bell as it strikes the hours mingles with the deep-toned whistle of the ocean liner in the river, and the siren of the shipbuilding yards penetrates even the quiet of the examination hall. Yet this close association of the University with the other Glasgow is no new one. In former days it exhibited itself in practical ways. The printing works of the famous Foulis Brothers were warmly supported by the University authorities, and when Robert Foulis conceived the idea of setting up an Academy of Fine Arts in Glasgow the University granted him the use of rooms for his students and the Faculty Hall for exhibitions. Wilson, Professor of Practical Astronomy, formerly a typefounder, still continued the business and transferred his foundry to a site within the University grounds. The most noteworthy example of assistance given by the University to struggling genius is in the case of James Watt, who lived in apartments and had a workshop in the College buildings and was permitted to style himself mathematical instrument maker to the University, though he never was a matriculated student. On their part the citizens in the seventeenth and eighteenth centuries took a lively interest in the University, whose dwelling was in their midst and whose students in scarlet gowns lent a brilliant touch of colour to the grey streets. In the days of the "tobacco lords," and in the later era when the coalfields and iron works enriched the merchants, they recognized that the learning of the University was an older and further flung renown than that of the trader and the manufacturer. It was common for merchant princes, even down to recent times, to send their sons to the University to study the Humanities before their absorption into the whirl of business.

The triennial visit of a Lord Rector has always brought mercantile and academic Glasgow into close contact. Perhaps seldom did the citizens rouse themselves to such excitement as when Peel came to give his Rectorial address and 3,500 people banqueted to do him honour in a specially erected building; but we have heard from our fathers of the great scenes when Macaulay and Disraeli and Gladstone and Bright delivered the orations, and in our own day the citizens vied with students in receiving Chamberlain and Balfour and Asquith.

Progress since 1870.

When the University removed in 1870 there were twenty-five professors, one lecturer, and nine assistants, and the university buildings, arranged in two quadrangles, one side of the west quadrangle being left unfinished, were adequate. The last fifty years have seen a great expansion in all directions. In the past year there were forty-one professors, ninety-three lecturers, and fifty-three assistants, and the meagre numbers of students of the early years had vastly increased, till last session there were 3,574 men and 1,132 women. To meet the needs of all these thirsting for knowledge and keen to graduate, large thoroughly equipped laboratories have been added in physiology, anatomy, botany, chemistry, natural philosophy, surgery, engineering, materia medica, and forensic medicine. These lie mostly outside the main buildings, with certainly a rather serious disturbance of architectural symmetry. Plans are ready for the completion of the west side of the arts quadrangle, to provide much needed accommodation for the Arts Faculty, and to include a Chapel to be erected as a memorial to members of the University who fell in the war, while a large Natural History Department is at present under construction. Between the two quadrangles stands the Bute Hall, the gift of the late Marquis of Bute, an elegant structure in keeping with the general scheme of the whole. Within this hall the Representative Meeting and the large ceremonial meetings of the British Medical Association will be held in July. Adjoining it is the Randolph Hall, the gift of a Glasgow shipbuilder, to be used, we believe, as the temporary Council Room of the Association.



Photograph by] QUEEN MARGARET COLLEGE, GLASGOW. [*Annan, Glasgow.*

Queen Margaret College.

The women's department of the University has its academic home in Queen Margaret College, which has been altered from its old usage as a mansion house into classrooms and laboratories. This building is close to the Botanic Gardens, and is only a few minutes' walk from the University. The College was founded in 1883, and was the outcome in Scotland of the movement of the later sixties towards the higher education of women. It was therefore concomitant with the movement which resulted in the founding of Girton and Newnham. In 1892 Queen Margaret College became affiliated as the women's department of the University. Some of the classes are held in this College and others in Gilmorehill, while the clinical classes for women are conducted along with those for men in the three large infirmaries of the city.

Another affiliated college of great importance in an industrial city like Glasgow is the Royal Technical College, which is housed in perhaps the finest building of its kind in the country, situated near George Square, practically in the centre of the city. The Royal Technical College traces its origin to Anderson's University, founded in 1796, under the will of John Anderson, M.A., F.R.S., Professor of Natural Philosophy in the University. The Royal Technical College has had as members of its staff some of the foremost men of science of the day.

Hunterian Museum and the Library.

The Hunterian Museum and the Library are sources of pardonable pride to all Glasgow University men. William Hunter, disappointed with the Government's refusal to provide a School of Anatomy in London, in spite of his own offered munificence, told his friend Cullen that he had a "great inclination to do something considerable in Glasgow some time or another." That something proved to be the bequeathing of his Museum to the University. The story of the Hunterian Museum is one of the most fascinating in the history of the University, and those who wish to pursue it will find ample reward in the pages of Mr. Coutts's *History of Glasgow University* and Dr. Mather's book, *Two Great Scotsmen—William and John Hunter*. It was the first of the great medical museums. But it was more. It was a magnificent collection of paintings, books, manuscripts, archaeological relics and coins. Numismatists place it among the greatest of the collections of coins and medals. When it was transferred to Glasgow in 1807 transport was a serious and costly business. The coins alone were brought by wagon in the care of six trusted, well-armed men, specially sent from Glasgow for the task.

The Library has been a University entity since 1475, and grew for many years more by gift than by purchase. Through many vicissitudes it has developed into one of the most substantial libraries in Scotland. There are now something like 200,000 volumes. The collection of ancient classical literature is of special value; no fewer than one hundred of the works were printed before 1500. The Ewing collection contains a first folio (1623) of Shakespeare. Among the treasures of the Library there is the MS. Psalter of 1172; various mediaeval medical manuscripts; a series of fifteenth century manuscripts of English prose and poetry, including the unique Chaucerian "Roman de la Rose" and Tardif's "Fauconneric."

University Constitution.

The Constitution of all the Scottish universities is essentially the same, and perhaps English readers will appreciate a brief statement of the government of the University of Glasgow.

I. *The Chancellor* is the head of the University; he is elected by the General Council and holds office for life. The present Chancellor is the Earl of Rosebery, who easily maintains the honour held in past years by a Marquis of Hamilton, seven Archbishops of Glasgow, four Dukes of Montrose, a Duke of Buccleuch, an Earl of Stair, and Lord Kelvin.

II. *The Vice-Chancellor* acts for the Chancellor in conferring degrees and presiding over the General Council. The offices of Vice-Chancellor and Principal are usually merged.

III. *The Rector* is President of the University Court. He holds office for three years and is elected by the students, who in their choice take account of his political colour first and his academic or scientific attainments next. Mr. Bonar Law at present holds the office. Our readers may remember that his Rectorial address was his last public effort before a serious breakdown in health. The next election is in November, 1922. The roll of Rectors bears the name of almost every statesman of outstanding eminence in the history of our country.

IV. *The Principal* is President of the Senate and a member of the University Court. He holds office for life, and the appointment is the gift of the Crown. Perhaps it is hardly necessary to state that the Principal is Sir Donald MacAlister, K.C.B., D.C.L., LL.D., President of the General Medical Council.

V. *The University Court* is the governing and directing body of the University. It consists of the Rector, the Principal, the Lord Provost of Glasgow, the Chancellor's assessor, the Town Council's assessor, four assessors elected by the General Council, and four by the Senate. It is obviously a body representing all interests in the City and in the University, wide in sympathy for all educational ends, watchful and skilled in material affairs.

VI. *The Senatus Academicus* consists of the Principal and Professors, and is concerned with the teaching and discipline.

VII. *The General Council* comprises the Chancellor, the Court, the Senate, and all Graduates; in the present year it consists of over 10,000 members. It meets twice a year, and, jointly with the other Scottish universities, elects three members of Parliament.

VIII. *The Students' Representative Council* consists of representatives, both men and women, from each faculty in the University, and its objective generally is the welfare and rights of the

student. The Scottish student has always been held up to admiration for his gifts of pertinacity and hard work. In former days he was poor and many a "lad o' pairts" found the meagre diet of porridge and a herring little enough to promote the high thinking urged upon him. "Meal Monday" is still a relic of these days. The student no longer goes home to replenish his "poke" of meal; he and his teachers gladly welcome these two holiday Mondays in February and March, the most strenuous part of the academic year. The Carnegie Trust now amply provides for the poor student, whose qualifications for receiving help from these funds are mainly two—that he must be a Scot and that his preliminary education must reach a certain moderate standard.

Inspiring Names.

The present alumni of the University of Glasgow possess a great heritage. The student who knows even a little of its history cannot but rejoice that he is a son of such a mother. If the names of Zachary Boyd, and Strang and Simpson and Stirling, leave him untouched, he may reflect that Adam Smith still is an influence in the world of economics, that Patrick Gillespie and Gilbert Burnet were statesmen principals and wielded influence in Courts. If he incline towards Natural Philosophy he must become enthusiastic over James Watt and Black and Kelvin, three men whose discoveries marked new epochs in steam, in heat, in electricity. If he is a classicist, and not too young, he will tell you of the great days of Daniel Sandford, Richard C. Jebb, the Ramsays, and Edmund Law Lushington—Tennyson's brother-in-law, immortalized in *In Memoriam*, "wearing all that weight of learning lightly like a flower." If he is now a middle-aged parson, he will tell you that there will never again be men like John and Edward Caird and Herbert Story, and John Nichol. While if the student belong to our own profession, his task of justifying his University is easy. Of the long list of distinguished professors in the Faculty of Medicine some stand out like the great peaks of the Grampians from amongst many great but lesser hills. William Jackson Hooker and Bayley Balfour in Botany, Andrew Buchanan both in Physic and in Surgery, Harry Rainey in Medicine, Easton in Materia Medica, MacKenzie in Ophthalmology, Jardine who did so much to found the Royal Infirmary, Allen Thomson and John Cleland in Anatomy, to select only a few, are to be classed amongst the Olympians. Nor would our student let his audience forget that surgery had its new birth when Lister was a Glasgow professor—all else he did later was simply to amplify the discoveries of 1861 to 1869; and when the name of William Tennant Gairdner is named, all that is highest and noblest and most lovable in medicine is transfigured before him in that great personality, which still dominates Glasgow medicine to-day.

Paris.

[FROM OUR CORRESPONDENT.]

THE FOREIGN POST-GRADUATE STUDENT IN FRANCE.

WHEN one enters the old buildings of the Paris Faculty of Medicine it seems that nothing has changed since the now prehistoric period of before the war. The long lists of names, however, carved upon the wall and ending with the words "*Morts pour la France*," show that one is upon the threshold of new times. There is a new atmosphere in the old school, and its younger teachers have felt the necessity of leaving the serene altitudes of science and of living rather with their pupils, with the people, and with the world at large. It has been found necessary to link up the threads of French medicine with the web of foreign medical science—that is one of the lessons of the war.

At the entrance to the School of Medicine is an arrow pointing to the office of the "*Association des Développement des Relations Médicales*" (the Association for the Development of Medical Relations), more usually known by its initials as the "A.D.R.M." Its object is sufficiently expressed in its title; it was founded at the end of the war by a number of French physicians who were convinced of the necessity of such an organization in order that the links the war had forged with their allies and friends should not be broken. The association has as its honorary president the dean of the faculty, Professor Roger; Professor Hartmann is president; the section of propaganda is directed by Professor Vaquez, and representatives have been appointed to establish relations with the different foreign countries—for Great Britain, for instance, Dr. Gustave Monod has been appointed. The duties of the permanent secretary, Mdlle. Hervé, include the provision for every foreign medical man of the particular information he may require, aiding him from the day of his arrival in Paris, securing any introductions necessary for him, and of making him acquainted with the daily programme of the chief clinics. The work of the association at present is considerable, and is chiefly concerned with the organization in France of post-graduate teaching, which has become one of the chief questions of the day.

In addition to the ordinary courses, most of which are open to visitors, the Faculty of Medicine has organized a rotation of post-graduate courses, which allow the visiting medical man to become rapidly acquainted with the present situation of the subject he desires to study. Faithful to the traditions of the French school, all these courses are practical. Teaching is given actually at the bedside; the laboratory is used rather to stimulate the interest of the student than to demonstrate facts to him. In the case of foreign visitors the instruction is in the nature of collaboration or an exchange of ideas. These post graduate courses are open to a limited number of students, and the fees vary from about two to four guineas. The courses of the Faculty of Medicine cover, it is hardly necessary to say, the entire field of medicine. More specifically of international character is the Institut Pasteur, where the work and the teaching has been again organized as it was before the war. The higher course in microbiology is open to medical men who have already attained a sufficient standard in laboratory work, and this course, which is of four months' duration, commences in January, 1922. To show the different directions in which research is open at the Institut it may be pointed out that its laboratories include those of cellular physiology, protozoology, biochemistry, pharmacology, physical chemistry, and serotherapy.

Outside the Faculty of Medicine the hospitals of Paris, with their inexhaustible scientific and clinical resources, offer hospitality to every visitor. It is well known that the hospitals of Paris are not, strictly speaking, medical schools; the instruction given in them is entirely clinical. Tradition has created certain centres of specialization: the Hospital of St. Louis, for instance, is the centre of dermatology, while the Salpêtrière and the Pitié, where Dr. Babinski teaches, form the centre for neurology. The medical teaching in the Paris hospitals, taken as a whole, provides a field of clinical study open to all visitors, and covering all specialties in medicine. These clinical demonstrations are all free. Although the A.D.R.M. has developed inside the Faculty of Medicine, it does not confine its activities within the walls of the Faculty. In Paris, as in London, an important school of post-graduate studies is being organized, and it may be hoped that this development may be as successful in the one capital as in the other.

A movement is on foot to enable all the regular medical students of the Paris schools to have the advantage of holding resident appointments in hospitals. It is clear that the present system of competitive examination tends to create a special class, and to encourage early specialization in medicine or in surgery. We may, perhaps, look forward to a time when during a student's last year there might be a special stage of night service, but the idea of resident appointments for all, which would involve a real levelling down, cannot be entertained; if it were allowed to undermine our great system of competitive examination, it could not fail to have undesirable results on professional recruiting. The conditions governing resident appointments have already been fundamentally improved by the institution of examinations on a more modern system, and, in particular, by a regulation which preserves the anonymity of a candidate in respect of written papers; this reform has long been demanded. The same equitable regulation is about to be applied to the competitive examination which qualifies the successful candidate to become a physician or surgeon of the Paris hospitals. This change—a revolution on a small scale—has been very quietly brought about.

Scotland.

RETIREMENT OF DR. J. C. MCVAIL.

A PRESENTATION has been made to Dr. J. C. McVail on the occasion of his retirement from the Scottish Board of Health, of which he has been a member since its institution. Sir George McCrae, chairman of the board, in making the presentation, referred to Dr. McVail's long and varied experience in the medical profession, first as a private practitioner, then as medical officer of health for the counties of Stirling and Dumbarton, afterwards as one of the Scottish

National Health Insurance Commissioners, and latterly as a member of the Scottish Board of Health. In each of these capacities Dr. McVail had displayed exceptional abilities in discharging the difficult and onerous duties falling upon him. He had also been specially selected on several occasions to undertake inquiries on behalf of Government departments and Commissions. He had made a number of valuable contributions to medical literature, particularly in matters relating to public health. In reply, Dr. McVail referred to the changes which had taken place in medical science and practice since he first qualified, and particularly in regard to public health administration.

RED CROSS WAR WORK IN SCOTLAND.

On the recent occasion of the presentation at Glasgow to Sir George T. Beatson of his portrait, in recognition of his work as chairman from 1909 to 1920 of the council and executive committee of the Scottish Branch of the British Red Cross Society, Sir Alfred Keogh referred to the efforts which Sir George Beatson had made in building up the Red Cross organization which had stood Scotland in such good stead during the great war. It was important that the Red Cross should stick firmly to the principles then laid down and remain a voluntary body free from officialdom. In reply, Sir George Beatson reviewed the war work of the Scottish Red Cross Branch, which he considered had received too little general attention. A Central War Fund of over £2,000,000 was created, and over 600 motor ambulances, several motor ambulance launches and a naval hospital ship were provided. In addition to a 300-bed section of a military hospital at Rouen, 170 Red Cross hospitals were established all over Scotland; over 3,000 nursing members and 1,400 general service members of the V.A.D.'s did duty in the military hospitals. A never-failing supply of hospital comforts, surgical stores and dressings, and sphagnum moss was kept up throughout the campaign. The efficient organization outlasted every strain put upon it, and wonder had been expressed that a country with such a comparatively small population should have accomplished so much. The good work was being continued by the assistance given to the Ministry of Pensions hospitals at Ralston, Edenhall, Stornoway, and Warren Park. In acknowledging the gift of the portrait, Sir George Beatson said that he would always have a very happy recollection of the days when they laboured together for the Red Cross in Scotland.

THE PHYSIOLOGY OF BREATHING.

In the course of a lecture on the physiology of breathing, delivered in Edinburgh on December 24th in connexion with the mining department of the Heriot-Watt College, Dr. J. S. Haldane, of Oxford, referred to the kinetic theory of gases, which was first formulated by an Edinburgh man, James John Waterston. After a brilliant career at Edinburgh University Waterston became a civil engineer and went to India. In 1845 he sent to the Royal Society a now famous paper in which, long before anyone else, he clearly formulated the fundamental outlines of the kinetic theory of gases, one of the greatest scientific advances in the nineteenth century. The two Fellows who were appointed referees of his paper emphatically reported against the publication of the manuscript, but about ten years later the same theory was put forward by Clausius, the German physicist, and the new idea triumphed. Waterston, somewhat embittered, eventually retired from India to Edinburgh, and was believed to have been drowned off Leith pier in 1883, though his body was never found. Waterston's manuscript was ultimately discovered in the archives of the Royal Society by Lord Rayleigh, who published it in full in 1892, with an appreciative introduction. Discussing the regulation of the pressure of oxygen in the blood, Dr. Haldane said that evidence had accumulated recently that the pressure of oxygen in the blood in each part of the body was almost as exactly regulated as the pressure of carbonic acid gas. Great interest was at present being taken in the attempt to be made next summer to climb Mount Everest, and the physiological aspect of the ascent was of high scientific interest. If the climb to the summit at 29,000 feet should prove feasible that would be a result of extraordinary interest as showing the powers of adaptation in the human body.

REVIVALISM IN THE EAST OF SCOTLAND.

The newspapers have been for two or three weeks giving considerable space to the records of a wave of revivalism which has been passing over the fishing towns and villages in the north-east of the country and which has more recently appeared in Eyemouth and Burnmouth in Berwickshire. The movement began apparently in Lowestoft where so many Scottish fishermen go in the fishing season, and it spread to Scotland with the return of these men after a season which had to be reckoned a failure. It is stated that revivals of a similar kind have followed previous seasons which were disastrous; but the present one has been accompanied by a greater degree of emotionalism on account of the coincident bad trade. At first fears were openly expressed that the psychology of the revival might pass over into the abnormal, and certainly the oratory was sometimes rather of the nature of a strong north-easter, and the results were somewhat startling and even fantastic. On the whole, however, the sturdy common sense of the fishermen has warded off dangers arising from over-stimulation of the emotions, and the probable result seems likely to be a real increase in the well-doing of the communities which have been affected, from Wick to Fraserburgh and from Peterhead to Eyemouth. It seems clear that the revival was absolutely unorganized and spontaneous in origin; but a little consideration will suffice to show that a fisherman's life of adventure and frequent desperate danger is one in which a vivid appreciation of the deepest feelings of which the human heart and mind are capable is likely to seek and to find outlet and expression in scenes and occurrences of high emotional character.

England and Wales.

WELSH NATIONAL SCHOOL OF MEDICINE.

SOME confusion has arisen in the public mind owing to the fact that two appeals for university education purposes in Wales were published, the one on December 6th and the other on December 7th. The Pro-Chancellor, Lord Kenyon, and the Vice-Chancellor, Professor A. H. Trow, have written to explain the situation. The two co-ordinate appeals, they say, were necessary, and indeed inevitable, and were issued with the approval of the University of Wales and the authorities of the University College of South Wales. "The Welsh National School of Medicine," they go on to state, "owes its inception and its present position to the foresight and energy of the governing body of the University College of South Wales and Monmouthshire and their friends. When, however, the new charter of the University of Wales was granted, it became necessary to give a national and university status to the School of Medicine, although the administration remained in the hands of the Council of the University College of South Wales and Monmouthshire. Indeed, the Royal Commission recommended that the Medical School should be a separate constituent college. When, therefore, funds were required, it was the business of the University Council, as controlling the finances of all the university colleges in Wales, to issue the appeal on behalf of the Welsh National School of Medicine. The appeal of the University College of South Wales and Monmouthshire is entirely for its special and immediate needs, and is not in conflict with any other. The most urgent need of the college is for new laboratories in physics and chemistry, and these are as important for medical students as for students in pure science. Meanwhile, the need of the Welsh National School of Medicine for a fund of £100,000 (or its equivalent in annual income) before August, 1922, is very urgent in order that the school may qualify for the Treasury grant of £5,000 per annum. That grant is absolutely dependent on the success of the appeal now made on behalf of the Welsh National School of Medicine, and contributions will be gladly acknowledged on behalf of the Appeal Committee by Mr. Gwilym Hughes, Organizing Secretary, Welsh National School of Medicine, Newport Road, Cardiff."

RED CROSS CLINICS.

At a general meeting of the Kensington Division of the British Medical Association held on December 19th, 1921, Dr. A. J. Rice-Oxley, C.B.E., Mayor of Kensington, made the following statement with regard to British Red Cross clinics:

"As many of you are aware, the Kensington Division of the British Red Cross has since the Armistice developed a clinic at 14, Prince of Wales Terrace, for the treatment of ex-service disabled men by massage, electricity, radiant heat, baths, and remedial exercises, and has established a

considerable equipment for this purpose. Now that the need of such treatment for ex-service men is rapidly diminishing, it seemed to the Executive Committee of the Kensington Division B.R.C.S. that it would be a pity to scrap this equipment, and that the clinic might be used to serve the needs of the general public, who, while in many cases able to contribute towards the cost of such treatment as the clinic provides, are unable to pay the whole cost. But the Executive Committee felt that it would be unwise to proceed with such a clinic without first consulting the local medical practitioners and establishing it on such a basis as would meet with the profession's approval. They therefore approached me with the request that I should endeavour to ascertain the views of the local medical practitioners. This I consented to do, and invitations were sent to some fifty medical men (time did not allow of a larger number of invitations being sent) to meet me in the mayor's parlour to discuss the project. Some thirteen gentlemen attended the meeting and gave a provisional approval of the scheme. Further meetings have since been held for the purpose of elaborating the details of such a scheme, and a considerable measure of agreement with the Kensington Division B.R.C.S. has been obtained. The scheme provides for payment of graduated fees, recommendation by a doctor, engagement of a medical expert to supervise treatment, and the employment of an almoner, or the setting up of a committee to prevent use of the clinic by patients able to pay ordinary fees—that is, fees paid for such treatment in the locality. The scheme has been favourably considered by the County of London B.R.C.S. Executive Committee, and it is hoped that you will approve of and support such a clinic under proper safeguards for the medical profession, masseurs, and others at present engaged in administering this form of treatment."

CENTRAL MIDWIVES BOARD.

At a meeting of the Central Midwives Board for England and Wales, held on December 21st, 1921, with Sir Francis Champneys in the chair, four women were struck off the roll and two were cautioned.

A letter was read from the Medical Secretary of the Medical Women's Federation, forwarding the following resolution:

> That the attention of the Medical Women's Federation having been drawn to the recent Order of the Minister of Health permitting midwives to carry opium, urges that this order be withdrawn in view of the dangers involved to the parturient woman and child. They would also point out that pituitrin is also being widely used, and similar restrictions should be exercised.

A resolution on the same subject, received from the Manchester City Council, was as follows:

> That this subcommittee, being of opinion that it is a dangerous practice for midwives to carry and administer preparations containing opium, considers that such authority of the Secretary of State should be revoked, and that representations be made with that object to the Ministry of Health and the Central Midwives Board.

It was decided to forward to both bodies a copy of the resolution on the administration of drugs by midwives passed by the Board at its last meeting. The Board, in its reply to the British Medical Association (BRITISH MEDICAL JOURNAL, December 10th, 1921, p. 1005), stated that it had always declined to schedule drugs except so far as stated in Rule E 19; in its experience of nearly nineteen years it had never had a case before it in which a midwife had been found to have administered a drug improperly. Rule E 19 is as follows:

> "A midwife must note in her register of cases each occasion on which she is under the necessity of administering or applying in any way any drug other than a simple aperient, the name and dose of the drug and the time and cause of its administration or application."

Ireland.

AMALGAMATION OF UNION HOSPITALS.

AT a recent meeting of the committee of the County Galway medical practitioners evidence was taken from medical men in various parts of the county, with special reference to Connemara, as to how the present changes, arising out of amalgamation of workhouses, affect the health of the people. The following resolutions were passed:

1. That considering the vast area of the co. Galway and the appalling public health conditions throughout the Connemara country, we, the medical practitioners of the co. Galway, whilst agreeing generally with the principles of the amalgamation of Irish workhouses, strongly protest against the wholesale abolition of the district hospitals as being inimical to both curative and preventive medicine; that we generally, in the past, experienced great trouble in getting the friends of patients, living at a distance from the district hospitals, to consent to their removal to the hospitals even when suffering from typhus and typhoid.
2. That we desire to remind the Dail Ministry of Local Government of the number of medical practitioners in the Connemara district who fell victims to typhus fever within the past twenty-five years; that this appalling medical mortality was almost entirely due to the conditions in which doctors were compelled to afford medical treatment to the fever-stricken patients in their insanitary hovels, and that the abolition of the district hospitals will make matters in those respects very much worse in the future.
3. That the Dail Government should at once appoint a medical commissioner to inquire specially with regard to the public health conditions in Connemara.
4. That we view with much disappointment and disapproval the failure of the County Health Boards to avail themselves of the services of existing medical officials when making appointments under the reformed medical schemes, particularly as it frequently happens that the reappointment of such officers would be in the best interests of the sick.
5. That we are unanimously of opinion that the medical provisions of the present amalgamation scheme should be suspended until a commission, on which the medical profession would be adequately represented, would formulate a scheme for an efficient Irish medical service suitable to the requirements of the country.

Dr. T. Hennessy, Irish Medical Secretary, attended the meeting on invitation.

THE TYRONE COUNTY HOSPITAL.

Dr. Edward Thompson, F.R.C.S.I., surgeon to the Tyrone County Hospital, in his annual report to the Joint Committee of Management, expresses his regret that the cost of the hospital continues to increase, owing to the increased cost of food, coal, and labour, as is the common fate of all hospitals here and elsewhere. There has also been an increase in the number of patients in recent years, which is due, to some extent, to the closing of several of the district hospitals.

We are constantly experiencing criticism (he continues) because of the report that the hospital is said not to be of much use to certain outlying districts of Tyrone, such as Dungannon and Cookstown. I have over and over again refuted those statements, and shown that a great many cases requiring surgical treatment find their way to this hospital from the districts in question. . . . The hospital is as freely open to them as it is to all the other districts of Tyrone, and if it serves the latter faithfully and well (as those reports show) it should be equally of use to all parts of the county. . . . One thing I am certain of, you have in Tyrone an excellent and up-to date hospital, and, although it costs a good deal in these days to keep it up to date, there is not one penny spent which can be avoided.

To show that it is well appreciated, it is only necessary to intimate that since I was appointed in April, 1875, the number of internal patients has risen from about 500 to nearly 900, and the number of operations from 60 to close upon 300, and sometimes in excess of this figure. Another point of importance: the hospital is able to make a private income of £3,000 per annum, therefore the County Council gets for an annual grant of £3,000 per annum £6,000 in value. Not a bad bargain! Personally, I am tired of having to repeat those and other arguments in favour of the hospital.

Now, as always in the past, Miss Hayes, Mr. M. Adam, the sisters, nurses, and servants render me the most efficient service, and although the hours of their daily duty are long, I never hear any complaint; on the contrary, always willing and devoted service, at all hours of the day and night. I have also received the greatest help from Dr. O'Doherty and Dr. Lagan, and to them also I tender my most grateful thanks.

During the year with which the report deals there were 243 major operations and 527 minor operations performed in the County Hospital. The major operations included 34 amputations, 1 gastro-enterostomy, 22 for the radical cure of hernia, 1 prostatectomy, 2 for ventral fixation of uterus, 4 for removal of bullets, and 3 for removal of ovarian tumours.

THE seventh centenary of the University of Padua will be celebrated next spring. The executive committee consists of Professor Lucatello as president and two professors of each faculty.

AT a recent congress of medical Esperantists at Prague Professors Gariel and Richet of Paris were elected presidents of honour, Dr. Vanverts of Lille president, Dr. Austerlitz of Czecho-Slovakia secretary, and Dr. Cass of London treasurer.

BEHRING'S Institute, founded at Marburg in 1895, has been given the title of Institute of Experimental Therapeutics, like that founded by Ehrlich at Frankfort. It is to be under the direction of Professor Uhlenhuth, formerly of Strasbourg.

Correspondence.

HOSPITAL POLICY.

SIR,—In his letter published in the JOURNAL of December 24th (p. 1095) the Chairman of the Hospitals Committee announces with due pomp and circumstance, and in tones free from all traces of tremor, the precise meaning of the term "voluntary hospital." Presumably, therefore, the art of authoritative definition is included in the list of responsible duties undertaken either by the Chairman or by his Committee. Yet it may gently be suggested that in the present instance the prerogative is exercised in a somewhat arbitrary fashion. For, while the definition is imposed as from above, neither rhyme nor reason is advanced in its support. In these circumstances I venture to ask myself, Is the voice really that of the Hospitals Committee or is it just possible that Mr. Bishop Harman himself is the power behind the Chairman's throne? The question is not unimportant. In the one case we have to deal with an organ of the Association; in the other, with an individual who has on our regard many claims outside the area within which are fixed the origin, history, and meaning of words.

Whatever be the exact authority, there is now proclaimed the plain proposition that, given only "voluntary and independent management," a hospital is "voluntary" even though it is supported solely by payments received from patients, and even though the medical officers, no longer honorary, receive fees for their professional services. There *may* be contributions from the charitable public; there *may* be doctors rendering honorary services. But such factors, when they exist, are mere accidents or non-essentials; they complicate and perplex a situation which finds its essential expression in "voluntary and independent management" unassociated either with voluntary contributions or with honorary services. The "sole test" is gratuitous management; all else is superfluous and unnecessary. Perhaps to the curious it may occur to ask, Where may be found the hospitals that thus show the "voluntary" principle in its true, simple, and uncomplicated expression? On the terms of the definition, municipal hospitals for, say, the reception of cases of infectious disease would appear to fall within it. But this is denied. Indeed, the sharpest possible contrast is drawn between "voluntary and independent" managers and the "representatives of the ratepayers." There may perchance be some stirring in the municipal dovecots when worthy aldermen and councillors are told that their services are not voluntary and that their actions are not independent. But such a conclusion is inevitable once the Hospitals Committee's propositions are granted

As opposed to the arbitrary definition offered to us I suggest that the history of the term "voluntary hospitals" and the actual working of the hospitals demand an entirely different reading from that announced in so imperious a tone. These institutions have rested their claim to public interest and help largely on the statement that they are "supported by voluntary contributions," and not a few of them continue to recite this formula. By a loose habit of speaking and writing, and with a natural desire for brevity, the term "voluntary" has commonly been extended from the "contributions" to the "hospitals," where, strictly speaking, it is incapable of defence, though justified, or at least excused, on the ground of convenience. And most certainly the voluntary system as it has existed until the present day has implied contributions in cash or kind given voluntarily, and services, administrative and professional, rendered gratuitously. Such is, in fact, the centre or heart of the hospital organization and activities of which Great Britain has justly been proud.

Now comes the Chairman of the Hospitals Committee to announce *ex cathedrâ* that gratuitous contributions, whether of money or of service, are non-essential and unnecessary, and that their disappearance will leave the "voluntary hospital" in its pure and unadulterated essence to continue an undismayed existence. Patients may pay for their maintenance and treatment and doctors may pocket their share of the payments, But, given only "voluntary and independent management," all this is immaterial. The "voluntary hospital," reduced to its essential principle, will then be seen in its true glory, but for what period of time the "voluntary and independent management" will endure in such circumstances we are left to conjecture. The British Medical Association has protested its desire to preserve the "voluntary hospital system." It would be well to know whether such desire is limited to the attenuated form presented by the Chairman of the Hospitals Committee.—I am, etc.,

London, W., Dec. 27th, 1921. C. O. HAWTHORNE.

SIR,—I hasten to thank Mr. Harman for his courteous remarks upon my letter, and his laboured definition of the status of voluntary hospitals.[1] I must, however, remind him that the fate of the Leicester motion, which is the subject of the letter, will be decided by the lay committees of these institutions, who are likely to attach more importance to the opinion of the Cave Committee, backed by the staffs of Scottish hospitals, which seem to be better managed financially than our own, and supplemented now by a large fraction of the staffs of those in London, than to the opinion of Mr. Harman, backed though he may be by the Representative Body. Now the Cave Committee, in the very passage quoted, has defined quite plainly the limits which must not be exceeded if the safety of voluntary hospitals is to be preserved, and it is transparently clear that, while my amendment and that of the Scottish hospitals lie well within these limits, the Leicester motion most seriously transgresses them, and is, therefore, a direct menace to the voluntary system. How Mr. Harman can dismiss, in the airy way he does, so weighty an indictment, delivered by the Cave Committee after twenty-eight meetings, is as unintelligible to me as his reason for designating the same pronouncement mild when quoted by him, while condemning it as falsely emphatic and "in striking contrast to" itself when quoted by me, without emphasis, comment, or addition. Now at the Representative Meeting the Chairman of the Council apparently regarded this judgement of the Cave Committee as so serious that he moved a formal protest against it. I must leave the Chairman of the Hospitals Committee to explain his casual attitude towards the same matter to the Chairman of the Council. Mr. Harman's reference to the two distinguished physicians is quite inappropriate. They and most others receive payment for treating certain patients, but this is no reason why all should levy toll on every pittance paid for maintenance, which is no part of the duty of the staff. Mr. Harman appears to be unable to perceive the fundamental difference between treatment and maintenance. It is, however, very clear to the staffs of Scottish hospitals, it is becoming increasingly clear to staffs in London, and is certainly not overlooked by any lay committee in London or the provinces. Its recognition will infallibly wreck the Leicester motion, despite any efforts of Mr. Harman to bolster it up. I will not waste space by answering his strictures on my brief summaries of the proceedings at the Conference and Representative Meeting. I have given the references to the reports of both, and readers can form their own opinion as to who is "distorting facts."

With one dictum of Mr. Harman I find myself in complete accord. An innovation so drastic and revolutionary as the Leicester motion certainly craves much calm deliberation—a great deal more than it has yet received. I would add that, as it vitally endangers the maintenance of hospitals, it is futile and indeed absurd to come to any formal decision upon it without consulting the laity, by whom hospitals are in fact maintained.—I am, etc.,

Chichester, Dec. 24th, 1921. G. C. GARRATT.

HOSPITALS IN THE TERRITORIAL FORCE.

SIR,—Your correspondent, "Late Capt. *à la suite*," has done wisely in hiding his identity, as his letter (December 24th, 1921, p. 1095) is a severe indictment of the way in which his O.C. administered the hospital under his charge. That a reformed system is necessary for military home hospitals is evident, but whatever changes there are will not be on the lines your correspondent suggests. He does not seem to appreciate that in dealing with soldiers there are many things which have to be taken into consideration that do not apply to civilian patients, and he gives no credit to the intelligence of the many able minds which have evolved the present military system of hospital administration and organization.

He tells us that he considers the system in vogue antiquated, and suggests as an alternative to administer it on a democratic basis. This latter has not yet been tried in a civil hospital, but it might be attempted there to see how it would work. Civilian hospitals are run by a lay

[1] BRITISH MEDICAL JOURNAL, December 24th, 1921, p. 1095.

committee, and the honorary staff only have a very small representation. If he is consistent in his proposal, he must be thoroughly democratic and there should be proportional representation of all concerned; the staff, nurses, orderlies, and patients in their due proportion must have vote in the administration. There must be no bureaucratic control by a small privileged class of highly qualified doctors. The meeting must be open to the public—no Star Chamber inquiries—or we shall have letters in the public press and comments by "Our Medical Correspondent."

The most revealing thing about "late Capt.'s" letter is that he has evidently not taken the trouble in the five years he served to understand the army medical system. He certainly has not learnt the first lesson of a soldier—namely, obedience. Had he studied the T.F. Regulations he would have found that the medical man put in charge of a general hospital is in possession of the King's commission, and does a yearly training in a military hospital. He does not "arrogate to" himself the position of a commanding officer, as he is appointed to that rank with the duty of carrying out the functions of that position. Neither does "late Capt." appear to have read the Regulations of the Army Medical Service (price 4d.); had he done so he would have found that his "gaps" do not exist.

He then castigates his O.C. (perhaps unintentionally) by saying that he had to sign "hundreds of letters and forms" when he was orderly officer. It must have been a very busy hospital to have so much daily correspondence, and I think "late Capt." has overstated the numbers. Why the O.C. or the registrar so neglected their work is not told us. For my own part I cannot see why the clerical work of making formal replies and filling up forms cannot be done by the sergeant-major, or "even a less highly placed N.C.O." Does "late Capt." wish to do it himself? My experience was that they did their clerical work very well, and that after a short instruction female clerks could be trusted with much routine work.

Your correspondent falls foul of the D.D.M.S. because he would not speak to the orderly officer (though a physician on the staff of a great civil hospital of the town and a man of the highest professional status) as he was not of field rank. What a scandalous thing! I suppose "late Capt." knows what the D.D.M.S. wanted to say to the O.C., and that it was a matter fit for the ears of a man of the highest professional status. Otherwise there is nothing in it. Personally, when I want to communicate with a certain person on the telephone I like to speak to him himself and do not care to be put off with physicians of high professional status, much as I respect them. And yet I have held resident posts in a civil hospital, and have been a physician on a hospital staff!

But to return to a more serious line of thought. The *à la suite* hospitals have not come up to the expectations that were formed of them and a new system is necessary. I need not say why or how they failed. Anyone who was in charge of a hospital during the war and kept his ears and eyes open knows why. But I may tell "late Capt." this, that the efficiency of a military hospital, whether a general, a war or a purely military hospital, depends on the O.C. The system is the best yet devised for soldiers and the well-being of the patients; the efficiency of the administration and the comfort of the officers depends entirely on the qualities of the officer commanding and on him alone. Given a good O.C. all will go well, but with an inefficient one there will exist the "friction and ill-feeling" that "late Capt." tells us was such a prominent feature of the hospital he served in.

Having criticized "late Capt.'s" letter pretty freely, I must in duty bound say I agree with him in two matters. He says "the duty of a subordinate officer is not to suggest but to obey." He has got this into his head but not his heart. The other matter is the question of recognition for our services in the home hospitals. I am glad to see that the South African Government sent us their warm appreciation of our services. Beyond a printed letter from the Army Council this is all we have to show for our arduous and lengthy service during the greatest war the world has ever seen and in which we came off victors. One would have thought that a little more generous appreciation might have been awarded us. It was due to no fault of many of us that we could not serve overseas; but at least we did our duty as far as circumstances, our age, and our physical disabilities allowed us. Some of us had even taken the trouble to become efficient in our own "conditions of service" before the war.—I am, etc.,

Bristol, Dec. 26th, 1921. BERTRAM M. H. ROGERS.

TREATMENT OF CARCINOMA OF THE CERVIX.

SIR,—In your issue of December 31st appear two papers, by Dr. Fletcher Shaw and by Dr. Victor Bonney, on the treatment of cancer of the cervix, in which the extended abdominal hysterectomy is mainly dealt with.

Dr. Fletcher Shaw says of vaginal hysterectomy, "it was only in rare cases that the patient after vaginal hysterectomy did not have fairly early recurrence of the growth, and that is what would be expected." The danger of local implantation, to which he alludes, can be largely avoided by the use of the cautery knife or by dissecting up and closing a cuff of the vagina before removing the uterus. Dr. Shaw's statement that "early recurrence was almost inevitable" may be true in those clinics where "the malignant mass was rubbed into the raw wound," but it is not borne out by the facts observed at other clinics.

Of 25 cases (up to the year 1901) operated on by me by the vagina, almost all with the cautery knife, all recovered from the operation and 6 were alive and well from six to twenty-five years after the operation. Possibly more than 6 were cured, for in 3 cases the after-history could not be obtained.

Of 211 cases operated on by Schauta by the extended vaginal operation 73, or 34.5 per cent., were alive and well after five years. Schauta's results, as to cure, were practically the same as Wertheim's.

Comparing the results of the two chief exponents of the two operations—

	Mortality.	Operability.	Absolute cure.
Schauta (extended vaginal hysterectomy)	7.3 ...	51.3 ...	18.4 (21.9)
Wertheim (,, abdominal ,,)	18.6 ...	50 ...	18.3

It is seen that to obtain virtually the same result Wertheim sacrificed 11 patients to the severer operation.

Dr. Shaw's mortality rate for the extended abdominal hysterectomy was 19 per cent., Dr. Bonney's 20 per cent. This is a very high death rate; but it is about the same as that of those who have had most experience of the operation. Thus, Bumm's was 21, Wertheim's 18.6, Döderlein's 18.1, Krönig's 25.42, Franqué and Langhans's 19.8, Hofmeier's 20, Franz's 15.2, Zweifel's 14.

Wertheim's later lower mortality was admittedly due to his operating on less advanced cases than formerly. Amongst Dr. Bonney's 20 deaths 11 occurred in patients in whom the glands were not carcinomatous. It is probable that 10 of these patients would have survived vaginal hysterectomy and that 2 of them would have been cured and thereby have improved Dr. Bonney's excellent results.

The object of this letter is to plead for the exercise of judgement in the operation to be performed. The extended abdominal hysterectomy, for which Dr. Shaw and Dr. Bonney have the enthusiasm of somewhat late converts, undoubtedly enables cases of cancer of the cervix to be cured which are not curable by the vagina; the vaginal operation enables patients who are fat, feeble, or advanced in years to survive and to be cured when they would succumb to the extended abdominal operation. Cases of *early* squamous carcinoma of the portio can be cured by high amputation or vaginal hysterectomy with the cautery without, in my experience, any risk of death.

Our great need is to get the cases early, so that the dangerous operation, extended abdominal hysterectomy, may be avoided.

Till recently we have not had sufficient radium at University College Hospital to use it extensively. Now that we have a large supply I hope much from high amputation and vaginal hysterectomy, followed by radium and x rays, and from Recasens's method of applying small doses of radium at ten day intervals. I have performed the extended abdominal hysterectomy ten days after the application of radium, and think with Dr. Shaw that this is worthy of trial, as it does not materially increase the difficulty of the operation.

Meanwhile, let us not overlook the world's evidence of the last thirty years, nor await the English evidence of the next seven. Let those with opportunities use radium and x rays in combination with operation. Let us hope that Wertheim's feeling, to which he gave utterance not long before his lamented death, that radium would probably render all his former labours in vain, will prove true. Of the efficacy of radium in cancer of the cervix there is abundant evidence from foreign clinics; let us study the best methods of its use. Of this operation of all others it may be said:

Fas est et ab hoste doceri.

—I am, etc.,

London, W., Jan. 1st. HERBERT R. SPENCER.

SIR,—I have read Dr. Fletcher Shaw's paper on "The present position of the treatment of carcinoma of the cervix" with much interest. Whilst appreciating the compliment Dr. Fletcher Shaw pays to Mr. Victor Bonney and myself in alluding to our work on carcinoma of the cervix, I think when writing a paper with such an important title he really should have taken the trouble to ascertain whether any later figures of ours than those he quotes were available. The reference giving our operability rate as 67 per cent. is taken from the first edition of our *Gynaecological Surgery*, and refers to patients operated upon between 1900 and 1909, that is twelve years ago, whilst the reference is quoted second-hand from Professor T. Wilson's article allude to work he published in 1913, nearly nine years ago. As Dr. Fletcher Shaw presumably went carefully into the subject, it is surprising that he is unaware that in 1916 Mr. Victor Bonney and I published in the BRITISH MEDICAL JOURNAL a series of 100 radical operations for carcinoma of the cervix, based on a five years' freedom from recurrence, the first that had appeared in this country. Again in 1920 the same figures are set out at length in the second edition of the *Gynaecological Surgery*. The old figures that Dr. Fletcher Shaw quotes in his paper, so far as our practice and results are concerned, give an entirely erroneous impression of the *present* position of the treatment of carcinoma of the cervix, and it is indeed fortunate that Mr. Victor Bonney's paper appears in the same issue, which will enable your readers to make the necessary corrections.

Figures dealing with the radical operation are of no value unless they include a considerable series of cases which are founded on a three years' freedom from recurrence with reference to the life-prolonging effects of the operation, or on a five years' freedom from recurrence, constituting an "absolute cure" (though Mr. Victor Bonney's paper shows that seven years are really required to make such a claim). In this country my colleague and I are the only surgeons who have published such figures, and I think it is most desirable that others practising this operation should defer publishing their results until they can produce a similar series of cases, as only by such can the real value of the operation be determined.

It may interest Dr. Fletcher Shaw to know that in 1913 we first performed the radical operation on an "inoperable case" made "operable" by radium, the patient being sent to us from the Radium Institute in London. Since then we have from time to time had opportunities of repeating such an operation, and our experience coincides with his, that the dense fibrosis produced by the previous application of radium makes the procedure extremely difficult.—I am, etc.,

London, W., Jan. 2nd. COMYNS BERKELEY.

PEPTIC JEJUNAL ULCER.

SIR,—Your interesting reference to this lesion in an annotation published on December 24th, 1921 (p. 1092) will, I dare say, reawaken in the minds of some, as it has done in mine, the very cogent question: To what extent is the surgical technique of gastro-jejunostomy to blame for the formation of peptic jejunal ulcers? That the lesion may be the direct result of some defect in the method of operating is, I believe, generally accepted; and the more likely is this view to be correct when not only pathologists, but surgeons themselves are willing to acknowledge its probability. Thus, Dr. Georges Loewy, of the surgical clinic of the Salpêtrière, as quoted by you, gives as the first of the three possible causes for the formation of these ulcers, "errors in surgical technique." It has been pointed out that these ulcers may be classified into two sets, those occurring at the line of union of the bowel to the stomach and those limited strictly to the jejunum, that is, distal to the line of suture. It is only with the former that the question of a purely operative cause can be entertained.

Apart altogether from the preventable "errors" committed by inexperienced or careless operators, are there any defects in the details of recognized efficient methods likely to conduce to the formation of these post operative ulcers? As far as I know, there are only two primarily essential methods of accurately uniting together the cut edges of the stomach and the jejunum to form the fistula bimucosa—and, of course, it is assumed that every experienced operator does accurately unite these edges—the one is by the use of a clamp devised specially for the purpose, and the other by simple suture without the aid of clamps. As a matter of operative convenience, and as a means of execution with greater rapidity, the use of clamps is a distinct advantage but this advantage is possibly considerably outweighed by the effect which the clamping of the tissues has in interfering with the proper supply of blood to the edges of the artificial opening; it is more than likely that the clamping of the visceral walls during the process of suturing causes the small vessels passing to the wound edges to become thrombosed, so that the resulting delay in greatly needed rapid repair leaves a weak line of defence against the powerful digestive action of the gastric secretion. It is on similar grounds of interfering as little as possible with the supply of blood to the cut edges that—without the aid of clamps—the too vigorous and multiple employment of forcipressure forceps to bleeding points may crush and devitalize tissues to such an extent that they may be just as easily digested by the gastric juices. It has been in order to avoid these possible devitalizing influences upon the line of suture that, in my own practice, I have always sought to ligature as few vessels as possible along the wound edges, using a continuous suture of absorbable material that embraced all coats of the stomach and bowel, and therefore, at the same time, occluding any bleeding points.

Whether I am right in concluding that the use of clamps may, in the way indicated, be a cause of the formation of that particular class of ulcer occasionally found at the line of suture, could be easily proved if it were possible to ascertain, in any case of the kind that occurred, whether clamps were used at the operation of gastro-jejunostomy. When it is remembered that the existence of these ulcers is usually only made known to us by sudden perforation, and therefore that the case may fall into another hand than that which originally performed the operation, statistics of any practicable value become very difficult, if not impossible, to obtain. We are more or less compelled, therefore, to act on purely theoretical considerations, based, however, on grounds that are both pathologically and surgically reasonable.—I am, etc.,

Glasgow, Dec. 26th 1921. A. ERNEST MAYLARD.

TREATMENT OF ACUTE GONORRHOEA BY ELECTROLYSIS.

SIR,—Without entering into the merits or otherwise of the treatment of acute gonorrhoea by electrolysis I should like to offer a criticism of Mr. Russ's article in the BRITISH MEDICAL JOURNAL for December 31st, 1921.

In the first place he appears to revive the ancient pathology that the gonorrhoeal process as it occurs in the urethra is accompanied by ulceration, and that this is the basis of stricture. It is true, he says, that "probably the use of strong caustic chemicals, either as bougies or as instillations, produces the initial chemical lesion which initiates the ulcer formation."

The urethroscopist knows quite well that ulceration, as ordinarily understood, is a pathological curiosity in gonorrhoeal inflammation of the urethral mucous membrane, caustics or no caustics. The process is a thickening one and not a destructive one. The deposit of young cells called forth by the irritation is Nature's proper response to limit the affection, but in the case of a tube like the urethra the final result may be disastrous, owing to the contraction of the deposit. Nature is more concerned with the immediate arrest of the infection than the final result to the individual.

The superficial thickened layers of epithelium which cover the masses of young cells—the precursors of stricture—necrose and are cast off, but the process does not denude and necrose the subepithelial tissue to form an open ulcer. Correct conception of the pathology will lead to treatment directed to expand the canal and so bring about absorption of the young deposit before its conversion into hard and contracting fibrous tissue (stricture).

The statement that in the series of 500 cases no stricture occurred is not very convincing. Presumably the clinical signs of stricture is meant, as no indication is given that an examination of the canal was made for commencing stricture. It takes many years in most cases for the urethra to be so narrowed by stricture as to give clinical evidence of its presence; when this happens the time for cure is passed. It is indeed difficult to believe that of 213 cases of chronic gonorrhoea which were treated, not one of less than two months' duration, some did not require dilatation treatment. It would be quite contrary to my experience.

Again, with regard to immunity from arthritis and fascial complications in his series of cases, I may say that during

the war period I treated in private a very large number of cases of gonorrhoea—I was doing the work of three or four absent specialists besides my own—chiefly by the irrigation method, with, in chronic cases, dilatations and cauterization of lacunae, and I cannot recall one case of arthritis or any sort of joint rheumatism. A little muscular or fascial rheumatism is always with us, and one cannot usually tell whether it is due to the gonococcus or not.

Not a word is said about the spread of the disease to the posterior urethra and its treatment. It is stated that epididymitis occurs occasionally, which is proof of the extension of the infection to the prostatic urethra. Now, in *first* attacks the disease spreads to the posterior urethra in 70 or 80 per cent. of cases under expectant treatment. Is it held that this treatment of the anterior urethra—for this is what we are led to believe—is so successful that the extension to the deep urethra and prostate is so rare that it is not worth mentioning?

I may here draw attention to a very important point in dealing with statistics as to the rapidity of cure of gonorrhoea. It is that if first attacks are excluded the average time it takes to cure by the irrigation method (with possibly dilatations and treatment of lacunae by probe and caustic) is one week or, at the outside, ten days, if treatment is commenced early. The tendency to spread to the posterior urethra is much less than in first infections. Not at all infrequently when a man comes suffering from a third or fourth attack one voluminous irrigation with potassium permanganate will dispose of the disease, and it does not matter whether he comes on the first day of the discharge or not. I am not including those deceptive cases of relapse which only apparently clear up with one irrigation.

The urethral mucous membrane becomes profoundly altered after successive attacks of inflammation or after one long attack. It not only thickens and whitens as seen with the aero urethroscope, but the columnar epithelium is replaced by several layers of flattened cells, and although the bactericidal qualities of these cells are lost in secondary infections it forms an unfavourable soil for the growth of the gonococcus.—I am, etc.,

London, W., Jan. 1st. W. WYNDHAM POWELL, F.R.C.S.

VENEREAL CLINICS: A LAY POINT OF VIEW.

SIR,—The remarkable letter of "Venerealee" in a recent number of the JOURNAL—remarkable as evidence of a callous egoism and total lack of honourable principles—has been dealt with by several of your correspondents, mostly from the moral standpoint. There is yet a point which has not received sufficient notice—namely, what right have "Venerealee" and his kind to expect free treatment for diseases contracted through wilful exposure to infections of the consequences of which they are fully aware? "Venerealee" sings the praises of the venereal clinics; I may remind him that these were originally intended for those unable to pay for special treatment, although I have it on the best authority that they are shamefully abused by hundreds who can well afford to pay.

"Venerealee" and his congeners think nothing of sacrificing much gold at the shrine of Venus and view the consequences with indifference; for, as they no doubt remark, "hang the expense, we can always be cured for nothing!" Is it not monstrous that the ratepayers should have to contribute towards the maintenance of these "sexual heroes"?—I am, etc.,

London, W., Jan. 2nd. C. F. MARSHALL.

SIR,—Mr. Wansey Baily and Captain Armstrong have I fear, "jumped at conclusions" in commenting on the attitude of women, especially of medical women, towards the wide incidence of sexual irregularities in men. It is no doubt trying for them, when they wish us to think the world such a very bad place, that we do not hasten to support them.

A great deal of the work of medical women is concerned with the habits and relations of the sexes, they are women of the world, and know quite as much about these things as their men colleagues.

Medical women will certainly not agree with Captain Armstrong's estimates and figures. They would probably reply that, to their certain knowledge there are a large number of men and boys who have lived, and are living, controlled and continent lives because they believe it to be their duty, and that they all know of exceedingly happy marriages that have followed such living.

While women have never been drawn to bloodless "plaster image saints," they are not attracted to the weak and infantile form of sexuality which is satisfied by casual intercourse or temporary unions. The life of sex, in its fullness, has no relation at all to prostitution of this kind. Women are most attracted to men who are whole men, and who will do and suffer something to attain to full manhood, and to an adult and virile sexuality and point of view.

Morality is the crystallized experience of the race painfully evolved through countless centuries. The moral beliefs of a community are shown by its laws and customs. Our people have at any rate worked out the simple beliefs that every individual has a power of free choice which governs the expression of his instincts, that man is man, and master of his fate, that he is the final director of himself, and that he is responsible to the community he lives in for his acts and their consequences. There appears to be no upholders of the opposite point of view, and even those who fall to the "double standard" take care not to proclaim their own misdeeds and diseases in public.

As regards "notification," "self-disinfection," or any other royal road or universal or quack remedy, "in vain is their net spread in the sight of" any thinking woman. Women want a world that is fit to live in, and has in it a great many more of the whole, responsible, adult men and women who are fit to trust and to marry. These are the people whom we think it of value to our race to uphold and encourage. We refuse to call ours an idle dream.

Mr. Wansey Baily and Captain Armstrong "can have" "Venerealee" and all his tribe if they care to waste good time on them.—I am, etc.,

East Grinstead, Jan. 1st. MARY GORDON.

*** This discussion has now travelled far beyond the subject of venereal clinics, and the correspondence may properly close with Dr. Mary Gordon's statement of the medical woman's point of view.

POST-GRADUATE COURSES IN VIENNA.

SIR,—It is a great pleasure to me to send you information you were kind enough to ask as to the post-graduate courses of the medical faculty in Vienna. They were well known before the war, and are rapidly regaining their pre-war reputation. In our present conditions there are many difficulties to be overcome; in many respects things are different from before, but this gives us the opportunity of finding out new ways and new methods of post-graduate teaching.

There is an organization for medical post-graduate instruction at the University of Vienna, under the supervision of the medical faculty. The secretary, *to whom all correspondence should be addressed*, is Dr. A. Kronfeld, Wien IX, Porgellangasse 22. Different courses will be given.

The following programme has been arranged for next year:

1. Two weeks' international courses, consisting of single lectures during the whole time, given by workers on the special problems of the subject. The courses will be held four times a year. In September a course for country practitioners will be given every year. During these courses an hour in the morning will be kept free for demonstrations and for asking questions. The courses are free, a small contribution for necessary expenses only having to be paid. During 1921 four such fortnightly courses were held, and proved a great success; one was on internal medicine and neurology, and others on surgery, obstetrics, gynaecology and orthopaedics, oto-laryngology, urology, ophthalmology, dermatology, and venereal diseases; there was also one for country doctors mainly on the borderland of internal medicine and surgery. The next course will start on February 5th, 1922, on diseases of stomach, bowels, pancreas, liver, and spleen.

2. During the whole year special courses will be given, for which quarterly programmes will be issued. Most of these courses are *paid* for. The fee is stated in the programme. As a rule it is lower than the pre-war fee; the big figures are a sign of the unfair financial conditions under which we are living, one pound sterling being equal to 25,000 Austrian kronen or more. The programme may be had from the secretary above mentioned. I take leave to send a number of them to the office of the BRITISH MEDICAL JOURNAL. Special private courses and courses in the English language may be arranged on application.

3. A scheme will be worked out for clinical demonstrations in various clinics. As an attempt in this direction the senior staff of my clinic (medical) and I myself will have the pleasure of demonstrating specially interesting cases on every

Friday at noon, beginning on Friday, January 20th, 1922. These demonstrations will be open to doctors from all nations.

The old "American Medical Association of Vienna" is rising from its ashes, and will be reorganized in the near future. It is trying to find club rooms. English-speaking doctors have always been accepted as temporary members of this association, so that they would find there English accommodation and conversation. It is of great importance that visitors should have sufficient knowledge of the German language; we are still a German university, and as visitors are coming from many parts of the world general courses will, of course, be given in the German language.

The secretary of the organization will give information about residence, cost of living, etc. Although prices are running up madly (in kronen) visitors coming with a good currency will be able to live here cheaper than in any other part of the world.

Visitors of all nations will find a hearty welcome in Vienna. The only guarantee for a friendly intercourse is that the medical faculty require the signing of a declaration that our guest disapproves of the exclusion of German-speaking doctors from international congresses.—I am, etc.,

K. P. WENCKEBACH,
Director of the 1st Medical Clinic and Professor of Medical Pathology and Therapeutics.

Vienna, Dec. 23rd, 1921.

*** A copy of the programme, so long as the stock lasts, will be forwarded to inquirers on receipt of postage.

BREAST CANCER.

SIR,—The skill and care shown by your reviewer in abstracting some of the main features of my recent publications make me more sorry a statement of mine had misled him.

Important as the notion may be, I did not postulate the theory that the secretion of cancer cells could induce other cells to multiply. In the sentence that possibly misled him I endeavoured to indicate a line of study into which I had not entered—namely, the examination of those changes which occur within an epithelial cell when its multiplication is induced by the stimulus of irritation. There is one observation to which he did not allude—that is, there are two kinds of duct cancer, the papilliform and the laciform.

In making these statements I hope your reviewer will not consider me ungracious. I thank him very much for stating so clearly my case.—I am, etc.,

London, W., Dec. 26th, 1921. G. LENTHAL CHEATLE.

THE HISTORY OF BRAIN SURGERY.

SIR,—In the JOURNAL for last week two of your correspondents take me to task for not referring to the work of Sir William Macewen in my Vicary lecture. It is, I believe, a common custom to read a lecture and not an abstract of it, before criticizing it. I yield to no man in my admiration of Sir William Macewen's contributions to surgical progress.—I am, etc.,

London, W., Jan. 2nd. C. A. BALLANCE.

THE SEPTAL PERFORATION OF COCAINE-SNIFFERS.

SIR,—Since Mr. O'Malley has spoken for the rhinologists, may I be permitted to affirm that, to many who are not rhinologists, the differences and distinctions between the septal perforations of syphilis, of chromic acid poisoning, and of cocaine sniffing, are well known?

I have never seen a cocaine *habitué* who was a rag-picker, and I had no reason to suspect my patient of rag-picking, either vocationally or as a vice.—I am, etc.,

London, W., Dec. 24th, 1921. F. G. CROOKSHANK.

SIR,—Dr. Crookshank writes to complain that I have misquoted him in my letter of December 24th by writing "*other* competent medical men" instead of "several competent medical men." As this was purely unintentional, I shall be glad if you will insert this correction.—I am, etc.,

London, W., Dec. 29th 1921. JOHN F. O'MALLEY, F.R.C.S.

A NEW division of biophysics has been established in the department of pharmacology in the Johns Hopkins University. It has been placed under the charge of Dr. J. S. Van der Lingen, formerly senior lecturer in applied mathematics in the University of Capetown.

Obituary.

SIR GERMAN SIMS WOODHEAD, M.D., LL.D.,
Professor of Pathology in the University of Cambridge.

SIR GERMAN SIMS WOODHEAD, K.B.E., Professor of Pathology in the University of Cambridge, died at Aisthorpe Hall, Lincolnshire, on Thursday, December 29th, 1921, aged 66. His death will be felt as a personal loss by a large number of the members of the British Medical Association. To his colleagues and to his university the news of his death, although not unexpected, came as a great shock. The charm of his personality was great; even to meet him once was a pleasure, to know him a privilege.

He was the oldest son of the late Joseph Woodhead, formerly M.P. for Spen Valley, editor and proprietor of the *Huddersfield Examiner*. Educated at Huddersfield College and Edinburgh University, he took the degrees of M.B., C.M. in 1878. In 1881 he proceeded M.D., and obtained for his thesis the gold medal. He studied also in Berlin and Vienna, and in 1882 became F.R.C.P.Edin. As a student he was an ardent sportsman, and was president of the Edinburgh University Club for many years. He played Rugby football, and was a good short distance runner. There is a tradition that he was "clocked" to do the 100 yards in 10 seconds dead. In later years he was fond of golf and played a fair game.

He was a keen Volunteer and became a captain in the V.M.S.C. in 1886; he was promoted major in 1902. Later he held the rank of lieutenant-colonel R.A.M.C., T.F. (Sanitary Section), and in 1917 was gazetted brevet colonel, Army Medical Service. On the outbreak of war in 1914 Professor Woodhead immediately placed his services at the disposal of the War Office. As sanitary officer he at once took up the question of pure water supply, testing all the wells in the East Anglian Division for possible contamination and pressing upon the authorities at the War Office the efficiency of the method for sterilization of water by chlorination, on which he had done much work and was an authority. This method, as is well known, was adopted with great success by the Overseas and Home Forces. In connexion with this he devised a plan by which it was possible, by a simple chemical test, for an advance water party to decide how much chloride of lime must be added to 120 gallons of water (the usual capacity of the army water wagon) to render it innocuous. In October, 1915, he took up the duties of medical officer in charge of the Irish Command Dépôt, Tipperary, and during the period for which he held this command he was twice mentioned for special war services. In 1917 he was appointed Inspector of Laboratories in Military Hospitals in the United Kingdom, having formerly been Adviser in Pathology to the War Office. His work in connexion with the Command Dépôt was too heavy, and there is no doubt that this overwork and great strain was the commencement of the breakdown in his health, which assumed a serious aspect after his appointment as inspector, an appointment which involved frequent and long journeys, both by train and motor. For these military services he received the K.B.E. in 1919. He relinquished his commission on account of ill health on November 11th, 1919, retaining his rank.

Professor Woodhead was devoted to his profession, and took keen interest in all its branches, doing his utmost to help in their organization and progress, and—as the following statement of his appointments and honours will show—this help was appreciated by those in a position to recognize it. After qualifying, he became Demonstrator of Pathology in Edinburgh and later was a Research Scholar of the Grocers' Company. From 1887–1890 he was Superintendent of the Laboratory of the Royal College of Physicians, Edinburgh. In 1890 he was appointed Director of the Laboratories of the Conjoint Board at the Royal College of Physicians and Surgeons in London. This post he held until his election to the Professorship of Pathology in Cambridge University in 1899. Two years previously he had been awarded the Stewart Prize of the British Medical Association. In all these posts he was an enthusiastic organizer and worker, spending long hours in the laboratory and giving much thought to make the investigations carried on by himself and other workers successful. It was, perhaps, his misfortune that in all three appointments he had to fit up and organize the laboratories of which he was in charge. This naturally occupied much time and thought during the early years of his directorship both in Edinburgh and London, and on his appointment to the chair of pathology in Cambridge he at once set to work to collect funds for the building and

equipment of the present medical school, the plans and necessary equipment of which he personally supervised.

Both as a director and professor he was one of the most approachable and sympathetic of chiefs, listening with patience, helping with pleasure, giving generously time and money, showing great tact in the smoothing out of difficulties. He was loved both by colleagues and staff.

Whilst in Edinburgh he published the first edition of his well known book *Practical Pathology*. This work has passed through four editions, the last of which appeared in 1910. In 1885 he published *Pathological Mycology*, and in 1891 another work on *Bacteria and their Products*. Whilst Director of the Research Laboratories of the Conjoint Board in London he did much work on diphtheria and on the standardization of diphtheria antitoxin. The results of this are embodied in an important report to the Metropolitan Asylums Board on the bacteriological diagnosis and the antitoxic serum treatment of cases admitted to the hospitals of the Board during the years 1895 and 1896. In 1895 he drew up a report to a Royal Commission on Tuberculosis, for which he was an investigator.

In July, 1901, at the British Congress on Tuberculosis for the Prevention of Consumption, Professor Robert Koch made the important statement that "human tuberculosis differs from bovine, and cannot be transmitted to cattle," and further stated that "though the important question whether man is susceptible to bovine tuberculosis at all is not yet absolutely decided . . . one is nevertheless already at liberty to say that if such a susceptibility really exists the infection of human beings is but of a very rare occurrence." As a result of this statement Professor Woodhead, at the meeting, suggested that the members of the Congress should, through representatives, approach the Minister of Agriculture, or President of the Local Government Board, to see if something could be done to settle this very important question. In the following year, 1902, a Royal Commission on Tuberculosis was appointed to test the statement by Professor Koch, and Professor Woodhead was nominated a member. In the work of this Commission he took a great interest, and to it devoted much time. The important results of its inquiries are well known. Woodhead's interest in tuberculosis was maintained to the day of his death. In 1902 he was elected Honorary Fellow of the Henry Phipps Institute, Philadelphia, founded for the study, treatment, and prevention of tuberculosis, and in 1903 Woodhead gave a lecture on this subject in Philadelphia. In the year 1908 he exhibited at the Sixth International Congress on Tuberculosis at Washington a very fine collection of specimens showing the changes produced by tuberculosis in various organs, both in human and animal subjects; for this collection he was awarded a Gold Medal by the Congress. In recent years he gave much time and energy to the organization and support of the Cambridgeshire Tuberculosis Colony at Papworth Hall, and in 1920 he published, in collaboration, a book entitled *Industrial Colonies and Village Settlements for the Consumptive*. His deep interest in the cause of temperance was well known.

Woodhead was the first editor of the *Journal of Pathology and Bacteriology*, the official organ of the Pathological Society of Great Britain and Ireland. He founded it in 1893, with Mr. Y. J. Pentland, and continued in its editorship until towards the end of 1920. In an editorial article in the number for January, 1921, the statement was made:

> "It was by his generosity and his practical interest in the inception of the Pathological Society of Great Britain and Ireland that the journal became the official organ of the society. . . . To the interests of the journal, as those who have been associated with him in its conduct best know, he has devoted the same unremitting effort and self-sacrifice. In this work he has won for himself the gratitude and personal affection of contributors all over the world."

In addition to diphtheria and tuberculosis, Professor Woodhead was much interested in the modern studies of diseases of the heart, and was one of the early possessors of an electro-cardiograph which he installed in the Pathological Laboratory at Cambridge; later on the instrument was connected to the wards of Addenbrooke's Hospital by special cable. He devoted much time to the elaboration of a special apparatus for the study of continuous temperature records in man and animals, and published a series of articles on the results obtained by its use. The establishment of the Cambridge University Field Laboratories was also largely due to his efforts.

In teaching, lecturing, and demonstrating he took the greatest interest and pleasure. To the preparation of his lectures he devoted much time, paying great attention to diagrams and lantern slides to illustrate them. He was a good teacher and one of the best morbid histologists we had. His textbook, above mentioned, will remain a lasting record of his knowledge and work on this subject and will not be readily superseded.

Sir German Woodhead was a Fellow of Trinity Hall, Cambridge, Fellow of the Royal Society of Edinburgh, Fellow and Past President of the Royal Microscopical Society, Vice-President of the Pathological Section of the British Medical Association Meeting in Cambridge in 1920, and Hon. LL.D. of Birmingham and Toronto Universities. On three other occasions he held office in the Section of Pathology at annual meetings of the British Medical Association, and in 1892 he gave the Address in Bacteriology at Nottingham. In 1881 he married Harriett, second daughter of James Yates of Edinburgh, who survives him.

To write an appreciation of his character is difficult. It would include so many of the virtues, but his great love for children and of mankind generally, his unselfishness, his innate desire to help others, his deep religious belief, must be recorded, and for those who wish a further insight into his nature we may quote the following verse: "The fruit of the Spirit is love, joy, peace, long-suffering, gentleness, goodness, faith."

We have received the following appreciation from one of his colleagues at Cambridge:

On December 20th Colonel Littlewood, having two days before finished his full part in the surgical examinations at Cambridge, passed away in heart failure, after but a few hours' illness. On the 29th, Sir German Woodhead, also seeking rest after a hard term's work, passed away suddenly in like manner. For twelve months or more Woodhead—for he is now beyond our titles—had been far from well, at one time dangerously ill: and it was known that behind his apparent recovery lay an injury to his heart of so grave a kind as to make his life very insecure. The present writer, thus bereaved almost at one stroke of two of his oldest and dearest friends, would have borne this sorrow in silence had he not been called upon to pay some poor tribute to one of them. Woodhead's distinction was twofold: the light of his character was so radiant as perhaps to throw his high attainments as a man of science into some shadow. The man outshone the accomplished scientist; and this perhaps the more as, in his utter forgetfulness of self, he was ever ready to bear any burden that his friends might put upon him. Some of us who know him best would beg that Woodhead might not be asked to help in this or that project, for inevitably he would undertake new duties reckless of his own diminishing strength, and perchance of the disadvantage of his work as a whole. Let it not be supposed that Woodhead was merely an amiable, kindly person of an obliging disposition; those who knew him well were aware in him of qualities of high temper and strong will—qualities which in his youth had made him a champion in running and football, but which, devoted later to unselfish ends, issued in a beautiful life. Ardent but no fanatic, as a true Liberal he granted fully to others the freedom he claimed for himself.

Again, it must not be supposed that Woodhead was Professor of Pathology in virtue only of beauty of character. Immersed as he was in public affairs, carried as he was hither and thither by the needs of others, never unheard, his attainments as a pathologist were worthy of his high position. If by his unselfish devotion to many causes, especially during the war, the growth of his department had somewhiles to fend for itself, his command of his subject, his energy, and his powers of ready and lucid exposition were nevertheless exceptionally great. Many a time, in seeking his aid in pathological difficulties of any kind, the present writer had occasion to admire his acquirements, skill, and experience. His strongest subject was no doubt morbid histology, which he would set forth with clearness and precision, illustrating his words by dextrous little sketches. The fourth edition of his *Practical Pathology*, illustrated almost entirely by original drawings, is a very valuable book. Readers of this JOURNAL may remember at the Newcastle Meeting of the Association last year, the beautiful series of drawings of arterial syphilis executed, by his assistant Mr. Gillings, after his own preparations and sketches. With his usual magnanimity he would not allow his own name to appear on the exhibit, but only that it came from the Cambridge Pathological Laboratory. His pupils have told me that throughout his official career he always dissuaded them from making those recognitions of the

Professor's advice and assistance which are usual and becoming in scientific papers issuing from his laboratory.

As a few instances of combined humane and scientific work may be mentioned Woodhead's researches and report in the Tuberculosis Commission, the work with Varrier Jones, and, after Gamgee, on diurnal normal and hectic temperatures, the establishment of the Papworth Colony, and, in another sphere, the chlorination method of water purification for troops. His indefatigable labours in the war seem indeed to have caused or contributed to the failure of his health.

In the void of the death of our colleague we lament the loss of the beneficent example of one who was not only a profound student of science, not only an inspiration to all his fellow workers, but also one who saved his life by losing it for his friends, his university, and his country.

C. A.

JOHN ELLIOTT, O.B.E., M.D., F.R.C.P.,

Honorary Physician, Chester Royal Infirmary.

DR. JOHN ELLIOTT, who died on December 19th at the age of 60, after a serious operation, was one of the leading consulting physicians in Cheshire and North Wales, and his death is a great loss to the medical profession there. Born at Whitchurch, Salop, he was educated at Owens College, Manchester, and at St. Bartholomew's Hospital, where he won an open scholarship in science. He graduated B.Sc. Lond. (with honours) in 1880, M.B. Lond. (gold medal) in 1885, B.S. (gold medal) in 1886, and M.D. in 1888. In 1884 he had taken the diploma of M.R.C.S. Eng., and he proceeded to the Fellowship in 1886; he took the diploma of M.R.C.P. in 1891, and was elected a Fellow of the Royal College of Physicians in 1908.

Dr. Elliott held resident posts at St. Bartholomew's Hospital and at Birmingham General Hospital; he commenced practice in Chester some thirty years ago, and soon established a high reputation as a consulting physician. He was appointed honorary physician to Chester Royal Infirmary in 1895, and flung all his energies into the reorganization of that old institution, founded in 1755, so that it could take a foremost place among modern provincial hospitals. A formidable scheme was successfully carried out, and the renovated buildings and additions were opened by the King in 1914.

On the establishment of a venereal clinic Dr. Elliott was appointed its medical officer, and it was arising out of these duties that his name recently came into much prominence on account of his protest in the High Court against disclosing the confidences of a patient. He took part in the subsequent discussion of the subject at the annual meeting of the British Medical Association in Newcastle last July. He was an old member of the Association, had been chairman of the Chester Division, and was at the time of his death president of the Lancashire and Cheshire Branch. He had shown much interest in the organization of the medical profession, and published in the BRITISH MEDICAL JOURNAL (SUPPLEMENT, April 2nd, 1921, p. 89) an article suggesting a scheme of medical services for his own district.

During the war Dr. Elliott took a leading share in Red Cross work in the Chester district, and in addition to attending the wounded in the Royal Infirmary he acted as visiting physician to the important Chester War Hospital and as consulting physician to a large number of military camps and Red Cross hospitals in the area. He contributed to medical literature on a wide range of subjects, and he took great interest in antiquarian matters and in medical history. When colour photography was still in the experimental stage he became much interested in it, and many of the photographs he obtained were of high excellence. He was proud to have placed on record the work of Dr. John Haygarth, physician at the Chester Royal Infirmary from 1767 to 1798, who was the first to isolate fever cases in a ward of a hospital and made important pioneer researches on fevers; he published an illustrated article on Haygarth's life and work in this JOURNAL (February 1st, 1913, p. 235).

In his professional work Dr. Elliott's great skill in diagnosis was especially recognized by his colleagues, and in this his natural intuition was supported by his sound scientific knowledge and his employment of the most modern methods. He had fitted up a well-appointed private laboratory attached to his residence and there carried out many clinical investigations on questions arising during the course of practice. Robust in appearance and of a cheerful and confident disposition, he was a physician for whom his patients and medical colleagues had affection as well as admiration. He leaves a widow and a family of three daughters and a son.

A colleague writes: The death of Dr. Elliott of Chester, which occurred after an illness of only two days, has produced a feeling of dismay amongst a large circle of friends and colleagues in Cheshire and North Wales, and a distinct blank in the ranks of the profession. After a brilliant career at Owens College, Manchester, and St. Bartholomew's Hospital, Dr. Elliott settled down to the practice of his profession in Chester, in spite of the desire of friends and relatives to see him in a larger sphere. A man of very great force of character and high intellectual capacity, he soon established a consulting practice which extended over a very wide area. He had great energy and driving power, and a wide interest which found outlet in archaeology, photography, radiology, and natural science. The rebuilding of the Chester Royal Infirmary is a standing example of his energy and influence, as it was largely due to his efforts that this work was successfully carried through. He had the faculty of inspiring confidence in his patients and brother practitioners, and gave freely of his knowledge and experience for the benefit of both. He did all his own laboratory, *x*-ray, and photographic work, and never spared himself in any way if he could relieve a patient. Having once set his mind on an object he never rested until he had attained his end. He will be missed by a large circle of friends and colleagues in and around Chester, but nowhere more than at the Chester Royal Infirmary, which owes so much to him.

REGINALD ANSTRUTHER FARRAR, M.A., M.D.OXON., D.P.H.CAMB.

ON July 31st last Dr. Reginald Farrar retired from the appointment of Medical Officer of the Ministry of Health, and in November, under the auspices of the League of Nations and the League of Red Cross Societies, he went to Russia to assist Dr. Nansen in organizing the arrangements for famine relief in that country. Last week one of his old colleagues received a letter from him, in which he said he was not well, that his temperature was 102° F., and he anticipated he was "in for" a severe attack of illness. Information reached the Ministry on December 30th, 1921, that he had died the previous day at Moscow. The cause of his death is believed to have been typhus fever.

Reginald Farrar was the eldest son of the Reverend Frederick William Farrar, well known as Dean Farrar. He was born at Harrow in 1861, went to Marlborough School, and in 1880 matriculated at Oxford and entered Keble College. He took his B.A. degree in 1883. It was originally intended that he should take Holy Orders, but though always a religious man and actuated by the purest principles he felt that he could not subscribe to the thirty-nine articles of the Established Church; he therefore turned his attention to medicine and became a medical student at St. Bartholomew's Hospital. His loosely tied and flowing red cravat, strident voice, unconventional manner, enthusiasm, impulsiveness, and happy disposition, made him a well-known student at the hospital. He took the diplomas of M.R.C.S.Eng. in 1887, and of L.R.C.P. in 1888, and graduated M.B., B.Ch.Oxon. in the following year; he took the M.D. in 1893. He served as house-surgeon to Mr. (afterwards Sir William) Savory. On leaving St. Bartholomew's Farrar studied for a short time in Vienna and then went into general practice at Stamford in Lincolnshire, where he married Miss Mapleton the daughter of the Rector of Stamford. He took the D.P.H. in 1897. Private practice in the country proved uncongenial to his temperament and love of adventure, and in 1899 he was appointed by the Government of India one of the medical officers for plague and famine duty in that country. On his return to England he studied public health administration under Dr. Allan, then medical officer of health for the Strand District and now for the Metropolitan Borough of Westminster. In conjunction with Dr. Allan he published a book on *Aids to Sanitary Science*. Subsequently, whilst continuing his interest in public health work, Reginald Farrar occupied himself in private practice at Chiswick for about a year, but in 1903 he was appointed a medical inspector of the Local Government Board.

Several of his official reports on the sanitary circumstances and administration of districts and on the prevalence of disease, including those on enteric fever in the Ashington Urban District in Northumberland, outbreaks of disease affecting the cerebro-spinal system in the Midland Counties

and in Dorsetshire, were published. Routine work of the department requiring knowledge of and close attention to detail proved irksome to Farrar. It was the social side of public health problems that particularly appealed to him, and as a member of the medical staff of the Local Government Board, and afterwards of the Ministry of Health, he had ample opportunity of studying them. It is with such studies that his name is familiarly associated. He furnished a series of reports dealing with the lodging and accommodation of navvies, hop-pickers, and fruit-pickers, and with the sanitary conditions under which these people work. Perusal of these reports shows that Farrar was on intimate terms with and thoroughly understood the habits, social customs and requirements of these classes of workpeople. He soon became well known to them and gained their confidence; it was not long before they realized that in Farrar they possessed a good and sympathetic friend, and he became a welcome visitor at their camps and habitations. Since the war he was engaged in a similar investigation in regard to the housing conditions of Scottish fisher-girls at Yarmouth and Lowestoft.

In 1911 he was selected as the British representative on the International Plague Commission in Manchuria. The disease prevailing there was of the fatal pneumonic type; all who were attacked by it died. For his work on this Commission Farrar received no acknowledgement from the Government of China, which was at that time in a state of instability, but he was presented by the local mandarin with a gold medal, and the Chinese gave him a name by which he was popularly known among them. In connexion with this visit to the East he made inquiries for the Local Government Board respecting pork and bacon exported to England, and his report on this subject was published in the official series of the Foods Department.

On the outbreak of war Dr. Farrar was specially concerned in making the necessary arrangements for dealing with Belgian refugees. While engaged in this work he was at Ostend when the German troops entered the town, and it was characteristic of him that although the German cavalry were riding down the streets he remained at the telegraph office until he had communicated with the British general headquarters and had destroyed the instruments before making his escape. In recognition of his services to Belgian subjects he received the Order of the Crown from the King of the Belgians.

He served in the army (Temporary Major, R.A.M.C.) as Specialist Sanitary Officer at Malta 1915–16, till the work greatly increased and was taken over by the permanent service; he then returned to England. During the war a certain number of soldiers contracted malaria on transports bringing troops from New Zealand, Australia, and South Africa, when these vessels called at the West Coast of Africa, and the crews of many merchant ships coming home in convoys that had assembled at the French port of Dakar and at Sierra Leone were also seriously affected with the disease. An Interdepartmental Commission was appointed by the Admiralty to investigate this danger, and certain recommendations were made to deal with it as a matter of urgency. Dakar was practically given up as a port of assembly, and it was decided to utilize Freetown, the port of Sierra Leone, to a much larger extent. But this necessitated active and immediate antimalarial measures to improve the health of the town, and an addition to the local sanitary service, which had been depleted by the war. Farrar was borrowed by the Colonial Office and acted as assistant medical officer of health at Freetown. Comprehensive works of general sanitation and for the destruction of the mosquito were instituted under his direction, and it is probable that during the twelve months that Farrar held office (1918–19) more real and abiding public health work was carried out than in any previous twelve years in the history of the capital of the colony.

In 1920 he visited Austria and Hungary in connexion with the reception into England of children from the famine area of those countries, and he travelled from Vienna to Rotterdam with the train bringing the first batch of these children.

It was something of a shock to him and his colleagues at the Ministry of Health when it was decided last year in consequence of the economy campaign that he should retire at the age of 60, and that the vacancy created should not be filled. Farrar loyally accepted the position and retired from the service, as already stated. He remained at the Ministry for some weeks longer to finish his work as one of the secretaries of the committee appointed to inquire into the causes of blindness.

His restless spirit, however, could not brook "retirement," and he at once sought re-employment which resulted in his appointment to Dr. Nansen's staff. It was his human sympathy with those in trouble and distress that took him to Russia; he was well aware of the dangers and risks of his mission and he accepted them with a cheery optimism. He died, as probably he would have wished to die, in the service of humanity.

His tireless energy found vent in many directions: he wrote in 1904 an excellent biography of his father, he dearly loved a day in the hunting field and a bout with the foils, and until quite recently he played hockey. He spoke French, German and Italian, he acquired a knowledge of the Chinese language during his visit to China, and before he left for Moscow he commenced the study of the Russian language.

Always a gentleman, ready and anxious to assist others and to share their responsibilities, ever the champion of the afflicted, he made many friends. His Bohemian tastes and generous disposition made him a popular member of the Savage Club, where, however, it was realized that his knowledge of the game of bridge was not commensurate with his love of it. A well-known Brother Savage once remarked: "Farrar, when I play with you as a partner I feel like a young man living beyond his income." While his impetuosity and waywardness were at times embarrassing to his colleagues, his obvious sincerity and whole-heartedness of purpose afforded ample compensation; it was quite impossible to be cross with Farrar for any length of time. In a sense he was one of those happy children of Nature who, like Peter Pan, never grow up: he remained a public school boy to the end.

The loss of two of his children during the war, a son killed in action and a daughter through an accident, seriously affected Farrar and somewhat aged him; still he never looked his age. He leaves a widow and two children to mourn his loss, a daughter and a son, who seriously wounded in the war and the recipient of the Military Cross has since taken Holy Orders.

RICHARD J. REECE.

DR. GEORGE STEWARDSON BRADY, F.R.S., died at Sheffield on December 25th. He was born at Gateshead in April, 1832, the eldest son of Dr. Henry Brady; he received his medical education at the University of Durham College of Medicine; he took the diplomas of M.R.C.S. and L.S.A. in 1853 and graduated M.D.Durh. in 1876. He received the honorary degrees of LL.D. St. Andrews in 1889, and D.Sc.Durh. in 1893. He commenced the practice of medicine in Sunderland in 1857, and from 1875 to 1906 was also professor of Natural History at Armstrong College, Newcastle-on-Tyne, being subsequently elected honorary professor. He was elected a Fellow of the Royal Society in recognition of his work with the Challenger Expedition. Dr. Brady was a vice-president of the North of England Microscopical Society and of the Natural History Society of Durham and Newcastle-on-Tyne, and a corresponding member of the Linnean Society, Bordeaux, and of the Academy of Natural Sciences, Philadelphia.

Universities and Colleges.

UNIVERSITY OF OXFORD.

THE following candidates passed in the recent examinations for medical and surgical degrees:

Medicine, Surgery, and Midwifery.—C. C. H. Chavasse, G. Cranstown, C. H. Laver, D. B. Pauw, M. E. Shaw, W. S. Tunbridge. *Pathology.*—W. R. Brain, E. F. Chapman, R. van B. Emmons, H. A. Gilkes, E. H. Koerner, C. R. Lane, W. E. Lupton, J. D. Mills, C. R. Young, Dorothy W. Crook, Constance M. Ottley. *Forensic Medicine and Public Health.*—C. W. C. Bain, P. W. Boobbyer, W. Champneys, J. L. Cox, G. Cranstown, S. Hartley, H. C. Hill, H. P. Hodge, C. H. Laver, D. G. Leys, H. D. Pavière, W. A. Young. *Materia Medica and Pharmacology.*—P. W. Boobbyer, W. R. Brain, A. M. Cooke, A. D. Dyson, J. A. Macfadyean, J. P. Shaw, G. F. Skinner, A. L. B. Stevens, E. B. Strauss, Sibyl R. J. Eastwood, Nancy B. Ockenden, Jean Orr-Ewing.

UNIVERSITY OF CAMBRIDGE.

THE following candidates have been approved at the examinations indicated:

DIPLOMA IN MEDICAL RADIOLOGY AND ELECTROLOGY.—*Part I, Physics and Electrotechnics:* F. T. Burkitt, R. W. Chalmers, J. L. Desai, R. A. Gardner, J. D. Kidd, J. S. Levack, Margaret C. Murphy, W. K. Parbury, L. G. Pearson, J. L. Sen, J. S. Webster. *Part II, Radiology and Electrology:* J. L. Desai, P. M. Desai, R. A. Gardner, A. C. W. Lionarons, L. G. Pearson.

UNIVERSITY OF LONDON.

THE following have been recognized as teachers of the University in the subjects mentioned and at the institutions indicated:

University College: Dr. Charles Singer (History of Medicine).

St. Thomas's Hospital Medical School: Mr. J. E. Adams (Surgery), Dr. E. Farquhar Buzzard (Medicine), Sir Archibald D. Reid, K.B.E., C.M.G. (Radiology), Mr. Zebulon Mennell (Anaesthetics).

Middlesex Hospital Medical School: Mr. Raymond E. Apperly (Anaesthetics), Mr. A. S. Blundell Bankart (Surgery-Orthopaedics), Dr. T. Izod Bennett (Medicine), Dr. Henry MacCormac (Dermatology).

A letter has been received by the Academic Council from the Dean of the London Hospital Medical College intimating that it had been decided to limit admission to that College to men students only in the future.

In connexion with residuary estate of the late Miss F. J. Wedgwood, which was applicable for the benefit of animals, it was reported an Order of the High Court of Justice, Chancery Division, made on May 27th, 1921, had allotted stock of the nominal value of about £3,800 to the University for the benefit of the Brown Animal Sanatory Institution.

The University Medal at the M.B., B.S. examination for internal and external students, October, 1921, has been awarded to Geraldine M. Barry of the London (Royal Free Hospital) School of Medicine for Women.

Mr. A. G. R. Foulerton will give a public lecture at University College on administrative measures for the improvement of the public health, on Monday, February 13th, at 5.15 p.m.

A course of four lectures on the evolution of man will be delivered by Professor G. Elliot Smith, F.R.S., at University College, on Fridays, February 3rd, 17th, and 24th, and March 3rd, at 5 p.m.

UNIVERSITY OF EDINBURGH.

THE following candidates have passed the examination for the diploma of Tropical Medicine and Hygiene:

J. H. Clarke, K. A. Gilchrist, G. J. I. Linklater, Captain N. B. Morris, I.M.S.

UNIVERSITY OF ABERDEEN.

THE following candidates have been approved at the examination indicated:

FINAL M.B., CH.B.—C. A. Aymer, Isabel M. G. Bisset, W. S. Cochar, H. B. Cook, A. J. Curr, Nellie S. Diack, Isabella R. Gordon, J. Grant, W. P. Jordaan, D. F. M'Gregor, *N. M. MacLennan, R. MacLeod, J. W. MacRae, D. Meldrum, *W. J. Meldrum, J. J. Milne, *V. E. Milne, W. G. Murray, J. D. Pole, J. Rannie, C. Reid, H. Ritchie, C. Shapiro, †J. C. Souter, Harriet J. S. Taylor, M. Taylor, V. M. M. Watson, Anne T. West.

* With distinction. † With second class honours.

UNIVERSITY OF ST. ANDREWS.

THE following candidates have been approved at the examination indicated:

FOURTH M.B., CH.B.—*Medicine:* T. K. Buchanan, G. R. M. Cordiner, Katharine D. Macfarlane. *Surgery:* T. K. Buchanan, G. R. M. Cordiner, Nona S. Lesslie, J. N. D. Smith, Margaret H. R. Young. *Midwifery:* G. G. Buchanan, T. K. Buchanan, Katharine M. Campbell, H. Fisher, Phyllis Fleming, Gracie M. McRorie.

The Services.

ARMY OF OCCUPATION BONUS FOR R.A.M.C. OFFICERS IN INDIA.

THE following extract from Army Instruction (India) No. 917, of December 6th, 1921, refers to the grant of the Army of Occupation bonus to Regular, Special Reserve, and Territorial Officers of the R.A.M.C. serving in India:

"In partial modification of paragraph 3 of Army Instruction (India), No. 214 of 1920, it has been decided, with the approval of the Secretary of State for India, that all Regular, Special Reserve, and Territorial Force Officers of the Royal Army Medical Corps who served in India shall be granted the Army of Occupation Bonus in addition to the rates of pay authorized in that Instruction, for the period July 1st to December 31st, 1919."

AUXILIARY R.A.M.C. FUNDS.

THE usual quarterly committtee meeting of the Royal Army Medical Corps Funds was held on December 16th, 1921, at 11, Chandos Street, Cavendish Square. Nine grants were made to cases in the benevolent branch for the orphans of officers, amounting to £605 14s., and twenty grants in the relief branch for widows and children of the rank and file, amounting to £705 0s. 4d.

These funds are for the relief of widows and orphans of commissioned officers, non-commissioned officers, and men of the rank and file of the Royal Army Medical Corps, Special Reserve, Territorial Force, and New Armies, and also for the relief of the children of those who have been so severely damaged in the late war that they need help for the education of children. Requests for relief should be addressed to the Honorary Secretary, at the offices of the funds, 11, Chandos Street, Cavendish Square, W.1.

TERRITORIAL DECORATION.

THE Territorial Decoration has been conferred upon the following officers of the R.A.M.C. (T.A.) under the terms of the Royal Warrant dated October 13th, 1920: Colonel H. T. Samuel, D.S.O., A.D.M.S., Welsh Division. Lieut.-Colonels Charles E. Douglas, V.D. (Honorary Captain in Army), attached 7th Division, Black Watch, and Richard M. West, D.S.O., O.B.E., 2nd North Midland Field Ambulance. Majors G. W. McIntosh, attached 6th Battalion Royal Highlanders, William Dyson, O.B.E., attached 7th Battalion Lancashire Fusiliers (retired), and Eric D. Gairdner, D.S.O., attached 5th Battalion, Royal Scottish Fusiliers.

Medical News.

SIR JAMES KINGSTON FOWLER will deliver an Emeritus Lecture at the Middlesex Hospital Medical School on Friday, January 20th, at 3 p.m. The subject of the lecture is "Diagnosis."

SPECIAL courses of systematic lectures and clinical demonstrations will be given at the National Hospital for Diseases of the Heart, Westmoreland Street, W.1, during January, February and March. The fees are £2 2s. a month or £5 5s. for three months. Further particulars can be obtained from the Dean, Dr. P. Hamill, at the hospital.

AT a meeting of the Society for the Study of Inebriety, in the rooms of the Medical Society of London, 11, Chandos Street, Cavendish Square, W., on Tuesday, January 10th, at 4 p.m., Dr. Charles F. Harford will open a discussion on "Racial aspects of alcoholism with special reference to the coloured races." Members and Associates may introduce visitors.

MR. BASIL HALL, on the completion of his twenty years' period of service as honorary surgeon to the Bradford Royal Infirmary, has been appointed honorary consulting surgeon. The Board of Management has also passed a resolution expressing its most cordial and grateful thanks to Mr. Basil Hall for his valuable services as honorary surgeon, and for the practical interest he has shown in matters affecting the welfare or advancement of the hospital and his strenuous efforts towards the erection of a new infirmary.

THE honorary freedom of Carnarvon has been conferred upon Dr. R. Parry, J.P., a former Mayor of the town, in recognition of his services as a member of the town council for thirty-three years, and of the part he has taken in many local movements; the honour had been previously conferred on seven occasions only.

THE Council of the Röntgen Society is arranging a joint meeting with the Institution of Electrical Engineers and the Electro-Therapeutic Section of the Royal Society of Medicine to be held before the end of the present session. Particulars will be announced as soon as definite arrangements have been made.

COLONEL W. W. O. BEVERIDGE, C.B., Professor of Hygiene in the Royal Army Medical College, Millbank, was recently elected a foreign correspondent, and Sir Ronald Ross, K.C.B., F.R.S., a foreign associate of the Académie de Médecine.

DR. H. J. W. MARTIN is retiring from Mill Hill after thirty years' practice there. He and Mrs. Martin were recently presented with a cheque for £468 and a portfolio containing the names of the 560 contributors to the gift.

IT is proposed to make St. Luke's International Hospital, Tokyo, the nucleus of a medical centre comprising a hospital of 250 beds, a training school for 150 nurses, a post-graduate department for training resident medical officers, and for medical research work, a public health department to include medical social service, and a library of British and American medical literature.

THE second Hunterian Society Lecture will be delivered by Mr. Walter G. Spencer, F.R.C.S., on "Some local results of dental infection," at Sion College, Embankment (close to Blackfriars Bridge), on Wednesday, January 11th, at 9 p.m. All members of the medical profession are cordially invited to attend.

AT the last meeting of the executive of the National College of Teachers of the Deaf, Mr. Macleod Yearsley and Dr. Kerr Love were unanimously elected vice-presidents of the college in recognition of their work among the deaf and the valuable assistance they have rendered the college for a good many years past.

THE *Journal of Orthopaedic Surgery* (Boston, U.S.A.) announces that in January it will become a quarterly publication under the name of the *Journal of Bone and Joint Surgery*.

DURING October 1,371 fatal cases of plague occurred in Java, as compared with 1,110 in September, 928 in August, and 439 in July.

DR. N. ANTONI, of Stockholm, has been awarded the Lennmalm prize for 1921 by the Swedish Medical Association; he is the author of a number of important works on clinical neurology.

Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.*

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2630, Gerrard.

2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.

3. MEDICAL SECRETARY, *Mediocra, Westrand London;* telephone, 2630, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin;* telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

CONGENITAL DEFORMITY OF TOE.

"W. G. P." asks for information as to the treatment of congenital hammer toe, the third toe, both feet, in a baby 8 months old, both toes are buried by those on either side.

*** We presume that in our correspondent's case the condition is one of congenital flexion and not a true hammer toe. If the malformation is not severe it can probably be corrected by gradual extension on a splint. This should be a T-shaped splint of malleable metal such as duralumin, which can be shaped by the fingers to the control of the plantar surface of the metatarsus and of the toe and fastened with bandages and strapping. This should be worn night and day, but removed frequently for manipulations and in order to see that there is no undue pressure. Sloughing is easily produced if care is not taken. If the case is too severe for this treatment to succeeed excision of a wedge from the dorsal surface (including articular surface) of the end of the first phalanx may be done at 2 years old. Such cases should be treated in splints as soon after birth as possible. When the child begins to walk he or she should have sandals with slots for tapes to tie down the toe on a pad under its end.

INCOME TAX.

"H. S." commenced practice in April, 1919, and has been assessed for his second year (1920–21) on the average of the profits of that year and the first year.

*** We see no justification for that procedure. If "H. S." succeeded to a practice then the statutory basis of assessment would be the average of the last two years of his predecessor and his own first year, subject to the right to an adjustment at the end of the year to the actual profits of the year. If, on the other hand, the practice is a new one then the income is assessable for the second year, 1920–21, on the basis of the ascertained profits for the first year 1919–20.

"C. M. S." inquires whether there is not some additional allowance to which he is entitled on the ground that his wife earns income to the extent of £100.

*** Yes; in addition to the 10 per cent. earned relief on the £100, there is the claim to a separate additional personal allowance up to a maximum of £45, to which "C. M. S." is apparently entitled.

"T. G. E.," who is doing Pension Board work, has recently started in practice as a radiologist and electrotherapist. So far the expenses of his practice exceed the receipts. He asks whether he can set off the loss against the fees from pension work.

*** The fees are assessable separately, and *as a matter of assessment* the loss cannot be deducted. But our correspondent is entitled at the end of the year of assessment to an adjustment in respect of the tax paid by him as against the amount that would have been payable if the loss for that year had been deducted. Two points should, however, be borne in mind: first, that cash receipts only may not represent the full "income" of the new practice, and second, that an amount of loss allowed for at the end of the year cannot be brought into future averages as a minus quantity.

LETTERS, NOTES, ETC.

THE MEDICAL ASPECT OF RELIGIOUS REVIVALS.

DR. J. BOYD PRIMMER (Cowdenbeath) writes: Might I suggest a probable reason why the present hectic "revival" in Eyemouth and Fraserburgh, like several which have preceded it, is practically confined to fishermen? To the medical mind consanguinity, or a bad family history intensified by it, suggests itself as a predisposing cause. Intermarriage is prevalent amongst these people, with consequent physical defects and deterioration of mind, rendering them liable to neuropathic disorders. Revivals are invariably accompanied by hysteria—witness similar outbursts in the Welsh valleys, where, I believe, like conditions exist, including consanguinity: each revival produces its crop of religious mania and hysteria amongst those of a neurotic tendency, particularly females. In the case of the fisher folk the males also, being naturally superstitious, are more apt to be carried away by the high tide of emotion, especially when of a religious nature, thus rendering them prone to add sundry embellishments, as did their predecessors at the dawn of the Christian era. Much could be said also for the peculiar psychology of the crowd as a contributory factor. "Your sons and your daughters shall prophesy, your old men shall dream dreams, your young men shall see visions," wrote a prophet of old. So it is to-day where emoticnalism prevails. Some of the Scottish fishermen, to quote an authentic report, actually "have withdrawn the insurance from their boats, and refused to work or pay their debts, in the belief that the end of the world is at hand." But, alas! instead of receiving a call from on high, they are in danger of being served with a summons to the county court. As Savill says in his *Clinical Medicine*, "delusions, especially on religious subjects, are not at all uncommon in the so-called sane. But when these delusions modify the acts or conduct of the individual and lead him to act in an unusual manner the condition becomes one of insanity."

AN EIGHTEENTH-CENTURY ADVERTISEMENT.

DR. W. HABGOOD (Sutton, Surrey) sends the following advertisement which he has found in the *St. James's Chronicle or British Evening Post* for Tuesday, April 19th, to Thursday, April 21st, 1768. It occurs at the bottom of the last column of the front page, and is not distinguished in form from the other news of the day. We are glad to note that the advertiser's name does not look English. The advertisement is as follows:

> "Dr. Kolfe, at No. 3, near Orange Street, in St. Martin's Street, Leicester Fields, opposite the Blackamoor's Head, takes the liberty to acquaint the public of his discovery of a remedy which radically cures Fistulas of all sorts, the most complicated, without the least operation by any instrument in fifteen or eighteen days. He possesses a vegetable essence which dissipates in less than two minutes the most violent headaches of all kinds, by means of eighteen drops of this essence rubbed with the hand upon the afflicted part, or by taking it up the nostrils. The price of a phial 6s.
>
> He composes a natural balsam which dissipates in a quarter of an hour, or less, the most violent pains of the Gout. This remedy does not make it remount, but fixes it, by correcting the acrimony of the humour, and by relaxing the vessels. The author will communicate with the remedy the method of using it, and offers personally to attend such persons as doubt of the efficacy of this sovereign remedy, and will cure them of the pain while he is present. He likewise radically cures rheumatisms of all kinds, schirrous tumours, disorders of the skin, chronical diseases, consumptions, ruptures, and likewise all maladies incident to the ladies. Venereal complaints are likewise cured in a manner peculiar to himself with the greatest facility and convenience to the patients. He may be seen any morning as above, where his medicines may be had at all hours."

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 28, 29, 32, and 33 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 30 and 31.

THE following appointments of certifying factory surgeons are vacant: Girvan (Ayr), Shaw (Lancs), Redditch (Worcester).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Six lines and under	0	9	0
Each additional line	0	1	6
Whole single column (three columns to page) ...	7	10	0
Half single column	3	15	0
Half page	10	0	0
Whole page	20	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

A British Medical Association Lecture

ON

SPECIFIC SENSITIVENESS AND ANAPHYLAXIS.*

BY

H. H. DALE, C.B.E., M.D., F.R.S.,

HEAD OF THE DEPARTMENT OF BIOCHEMISTRY AND PHARMACOLOGY, MEDICAL RESEARCH COUNCIL.

You have honoured me with an invitation to lecture to you on some pharmacological subject. I have never felt able to attribute a rigid significance to those divisions which, for our own convenience, we make in the body of medical science, and I shall venture to assume that the form of your invitation merely indicated that you were good enough to desire that I should speak on some subject in which my own work has given me a direct interest. I propose to devote my remarks to a subject which seems, at the moment, to have a great and growing interest for workers in clinical medicine—namely, the group of specific idiosyncrasies, which definitely includes hay-fever, many cases of spasmodic asthma, and specific urticaria, and seems destined to extend its boundaries to include many cases of eczema, and, in the view of some enthusiasts, epilepsy, and various other conditions. The clinical study of these conditions, for which most general practitioners have daily opportunities, I can only approach as an interested outsider. Fortunately there are several recent and readily available publications dealing comprehensively with this side of the question. Dr. John Freeman lectured on the subject to the Royal Society of Medicine, Mr. Frank Coke to a meeting analogous to this, and at the annual meeting of the British Medical Association last July illuminating discussions were opened by Sir Humphry Rolleston and Dr. Harold Barber. The clinical investigation of these conditions made rapid strides in the United States of America during the war, and the publications of Chandler Walker, Ramirez, and others abound in interesting detail. My object is to endeavour to put before you the conception as to the meaning of those phenomena to which experimental evidence seems definitely to point.

For the experimental basis of any conception which we may form of these manifestations of specific sensitiveness or idiosyncrasy we must look to the investigation during the past fifteen years of the phenomenon known as anaphylaxis. I shall make no attempt at a review of the confused and wellnigh overwhelming mass of literature which has accumulated round this phenomenon. I shall not even try to put before you the various theories as to its meaning, with the points of evidence for and against them. I shall, quite frankly, put before you, and commend to your acceptance, the theory which alone seems to me adequate, secure in the conviction that it is the only one that can enable you to bring the facts of clinical experience into coherent relation with those of laboratory experiment. It is fair that I should state that there are still many who do not accept the view which I shall put forward; but I believe I shall do you a greater service by presenting one clear and consistent scheme, than I should by introducing a confusion of rival theories.

The First Recognition of Anaphylaxis.

The first recognition of anaphylaxis as a definite phenomenon was due to Richet. He was working on the substance to which sea-anemones owe their stinging properties—a subject which might seem almost peculiarly remote from the problems of general pathology and practical medicine, though you will note that the effect of the poison, in common experience, was to produce a reaction of an urticarial type, where locally inoculated by the thread-cells of the animal. Richet determined the toxic dose of a preparation for dogs, and, having given a subtoxic injection to a dog, he gave the same animal a second similar injection a few weeks later, with the object of producing an immunity to the poison. The result, on the contrary, was an immediate and violent reaction, with flushing and irritation of the skin, vomiting, purging, haemorrhage from the intestine, and profound collapse. As he was working with a substance which, in larger doses, produced a reaction of somewhat similar though less rapid type in the normal dog, Richet naturally supposed that the condition which he had accidentally produced was an artificially lowered resistance to the natural poison, the direct opposite of immunity or prophylaxis, and he named the condition "anaphylaxis."

The True Meaning of the Phenomena.

The name "anaphylaxis" has persisted and has passed into general use in medical literature, though it soon became clear that the conception which gave rise to it was not altogether correct. Evidence quickly accumulated which showed that any perfectly harmless protein, provided that it came from a species other than that of the animal into which it was injected, also behaved as an acute poison when it was injected a second time into an animal which, some weeks previously, had received an injection of the same substance. This phenomenon, indeed, had been observed and incidentally recorded by Magendie as long ago as 1839, and by several observers in the intervening period. Only after Richet's work, however, was it systematically studied and recognized as a regularly occurring phenomenon. The symptoms produced by reinjection into an anaphylactic animal were found to be the same, whatever the protein to which it exhibited this abnormal sensitiveness, though they differed according to the species of animal used for the experiment. The guinea-pig, in which the phenomenon was practically rediscovered in America, was found to exhibit the condition with great regularity, and has been the subject of a large proportion of the experimental investigations.

Anaphylaxis, then, is not to be regarded as a weakened resistance to a natural poison; it is rather a condition produced by previous introduction into the system of a foreign protein, in which the same protein, but not any other, acts on subsequent injection as an acute poison, whether it has normally any poisonous properties or not.

The Relation of Anaphylaxis to Immunity.

Anaphylaxis, though superficially so different, soon proved to have many points in common with immunity. The condition, we may say with certainty, is due to the formation of some kind of antibody. In the guinea-pig the specific sensitiveness can be transferred to a fresh animal by injecting the blood or serum of one which has been made actively sensitive; there is a "passive anaphylaxis," due to the transfer of ready-formed antibody, and corresponding to passive immunity. But there are features of this passive anaphylaxis which seem, at first sight, paradoxical. It does not appear immediately, even when the serum containing the antibody is injected directly into the circulation. It is not perceptible until some six hours have elapsed, and not completely developed for twenty-four hours. We can understand why, after a first injection of a protein, a period of ten days or a fortnight must elapse before the animal becomes sensitive; as in the better known reactions of immunity, time is needed for the response leading to the formation of antibody. But when the antibody is ready formed, one would expect the condition which it produced to appear immediately after its injection into the blood, and to be then at a maximum.

There is another paradox. Not only the serum of an anaphylactic animal will convey anaphylaxis; that from an animal immunized against a foreign protein, by a series of properly spaced injections, will convey this passive anaphylaxis even more efficiently—that is, in a much smaller dose. If we take a rabbit and give it a series of injections of, say, egg albumen, its serum develops a precipitin—that is to say, it acquires the property of forming an obvious precipitate when mixed with egg albumen in very high dilutions. Now a very small dose of the serum of such a rabbit, injected into a normal guinea-pig, will make the latter within twenty-four hours acutely anaphylactic to the normally innocuous egg albumen. There are strong reasons for identifying the so-called precipitin with the anaphylactic antibody; yet the serum of a guinea-pig made actively sensitive to a protein forms no visible precipitate with that protein, while the animal whose serum has acquired a high precipitating quality for a protein is not anaphylactic to it, but immune.

As so often happens, these seeming contradictions probably provide the real clue to the nature of the phenomenon with which we are dealing. Weil studied the fate of the precipitating antibody, injected into a normal guinea-pig, during the twenty-four hours which elapsed before the animal became fully sensitive. He found that it rapidly disappeared from the blood, and that when sensitiveness was fully developed the antibody had nearly all vanished. If the

* The substance of a lecture delivered to the Sheffield Division of the British Medical Association.

animal, which had thus become acutely sensitive to a foreign protein, received a further large injection of the serum containing precipitin for that protein, the immediate effect was not to enhance but to suppress the sensitiveness. Antibody freely circulating in the blood was therefore not sensitizing, but protective in action; the antibody must be somehow changed, or must be differently located, before it could render the animal sensitive.

A satisfactory interpretation of these facts would be provided by the supposition that the antibody must get out of the blood and into the living cells of the tissues before it can render the animal sensitive. On this supposition the occurrence in the living cell protoplasm of an aggregation of its colloidal particles, of a reaction analogous to the precipitin reaction of an immune serum, as seen in a test tube, would constitute the poisonous action. The fact that the animal is violently and even lethally poisoned by a normally innocuous protein would be explained by the fact that an antibody, which in contact with that protein forms a precipitate, is located in the cells of vital organs. This is the view which commends itself to me; but, before presenting to you some more direct evidence in its favour, I must give some further details as to the nature of the poisonous action.

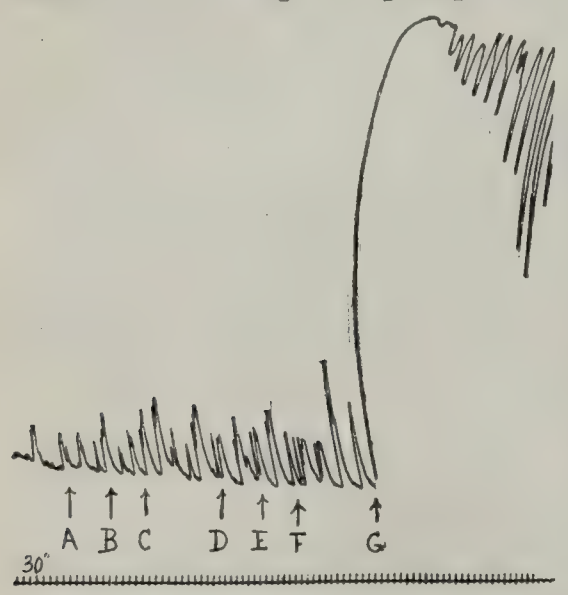


FIG. 1.—Shows the specificity of the reaction. The plain muscle was taken from a guinea-pig rendered sensitive to horse serum by an injection of 0.0025 c.cm., given fourteen days previously. The doses added to the bath were in each case 0.1 c.cm., making a concentration of 1 in 2,500 of A sheep serum, B cat serum, C rabbit serum, D dog serum, E human serum, F egg white, and finally at G horse serum. (From the *Journ. of Pharm. and Exp. Therap.*, iv, p. 214.)

The Nature of the Symptoms.

I have said that, whatever the protein producing the condition, the picture of the anaphylactic poisoning is practically constant in the same species. In the different species the symptoms are superficially very dissimilar. When the protein is injected intravenously, the guinea-pig which is anaphylactic to it dies in a few minutes, and in an extraordinarily dramatic manner, the cause of death being a tense contraction of the plain muscle surrounding the bronchioles, which in this species are small in diameter and provided with a rich and folded mucous membrane. The rabbit dies of right-sided heart failure, due to excessive resistance developed in the branches of the pulmonary artery. In the dog the central feature of the effect is a collapse of the circulation, with accumulation of a large part of the blood in the enormously distended liver. Certain changes in the blood are present, though in varying degrees, in all the species—leucopenia and delayed coagulation, changes which are associated with the action of any poison injuring the vascular endothelium. In all, recovery from an attack is associated with eosinophilia. Superficially the general aspect of the shock is very different in these three species, but when we come to analyse the effects we find in all cases a complex, of which the essential features are an intense stimulation of plain muscle and a poisoning of the endothelial wall of the blood capillaries. One or other of these effects predominates, and is locally prominent, according to the special conformation or liability of the tissues in the different species; but fundamentally the action is of the same kind in all. The view that we are dealing with one common type of poisoning, as exhibited by these different species, is confirmed by the observation that there is a whole group of natural poisons, partial cleavage products of proteins, formed by bacterial or other ferments, which produce these same pictures of intoxication, with the same striking differences, in the different species. Among such bodies I may mention the base known as histamine, a base easily derived from the amino-acid histidine, which is a constituent of almost all proteins. Laidlaw and I some ten years ago described the intense activity of histamine, and drew attention to the fact that in each species it produced a picture of intoxication resembling that seen in the anaphylactic shock. This has led some observers to suggest that histamine is actually formed in the anaphylactic animal, when the protein to which it has been sensitized is again injected. A suggestion of the part played by histamine in such phenomena appears again, as we shall see, in connexion with current views as to the nature of asthma. I have never been able to accept such a view of the events in the anaphylactic shock, or any other which attributes the symptoms to the formation of a poisonous product in the blood, and the action of this as the directly toxic agent. All such views are, for me, excluded by the simple fact that simultaneous injection of the antigen and the antibody concerned in the anaphylactic reaction, so that they meet in the blood, has no perceptible effect of any kind. So far as I am able to judge, the simple view that the anaphylactic condition is due to location of the antibody in the cells of the vital tissues, where its reaction with the antigen is the cause of the symptoms, suffices to account for all the phenomena which can with certainty be regarded as anaphylactic.

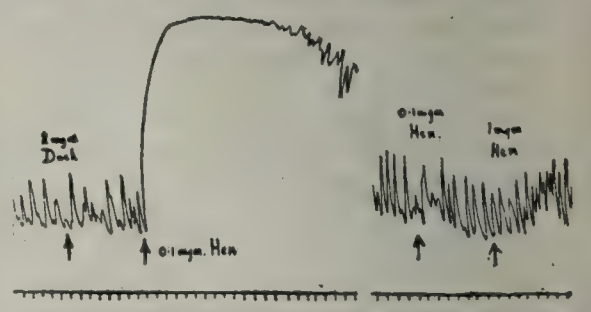


FIG. 3.—Shows that the reaction discriminates between the pure egg albumen of the hen and the duck. Guinea-pig sensitized with 1 mg. of pure hen albumen twenty-one days previously. No response to duck albumen. After the first effective dose of hen albumen the plain muscle is desensitized, and no longer responds to this substance, even in a ten-fold dose. (From the *Biochemical Journal*, xiii, p. 253.)

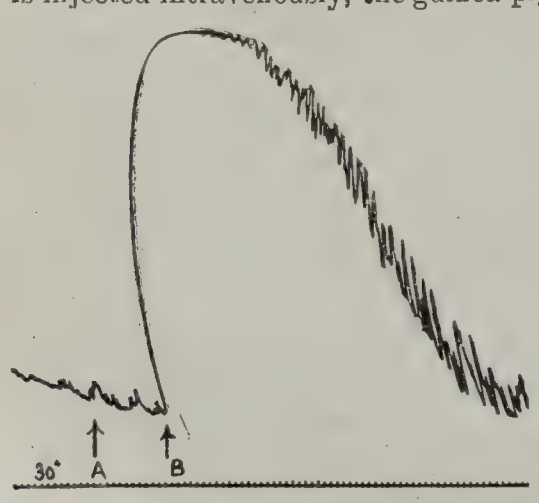


FIG. 2.—A similar experiment, the guinea-pig being made sensitive to egg white by an injection of 0.1 c.cm. twelve days previously. At A 0.5 c.cm. horse serum, at B 0.1 c.cm. egg white. (From the *Journ. of Pharm. and Exp. Therap.*, iv, p. 180.)

Direct Evidence of Cellular Sensitization.

Returning to a consideration of this simple conception, we have seen that a characteristic feature of the anaphylactic reaction, in the guinea-pig especially, is stimulation of plain muscle. If the effect is due to antibody fixed in the cells, we ought to find that the plain muscle of an actively anaphylactic guinea-pig, removed from the body and freed from all blood, will respond by contraction to application of the protein to which the guinea-pig was sensitive, but not to any other. We ought to find that plain muscle from a guinea-pig rendered passively sensitive behaves in the same way. We ought further to find that the same antibody as conferred the sensitiveness, if present in excess in the fluid surrounding the plain muscle, will protect it from the protein to which it has been made sensitive, so that it no longer responds. In other words, we should be able to make *in vitro* artificial combinations corresponding to the conditions of active and passive anaphylaxis and of true immunity.

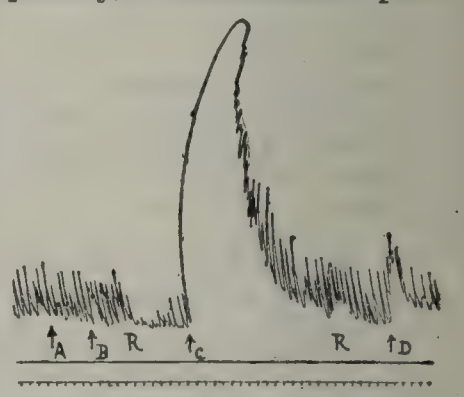


FIG. 4.—Shows that the reaction discriminates between individual proteins of the same serum. The guinea-pig was sensitized with 1 mg. of the euglobulin of horse serum thirteen days previously. At A and B 1 mg. and 10 mg. of the pseudoglobulin of horse serum were added to the bath without effect; at C 10 mg. of the euglobulin of the same serum were added. (From the *Biochemical Journal*, x, p. 422.)

There is another condition, which we ought to be able to illustrate in such experiments, and which I want clearly to differentiate from immunity—namely, the condition which

has somewhat clumsily been called "antianaphylaxis," and which I should prefer to call "desensitization." When a sensitive guinea-pig is given a sufficient dose of the antigen to cause symptoms, but not death, especially if the antigen is slowly introduced, so that the dose can be relatively large without killing the animal, it is found on recovery to have lost its sensitiveness, and to remain normally insensitive for a week or so. The antibody which its cells contained has been used up; more must be formed and fixed to the cells before the guinea-pig is again anaphylactic. Contrast this with the condition which I have called "true immunity," in which plenty of antibody is present, but in such excess in the body fluids as to catch the antigen and put it out of action before it can reach the sensitive cells.

Now it is very simple to demonstrate all these phenomena on a slip of plain muscle taken from the guinea-pig after death. This is carefully freed from all traces of blood or serum by perfusing Ringer's solution through its vessels, and it is then suspended in a small volume—100 c.cm. or so—of clean Ringer's solution, kept at body temperature, and saturated with oxygen. To this bath the antigen can be added, and the response of the strip of plain muscle recorded by fixing one end and attaching the other to a light lever, writing on a slowly revolving drum. The tracings show the ease with which the various phenomena can be demonstrated; they are taken from a series of papers which I have published since 1913.* (See Figs. 1 to 5.)

You will agree, I hope, that these figures give direct support to the conception that anaphylaxis is due to sensitization of the cells by the presence in them of the precipitating antibody, excess of which in the surrounding fluid protects the sensitive cells and constitutes an immunity.

Non-specific Sensitiveness and Non-specific Desensitization.

So far we have been dealing with the experimental phenomenon of anaphylaxis as seen in the laboratory, and, before leaving it, there is one other point which I want to make clear, as it has some bearing on our further discussion. We have seen that the anaphylactic sensitiveness is highly specific, discriminating between similar proteins from different species, and even between different proteins from the same species. But the animal which is highly anaphylactic, whatever the protein to which it has been made sensitive, shows also some degree of enhanced sensitiveness to naturally poisonous substances, having a type of action resembling that seen in the true anaphylactic response. The upholders of the alternative theory, which supposes that the anaphylactic shock depends on the formation of a poison in the blood, have shown that normal guinea-pig's serum, when treated with various colloids and suspensions, acquires a toxicity of such a kind that it kills a normal guinea-pig with symptoms more or less closely resembling those of the anaphylactic shock. To such a toxic serum the anaphylactic guinea-pig usually exhibits an abnormal sensitiveness, so that the cell protoplasm would appear to have acquired a more general instability, an increased liability to this kind of toxic disturbance, in addition to its highly specific idiosyncrasy of reaction to one, normally harmless, protein in particular.

In this connexion also mention should be made of another point of contact between true anaphylaxis and non-specific intoxications. We have seen that the anaphylactic guinea-pig, which recovers from the effects of reinjection, is desensitized for a week or so. An anaphylactic guinea-pig, which recovers from a non-fatal dose of one of the natural poisons producing similar symptoms, is found to be less sensitive to its specific antigen than another, similarly sensitized, but not treated with the non-specific poison. The full sensitiveness is, in this instance, recovered in twenty-four hours or so, and there is no evidence as to whether the temporary loss of sensitiveness is due to detachment of antibody from the cells, or to formation of some substance which inhibits aggregation in the protoplasm. The phenomenon is worthy of note, as having its parallel in a certain method of treatment, as we shall see later.

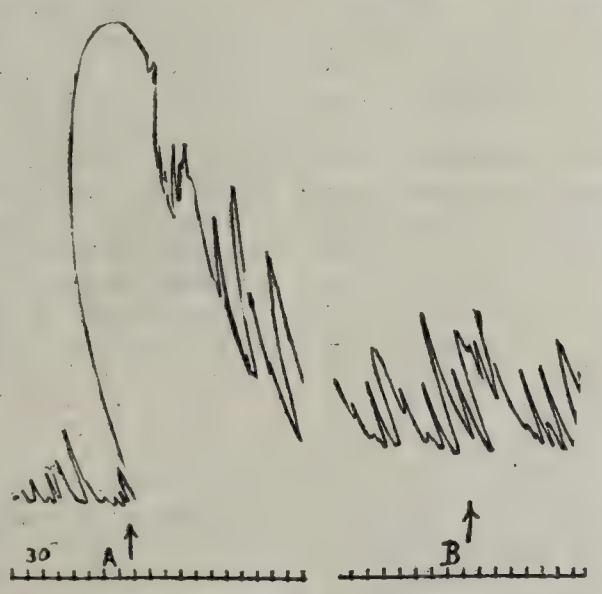


FIG. 5.—Plain muscle from a guinea-pig which has been rendered *immune* to horse serum, showing that, when washed free from the protective excess of antibody in the blood, it is sensitive, like that from the anaphylactic animal. At A 0.5 c.cm. of horse serum was added to the bath; at B, 0.5 c.cm. of sheep serum. (From the *Journ. of Pharm. and Exp. Therap.*, iv, p. 194.)

Anaphylaxis in Man.

Turning now to a more practical aspect of our problem, we have to inquire what bearing these phenomena, exhibited by guinea-pigs and other animals in the laboratory, have upon conditions seen in man. The first and most obvious application is to the effects of injecting horse serum into human patients. You will be familiar with the fact that a certain proportion of patients, as the result of a first injection of horse serum, exhibit, after an interval of some ten days, a reaction which has many features suggesting that we may be dealing with an anaphylactic phenomenon. The commonest symptoms point clearly to an injury of capillary endothelium, leading to urticaria, swelling or pain in the joints, and sometimes facial oedema, accompanied by constitutional disturbance. The latent period of some eight to ten days is highly suggestive; it is the interval needed in the guinea-pig for the appearance of the anaphylactic condition. We are led to suspect that in this interval an antibody has been produced and located in the tissue cells the sensitiveness of which gradually rises, till reaction with some remnant of the original dose of horse-serum protein causes the outbreak of symptoms. The suspicion is strengthened when we consider the result of a further injection into such a patient, at an interval of months or even years. The phenomena have, fortunately, not that certainty of production to which we are accustomed in the guinea-pig, but a certain number of patients receiving such a second injection give a reaction of a much more clearly anaphylactic type. The onset is almost immediate in the neighbourhood of the hypodermic injection, and within a short time a general dermal and constitutional reaction of much greater than normal severity appears. Oedema of the glottis may occur, and, of course, be a dangerous feature of the condition. In a number of cases where such a second injection has been made intravenously the result has been rapidly fatal. Here we have quite obviously the conditions which, in other animals, have been found to produce a typical anaphylaxis, and there can be little doubt as to the nature of the phenomena with which we are dealing. Fortunately it is clear that the anaphylactic condition is produced in man with nothing like the fatal regularity with which it appears in some of the animals used in the laboratory. If there is reason to suspect its presence, a small hypodermic injection of the serum should reveal it without dangerous symptoms, and at the same time begin the desensitizing process, which must be completed by carefully graded intravenous doses before a large intravenous injection can be undertaken with safety. When we bear in mind that, after the first year of the late war, practically every wounded man in our armies received an injection of antitetanic horse serum, and that a large number must subsequently have received treatment by an immune horse serum of one kind or another, the paucity, in relation to the total number, of reports of dangerous or fatal anaphylactic shock seems to indicate that such sensitization in man is the exception rather than the rule.

Indeed, of the total number of fatalities recorded as the result of injecting horse serum into man, a surprisingly large proportion have occurred after injections into patients who have never received serum before—into patients, that is to say, who had a natural sensitiveness to horse serum of an intensity but seldom appearing as the result of a preliminary injection. A large proportion of such cases, again, has occurred in subjects of asthma: but I am not aware of any data which would entitle us to connect them definitely with an asthma due to horse sensitiveness. It would certainly not be surprising to find such a connexion established. This leads us to another part of our subject, but before

* Records were also exhibited, which will be published shortly by Dale and Kellaway, showing that the anaphylactic plain muscle can be protected from the effect of the antigen by adding to the saline bath an excess of the antibody which was used to sensitize it passively.

leaving the question of serum sickness I should like to mention one further point of some theoretical interest. There are numerous records of more than one rash following a single injection of horse serum, the rashes following one another with an interval of a few days. I have searched and inquired, but have found no record of more than three such distinct rashes in one patient following a single injection. Now, there are three distinct proteins in horse serum, and it is possible in the guinea-pig to produce a separate sensitiveness to each; and these do not develop simultaneously, but at different intervals from the primary injection.

Naturally Occurring Specific Sensitiveness ("Toxic Idiopathies").

Turning now to the question of the different types of specific sensitiveness, which appear to be inborn or to develop spontaneously in some human subjects, the case of hay fever or hay asthma seems fairly clear. It is common ground that we have, in this case, a cellular sensitiveness to the proteins of certain pollens which are easily borne on the wind. In this country grass pollens are chiefly responsible; in the United States they have a second outbreak of a similar condition in the autumn, due to the pollen of a composite, the ragweed, which is very abundant there. The work of Noon, Freeman, and others has shown that the sensitiveness is not restricted to the conjunctiva and respiratory mucosa; the reaction occurs in these regions especially, because the proteins of the pollen can there easily reach the sensitive cells. A typical urticarial wheal is formed on the skin, however, if the pollen is applied to a lightly scarified area; and Freeman, by getting a subject of hay fever to ingest grass pollen, produced in him a vigorous diarrhoea. The skin test can be used to discover the species of pollen to which the sensitiveness and the attacks are due.

Very much on the same footing are the numerous cases of asthma which, by investigations in recent years, have been proved to be excited by the inhalation of minute quantities of material originating from some particular species of animal—horse, cat, or dog being, apparently, the commonest culprits. The substances exciting reactions of this type are mostly particles of epidermal origin—hair or scurf from the skin—and the patients give a specific skin reaction to proteins extracted from the material responsible and applied to a minute, very superficial cut. Usually, but not always, the patient sensitive to the epidermal structures shows also a sensitiveness to the blood serum of the same species. It is hardly a matter for surprise, therefore, that there are cases on record in which asthmatic patients have exhibited a fatal sensitiveness to horse serum, injected with a therapeutic or prophylactic aim. Many cases have been brought to light in which asthma, coming on at night, was associated with a sensitiveness to chicken feathers, and disappeared when a pillow stuffed with horsehair or vegetable fibre was substituted for a feather pillow.

Now, cases of this kind present many points of close similarity to the condition of artificial sensitiveness or experimental anaphylaxis. An objection to their identification has been raised on the ground that the so-called natural idiosyncrasies cannot be passively transmitted. I admit that such an objection would be fatal if we were to adopt the humoral theory of anaphylaxis, attributing the condition to the presence of an antibody in the blood, with which the antigen there reacts. But on the theory which I have commended to you, which attributes sensitiveness to an antibody present in the cells, the objection has little weight. It is true that anaphylaxis can be transferred from the anaphylactic to a normal guinea-pig, at a time when the anaphylactic condition is newly developed. But after an interval of months from the primary injection, though the sensitiveness is still acute, passive transfer often fails; the antibody has practically disappeared from the blood. We have only to regard these cases of human sensitiveness as extreme examples of this condition—and the sensitiveness is, indeed, often of an extreme order—in which the antibody, if it ever was in the blood, has usually become located exclusively in the cells, to bring the two kinds of phenomena fully into line. There are, moreover, a few cases on record in which the blood was by no means free from antibody. Ramirez records a case in which, after receiving a transfusion of blood from a fellow patient, who happened to be a subject of horse-sensitiveness, a patient was seized with asthma, for the first time in his life, on going for a drive in a horse-drawn carriage during his convalescence.

When attacks of asthma or urticaria, or both, are excited by the ingestion of certain articles of animal or vegetable food, another difficulty of explanation presents itself. The cases present similar phenomena of specificity, and respond as well to the diagnostic skin reaction as the former class. But it is contrary to experience in experiments on anaphylaxis that the symptoms should be excited when the protein is swallowed, and, therefore, has to run the gauntlet of the digestive juices before absorption. I believe the fact to be that we do not, by experimental procedures, succeed in producing such extreme sensitiveness as that which appears in certain human patients. Even the minute traces of unbroken protein which pass the alimentary mucosa, possibly owing to some fault of digestion or absorption, seem sufficient, if they are of the specific kind responsible for the condition, to cause an outbreak of urticaria or an attack of asthma. Sensitiveness to the proteins of certain molluscs and crustaceans, or of certain fruits, such as the strawberry, is not uncommon. They cause little trouble, since the patient learns that he cannot tolerate these foods, and avoids them. When the sensitiveness is directed to a protein occurring in some common article of diet, such as wheat, egg, potato, or milk, the cause of the condition is often not identified by the patient, and requires a skin test for its detection. Even when the diagnosis is complete, treatment by elimination of the offending protein from the diet may present great practical difficulty.

Other Features Concerned in Asthma and Similar Conditions.

Time alone can show what proportion of the cases of spasmodic asthma and urticaria will ultimately be referable to this type. At present the tendency is for the proportion to increase, as investigators gain experience in the application of the specific tests, and have a growing range of animal and vegetable proteins under suspicion and available for use. There are other factors, however, which are generally credited with importance, and which are often regarded as incompatible with the conception of the condition as due to sensitiveness to a foreign protein.

One such factor is heredity; but it is clear, from some interesting family trees published by Freeman, that the inheritance is not of sensitiveness to a particular protein, or even of a certain type of reaction, but of the tendency to acquire some kind of idiosyncrasy for foreign proteins. A father subject to hay fever may have among his children one suffering from horse-asthma and another from some idiosyncrasy to a particular food, and so on. If the inheritance is simply of the tendency to respond, by forming cellular antibody, to some chance parenteral introduction of a trace of foreign protein, the hereditary tendency is in no way inconsistent with the conception which we have been discussing.

Another factor in the causation of asthma or hay fever which has also been regarded as inconsistent with the theory of sensitization by foreign protein is that of neurosis. Many cases are on record in which the sight, or even the mental image of the supposed source of the sensitizing protein, without any possibility of its actual presence, has been sufficient to induce an attack—the sight of an artificial rose, a film at the picture palace representing hay-making, or, in a case recorded by Freeman, a vivid description of a field of mustard in flower. I have already disclaimed any experience of clinical matters, but as an experimental worker, who has read something of Pavlov's more recent work, I find it difficult to believe that any real incompatibility exists between such phenomena and the view that the condition has its origin in specific sensitization to foreign protein. We know from Pavlov's work that in a dog, an animal of relatively simple psychical development, it is possible, by daily association of a sound or a skin stimulus with food or acid in the mouth, to produce a new psychical reflex, so that the sounding of the note or the stimulation of the prescribed skin area now suffices by itself to evoke a secretion of saliva. I do not think it is difficult along such lines to suppose that a man who has become sensitive to rose pollen, and has had repeated experience of an association between the presence of roses and suffocating constriction of his bronchial tubes, might ultimately develop a new reflex, connecting the visual image of roses with the nervous control of the bronchioles, so that the sight of an artificial rose would eventually suffice to excite an attack of asthma.

There are, I gather, other cases of asthma in which the attacks seem to be excited by some non-specific chemical stimulus—in which, for example, a digestive disturbance,

a mild enteritis, however produced, is sufficient to produce an attack. It would appear that in such cases the absorption of poisonous cleavage-products of proteins may be the exciting cause, and even histamine has been held by some writers to be responsible. If you have in mind what I stated, in dealing with experimental anaphylaxis, concerning the generally enhanced sensitiveness of the anaphylactic animal to poisons of this type, you will find no difficulty in reconciling the occurrence of such attacks with a specific, anaphylactic origin of the asthmatic condition, in the patient in whom they occur. Nor should the evidence brought forward by Auld and others, as to the improvement of such patients under treatment with small injections of poisonous protein derivatives, such as Witte's peptone, present much difficulty of interpretation, if you remember my statement that the anaphylactic guinea-pig can be partially desensitized by a similar non-specific intoxication.

I am by no means suggesting that every case of so called asthma is of the anaphylactic type. Even if the so-called cardiac asthma and renal dyspnoea are excluded, I imagine that there are many cases in which the symptoms are asthmatic, but which have a different origin altogether. When the question is raised of sensitization to the proteins of infecting organisms, the distinction between a primary toxic action of their products and an anaphylactic reaction to their proteins becomes difficult to draw. Especially is this the case with an infection of the respiratory passages themselves. There seem to be some clear cases, however, of infection at a distant site, causing, not a local trouble, but a genuine general anaphylactic reaction. But the discussion of the relation of anaphylaxis to bacterial proteins, full of suggestion though it is for a rational conception of the genesis of certain chronic morbid conditions, would lead us into such inadequately charted waters that I shall not attempt the rôle of pilot. My object has been to provide, from the experimental side, a more definite conception of the nature of those conditions in which sensitization to foreign proteins is clearly established; such a conception as may help to focus ideas, to stimulate observation, and even to rationalize treatment.

BIBLIOGRAPHY.

Freeman: *Lancet*, 1920, ii, p. 229.
Coke: BRITISH MEDICAL JOURNAL, 1921, i, p. 372.
Rolleston and others (Discussion): Ibid., 1921, ii, p. 231.
Barber and others (Discussion): Ibid., 1921, ii, p. 554.
Walker: *Journ. Med. Research*, xxxvi, 1917, pp. 231, 237.
Ramirez: *New York Med. Journ.*, 1920, pp. 112, 115; 1921, p. 320. *Journ. Amer. Med. Assoc.*, lxxiii, 1919, p. 984.

A British Medical Association Lecture

ON THE

DIAGNOSIS AND TREATMENT OF INTRATHECAL TUMOURS OF THE SPINAL CORD.*

BY

WILLIAM THORBURN, K.B.E., C.B., C.M.G., F.R.C.S.,

EMERITUS PROFESSOR OF CLINICAL SURGERY, MANCHESTER UNIVERSITY; CONSULTING SURGEON, MANCHESTER ROYAL INFIRMARY.

IN this lecture I shall not endeavour to advance any original ideas, but will present certain aspects of an important topic which, although they are familiar to the neurologist, are, I fear, not so well known as they ought to be to the general body of the profession. The subject is important because we have in the treatment of intrathecal tumours of the spinal cord one of the most, if not the most, reliable developments of the surgery of the nervous system, and yet I am convinced that in this country many cases which could be readily and almost dramatically cured are allowed to pass without recognition or radical treatment and to run unaided their inevitable course to death.

I propose to illustrate my remarks by showing two patients, both operated upon sufficiently long ago to demonstrate what may reasonably be called "end results." The first will serve to illustrate all the salient points of an intrathecal tumour; the second is one of a more obscure condition liable to be confused therewith.

H. H., a motor driver, aged 43, came under my observation in the Manchester Royal Infirmary in March, 1920, when I was asked to see him by my colleague, Dr. Ramsbottom, and the first point which I must note is that, as these cases rarely come directly before the surgeon, it will quite properly lie with the general practitioner and the physician to make the preliminary diagnosis, without which nothing further can be done.

The patient, whose complaint may be briefly described as "paraplegia," gave a clinical history of the utmost importance. About the end of 1918, while in an army hospital with an attack alleged to be one of influenza, he noticed what is described as an indefinite pain about and just below the left costal margin. At first this pain was felt only in the morning, and it passed away throughout the day, but it tended gradually to become more constant. In March of 1919, when demobilized, he had no great amount of pain, but suffered a little from what he and his advisers called lumbago. He was, however, able to return to civil work and to continue thereat until October. During this period he noticed a gradually increasing weakness of the left lower limb, which at first used occasionally to "give" a little, and which later began to "drag." In the autumn of 1919 the right leg also began to show similar symptoms, and he then had to give up his work, although still able to walk about with the aid of a stick. In the month of January, 1920, he became rapidly weaker, and in the first days of February he was entirely confined to bed. From that time until I saw him in March he was in hospital and only growing feebler.

I have dwelt in detail upon this clinical history for reasons to which I shall return directly, but we may now turn to his condition as first seen.

He could not stand or walk unless supported. The right leg was very weak; the left could not be moved in the bed. When assisted he attempted to walk, but did so with an extremely spastic gait, more marked on the left side. There was no marked atrophy of the limbs, but the left was thinner than the right. As regards anaesthesia, he presented fairly good appreciation and localization of contact throughout, although there was a little delay in response. The appreciation of heat and cold and the sense of pain were lost in both lower limbs, and thence upwards to a level of about 2 in. above the umbilicus. Knee-jerks were exaggerated on both sides, and he had marked ankle clonus, especially on the left; the plantar reaction was extensor; the lower abdominal skin reflexes and the cremasteric reflexes were very sluggish. Bladder and rectum showed no abnormality. Pain was of the girdle type, running round immediately above the umbilicus, although in the early stages it had been assigned to a higher level; it was sufficiently severe to require a nightly dose of opium.

So far, then, we have a sufficiently typical case of a transverse lesion of the spinal cord more advanced on the left side, but on a very slight consideration of the symptoms and onset, we can go much further and recognize with almost absolute certainty an intrathecal tumour which may readily and most hopefully be removed—a diagnosis founded on both negative and positive indications.

About traumatic lesions we need not trouble. I have seen several cases of haemorrhage into the lower dorsal region of the cord, generally occurring in boys or young men and often after bathing in cold water, but in such, as in trauma, the onset is acute. Tuberculous disease of the spine is excluded by the absence of any evidence of bone disease either clinical or radiographic, and by the very slow onset; in this connexion I may say that local tenderness on tapping the spinous processes, and even local kyphosis may be present in the case of intradural growths, and that such symptoms must not be taken as excluding the presence of such growths, but here this possible source of error had not arisen. For similar reasons it is not at all probable that we have a growth—generally malignant—of the vertebrae themselves; the pain is not the intense pain of "paraplegia dolorosa" met with in such cases, and, while vertebral growths are generally secondary, there is here no indication of any primary growth elsewhere. Syphilis is excluded, so far as exclusion is possible, by the total absence of any indication of that disease, and by the fact that the cerebro-spinal fluid gave a negative Wassermann reaction. Growths, tuberculous masses, and cysts within the cord itself are all comparatively rare, especially in the lower dorsal region, and are not as a rule accompanied by pain. Cysts, such as hydatid cysts, in the meninges would, of course, produce the same symptoms as true tumours, but their treatment is identical. Of a remaining possible source of error I shall speak in connexion with our second case.

So much may be said for the negative side of our diagnosis. On the positive side we have a very strong argument. The essential feature of the clinical history was, as we have seen, *pain* long precedent to the paraplegia, of varying intensity and associated with remissions, while it was not localized in the back, but extended vaguely along one or more spinal segments. Such pains are almost invariably present as an early symptom of intrathecal tumours; I have traced back their history to as long as two years before any paraplegic phenomena were noted, and I have known them to be in abeyance for many months. They may or may not be associated with paraesthesiae or with a certain amount of anaesthesia. They may be bilateral or, as in the early stages of

* Delivered to the Birmingham Branch, November 17th, 1921.

this case, unilateral. Of somewhat vague nature, they are not often in themselves diagnostic until other symptoms supervene. They are generally described and treated as "rheumatic," or they may be regarded as due to visceral disease, as in one case in which a most eminent surgeon had advised operation upon the gall bladder in a man from whom I removed an intraspinal growth. Themselves, therefore, almost useless as a guide, they are of the utmost value when other medullary symptoms have developed, and it follows as a matter of course that every case of such radiating pain demands a most careful and, if necessary, a repeated search for indications of a transverse lesion of the cord, which may, as in our patient, approach most insidiously, and which show a strong tendency to be at first unilateral only.

Our diagnosis in the present case being, in my opinion, a matter of almost absolute certainty, it remained only to localize the level of and to remove the growth. The localization of the level demands, first, an accurate examination to ascertain the highest level of sensory or motor phenomena; secondly, a knowledge of the distribution of the spinal segments; thirdly, a recognition of the relation of these segments to the spinous processes; and fourthly, a correct enumeration of the processes themselves. It is doubtless due to a want of appreciation of these anatomical difficulties that many errors have occurred, and that the tumour has been missed through its having been sought too low down.

With regard to the appreciation of the highest level of symptoms it is not sufficient to accept the upper limit of what I may call "gross anaesthesia." The line of limitation is often very ill defined and only careful and repeated examination will enable us to determine it. In the present case a casual examination might readily have limited the level to a point below the umbilicus, whereas greater care showed some sensory loss as high as two inches above that landmark; pain had, indeed, been felt at a still higher level, but the overlap of segments causes pain to radiate far beyond the obvious anatomical distribution of the affected nerve and hence the ninth dorsal segment was regarded as the true level of the lesion. The peripheral distribution of the various spinal segments is now well recognized, and its consideration at this date would be merely a historical discussion into which I do not propose to enter, more especially as, with my old teacher James Ross, I may perhaps claim to have laid the basis upon which it rests. Moreover, in the case of the trunk, it is a peculiarly simple problem and the great majority of intrathecal tumours lie below the brachial and above the lumbar enlargement.

The relation of the affected segment to the spinous processes which are our guide to the site of operation is variable within somewhat wide limits, so that the operation must be sufficiently extensive to allow for individual differences. In the region with which we are now dealing the segment is generally about two vertebrae higher than the spinous process which bears the same number, so that for our ninth dorsal segment the centre of the incision will be at or even a little above the seventh dorsal spine, which again corresponds to the body of the eighth dorsal vertebra. Again, the determination on the operating table of the spine desired as a landmark is often far more difficult than might be supposed, especially in a stout or deformed person, and it may be necessary to find it beforehand by means of a radiogram with an indicator fixed to the skin, or even, as in one of my cases, by previously imbedding a piece of wire at the region required and then checking it by a radiogram.

In the case which we are now considering the operation, with the details of which I do not propose to trouble you, was performed on March 23rd, 1920, or, say, twenty months ago. The laminae of the seventh, eighth, and ninth dorsal vertebrae were cut across with the saw, the ligaments between the sixth and seventh divided with scissors, and the flap thus made turned downwards. There was at once observed an obvious fullness of the dura mater, which was laid open. The spinal cord was found to be pushed backwards and to the right, and a tumour was exposed to the left of and in front of it. One of the spinal roots, presumed to be the ninth dorsal, lay across its lower pole, and was divided to allow of the cord being gently drawn still further to the right, when there was fully exposed a firm, deeply red, encapsuled mass, which proved to be 3 cm. long, 1.5 cm. wide at its lower end, and very much of the size and shape of the terminal phalanx of the index finger. This was most readily shelled out, its attachments being, as is usual, quite loose. The actual seat of origin of the growth could not be determined owing to the very lightness of these attachments, which almost give the impression that the tumour is lying free in the meningeal space; moreover, very little bleeding follows the blunt separation of the connecting bands. In structure the tumour was described by the pathological department as a "fibroma of rather cellular and vascular type."

Such an operation may be regarded as typical, except that it is more difficult in stout patients to turn down spines, laminae, and their connexions as a continuous osteoplastic flap. On the other hand, in this case the anterior position of the growth and its rather unusually large size rendered necessary a good deal of traction on the already markedly displaced cord. I must, however, again insist on the readiness with which these growths can be enucleated, those which are situated a little further back upon the cord almost giving the impression that, if the patient were rolled over, they would fall out as—to use a war-time illustration—a shrapnel bullet might fall out of a mass of granulation tissue.

The rather unusual difficulty in shelling out the tumour in the present case explains the fact that for a short period the patient had aggravated symptoms. For the first four days anaesthesia was a little deeper than before operation, but sensation to heat and cold then began to return and was rapidly followed by return of sensation to pain. Urine was retained and the catheter was required for the first eight days after operation, while he had a mild attack of cystitis, which quickly passed away. Return of motor power was more gradual but perfectly steady. On the twenty-eighth day both legs were quite movable in bed, the right being more so, but both still felt stiff; the right knee-jerk presented no exaggeration, the left slight only; the plantar response on both sides was an extension followed by flexion. At the end of six weeks he could walk about the ward with a stick and was able to go home. A month later the aid of the stick was dispensed with. Examination of his condition to-day will show that from a subjective point of view he is perfectly healthy and that the only peculiarities which can be detected are a faint linear scar upon the back and a slight irritability of the knee-jerks.

It remains to consider, as in all cases of tumour removal, what are the prospects as regards recurrence. Into the difficult question of the pathological nature of these intrathecal growths I do not propose to enter. Probably all arise from dura, arachnoid, or pia mater. Among my own cases I have had various descriptions from pathologists, such as haemangioma, lymphangioma, endothelioma, and fibroma, occasionally also sarcoma; far more extensive investigations have been made from *post-mortem* examinations, and many operators have recorded psammomata, which, curiously enough, I have not met with, or at least not recognized; hydatid cysts are not by any means unknown, but again I have not seen such. The important practical point is that I know of no case of recurrence even in patients operated upon many years ago. I have met with one case only of infiltrating sarcoma, which invaded the conus medullaris and the cauda equina for many inches, and in which excision was out of the question; I have met with one case of long standing in which functional recovery after excision was very imperfect; I have had one case in which, on clinical grounds, I advised operation, but the misreading of a radiogram (now many years ago) was taken to show a large ossifying sarcoma—nothing was done, and the patient died, when the autopsy revealed a condition quite similar to that of H. H. On the other hand, I have had at least a score of cases in which the operation was as simple and the results as satisfactory as in the one before you. The operation mortality is *nil*, as I have found it to be in all cases of laminectomy for exploration, rhizotomy, spinal drainage, and the like. But I regret to say that I know of a good many cases in which operation has been refused and death ensued. It is my earnest hope, gentlemen, that such cases will become more rare than they now are, and that in all which are doubtful the safe and simple expedient of exploration will be adopted.

And now I will ask you to turn to my second patient, whose case illustrates some difficulties of diagnosis and some of the advantages of exploring when in doubt.

R. C., aged 22, consulted me on December 6th, 1920. From boyhood he appears to have suffered from vesical catarrh for which I have found no cause or explanation and from which he had no practical inconvenience. In the year 1917 he had an attack of fever of unknown nature while on naval service in Cuba; other-

wise he has been perfectly healthy. Nine weeks before I saw him he had a disagreeable sensation which he describes "as if his toes were tied together." His legs then became weak and stiff and he was unable properly to control their movements. He had a little pain on bending strongly to the left and appeared to have some tenderness of the left kidney, but these symptoms were so slight as to be quite doubtful. Incompletely paraplegic, he had great and increasing difficulty in moving about the room with the aid of a stick. Anaesthesia, which was nowhere complete, extended to a fading margin a short distance above Poupart's ligament. Knee-jerks and ankle clonus were markedly exaggerated. There was some difficulty in commencing to micturate but no retention of urine.

A week later when he came into hospital paraplegia was almost complete; he could neither stand nor walk. Anaesthesia was more marked and extended nearly to the waist line. The knee-jerks and the ankle clonus were more marked on the left side; the plantar reactions were flexor. Three weeks in hospital were devoted to the attempt to define symptoms a little more closely, to look for any sign of improvement from complete rest, and to search for any of the more common causes of transverse lesion of the cord. We found no evidence of tubercle or other bone disease. There was no indication of syphilis, and the Wassermann reaction of the cerebro-spinal fluid was negative. There was equally no evidence of past or present gonorrhoea; the urine contained small quantities of pus, but no organisms were discovered. Anaesthesia varied a good deal in its intensity and slightly in its upper limit, but sensation was normal above the line of the umbilicus. Paraplegia increased, so that he could not move his lower limbs in the bed.

Here, then, we have a clinical picture which I may describe as the blurred image of an intrathecal tumour. Anaesthesia could not be recorded in diagrams as it was vague and changeful but with a tendency to extend upwards. Paraplegia was steadily increasing in intensity. The reflexes were those of a transverse lesion except for the plantar reaction. There was no longer any pain, and pain had always been of the slightest. Such a condition reminds us at once of the cases described by Horsley as "chronic spinal meningitis" and by Spiller as "circumscribed serous spinal meningitis." The general outline as given by Horsley resembles that of a tumour of the cord, but pain is less definitely localized and there are often widely spread hyperaesthetic areas; anaesthesia is incomplete and without dissociation; paralysis comes on as a widely spread weakness, often unilateral; there are no vasomotor symptoms; the patients are almost always adults, and the upper level of anaesthesia is usually mid-dorsal. Some of Horsley's cases were regarded as syphilitic, several as due to recent gonorrhoea, and others were assigned to influenza.

Operating on 21 cases of this type which had been originally regarded as tumours Horsley found excess of cerebro-spinal fluid, thickening of the arachnoid, "matting of nerve roots," and compression of the cord. He opened the dura mater, irrigated with strong solutions of mercuric chloride, and left the theca open for drainage. The good results which he obtained he compares to those which follow laparotomy in tuberculous peritonitis.[1]

When this description appeared I had already met with a few similar cases—notably one in which I thought that the symptoms of a tumour of the cauda equina were unequivocal, but in which I found only thickening of the dura mater with very large quantities of cerebro-spinal fluid; after this had been opened up and drained recovery was to my surprise complete, but I fear that I then dismissed the matter from my mind as an unexplained error in diagnosis.

The case of R. C. appeared to me to be most probably of similar nature, and the source of infection as vesical or renal, and I decided upon an exploratory operation, which was performed on December 28th, 1920. The sixth, seventh, eighth, and ninth dorsal laminae were totally removed, it being difficult to do an osteoplastic operation on account of the rather free haemorrhage and depth of the wound rendering unsafe the use of the saw. In the centre of the exposed area of the theca it was at once obvious that there was some change; above this point pulsation was very marked; below it ceased entirely and abruptly; there was also an appearance of a slight constriction. An incision four inches long was then made into the dura from below upwards, and cerebro-spinal fluid only began to flow when the incision was carried above the point noted; above this point the flow was very free, from which I concluded that there was here some slight adhesion of the meninges, although there was no visible cicatrix. As the patient's condition was giving a good deal of anxiety to the anaesthetist, while free bleeding and escape of cerebro-spinal fluid obscured the view, I decided to complete the exploration a few days later. Four days afterwards, when the wound was reopened, there gushed out from its deeper part at least two or three ounces of cerebro-spinal fluid, but nothing further was discovered after a most careful search, including the anterior aspect of the cord, and the wound was again closed, the dura mater being left freely open.

For four or five days after this second operation there was a good deal of pain; at the end of a week the lower limbs could be moved, and at the end of a fortnight were freely movable, while sensation was distinct everywhere, although still somewhat wanting in acuteness. On account of the amount of injury inflicted upon the bones of the spine I kept the patient in bed longer than usual, but after two months he could walk, although with difficulty. He can, as you will see, now go about quite easily, and he says that the only thing that he cannot do is to run; he is, as he will tell you, not conscious of any physical defect, although his knee-jerks are still exaggerated, and probably always will be so. His old vesical condition is naturally not affected by the operation, and I am hoping that it may now be found possible to do something to correct it.

I have brought this case before you more particularly to illustrate three points—namely, first, the great importance of exploring doubtful cases of transverse lesion of the cord—that is to say, *all* cases which are not obviously hopeless; secondly, that you are more likely to do good than harm should a diagnosis of a thecal tumour prove incorrect; and thirdly, because I hold that there is a strong probability that many early cases of transverse myelitis may be arrested and cured by incision and drainage of the dura mater—a possibility fully in accord with the view that such myelitis is often due to infection spreading along the spinal nerves and then necessarily crossing the meninges and the intradural space before the cord itself is attacked. If this view of the causation of transverse myelitis be correct—and there is strong evidence in its favour—we may then hope to arrest the infection in its course and to save the cord before it is irretrievably damaged. When once a portion of the cord has been converted into a cicatrix there is nothing to be done, but if we can arrest infection at its onset it is reasonable to hope that the patient may be saved. In all other regions of the body we aim at the drainage of infections at the earliest possible moment; in this, the most vulnerable of all regions, we can only hope to save by exceptionally early drainage of even the mildest of infections. And, before leaving this side-issue of the present address, I may add that I think the infections usually derive from the urinary organs—a view in accord with the cases which I have myself seen, with the tendency of transverse myelitis to attack the levels connected with the kidney, and with the fully recognized tendency of the kidney itself to collect and harbour organisms of all types.

Gentlemen, I have, with the exception of a single reference to the great pioneer of the surgery of the nervous system, given you only the results of personal experience, and I am only too well aware that as surgeon to a general hospital I have not the advantage of those practising in hospitals specially devoted to the diseases of the nervous system. For this reason I cannot bring before you extensive statistics, nor can I hope to do more than help to throw a very little light upon neurological questions. But the more obscure and limited field of to-day becomes the commonplace of to-morrow, and I am convinced that the search for and the recognition of cases such as I have described to you will result in the discovery and the salvation of many which are now lost. The neurologist and the surgeon are fully prepared to deal with them, although the neurological physician perhaps hardly realizes the safety of laminectomy. It is therefore now necessary only to make such cases more widely known to the great body of the profession in order that we may realize an advance in treatment similar to that which has occurred in other branches of practice.

REFERENCE.

[1] BRITISH MEDICAL JOURNAL, February 27th, 1909.

THE International Grenfell Association now has five hospitals established on the shores of Newfoundland and Western Labrador; an orphanage was built at St. Anthony, on the north coast of Newfoundland, last summer.

THE Federation of the American Society of Experimental Biology, composed of five societies, held its annual meeting at New Haven, U.S.A., from December 28th to 30th, under the auspices of Yale University. Dr. J. J. R. McLeod, of the University of Toronto, president of the American Physiological Society, was president. The annual meeting of the American Association of Anatomists was held at the same time.

THE VALUE OF FREEDOM AND EXERCISE AFTER OPERATIONS.

BY

R. P. ROWLANDS, M.S., F.R.C.S.,

SURGEON TO GUY'S HOSPITAL, LONDON.

THE object of this paper is to suggest that the need of rest after operations has been greatly exaggerated, with the result that patients are kept in bed much longer than is really necessary. Traditions and long-established habits are generally followed blindly and without question, whereas it is our bounden duty, in the interests of progress, to submit them to criticism, to continue what is good, to cast aside what is useless, irksome, and harmful, and to evolve better and more humane methods. For some ten or more years I have been asking myself the following questions:

Is it necessary or kind to insist on so much rest? Is it not dangerous, as well as irksome to the patient? Is it economical—in the widest sense of that word—to keep patients in bed and in hospital for such a long time? Do not unnecessary restrictions add to the personal fear, as well as to the danger of operations? Is it true that wounds heal faster and better when at complete rest, or that they may give way when patients are allowed up early for gentle exercise?

As a result I have gradually changed, and I hope and believe greatly improved, the after-treatment of my patients. I submit that many of the dangers of operations are due to unnecessary restrictions imposed during this time, and that the public fear of operations is very largely due to the same cause. My patients often tell me that, if they had known beforehand how simple and comfortable the after-treatment could be made, they would not have hesitated so long before undergoing operation. For this reason it is kind and wise to describe and explain the plan of after-treatment before the operation, so that the patient may expect and welcome the method. It cheers him to know that he may move as much as he likes in bed from the first, have the freedom of the room after four days, of the bath after seven days, and may take short walks or drives in the open air after ten days.

It is true that rest in bed is valuable while the nervous system is exhausted and the body is in pain immediately after a severe operation, but when reaction has set in and pain and tenderness have subsided, as they generally do after a few days, it is no longer necessary. Nay, the normal mind and body chafe under undue restrictions and want to return to more natural conditions and habits as soon as possible. Complete rest in bed depresses the spirits and lowers the physiological actions and general vigour of the body. The heart beats less frequently and less forcibly, the breathing becomes slower and shallower, the appetite fails, the digestion flags and the bowels become sluggish. Under these conditions the risk of clotting of the blood in the auricular appendages and in the veins is increased, and it is a matter of experience that thrombosis and pulmonary embolism are far more likely to occur in bedridden patients. The best way to avoid these serious complications is to keep the patient and the blood stirring. Clots large enough to obstruct the pulmonary artery take some time to form, and it is known that such clots rarely cause fatal embolism within the first week of an operation. The catastrophe nearly always takes place between the eighth and seventeenth day. It appears to be easier to avoid the formation of clots than to prevent their shifting, and I therefore keep my patients moving as much as possible from the beginning, getting them to walk a little within four or five days of the operation, unless there is some grave contraindication. As a result I very rarely see thrombosis or pulmonary embolism now.

It is, again, well known that the dangers of hypostatic pneumonia and other pulmonary complications are greatly increased by the incomplete aeration and congestion of the bases of the lungs which prevail in bedridden patients. The muscles, especially those of the legs and abdomen, begin to waste and lose their tone after a few days in bed, and this deterioration progresses so rapidly that standing and walking become more and more difficult. By getting up early and walking a little every day this loss of power is prevented and the need of massage abolished.

Undue adhesions of the viscera to each other and to the parietes, and of the various layers of the abdominal wall to each other, can be very largely prevented by early voluntary movements. For instance, many patients kept too still in the sitting up and flexed positions, find it difficult and painful to straighten their bodies and hips on getting up, whereas if they are encouraged to move freely and get up early they are spared these troublesome complications, for any adhesions that form are sufficiently stretched while they are still soft and comparatively painless. It is far easier and better to prevent limitation of movements from adhesions than to correct these limitations once developed or confirmed by the prolonged adoption of unnatural positions during healing. Man is punished by his limitations, not by his movements.

Constipation is usual, if not invariable, when patients are kept in bed too long after operation, whereas it can be minimized, if not entirely avoided, by letting the patient get up early, take gentle exercise, and adopt the natural position for defaecation. Constipation, besides being very unpleasant and troublesome to the patient and nurses, brings many evils in its train, such as loss of appetite, excessive straining and the purgative habit, which is difficult to abandon afterwards. It is probable that it also increases the risk of infection of the blood stream and thrombosis. Excessive straining is to be avoided, for it is certainly a severer test on an abdominal or hernial wound than gentle walking exercise.

As regards the healing of wounds, years of observation have convinced me that complete rest is unnecessary and even harmful by interfering with general and local circulation and nutrition. I have no recollection of any delay of healing due to getting up early and taking gentle exercise, nor have I ever seen hernia develop or recur from this cause. Fractures of the ribs always join promptly and well in spite of the inevitable movement of the fragments. Similarly, gentle movements of wounded soft parts do not hinder but help the process of healing. Confinement to bed, or even to a room or indoors, almost inevitably deprives patients of some of the great benefits of fresh air, light, and sunshine, which have a most stimulating effect upon healing of body and mind, as was well shown during the great war.

It is not economical to keep patients so long at rest in hospital. Let us take appendicectomy and the radical cure of hernia as examples. Patients are generally kept in hospital for about three weeks after these operations, whereas, even under present conditions, they can safely leave after ten days, or even earlier. Under ideal conditions—as, for instance, the existence of a simple and economical convalescent home or camp in the country—they could be moved there after four or five days, for these patients need very little nursing or medical attention after that time. In this way two or three times as many patients could derive benefit from the charity, or, as an alternative, the number of hospital beds in London could be greatly diminished. Very soon the long and costly delay in getting into hospital would be abolished.

Much thought, trial, and observation have convinced me that the ideal after-treatment cunningly combines rest with exercise and freedom—at first much rest and little exercise, later less rest and more exercise every day. The sooner the normal habits of life are restored the better. I have learnt much from children and infants, who are difficult to keep still, and yet heal and recover better than adults.

I do not claim that the views I venture to express are original, but (what is far more important) I believe them to be true, and that a reasoned account of them is long overdue. That there is need of it is evident to anyone who cares to look around and think. A few brief examples which have recently come my way may help to show this.

A short time ago I saw a surgeon of ability and repute fix a child in a long Liston splint after the radical operation for hernia—surely an unnecessary punishment. A lady, after an operation for acute appendicitis, with pelvic peritonitis, was, in spite of instructions, kept in the Fowler position, with a pillow under the knees, for a month, with the result that she could not stand or walk in the upright position for three months, and even then required massage for her withered legs. Again, an elderly gentleman, having had his gall bladder removed in New Zealand in April, came to see me in October because he leaned forward and to the right, and could not stand or walk about without pain in his right flank, due to adhesions and retractions of his abdominal muscles. He had been kept at rest, in the sitting-up and flexed position, and had been asked to keep as still as possible in order to ensure healing. Compare this result with that of a patient who, after choledochotomy and cholecystectomy, went home on the twelfth day and voluntarily walked up three flights of stairs to his bedroom in London. Two days later he motored thirty miles to his cottage in the country, and three weeks later, after a perfect

holiday, returned to his professional work in London in excellent health.

It is not suggested, however, that patients should be hurried back to work, or that all should be treated alike, for some need a longer holiday than others, and after some operations a long convalescence is essential. For instance, some overworked or exhausted patients, even after comparatively trivial operations, require a long convalescence to restore them to health; but the rest and change from work is all the more effective when it is combined with gentle, interesting, and increasing exercise, with mental diversion. Similarly, after gastro-jejunostomy, especially for an active duodenal ulcer, prolonged convalescence and dieting for from two to three months are necessary to ensure permanent healing of the ulcer and stoma, but only the first few days of this period need be spent in bed. The greater part can be passed more profitably in the open air, taking gradually increasing exercise, just short of fatigue, so that the patient becomes strong and well before he returns to work, about three months after the operation.

THE TREATMENT OF TUBERCULOSIS WITH COLLOID OF CALCIUM.

BY

EDWARD E. PREST, M.A., M.D.CANTAB.,

MEDICAL SUPERINTENDENT OF THE AYRSHIRE SANATORIUM, AND CONSULTING PHYSICIAN TO THE AYRSHIRE COUNTY TUBERCULOSIS COMBINATION.

IT is generally admitted that the present methods of treating pulmonary and also so-called surgical tuberculosis leave much to be desired. The methods suggested have been numerous, but a great deal of controversy is always in progress as to their respective merits. The dispute over tuberculin is perhaps the most familiar example of divergence of view. I am of opinion that the conflicting views on the value or otherwise of tuberculin arise from the two-edged nature of this substance, which although undoubtedly beneficial in some cases is harmful in many others; the difficulty of differentiating these cases without actual experiment makes many very chary of using the remedy.

With regard to new remedies there is always the difficulty of deciding whether any given improvement or other change is due to our treatment or is the result of the vagaries of the disease. Many new methods of treatment have apparently yielded good results in the hands of those who first used them, but have after a time been abandoned; this makes it appear possible that some of the results were psychic in origin, and it is therefore with some diffidence that I bring a new remedy to the notice of the profession.

In the BRITISH MEDICAL JOURNAL of March 19th, 1921, page 420, I published some remarks on the treatment of tuberculosis by means of calcium. There was considerable variability in the results obtained by the administration of calcium lactate—the particular salt I used—and it occurred to me that this might be due to differences of absorptive capacity in different individuals. I therefore cast about for some other method of administering the drug. I had at that time, for a rheumatic condition, been using with success some collosol iodine prepared at the Crookes Laboratories. I therefore asked whether I could obtain calcium in the colloid state, and was informed that at the suggestion of Sir Malcolm Morris—who I may say has taken a great interest in this investigation—they had just prepared some colloid calcium and sent me a supply to try.

Mr. J. F. Ward, the chief chemist at the Crookes Laboratories, who has rendered me every assistance in this investigation, tells me that the calcium is protected by glutaminic acid, which is prepared from gelatine; this is autoclaved to 140° C., which guarantees freedom from living organisms and spores. The strength is 1 in 2,000, representing the actual amount of calcium present, the amount of calcium oleate being approximately seventeen times as much. The colloid calcium, when examined with the ultra-microscope, is seen to be in active movement. The fluid is homogeneous, has the appearance of milk, and easily passes through a very fine hypodermic needle.

The drug is administered hypodermically. I inject it under the skin of the back of the forearm, as that situation is easily accessible, and the local reaction can more easily be observed. The skin is rendered aseptic, and the injection is made with a Record hypodermic syringe graduated in tenths of a cubic centimetre. I use a very fine steel needle which renders the injection little painful—a matter of some importance. Veins should be carefully avoided. I have used an initial dose of 0.5 c.cm., the average dose used having been 0.7 c.cm., and I have not given larger doses than 1 c.cm.

The actual dose of calcium is extremely small, and I would warn any who are inclined to use this remedy not to increase the dose without due consideration; those indicated appear to have been quite sufficient. For instance, in a very acute case with very high temperature and night sweats I gave 1 c.cm., and the sweating ceased for ten days, but the temperature remained rather higher, and no benefit apparently followed. I have not yet quite decided as to the correct spacing of the doses; as a rule I have given them every five days to begin with, but I am not sure that a week is not a more satisfactory interval, and in some cases an interval even longer is perhaps better. This point must be decided by the general clinical condition of the patient.

There is generally some local reaction at the site of the injection visible the next day. This is a very variable factor, in some cases it is almost negligible, in a few severe; in one case which was suffering from tuberculous glands with discharging sinuses, the first reactions were very pronounced, and the second caused swelling of the whole of the forearm from the wrist to the elbow; nothing was done in the way of treatment; she continued her work as usual, and the swelling and redness disappeared in three days; as she was feeling so much better and the sinuses had ceased to discharge, she cheerfully went on with the treatment. I have not yet been able to satisfy myself whether there is any connexion between the amount of reaction and the amount of benefit or otherwise which follows, but it is quite possible that this can be worked out with more experience.

Most of the patients make no complaints after the injections, but certain symptoms follow in others. Vomiting occasionally occurs the day after an injection, and in some few cases palpitation has been complained of; in one case there was a complaint of giddiness; this, however, soon passed off, and no treatment was necessary except that it is perhaps advisable to decrease the dose and lengthen the intervals. One beneficial result of the injections is that in many cases the patient sleeps very much better. I generally give the injections in the evening, so that patients will not be taking exercise until the next morning. Where a patient is suffering from fever it is well to be cautious, as it sometimes happens that the injections are followed by a rise of temperature and the symptoms of a mild tuberculin reaction, including increase of sputum. The rise in temperature has never been much in my cases. I have given over 800 injections, many of them to young children of 5 or 6, and I have never experienced any anxiety—a very different experience from that one has when giving tuberculin.

All the 56 cases upon which this account is based, with the exception of one which was a domiciliary case, were living under sanatorium conditions—favourable conditions to improvement; the temperature in all cases was taken in the rectum, and I believe unless this is done it is impossible to gauge properly the effect of treatment. I would urge those who try this remedy not to omit keeping their patients in bed if they are suffering from fever.

I commenced treating cases with colloid calcium at the beginning of July, 1921; for obvious reasons I have to confine my report to immediate results which could be most easily observed. Of 56 patients treated 24 were males and 32 females. Owing to the less stable metabolism of calcium among females than males, we might expect that administration of calcium would be more beneficial in their case; nevertheless a considerable number of males benefited. It should be remembered that the actual amount of calcium given was extremely small.

Of the 56 cases treated 24 were males and 32 females. Of the 24 males 10 had tubercle bacilli in the sputum, and of these 3 lost them during treatment. Of the females 9 showed tubercle bacilli and 2 lost them.

Among the males, haemoptysis ceased in 4 cases, the temperature became normal in 1, the sputum dried up in 2 and became much less in 4 others; in 1 case breathlessness was markedly lessened, and in another with limitation of night sweats there occurred marked improvement in acne. One case suffering from Pott's disease showed much less spinal irritability. One case was doing so well that it was impossible to ascribe any of the improvement to the calcium. In 2 cases the general improvement in energy and appetite

was very marked, and in the remaining 7 no change was observed.

Of the females, in 1 case persistent epistaxis ceased; in 3 cases night sweats ceased and the temperature fell to normal; in 2 cases the night sweats ceased but the temperature did not fall; in 1 case night sweats ceased but the temperature rose slightly, but on continuing the treatment the temperature again became normal. In 2 cases the sweating was reduced but did not cease. In 2 the temperature was reduced to normal with improvement. In 1 the sputum was reduced to nothing with great improvement, and in 1 the sputum was reduced. In 1 breathlessness became much less. In 2 sputum containing tubercle bacilli appeared for the first time. In a spinal case irritability became less; 10 cases improved markedly in feeling of general well-being, and in 5 no change was observed.

The more immediate effects of treatment can be gathered from a perusal of the above, but I may say in passing that some of these cases have improved in a phenomenal manner, the majority being cases of long standing. The case having persistent epistaxis had suffered from it on and off since 1914, and just before the treatment was begun she was having attacks of epistaxis several times a day; after seven injections this completely stopped, and she had had none for six weeks; in addition she is not now short of breath, is feeling very fit and well, and is working hard as a ward maid. She was formerly an inmate of the Ayrshire Sanatorium. It seems difficult in this case to confuse cause and effect. One of the patients in which the haemoptysis ceased, had been having small haemorrhages for weeks; he has now been free for two months and tubercle bacilli have disappeared. One of those in whom the sputum dried up had had it for years; in addition her temperature has fallen to normal and she is able to do her work with comfort. One of those in whom the breathlessness was very much relieved has been under my care almost continuously for eight years; about four years ago I produced a partial pneumothorax in this case, without any improvement, and she then became quiescent under Spengler's I.K. therapy, but she was always troubled with shortness of breath when she gained weight. Since she has had the calcium she has gained over half a stone in weight and is less short of breath.

One of the cases in which the night sweats ceased and the temperature fell was very remarkable: she had been in bed in this sanatorium for seventeen weeks, with a continuous high remittent temperature; she had been ill for a long time, and was what is called a "third stager," with tubercle bacilli in the sputum; she had been treated by rest during all this time, and also with calcium lactate, but although an excellent patient she was no better. She was one of the first cases on which I tried this treatment: at the end of six weeks her temperature was normal, the night sweats ceased almost at once, and by the time she went out tubercle bacilli had disappeared, and she was very much improved.

In two cases something like a reaction occurred, as after the first injections sputum appeared for the first time containing tubercle bacilli. One was a patient who had been under my almost continuous care for six years; she had never had a normal temperature during that period, and was very breathless, largely owing to the extent of the disease reacting adversely on the heart. She has continued the treatment because she feels so much less tired after the injections, but is at present very ill. The other was a girl also with extensive disease, and I was much puzzled why she had no sputum; in this case the treatment was continued and the sputum is much diminished, and she is feeling very well. These two cases may serve as a warning that colloid calcium has in some cases a direct action on the lesion.

Colloid calcium would seem to be beneficial in surgical tuberculosis, for in one of the cases tuberculous glands rapidly diminished and sinuses dried up. In two cases of caries of the spine, in one of which paraplegia had been present for some months but had disappeared before I started the treatment, the remaining spinal irritability, as shown by increased knee-jerks and pronounced ankle clonus, became very much less, the latter being quite unobtainable on some days. In the other the knee-jerks became much less exaggerated and the temperature tended to fall.

The action of the calcium can, perhaps, to some extent be explained by a consideration of its effects. We believe that in a considerable number of cases it stops sweating; sweating lowers the temperature and therefore in those cases in which the sweats cease and the temperature falls there must be some other action at work, which, however, might be explained similarly; the benefit may be due to the less permeability of the toxins shielding the remainder of the body tissues from poison derived from the lesion; the drug might by this action restore patients saturated with toxin to such a condition that they might ultimately be able to use toxin to form antibodies. I am inclined to think that a certain number of so-called chronic cases which exhibit a normal or subnormal temperature may really only have lost their sensitiveness and are being continuously poisoned by toxin, but are unable to react by a rise of temperature; many of these cases are doubtless thought to be doing well in sanatoriums, but their subsequent history differentiates them from cases in which a normal temperature indicates cure of the disease. Probably such cases will benefit by the administration of calcium. The two patients mentioned who lost their breathlessness may both come under this category, the breathlessness being due to toxaemia.

I think that colloid calcium may have a wider application in medicine than the treatment of tuberculosis; it may prove useful in rickets where there is a deficiency of calcium salts and where there is a great tendency to sweat. It is significant in this connexion that cod-liver oil is very useful in both these diseases. I would suggest that if colloid calcium be tried on quite young children a small dose of 0.1 c.cm. be first given, to be increased until the optimum dose is found. It is probable that adenoids would also be benefited, and the same caution would apply here.

In conclusion, I wish to express my thanks to Sir Malcolm Morris for the interest he has taken and the encouragement he has given me during this investigation, and to Mr. J. F. Ward, chief chemist to the Crookes Laboratories, for preparing the drug and for much valuable information concerning its properties.

POST-OPERATIVE HAEMORRHAGE.

BY

FREELAND FERGUS, M.D., LL.D.,

CONSULTING SURGEON, GLASGOW EYE INFIRMARY.

In connexion with an extremely interesting communication made by Messrs. Pringle and Stewart and Professor Teacher in a recent number of the *Journal of Pathology and Bacteriology*,* the case hereafter recorded may be of some importance, for it seems to be analogous to the cases of post-operative haematemesis which they have described. I have now had a large experience of ophthalmic operations, but as far as I recollect I have never had a similar incident. Fortunately the patient concerned did not succumb to the condition. He made an excellent recovery, and therefore an accurate diagnosis of the source of the haemorrhage is impossible; only inferences can be made.

I performed the operation of cataract extraction one afternoon about 2 o'clock on a gentleman well over 70 years of age, being assisted thereat by my friend Dr. McMillan. The patient had been in a nursing home for a considerable time before the operation, for, at his first admission, inoculation of serum agar tubes with the conjunctival fluid gave a fairly active growth of *Staphylococcus albus*. I therefore had resort to the saline douche, which was applied every few hours for some days till the culture gave only two small colonies. When this condition of comparative sterility had been obtained I determined to operate. There was thus ample opportunity of observing his general condition prior to the operation. To all appearances he enjoyed excellent health; he took a full but plain diet, and in every way had a relish for food and never complained of the slightest pain. For years he had been in the habit of taking a mild aperient as occasion required, and this he continued to do while in the nursing home. The urine was found to be free from albumin and sugar. He was for his years possessed of a most unusual degree of vigour, both mental and physical. The only incident in his previous medical history which seems worthy of record is the fact that when a young man he was considerably troubled with epistaxis.

The operation of extraction gave no trouble; the lens came out quite easily, and an iridectomy was made; although the eye was highly myopic there was no escape of vitreous whatsoever. Altogether the conditions seemed very favourable. I visited the patient the same night about 10 o'clock, and found him as comfortable as could be expected. Following

* An account of this paper was given in the BRITISH MEDICAL JOURNAL, December 24th, 1921, p. 1088

my invariable custom, I gave him liberty to lie in whatever position he found to be most comfortable. He made no complaint, and seemed to be doing quite well. The following morning I was summoned urgently to see him. On my arrival in his room I ascertained that about two in the morning he had suddenly been seized with very acute pain in the neighbourhood of the stomach; this had lasted for some considerable time, and had been followed by severe vomiting. The matters vomited had been retained, and I found on inspection both of the contents of the vessel and of the bed-clothes, which had been stained by some of the vomited matter, that there had been severe haematemesis. The coloration of the vomited matter was dark brown, but in the vessel I found also some fresh blood. I immediately availed myself of the services of a physician, who gave him a prescription, chiefly consisting of bismuth, and gave directions as to the feeding. When I saw him in the morning after the vomiting I found him considerably collapsed, and complaining of great weakness. Evidently he had suffered very severely from pain. Fortunately there was no recurrence of the haemorrhage, and ultimately, as already intimated, he made an excellent recovery. In view of the communication already referred to, the possibility of the case having been one of oesophageal post-operative digestion cannot be overlooked. Such severe symptoms after cataract extraction was an entirely new occurrence in my experience.

ANTIMONY IN LEPROSY.

BY

G. H. WILDISH, M.B.,

V.M.O. AMATIKULU LEPER INSTITUTION, ZULULAND.

In view of the reported benefit derived from the antimony treatment of some Indian lepers at Durban in 1920,[1] Dr. F. G. Cawston asked me to give antimony a trial on a more extensive scale amongst natives at the Amatikulu Leper Institution in Zululand. No special treatment for the disease had been used there, reliance being placed on fresh air, good food, careful dressing of ulcers, cod-liver oil, and to a lesser extent chaulmoogra oil by the mouth.

I decided to test oscol stibium in the treatment of twenty of the worst cases, mostly cripples who were being housed in the central hospital while awaiting death. The majority of these cases received doses of the drug intramuscularly, 2.5 c.cm., 3 c.cm. and 6 c.cm. on consecutive days. Three weeks later 4.5 c.cm. and 6 c.cm. were given on consecutive days. This series of two doses was repeated during the next two months, making a total of about 40 c.cm. injected.

Beneficial effects were seen in the relief of paralysis, drying of the ulcers, and in the general condition of all the patients treated except one, who has shown no change at all so far. Similar successful results were obtained from the use of Crookes's colloidal antimony, which proved more toxic and more effective; equally good results were obtained in a few cases treated with tartar emetic intravenously.

Over 1,000 injections have been given at the Amatikulu Institution during the last six months; there has been no serious local inflammation and no abscess. In each case the needles and syringes were sterilized before use by means of mercury biniodide in methylated spirit followed by pure methylated spirit, and the site of the injection was sterilized by mercury biniodide solution.

Though antagonistic to the treatment when first adopted, these leper patients have developed a great belief in its efficacy, and in most instances have themselves requested that it should be continued. In the case of Zulus this request is very significant—they do not like medicine injected.

At the present time (July) 98 female natives and 131 males are being treated with various preparations of antimony; 4 of these have recently been treated with ethyl esters after two series of injections with antimony, and their progress points to the efficiency of the combination.

Although still in its early stages, the results at the end of six months have been very encouraging, and suggest antimony in considerable doses for short periods, with intervals of three weeks between each series, as a great help in treating leprosy and possibly as a cure in some cases. It is also useful in combination with ethyl esters and sodium hydnocarpate.

The following cases illustrate the use of the drug, especially in very severe untreated cases.

CASE I.

Native male; on January 20th, 1920, he was not expected to live much longer. He was partially paralysed in both legs and had lost all the toes on one foot. There was marked paralysis of the face and eyelids, so that he could close his mouth only by means of his hand. Dry keratitis had supervened as a result of the facial paralysis, but was not advanced. He received 2.5 c.cm., 3 c.cm., and 6 c.cm. oscol stibium on three consecutive days. Three weeks later the paralysis of the legs had much improved, he had taken food better, put on weight, and felt more comfortable in every way. Since then he has received four more series of injections, 3.5 c.cm. and 6 c.cm. being given intramuscularly on consecutive days. To-day (July 20th) he can walk regularly to the dispensary, a distance of 200 yards or more, and is to be seen walking about the place continually. He can close his mouth without help and chew his food. His eye condition is much improved, but he cannot yet quite close the lids. The treatment is being continued.

CASE II.

This is also a case of maculo-anaesthetic leprosy, showing partial paralysis of the legs and face with conjunctivitis. He received the same treatment and no other during the last six months. The eye condition has entirely cleared up and the lids have returned to normal. Although there is still some weakness of the legs, he is now able to walk without difficulty and has considerably improved in general health. Both these cases showed lepra bacilli in scrapings taken from the nasal septum and were passed as lepers by several boards. Without treatment both would certainly have died before now.

CASE III.

This native female was very emaciated and feeble. She had also been placed in the hospital to die. There was no paralysis. The macular areas were raised over nearly the whole of the back about one-eighth inch above the normal skin; they were rough and one of them covered a square foot of the surface of the back. She received the treatment outlined above. After the first series of injections the most remarkable results became evident, the whole area desquamating and leaving patches of healthy skin with small ulcerated areas. A somewhat similar result was obtained by Dr. Cawston in the treatment of Naukaklia, as reported in the BRITISH MEDICAL JOURNAL on December 4th, 1920, pp. 855 and 856. The skin of this Amatikulu patient was anaesthetic throughout, but after the injections the affected areas began to itch and caused her to scratch herself. On July 19th the skin was almost normal, a trifle lined, with a slight mottling of colour only. She is now walking about easily, is eating well, and feels well.

CASE IV.

This native woman was also in a dying condition; she was a case of maculo-anaesthetic leprosy with enormous discharging ulcers extending from the knees to the feet. She was very thin and weak. She received the same doses. The ulcers cleared up very rapidly at first, and, although there are still a few small sores, the extensive ulceration has healed up much more rapidly than a burn over such a large area would have been expected to do. To-day (July 19th) she feels well and walks about easily all over the place. Throughout the injections the ulcers have been treated locally, as they were treated before the commencement of the antimony course.

CASE V.

On January 20th this native boy of 11 years was considered to be dying. He had enormous tubercles all over the face which might be described as confluent. On one of the feet there was a perforating ulcer 2 inches in diameter. He was given 2.5 c.cm. of colloidal antimony intramuscularly. This dose gave rise to a very severe reaction and for a week his condition was very grave. At the end of the week, however, he felt so much better that he requested me to continue the injections and 3.5 c.cm. were injected without ill effect; 6 c.cm. were given on the following day. All the tubercles shrunk immediately so that their summits looked feathery as a result of acute desquamation. This desquamation has occurred after the other series of injections. On July 19th the tubercles, though present, were much smaller and retracted. The boy is taking his food well and feels well. The ulcer on the foot healed rapidly and has not caused any further trouble.

CASE VI.

This native man showed macular areas all over his face and body, these leprous areas were depigmented and anaesthetic. He improved very rapidly after the first series of injections in February. The spots began to regain their pigment and the sensation of pain returned. The sweat glands returned to normal in the leprous areas, so that the skin regained its normal appearance and became shiny. To-day there is only a slight mottling of the skin to indicate previous disease.

At a later date it is hoped to give a more extensive report of the effect of antimony on a large series of cases, but at the end of six months' treatment one can say without fear of contradiction that antimony has a very decided value in the treatment of leper patients, more particularly those who are exhibiting severe manifestations of the disease. Dr Andrew Balfour of the Wellcome Bureau saw these cases when visiting Natal, and they have been inspected by a considerable number of medical men from various parts of South Africa who are interested in the progress of the treatment.

[1] See BRITISH MEDICAL JOURNAL, July 17th, 1920; December 4th, 1920; March 19th, 1921.

THE ANTE-NATAL TREATMENT OF CONGENITAL SYPHILIS WITH SALVARSAN AND MERCURY.

BY

JOHN ADAMS, F.R.C.S.

IN his article in the JOURNAL of November 26th (in the course of which he refers appreciatively to my cases at the Thavies Inn Clinic) Dr. Leonard Findlay states, "That the curative treatment of congenital syphilis, if not a failure, is at least a great disappointment, no one who has had much experience will deny." As this statement is opposed to my experience, I should wish to point out some difficulties Dr. Findlay has had to contend with in treating his cases, and to express the opinion that, had other methods been used, very different results would probably have ensued.

I will begin with Dr. Findlay's last paragraph, in which he says that all his cases were out-patients. In such circumstances the treatment of congenital syphilis would certainly be unsatisfactory and disappointing, for a large number of syphilitic babies would have died before it was possible for them to be treated as out-patients.

I would strongly urge that the best time to treat all cases of syphilis, whether ante-natal, post-natal, or acquired, is the earliest possible moment available, and this applies especially to newly born babies. I have seen several cases which, had treatment been delayed for a few days, would certainly have died. Babies have been treated at the Thavies Inn Clinic within a few hours of birth, and one of the earliest under an hour, with good results and perfect safety.

Pain is mentioned as a drawback to the treatment of post-natal syphilis, but if galyl in glucose is used intramuscularly in appropriate doses according to the age and weight of the child, no discomfort follows its use, and all the advantages of salvarsan are obtained.

Dr. Findlay's reference to "limits of curative treatment" is somewhat confusing, for he states: "In any case the curative treatment has the great shortcoming that it only influences the disease in children born alive, and neglects altogether the ravages during intrauterine life." If this paragraph refers to post-natal syphilis, one knows how difficult such cases are to deal with if allowed to go untreated for a year or more.

Under the heading of technique it is stated: "Administration of salvarsan in infants and children by the intravenous method considerably limits its use." Intravenous injection for babies and young children appears quite unnecessary, and in many cases would be impossible; injection into the superior longitudinal sinus is open to still greater objection, as at all times there must be a certain amount of danger; but intramuscular injection of galyl in glucose in the gluteal region is perfectly safe, painless, and effective, and should be adhered to in all cases of newly born babies and young children.

In his remarks on the time of election of treatment Dr. Findlay asks the question, "Should the treatment be carried out as soon as the diagnosis is made, or should it be delayed until the woman is pregnant?" My practice is to treat the patient at the very earliest opportunity and continue for a prolonged period—two years if possible.

The method of breast feeding as advocated by Dr. Findlay has brought about the best results in the cases under my care, but it is frequently found necessary to supplement it by some form of artificial food, and all patients, whether babies or adults, should be given mercury as well as salvarsan.

The accompanying table shows the result of treatment of women during pregnancy and of the newly born children at the Thavies Inn Venereal Centre for Pregnant Women during the four years it has been open. I append also a tabular outline showing the method of treating babies adopted at the clinic.

Result of Treatment of Women during Pregnancy and of the newly born Children.

Years (September 1st to August 31st).	Mothers Admitted with Syphilis.	Babies Born Alive. Wassermann Reaction: Positive.	Negative.	Babies Dying of Syphilis.	Foetus Stillborn from Syphilis.
1917-1918 ...	23	17	6	Three at the ages of 3, 14, 35 days respectively	5
1918-1319 ..	30	8	21	One, 2 months	1
1919-1920 ...	37	1	36	None	0
1920-1921 ..	23	5	16	None	2*

*Neither of the mothers had treatment before admission and both were confined of macerated babies soon after

Treatment of Babies.

	Wassermann test of Mother	Placenta	Baby
Treatment	+	+	+
	+	+	—*
No treatment	+	—	—*
	—	—	—

	Intramuscular Galyl in glucose†	Intramuscular Hg‡
1st day	1.25 cg.	—
8th ,, ...	1.5 cg.	1/6 gr.
22nd ,, ...	2 cg.	1/4 gr.
36th ,, ...	2.5 cg.	1/4 gr.
Wassermann test.		
50th ,, ...	2.5 cg.	1/3 gr.
64th ,, ...	3 cg.	1/3 gr.
78th ,, ...	3 cg.	1/3 gr.
Wassermann test; Nearly all babies become negative before or at this period.		
120th day...	3.5 cg.	1/3 gr.
134th ,, ...	3.5 cg.	1/3 gr.
148th ,, ...	3.5 cg.	1/3 gr.
176th ,, Wassermann test.		

	Oral Hg
...	—
...	1/2 gr. daily Hyd. ℂ creta
...	,,
...	,,
...	,,
...	,,
Intermediate treatment.	

At the ninth and twelfth months courses of three injections of 4 to 5 cg. galyl and 1/2 grain mercury should be given, and gr. 1 hyd. ℂ creta daily for a month. Further treatment is governed by the progress of the case. Should the Wassermann test become positive at any future date intensive treatment should be begun immediately. These doses are calculated for babies of normal weight for their age.

* Do not usually require the full course of treatment.

† To be obtained in 2.5 and 5 cg. ampoules from the Anglo-French Drug Co., Ltd., 238a, Gray's Inn Road, London, W.C 1.

‡ Mercurial cream for adults, 40 per cent.; for babies, 20 per cent. Can be obtained from Squire, 413, Oxford Street, W. A special syringe, which can be obtained from Montague, 69, New Bond Street, W., marked with fifteen divisions, each of which is one-fortieth of a cubic centimetre, is recommended. With 40 per cent. mercurial cream each division contains 1 cg. or gr. 1/3 of mercury.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A CASE OF MENINGITIS SIMULATING TETANUS.

H. S., aged 47, came to the Casualty Department of the Radcliffe Infirmary, Oxford, on November 4th complaining of pain in the neck and abdomen and stiffness of the lower jaw. Six days previously he had fallen off his bicycle, cutting the inner aspect of the left thumb on a bucket he was carrying. The wound was carefully cleaned at the time and dressed on the succeeding days.

On admission there was some slight rigidity of the neck muscles and definite stiffness of the lower jaw, which he was unable to open more than about half an inch. A provisional diagnosis of tetanus was made and he was admitted, although in view of the fact that since the day of the injury he had repeatedly expressed his fear of contracting tetanus, it was thought the symptoms might eventually prove to be functional. On admission antitetanus serum was given as follows: Intrathecally 7,000 units, intravenously 10,000, and subcutaneously 10,000. The cerebro spinal fluid removed was clear and not under increased pressure. The following day his condition was much the same; there was trismus and rigidity of the neck, but no opisthotonos, risus sardonicus or general muscular spasm, squint or photophobia were noted, but he complained of headache. The knee-jerks were brisk and the plantar reflex flexor; the bowels were constipated. There was retention of urine; on passing a catheter a urethral discharge was noted.

Later in the day he was seized with a sudden spasm of the glottis and became cyanosed and pulseless, but was revived by artificial respiration, etc. He was now unable to swallow either solids or liquids, as any attempt to feed by mouth tended to bring on another spasm of the glottis. The case was now diagnosed as one of cephalic tetanus.

In the course of the next day, forty-eight hours from the onset of symptoms, he had several similar spasms, and died during one of them, in spite of the hurried performance of tracheotomy. The temperature was subnormal throughout; the pulse varied between 60 and 80. There was never any general muscular rigidity, but the spasm of the jaw never relaxed.

The patient was seen by several medical men familiar with tetanus, and the general consensus of opinion was that the clinical picture, whilst not quite that of ordinary tetanus, most nearly resembled that of so called cephalic tetanus.

At the necropsy the lungs and the right side of the heart were found deeply engorged; there was no tracheal or laryngeal obstruction. The convex surfaces of both cerebral hemispheres were

covered with a yellow purulent exudate. The base of the brain was normal in appearance. In a direct smear from its surface no organisms were seen. A culture unfortunately was not made.

Although direct evidence is lacking, it seems possible, in view of the chronic gleet, that the case may have been one of gonococcal meningitis.

I am indebted to Dr. Collier, under whose care in hospital the case was, for permission to publish these notes.

L. S. FRY, M.R.C.S., L.R.C.P.Lond,
Late House-Physician, Radcliffe Infirmary, Oxford.

OESOPHAGEAL POUCH.

S. L., aged 5, was admitted to the Glan Ely Tuberculosis Hospital of the Welsh National Memorial Association on October 22nd, 1921, as a suspected case of tuberculous peritonitis and cervical adenitis. The history was that the child had been quite well until eighteen months earlier, when she swallowed caustic soda accidentally. Since then she had been ailing and getting progressively thinner, vomiting more or less regularly every few days. The child was wasted and emaciated and weighed only 1 st. 10 lb. 10 oz.; although showing possibly some of the stigmata of tubercle there was no definite evidence of any active disease. The abdomen on physical examination did not show any marked pathological condition.

The child was put on a light diet, but it was found that she was able to take very little; she vomited very frequently and probably brought back the greater part of whatever was swallowed. The vomited matter was alkaline or faintly acid; a fluid diet was tried with no better result. The bowels acted fairly regularly; the motions were loose and pale. The vomiting took place without effort and independent of the time of taking food; after some days of observation the possibility of an oesophageal pouch was suggested by Dr. Clark, the senior assistant medical officer. A fortnight after admission a bismuth meal was given and the chest screened, when a dark image, in shape a somewhat oval pouch, was seen. An *x*-ray plate showed a distinct pouch of the oesophagus at the level of the third to the seventh dorsal vertebrae.

As the child was too weak and emaciated to stand any severe or prolonged operation a gastrostomy was suggested as a means of getting her into suitable condition for possible removal of the pouch. The parents, however, refused operative treatment and took her home.

ALEX. BROWNLEE,
Medical Superintendent.

LABOUR COMPLICATED BY MALIGNANT GROWTH.

AT 3.30 a.m. on July 22nd, 1920, I was asked by my partner to assist him at a midwifery case. Neither of us had been engaged for the confinement, but a certified midwife was in attendance and had sent for help in the approved form. The woman was 38 years of age, a multipara, and this was her fifth confinement. She was very pale and cachectic, with oedema of the lower extremities and vulva, her pulse small and rapid, the rate 160 per minute, and her respiration sighing.

She had had an extensive haemorrhage, and the vagina was filled with a huge cauliflower growth, which bled readily when touched; the foetor was indescribable. After the most gentle manipulation, I found that the greater part of the growth arose from the anterior lip of the cervix. She was anaesthetized with chloroform, and upon passing my whole hand into the vagina I found that the head was presenting but not yet engaged in the pelvic outlet. I also made out that the head was fairly movable. I attempted to pass the lower blade of Barnes's long forceps, but on account of the free haemorrhage I had to desist. The patient was now *in extremis*. Foetal movements had not been felt by the mother for the last forty-eight hours; the foetal heart could not be heard; the child was evidently dead. I therefore performed bipolar version and was able to grasp the left foot; the child was easily delivered, but for a little delay caused by the head. The placenta was expressed and appeared healthy; the uterus contracted well. I gave the patient a half-grain morphine suppository. Convalescence from the labour was rapid, but the malignant growth increased, and in the course of a month presented at the vulva. She was then admitted into a neighbouring infirmary and transferred to a Liverpool hospital, where an exploratory laparotomy was performed; the growth was inoperable. She died from secondary deposits in the liver and lungs in June, 1921, eleven months after her confinement.

Wrexham, North Wales. J. C. DAVIES, M.D.

Reports of Societies.

SEPTIC INFECTIONS OF THE BLADDER AND KIDNEY.

AT meetings of the Royal Medico-Chirurgical Society of Glasgow, held on December 2nd and 16th, 1921, a general discussion took place on "The diagnosis and treatment of septic (non-venereal) infections of the bladder and kidney."

The opener, Dr. JOSHUA FERGUSON, confined his remarks to the infections associated with the *Bacillus coli communis*. This organism, normally harmless and useful, acquired, after leaving its ordinary nidus, a noxious and often dangerous character. In this respect, he suggested that just as the passage of a culture through various special media or certain susceptible hosts exalted its virulence, so the result of implantation upon new tissues might develop the morbific properties of the *B. coli*. The detection merely of coliform bacilli in the urine did not in itself prove the existence of a morbid infection. Often a bacilluria might indicate no more than the elimination of micro-organisms from the body. The lesions of the urinary tract dependent upon infection by *coli* organisms were cystitis, pyelitis, pyelonephritis, and pyonephrosis, or two or more of these may exist in combination or in sequence. The age and sex incidence was of considerable importance in diagnosis, and they occurred with almost equal frequency among the comfortable and among the less favoured classes, suggesting that the well-to-do were relatively more susceptible. Dr. Ferguson described 6 cases of cystitis and pyelitis, more particularly with regard to etiology and treatment, and concluded by emphasizing certain considerations relating to the treatment. In infants especially, but also in others, the early recognition of premonitory symptoms was important, as was, from the point of view of prophylaxis, the development of sound and cleanly functional habits. Diet, modified so as to ensure free internal lavage of the urinary channels, was all-important. Alkalinization of the urine should be obtained at the earliest possible opportunity; where this failed urinary antiseptics of the formaldehyde type (the best seemed to be hexamethylene-tetramine salicylate) were often successful. Regular free action of the intestine was an indispensable part of treatment, and in the infections under consideration the regular use of suitable doses of magnesium sulphate and sodium sulphate had usually a specially beneficent effect. Vaccine therapy in Dr. Ferguson's hands had produced inconstant results.

Dr. LEONARD FINDLAY dealt first with the varied symptomatology, which was especially so in infancy. The clinical picture was, as a rule, that of anything but an infection of the urinary tract, and very many diseases were simulated. Rarely, if ever, was the condition in infancy admitted to hospital with the correct diagnosis. In part this was due to the fact that routine examination of the urine was not carried out in infants. Besides thorough chemical examination of the urine, a microscopic and bacteriological investigation also was essential. An occasional pus cell seemed to be a normal finding, and in febrile conditions shreds of mucin and leucocytes were frequently present. Culture of the sediment of almost any specimen, taken with all due precautions, showed an occasional colony of *B. coli communis* or some other organism. In pyuria pus was present, in most cases, in sufficient abundance to be recognizable without centrifugalization. In a few cases the pus appeared in the urine only some time after the onset of illness. In bacilluria or bacteriuria, again, the organisms could readily be seen in a fresh drop without centrifugalization, and in films were abundant and cultivated readily (without centrifugalization). Dr. Findlay insisted on the need for obtaining over several months a pus-free and organism-free urine, as far as the fresh drop was concerned, before claiming a cure. One much discussed point was the mode of entrance of the infecting organism. Much experimental work had been done, and the conclusion reached that the passage of the infecting agent up the urethra, if the urinary tract was healthy, was improbable, but this was not so in the presence of abnormality, such as congenital hydronephrosis. Free drainage was necessary to secure the excretion of organisms such as *B. coli*, which passes through the kidney, but where anything interfered with the emptying of the urinary system the organisms multiplied and produced infection. While many clinicians believed that infection per urethram was probable Dr. Findlay did not favour this view.

With regard to the seat of origin, while many believed

that the disease commenced as a pyelitis, this was not necessarily so, although it seemed to be so in tuberculosis of the urinary system. Clinical histories and cystoscopic findings were against this contention. Clinically two distinct and different pictures were seen. In infants the disease usually began with great suddenness, with fever and severe toxic symptoms. It was one of the rare conditions in infancy in which rigors occurred. The urine contained pus and organisms, and occasionally small amounts of blood. In older patients there was frequency and pain on micturition and passage of blood at the end of the act, or it might be of a highly blood stained urine. There was no fever. In Dr. Findlay's opinion the latter type was a primary cystitis unaccompanied by pyelitis, and the former a primary pyelitis. The mortality was high in the former and very low in the latter. Observations made by himself and Dr. Renton, using the cystoscope and ureteral catheter, substantiated the truth of the teaching that primary cystitis did occur.

In conclusion Dr. Findlay said that his sympathies were with the haematogenous school. Various factors influenced the effects of the excreted organisms on the urinary tract and precipitated the inflammation. The disease occurred most frequently in infancy and young childhood, and this might be associated with the frequency of intestinal catarrhs at these times. Such increased susceptibility was seen in the cases of meningococcus, gonococcus, and tubercle bacillus in their effects on the meninges, infant conjunctiva, and lymphatic system respectively in infants.

Professor CARL BROWNING said it was important to note that cases might be divided into two distinct groups—those with obvious mechanical obstruction where removal of the blockage was mainly responsible for cure, and those where there was no mechanical abnormality and operative measures did not possess the same radical importance. The condition might apparently be primary or it might be a complication in other diseases. In diagnosis the presence of organisms in considerable number in recently passed urine, gross contamination being excluded, could only mean infection in the urinary tract. It must be remembered that it was not possible to determine which portions of the urinary tract were involved by a microscopical examination of the epithelial cells in the urinary sediment. Regarding routes of infection, it appeared improbable that the renal pelvis frequently became infected from the bladder unless there was obstruction. Passage of organisms from the blood stream to the renal pelvis occurred freely, and this probably represented an important route of infection in pyelitis. Infection by the lymphatic route had also to be considered. The bacteria found were most frequently bacilli of the *coli* group, but staphylococci or streptococci might also be present. In cases of chronic pyelitis, microscopic examination had shown that the bacteria did not merely inhabit the surface, but were lodged in the depths of the tissues and were thus protected from any therapeutic agents which did not possess considerable penetrating power. In considering treatment, Professor Browning referred to surgical measures in chosen cases and the alkalinization of the urine, as recommended by Dr. John Thomson. He also spoke of treatment by vaccines, and while admitting that results were inconstant, thought that they deserved a trial. In regard to the use of urinary antiseptics he referred to hexamine, the flavines, and the recently introduced organic mercury compounds such as mercurochrome.

Sir KENNEDY DALZIEL, in opening the discussion on the second evening, referred to the part played by the surgeon in septic infection of the bladder and kidney. Cystitis was rarely a primary disease, and was due, as all inflammations were, to the access to the bladder wall of micro-organisms. As a rule the symptoms were frequency of micturition, pain and strangury, with, later, alterations in the excretions. In the absence of instrumentation or other traumatism, these symptoms would usually be found to have their origin in pyelitis rather than cystitis. Cases to the contrary did occur, but in practice the bulk of cases had their origin either in the kidney or in the prostatic urethra. All were familiar with cystitis caused by catheterization, even with carefully sterilized instruments, infection being carried from external parts, or even the terminal part of the urethra. It might also be caused by injury with a foreign body and other factors which injured the mucous membrane of the bladder. The condition of the urine itself might play an important part in the causation of cystitis. Retention of urine in stricture and prostatic disease and the presence of blood serum in the urine encouraged growth of organisms. In the absence of instrumentation, germs found entrance to the blood stream through septic conditions of the teeth, tonsils, and various cavities. Most were destroyed by the blood cells, but when devitalizing conditions arose the organisms were not so destroyed but were thrown out by the kidneys. For that reason surgical operations attended by shock and exhaustion were sometimes followed by urinary infection, without the passage of a catheter. Surgical wounds of the bladder might cause cystitis, and the greatest care and precautions were necessary to avoid the introduction of organisms during and after operation. The after-treatment of prostatic cases was drainage and lavage, and frequent dressing was of the greatest importance. Inflammation of the prostate caused cystitis by direct extension to the bladder and might also cause profuse urethral discharge. The micro-organisms causing cystitis might be any of the pyogenic organisms, but, apart from instrumental infection, it appeared that the commonest infection was that of *B. coli communis*. Additional symptoms in cystitis were pain in the perineum, especially if the prostate was involved, and, in acute cases, tenderness above the pubis. In more marked cases blood cells, epithelium, and leucocytes were found in the urine. The urine was acid unless ammoniacal decomposition had set in. The symptoms of pyelitis and prostatitis were very similar, but in the former the tenderness was found in the kidney region, along the ureter, near but below McBurney's point and above Poupart's ligament; while in prostatitis the pain was more marked in the perineum, and was referred along the urethra. Cystitis varied in degree from the merely congestive or catarrhal to the haemorrhagic, the ulcerative, and gangrenous, and so also the constitutional symptoms varied. The condition of the urine varied also with the severity of the attack. For the most part the temperature was but little raised in cystitis, while the opposite prevailed in prostatitis and pyelitis, and in these the constitutional disturbance was greater.

For treatment, the first indication was the removal of all predisposing causes—stone, tumour, etc.—and also all causes of obstruction to the outflow of urine must be removed. Citrate of potash and diluents should be used in the milder cases till the urine was alkaline; thereafter the exhibition of a urinary antiseptic, such as urotropine or hexamine, in conjunction with an acid tonic. In more severe cases lavage with saline or boric solution was helpful, and in ulcerative and sloughing conditions suprapubic drainage must be had recourse to. His experience of vaccines had not been altogether favourable.

In inflammation of the kidney the infection almost always took place through the blood stream, and the structure of the kidney assisted this when organisms were in excess or resistance lowered. True bacilluria might exist for a considerable time without inflammation of the bladder or kidney, causing few symptoms, and those of a vague kind only. Blood might be present in pyelitis, even forming clots. Bladder pain might be very intense and the pain referred along the urethra. The urine was acid and *B. coli* was present; if copious an opalescent appearance was given. There might be tenderness over one or both kidneys. Fever and frequency of micturition might be marked; the former was a constant and important symptom. Acute cases might simulate an "acute abdomen." For treatment, alkalies, plenty of fluid, warmth, rest in bed, freedom from worry, and nourishing light diet, were recommended. The use of collargol in lavage through a ureteral catheter, and the free incision of the kidney in acute cases, were also mentioned.

Dr. JOHN THOMSON (Edinburgh) confined his remarks to the diagnosis and treatment of acute uncomplicated infection by *B. coli* of the higher parts of the urinary tract as it occurred in children of 2 years old and under. It seemed certain that the colon bacillus causing the infection came from the patient's own bowel. For many reasons it was obvious that the mucous membrane of a normally healthy genito-urinary tract was not readily infected by the *B. coli*. There was reason to believe that in health colon bacilli passed out of the body by way of the urine without doing any harm during their rapid downward passage; for an infection of the tissues of the tract to occur, either (1) the resistance of the tissues had been lowered, or (2) there had been retardation of the flow of urine downward so that the bacilli had been abnormally long in contact with the mucous membrane, or (3) for some reason the organisms possessed increased virulence. In clinical work there was often a history of such weakening diseases as influenza, infantile scurvy, etc., or a local lesion such as prolapse, threadworms, or anal fissure. The most evident

cause of obstruction to flow occurred in cases of congenital hydronephrosis; but it was possible that temporary blocking might occur, which was difficult to demonstrate. A history of severe diarrhoea was very common indeed.

The organisms found entrance into the urinary tract in three ways: (1) By the blood stream, which they had entered through some wound or abrasion of the skin or mucous membrane. (2) Directly through the tissues, especially into the right kidney from an inflammatory lesion of the bowel which lay in close contact with it. The attack often set in during an attack of severe diarrhoea. (3) By an ascending infection passing up the urethra from without, probably only in female cases. The infection might be confined altogether or mainly to one portion of the tract, or it might spread. In most cases it was impossible to obtain light on the distribution of the lesion from any examination of the urine, but information might be obtained by a study of the nature and course of the symptoms. Where the disease was confined to the bladder this might be recognized by the presence of pus and colon bacilli without toxic symptoms, but commonly with very frequent micturition, with or without incontinence. There might be an offensive smell and sometimes haematuria. When the ureter, pelvis, or kidney became infected, acute general symptoms immediately arose with high fever, prostration, nervous irritability, and sometimes delirium. In young infants squinting was common. Where general symptoms were severe from the first there were also signs of acute intestinal disturbance. In girls, also, in about half the cases, the rise of temperature was accompanied by one or more rigors—a rare symptom in infancy. Sometimes there was faintness or even unconsciousness. During the acute stage the respiration was generally accelerated, as compared with the pulse, although the lungs were not affected. Local symptoms, if present, were generally slight, although sometimes distinct enlargement, with tenderness of one or both kidneys, could be made out, A fresh specimen of urine was generally acid and might show albumin. There were usually visible colon bacilli and six to eight pus cells in each high-power field of a drop taken from the middle (and not the sediment) of the specimen. These urinary characteristics, taken along with a characteristic high remittent type of fever which ceased on alkalinization of the urine, constituted the essential elements of a diagnosis of *B. coli* affection of the renal pelvis.

Implication of the kidneys was suggested when the child was much collapsed, and when there was a considerable amount of albumin or when many casts were present. The temperature might be high and irregular or it might be normal or subnormal towards the end. Failure of alkalinization to relieve the fever within forty-eight hours was usually a sign that the kidneys were badly affected. The age and sex incidence was mentioned with regard to frequency and severity of attack. For treatment, plentiful use of fluids by mouth or otherwise was necessary, and one of the following measures: (1) The use of serums or vaccines, (2) administration of antiseptics, and (3) alkalinization of the urine. The first two methods had proved disappointing in Dr. Thomson's hands, and the third method was that usually adopted by him. Potassium citrate, simply because it was the least unpalatable, was the alkaline drug he most frequently used. If diarrhoea was caused, sodium bicarbonate might be substituted. The effect of the alkaline treatment could be well seen on the temperature charts, and the other symptoms always improved when the temperature fell. Doses that were too small exerted no influence on the course of the disease. If the disease had spead to the kidneys to any serious extent this treatment had little if any effect. When there was a mixed infection harm might be done.

Dr. JOHN COWAN remarked that although infection of the urinary passages with *B. coli* was considered to be due to a blood infection, no allusion had been made to blood culture. Blood infection might occur in cases of intestinal infection; it was the rule in enteric fever, and it was common in dysentery. If the assumption was correct, and blood infection preceded infection of the urinary passages, one would expect to meet cases where the general symptoms predominated, and local symptoms were absent or minimal. Such cases had already been referred to in children, but they occurred also in adults. He described two cases in which general symptoms of cerebral type obtained associated with a gross infection of the urine. The urinary symptoms were minimal or absent, and in both improvement in the general symptoms was the result of treatment by alkalies, and coincided with improvement in the urinary symptoms. There was no particular difficulty in recognizing the condition if search was made for it.

Dr. MARION GILCHRIST referred to the methods of treatment she found most efficacious. These included free purgation, sufficient doses of a paraffin emulsion with salol, which coated the bowel and prevented absorption of poison, antiseptics according to the nature of the case, free flushing of the urinary system, and urinary sedatives. Dr. Gilchrist suggested that there was a wide field for investigation in the study of the part which the endocrine glands played in the defences of the kidneys and bladder.

Mr. J. MILL RENTON differentiated between chronic cases depending on obstruction in the urinary tract and those without obstruction. The former usually cleared up with removal of the obstruction. In the non-obstructive cases the symptoms, mainly pain and frequency, were usually referred to the bladder. Before classing these cases as cystitis a comprehensive examination should be made of the whole urinary tract. Infection of one or both kidneys, or infection of the prostate, might keep up a cystitis. Cystoscopic examination of the bladder should be made in all such cases. By ureteral catheterization a specimen of urine should be obtained and examined. Abscess of a kidney was thus detected, and suitable treatment would rapidly clear up the infection. Sometimes a *B. coli* infection masked a tuberculous kidney. The treatment of chronic pyelitis causing cystitis was still far from satisfactory. Bladder lavage and vaccines were unsatisfactory. Lavage or instillation of the renal pelvis got at the seat of the disease more directly than other treatment, but opinions regarding the results were conflicting.

Mr. ARCHIBALD YOUNG (whose remarks were communicated by Mr. SCOULER BUCHANAN) pointed out that the subject of discussion was not limited to infections with *B. coli*. This failure to recognize the other types of infection might account for the different opinions as to diagnosis and routes of infection and treatment. He believed that a very large proportion of cases were brought about by ascending infection. The late Dr. Lindsay Steven proved beyond dispute that septic infection might spread upward by the lymphatics and give rise to septic lesions in the kidneys. This method of spread might explain many of the supposed blood infections. Admitting that many infections of kidney tissue, etc., were blood infections, the greater number were probably due to ascending infection. A very large proportion of simple *B. coli* infections appearing in later life, and more especially in the female sex, seemed to be recurrences of definite attacks dating back to infancy, or the transformation into active disease processes of simple bacillurias present, it might be, all through life and producing little or no symptom. As to diagnosis, Mr. Young agreed that careful and repeated examination of the urine was necessary, but the clinician's view should not be overshadowed by the pathologist's. There must be, however, unceasing care in observation of the case from every point of view. Treatment must depend obviously on diagnosis and on the route of infection. Vaccine therapy was disappointing, but the alkalinization of the urine had proved an effective measure in his hands associated with free flushing of the renal filter. He believed fully in large doses of urinary antiseptics such as hexamine and salol. His success in using the former was due to the fact that he used it in large doses combined with an alkali, and never with acid sodium phosphate. He rarely employed washing out the bladder in cystitis. Similarly he did not consider catheterizing the ureters was good practice.

POST-OPERATIVE EMBOLISM AND INFARCTION.

A DISCUSSION took place in the Section of Surgery of the Royal Society of Medicine on January 4th, on "Post-operative embolism and infarction." The chair was taken by the President, Mr. RAYMOND JOHNSON.

Mr. J. P. LOCKHART-MUMMERY, in introducing the subject, said that with the diminution almost to vanishing point of sepsis and shock, post-operative embolism was probably the worst tragedy of surgical practice at the present time. In one hospital alone there had been 18 deaths in a recent year from this cause. Moreover, the fatal cases appeared to be increasing; the incidence in some hospitals had doubled as compared with a corresponding pre-war period. Cases of embolism might be divided into three categories: (1) those in which death occurred instantaneously; (2) those in which death occurred within a few minutes or hours following an acute and sudden crisis; (3) those in which the patients

developed signs of consolidation in part of the lung following a similar crisis, and recovered. With regard to the first class of cases, he believed such sudden deaths could only be accounted for by an embolism in the medulla of the brain; possibly a thrombus formed in one of the pulmonary veins, and a portion of loose clot was detached and found its way through the carotid. Deaths in the second class of cases he attributed to heart strain through limitation of the pulmonary circulation. The heart was strained against a very serious obstruction in the arterial field through the right ventricle. The indication was to relieve pressure by dilating the vessels as much as possible; for this purpose amyl nitrite was probably the most valuable drug. In embolism or infarction the first symptom was invariably pain, and the temperature did not go up until afterwards; in this respect it was different from pneumonia, where the pyrexia came first, and the dyspnoea was a comparatively late symptom. He believed that it was to thrombosis of the pulmonary veins that they must look for the source of the cerebral emboli which formed quite a large proportion of these cases. There was a very prevalent belief that embolism was due to sepsis, but this he could not entirely endorse; the majority of cases in which pulmonary embolism occurred were cases in which there was no evidence of sepsis at all. The exact morbid pathology was not clear, but he thought it evident that a degree of stasis in the veins or at least a sluggish circulation must be present before vascular clotting could take place. The fact that such embolisms did not occur after operations on children was further evidence in support of this view. But while a considerable degree of venous stasis was a necessary factor in post-operative thrombosis, it was not the only factor, otherwise mere recumbency or lack of movement, without any operation at all, might result in thrombosis. In his view, before intravascular clotting could occur, two factors must be present: (1) A certain amount of thrombokinase derived from the tissues of the body and liberated into the blood by the wound, and (2) venous stasis. Neither factor alone could produce thrombosis. The condition was not one which lent itself to treatment; the hope lay in means of prevention. Such steps as were possible must be taken to prevent venous stasis in the branches of the vena cava. The preliminary purgation of the patient should be abandoned entirely, or, if necessary at all, should be carried out five or six days before operation. Starvation before and after operation should be relegated to the pages of history. Care must be taken to avoid as far as possible any constrained position on the operation table, and after operation the patient should be encouraged to move or should be moved so that the larger muscle masses were brought into action.

Mr. VICTOR BONNEY believed that pulmonary embolism was the result of sepsis, but the word must be understood in a very wide sense, and the condition presented some peculiar and obscure features. In the greater number of gynaecological cases, and also in cases of ordinary labour, it occurred, if at all, between the tenth and twentieth day following operation or delivery, and this was the period in which other complications most frequently occurred. In nearly all cases in which pulmonary embolism eventuated, whether after a gynaecological operation or after labour, the progress of the patient up to that point had been satisfactory, and the gynaecologist or obstetrician in charge was inclined to feel aggrieved at the occurrence of the embolism. But, as a rule, if the temperature chart were examined it would show that these patients were not quite right; the temperature might perhaps have gone up to 99° F. every evening for a week, or there might have been what he called subnormal fever. Pulmonary embolism was of most common occurrence after operations on the uterus. Among 1,791 hysterectomies performed at the Chelsea Hospital for Women from 1905 to 1918 it occurred five times. The incidence was much smaller in operations on the ovaries and tubes. In hysterectomy both the ovarian and the uterine veins were interfered with; in other gynaecological operations the ovarian only, or perhaps neither of the trunk veins. The uterine veins were very irregular, often lying below or in front of the uterine artery. So far as he knew, there were no valves in that uterine system of veins. In a pregnant uterus the conditions were somewhat modified, because then the trunk system of veins was extended into the uterus itself, whereas in the non-pregnant uterus the trunk veins ceased on reaching the uterine wall. He thought it probable that there was some auto-infection of the veins, occurring between the tenth and twentieth day. Whatever the nature of this infection, whether by bacteria or toxins, the injury to the vein wall was very slight, and the resulting thrombus was very feebly attached, so that it was easily separated. He questioned Mr. Lockhart-Mummery's statement that these cases were increasing. At the Chelsea Hospital for Women, while there had been, as he had said, five fatal cases due to this cause out of 1,791 hysterectomies from 1905 to 1918, if an earlier period were taken, from 1895, out of 1,573 hysterectomies the deaths from this cause numbered eleven; if all operations on the abdomen performed at this hospital were taken, the incidence of pulmonary embolism in the earlier period was again about twice what it was in the later. He could not think of any difference in operative technique to explain this, although certainly the operations were now done more dexterously and expeditiously, and no doubt sepsis was much lessened and recovery more rapid.

Dr. ARTHUR LATHAM thought that the bulk of cases of pulmonary infarction were not correctly diagnosed even at the present day. They were diagnosed as pneumonia or pleurisy, or it was frankly stated that the case was not understood. In the majority of cases, unless death occurred at once, the patient did well. The only necessity with regard to treatment was complete quiet and the avoidance of meddlesome tactics. His experience was that most of the cases of pulmonary infarction occurred in people who were run down or were in a chronic debilitated condition. In treatment he made a practice of giving citric acid in considerable doses, and believed that it had some effect in diminishing the tendency to thrombosis. The acid itself should be given, not citrates, which were inert.

Sir CHARLES GORDON-WATSON said that in 1921, in his wards at St. Bartholomew's, he lost two patients from pulmonary embolism after operation, and he had three cases of pulmonary infarction which recovered. He had asked Dr. Spilsbury to look through the *post-mortem* records of two years, and it was found that in those two years, out of 1,013 consecutive necropsies, the deaths from pulmonary embolism numbered nine, and Dr. Spilsbury rather thought there was one other case which was not indexed, making this the cause of 1 per cent. of the deaths. In the gynaecological department of Johns Hopkins Hospital, among 21,000 operations there were 31 deaths attributed to pulmonary embolism. He believed that it was a great mistake to purge the patient beforehand. The loss of fluid in the blood by purging, the haemorrhage during operation, and the post-anaesthetic vomiting, were all factors which the surgeon could minimize. Among other contributory factors were a recumbent position and diminution of respiratory effort and muscular contraction, together with any factor which caused clot. In his wards a scheme of respiratory exercises was carried out by patients after abdominal operations, and massage was also given where possible. He could not help thinking that posture played some part in the trauma of the vessels. In the records of the Mayo clinic the frequency of cases of thrombosis was greatest, next after operations on the uterus, in gall bladder operations, and it was in these operations that the spine was screwed up in such a way that the inferior vena cava must be stretched to a very considerable extent. Cases of pulmonary infarction seemed to be on a different basis from cases of sudden pulmonary embolism. Most of the former did show an irregularity of temperature after operation, and did not run a normal course. Of the two cases which died in his wards last year, one was a gall bladder operation, and the thrombosis was found, not, as might have been expected, in the inferior vena cava or its branches in the pelvis, but in the superior vena cava right up in the innominates, involving the right innominate and to some extent the left. The other was a breast case, and no thrombosis was found at all.

Dr. J. BLOMFIELD, who was invited to speak as an anaesthetist, claimed that most of the so-called ether-pneumonias were simply pulmonary infarctions. He believed that the effect of any of the commonly used anaesthetics on the clotting power of the blood was negligible. With regard to post-anaesthetic vomiting as a contributory factor to clotting, he thought it might fairly be claimed that this vomiting had greatly decreased in modern practice. Patients were much better off in this respect than they were twenty years ago.

Mr. W. MCADAM ECCLES said that he had had three cases of pulmonary embolism in six weeks recently. Two of these cases were fractures, and the possibility was suggested to his mind that in many of these cases of embolism after operation the conditions were similar to those obtaining in a fracture—

namely, there was injury to the vessels and injury to the fatty tissue. It might be that clot causing pulmonary embolism in some way resulted from this combination. Both these cases were comminuted fractures opening up a good deal of medullary tissue, but there was no wound, and consequently sepsis was not to be expected. There was no rise of temperature in either case. The third was an operation case—a case of hernia in a very stout man, who was getting up a fortnight after operation when he suddenly died.

The PRESIDENT remarked that there appeared to be few, if any, cases of pulmonary embolism recorded in war surgery. Partly this might be explained by the good physical condition of the patients and partly by the fact that they were not burdened with over-preparation for operation. His own opinion was that these cases were not increasing; figures which suggested that they were on the increase might be the result simply of the more careful investigation and analysis of cases which now obtained.

Mr. LOCKHART-MUMMERY, in reply, said he felt no doubt that dyspnoea in pulmonary embolism was due to the tremendous strain thrown upon the right ventricle of the heart in trying to force the blood through the blocked pulmonary artery. He had made inquiries in various directions about these conditions in war casualties, and the universal opinion was that pulmonary embolism was exceedingly rare in war surgery, if it existed at all. The vigorous circulation of the men and the fact that they were not kept so still as the ordinary hospital case might go far to account for the immunity.

BRITISH ORTHOPAEDIC ASSOCIATION.

THE annual meeting of the British Orthopaedic Association was held at Liverpool on December 2nd and 3rd, 1921, under the presidency of Sir ROBERT JONES.

Late Results of Treatment of Congenital Dislocation of the Hip.

Mr. H. A. T. FAIRBANK, in opening this discussion, presented a survey of the late results in a personal series of 146 cases (175 hip-joints) examined at least five years after the attempted reduction of the dislocation. He divided his cases into three age groups—(*a*) under 3, (*b*) 3 years and over but under 6, and (*c*) 6 years and over. The results were tabulated in three categories—namely, cures (first class and second class), anterior repositions, and failures. In his experience cases seen before the end of the third year offered the chance of obtaining by manipulative reduction 70 per cent. of cures in unilateral cases and 50 per cent. in bilateral cases. In a small group of cases giving imperfect results from the manipulative method he advised an open operation, the object of which was the making of an upper lip for the acetabulum without opening the joint. He considered that open reduction of the dislocation was always unnecessary in the younger cases, but was justified in those cases of the middle age group in which manipulative reduction had failed. He believed that anterior repositions rarely gave functional results superior to those seen in untreated cases, but he considered that on this point further information was urgently needed. In general, Mr. Fairbank had found that the anatomical (as judged from radiograms) and the functional results showed a close parallelism. He dealt with some of the complications following reduction—for example, arthritis, pseudo-coxalgia, and ankylosis—and he instanced how the imperfect hip-joints of congenital dislocations were liable to secondary changes. In the routine manipulative treatment he emphasized the importance of maintaining the position of full abduction for a minimum period of six months. A considerable number of lantern slides illustrating the radiographic results were shown.

Mr. E. LAMING EVANS, in continuing the presentation of the subject, also based his conclusions on an investigation of a personal series of cases. He made a plea for the treatment of this condition at an early age, and in this was in accord with Mr. Fairbank. Mr. Laming Evans considered, however, that in the majority of cases the patients after anterior reposition had good function, and that the results were always to be preferred to those of untreated cases.

Sacralization of the Fifth Lumbar Vertebra.

Mr. C. THURSTAN HOLLAND, in a short paper, pointed out how little attention had been directed to sacralization of the fifth lumbar vertebra in this country, although in America and Continental surgical and radiological literature numerous papers were available. As a radiologist he had observed a number of examples of this anomaly, either in the routine examination of suspected renal conditions or where symptoms had been definitely localized to the lumbo-sacral region. He described one case in which removal of an abnormal transverse process of the fifth lumbar vertebra had produced relief of the chronic backache.

In the discussion following this paper the PRESIDENT and others gave instances in which the operative removal of such abnormal transverse processes had been followed by the relief of previous symptoms, but the consensus of opinion was that such operations were to be advised with extreme caution.

Endosteal Tumours.

Mr. HARRY PLATT read a short paper on a small series of endosteal tumours of the long bones which illustrated certain points: (1) The healing of a myeloma after curettage; (2) the occasional necessity for amputation for a myeloma; (3) the rapid visceral metastasis in true sarcomata following amputation; and (4) the simulation of a primary neoplasm by an apparently solitary endosteal tumour of the tibia, which proved to be of an epithelial type, and secondary to a probable malignant tumour of the kidney or adrenal.

Demonstration of Patients and Operations.

At the Royal Southern Hospital (Orthopaedic Service) on December 2nd Mr. T. R. W. ARMOUR showed a number of patients illustrating in particular some very successful results of bone grafting for flail joints. Following this a number of operations were performed.

On December 3rd Mr. R. C. ELMSLIE showed a series of lantern slides illustrating various types of fibro-cystic disease of bones and other cystic conditions. He pointed out the importance of establishing clinical groups, in dealing with such comparatively rare conditions falling into various pathological categories.

MIDLAND OBSTETRICAL AND GYNAECOLOGICAL SOCIETY.

THE first ordinary meeting of the Midland Obstetrical and Gynaecological Society was held at Bristol University on December 6th, with the President, Professor EWEN MACLEAN, in the chair.

Professor WALKER HALL gave an account of his research on the part played by different dilute acids in septic infections, and showed how careful determinations of hydrogen ion concentration were of value in accelerating and retarding growth of micro-organisms, in the making of blood cultures, and in connexion with developments in some aspects of diphtheria and tuberculous infection.

Professor WALTER SWAYNE reported a case of fibromyoma of the uterus complicating pregnancy and necessitating hysterectomy, and showed microscopic sections of the uterine wall from a case of accidental haemorrhage, partially concealed, associated with toxaemia. The sections showed interstitial haemorrhages and degeneration.

The PRESIDENT showed a specimen from a case of hypernephroma of the right kidney presenting some features of interest; on abdominal examination the case had presented many of the physical properties of a right ovarian tumour, and the patient had shown no sign of any suprarenal virilism. Dr. MACLEAN also showed a specimen of a large fibromyoma of the cervix uteri removed by panhysterectomy, and commented on the operative difficulties.

Mr. CHRISTOPHER MARTIN and Mr. FURNEAUX JORDAN, speaking of this case, both favoured enucleation of the fibroid prior to removal of the uterus.

Dr. G. I. STRACHAN showed a case of iniencephaly, which presented the typical retroflexed head and large foramen magnum, but no spina bifida. The specimen also showed absence of the left cupola of the diaphragm and numerous other abnormalities. Dr. Strachan also showed a specimen of thoracophagous twins united in the sternal and abdominal regions, and showing a large umbilical hernia, with single cord, in the line of fusion. The left twin showed absence of the left fibula and gross deformities of the left hand.

Dr. R. T. CARR showed specimens from the *post-mortem* examination of a case of acute haemorrhagic suprarenalitis occurring in a woman eight months pregnant. She had presented all the symptoms of acute intestinal obstruction, but on operating no mechanical obstruction was found. The right suprarenal body was very much enlarged and haemorrhagic, and the left similarly affected but to a less degree.

Reviews.

ATHLETIC TRAINING.

How to Become an Efficient Athlete,[1] by Dr. JOHN B. MCDOUGALL, is a book which should be studied by every young man who may aspire to do well at any athletic game or sport; if read and thoroughly digested by many of those persons who call themselves "trainers" it will do much to make their work more effectual and beneficial to those under their care. In an excellent introductory chapter Dr. McDougall points out the haphazard methods of training adopted, not only by the novice who attempts to prepare himself, but also by those whose vocation it is to supervise the work of "valuable" professional football players. He gives excellent advice, has a timely tilt at the bogey of "athlete's heart," and points out that which should be the real aim and object of scientific training and preparation, and what true "fitness" should mean.

The physiology of the heart, lungs, and muscles in their relation to training is shortly and clearly dealt with in language to be "understanded of the people." It is made quite clear that men in training are individuals, and that the methods of the bed of Procrustes cannot in any way succeed. Some men are "gluttons for work," and require it; for others a much milder régime will suffice, and any over-pressing will quickly result in staleness. There is a chapter on the skin and its most important functions during hard physical exercise, with directions as to the proper use of baths and massage, and a much-needed warning against "dilly-dally" on the training ground. Accidents and injuries, with their causes, are discussed, and in the chapter on diet the vexed question of the use of alcohol and tobacco during training is fully argued. The book concludes by setting forth the necessity for a broad view on athletics generally; this section should be carefully studied by parents, guardians, and schoolmasters generally. In the next edition a few words might be introduced on the special work required to get fit for cycle racing, for this sport differs from football and running (so ably dealt with in this work) in that the weight of the body is carried on wheels, and not on the feet. An extra word of warning to old athletes who may attempt to compete or play a strenuous game without very adequate preparation after cessation from active participation for some time would by no means be out of place. One other observation may be hazarded: it is that the ordinary club-playing amateur can hardly obtain the ideal preparation necessary for first-class and professional excellence, and perhaps does not need it. In the seventies of the last century a run across Hyde Park to early morning lecture was sufficient to ensure fitness enough to last through two strenuous "forty-fives" in international Rugby matches.

SURGERY OF THE UPPER ABDOMEN.

IT is well to make a virtue of necessity. One of the most satisfactory surgical textbooks published of late years, *Surgery of the Upper Abdomen*,[2] by DEAVER and ASHHURST, had the added attraction of convenient size, dignified page, admirable type, and everything that goes to the making of a real "book." And now—although

> "Surgeon nobs despise all jobs,
> Utility that verge on"—

here are the authors of a second edition writing a whole page of preface to prove that one volume without bibliographies, with summarized and condensed tables, and smaller margins, is better than two delightful volumes. Of course they are right, especially when, with all their sacrifices, the present edition costs £3 10s. The book is so well known and so constantly in use by surgeons that it is unnecessary to do more than mention some of the additions and revisions.

The section on gastric ulcer has been rewritten, with a new description of the stomach and its physiological "areas"; a new discussion of gastric analysis, and incidentally a new figure of sites of perforation of gastric ulcers, which is an extraordinary divergence from the analogous picture in the old edition. It certainly accords more nearly with average surgical experience. The junior author, it seems, reading between the lines, has had charge of this edition, but he preserves the same cautious non-committal attitude where he has not good personal grounds for a preference. On the question of "excision" of ulcers by the transgastric or other routes he has an open mind, whilst against "occlusion of the pylorus" he is almost decided, and for "partial gastrectomy" he certainly has a hankering, in preference to all tinkering methods.

For infantile stenosis Rammstedt's operation—simple incision down to the mucosa—is his choice. The discussion of jejunal and gastro-jejunal ulcers after gastro-enterostomy is interesting and charitable, though he still thinks an unabsorbable suture in the mucosa a sin. The sections on operative surgery of the gall bladder and spleen have similarly been revised, and there is a new section on operative removal of the descending duodenum.

The book, in its compact singleness of volume, remains a storehouse of practical information—a veritable surgeon's guide, philosopher, and friend.

INFLUENZA.

IN his *Studies in Influenza*,[3] Dr. BARTY KING first gives an account of an outbreak of 71 cases among 150 patients with malaria coming from Salonica and admitted to the County of London (Horton) War Hospital, Epsom, in September, 1918. Eight of the 71 patients died, and of these 7 had acute bronchopneumonia and 1 acute lobar pneumonia. It was noted that while quinine rapidly cured non-influenzal bronchitis in malaria patients, the continuous administration of quinine in cases of influenza in malarial subjects with acute pneumonia as a complication with no active malaria was harmful. Isolation, absolute rest in bed, and the early administration of strophanthus in large doses, were found the best lines of treatment in such cases. The author's second study deals with the after-effects of the acute pulmonary complications of influenza; here the use of the x rays in diagnosis is particularly recommended.

The third study gives an account of the incidence of influenza among the nurses and maids on the hospital staff during the influenza epidemic of 1918–1919. Among the 329 nurses 84 caught influenza and 2 died; both these nurses contracted the infection while nursing a severe case of influenza with acute bronchopneumonia, while a third nurse after five days' contact with the same case contracted a severe type of influenza that nearly proved fatal, the resident aural surgeon, treating the patient at the beginning of his illness, died of acute septic pharyngitis and septicaemia, and the chaplain, who was in contact with the patient throughout, contracted influenza with bronchopneumonia and died. It appeared that all the nurses developing severe forms of influenza had been working in wards containing severe cases of influenza, but that the incidence of influenza among the nurses was the same whether they had been in contact with mild or with severe cases. Dr. Barty King's book contains a great deal of valuable information on the symptoms and epidemiology of influenza; it will be read with particular interest at the present time when the disease appears to be on the move again in London and other great towns.

QUALITATIVE CHEMICAL ANALYSIS.

THE chemist who is much occupied with intricate analysis needs a reference book of wider range and more extensive detail than the textbook from which he learnt his first principles. Among the books which fulfilled this need with an older generation of analysts were those of C. Remigius Fresenius on qualitative and quantitative analysis. TH. WILHELM FRESENIUS has produced a seventeenth edition of the original work by the first Fresenius, and a translation of it by C. AINSWORTH MITCHELL, with the title, *Introduction to Qualitative Chemical Analysis*,[4] has been issued.

The opening chapters deal with fundamental conceptions of chemistry; then follow descriptions of the various operative methods potentially serviceable to analytical aims; next are

[1] *How to Become an Efficient Athlete.* By John B. McDougall, M.D. Glasg., M.R.C.P. Edin., F.R.F.P.S. Glasg. London: Henry Kimpton. 1922. (Cr. 8vo, pp. 58; 20 figures. 2s. 6d. net.)

[2] *Surgery of the Upper Abdomen.* By J. B. Deaver, M.D., Sc.D., LL.D., F.A.C.S., and A. P. C. Ashhurst, A.B., M.D., F.A.C.S. Second edition. Philadelphia: P. Blakiston's Son and Co.; London: H. K. Lewis and Co., Ltd. 1921. (Roy. 8vo, pp. 849; 198 figures, 9 plates. £3 10s. net.)

[3] *Studies in Influenza and its Pulmonary Complications.* By D. Barty King, O.B.E., M.A., M.D. Edin., M.R.C.P. Lond. and Edin. 1921. London: J. and A. Churchill. 1921. (Roy. 8vo., pp. vi+88; 31 figs. 7s. 6d. net.)

[4] *Introduction to Qualitative Chemical Analysis.* By Th. W. Fresenius. Seventeenth edition of the original work by C. Remigius Fresenius, translated by C. Ainsworth Mitchell, M.A. Oxon., F.I.C. London: J. and A. Churchill. 1921. (Demy 8vo. pp. 961: 57 figures. 36s. net.)

described the properties and reactions of elements, cations and anions; and finally are given schemes for the detection and recognition of the same elements and ions in complex mixtures. There are special chapters treating of the analysis of mineral waters and soils, and detailing processes designed for toxicological investigation; an appendix treats of vegetable alkaloids and toxic principles.

The sequence of arrangement and the style of presentation are substantially the same as in former editions, but descriptive terms are altered to agree with modern conceptions of chemistry; the new matter consists chiefly of accounts of useful reactions which were unknown when the last edition was issued. Chemists who are familiar with former editions will be well satisfied with the continuation in the new volume of the former scheme of presentation, which fulfils their needs very well. The descriptions of principles and methods relating to analytical reactions are complete and instructive, and the schemes detailed for separation of the constituents of mixtures are excellent examples of chemical procedure. The volume contains all the information that analysts may be expected to need regarding inorganic materials and the organic substances of ordinary occurrence.

The articles treating of mineral waters, soils, and toxicological investigations hardly differ from those of former editions. Such a process as that given for the elimination of arsenic from body tissues, which is one of most elaborate procedure, would rarely be adopted in the present day, but its inclusion seems nevertheless to be proper to the character of the book as an example of exact method. The part which deals with the isolation and identification of alkaloids is educational in the fullest degree. The solubility tables given have a certain measure of usefulness, and the coloured spectra of elements from the older volume is reproduced in the new.

Unstinted praise cannot be given to the translation. Signs are numerous that care was lacking in the choice of English expressions. The phrase (page 58), "the absolutely dry mixture of the substance and the explosive agent . . . ," is less pleasing than the corresponding expression in the former English translation, which reads (page 15), "the perfectly dry mixture of the substance with the deflagrating agent. . . ." Deflagration is explained and described as "explosive fusion" (page 58); in some cases the text retains the guise of the original German, as in the sentence (page 279), "when the ammonia was added in excess these precipitates consist of . . ." On page 230 "ductible" is used for ductile, and on page 15, "The identification of these substances to be investigated by analytical analysis may be effected . . ." It may be judged from these instances that some of the paragraphs treating of general chemical principles and fundamental conceptions of chemistry are lacking in the lucidity which is so important to younger students. Nevertheless, the quality of the book as a trustworthy guide in all those problems in which the analyst may have occasion to employ unusual methods is well maintained. Very few typographical errors have been noted, but the index might with advantage have been much more extensive.

PHOTOGRAPHY.

THE *British Journal Photographic Almanac* for 1922,[5] edited by GEORGE E. BROWN, contains, in a condensed form, such a vast amount of information on everything photographic that it is almost indispensable as a reference book to any photographer, amateur or professional. The trade advertisements alone take up some 450 pages, and practically everything used in photography is referred to; a feature of this part of the volume is the illustrations. The main portion of the text deals with photographic societies and various photographic bodies; there is an article on "self-instruction" by the editor; and following this is an epitome of progress. Events of the year, apparatus and equipment, negative and printing processes, and colour photography, form the subject matter of various chapters; there is also a large amount of miscellaneous information on formulae, and chemical, exposure, and optical tables are provided. One of the most interesting chapters is that on the process of desensitizing exposed plates so as to allow of their development in white light, or in a very much brighter non-actinic light than could otherwise be used. A full account of this work, which is a notable new departure in photographic practice, is given, and the researches of Dr. Lüppo-Cramer, explaining the principles of the process, are related. The exposed plate is soaked in a red dye solution before development, and it is interesting to note that this dye does not merely act as a screen, but has in addition a direct desensitizing effect. The method should be of great practical use in the development of panchromatic plates. Valuable and complete indices complete the book.

[5] *The British Journal Photographic Almanac and Photographer's Daily Companion, 1922.* Edited by George E. Brown, F.I.C. London: Henry Greenwood and Co., Ltd. (Cr. 8vo, pp. 818; illustrated. Paper cover, 2s.; cloth, 3s. net.)

NOTES ON BOOKS.

THE exhaustion of two editions of Dr. J. S. FAIRBAIRN'S *Textbook for Midwives*,[6] and the appearance of a third in the space of seven years, indicates that it has found an appreciative public. By this we are not surprised, for the book bears throughout the stamp of the careful and practical teacher. In the present edition the only changes of note are in the section dealing with the infant, which has been rewritten and brought quite up to date. We have no doubt that this edition will soon be followed by successors. It is a book that we can unhesitatingly recommend to all nurses studying for the examination of the Central Midwives Board.

The second edition of Professor RICHARDSON'S book on *The Emission of Electricity from Hot Bodies*[7] deals with the abstruse and scientific aspects of a subject that has practical applications in wireless telegraphy, telephony, the production of x rays, and the rectification of alternating electric currents. These topics the author does not pretend to deal with; his chapters are occupied with the emission of electrons and of ions from hot bodies, and its effects. The book is one for students of physics; it gives a clear account of the subject, and is written without undue emphasis on its mathematics.

In his pamphlet on the sequelae of dysentery[8] Professor STRAUSS of Berlin points out that these sequelae—namely, diarrhoea with or without melaena, fever and dyspepsia, and recurrent abdominal pain or colic—are in general very obstinate. Vaccine therapy, drugs, enemata, and treatment applied through the endoscope all give disappointing results; those obtained by surgical interference (appendicostomy, caecostomy) are, as he shows by quotations from the literature, not much better. His final conclusion is that prevention is better than cure, which is as much as to say that it is impossible to treat cases of dysentery with too great care and thoroughness at the outset.

A popular book on *Vitamines*,[9] by B. HARROW, Ph.D., affords the general reader an opportunity of becoming acquainted with a subject of great importance to every man, woman and child in the civilized world. Vitamins, or accessory food factors, are essential constituents of any diet that is not to impair the health; how it came to be found that they are necessary to life is explained by the author of this book in simple language and full detail. The first half of the volume is taken up with a popular account of foods and diets generally, stress being laid on the quantities of the different classes of foods required by human beings, and on their energy content. The second half is devoted to vitamins. Dr. Harrow goes fully into their connexion with growth, and with the diseases beri-beri, rickets, scurvy, and pellagra. At the end of his volume he gives a number of references to the literature of the subject. Dr. Harrow writes incisively, and has produced a very lucid account of a difficult but highly important subject.

The late Dr. GEORGE HERSCHELL'S *Cookery for Dyspeptics*[10] is an excellent, brief, and thoroughly practical volume for the friends and cooks of dyspeptic patients to use, because, as the author points out, it is they rather than the medical attendant who will in fact settle what the patient eats. Beginning with recipes for the preparation of liquid foods, the author gives directions for soups, purées, semi-solid and solid foods in succession. No lists of foods for different ailments and no diet tables are given. Dyspepsia, both declared and unrecognized, is so common nowadays that this serviceable little manual should prove widely useful.

[6] *A Textbook for Midwives.* By John S. Fairbairn, M.A., B.M., B.Ch.Oxon., F.R.C.P.Lond., F.R.C.S.Eng. Third edition. Oxford Medical Publications. London: Henry Frowde, and Hodder and Stoughton. 1921. (Roy. 8vo, pp. xiii + 365; 113 figures, 3 plates. 25s. net.)

[7] *The Emission of Electricity from Hot Bodies.* By O. W. Richardson, F.R.S. Second edition. Monographs on Physics. London and New York: Longmans, Green, and Co. 1921. (Med. 8vo, pp. 320; 34 figures. 16s. net.)

[8] *Nachkrankheiten der Ruhr.* Von Professor Dr. H. Strauss. Halle a. S.: C. Marhold. 1921. (Medium 8vo, pp. 61; 6 figures. M.7.)

[9] *Vitamines: Essential Food Factors.* By B. Harrow, Ph.D. London: G. Routledge and Sons, Ltd. 1921. (Cr 8vo, pp. 229; 8 charts. 10s. 6d. net.)

[10] *Cookery for Dyspeptics.* By the late Dr. G. Herschell. London: E. Arnold. 1920. (Demy 8vo, pp. 56. 2s. 6d. net.)

The Rights of the Ex-Service Man and Woman[11] is primarily a handbook for the use of those in need of information for practical purposes. As such it may be recommended; it is comprehensive in scope, accurate in detail, and adequately indexed. Mr. SHERREN has, however, adopted the historical form, and in doing so has given his work a more general interest, as it affords a concise review of the genesis and evolution of a sense of social responsibility unique in history, and its practical issue in the development of an extraordinarily complete system of administrative machinery. The preface, by Mr. C. A. McCurdy, M.P., serves to focus attention on the main features of that development.

The eighth edition of Professor JOSEPH'S textbook of venereal diseases[12] gives a good account of current German practice in the symptomatology, diagnosis, and treatment of syphilis, soft sore and gonorrhoea. It is a practical work, not too long, but rather badly illustrated. If anyone in this country thinks of ordering it he should ascertain beforehand what he will be asked to pay.

Erratum.—We regret that, through a clerical error, it was stated in a footnote to our review of Emerson's *Clinical Diagnosis* last week (p. 18), that the publishers of this work are William Heinemann (Medical Books), Ltd., whereas the publishers in fact are J. B. Lippincott Company, Philadelphia and London.

---

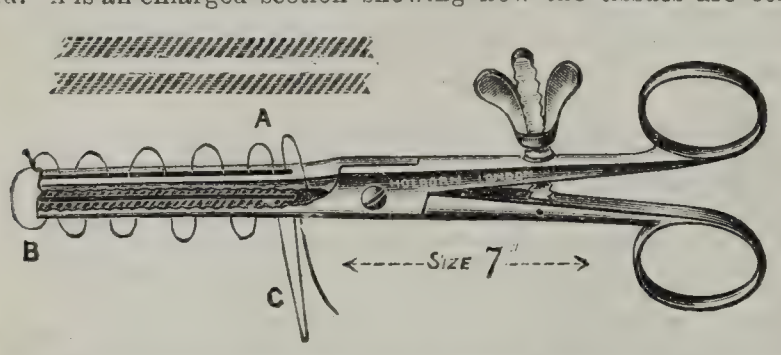
[11] *The Rights of the Ex-Service Man and Woman.* By W. Sherren. With an introduction by the Right. Hon. C. A. McCurdy, K.C., M.P. London: L. J. Gooding. 1921. (Demy 8vo, pp. 111. 6d.)

[12] *Lehrbuch der Geschlechtskrankheiten: für Aerzte und Studierende.* By M. Joseph. Eighth edition. Leipzig: G. Thieme. 1921. (Sup. roy. 8vo, pp 217; 54 figures, 1 plate. M.54; bound, M.68.)

MEDICAL AND SURGICAL APPLIANCES.

Instrument for the Treatment of Haemorrhoids by Suture.

DR. JAMES MACMUNN (London, E.C.) writes: To cause a wound to heal by first intention rather than by the slow method of granulation (ligature method) is surely more surgical, and it is chiefly to ensure quick union and to guard against sepsis that I wish to bring the present method for the treatment of haemorrhoids by suture into notice. The forceps illustrated is a modification of Ricard's phimosis forceps, but the slot is much smaller, allowing only the passage of a small domestic needle. It is also open at the end. A is an enlarged section showing how the tissues are compressed above and below the slot for suture. The forceps is clamped on the pile in the gut axis and the pile lifted well into the blades by a pile forceps before clamping. The pile is then cut off and the suture, anointed with bipp, is used as shown in the lower part of the illustration; B embraces the pile supplying artery. Very little sustaining power is required by the suture to keep the tissues together; they are pressed into apposition and bipp is rubbed over the part. The instrument is made for me from my model by the Holborn Surgical Instrument Company.



A Self-Retaining Vaginal Retractor.

Mr. B. K. TENISON COLLINS (Cardiff) writes: This retractor has been designed to dispense with side retractors held by assistants. It can be used by itself or in conjunction with an Auvard speculum. When in position with the spring above, the blades lie parallel and do not squeeze out. It is quite out of the way of the operator, and gives a good view of the cervix and vaginal fornices. It protects the vaginal walls, is cheap to make, easy to clean, has no loose pieces, sharp angles or points, and takes up little room in the instrument bag. I have used it now for some time, and find it very useful. It has been made for me by Mr. Staniforth, of Cardiff, to whom I wish to express my thanks.



THE new number of the *Journal of Obstetrics and Gynaecology of the British Empire* is a double number—autumn and winter, 1921 (Manchester: Sherratt and Hughes, 24s. net). It is almost wholly devoted to a series of papers on Caesarean section. We hope to refer to the issue at length on some future occasion.

PROFESSIONAL SECRECY AND MEDICAL EVIDENCE.

BY

WILLIAM A. BREND, M.D.LOND.,

Lecturer on Forensic Medicine, Charing Cross Hospital Medical School.

THE ruling, first given by Lord Mansfield at the trial of the Duchess of Kingston for bigamy in 1776, and at later dates repeated by other judges, that a medical man has no privilege to avoid giving evidence on the ground that his knowledge was gained in the practice of his profession, has ever since been accepted by the medical profession as the law on this subject. The issue, however, by the Ministry of Health of the Public Health (Venereal Diseases) Regulations in 1916 has led to some questioning of the hitherto recognized ruling. These regulations were made under the powers conferred on the Local Government Board by the Public Health Acts of 1875 and 1896, and the Public Health (Prevention and Treatment of Disease) Act of 1913, which authorize the Board to make, alter, and revoke regulations with a view to the treatment of persons suffering from cholera or any other infectious disease, and to make regulations for the provision of medical aid and for guarding against the spread of the disease. Article 22 of the Venereal Diseases Regulations runs as follows:

> "All information obtained in regard to any person treated under a scheme approved in pursuance of this article shall be regarded as confidential."

The suggestion that this regulation affected the law relating to professional secrecy in the witness box was first made in the case of Garner *v.* Garner in January, 1920. This was an undefended divorce case in which the petitioner desired to call evidence that she had suffered from venereal disease. She had been treated under a Venereal Diseases Scheme, and before giving evidence the medical witness called the attention of the judge to the obligation of secrecy which was imposed upon him. Mr. Justice McCardie said that in a court of justice there were even higher considerations than those which prevailed with regard to the position of medical men, and he ruled that the witness must answer the questions put to him.

The point again arose in the Divorce Court in a case heard before Mr. Justice Horridge in June, 1921. The medical witness in this case stated that he and other medical men had undertaken duties at the clinic on the distinct understanding that professional secrecy as to what happened there would be observed, and referred to Article II (2) of the Public Health (V.D.) Regulations quoted above. The judge replied that the Ministry had no powers which affected the jurisdiction of the courts, and required the witness to give evidence.

The question was fully discussed at the Annual Representative Meeting of the British Medical Association, and on July 15th, 1921, the following resolution was passed:

> "That the Association use all its power to support a member of the British Medical Association who refuses to divulge without the patient's consent information obtained in the exercise of his professional duties, except where it is already provided by Act of Parliament that he must do so."

Lord Dawson gave notice to call attention, in the House of Lords on July 27th, "to recent rulings as to the privilege of medical men with regard to evidence in courts of justice, and to move that the matter be referred to a Select Committee of the two Houses of Parliament." At the request of the Government, he agreed at the last moment to postpone the motion. At the time of writing, the notice of motion still remains on the Order paper of the House of Lords, but no opportunity of moving has occurred.

It may be stated at once that there is no doubt that the rulings given by Mr. Justice McCardie and Mr. Justice Horridge are sound law, and that the regulations issued by the Ministry of Health do not override or modify the law of evidence. This is in conformity with the general principle that when in an Act of Parliament the details of any procedure are left to be settled by regulations made by an administrative authority, it is implied that these regulations must be in conformity with the principles laid down in the Act or in other Acts, or established at Common Law. In so far as any regulations made by the administrating authority infringe the law, they are *ultra vires* and of no effect. In the actual instance there is no reason to suppose that those who framed Article II (2) of the Regulations did intend that

it should apply to medical evidence in the witness box. The word "privilege" is not used, and it must be assumed that if the Local Government Board had intended to upset a recognized legal principle it would have made its position clear. On the other hand, the apparent comprehensiveness of the regulation fully justified the medical witnesses in making protest before giving evidence.

The view that privilege should exist between doctor and patient in the witness box is one which at first sight is likely to commend itself to medical men, imbued as they are with the lofty ethical traditions which govern the question of professional secrecy. Nevertheless, the recognition of such privilege would be a startling innovation in English law, and there are difficulties and objections to it which only present themselves on careful consideration of the question. Before noting these it may be useful to examine the procedure adopted in certain foreign countries and the experience gained therefrom.

The Law in the United States of America.

In America the law varies from State to State, and in about one-half of the jurisdictions professional privilege to varying degrees has been established between physician and patient. The following are instances of the State laws:

Arizona.—"A physician or surgeon cannot be examined without the consent of his patient as to any communication made by his patient with reference to any physical or supposed physical disease, or any knowledge obtained by personal examination of such patient; provided that if a person offer himself as a witness and voluntarily testify with reference to such communications, that is to be deemed a consent to the examination of such physician or surgeon."

Arkansas.—"No person authorized to practise physic or surgery shall be compelled to disclose any information which he may have acquired from his patient while attending him in a professional character, and which information was necessary to enable him to prescribe as a physician or do any act for him as a surgeon."

California.—"A licensed physician or surgeon cannot, without the consent of his patient, be examined in a civil action as to any information acquired in attending the patient which was necessary to enable him to prescribe or act for the patient—but this subdivision does not apply in an action between physician or surgeon and his patient in which the treatment of the patient by the physician or surgeon is in issue; and provided that in an action brought under Sections 376 and 377 (for death by wrongful act) a physician or surgeon is competent to testify as to the cause of death of the deceased."

New York.—"No person duly authorized to practise physic or surgery shall be required to disclose any information which he may have acquired in attending a patient in a professional character, and which information was necessary to enable him to prescribe for such patient as a physician or to enable him to do any act for him as a surgeon; provided a presiding judge of a superior court may compel such disclosure if, in his opinion, the same is necessary to a proper administration of justice."

Pennsylvania.—"No person in any civil case shall be allowed to disclose any information which he acquired . . . which shall tend to blacken the character of the patient, without his consent."

It will be seen from the foregoing that there are considerable differences in the various States, and that the privilege is more comprehensive in some than in others. We need not examine in detail the practical effects of the legislation in each State. It is sufficient to say that commentators on American law and experience do not find that the States in which medical professional privilege does not exist are at any disadvantage as compared with those where privilege has been admitted, and they consider that in the latter the system has often led to serious abuses militating against the administration of justice. Wigmore, for instance, says:

"Certain it is that the practical employment of the privilege has come to mean little but the suppression of useful truth—truth which ought to have been disclosed and would never have been suppressed for the sake of any inherent repugnancy in the medical facts involved. Nine-tenths of the litigation in which the privilege is invoked consist of actions on policies of life insurance, where the deceased's misrepresentations of his health are involved; actions for corporal injuries, where the extent of the plaintiff's injury is at issue; and testamentary actions where the testator's mental capacity is disputed. In all of these the medical testimony is absolutely needed for the purpose of learning the truth. In none of them is there any reason for the party to conceal the facts except to perpetrate a wrong on the opponent."

The Law in France.

In France, Article 378 of the Penal Code provides as follows:

"Physicians, surgeons, and others concerned with health, such as pharmaceutical chemists, midwives, and other persons, the recipients by their position or profession of secrets which have been confided to them, who, except when the law requires them to give information, have revealed these secrets, will be punished with imprisonment from a year to six months and a fine of 100 to 500 francs."

As in this country, the law definitely requires from medical men certain professional information, such as declarations of birth or of infectious diseases, which, in the interests of the community, should be known, and in the discharge of these obligations medical men are protected by the words "except when the law requires them to give information." It is interesting to note, incidentally, that in regard to syphilis the law goes further than in this country, and that in some cases where there is risk of infection the medical man is not only absolved from secrecy, but is required to give warning to persons specially exposed to the risk. For instance, if, after attending a syphilitic infant, a medical man failed to warn a nurse of the danger, and she contracted the disease, she would be entitled to bring an action against him.

The extent to which the giving of medical evidence is regarded as one of the exceptions to the general principle depends upon certain conditions. Article 80 of the *Code d'Instruction Criminelle* requires any person summoned to appear as a witness to attend and give evidence, and a doctor, as any other citizen, is bound by this obligation. The conflict which accordingly arose between these two obligations was dealt with by a judgement of the Court de Cassation in 1845 in the following terms:

"Whereas every citizen is bound to assist the ends of justice when interrogated as a witness, no one, whatever his profession, is completely relieved of this obligation; it is not sufficient for a member of one of the professions bound to secrecy by Article 378 to claim as an excuse for not giving evidence that it was in the exercise of his profession that the material on which he is to be interrogated has come to his knowledge; but it is otherwise when the material has been confided to him under the seal of secrecy, to which he is bound in consequence of his profession."

Under this judgement, accordingly, the medical man was only relieved of the obligation of giving evidence in reference to facts which had been confided to him under the seal of secrecy, and not in reference to facts which had come to his knowledge through the exercise of his profession.

Subsequent decisions have helped to make clear what are to be regarded as facts communicated under the seal of secrecy. In 1853 a medical man, when called upon to give evidence on matters which had come to his knowledge in the exercise of his profession, replied: "I consider as confidential the reports which have brought to my knowledge the facts on which you interrogate me. I cannot therefore reply to your question." This reply was accepted.

The formula: "I consider as confidential" has been held to safeguard all the interests of the patient. To require the medical witness to state formally that there has been a confidential communication would be equivalent to stating that there has been an important secret to hide. As a matter of fact, it is now admitted that a doctor, in order to preserve silence, is under no necessity of invoking confidence. The facts which he learns by the exercise of his profession are secret by their nature.

In 1885 the Court de Cassation expressed the view that information which had been confided under the seal of secrecy, or, in default of this condition, were secrets by their nature, and the knowledge of them had been acquired by the witness in the exercise of his profession, fell within the scope of Article 378. Finally, in 1899 the Court de Cassation, in a case in which a life insurance company demanded the cancelling of a policy on the ground that the assured suffered from a malady which he had not declared, absolved a medical witness from giving evidence in the following words: "Since the fact, secret in its nature, on which Dr. X. had been called to depose, could only have come to his knowledge by reason of the treatment which he had given to his patient, he was for this reason forbidden to reveal it."

It is of interest to note that secrecy is obligatory even when the person concerned has authorized the medical man to speak. A judgement of the Court of Montpellier in 1827 lays down:

"The obligation of secrecy continues to exist even where he whom the facts concern, and who has confided them to another, demands the revelation; for the obligation prescribed by Article 378 is established in the general interest. It is only by this means (*à ce prix*) that professions, the exercise of which concerns the whole community, can secure the necessary confidence and consideration."

The court show themselves very severe in this matter. Even revelation by a medical man in the witness box of a fact which is no longer secret may still be an offence.

For instance, Dr. X. had given a certificate for placing a lunatic in an asylum. Some years later the patient, who had recovered and had been released, was seeking a divorce. Dr. X.

was called as a witness, and read and commented upon his certificate. He was convicted of a breach of professional secrecy, although the state of insanity of the husband was not a secret, since he had been confined in an asylum, and could only have been so confined under a medical certificate.

It is true that the Presidents of the Cours d'Assises do not appear always to have regarded the question in the same manner.

For example, in 1906, the President said to a medical man who refused to speak: "There is one case in which professional secrecy ought not to prevent you from speaking; it is when you, a medical man, have discovered indications of a crime." In the same year, in a case of poisoning brought before the Cours d'Assises of the Gironde, medical practitioners and consultants had refused to reply to questions put to them, even after their patient had absolved them from professional secrecy. They were severely criticized by the President, and even threatened with proceedings.

In spite of these utterances, however, it may be regarded as recognized that in France medical men can, without fear of proceedings, refuse to give evidence on matters which have come to their knowledge in the exercise of their profession. The right to maintain secrecy does not, however, exempt a medical man from appearing when he is summoned to give evidence. He can even be required to take the oath, and is absolved by declaring afterwards that the facts are such as cannot be revealed by him. In one case where a medical man refused to take the oath a fine of 100 francs was imposed.

The Essentials of Privilege.

In English law privilege is only admitted between solicitor or counsel and client. It has been stated to exist in regard to communications in the nature of confessions made to ministers of religion by members of their congregations, and particularly statements made to Roman Catholic priests in the confessional. This, however, is not the case, but in the very few instances in which the question has been raised in the courts the presiding judge has not pressed the witness to reveal the confidences made to him.

It is an established principle of English law that every member of the community must assist justice to attain its ends, and the law has only recognized privilege in the witness box where very strong reason for it exists. The legal view is that the following four fundamental conditions must be fulfilled before a privilege can be established:

(1) Communications must originate in a confidence that they will not be disclosed;
(2) This element of confidentiality must be essential to the full and satisfactory maintenance of the relation between the parties;
(3) The relation must be one which, in the opinion of the community, ought to be sedulously fostered;
(4) The injury that would result to the relation by disclosure of the communications must be greater than the benefit thereby gained for the correct disposal of litigation.

Brief consideration will show that, as regards information gained by the physician in the exercise of his profession, none of these conditions are fulfilled. With reference to (1), it is obvious that, as regards the vast majority of the communications made by patients to physicians, such as the details of the malady, state of health, effect of treatment, etc., a patient is not particularly concerned that secrecy should be observed. Nor can it be said that the absence of privilege in this country has prevented a full and satisfactory relationship between physician and patient. There is no reason to suppose that the community wishes to establish privilege between physician and patient. The experience of other countries has shown that the extremely small number of cases in which the patient gains an advantage by the existence of professional privilege do not counter-balance the injury to the whole community which arises from the fact that privilege enables material to be concealed, knowledge of which would promote the ends of justice. The argument that because privilege is recognized between solicitor and client, it should also be admitted between doctor and patient, is unsound, for it is obvious that the whole relationship between solicitor and client would fall to the ground if the client did not know that his statements would be kept secret. If privilege between solicitor and client did not exist, all that would be necessary for prosecutor, plaintiff, or defendant to do, would be to put the solicitor for the opposite party in the box and examine him on what had passed between him and his client. In this matter, accordingly, there is no analogy between the medical and the legal professions.

Conclusion.

To sum up, then, while it is admitted that under the present system in rare instances hardship to the patient arises, and the medical man is placed in a position of embarrassment, it is not clear that the recognition of medical privilege in the witness box would be of advantage to the community as a whole. The experience of other countries shows that the privilege is often an avenue for the perpetration of an injustice, and its existence in this country would not be in accordance with the principles and traditions of English law.

MEDICAL TERMS IN THE VERNACULAR AND IN DIALECTS.

I.

AGNAILS OR HANGNAILS.

AGNAIL or hangnail is the term which in the vernacular is given to the troublesome little sliver or shred of separated skin which is found occasionally at the base of the nail in the neighbourhood of the quick. It is both sore and painful; the soreness is due to the raw tissue left by the separation of the epidermis, whilst the pain is caused by the tug which happens when the little cutaneous slip is caught by any passing object where it is still attached to the surface. Both these discomforts are soon removed by cutting the shred close off, and painting the spot with some tincture of iodine. To the operating surgeon who has to keep his hands fit, and to the manicure who has to make other people's hands beautiful, these hangnails are a matter of some moment: for the irritation they cause is out of all proportion to their size; they are always unseemly; and, in the case of persons who use their hands much in contact with infective materials, they may be actually dangerous.

Agnail is a sort of chameleon among words: it appears in ordinary vernacular English both as agnail and hangnail, whilst in the dialects it has the forms of angnail, angernail, nangnail, gnangnail, nengnail, nagnail (that is, an agnail), and thangnail (that is, th'angnail). Besides varying in appearance, it is also rich in synonyms, some of which reveal a certain grim or caustic humour in their construction. Thus, in Cumberland, Staffordshire, and other counties it is called a "back-friend," the word being used, one must suppose, in the sense of secret enemy. Wright, in the *English Dialect Dictionary*, gives an illuminating quotation in the words: "He had a troublesome 'back-friend' or 'agnail,' at which he often bit." Another expressive name is "step-mother's blessing," which speaks, so to say, for itself. "Idle-wart," "idle-welt," "idle-wheal," and "idle-back" are Lincolnshire and Northamptonshire synonyms which seem to hint a belief that these painful little tags of skin appear upon the fingers of the lazy. This use of the word "idle" brings back to memory the "idle worms," said humorously to grow in the fingers of people averse from work; and Shakespeare was probably thinking of them when (in *Romeo and Juliet*, I, iv, 64–66) he spoke of Queen Mab's wagoner as—

> "a small grey-coated gnat,
> Not half as big as a round little worm
> Prick'd from the lazy finger of a maid."

"Fan-nail" is yet another Northamptonshire synonym, the little sliver being compared to a fan, or perhaps carrying the sense of fang or claw in it. "Nail-hag" is either a synonym or merely "agnail" inverted; "rag-nail," employed in the north of Ireland, explains itself.

The Scots equivalent is "anger-nail," but this is really a corruption of angnail devised to give a plausible meaning to the word, for in the North "to anger" signifies not only to irritate but also to inflame, and so the idea is conveyed of a nail which has become inflamed and sore. There is here, and perhaps also in "rag-nail," a perversion of the original word "agnail" by pseudo-etymology; and this change has occurred several other times in connexion with this same term. There is thus revealed a curious chapter in the history of word-forms.

To begin with, agnail is the Old English "ang-naegl," which comes from "ang," meaning compressed and therefore painful (one thinks of our everyday expression "anguish," with, however, quite a different etymology), and "naegl," a nail. Only the "nail" here intended is not that of a finger or toe (*unguis*) but a nail of iron (*clavus*). In complete accordance with this derivation, which goes back to the Old High German, the Frisian, and the Gothic, agnail had originally the meaning of a corn on the foot. Sir James Murray, in the *New English Dictionary*, gave illustrative quotations of agnail as "corn" ranging from 950 to 1783; but it is now obsolete. Not so, however, in the dialects: for

in several of the northern counties of England (for example, Cumberland and Lancashire) agnail is a corn, and in Yorkshire it is also a bunion. The association of ideas between a corn on the toe and a nail being driven into the flesh does not call for elaborate justification. "Nangnail salve" is a black resinous ointment sold to the afflicted for the cure of corns in sundry parts of the country.

The next change in the meaning of agnail was due to the "nail" part of it coming to be referred to the nail of a finger or toe; and so it came to signify any painful swelling, ulcer, or sore in the neighbourhood of the finger or toe, and especially a whitlow. Curiously enough Johnson in his *Dictionary* gave "a disease of the nails, a whitlow, an inflammation round the nails," as the only meanings of agnail; and he did not illustrate its use. Pseudo-etymology is surely at work again here; but a question arises as to the form it has taken. Nail misinterpreted obviously played its part in drawing attention to the fingers, but Sir James Murray thinks that a confusion with the French "angonailles," botches, bumps, or sores, or the mediaeval Latin "anghiones, anguinalia," carbuncles, may have fixed the pathological nature of the swelling. Further confusion was introduced when agnail came to be collated in the dictionaries with the Greek *παρονυχία*, a whitlow; *παρ'* was "beside" and *ὄνυχ-*, a "nail," and so "ag-" meant "at," and "nail" explained itself, giving whitlow! The Scots, too, with their "anger-nail" (inflamed nail) would come in here to confound confusion. No wonder Bailey's *Dictionary* in 1721 defined agnail as "a sore at the root of the nail," and as "a sore slip of skin at the root of a nail" in editions later than 1737; for there seemed to be no restricting the sense of the word at all. Why not search for another plausible etymology in "hang-nail"—for example, something hanging from a nail?

In this way the usual present-day meaning of agnail is reached, although it still may be employed for whitlow, and is so employed dialectally in Cornwall. The Sydenham Society's *Lexicon* (1879) defined the word in this modern sense: "agnail, a term applied to the shreds of epidermis which separate from the skin covering the root of the nail, and which, on being torn, give rise to a painful state of the fingers." So there have been at least three senses in which the word has been used. An interesting sidelight is thrown on the confusion which existed in the seventeenth and eighteenth centuries in regard to this word by consulting the English-Latin part of the dictionaries of Littleton and Holyoke. In the former (1678) agnail appears with two meanings: the first is "a corn growing upon the toes, *clavus pedis, pterygium*"; and the second is "a sore between the finger and nail, *paronychia*." It is, however, to be observed that the third or present-day meaning is here concealed under the Latin term *pterygium*, for in the other portion of the *Dictionary* it is defined as "the going away of the flesh from the nail with great pain." Holyoke (1677) gave only the one meaning of "a corn growing upon the toes," but he entered two Latin equivalents—*pterygium* and *callus*, still further broadening its signification. George Gascoigne, in the lines prefixed by him to Turberville's *Noble Art of Venerie* (1575), was also in some doubt as to the precise meaning of agnail, for in rhyming of the virtues of corns (hornes) as medicines, he wrote as follows:

> "As first, they heal the head from turning of the brain;
> A dram thereof in powder drunk doth quickly ease the pain.
> They skin a kybed heel, they fret an anguayle off;
> So thus I skip from top to toe, yet neither scorn nor scoff.
> They comfort fever's faint and lingering long disease:
> Distill'd when they be tender buds, they sundry griefs appease.
> * * * * * *
> They poison do expell from Kaiser, King, and Queen,
> When it by chance or deep deceit is swallow'd up unseen."

It is evident, therefore, from what has been said that the meanings given to the words agnails or hangnails have mainly flowed in three channels. At first they were synonymous with corns, but this channel is now practically dry so far as the ordinary vernacular is concerned, and only a small trickle from the dialects passes along it. Then they had the significance of painful swellings or sores near the nails, and a considerable current ran along this second channel of meaning, and, indeed, still runs both in the vernacular and in the dialects. But the chief current is found in the third channel; agnails or hangnails now are regarded as little painful shreds of torn epidermis situated near the nails of the fingers. Under various forms they appear with this significance in the vernacular, and they are widespread in the dialects. From a philological point of view the most interesting thing about them is the ingenuity which has been shown in devising spurious etymologies for them in order to explain their dialectal forms; to anyone not well versed in the pitfalls which surround all such attempts they must seem not only plausible but practically convincing, thus yielding support to the saying that obvious derivations are likely to be wrong ones.

J. W. B.

MOTOR CARS: THE SPARE PARTS PROBLEM.

IN regard to Dr. Garman's criticism (December 31st, 1921, p. 1121) of Mr. Massac Buist's article on the spare parts problem, published in our issue of December 17th, 1921, page 1045, Mr. Buist makes the following observations on Dr. Garman's seven heads:

1. The special urgency of the spare parts problem, as applied to members of the medical profession, was set out at length in the first paragraph of the article which is the basis of Dr. Garman's remarks.

2. Dr. Garman assumes that the spare parts problem concerns some members of the British motor industry only, and not American manufacturers; whereas the article in question illustrated in a number of ways how the spare parts problem exists also in connexion with the use of some foreign cars, including American varieties, though its cause is sometimes of a quite different character from that which governs the situation of the given British manufacturer. Let it, however, be made plain that the buying of a foreign car does not mean that the purchaser will not have difficulty in obtaining spare parts. These possibilities were set out at length in the article.

3. Dr. Garman here raises a question no less large than the proposition whether motor car development should have been arrested compulsorily in, say, 1906 and no progress made in evolution as from that date. His other statements here are of a highly controversial kind, but they do not concern the proposition in hand, since the article on which these remarks are based was not concerned with advancing the claims of one particular car against others. Further, it is sufficiently established that the world in general demands progress in motor vehicle design.

4. The statement that I have endeavoured to do my "best to bolster up a rotten state of things," on which the whole significance of this paragraph of Dr. Garman's is based, is not true in substance nor in fact, in that the tenor of my article was to illustrate, in the case alike of home and of foreign vehicles, not a desirable state of affairs, but the state of affairs that obtains owing to a variety of reasons set forth, this being a world in which man must necessarily live in a state of compromise. I am essentially a realist, and as such have to deal with facts, between which and wishes there is always a very clear and wide division.

5. Dr. Garman avers that I offered superfluous advice *re* making deposits to cover the costs of spare parts such as may be required; and dilates about "such a ridiculous proceeding." He entirely misses the point, made abundantly plain in the article in question, that the suggestion was not mine; and that I deprecated such a course because a medical man had made that suggestion in a letter sent to your offices privately. It is therefore evident that such advice as I gave was needed, in that at least one medical man had been entertaining the idea.

6. This paragraph, like all the preceding ones, is based on the assumption that I have striven to support a case for the British industry, and that all is well with the members of foreign industries. A re-reading of the article on which all these contentions are founded would prove that such assumptions are entirely false. The motorist experiencing difficulties in obtaining spare parts may be the owner of a foreign car, or of a British one; whereas Dr. Garman assumes that the British industry is the only one at fault. I know that, on the contrary, the spare parts problem obtains in the case of the world's motor vehicle products in general, no matter of what country of origin. I therefore confined my attention to illustrating causes of unsatisfactory service to the end that medical men might be on the look-out for them and so safeguard themselves in ways indicated. But I regret I have no power to recast the actual conditions of motor trading the world over at this crisis in commercial history.

7. This is a continuation of the sixth point. The only further observation I have to make is that I cannot agree with anyone who advocates that if A is found to be at fault the owner of A should express his feelings in such a manner as to condemn all the letters in the alphabet. My theory is merely that when A is found to be at fault A should be specified in any condemnatory remarks; just as when Z is at fault the same should be done in respect of Z, instead of embracing the whole of the letters of the alphabet in the censure.

In conclusion, Mr. Buist writes, it would appear that I should make it plain that the various points touched upon in my article of December 17th are not of my raising, but have been brought to my notice by various medical men, for whose service I therefore set out the facts as they exist in the world of motor building and trading to-day, which is, as always, controlled by the bankers. Hence many desirable things are nevertheless impracticable because these businesses must be each a form of commercial enterprise. To deal with phases that are satisfactory was not my affair on the occasion in question.

WORK OF THE PENSIONS MINISTRY.

THE fourth annual report of the Ministry of Pensions, which covers the period from April 1st, 1920, to March 31st, 1921, gives us a vivid picture of the human wreckage left by the war. At the end of the year the total number of awards of all kinds in force amounted to 1,760,000, of which 1,200,000 were in respect of disabled officers and men, and 560,000 in respect of widows and dependants. The total number of beneficiaries of all kinds was 3,365,000. Wounds and injuries accounted for about 42 per cent. of the total awards which have been made to officers and men, and 4 per cent. of the disablement awards were in respect of permanent disablement.

The total expenditure of the Ministry for the year was £105,660,000, as compared with £98,934,666 in the previous year. The average cost per occupied bed in the larger hospitals of the Ministry was 9s. 7d. per day.

FACILITIES FOR TREATMENT.

During the year under review 278,277 men were discharged from treatment, this figure not including those who had received home treatment; 148,818 remained under treatment at the end of the year. These were distributed as follows:

	In-patients.	Out-patients.
Orthopaedic	4,025	24,580
Paraplegic	260	231
Epileptic	597	544
Neurasthenic	2,951	6,975
Tuberculous	4,563	12,045
Rheumatic	1,015	2,897
Convalescent	1,018	
General, medical and surgical ...	8,747	38,601
Malaria	508	17,682
Dysentery	254	1,472
Other tropical diseases	45	708
Treatment and training	2,329	270
	26 342	106,005

In addition 16,471 men were receiving treatment at their homes and 6,271 pensioners classified as service patients were under treatment in mental hospitals.

Treatment has been provided partly by arrangements with civil hospitals and partly at clinics and hospitals under the direct control of the Ministry. In many cases the per capita fees paid to the civil hospitals have been increased. The following information is given with regard to certain classes of disability.

Special Surgical Cases.

At the end of the year 319 clinics had been opened for this type of case, 60 being under the direct control of the Ministry and the remainder under the administration of civil hospitals, the British Red Cross, or private individuals.

Neurasthenia.

There was an increased demand for treatment for neurasthenia, and eight additional hospitals, with a total accommodation of 1,356 beds, were established. One hospital with 185 beds was, however, closed. Forty-eight clinics for the treatment of neurasthenia had been opened at the end of the year. Much attention has been devoted to this disease. Its treatment presents many difficulties, not the least of which is the patient's liability to relapse during a period of economic or domestic stress. Full provision has been made for psychotherapeutic and other special forms of treatment, and successful results have been obtained by means of occupational treatment during a stay in hospital, particularly where it was possible for the patient to return to employment immediately on discharge. In connexion with this form of treatment, workshop officers were appointed to act in liaison between the medical staffs and employers of abour.

Tropical Diseases.

At the end of the year 61 clinics were in existence, 54 of which had been established by the Ministry. The efficient treatment of tropical diseases has been found to depend upon expert clinical and pathological investigation in conjunction with the systematic recording of the history and progress of the case. In these respects there has been marked progress in the treatment of pensioners, and the type of disease has, in each case, been accurately classified. A large number of pensioners have been cured. The invasion of this country by tropical diseases has been stemmed, further dissemination has been obviated by preventive measures, and such special conditions as bilharziasis dealt with in the light of the latest expert knowledge. It is considered probable that in the future there will be a decline in the need for treatment of tropical disease, especially in the case of malaria.

Aural, Ophthalmic, and Cardiac Diseases.

During the year 36 aural clinics, 24 ophthalmic clinics, and 19 cardiac clinics were established, of which 16, 9, and 15 respectively were under the Ministry's control. Modern methods of diagnosis and treatment of cardiac diseases have been employed in the hospitals and clinics, and large numbers of pensioners suffering from functional disorders of the heart have been restored to working capacity.

Mental Diseases.

The care and treatment of the insane devolves upon the Board of Control, which is responsible to the Minister of Health. The Minister of Pensions is, however, intimately concerned with the care of certified pensioners, and an effective liaison has been established. Medical officers of the Ministry of Pensions with special experience of the treatment of mental diseases systematically visit mental hospitals and interview the pensioners under treatment. The close co-operation established has secured for the pensioner efficient treatment combined with the greatest degree of freedom and comfort compatible with the mental condition.

Tuberculosis.

The Ministry of Pensions co-operates with the Ministry of Health in the provision of adequate treatment for pensioners suffering from this disease. It has been decided that men who, on conclusion of treatment at a sanatorium, and who (when they are recommended to do so) undergo a prescribed course of treatment or training at a training colony, should be granted a pension at the rate of 100 per cent. for a period of six months after completion of such treatment or training, followed by a pension at the rate of not less than 50 per cent. for a further period of two years.

CONVALESCENT TREATMENT AND TRAINING CENTRES.

Seven of these centres, with a total accommodation of 2,382 beds, have been established. The training given at the centres is generally a preliminary part of the courses of training approved for men trained under the Ministries of Labour or Agriculture and Fisheries, although in some cases the course of training may be completed at the centre. In the case of "special" trades with which trade unions are specially concerned it is necessary to obtain the approval of the Trades Advisory Committees both as to the suitability of the trading arrangements and the individual fitness of the men to be trained. Notwithstanding difficulties and industrial depression, which affected employment in practically all trades, about 1,000 men had by the end of the year completed a course of concurrent treatment and training and were able to pass forward for the completion of training under ordinary conditions, or to take up employment.

MEDICAL BOARDS.

During the year 1,167,606 officers and men were examined, as compared with 1,038,905 examined during the preceding year. In addition, 4,393 examinations at discharge centres and 16,568 domiciliary examinations were necessary, since the pensioner's condition did not allow of his attendance before a board. The Medical Appeal Boards examined 71,332 officers and men. Thus during 1920–21 only 6 per cent. of the assessments of medical boards were challenged. Of the appeals 54 per cent. of the assessments were unaltered.

The report deals with various other matters not specially of medical interest. As a whole it demonstrates clearly that much energy and skill is being devoted by the Ministry of Pensions to the restoration to health of wounded and disabled officers and men, in so far as that is possible.

British Medical Journal.

SATURDAY, JANUARY 14TH, 1922.

INFLUENZA.

SINCE the end of the third phase of the 1918–19 pandemic influenza has assumed threatening proportions twice. Early in 1920 outbreaks on a considerable scale began to occur in America, while the Ministry of Health gave warning of the existence of the disease in this country in the form of localized epidemics. In the great towns of England and Wales the numbers of deaths from influenza and of notified cases of pneumonia began to rise fairly steeply from the third week of the year and reached a maximum—392 deaths from influenza, 1,770 notifications of pneumonia—in the thirteenth week. The subsequent decline was, in the case of deaths from influenza, more gradual than the ascent, eleven weeks being required before the deaths fell to less than 100. In this recrudescence the proportion of deaths at ages 25 to 45 was 35 per cent., almost as many as in the first wave of the 1918–19 pandemic.

At the beginning of 1921 the deaths just exceeded a hundred a week, but then declined, and the vernal increase was comparatively trivial, the maximum at the beginning of March amounting to only 167. By the middle of May there were fewer than 100 deaths, and no significant movement took place until November. At the end of that month an increase began; 128 deaths were recorded in the week ending December 3rd, and the four following weeks have yielded 149, 212, 237, and 418 deaths. There has been a coincident increase of notified pneumonia, these five weeks having contributed 972, 1,013, 1,134, 1,157, and 1,235 cases. The proportions of influenza deaths in the age group 25 to 45 for the last two weeks of the year have been 21.5 per cent. and 25.6 per cent. In a comparison between the present position and that of the spring of 1920 the following features are to be noticed. The actual number of deaths attributed to influenza is already slightly larger than in the worst week of 1920 and the rate of increase is perceptibly faster. A qualification of this remark is perhaps needed, inasmuch as the statistics of the last week of the year may be disturbed by the holidays, but such disturbance was not noticeable in the influenza returns of 1920 and can hardly be of great importance. In predicting the immediate future, the sudden change of the weather last week must be taken into account, and, on the whole, it is probable that the first week of 1922 will provide a considerable increase of recorded deaths from influenza.

Are we, then, on the brink of another great epidemic? Against such an hypothesis are three statistical facts. The first is that the increase of notifications of pneumonia is much less pronounced than in the quite minor recrudescence of 1920. The second is that the proportion of deaths at ages 25 to 45, although increasing, is still much less than in 1920. The third is that in at least two of the northern manufacturing towns where influenza has been epidemic within the past two months the number of deaths have declined decisively. Clinical evidence in the same direction is that, in these cities, where special inquiries have been made, the pneumonia which was so terrible a complication of the pandemic has been a rare event and none of the so-called "heliotrope cyanosis" has been seen.

Again, if the statistics of the cities to which we referred above—Sheffield and Rotherham—be examined, it will be seen that the course of events has been quite similar to that of earlier and, relatively to 1918–19, mild outbreaks—namely, a rapid rise and fall, the complete sequence occupying only from four to six weeks. Always excepting the *annus mirabilis*, influenza of the past two generations has tended to become epidemic either at the end of the year or in the early spring. Looked at from the point of view of periodic recurrence—a subject which Dr. Brownlee has illuminated, and one which, as mentioned in the report of the Medical Research Council for 1920–21, is being subjected to experimental investigation—the present recrudescence is in season. It will be remembered that Dr. Brownlee concluded that the normal period was of approximately thirty-three weeks, autumn epidemics being aberrant. The last week of 1921 was the ninety-second from the maximum of the 1920 recrudescence; thirty-three weeks from the latter brings us into the autumn period, another thirty-three weeks into July, and a third period of thirty-three weeks takes us to the seventh week of this year. Allowing for fluctuations of a week or two either way, and for the probability that we have not yet reached a maximum, the concordance is fairly close.

These various pieces of evidence are consistent, and lead to the conclusion that the present outbreak is likely to resemble one of the minor recrudescences, such, for instance, as that of 1893–94, which was responsible for rather more than 2,000 deaths in London. This is, indeed, the conclusion which we think an epidemiologist would draw from the available data. But with the events of 1918–19 fresh in our memories, we should be foolish not to see elements of the problem which are disquieting.

Reference to the diagram prepared by Dr. Stevenson, and reproduced at p. 40 of the Ministry of Health's Report on the pandemic of 1918–19, shows that only in 1890 did the proportion of deaths in London borne by the age group 25 to 45 reach 30 per cent., and in no year later than 1901 but before 1918–19 did it attain 20 per cent. Examination of the weekly records since 1919 shows that, excepting odd weeks for which the returns were sparse, recovery to the pre-pandemic level has been incomplete. The age distribution of deaths is still quite different from that of the 1889–1917 period. Epidemic influenza has always been formidable on the rebound, and there is a possibility that correlated with the change of age incidence is an increased rapidity and force of rebound. If, to put the matter in the worst possible light, what is now happening is the analogue of the summer epidemic of 1918, the position might become very serious. As we have said, we do not think either the statistical or clinical facts make any such sequence probable, but they do not exclude it. The first evidence of any change of the sort would not be afforded by statistics of deaths but by clinical observation, and this is a time for the careful study of local variations in the type of disease and for rapid dissemination of knowledge.

We have no definite information with regard to the type prevalent at the present time. We have been unable to verify the stories which have been current about persons being taken ill so suddenly in the street as to be unable to get home; but undoubtedly in not a few cases the onset is very rapid. Instances of both the abdominal and of what is called the "cerebral" type have been observed, presenting symptoms which at the beginning have suggested appendicitis or meningitis respectively. Pneumonia, it would seem, has not become a very frequent occurrence. Last October Major Gatt, R.A.M.C., published in our columns a note on a series of cases, apparently influenza, accompanied by an erythematous eruption, which he had observed in the Curragh Camp; in some he had found Pfeiffer's bacillus in the throat in almost pure

culture; but we have not heard of any other cases in Ireland or elsewhere. It would be not only interesting but useful to ascertain whether the majority of the cases of influenza now occurring do belong to any particular type. We understand that the Ministry of Health is making inquiries, not yet complete, on this head, and would be glad to have information from practitioners who have encountered special clinical types. Such information should be addressed to the Medical Officer, Ministry of Health, Whitehall, S.W.1.

THE PROBLEM OF HOSPITAL FINANCE IN LONDON.

HOSPITAL finance in London as a whole is still in a very precarious position, and the temporary aid of the Government, welcome as it has been even in its modified form, has done little to stabilize matters. The cost of necessities may indeed have fallen a few points, but not to an extent appreciable in hospital balance sheets, and while trade remains bad voluntary contributions on the grand scale can hardly be hoped for, so that deficits on the year's working must inevitably be expected. The large provincial hospitals which to-day have least financial troubles are those which depend for the greater part of their income upon systematic contributions from the wage-earners.

In the report of Lord Cave's Committee the view was expressed that in the adoption of one or other of three schemes of mass contributions might be found the key to the financial problem which the voluntary hospitals have to solve. The first was a form of organized collection from wage-earners with no *quid pro quo*; the second, the Oxford scheme, under which a weekly contribution exempts the contributor from the patients' payments required from non-contributors; the third, the Sussex scheme, under which a larger weekly contribution entitles members to free consultation and treatment and to various other benefits inside and outside the hospital. Lord Cave's Committee pointed out that the Sussex scheme, as distinct from the others, implied a contract on the part of the hospitals to provide such institutional benefit as subscribers might require.

At a meeting held at the Mansion House last July representatives of the hospitals discussed these schemes, and requested the King's Hospital Fund to co-operate with the Hospital Saturday Fund, the London regional committee of the British Hospitals Association, and the other central agencies concerned in the organization of local collections from employees. A Joint Conference with these bodies was set up accordingly, and held a series of meetings at which the whole question was explored. Lord Cave's Committee had recommended a first grant of £1,000,000, to be followed, if necessary, by another, to give the hospitals two years' breathing space in which to work out schemes. Instead, the Government limited its grant to a maximum of £500,000, and attached a condition that before any grant (except a few emergency grants in exceptional cases) was made, fresh money had to be raised, or at least must be in sight, up to the combined amount of the emergency grants and of such further grant. Further investigations by the King's Fund had revealed that the estimated deficiencies in ordinary income of the London hospitals for the year 1921 would amount to at least £360,000, and that a number of hospitals had exhausted all their realizable assets and without immediate assistance would have no alternative but to close beds.

The position was placed before the Joint Conference and the London regional committee of the British Hospitals Association, with the result that the King's Fund was asked by the regional committee to prepare a scheme for the organization of a general system of industrial contributions on provident lines. The King's Fund accordingly considered a provident scheme which had been drawn up by a subcommittee of the Joint Conference, and submitted it for the consideration of the London regional committee with an expression of approval of the general lines on which it had been drawn. The regional committee recommended it in principle to the constituent hospitals, which, it is understood, are now considering it. The scheme involves no contract for treatment, but the men and women of the hospital-using classes would be enabled under it to make provision by weekly contributions, and so to obtain exemption from patients' payments when undergoing ordinary hospital treatment, to which they would be admitted in accordance with ordinary hospital practice. In other words, the inquiry as to means which the almoner now makes at the hospital would take place when the contributor joined the scheme, and the hospitals would tell their prospective patients how much they should set aside, week by week, in order that, when admitted to hospital, they need not have to pay a comparatively large sum at a time when they can least afford it, or become a charge on charity intended for the necessitous. It is proposed that a weekly contribution of 3d. should entitle wife and dependent children to the same remission from patients' payments on admission to hospital, and it is hoped that collections will be made at the place of employment, by a request from employees to employer to deduct the contribution from wages, and that employers will contribute a portion of the weekly payment. Few large employers of labour—even those who consider themselves generous supporters of hospitals—have ever contributed sums which are really proportionate to the possible demands of their employees upon the hospitals. The employer of 100 workpeople, for instance, who sends a cheque for 10 guineas to the nearest hospital, hardly realizes that his contribution works out at less than one halfpenny a week for each employee.

The general aim of the scheme is to maintain the voluntary system intact, with its private administration of hospitals and its charitable treatment of the poor, by supplementing the present income of hospitals by the weekly contributions of regular wage-earners, who, by providing for the cost of their maintenance when admitted to hospital, will set free the gifts of charity for those for whom they were intended. It is hoped through the working of the provident scheme to decrease the pressure of minor cases upon the out-patient departments of hospitals by encouraging patients to consult their family doctor first and to come to the out-patient department when advised by him. If this can be effectually achieved the burden of the hospitals will be lightened, for there is no doubt that a considerable proportion of the patients who crowd into hospital out-patient departments could well be dealt with by their family doctors, and it is intended to bring the general practitioner into closer touch with the hospitals. The bounds of private practice would not be encroached upon, but the practitioner would be encouraged to procure freely for his patients, by recommendation and after consultation, those special facilities for diagnosis and treatment which are available only at the hospitals.

Such objections as have so far been made to the proposals outlined are regarded by the King's Fund as being based upon misconceptions and misapprehensions. It is held that the principle of the voluntary system is no more affected by such a provident scheme of weekly payments than it is by the system, now almost universally accepted, of asking patients while undergoing treatment to contribute to the funds of the hospital so far as their means allow; and from the

patient's point of view the former system is thought to be the less onerous. The object of the scheme is to preserve the voluntary system, to obviate bureaucratic control of hospitals, to systematize contributions, and to avoid that overlapping which in the past has been such a wasteful feature of the organization of hospital contributions in London.

THE UNIVERSITY GRANTS.

We have received from Sir Michael Sadler, Vice-Chancellor of the University of Leeds, a copy of a memorandum which the heads of the sister universities of Birmingham, Durham, Leeds, Liverpool, Manchester, and Sheffield have addressed to the Prime Minister, urging on grounds of national importance the danger of any reduction in the grants now made by Government to the universities and university colleges of Great Britain. Since its dispatch to the Prime Minister, the Vice-Chancellors of the Universities of Oxford, Cambridge, London, Bristol, Wales, Glasgow, and Aberdeen have expressed their concurrence in it in a separate letter addressed to Mr. Lloyd George. The universities have received official information that it is proposed to reduce the grant, which for the year 1921–22 was £1,500,000, by the sum of £300,000. Such a reduction would gravely embarrass the universities in their work, especially in the development of advanced studies in science, medicine, literature, and technology; it will also inevitably restrict the work of the universities in adult education. The memorandum of the six Northern and Midland universities begins by expressing their obligation to the Government for the notable help given towards their support during recent years. It points out that these institutions provide opportunities of university education for 12,000 students, and that, recognizing the need for the utmost economy in public expenditure at the present time, the universities have restricted their outlay within the narrowest limits consistent with continued educational efficiency. To this end personal sacrifices are being made, and many developments, not only desirable in themselves but urgently needed, have been foregone. "But we are persuaded that the grants now made to us by Government are at the lowest level at which the due discharge of our duties to the nation can be guaranteed, and that any retrenchment would be hurtful to public interests and wasteful of outlay already made." With the aid of university grants these institutions were enabled during the war to render to the nation services of vital importance previously unforeseen; if the means are not withheld from them the British universities are in a position to give signal service to the nation during the coming years of peace. It is pointed out that the universities in England and Wales are now (as they have long been in Scotland) representative of the whole people. They are the recruiting and training ground for the great professions and for the public services, local and central; moreover, they train both workers and leaders for industry. The universities advance science, for they are the chief centres of research, and they extend the frontiers of knowledge in all other departments of study. Lastly, by means of student self-government and by the corporate life in residential halls, the universities train men and women for the responsibilities of citizenship. In short, the universities hold the keys of the future. But the funds which they now command are already inadequate. In order to meet their urgent needs every effort of self-help has been made: appeals have been launched, severe economy has been practised, fees have been raised, and the local authorities have nearly doubled their annual grants. "The Government urged us to make the efforts which have led to this measure of success by encouraging us to hope that what we raised locally would be met by a corresponding increase in Government grants." The memorandum then touches on the large measure of support given by the Governments of the United States, Canada, and Germany to their universities, showing the importance they attach to them as centres of training and research. In the United States gifts to universities, up to 15 per cent. of the donor's income, are by Federal Law exempt from Federal income tax. In Canada the universities receive increasing subsidies from public funds. The conclusion, therefore, is that retrenchment in the present grants would threaten the universities of Great Britain with debility and would check their growth. "Their work is part of the life insurance of the nation. To fail to keep up the premiums would, we submit, be unwise." We may express the hope that the Prime Minister, who recently made an eloquent appeal for the University of Wales, will give his sympathetic consideration to the reasoned and convincing appeal now addressed to him by the Northern and Midland universities, backed up as it is by the older universities in England and Scotland, as well as by the University of Wales itself.

LIST OF SCIENTIFIC PERIODICALS.

The Conjoint Board of Scientific Societies (Burlington House, London, W.1) proposes to provide a world list of periodical publications which contain the results of original scientific research. It is hoped that it will be possible to give in a single octavo volume the titles, in alphabetical order, and the places of publication of all such periodicals in existence on January 1st, 1900, and of all issued after that date. The libraries in London, Oxford, Cambridge, Edinburgh, Dublin, and Aberystwith, which take in such periodicals, would be indicated, and, wherever possible, at least one library in the United Kingdom would be mentioned for each periodical. The scheme aims at supplying a complete list of current scientific periodicals; and, if means are found to carry it out, may form a basis of co-operation between libraries, so that both the number of duplicates and the list of periodicals not received may be reduced. The trustees of the British Museum have consented to allow the compilation of the list to be undertaken by the staff of the Museum, and already a large bulk of material has been collected in the Museum by various societies and by the Conjoint Board. The Museum, however, cannot undertake to defray the cost of printing and publication, but it is hoped that a sufficient number of libraries and institutions will agree in advance to purchase one or more copies at the price of 2 guineas each. The preliminary announcement which has been issued does not attempt to define a scientific periodical, but we apprehend that it is intended to exclude technical publications. It is not clear whether periodicals devoted to medicine would be included, and we understand that the point has not yet been decided. All departments of medicine, hygiene, and pathology, however, suffer more or less from the difficulty described, but it is felt to a very special degree by workers in these subjects in their application to the tropics; in particular the literature on helminthology, and indeed on parasitology generally, is very scattered, and papers which turn out to be of importance may be published in out-of-the-way periodicals, in the transactions of local societies, or in periodicals primarily devoted to some other science, as for instance entomology. Some time ago Professor R. T. Leiper, Director of the Department of Helminthology at the London School of Tropical Medicine, suggested that a list, showing the libraries in London and Liverpool at which periodicals publishing papers on tropical medicine could be consulted, would be of great use to workers, who at present may waste much time in making visits to libraries which do not contain the periodical they want or the particular number they wish to consult. The matter was brought to the notice of the Science Committee of the British Medical Association, which recognized the importance of the suggestion and in consequence a small sum of money was voted to cover preliminary expenses. A number of libraries have now been examined under Dr. Leiper's direction and a considerable amount of material collected, which it is hoped may shortly be made available. The manuscript list has been brought up to date and can now, we believe, be consulted at the School of Tropical Medicine.

SPIRITUAL HEALING.

THE Lambeth Conference in 1920 passed a resolution requesting the Archbishop of Canterbury to appoint a committee to consider and report upon the use with prayer of the laying-on of hands, of the unction of the sick, and other spiritual means of healing. It is contemplated that the findings of such a committee should serve for the general guidance of the Church in the matter of spiritual healing. We understand that a committee has been appointed, that its membership is drawn mainly from the clergy, but includes four or five well known members of the medical profession, and that the committee has already met on two or three occasions. The question of the formation of a ministry of healing was raised some years before the war by some enthusiastic clerics, and associations arose such as the Guild of Health in this country and Dr. McComb's church in Boston, U.S.A. Of the earnestness and sincerity of the founders of these associations there can be no doubt, though the movement may on the surface have seemed suggestive of an effort at a counterblast to "Christian Science." The success alleged in the cure of certain disorders through the agency of these and other forms of faith healing seemed to justify inquiry; and as long ago as 1909 the British Medical Association appointed a committee of investigation. Subsequently a mixed clerical and medical committee met, first under the chairmanship of Archdeacon Sinclair of St. Paul's, and later under Bishop Ryle, Dean of Westminster. This committee carried out a number of important and interesting investigations; but its labours were interrupted by the advent of the war. The committee which has been appointed by the Archbishop of Canterbury may have a somewhat different objective to that of Bishop Ryle's committee, and may be more concerned with the historical evidence for ministries of healing. Nevertheless it will not be able to avoid inquiry into the possibility of the use of what are called spiritual means in the cure of disease; of the methods which may justifiably be employed; and of the relationship of the clergyman and the doctor where such methods are used. Therefore we hope that the Archbishop's committee will make use of the material collected by Bishop Ryle's committee, if still available. Otherwise the paucity of members of the latter committee upon that which has been newly formed is hardly likely to lead to a speedy pronouncement upon a subject which is beset with many difficulties.

MOLIÈRE.

JEAN BAPTISTE POQUELIN, who when he became author and dramatist assumed the *nom de théâtre* "Molière," was born in Paris on January 15th, 1622—at least, his baptismal certificate bears that date. His father, who was upholsterer to Louis XIII, came of a prosperous bourgeois family of Beauvais, and there was once a tradition that some remote forbear was Scottish. Of medical practice in his day Molière was a bitter critic. He first satirized physicians in his farcical comedy *Le Médecin malgré lui*, and returned to the attack in *L'Amour Médecin*. His last comedy was *Le Malade Imaginaire*, in which he himself played the part of the sick man when it was produced for the first time on February 10th, 1673. During its preparation and rehearsal he had been suffering from cough and haemoptysis, and before the third representation, on February 17th, he was so ill that he was advised not to act. He did act, however, but during the performance a violent paroxysm of coughing came on and he was carried away dying from the theatre to his house. Fielding's version of *Le Médecin malgré lui*, bearing the title of "The Mock Doctor," was first produced in 1732. In a later play, *M. de Pourceaugnac*, Molière gibed at the physicians, and there can be little doubt that he suffered much at their hands during his long illness. The physicians and apothecaries of the day could not forgive Molière his bludgeon blows; but in exposing humbug and formalism he was a true friend of medicine, and medicine will join with the other arts in celebrating the tercentenary of the great French dramatist. Paris this week is paying tribute to his genius. In London lectures on Molière's life, work, and times, are being given at the French Institute in Cromwell Gardens, and performances of his plays will be given on the afternoons of January 20th, February 3rd, and March 3rd; while on January 26th M. Antoine will come from Paris to London to lecture on Molière and his dramatic successors in France.

REPRESENTATION OF THE UNIVERSITY OF LONDON.

WE announced a couple of months ago that Sir Philip Magnus, who has represented the University of London in the House of Commons since 1906, did not, owing to advancing years, intend to offer himself for re-election. For the vacancy which will thus be created at the general election it is probable that several candidates will come forward. Sir Sydney Russell-Wells, M.D., vice-chancellor of the university, has accepted the invitation of the Conservative Association to stand in the Conservative and Unionist interest. As the vice-chancellor is returning officer it will, we presume, be necessary for Sir Sydney Russell-Wells to resign his present office before becoming a candidate. It is probable that there will be a Liberal candidate, and we understand that the University Liberal Association has several names under consideration. It is stated that the Labour party will also put forward a candidate—probably Dr. Sophia Jevons.

VERNACULAR MEDICAL TERMS.

THE vernacular and the dialects of the British Isles are full of interesting words which have been used for centuries to express conditions of disease or of health, parts of the body and phases of the mind, and many other matters which are more or less medical in their meaning and relationships. Many of them are worthy of more attention than they commonly receive from the medical profession. Quite apart from their etymological, philological, and historical interest, they should have an attraction for the doctor because they are the words his patient often uses to describe his symptoms, to insinuate a causation, to express his fears, to voice an improvement, and, occasionally, to suggest a homely course of treatment. It is, for this reason, not below the medical man's dignity to endeavour to acquire some knowledge of the dialectal medical terms and phrases in common employment in the district in which his practice is situated, and to do so becomes almost a necessity if this district happen to be one far removed from where he himself was brought up. A wholly extra-academic and post-graduate course of language study is thus sometimes imposed upon the recently qualified man, not a little to his personal inconvenience until he is able to follow his patient in the details with which he or she is furnishing him in a hitherto unknown tongue; for he finds that his ignorance of the vernacular or the dialect places him at a disadvantage, his patient unfairly enough but with apparent logicality arguing that, if the doctor does not know so much as he (the patient) knows of the name of the disorder, the chances of his being capable of curing it will be small indeed. The doctor who, in certain parts of England, does not know that "the Vipers" there means chorea, or who, in Scotland, has not grasped the fact that "the rose" is a name for erysipelas, will find himself astray in his thinking and be caught considering snakes when he ought to be looking for muscular twitchings or meditating in a pergola when he should be looking at the skin at the sides of his patient's nose. But quite apart from this somewhat utilitarian reason for an insight into medicine in the vernacular and in the dialect there is the fact that now and again through the common word one can obtain a peep into the past history of medicine in this country, and can reconstruct in a measure old systems of treatment, refurnish the apothecary his shop with simples, and envisage the sick chamber or the lying-in room of the Middle Ages and the centuries immediately following them. For these and for such other reasons—etymological, lexicological, and philological—as may easily be imagined and will

in proper course appear, a beginning is made in this week's JOURNAL with the first of a series of articles on medical terms such as the common people use, and on the expressions and phrases, and even proverbs, in which these terms are embedded in daily speech. "Agnail" has been chosen for a subject on account of its curiously diverse forms, its changing meanings, and its strangely involved derivation; the facts have not been lost sight of that a hangnail (to give it one of its many other forms) on the finger of the best surgeon may embarrass his operation, and that its presence on the hand of a member of the staff of a venereal diseases department may introduce the danger of infection. Roger L'Estrange has put it on record that "the Ripping of a Hangnail is sufficient to Dispatch us." And this no doubt is literally true, and for no one more true than the surgeon.

GASEOUS DISTENSION OF THE SPLENIC FLEXURE.

ALTHOUGH Dr. A. F. Hurst[1] has pointed out that gas tends to accumulate more commonly in the splenic flexure than in any other part of the colon, and that patients mistaking it for gastric flatulence attempt to eructate the wind and thereby swallow air and so distend their stomachs, the subject has attracted very little attention in this country. It may therefore be worth while to refer to a recent study of this condition by Ramond and Borrien[2] of the Hôpital St. Antoine, Paris, illustrated by skiagrams. Their contention is that as the splenic flexure is the highest part of the colon gas tends to collect there, and that it may be derived from air swallowed and passed on; they found, indeed, that aerophagy and distension of the splenic flexure are often associated; this condition of the splenic flexure may be transient, but tends to become persistent. It may be independent of aerophagy and due to intestinal fermentation and putrefaction; or may be favoured by idiopathic dilatation of the colon, by kinks, adhesions, the pressure of tumours from without, by paralysis of the left leaflet of the diaphragm due to pleurisy, and by atony caused by peritonitis. The distension of the splenic flexure may spread into the transverse colon as far as the middle line and to a more marked extent into the descending colon—namely, as far as the sigmoid flexure, but the distension always reaches its acme at the splenic flexure. The lower part of the left chest is asymmetrically prominent, tympanitic, and shows deficient respiratory movement and breath sounds. By skiagraphy it is seen that the left half of the diaphragm is displaced upwards for two or three finger-breadths by a clear, irregularly oval or circular area corresponding to the position of the splenic flexure; frequently the stomach is also distended with air, and then the two distended viscera can be distinguished. After a bismuth meal the splenic flexure shows a lining only along its inferior border, but a bismuth enema completely fills it up. In two cases the heart was completely displaced to the right. When the observer is on the look-out for the condition, the symptoms are highly suggestive; there is persistent feeling of distension, dyspnoea is caused by slight exertion, tachycardia and palpitation are constant, and constipation is the rule. The physical signs may even suggest a left-sided pneumothorax. Medical treatment consists in combating constipation, abdominal massage, and the use of electricity. When these measures fail entirely and the symptoms are severe, partial colectomy has been performed; in one instance the cure was brilliant, but in another cardiac failure caused death two days later.

ALKAPTONURIA.

ALKAPTONURIA is the term applied to the presence in the urine of homogentisic acid, a body by which Fehling's solution is reduced. Though a harmless condition it may when detected at a life insurance examination, cause rejection on the erroneous diagnosis of diabetes. It is a rare condition, but of great scientific interest, as it is one of the best known of what Sir Archibald Garrod has happily called chemical malformations or inborn errors of metabolism. Other members of this group are cystinuria, pentosuria, and albinism, in which the power of forming melanin is absent. Professor Campbell Howard and Dr. R. B. Gibson[1] of Iowa, in reporting a new case with a study of its metabolism, point out that there are only about 70 published cases, 11 of these being American. Though familial it is not hereditary, and its incidence resembles that of albinism. There is a failure to complete the katabolism of the aromatic fractions of the proteins tyrosine and phenyl-alanine, both from the food and the tissues, the process stopping at homogentisic acid, which is accordingly passed in the urine. In 1914 Gross found that the serum of normal animals and man destroys homogentisic acid, probably producing acetone, by means of an active enzyme which appears to be absent in alkaptonurics. The urine when passed is natural in colour, but from oxidation rapidly darkens, especially when the reaction is alkaline; this, indeed, gave rise to the bilingual name alkapton (from alkali and κάπτω = I gulp down), originally applied by Boedeker in 1861 to the reducing substance identified thirty years later by Wolkow and Baumann as homogentisic acid. Out of the 70 cases 24 (up to 1919) showed the inky black staining of the cartilages and fibrous tissues which Virchow called ochronosis; this may be attended by pain, swelling, and deformity of the joints. Ochronosis is not due solely to alkaptonuria, but has been found to result from chronic absorption of carbolic acid. In 1912, in a note on ochronosis associated with carboluria, Drs. A. P. Beddard and Plumtre stated that out of 30 reported cases of ochronosis 14 were associated with alkaptonuria and 9 with the use of carbolic acid, the chemical process by which this pigment is derived from these two acids being on the same lines. The appearance of patients with ochronosis is very remarkable, the pigmented cartilages, especially of the nose and ears, showing through the skin, which may also be black; the black pigmentation due to absorption of carbolic acid diminishes when the supply is cut off.

ASYLUM ADMINISTRATION.

THE Minister of Health has appointed a committee, consisting of Sir Cyril Cobb (chairman), Dr. R. Percy Smith, and Dr. Bedford Pierce, with Mr. P. Barter, of the Ministry of Health, as secretary, "to investigate and report on the charges made by Dr. Lomax in his book (*The Experiences of an Asylum Doctor*), and to make recommendations as to any medical or administrative improvements which may be necessary and practicable in respect of the matters referred to by Dr. Lomax without amendment of the existing lunacy laws.' A review of this book appeared in our issue of August 20th, 1921, p. 288. The committee will ordinarily hear evidence in public, and the time and place of meetings for this purpose will be announced; the committee will, however, reserve the right to hear evidence in private in any case where they consider such a course desirable. It is particularly stated that the committee will hear such evidence as is necessary for the investigation specified in the terms of reference, but that it cannot undertake to hear evidence in regard to the amendment of the existing lunacy laws.

AT the Church Congress at Birmingham in October last Lord Dawson of Penn made a speech, by invitation, on sexual relationships. It was reported in a condensed form in some of the newspapers, and has now been issued by Messrs. Nisbet as a pamphlet, for which Lord Dawson has written a foreword. Its price is 1s., and it can be obtained through any bookseller. We hope to refer to the pamphlet more at length on some future occasion.

PROFESSOR G. ELLIOT SMITH, F.R.S., will give a short address on the Rhodesian skull at the next social evening of the Royal Society of Medicine. The meeting will be held on January 25th, when Fellows and their friends will be received by the President and Lady Bland-Sutton at 8.30 p.m. The address will be given at 9 p.m.

[1] *Constipation and Allied Intestinal Disorders.* 1919.
[2] *Arch. des mal. de l'apparat. digest.*, Paris, 1921, ix, 313-318.

[1] *Arch. Int. Med.*, Chicago, 1921, xxviii, 632-637.

THE WORK OF THE MEDICAL RESEARCH COUNCIL, 1920-21.

[FIRST NOTICE.]

THE Report of the Medical Research Council for 1920–21 may conveniently be regarded as consisting of two main parts: the one descriptive of the National Institute of Medical Research at Hampstead and the work done there, including investigations in experimental medicine and research work in certain clinical units which may be regarded as related to it; and the other giving an account of research schemes in specific subjects carried out at many different places. Of the fund at the disposal of the Council the larger part is expended under the second head, but the advantages of possessing a central institution have again been demonstrated. At Hampstead there are three experimental departments, but the work done in any one department frequently comes into contact with that being carried on in another, and one advantage of centralization is that the indications for future researches arising at these points of contact can at once be discussed between the workers in the several departments and general plans for further researches settled. The Institute also has the advantage of working in co-operation with the Lister Institute of Preventive Medicine.

As has been implied above, the work of the various departments overlaps here and there, but the following may be taken as a general indication of the matters which have chiefly interested each. The period under review, it should be noted, is the first full year of the Institute, which previously had been scattered in temporary quarters.

The Proteins of Bacilli.

An example of combined effort by two departments is afforded by a research conducted by Captain S. R. Douglas, Director of the Bacteriological Department, and Dr. Dudley, of the Department of Biochemistry and Pharmacology. Captain Douglas has continued his preparation of large quantities of the bacilli causing typhoid fever and tuberculosis respectively, for the purposes of an analysis of their proteins and other constituents: Dr. Dudley has continued his work on the intimate molecular structure of different proteins. For this purpose he has been able to use the bacteria, prepared in large quantities by Captain Douglas and carefully freed from their lipoid constituents, for the preparation and estimation of the constituent amino-acids of the proteins, and for the application of Dakin's racemization method. This is work of a kind for which bacteriologists and pathologists have waited long, and it is satisfactory to know that good progress has been made in devising methods for the separation of the organisms in each case from the culture media.

Ventilation and Microbes.

Captain Douglas, working this time with Dr. Leonard Hill, Director of the Department of Applied Physiology, has continued investigations of the effects of ventilation and humidity on the air in a room or vessel massively infected by spraying with emulsions of micro-organisms. Humidity was found to make little difference to the rate at which the organisms settled out of the air, but it was ascertained that in a moist air the organisms condensed more rapidly on cold surfaces than on warm ones. It was ascertained, too, that dry air passed over organisms growing on the surface of an agar medium carried away many fewer than moist air; the presence of dust in the air also increased the number carried away. Efficient ventilation enormously increased the rapidity with which organisms were removed from the air of an infected room, and even keeping the air in motion with a fan had the same effect. Saturation of the air with moisture increased the results of movement.

Preservation of Antigen.

Researches commenced in 1916 into the antigenic properties of bacteria extracted with acetone and kept in a dry state have been resumed by Captain Douglas and Dr. A. Fleming; it appears that the antigenic properties of bacteria can, by this method, be retained indefinitely, and that bacteria so prepared are very suitable for the subsequent preparation of vaccines or for use in complement fixation tests.

Actinomycosis.

Further inquiries by Dr. Colebrook into the bacteriology of cases of human actinomycosis showed the value of adequate drainage, combined with vaccine therapy, in the treatment of the disease. Potassium iodide was not found to be effective. The need for the better differentiation of the diseases caused by actinomycosis and by allied organisms is noted.

Diphtheria.

With the assistance of Dr. R. A. O'Brien and his colleagues at the Wellcome Physiological Laboratories Dr. Colebrook has been able to follow the method of measuring the approximate strength of diphtheria antitoxin by means of skin reactions, and in this way has been aided in the study of the Schick test for the susceptibility of individuals to diphtheria, an account of which was given in our columns recently (December 10th, p. 994) founded on a report made to the Ministry of Health. It is hoped shortly to make a series of trials of the method, the underlying principle of which is the subcutaneous injection of a mixture of toxin and antitoxin.

Silica.

Dr. Gye, who has been working at tetanus serum with Dr. E. H. Kettle at St. Mary's Hospital, has investigated the nature of passive immunity against tetanus, with a view more particularly to finding how far the antiserum protects against infection with *B. tetani* as distinct from tetanus toxin. It was found that infection could not be produced by the injection of an ordinary culture of the bacillus, which is apparently unable to multiply in the normal tissues. To cause infection, with multiplication of the bacilli and development of the spores, the local defence of the tissues must be broken down by some such agents as ionizable calcium salts or colloidal silica. It was found that the prophylactic power of antitoxin serum, even in relatively enormous doses, was nullified or greatly impaired by the presence of calcium chloride or of silicic acid. It would appear, therefore, that active and passive immunity must be combined to give complete protection. Dr. Kettle and Dr. Gye have also investigated silicosis. It was known from the work of Haldane, Collis, and others that finely divided silica dust produced extensive fibrosis of the lungs; it has now been ascertained that hypodermic injection of both silicic acid and silica causes a lesion which ends in the production of fibroblasts. It is probable that the fibrosis of the lungs is caused by the silica in the tissues becoming hydrated and forming soluble colloidal silica which produces the damage culminating in fibrosis.

Protistology.

Much of the work done by Mr. Clifford Dobell, F.R.S., on the intestinal protozoa in man has been published in one of the Council's special reports and Mr. Dobell's book on the subject. Suffice it to say that there is now little doubt that about 50 per cent. of the population are infected with *Entamoeba coli*, which can gain admission to the human body only from faecal contamination of food; this indicates that in spite of the great modern improvement in sanitation there must be much negligence in the handling of foodstuffs. The need for greater care, both in commerce and in the household, is therefore urgent. It has also been ascertained that between 5 and 10 per cent. of people who have never been out of the country are infected with *Entamoeba histolytica*. This fact, taken with the known rarity of amoebic dysentery here, shows that over and above the infection with the amoeba some unknown causative factor is necessary before dysenteric symptoms can be produced in man.

Anaphylaxis.

Dr. Dale has had the assistance of Dr. C. H. Kellaway (Foulerton Student of the Royal Society) in resuming his study of anaphylaxis, interrupted during the war. Their results provide fresh evidence in favour of the view that the condition of anaphylaxis differs from that of immunity in the predominant location of an antibody in the body cells, immunity being due to excess of the same antibody in the blood cells and body fluids. Their experiments make untenable the view that "anaphylatoxin" is produced in anaphylactic shock, or that its formation has any direct bearing on the phenomena of true anaphylaxis.

Cinchona Derivatives: Digitalis.

A committee on cinchona derivatives and malaria has been appointed, with Dr. H. H. Dale as chairman, and Major H. W. Acton, I.M.S., Dr. Andrew Balfour, and Lieut.-Colonel S. P.

James, late I.M.S., as members. With the help of the Ministry of Pensions, arrangements have been made to distribute supplies of pure salts of quinine and quinidine for comparison of their effects in treating benign tertian malaria. Owing to the scarcity of cases progress is slow. Reference is made to the observations of Sir Thomas Lewis and his colleagues, reported in the BRITISH MEDICAL JOURNAL of October 1st, 1921, p. 514, on the power of quinidine to suppress auricular fibrillation in a certain proportion of cases; they were carried out in the Council's Department of Clinical Research, and the Cardiographic Department of University College Hospital Medical School, and form part of the researches directed to elucidate the nature of auricular flutter and auricular fibrillation. In the same department a series of experiments have been made upon the action of certain standard preparations of digitalis, with a view to determining the relative strengths of these preparations when used therapeutically. The preparations were supplied by the National Institute for Medical Research, and were part of the result of an inquiry by Dr. Burn into the methods of assaying digitalis. He found a wide discrepancy between those obtained by the different methods, the ratio of activity between two tinctures assayed by one method being inverted when the same tinctures were assayed by another.

Pituitary.

Dr. Dale and Dr. Burn have examined the methods advocated for the standardization of extracts of the posterior lobe of the pituitary body. Experience has so far shown that the sensitiveness of the plain muscle of the guinea-pig's uterus to the pituitary extract on the one hand, and to the proposed stable standards (histamine or potassium chloride) on the other, varies independently. Attention is therefore being directed to obtaining a stable standard preparation of the pituitary active principles themselves.

Anaesthesia.

Dr. Leonard Hill and Dr. Dale have sought to obtain an improvement in the anaesthetic action of mixtures of nitrous oxide and oxygen, which is effected by giving the mixture from a flexible bag in a chamber under a small positive pressure. The possibility of producing deep and long continued anaesthesia in this way was demonstrated in 1878 by Paul Bert, but the occurrence of an accident, of which details are not available, appears to have prevented the adoption of this method for producing anaesthesia in man. Recent experience has made increasingly clear the harmlessness of nitrous oxide and oxygen, as compared with chloroform or ether, in cases in which toxaemia is present. Dr. Hill and Dr. Dale have revived Bert's observations, and, making use of the steel pressure-chamber at the Lister Institute, have shown the possibility of producing deep anaesthesia without cyanosis under conditions which, given a suitable pressure-chamber fitted as an operating theatre, could be applied to the human patient.

Kata-thermometer.

The investigations carried out by Dr. Hill, Director of the Department of Applied Physiology, and his colleagues, fall under two main headings—namely, practical questions of ventilation, and researches into the chemical changes of the body under various conditions of environment. The kata-thermometer devised some years ago by Dr. Hill, and described by him in our columns, has been used extensively in factories and mills by investigators of the Industrial Fatigue Board, by Dr. Chalmers, chief medical officer of health in Glasgow, for the estimation of ventilation in post office buildings, and by Dr. Orenstein and Mr. H. J. Ireland in South African mines. The important conclusion has been drawn that efficiency is lessened by as much as 50 per cent. when the kata-thermometer readings are lowest. Formulae for use in interpreting the kata-thermometer readings have been worked out for varying rates of wind; the movements of air in all conditions of ventilation can now easily be ascertained, and it may soon be possible to establish standards of movements of air, cooling power, and evaporation, for mines, workshops, public conveyances, eating houses, and other crowded places. An electrically heated kata-thermometer has been devised, and a modification of the instrument can be used for regulating the temperature of a current of air.

Local Heating and Cooling.

Some curious results have been obtained from a study of the effects of local heating and cooling of the body, carried out by Dr. Hill, Miss Ash, and Dr. Argyll Campbell. It appears that when the hands are placed as far as the wrists in water at 5–10° C. the whole body loses as much heat as is normally produced in the resting condition. Conversely, when the hands are immersed in water at, say, 44° C., the body gains almost as much heat as it loses normally. Since this indicates that local heating of the body may be very efficacious it is just possible that it may be found to be the best method of distributing heat in some workshops and elsewhere, each individual having an electrical heating appliance beneath his clothes and under his own control, while the whole shop is freely ventilated by cool air.

Oxygen Bed-tent.

Dr. Hill, with the help of Mr. R. H. Davis and Mr. Rosslyn, has constructed an oxygen bed-tent which encloses the upper part of the bed and allows the patient to breathe comfortably an atmosphere containing about 40 per cent. of oxygen. There is a fan for circulating the air and an absorber for the exhaled carbon dioxide. The tent has been used at the Ducane Hospital in collaboration with Mr. J. E. H. Roberts for the treatment of oedema and chronic ulcers following gunshot injury to the blood vessels of the leg, and at the Hampstead Infirmary for the treatment of chronic ulcers, with benefit in all cases. It is thought that the tent will be useful also in the treatment of pneumonia and surgical shock.

Statistics.

In the Department of Statistics, of which Dr. John Brownlee is director, Dr. Matthew Young, who has been investigating the geographical distribution of rheumatic fever, reports that there is a definite association between excessive prevalence of rheumatic fever and an excess in rainfall with a low mean annual temperature; the existence of this association has been denied. Dr. Young has also investigated the distribution of cancer in the Severn Valley; the results so far go to show that while there is considerable actual variation in the mortality in the several districts of the region there is no conclusive evidence in favour of the alleged association of an excessive death rate from cancer with low-lying areas or of a small mortality with high-lying areas and with the older geological formations. The inquiry seems also to indicate that the association between excessive incidence of cancer and pronounced industrialism is neither so direct nor so specific as has recently been asserted.

Research Work of Clinical Units.

Reference has already been made to the research work done at University College Hospital by Sir Thomas Lewis and his colleagues. Dr. J. W. McNee, assistant in the Medical Unit, has continued his experimental work on disorders of liver function. At the London Hospital two assistants of the Medical Unit have received grants. Dr. A. W. Ellison and Miss M. Leek have obtained evidence which confirms d'Herelle's theory as to the presence in the faeces of patients convalescent from dysentery of a filterable agent capable of destroying the dysentery bacillus of Shiga. A similar substance has been obtained from patients suffering from other conditions. It is found not to be specific; it destroys also *B. typhosus* and other organisms. At St. Thomas's Hospital Professor Hugh MacLean, Director of the Medical Unit, has continued his investigations on nephritis. Part-time grants have been made to Dr. S. C. Dyke, pathologist to the Surgical Unit, and to Dr. P. C. Brett. Dr. Dyke has been seeking to correlate the microscopical changes found in diseased kidneys and the functional changes ascertained by biochemical means during life. Dr. Brett has done some research work on renal disease and on carbohydrate metabolism, but much of his time has been taken up in the examination by modern scientific methods, for the Ministry of Pensions in the London region, of more than 10,000 patients who were at one time the victims of trench nephritis. It is believed that if this investigation can be continued for a few years valuable results will be obtained.

Finance.

The grant in aid at the disposal of the Medical Research Council was nominally increased for the year 1920–21 by £5,000, making a total of £130,000. This increase was, however, coupled with the condition that no additional provision should be made by way of a supplementary grant or from the funds of any other department for the work of the Industrial Fatigue Research Board, and that the provision hitherto made for research work into mental disorders

under the direction of the Board of Control for England and Wales or the corresponding authority in Scotland should be discontinued and the work transferred to the Medical Research Council. The annual sum available in former years for mental disorders was £2,300. In the previous year the work of the Industrial Fatigue Research Board cost £18,000; towards this the Department of Industrial and Scientific Research made a grant of £8,000 and the Medical Research Council £10,000, of which £5,000 was from a special supplementary grant voted by Parliament. The Medical Research Council was thus called upon in the past financial year to meet additional claims under these heads amounting to £15,300, towards which it would receive £5,000. The administrative expenditure of the Council has never been permitted to exceed 6 per cent. of the annual expenditure; the expenditure of the National Institute for Medical Research at Hampstead had already been reduced, by economies and rearrangements, by some £4,000 a year. In the face of this position the Industrial Fatigue Research Board and the arrangements for its work have been remodelled, and many of the investigations already in hand and more in immediate prospect have been sacrificed. Every effort, however, will be made to maintain the continuity of the work of the Board, which has already earned the goodwill, both of the employer and employed, in many industries. It was not found possible to make any material reduction in the cost of the research work of the Board of Control, but some economies have been effected.

The volume and variety of the work supported by the Council has greatly increased since its beginning, and the increase in the grants received by the Council has borne no direct relation to the greatly advanced cost of each unit of work in an expanded programme. The remuneration of the workers has been increased, though to an inadequate extent, to meet the higher cost of living, and decreased as that has fallen. The rise in the cost of materials and apparatus has in most instances been of a far higher order than the rise in the price of food, and has not, it is stated, declined in anything like the same ratio. The total amount available, £130,000, was allocated as follows: To the National Institute for Medical Research, £38,000, to research in specific subjects (including mental disorders) at universities and other centres, to research in clinical medicine and to the Industrial Fatigue Research Board, £84,000, and to administration £8,000.

England and Wales.

TUBERCULOSIS IN WALES.

A CIRCULAR has been issued by the Welsh Board of Health to local authorities and medical officers of health in Wales with reference to certain details of the campaign for the prevention of tuberculosis. A form has been drawn up for the purpose of giving information as to persons who have been in contact with a patient suffering from tuberculosis, in order to ensure their systematic and prompt examination by the tuberculosis physicians; the form also provides for information as to the environmental conditions under which a patient is living. It is recommended that on the receipt of a notification that a person is suffering from tuberculosis the medical officer of health, or another officer of the local authority acting under his instructions, should visit the patient's home in co-operation with the medical practitioner in charge of the case. It is thought that the medical officer of health will be in a position to detect the possible source of infection and thus to lessen the likelihood of its continuance; he can also act with a view to the removal of any insanitary conditions tending to retard the patient's recovery. A leaflet of instructions to persons under treatment for tuberculosis has been prepared by the Welsh National Memorial Association, which is intended to be handed to patients attending at the tuberculosis dispensaries. The association will continue to supply free of charge to patients sputum flasks and bottles and the necessary means for rendering the sputum innocuous. The importance of the medical officer of health keeping the register of tuberculosis notifications up to date is emphasized, and local authorities are reminded that as tuberculosis is an endemic and infectious disease adequate cleansing and disinfection of rooms which have been occupied by patients, and of personal clothing, bedding, etc., should be carried out where the medical officer of health considers these measures to be desirable. Some local authorities appear to have failed to realize this obligation. It is advised that in Wales all cases of persons suffering from tuberculosis should be brought to the notice of the Welsh National Memorial Association at the earliest possible date. In order to secure prompt notification it is suggested that local authorities should circularize the medical practitioners practising in their areas, drawing attention to the value attached to this and to the free utilization of the services of the tuberculosis physicians of the association, so that in any doubtful case a definite diagnosis may be arrived at as soon as possible.

LIVERPOOL MEDICAL INSTITUTION.

A meeting of the Liverpool Medical Institution was held on January 5th, with the President, Dr. J. E. Gemmell, in the chair. Mr. Edgar Stevenson read a note on extraction of cataract in the capsule of the eye lens, and showed lantern slides demonstrating Professor Barraquer's suction operation. Dr. Norman B. Capon read a paper upon intracranial traumata of the newborn. He had found intracranial haemorrhage in 21 per cent. of infants dying shortly after birth; ruptures of the dural septa, usually of the tentorium cerebelli, were present in 25 per cent. As might be expected, these figures were higher in cases of stillbirth; they were 46 and 60 per cent. respectively in his own series. After reviewing the etiology of intracranial injuries he discussed the difficulty of diagnosing the locality of the effused blood. In his own examples of infantile death following difficult labour slightly more than 50 per cent. revealed only a condition of cerebral congestion, for which early lumbar puncture was undoubtedly the appropriate treatment. Dr. A. Robertson Wilson read a paper on the treatment of surgical tuberculosis by sun-cure at Leysin. After a short account of the situation and climate of Leysin and the general arrangements of the clinics, he described the effect of the sun on the patients under treatment, making special reference to the relationship between browning of the skin and the progress of the case, and pointing out that the greater the pigmentation the better was the prospect of success; the relief of pain was also mentioned. He remarked on the excellent physical conditions of the patients he had seen, and especially on the development of muscles previously atrophied and the restoration of movement in affected joints. The treatment of Pott's disease and tuberculosis of the hip- and knee-joints, as carried out by Dr. Rollier, was described in detail, along with the methods for reduction of the deformity and the technique of the "sun bath." The striking successes obtained were illustrated by photographs lent by Dr. Rollier. The treatment of tuberculosis in other bones and joints, of adenitis, genito-urinary tuberculosis, and tuberculous peritonitis, was described, with the satisfactory results which followed. A short account was given of the treatment of convalescent cases and of the work colonies and open-air schools established by Dr. Rollier.

CORONERS' JURIES.

At the conclusion of four inquests concerning deaths due to violent causes, held on December 21st, 1921, Dr. F. J. Waldo, the City Coroner, informed the jury that unless Parliament intervened, the war measure known as the Juries Act, 1918, empowering coroners to hold inquests without a jury, would lapse on February 28th, 1922, and juries would then become necessary again in every case. At present the coroner was prohibited from exercising his discretion to sit without a jury in cases of (*a*) deaths in prison, (*b*) deaths requiring an inquest under an Act other than the Coroners Act, 1887—for example, the Lunacy Act, Children's Act, and the City of London Fire Inquests Act—and (*c*) where the coroner saw reason for summoning a jury, or for suspecting that the deceased had come to his death by murder or manslaughter (not including *felo-de-se*). The present practice of a large majority of coroners, both in London and elsewhere, was to sit without juries in some 92 per cent. of all public inquests; such cases included not only natural, but unnatural, violent deaths and suicides. A few coroners still sat in every case with a jury, while others—like himself—continued to summon juries save only in cases of sudden death in which the cause of death was unknown. These inquests usually resulted, after a *post-mortem* examination, in findings of natural death. Dr. Waldo added that in his courts the great majority of inquests (except those held in Holloway Prison) were upon cases of violent accidental deaths occurring in hospitals; in these the question of conduct and neglect—short of criminal neglect—often arose. In his experience facts, founded on evidence, could best be decided by a jury directed by the coroner, whose duty it was to explain matters connected with the law of the case under consideration. The want of uniformity

brought about by the present war practice of coroners might, to a large extent, be met and corrected by an amendment of the war Act permitting them to sit without a jury only in cases of sudden death in which the cause of death was unknown. Dr. Waldo thought that the confidence of the public would best be guaranteed by the retention of the jury at inquests in all cases at least of death due to violent causes. The presence of a jury added materially to the publicity of the proceedings, which seemed to him one of the most useful features of the coroner's court.

MANCHESTER ROYAL INFIRMARY WAR MEMORIAL.

A war memorial to former residents of Manchester Royal Infirmary has been presented by the medical board to the trustees of the infirmary, and is placed in the main entrance hall. It is a bronze tablet upon which are recorded the names of former house-physicians and house-surgeons who fell, and gives the dates of their resident service in the infirmary and the office they held there. The names are as follows: W. B. Pritchard, E. N. Cunliffe, D. Rodger, C. B. Marshall, W. A. Sneath, H D. Willis, T. W. Martin, S. J. Linzell, G. Maule, K. Atkin.

Scotland.

EDINBURGH ROYAL INFIRMARY.

AT the annual meeting of the Court of Contributors of the Edinburgh Royal Infirmary, Lord Provost Hutchison, who presided, said that the report contained a number of very satisfactory features. When so many similar institutions throughout the country had had to curtail their activities through lack of funds it was a matter for thankfulness that the Edinburgh Royal Infirmary was enabled to continue fully its beneficent operations. The total ordinary income for the year amounted to £118,191, and it was very encouraging to note that in spite of the coal strike the contributions from the employees in the various coalfields had actually increased by £345, the total for the year being £8,660. The League of Subscribers continued to do excellent work, the amount received from that source being over £17,000, an increase of £4,385. The total income for the year had amounted to £133,000, but over £16,000 had been received as a special grant from the National Relief Fund. The excess of ordinary income over ordinary expenditure for the year amounted to £15,136. The sum to be administered under the Astley-Ainslie Trust for the relief of convalescent patients amounted to over £600,000, and substantial benefits would accrue to patients of the Infirmary during convalescence, but the fact must be emphasized that this Trust would give no relief whatever to the financial obligations of the Infirmary. In fact, these obligations would probably be increased, as the existence of the Trust would result in a larger number of acute cases being treated in the Infirmary.

Correspondence.

THE INCIDENCE OF VENEREAL DISEASE.

SIR,—In some of the letters which have recently appeared in the BRITISH MEDICAL JOURNAL on the subject of venereal diseases, statements have incidentally been made as to the prevalence of these diseases and the almost universal habit of promiscuous sexual relations among young adults. There are at the present time a large number of well-meaning people engaged in the campaign against venereal diseases who, for the purpose of their propaganda, regularly exaggerate the incidence of venereal diseases and of immorality.

Several years ago an Austrian syphilologist stated that 95 per cent. of the male population had suffered from gonorrhoea at one time or another. This statement has appeared in various medical and lay books dealing with this subject, and, inferentially, has been applied to Great Britain.

It must be the common experience of all of us who have had charge of lock wards that our "prostitute" patients may be seen plying their calling on the streets in an infectious condition. It is well known to every general practitioner that there is a considerable amount of promiscuity among the young adult population. But while this is so, it is exceedingly ridiculous and most mischievous to exaggerate the occurrence of immorality, as has been done recently. There are certain members of the general public who are only too anxious to have information from the medical profession which may help them to salve their own consciences.

There is, of course, no reliable information as to the prevalence of promiscuity, nor as to the prevalence of venereal diseases. I feel sure that every medical practitioner who has the experience derived from ordinary general practice will agree that the statements recently made are ridiculous.

Further, there is the evidence which can be adduced from illegitimacy statistics, from venereal diseases clinics, and other sources, that the vast majority of the population of this country are free from disease and live decently moral lives. It would in my judgement be a catastrophe if the young population of this country were to be brought up with the idea that everybody adopted some variety of promiscuity, and that therefore no great harm would arise if one lapse were committed.

From the point of view of the national health I am sure that every means should be taken to secure a high moral standard for every man and woman, and that adequate punishment should be meted out to those who depart from such a standard.—I am, etc.,

Birmingham, Jan. 3rd. JOHN ROBERTSON.

TREATMENT OF CARCINOMA OF THE CERVIX.

SIR,—I have read with interest the letter on this subject by Dr. Herbert Spencer. He states "the object of this letter is to plead for the exercise of judgement in the operation to be performed"; and again, "our great need is to get the cases early, so that the dangerous operation, extended abdominal hysterectomy, may be avoided." No one will cavil at the necessity for the "exercise of judgement" or the "great need" "to get the cases early," but surely it is the employment of an extensive operation in the early cases which will yield the best results.

Clinical experience of cancer in all parts of the body serves to confirm the opinion that a thorough and complete operation in the early stages of the disease gives the sufferer the best chance of prolonged alleviation or permanent cure, and that the results so obtained are not equalled by any other method of treatment yet employed. Indeed the necessity for early and complete eradication is an important surgical principle to which cancer in the uterus should be no exception.

Now the mortality of the extended abdominal hysterectomy is high, roughly 20 per cent., and if continued will tend to discredit the operation, but it can be reduced by exhibiting surgical judgement in the selection of cases and by care in the technique of the operation. Any major operations if indiscriminately employed would soon be discredited both by the profession and the laity.

The test of a surgical operation as a therapeutic measure is the ultimate result obtained from that operation under the best possible conditions, and employed in the early stages of the disease for which it is performed. When this test is applied to the extended abdominal hysterectomy for early cases of cervix carcinoma I have no hesitation in stating that the results obtained are not equalled by any other method of treatment known to medical science.

I believe when this operation is employed for the cases in which it is really suitable the mortality is well under 10 per cent. in expert hands; indeed, I have completed 100 cases with 6 deaths.

The estimation of an operability rate which was introduced from Germany is eminently fallacious, and to maintain it at a high level tends to encourage rash and hazardous operations attended by such a high mortality as to discredit surgery. It is easy to say, "So-and-So selects his cases," but to do an extensive operation without eradicating the disease only tends to stimulate the remaining growth, and should the sufferer survive her ultimate condition is worse. Moreover, palliative measures may make a patient comfortable for a considerable period.

The selection of cases suitable for operation requires the highest surgical judgement, and the greatest care should be taken in so doing, otherwise the surgical treatment of cervix carcinoma will be discredited. The dictum "if it is an easy operation it is a good operation" is as true for the extended abdominal hysterectomy as it was for vaginal hysterectomy in the old days.

Concerning the technique of the operation the prevention of infection from the cancer and the prevention of blood loss are two most important factors. My own technique is fully described in the *Transactions of the Obstetrical Society of Edinburgh*, 1911. Finally, I may mention that I have seen recurrence six, seven, and eight years after this operation.—I am, etc.,

London, W., Jan. 7th. F. J. McCANN.

SIR,—British gynaecology is under such great obligation to Messrs. Comyns Berkeley and Bonney for the pioneer work they have done in this country for Wertheim's operation that I sincerely regret any suspicion of slight on their work through a little carelessness on my part. In preparing my lecture for publication I eliminated a mass of statistics, retaining Berkeley and Bonney's almost exclusively for this country, but unfortunately by an oversight retained their earlier statistics. I much regret this, though the difference is not nearly so great as would be imagined from Mr. Comyns Berkeley's letter. The figures I quoted were:

> Mortality, 22.5 per cent.; operability, 67 per cent.; and cure, 26 per cent. for three years;

whereas their later figures in 1916 were:

> Mortality, 20 per cent.; operability, 63.5 per cent.; and cure, 39 per cent. for five years.

The last shows a great improvement, and is the only error of any importance.

Dr. Spencer's plea for vaginal hysterectomy in early cases would have more weight with me if there was any certain method of diagnosing the extent of the growth prior to operation. In my experience abdominal section often reveals the growth to be much more extensive than I had estimated by vaginal examination even under the anaesthetic.—I am, etc.,

Manchester, Jan. 9th. WM. FLETCHER SHAW.

"LOOSE CARTILAGE."

SIR,—In your issue of December 17th Mr. Pennell, under the above title, states that "the treatment is not easy, and the diagnosis is more difficult still," and that "cures are in the minority." I submit that this unsatisfactory state of affairs is largely due to incorrect diagnosis, but to some extent also, as Mr. Pennell states, to faulty technique in operating. Traumatic affections of the knee-joint are lumped under the blessed term "internal derangements of the knee-joint," and the inexperienced surgeon is apt to follow the line of least resistance and remove the internal or external semilunar cartilage as the supposed cause of the disability. I could recount many such cases, but one which has recently come under my notice will suffice to illustrate my point.

An undergraduate injured his knee at football on the last day of the Lent Term. According to his account, the knee swelled up, but he managed to "go down," and was incapacitated for the whole of the Easter vacation. On his return to Cambridge he came to me complaining that the knee frequently "gave way under him, and let him down." On examination I found that there was little or no fluid in the joint, which could be extended to the full. On putting tension on the lateral ligaments in turn, the internal ligament was taut, but the external ligament allowed of considerable separation of the tibia from the external condyle of the femur. There was no history of "locking" of the joint. I diagnosed a ruptured external lateral ligament, and prescribed a Marsh's splint with stops to prevent full extension of the joint, advising him to wear this apparatus for at least six months, gradually diminishing the angle of flexion.

I have previously treabed many cases of torn ligaments on these lines with success. To my mind operative measures have little or no advantage, as after suturing the torn ligament the joint has still to be guarded from full extension for a similar period to allow of firm fibrous union of the ligament taking place.

During the Long Vacation he consulted a surgeon near his home, who, I presume, jumped at the diagnosis of loose internal semilunar cartilage, and advised and removed the supposed offender. The patient came to see me the beginning of this (Michaelmas) term. He informed me of the operation and complained that the knee still frequently gave way. He had, of course, discarded my splint. On examination I observed the operation scar over the inner aspect of the knee. On testing the ligaments as before I found that the external ligament was still loose, but the *internal ligament was also loose*. Thus in the operation for the removal of an inoffensive internal semilunar cartilage the internal lateral ligament had been injured and the condition of the knee rendered worse than before. All I could advise was a continuance of the splint, strapped as before, to prevent extension of the knee for another six months.

It cannot be denied that there are many traumatic conditions of the knee which do not admit of accurate diagnosis as to the exact nature of the injury. But there are certain injuries of the joint which can be diagnosed with certainty, and, if correctly diagnosed, treated with every prospect of satisfactory results being obtained. Briefly, it may be stated that "locking of the joint" is pathognomonic of loose or torn semilunar cartilages, but, on the other hand, absence of a history of locking does not necessarily exclude this condition. In the absence of a history of locking and as a routine practice, the internal and external lateral ligaments should always be tested in turn and compared with the sound side. A torn ligament will be demonstrated by the fact that with the knee fully extended the tibia can be separated from the femur on tension being applied to the injured ligament, a movement which should not obtain if the ligament is taut and intact. These two injuries are produced in two totally different ways. The cartilage is slipped or torn by rotation of the tibia on the femur in a semiflexed position of the joint, whereas a lateral ligament is torn by a lateral bending force on the fully extended knee.

A more accurate knowledge of the anatomy and mechanism of the knee-joint, combined with a careful inquiry into the history of the accident and a methodical examination of the joint on the lines I have stated, would, I submit, considerably reduce the number of unsatisfactory results of operation on "loose cartilage."—I am, etc.,

Cambridge, Dec. 28th, 1921. H. B. RODERICK.

TREATMENT OF GONORRHOEA BY ELECTROLYSIS.

SIR,—The pathology of organic stricture described by Mr. Wyndham Powell is indeed strange reading. He says the superficial layers of epithelium are necrosed and cast off. Because an open ulcer cannot often be seen he misses the fact that their loss is the primary event. The other happenings of cellular renewal, fibrosis and contracture, are really secondary. This disastrous loss of cells is due to localized chemical action, sometimes, perhaps, a bacterial toxin, but much more often due to a caustic. One has only to examine a few hundreds of the discharges from cases which have had those applications to find epithelial cells sometimes in groups to be the dominant cellular factor. These cells have been killed by the chemical applied, and there is a minority of leucocytes—that is, pus cells. This condition is the important feature of films from obstinate cases of gleet. This state is initiated by the irritant employed, and is one of the factors which make cases of gonorrhoea chronic.

The benefit which may be obtained by any such procedure is due to the resulting vascular engorgement of the region of the urethral membrane which has endured such a chemical assault. The flow of antibodies is increased with improved phagocytosis of the organisms at work. In my view the price—that is, the damage and necrosis to the part—is much too high for the benefit obtained by the method employed.

In a short account of such a group of cases it is impossible to include such a detail as dilatation or other accessory to treatment. Any cases that needed it were given dilatation, though most of the chronic cases had received all that ordinary methods could provide before I saw them. Although a good dilator is a useful instrument it nearly always makes a greater impression on the patient than on the bacteria.

With regard to rheumatism my facts can afford to stand.

Coming next to posterior urethral invasion Mr. Powell seems to forget the common way in which gonococci can reach the epididymis—namely, by the lymph stream. Quite often there is an epididymitis so early in the infection that the lymph highway must have been the path of arrival of the gonococci. Besides this there is the easy and fairly common happening of some tiny lesion of the membrane by a syringe or other object even at the meatus, with the same result.

Even excluding first attacks I am surprised at the rapidity of Mr. Powell's success in curing gonorrhoea by irrigation. Since the method is one I never use I can only realize the contrast of his claim with the time other workers usually claim in lectures or in published work.

I may perhaps remind Mr. Powell of a valuable paper on the routine treatment of gonorrhoea published during the war. The medical officers in charge of a large number of patients wondered whether the routine treatments were any real advantage. Half of the cases volunteered to assist a decision by having no treatment, the other half were treated. The result was that it was better for cases to have treatment, but it was, so to speak, no galloping victory for treatment. The scepticism of those colleagues of ours as to the results to be expected from ordinary treatments is a fair indicator of the truth. I must, however, correct one more error of Mr. Powell in the pathology of gonorrhoea. He speaks of the bactericidal power of flattened epithelial cells which replace those necrosed. Surely the polynuclear leucocyte is the only cell in which any such power has been proved. We also know that this cell must be provided with the suitable opsonin. Have not so many of us insisted on the all-importance of these leucocytes or pus cells, and that they and the valuable antibodies must be preserved and augmented by all possible means? I am tolerably sure that Mr. Powell has never seen the fixed epithelial cells of the part ingesting gonococci or any other bacteria. The poor fighting power of the thickened and whitened membrane which he describes is due to the thickening, to its relative anaemia, and consequently to the hindrance of access of the leucocytes and of the blood antibodies.

Mr. Powell has invented a good urethroscope and has much experience of venereal work clinically. I hope he will come to realize that my methods are based on what I hold to be the true pathology of the malady, and that they are essentially more conservative than the ordinary ones. I do not, of course, forget that all of us owe so much of our knowledge of phagocytosis and of Nature's conquest over infecting organisms to the fine work of Metchnikoff, Cohnheim, Waller, and of Wright and others, not forgetting Leduc, Lewis-Jones, and Sloan.

New ideas which lead to new methods in any sphere of work are of no use unless the immediate and ultimate results are really better.—I am, etc.,

London, W., Jan. 7th. CHARLES RUSS, M.B., M.R.C.S.

SIR,—I see a statement by Mr. Powell in the JOURNAL of January 7th (p. 37), that he has treated a large number of cases of gonorrhoea without meeting with any arthritic complications. Might I mention that one of the worst cases of gonorrhoeal arthritis I have ever seen occurred after my having copiously irrigated the urethra of a patient who had only a forty-eight-hour-old discharge? I used weak permanganate solution. The unfortunate man was attacked within twenty-four hours with acute pain and swelling in his right knee-joint, the other joints in his arms and legs later becoming involved. He resisted all treatment, including vaccines, and has to-day a stiff knee- and ankle-joint. I note lately that at least one important venereal clinic still prescribes the old-fashioned bottles of medicine and lotion for injection.—I am, etc.,

Crewe, Jan. 7th. HOWARD ENGLISH.

DIET AND DEVELOPMENT.

SIR,—In your issue of December 24th you publish a paper by Dr. Harriette Chick and Dr. Elsie Dalyell entitled "Observations on the influence of foods rich in accessory factors in stimulating development in backward children." In a footnote it is described as a report to the Accessory Food Factors Committee appointed jointly by the Lister Institute and the Medical Research Council. Under the circumstances I think it may well be asked how the authors have come to select so misleading a title. The action of the antiscorbutic factor is specific. It stimulates development only in those whose want of development is due to scurvy. It leaves untouched those, a hundred times more commonly met with, whose want of development is due to other causes. The authors recount the improvement which followed in the case of ten children when fruit juice was administered freely and continuously. Nine out of the ten had admittedly suffered from manifest scurvy.

I suggest that a more proper title for the communication would have been "Observations upon the influence of foods rich in accessory factors in stimulating development *in children suffering from scurvy*." The basis of the dietary received by these children before the fruit juice was given was cow's milk "at least three or four days old," which had been "heated at least once before delivery." At present the word vitamin is one to conjure with. The most indiscriminate hopes and expectations have been aroused. A firm of manufacturers has actually placed upon the market a preparation which claims to possess the property of specifically stimulating the growth energy. There is great need to be careful. Fruit juice will not do anybody any harm. It will cure and it will prevent one thing only—scurvy. Just in the same way thyroid extract will cure one defect of body and of mind, and one only. Yet in practice we are apt to find that almost all mentally defective children, whether the backwardness is due to primary amentia, to birth injury, or to mongolism, have been embarked, with hopes that are sure to be disappointed, upon a course of thyroid therapy. If I were to write a paper recording the improvement of ten cretins upon thyroid extract, I should not call it observations upon the influence of thyroid extract in stimulating development in backward children.—I am, etc.,

London, W., Jan. 8th. H. CHARLES CAMERON.

SUICIDE IN BORDERLAND CASES.

SIR,—A letter from Dr. Phillips appearing in the issue of the BRITISH MEDICAL JOURNAL for December 10th, 1921, quotes with approval the dictum of Professor G. Robertson of Morningside that "every case of melancholia is a potential suicide." One asylum in this country boasts the proud distinction of never having had a suicide for over thirty years—that is, that all patients who were in the least depressed were watched with such stern vigilance that not the slightest loophole for mischance was given. But so eminent an authority as Dr. Bedford Pierce has placed on record that he cannot regard this as a healthy sign.

What of the great majority of patients subjected unnecessarily to such a rigid regimen? The success of treatment is to be measured by recoveries, not by a drastic system of repression. The mistake lies in not recognizing the natural causes of depression. A mind harassed and worried by the slings and arrows of ill luck, a nature naturally buoyant worn out by long attendance upon others, a heart bereft of joy through sudden shock and loss—such things are happening constantly in the everyday life of mortals. Are the sufferers, in addition to their troubles, to be subjected to the scourge of constant supervision and the ignominy of being "cabin'd, cribb'd, confin'd" by cast-iron regulations such as would crush the vitality out of anyone—not to speak of the disgrace with which such a situation is regarded by the outer world? A person who has once attempted in ever so foolish and fruitless a manner to put an end to himself is doomed to a fate more dreaded often than death. Many a one has been committed to an asylum on account of depression due to altogether natural causes; the depression is thereby intensified a hundredfold, and they are kept there because depression still continues. What proceeding could be more irrational? The real cure is to change the conditions. Once this is effected the desire to live will most likely reassert itself and life will again become worth living.

Nothing is more conducive to suicide than the dread of the asylum. No one ought to be subjected to the soul-destroying vacancy and suppression which therein prevail except patients for whom such measures have become an absolute necessity. The very methods in vogue suggest to those imprisoned the frantic desire to snap the fetters at all costs, and get free. This is natural. Suicide is in most cases no proof of aberration (*pace* the far too frequently repeated verdict, "suicide while insane"). The legal standpoint from which such occurrences are viewed is gradually undergoing a change. It is coming to be recognized that suicide arises often from the clearness of vision which sees before it a vista of coming woe, which estimates in sharp outline the long dreary stretch of life ahead, bereft of strength or hope. Not infrequently the worst cases of suicide arise from the firm conviction in the unclouded mind that it would be better for others were the sufferer dead. In many countries suicide has been regarded as an heroic act. While a high death rate is looked upon without too much concern in our asylums, the dark hand of Fate is stretched relentlessly over the living.

The remedy for this misguided state of things requires no legislation. It does not lie in instituting antechambers or annexes to asylums, where the inmates are inducted under lunacy control, without any of the safeguards afforded by legal certification (as was proposed in the mental clause recently inserted in an ill-fated health bill, and still commended by the late Minister of Health).

This mental clause was a distinctly retrograde step. The antechambers were intended to become "feeders" to asylums,

whereas the real path of hope lies in the direction of emptying the asylums, and reducing the enormous sum of £6,000,000 a year spent in their upkeep. At a cost of one-sixtieth part of this hugh expenditure the experiment might be tried of starting appropriate and cheerful sanatoriums or hostels for those whom there is no necessity to imprison. These could be run on a hospital footing, and apart from lunacy, so that no stigma or depressing atmosphere need attach to them. No legislative barrier stands in the way of the provision of hospitals free from detention for such as do not need to be certified. It would be a great boon to doctors to have places of this kind to which to recommend their patients in the earliest stages. Such a common-sense measure of expediency would prove itself in a short time and in very many cases a sure and certain preventive of insanity.—I am, etc.,

London, E., Jan. 7th. S. E. WHITE, M.B., B.Sc.Lond.

HOSPITALS IN THE TERRITORIAL FORCE.

SIR,—As another late Captain R.A.M.C.(T.F.) *à la suite* from September, 1908, I am reading the correspondence in the JOURNAL on "Hospitals in the Territorial Force" with much interest.

From personal observation in three general hospitals at home and in four general hospitals and one special hospital in France, it seemed to me that those who had been keenest on their professional work at some time or another in their previous career—medical, surgical, or sanitary—made the best administrators, whether they were Regulars or otherwise. Though nominally attached to the home Territorial unit in this large town, where at one time during the war there were said to be more than sixty institutions of a medical kind for the sick and wounded, the difficulty I found was to get any local job at all, either general or special. Subsequently, when sent from France on sick leave, I applied on two occasions for local employment near my own home and practice, and was forthwith incontinently bundled off to another town about 100 miles away, on the home pay of a Territorial captain, R.A.M.C.

On the other hand, I never had any difficulty in getting to the more interesting life and unlimited opportunities for general and special work at the base overseas by volunteering direct to the War Office, with and without the permission of my O.C. for the time being. But, unless one is *persona grata* to the local administrative, much valuable time may be lost in getting overseas, while no work is guaranteed near one's home.

In this country it seemed to me ridiculous for part-time medical officers to go about in R.A.M.C. uniform. In London and Southampton many medical men attached to large hospitals had the good sense not to do so.

As regards decorations and promotion, I have no doubt we all get some of what we think we deserve; personally it is an abiding source of gratification to me that out of my twelve commanding officers I made no less than three "sit up." In other words, the distinction one just misses is most thought of; but consolation lies in having tried to do one's best.—I am, etc.,

WILLIAM COTTON, M.D., D.P.H.,

Bristol, Jan. 7th. M.O., H.M.Prison, Bristol.

HOSPITAL POLICY.

SIR,—Dr. Hawthorne attempts, in his letter which appears in your issue of January 7th, with not a little literary persiflage, to castigate me for the definition of a voluntary hospital given in my letter appearing in your issue of December 24th, 1921. He more than hints that the definition is not one which I, as Chairman of the Hospitals Committee of the Association, am authorized to hold up for public instruction, but that it is my own personal view which I am attempting to foist on your readers under cover of a little brief authority.

True, the definition is my own in the sense that I agree with it; but it is the definition of the Representative Body of the Association. At the Newcastle meeting a special resolution was passed dealing with paragraph 50 of the Cave Report, and stating: "That this meeting disagrees with paragraph 50 of the Report of the Government Committee on Voluntary Hospitals, and maintains that the essence of the voluntary hospital system is the independent and voluntary management, and that this is in no way related to the conditions of service of the medical staff." (Minute 239.) Dr. Hawthorne's assumption of ignorance of the source of the definition is not without a touch of humour, for he himself was present when that resolution was passed. The report of the meeting shows that Dr. Hawthorne made no protest, yet he could scarcely have been stricken with breathlessness at the novelty and audacity of that definition, for it was enunciated by inference at the Conference of Hospital Staffs held in December, 1920, which in the first resolution passed stressed "the voluntary method of administration of the voluntary hospitals" as the feature which "should be maintained." I can only think that at the moment when Resolution 239 was passed Dr. Hawthorne was suffering the shock of the loss, a few minutes earlier, of a wrecking amendment to the "Leicester" resolution, which amendment he had supported with an eloquence that was vastly relished, albeit it was wholly unavailing in its plea.

The second part of Dr. Hawthorne's letter is an exposition of his own views of what a definition of a voluntary hospital should be. He bases it upon a historical sketch, which I admit is accurate so far as the past, but cannot accept as true of the present. Instead of one single defining principle of the voluntary hospital Dr. Hawthorne prefers the support of three—"gratuitous management," "gratuitous professional services," and "gratuitous contributions." Since he demands so many as three legs for his support, I wonder he was not bold enough to require a fourth—gratuitous nursing—for surely a four-legged table is a rock of stability compared with a tripod. But consider his three. Since he does not discriminate between them we may take it that each is severally and jointly necessary to the existence of a voluntary hospital, and that the loss of one of them would mean the loss and extinction of the voluntary hospital. Such a position is demonstrably untrue. There are voluntary hospitals existing—nay, flourishing—to-day which were originally charities, but whose inmates are now paid for by statutory authorities. One leg of Dr. Hawthorne's tripod is lost, yet the institutions remain "voluntary," and are universally recognized as such. Possibly Dr. Hawthorne would claim that they live on in the odour of the sanctity of their past, or by reason of the sweetening influence of the inheritance of "gratuitous contributions."

When we come to the present I find that Dr. Hawthorne does not appear to have perceived the influence of changed economic and social conditions on the clientèle of voluntary hospitals. Time was when all of these were the indigent poor. To-day we learn "that at no great hospital in the country is the proportion of inmates who could be called indigent poor higher than 20 per cent. The remainder are people able and in many cases willing to pay a part at least of their maintenance."[1] Dr. Hawthorne will, I am sure, agree that these figures indicate a vast improvement in the condition of our people, and one in which all must rejoice. But it suggests, also, that the time may come when it will no longer be true that "the poor ye have always with you," so that according to Dr. Hawthorne's tripod definition the voluntary hospitals are doomed to die, and must give place to some unified system of State hospitals, very logical in their distribution, very complete in their equipment, and very thorough in their work, no doubt; but, alas! how lacking in freedom, elasticity, and in priceless human variation.

I have on y one comment to make on Dr. Garratt's further letter. He is entitled to his view of the "Leicester" resolution and of the staff tund, and to further his view by every legitimate argument. But I maintain that his reiteration of the Cave Committee's "twenty-eight meetings," and the implication that paragraph 50 of the report is the quintessence of those twenty-eight meetings is a method of argument that does not do justice to either the Cave Committee or to Dr. Garratt himself.—I am, etc.,

London, W., Jan. 9th. N. BISHOP HARMAN.

MULTIPLE TOOTH EXTRACTION.

SIR,—Mr. Montague Way is quite justified in his comments in your issue of December 17th last on multiple tooth extraction. In one respect the medical practitioner is not to blame, but his teachers are, who allow him to pass through a long training without being obliged to acquire an elementary knowledge of the most prevalent of all diseases and its conservative treatment.

In another respect, the advocacy of "have all your teeth extracted" may be attributed to the somewhat exaggerated view[illegible]ch are spreading both among the profession and the laity, as to the evils arising from diseases which affect the teeth. For instance, it is rarely necessary to remove all teeth when affected by pyorrhoea alveolaris, and any inflammatory

[1] Gor[illegible]ll, BRITISH MEDICAL JOURNAL, December 31st, 1921, p. 1119.

condition of the gums may be, and often is, mistaken for this somewhat intractable, but by no means incurable, disorder.

That greater care should be exercised by medical practitioners before pronouncing definite decisions is easily proved. I have under treatment a doctor who has taken a fortnight's holiday in order to have all his teeth out, as advised by two of his colleagues. Of course his mouth has been neglected because of arduous duties; but it was only necessary to remove two central incisors, as the cause of his ill health. He not only retains fourteen useful teeth, but he has escaped an amount of misery only known to those who have endured it.

There is an ethical side to this problem, which ought not to be lost sight of. The medical practitioner is in practice to save life, the specialist to save any part of life to which he devotes his attention. As mastication is one of the most important functions of the human body, no dental surgeon of experience will remove teeth unless he is convinced that by so doing he can improve the health of his patient.—I am, etc.,

R. DENISON PEDLEY,
Consulting Dental Surgeon to the Evelina Hospital.

London, S.E., Jan. 7th.

POST-GRADUATE COURSES IN VIENNA.

SIR,—With reference to the letter of Dr. K. P. Wenckebach on post-graduate courses of the medical faculty in Vienna, published in your issue of January 7th, the following facts, which I derived during six months' work in the oto-rhino-laryngological clinics of Vienna from May to November, 1921, may be of interest:

1. Private courses in any subject desired can easily be arranged. The fees generally are 4 dols. an hour, divided among those taking the course.

2. There are two rates of exchange for kronen—the external, quoted on the London Exchange; the internal, quoted on the Vienna Exchange. The internal is roughly 100 per cent. the more favourable to visitors.

3. Of the courses desired, 99 per cent. can be obtained in English, and knowledge of German is not essential, though desirable.

4. The amount of fees received is generally of greater concern than the signing of declarations disapproving of the exclusion of German-speaking doctors from international congresses and medical societies. I met no one who signed such declarations, neither was I asked to do so myself.

5. The American Medical Society was reorganized about June or July, 1921. One of their chief objects was to obtain the reduction of lecture fees. The net result was a general increase.

By no means all the American medical men visiting Vienna last year associated themselves with this society, nor should I recommend any Englishman to do so before acquiring knowledge of the personnel in control at that time.—I am, etc.,

F. DOUGLAS MARSH, F.R.C.S.

Birmingham, Jan. 8th.

BIRTH CONTROL.

SIR,—At the close of his valuable address on "Problems involved in the congress of the sexes in man," Professor Arthur Thomson refers to the use of artificial checks to prevent conception, and says: "As a rule, we cannot interfere with the normal courses of nature without some consequent evil result." Will he say, however, that the result (repression or promiscuity on the one hand, or excessive families on the other) of abstaining from artificial checks is not much more evil? The world's food supply is always increased so slowly that only a very small percentage of couples in the world can get sufficient food for more than three children.—I am, etc.,

B. DUNLOP.

London, S.W., Jan. 9th.

CLAYDEN v. WOOD-HILL.

SIR,—I am sending you the fourth list of subscriptions to the Wood-Hill Fund, and should be much obliged if you would publish it in your next issue. The amount received up to date is just over £800.

I should like specially to direct attention to certain contributions from medical societies, medical staffs of hospitals, etc., which have greatly helped the fund, and which serve as examples of what might be done by similar bodies of practitioners in other localities.

	£	s.	d.
The Kent Branch of the British Medical Association ...	27	10	0
The Staff of the Radcliffe Infirmary, Oxford	21	0	0
The Manchester Medical Committee	21	0	0
The Kesteven Division of the British Medical Association...	13	2	6
The Medical Committee of the Durham County Hospital ...	5	5	0
The Medical Staff of the Macclesfield General Infirmary ...	5	5	0
The Colchester Medical Society	5	5	0
The Medical Staff of the Hospital of St. Cross, Rugby ...	3	3	0
The Wrekin Medical Club	3	3	0

If each Division or Branch of the Association would take the matter into consideration, and send to the fund a Divisional or Branch contribution appropriate to its membership, the total sum for which Dr. Wood-Hill has been made responsible as the result of the recent trial—£1,600—would soon be forthcoming.—I am, etc.,

HAMILTON A. BALLANCE,
Honorary Treasurer.

All Saints Green, Norwich, January 9th.

Fourth List of Subscriptions to Fund.

Amount previously acknowledged, £681 1s. 0d.

£20.
Mr. N. E. Waterfield, Port Sudan

£15 15s.
Mr. G. Gordon-Taylor, London

£10 10s.
Sir C. Gordon-Watson, London

£5 5s.
Colchester Medical Society, per Mr. E. G. Renny
Sir W. Arbuthnot Lane, Bt., London
Mr. H. Tyrrell Gray, London

£5.
Sir Anthony Bowlby, London

£3 3s.
Dr. Walter Bell, Lowestoft
Drs. J. L. M. Symns and Leonard B. Cane, Bungay
Mr. H. Nethersole Fletcher, Hove
Dr. W. C. Humphreys, Swansea
Dr. Eardley Holland, London

£2 2s.
Dr. Robert A. Bolam, Newcastle-on-Tyne
Captain Frank Harvey, R.A.M.C., Yateley
Mr. H. de Lisle Crawford, Wallasey
Dr. C. E. Douglas, Cupar
Dr. John W. Bone, Luton
Drs. E. A. and L. A. Dingley, Wednesbury
Mr. Aleck W. Bourne, London
Mr. W. S. Kerr, Sheffield
Dr. J. R. Campbell Canney, Cambridge
Dr. S. Vere Pearson, Mundesley
Dr. James Taylor, London
Sir Archibald E. Garrod, Oxford

£1 1s.
Dr. Ernest W. Wade, Harleston
Dr. C. Graham Havell, Felixstowe
Dr. Harry T. Wickham, Newport Pagnell
Mr. R. D. Attwood, Royston
Dr. Marion Gilchrist, Glasgow
Dr. E. Carneys Wales, Downham Market
Dr. R. Wallace Henry, Leicester
Mr. H. J. Satchwell, Taunton
Miss Margaret Hammond, Norwich
Mr. Llewelyn A. Baiss, Swanage
Mr. William Windley, Colston Bassett
Dr. Ernest Ringrose, Newark-on-Trent
Mr. Frederick Manser, Tunbridge Wells

£1.
Dr. Alfred J. H. Iles, Taunton

10s. 6d.
Dr. Frank Marriott, Yoxford
Mr. Hope Grant, London

10s.
Mr. Leonard Gray, Dunster

Kesteven Division of the B.M.A., per Dr. Charles H. D. Robbs, Honorary Secretary, on behalf of the following members (£13 2s. 6d.):

£1 1s.
Mr. T. P. Greenwood (Chairman), Stamford
Dr. James Mason, Stamford
Dr. E. A. Hutton Attenborough, Stamford
Dr. H. Poole Berry, Grantham
Dr. Ethel Pryce, Grantham
Dr. Charles Frier, Grantham
Dr. H. P. Dawson, Grantham
Dr. C. H. D. Robbs, Grantham
Mr. O. Johnson, Bassingham
Mr. E. P. Titterton, Ancaster
Messrs. H. T. Benson and W. E. Stanton, Market Deeping
Dr. H. Joste Smith, M.C., Hackington

10s. 6d.
Dr. Charles S. Dodson, Claythorpe

Obituary.

THE LATE SIR G. S. WOODHEAD.

WE are indebted to Sir James Mackenzie for the following tribute to Sir German Sims Woodhead:—

By the death of Sir G. Sims Woodhead there has passed away a most striking personality in the medical profession. Probably there was no one who had so many devoted and attached friends. He and I were students together and residents in the Edinburgh Infirmary in the years 1878-79, and since that time I have watched with great interest his distinguished career, and have felt it one of my greatest privileges to have been favoured with his friendship. I can only speak of a small portion of his work—indeed, I doubt if any individual is qualified to do more—for his interests were so varied and he threw himself into each project with all his heart. He never spared himself if he could help any deserving cause, and no one can estimate the influence his magnetic presence brought into the widely varied interests in which he participated.

I wonder if anyone has realized the work he has done in tuberculosis. He was early in the field, and others can better describe what he did in the laboratory and by experiment. We had occasion to consult him in connexion with our research work in St. Andrews, and we were not only greatly helped by his advice, but were astounded at the extent of his knowledge. He fully realized the chaotic state of the knowledge of tuberculosis, and recognized that some new conception must be introduced to guide further research, and he looked to the more accurate study of the clinical phenomena as the source of this new conception. But he not only realized this: he himself, though not a clinician, did more than anyone to make clinical observation more accurate and reliable. He recognized that one of the first events that happens to an individual who becomes infected by a microbe is a rise of temperature, and that the temperature varies with the infection. He reasoned that the invasion of the body by the tubercle bacillus would be accompanied by a temperature

peculiar to the infection. The methods in use were totally unsuited to the purpose, and he sought for some other methods. The late Professor Gamgee had devised a method for taking a continuous record of the temperature, but had not quite perfected his instrument when he died. Woodhead adopted Gamgee's method, completed the details, and set about a long series of observations, which resulted in demonstrating the peculiar temperature curve which is caused by an active tuberculous process. The importance of this work of Woodhead's has not been recognized and its significance has not been understood. Apart from its value in recognizing an early stage of tuberculosis, it is the only important advance that has been made in clinical thermometry for over fifty years.

His continued interest in tuberculosis is seen in the establishment of the Papworth Colony for Tuberculosis, for which he was largely responsible. It may be too soon to speak of the success of this undertaking, but no system for the treatment of tuberculosis has been started by one with such a profound knowledge of the disease, and with such a common-sense appreciation of its aims and objects. Into this matter he threw himself with all his energy, though severely crippled by ill health.

There never was a man in our profession more desirous of helping anyone who was anxious to do good work; no one in need ever called on Woodhead in vain if it were in his power to help. Many members of our profession owe him a great debt. He took no credit to himself for anything he did; he was modest even to self-effacement, so that few knew what he had done, either in his own work or in the help he gave to others. I have a vivid recollection of the support he gave me at a time when I needed it sorely. About thirty years ago he mentioned to me that he was starting the *Journal of Pathology*. I told him I had been working for some time getting records of the venous pulse and studying them to find out the mechanism of the irregular heart, but a paper I had written had been refused by two or three medical journals. He at once offered to publish the paper in the first number of his journal. This was done, and a few days after the journal appeared he was accosted by a distinguished professor of one of the English universities, who asked him what he meant by publishing "stuff" from a fellow called Mackenzie, who was only a general practitioner and had no laboratory training. Woodhead replied that he did not know anything about the "stuff," but he was prepared to publish anything Mackenzie would write. His wife used to say of his friends that to Woodhead all his geese were swans, and I am not sure that his having a high opinion of his friends did not stimulate his friends to be worthy of his high opinion. At all events, when he told me of the above incident I felt determined to do my best to merit his opinion of me. I mention this incident merely to illustrate the kind of influence he exerted, and to those he helped he was ever encouraging, yet critical; and this encouragement and criticism, and his store of knowledge, were always at their service.

Then the large-heartedness of the man, his wonderful charity! He was ever seeking for the good that was in a man. His trust in human nature was extraordinary. How many people he helped financially it is impossible to tell. Of course his generous nature was taken advantage of, and to the end of his life it was the easiest matter to get money out of him with a tale of woe. Indeed, so often was he preyed upon that I had to ask him as a matter of course, "who has been 'doing' you last." Then with a laugh he would tell me the specious story by which some rascal had "borrowed" money of him, but never with any bitterness, and always with an expression of pity for the poor devil who was driven to such a strait. Some people might think it was because he was simple—and he was simple in a large way—but his being imposed upon was not due to simplicity, but entirely to his faith and the fundamental goodness of his nature, and though well aware he was being deceived, he knew that many whom he had helped were both deserving and grateful. No one will ever find out who he helped and how he helped them.

Then the courage of the man! For some years he had a perfect knowledge of the deadly nature of his complaint. Time and again death had stared him in the face, but as soon as he recovered, though well aware that his life hung on a thread he resumed his work with unabated energy. He knew that if he took things quietly he would live for years, but he preferred a period of work, however short, to living a few more years in idleness. A few weeks ago he had come north on one of his whirlwind expeditions to visit various tuberculosis institutions in order to find the best means to help his stricken fellow creatures, for whom he had instituted the Papworth Colony. Though manifestly feeble he was bright and cheerful, making light of his infirmities, even jesting at them and determined to die as he had lived.

These words give but an imperfect picture of a great personality.

Dr. C. E. DOUGLAS (Cupar, Fife) writes:

The death of Sir German Sims Woodhead brings to many outside his immediate circles a sense of personal loss. It takes the present writer back to those days, away in the middle seventies, when we were both active members of the Edinburgh University Athletic Club. For Woodhead was not only a keen and earnest student; he was a brilliant Rugby half, and the most graceful sprinter of his time, a many-sided youth, full of ideas. Politics were a joy to him, and his ardent mind was full of schemes and of hopes. A total abstainer even then, he would have all men be as himself. Of purely English blood he had, one would have said, the *perfervidum ingenium Scotorum*, and all through his life was dominated by the desire to be doing in the service of man. When the war came he flung himself into action, and it is probable that the overwork which he underwent brought on the disorder which eventually proved fatal. But even after the war, handicapped as he was by illness, he had yet time to do something more for his fellow men. In the summer of 1919, not long before the Cambridge meeting, he was in St. Andrews, fully alive to the important step that was being made by Sir James Mackenzie, and actually going about to beat up supporters for the Clinical Institute scheme. And it must be only a few weeks since the writer saw him, alas! for the last time, on his way back from St. Andrews where he had been making another visit to this the last great movement with which he was to be connected. It is over now, the day's work for him is done; but his old friends will not forget his ardent spirit, his keen sagacity, his ever ready, kindly smile. *Ave atque vale.*

DR. WILLIAM RATTRAY PIRIE, O.B.E., died at Aberdeen after a long illness, on January 5th, at the comparatively early age of 53. He was educated at Aberdeen University, where he graduated M.A. in 1888 and M.B. C.M. (with distinction) in 1892. He subsequently studied at Leipzig and Vienna, and was appointed assistant to the professor of medicine at Aberdeen in 1894. He became assistant physician to Aberdeen Royal Infirmary, and later honorary physician and lecturer on clinical medicine. He was also physician to the Institute for the Deaf and Dumb, Aberdeen, and was a certifying factory surgeon. During the war he was attached to the 1st Scottish General Hospital with the rank of Major, R.A.M.C.(T.), and he was afterwards a member of the Pensions Board. In recognition of his work during the war he received the O.B.E. He is survived by his widow and one son.

The Services.

DEATHS IN THE SERVICES.

Colonel John Thomas Brownrigg Bookey, C.B., Bengal Medical Service (retired), who died at Bournemouth on November 19th, 1921, aged 74, had probably taken part in more Indian Frontier wars than any other officer of his day. He was born at Carnew, Wicklow, and was educated at Trinity College, Dublin; he took the L.R.C.P.Edin. and the L.R.C.S.I. in 1871, and entered the I.M.S. on March 30th, 1872. He attained the rank of colonel on May 2nd, 1900, and retired on June 16th, 1905. For twenty-seven years (1873 to 1900) he served in the Punjab Frontier Force. He had a long list of war service, having served in no less than eight campaigns on the Indian Frontier, besides the China war, as follows: Jowaki campaign, 1877–78, medal; Mahsud-Waziri, 1881; Burma, 1886–87, operations of 2nd and 5th Brigades, and Wuntho expedition, mentioned in dispatches, two clasps; Hazara, 1888, dispatches, clasp; second Miranzai, 1891, dispatches, clasp; Waziristan, 1894–95, dispatches, clasp; Malakand, 1897, dispatches, medal; China, 1900, dispatches, medal with clasp, and C.B.; Waziristan, 1902, dispatches, clasp. He received the C.B. on November 29th, 1900, for the China war, and a good service pension on June 16th, 1902.

Lieut.-Colonel Bernard Doyle, Bengal Medical Service (retired), died in London on November 28th, aged 71. He was born at Enniscorthy on September 16th, 1850, and educated at Trinity College, Dublin, where he graduated M.B. and B.Ch. in 1875. Entering the I.M.S. as surgeon on March 31st, 1876, he became surgeon lieutenant-colonel after twenty years' service, and retired on July 30th, 1902. After five years spent in military employment, during which he served in the Afghan war of 1878–80, and received the medal, he took civil employment in the Punjab, where he served as Deputy Sanitary Commissioner, as medical officer of Jhind State, and as civil surgeon successively of Ambala, Delhi, Firuzpur, and Peshawur.

Lieut.-Colonel Joseph O'Brien, Bengal Medical Service (ret.), died at Dewstead, Instow, Devon, on December 29th, 1921, aged 77. He was born on January 8th, 1844, the elder son of Michael Joseph O'Brien, of Dungannon, Waterford, and educated at Queen's College, Cork, and at the Ledwich School, Dublin. He graduated M.A. in 1869 and M.D. in 1870 at the Queen's University, Ireland; he took also the M.R.C.S. in 1869 and the L.R.C.P. and S. Edin. in 1870. He entered the I.M.S. on April 1st, 1870, became brigade-

surgeon-lieutenant-colonel in 1893, and retired with an extra compensation pension on August 19th, 1898. His first ten years' service were spent in military employment in the Assam Light Infantry, and during this time he served on the North-East Frontier, in the Naga Hills campaign of 1879–80, when he was present in the action at Koruna, was specially mentioned in dispatches in 1880, and received the frontier medal with a clasp. In May, 1881, he went into civil employ in Bengal, where he served as civil surgeon of Arrah, Bardwan, and Darjiling successively. In April, 1892, he was appointed Professor of Anatomy in the Medical College, Calcutta, and second surgeon to the College Hospital, appointments in which he had previously acted in 1884–5; he held these posts till his retirement. The late Colonel Bartholomew O'Brien, I.M.S., was his younger brother.

Major Laurence Campbell Vigor Hardwicke, R.A.M.C.(T.F.), died in the Military Hospital at Haifa, Palestine, on December 10th. He was the younger son of the late Mr. John Hardwicke of Portishead, Somerset, and was educated at Edinburgh, where he graduated M.B. and Ch.B. in 1904, and took the special certificate for tropical diseases. After filling the post of resident medical officer of Paddington Infirmary he entered the Egyptian Medical Service, where he served as medical officer of the Assouan reservoir district, with medical charge of the hospital and engineering works of the Assouan dam. He took a commission as lieutenant, R.A.M.C.(T.F.), and medical officer of the 1st Battalion of the City of London Regiment, the Territorial battalion of the Royal Fusiliers, on July 22nd, 1905, becoming captain on January 22nd, 1909, and major on July 23rd, 1917; he served as such throughout the war.

Surgeon Commander Thomas Francis O'Keeffe, R.N. (retired), died at Richmond on December 23rd, aged 47. He graduated M.B., B.Ch., and B.A.O. in the Royal University, Ireland, in 1899, after which he entered the navy, attaining the rank of surgeon commander on February 1st, 1915, and retiring in 1920.

Medical News.

THE Home Secretary has appointed Lieut.-Colonel P. S. Lelean, C.B., C.M.G. (formerly of the Royal Army Medical College), to be an inspector under the Cruelty to Animals Act, 1876, which relates to experiments on living animals.

IN view of the importance of the early diagnosis of small-pox the London County Council has issued to medical practitioners in the metropolis a circular regarding the arrangements under which in doubtful cases the certifying practitioner confers with the medical officer of health of the borough. Should a further opinion be required, on application to the Public Health Department of the Council, 2, Savoy Hill, W.C.2 (Tel. No. Gerrard 3641), the services of Dr. Wanklyn will be available at any time of the day or night and during week-ends.

A COURSE of twelve lectures on the management and feeding of infants and young children will be given to medical practitioners by Dr. Eric Pritchard at the St. Marylebone General Dispensary, Welbeck Street, W., on Wednesdays and Fridays at 6 p.m., commencing on February 8th. Practitioners attending the course will be entitled to attend the infant consultations at the Dispensary on Tuesdays and Thursdays at 11 a.m. and 3 p.m. respectively, when demonstrations will be given. Opportunities will also be afforded of visiting on Saturday afternoons the Nursing Training School at Golders Green.

THE annual dinner of past and present students of the Royal London Ophthalmic Hospital (Moorfields) will be held at the Langham Hotel, on Thursday, February 9th, at 7 for 7.30 p.m., under the presidency of Dr. James Taylor, consulting physician. The price of tickets (excluding wine) is 15s.; application should be made to Sir William Lister, 24, Devonshire Place, W.1.

AT a meeting of the Medico-Legal Society, to be held at 11, Chandos Street, W.1, on Tuesday, January 17th, at 8.30 p.m., Professor Harvey Littlejohn will read a paper on "The proof of live birth in criminal cases."

AT the National Colonial Exhibition at Marseilles this year a congress of public health will take place, from September 11th to 17th, under the presidency of Dr. Paul Gouzien, President of the Superior Council of Health for the French Colonies. Further information may be obtained from the Central Organizing Committee, 55, Rue Paradis, Marseilles.

DR. LOUIS CASSIDY, F.R.C.S.I., has been elected Master of the Coombe Lying-in Hospital, Dublin, in succession to Dr. MacLaverty, whose period of office has expired.

THE period for which Mr. G. B. Mower White, F.R.C.S., was appointed honorary surgeon to the Royal Northern Hospital (formerly the Great Northern Central Hospital) having expired, he has been appointed emeritus surgeon in order that his services may be retained.

SIR ARTHUR KEITH will give six Hunterian lectures in the theatre of the Royal College of Surgeons, Lincoln's Inn Fields, on the facial characteristics of living races of mankind, illustrated by specimens from the collection of human osteology in the museum of the College. The first lecture, to be delivered on Monday, January 16th, will deal with the facial characters of the Australian aborigines and allied native people; the second, on January 18th, with the negro and negroid types of face and skull; the third, on Friday, January 20th, with the Mongolian face and its modifications; the fourth, on January 23rd, with the European face and its chief variations in type; the fifth, on January 25th, with the study of certain aberrant types—bushmen, Eskimo, Lapp, and Ainu; and the sixth, on January 27th, with the facial characteristics of the races native to India. The lectures will be given on each day at 5 p.m.

THE number of deaths from influenza in the week ending January 7th is stated provisionally as follows: For the great towns, 795; for London, 352 (151 in the previous week).

POST-GRADUATE courses will be given during the next three months at the National Hospital for the Paralysed and Epileptic, Queen Square, W.C.1, as follows: (1) A course of clinical lectures and demonstrations; (2) a course of neuro-pathology; (3) a course of six lectures and demonstrations in neurological ophthalmology. The complete syllabus and information regarding fees may be obtained from the Dean of the Medical School, Dr. C. M. Hinds Howell. Courses (1) and (2) will begin on Monday, January 16th, and Course (3) on Wednesday, February 1st.

DR. IAN MACDONALD of Huelva and Seville, Spain, has been elected a corresponding member of the Society of Surgeons of Paris.

MUCH interest is being shown by the American medical profession in a series of questions put by the *Journal of the American Medical Association* to over 54,000 practitioners in the United States on the uses of alcohol; over 30,000 answers have already been received and are being examined. The purpose of our contemporary is to obtain an authoritative expression of opinion from the medical profession on alcohol as a therapeutic agent. The inquiries have been sent to every other practitioner whose name appears on the mailing list of that journal, and to some 10,000 other practitioners throughout the country. The questions relate to the type of practice in which the practitioner is engaged; whether he regards spirits, beer, and wine as necessary therapeutic agents in the practice of medicine; whether in his experience unnecessary suffering or death has resulted from prohibition; how often he has found it necessary to prescribe these liquors; and whether he considers restrictions should be imposed upon members of the medical profession in prescribing them. The answers will be tabulated.

A MONUMENT to J. B. A. Chauveau, formerly president of the Académie des Sciences and of the Académie de Médecine and professor at the Natural History Museum at Paris, is to be erected at the Veterinary School at Lyons, where his principal discoveries were made.

ACCORDING to the *Wiener klinische Wochenschrift* the medical profession in Brazil have collected the equivalent of 150 to 160 million kronen to relieve distress among the medical profession in Austria and Germany.

THE late Mr. William Henry Clarke, of Southwick Crescent, Hyde Park, who died in October, 1921, leaving £70,124, has bequeathed £500 each to the London Hospital, Middlesex Hospital, St. Mary's Hospital, West London Hospital, St. Thomas's Hospital, Guy's Hospital, University College Hospital, and King's College Hospital; £300 each to the Cancer Hospital, Fulham Road, East London Hospital for Children, the Florence Nightingale Hospital, the Chelsea Hospital for Women, and St. Bartholomew's Hospital; £250 to the London Fever Hospital; £200 each to the Metropolitan Hospital, Kensington Dispensary and Children's Hospital, and the Poplar Hospital; £100 each to the Royal Dental Hospital, Leicester Square, the Paddington Dispensary for the Prevention of Consumption, Queen Charlotte's Lying-in Hospital, Royal London Ophthalmic Hospital, St. George's Hospital, St. Paul's Hospital for Skin and Genito-Urinary Diseases, Hospital for Diseases of the Heart, Westmoreland Street, W., Lock Hospital, and St. Peter's Hospital. After the payment of these and other legacies the residue of the estate is left to such institutions, societies, or nursing homes as assist or provide for persons of moderate means who may not be able or eligible to benefit under the National Health Insurance Act or old-age pensions. Under the provisions of the will of his sister, Mary Ann Clarke, he appoints £9,500 to various hospitals and charitable institutions, and the ultimate residue of her estate is devoted to the Church Army, the West London Hospital, and the National Lifeboat Institution.

Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.*

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2630, Gerrard.

2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.

3. MEDICAL SECRETARY, *Mediscera, Westrand, London;* telephone, 2630, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin;* telephone, 4737. Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

ANAESTHETICS IN GENERAL PRACTICE.

DR. GEORGINA F. MALDEN (Anaesthetist, Ayr County Hospital and Ayr Maternity Hospital) writes in reply to "M.B.'s" inquiries:

1. The safest and simplest method in anaesthetics is to give chloroform, followed by ether, from a drop bottle on a Schimmelbusch mask, the open method. The mask should be covered with lint, or preferably domette, and the drop-bottles fitted with rubber corks. The anaesthesia should be induced with chloroform, and when fully established maintained with ether, unless specially contraindicated. If the operation is a long one chloroform may be given at intervals during it. It is better not to give a preliminary hypodermic injection of alkaloids if chloroform is to be used. During the past year I have used this method in about 500 cases of every kind, and found it quite satisfactory for both major and minor operations. The amount of ether used is rather large, but decreases as the anaesthetist becomes more skilful.

2. In midwifery I use chloroform only, by the same method, for ordinary operations, such as putting on forceps; for difficult forceps cases and Caesarean section chloroform, followed by ether, given as above.

3. It is possible to use only ether, but the objections are the unpleasant sensations it causes in a conscious patient and the difficulty of obtaining anaesthesia in a powerfully built patient with ether only. Ether must not be used in infants and small children for operations on the throat or mouth, or if a cautery is being used above the level of the patient's hips.

LETTERS, NOTES, ETC.

DR. A. C. MAGIAN of Manchester asks us to state that he is incorrectly described in the current *Medical Directory* as an official of the Manchester Medical Society. The reference, he states, should have been to the Medico-Surgical Society, which is not mentioned in the list of societies in the *Directory*.

IN response to the appeal of the librarian of the British Medical Association in our issue of December 17th, 1921, page 1050, Dr. Samuel Davidson, of Mansfield, Kelso, has been good enough to send Vol. xxxiv of the *Transactions* of the Edinburgh Medico-Chirurgical Society, thus making the series in the library of the Association complete.

OTITIS MEDIA IN INFANTS.

DR. CHAS. J. HILL AITKEN (Kilnhurst, near Rotherham) writes: During the influenza epidemic I visited a baby of 18 months whose symptoms was so indefinite that I labelled the case influenza. At my second visit the mother mentioned that the baby had been putting his hand up to his left ear as if in pain. I ordered wool pledgets with hot oil to be pushed into the meatus. The following day the mother told me the baby had evidently been relieved as he no longer put his hand up to his ear. The baby picked up as one would expect in a case of influenza and then apparently had a relapse. This second stage of the illness continued beyond anticipation and was characterized by no definite locating of symptoms. The marked symptoms were irregular fever, anorexia, sleeplessness, and extreme irritability in a very good-tempered baby. I then read in the BRITISH MEDICAL JOURNAL of otitis media in infants and recommended persistent pushing hot pledgets of oil in the ear—this although I could see no signs of ear trouble. A fortnight later the baby was so ill that I had a second opinion and was told there was no signs of ear trouble. Two days later a free discharge came from the left meatus and within a few hours the baby was calling for food and slept quietly for several hours; it has been well ever since; the discharge very soon dried up. Possibly an aural expert might have diagnosed the case earlier, but no aural expert was available.

A SOLUTION OF THE TIPPING PROBLEM.

As is well known, several attempts have lately been made to get rid of the wellnigh universal custom of "tipping" hotel servants. The practice has grown to such a point that in some cases the departure of a guest has come to resemble an escape from a swarm of tax collectors. The managements of leading hotels have long recognized that this state of affairs has become a deterrent to travellers and is a reproach to themselves, and are now trying to modify it. In some cases, especially in Italy, the system has been instituted of charging a fixed percentage on the bill for service and distributing this according to a regularized scale among the staff. This plan has not been entirely successful because every servant knows exactly what he or she will receive, and thus the stimulus of the hope of increased reward from efficient service is eliminated. A medical man, writing from the Winter Palace Hotel, Cimiez, Nice, tells us that this difficulty has been overcome by the management of that hotel. There each guest pays a fixed percentage on his account for service, but for this he is allotted shares in a so-called bonus fund, and these shares he himself distributes among the employees with whom he is brought in contact, in the proportions he thinks they deserve. Thus the stimulus of competition is introduced, because each employee knows that unless the service rendered is good, his or her proportion of the bonus fund will be diminished. This plan appears to work well—at all events, our correspondent tells us that he has never enjoyed more efficient or more cheerful service. Nor do the employees of this hotel accept "tips" in cash. Our correspondent states he has tempted them and failed.

MOTOR CARS: SPARE PARTS.

"M.A., M.D." writes: I note the other day a growl from a fellow practitioner who has been hung up by the "*pro forma* invoice" nuisance. It is not fair to condemn all English manufacturers, as instance my own experience. I have for the past ten years run a "Standard," and have always experienced the most courteous treatment at their hands. When spare parts, etc., were needed they usually came by return post, and have even been put on the train the same day in response to a wire. The invoice follows later. They are always willing to give full advice either by letter or telephone.

GAMES FOR GIRLS: A DISCLAIMER.

DR. MARGARET G. THACKRAH (London, W.) writes: May I state that the remarks attributed to me, in a report of a meeting which appeared in the *Daily Mail* of January 5th, were those of another speaker? The meeting, which was on the subject of games for girls, was held on January 4th, in connexion with the Conference of Educational Associations, at University College. A shorter report appeared in the *Evening Standard* of January 5th. The statistics quoted were also erroneously attributed to me, the only sentence which was mine being one that referred to the condition of the heart. I should like to say that I entirely dissociate myself both from remarks and statistics.

A DISCLAIMER.

DR. W. A. JOLLY, Professor of Physiology in the University of Cape Town, informs us that he has observed that his name is being used by Mr. Mehnarto in Berlin in advertising a serum connected with trypanosomiasis. "This," Dr. Jolly writes, "is entirely without my authority, and in defiance of my warning to him not to make use of my name."

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 25, 28, 29, 30, and 31 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 26 and 27.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Six lines and under	0	9	0
Each additional line	0	1	6
Whole single column (three columns to page) ...	7	10	0
Half single column	3	15	0
Half page	10	0	0
Whole page	20	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

A British Medical Association Lecture

ON

THE POSITION OF THE THYROID GLAND IN THE ENDOCRINE SYSTEM.*

BY

W. LANGDON BROWN, M.A., M.D.CANTAB., F.R.C.P.,

PHYSICIAN WITH CHARGE OF OUT-PATIENTS, ST. BARTHOLOMEW'S HOSPITAL; PHYSICIAN TO THE METROPOLITAN HOSPITAL.

FEW subjects in medicine have so powerfully stimulated interest and imagination of recent years as endocrinology. It provides the missing link between biology and psychology, and has profoundly modified our conception of disease. The internal secretions result from the specialization of the old chemical stimuli to which primitive animals reacted even before there was a nervous system at all. They reveal their antiquity in the way they cling to vestigial structures. Not infrequently when in the course of evolution a structure has become useless for its original purpose the endocrine system supplies it with a new tenant. Thus, the thyroid probably represents the Palaeostracan uterus, the parathyroids and thymus originate from the now useless gill-slits, the pituitary represents an invertebrate kidney, and the pineal an invertebrate eye. They remind us of the hermit crab that seizes on an empty whelk shell. And just as the hermit crab existed before it found an empty house, so the endocrine functions were in existence before they had a local habitation. This is particularly well seen in the primitive chromaffin material, which was originally widely diffused throughout the body of lower animals, before becoming concentrated in the adrenal medulla.

Internal secretions regulate instinctive behaviour. When the gonads of the queen bee reach a certain stage of development they render her strongly heliotropic. Hence the nuptial flight. The immediate effect of fertilization is to destroy this heliotropism, and she seeks the shelter of the hest. So with human beings. The instinctive behaviour of a young man in the presence of the opposite sex, whether shy or aggressive, depends mainly on the state of his endocrine system, and the unreasoning fractiousness of the climacteric woman merely reflects the chaos into which this system falls when its keystone is displaced. In this connexion it may be pointed out that the influence of these glands on secondary sexual characters is rather complex. The man with hyperthyroidism shows feminine traits, hyperpituitarism leads to virilism, hypopituitarism to feminism; and increase in the adrenal cortex, while producing premature sexual development in children, leads to marked virilism in women. According to Blair Bell, all the endocrine glands acting in harmony control metabolism in accordance with the needs of reproduction, and adapt the whole organism, physically and psychically, to this end. These few examples will illustrate what may happen when harmony is replaced by discord. The endocrines not only develop some characteristics, but they repress others. Without following Bolk to all his conclusions, I should agree that certain monkey-like traits are kept in abeyance by the pituitary. When this is diseased, as in acromegaly or osteitis deformans, the reversion to a monkey-like aspect is obvious. It is also known that when the pineal is diseased there is sexual precocity. Bolk suggests that the present function of the pineal is to delay sexual maturity in the interests of a more prolonged somatic development, for in the higher species the individual counts for more and fertility for less.

The activities of the endocrine glands are correlated to a large extent through the nervous system. We are so much more conscious of what goes on outside than of what occurs inside us that when we speak of the nervous system we are apt to think of it only in terms of the sensorimotor structures which keep us in touch with the external world. But for the maintenance of our vital functions we depend much more on the autonomic nervous system—and it is this system which has entered into an alliance with the endocrine glands.

THE AUTONOMIC NERVOUS SYSTEM.

The autonomic, vegetative or visceral nervous system consists of two great divisions, the sympathetic and the parasympathetic or extended vagus. The former is katabolic, converting potential energy into kinetic and facilitating outward manifestations of that energy, while the latter is anabolic, directing energy inwards where it is stored up. When these two are distributed to the same structure their action is always antagonistic, and when one is stimulated the other is inhibited. The rhythm of life depends largely on the fluctuating balance between these two. The parasympathetic plays the chief part in the digestion and assimilation of food, the sympathetic spends the energy thus derived. In sleep the parasympathetic gains control, and the arrest of external manifestations of energy lasts until the balance is restored in favour of the sympathetic, when the subject awakens ready to expend energy again.

Each of these great divisions co-operates with a group of endocrine glands—the sympathetic with the adrenals, thyroid, and pituitary, the parasympathetic mainly with the glands of the digestive organs and their annexes. Possibly the parasympathetic co-operates also with the parathyroids. The autonomic nervous system is pre-eminently defensive in its action. In the primitive animal either the parasympathetic may be brought into play when the shock to which it is exposed is very great, producing immobility—the "shamming dead" reflex—or the sympathetic may be stimulated, violently activating the body for flight or fight. It is important to note that either this or that result follows without any attempt at compromise between the two, which Sherrington has shown is typical of reflex action in general.

But the sympathetic nervous system is a defensive mechanism not only against the external, but also against the internal foe. Fever is a response to bacterial invasion, and we now know that it is produced peripherally rather than centrally, since the cerebral vessels are remarkably impermeable to drugs and toxins so long as they remain intact. And this is carried out by the thyroid and adrenals, possibly with the aid of the pituitary. Fevers are known to be followed by changes in the adrenals and thyroid, but Cramer has been able to show that anything which calls for increased production of heat definitely increases the secretory activity of these glands. Mere exposure of a mammal, though not of a cold-blooded animal, to a low temperature will effect this. The injection of the drug known as T.H.N. will produce similar changes, together with all the phenomena of heat-stroke, and only exposure of the injected animal to cold will prevent a fatal issue. He has found similar changes in hyperpyrexia, and to a less degree in all fevers. He regards the heat regulation of the body as mainly effected peripherally, and points out what a profound effect climate must therefore have on the endocrine glands. Indeed, when one compares the brain, rigidly shut off in its bony box, with the peripheral apparatus in the skin, possessed of sensitive end-organs, responsive blood vessels, and sweat glands, together with the power of acquiring protective pigment, the case for a peripheral regulation of the temperature becomes so plausible as to cause wonder at its being overlooked so long. This was, no doubt, because it was so difficult to see how sufficient co-ordination could be obtained, as long as the close ties between skin, sympathetic nervous system, and endocrine glands were not appreciated.

Leonard Williams some twelve years ago called attention to the influence of climate in moulding racial character through the endocrine glands, but his conception was too much in advance of current medical thought then to receive the attention it merited. He pointed out that not only are there differences between the white man and the black, between Asiatics and Europeans, between the Latins and the Saxons, admittedly and even obtrusively climatic in origin, but that modifications through climate can still be seen at work. He says: "In illustration of the last point I need only mention the fair skin and the red hair which long residence in northern climes has conferred upon some Jewish families, and the stereotyping by the climate of the North American continent of the descendants of its widely dissemblant annual European recruits into the hatchet-shaped face and wiry frame of the Red Indian aborigines." He suggests that the skin may be compared to a sensitive plate, stimulation of any portion of which will produce reflex activities in some distant organ, and he regards the formation of cutaneous pigment as protective against such stimulation becoming excessive. The distant organs mainly affected in this way he believes to be the endocrine glands, and it is obvious that the adrenals, for instance, play an important part in the pigmentary changes in the body. Recent observations show the pituitary must share directly in this, since tadpoles that had the anterior lobe of that gland removed became albinos. The unadapt-

* Delivered before the South-Western Branch of the British Medical Association at Plymouth on December 7th, 1921.

ability of albinos to climatic changes is well known. At the time the theory was put forward the close association between the sympathetic-endocrine system and the higher levels of the nervous system was not sufficiently recognized to make it acceptable. But I think we are now justified in saying that climatic environment can modify our psychic "make-up" through the endocrine glands.

HYPOTHYROIDISM.

These preliminary considerations will enable us to realize the position of the thyroid gland in the endocrine system. Says McCarrison: "The thyroid gland is to the human body what the draught is to the fire." It is a quickener of the whole metabolism. Recent studies of basal metabolism have shown that in hypothyroidism this is lowered by 40 per cent., while in hyperthyroidism it may be raised by an even greater amount. Although severe degrees of hypothyroidism, such as myxoedema and cretinism, are well recognized, there are minor degrees, as pointed out by Hertoghe, which are unfortunately often overlooked, although they are eminently amenable to treatment. In the adult these are characterized by the accumulation of material which should be katabolized. Headache, giddiness, somnolence, and a sense of fullness in the ears and nasopharynx, are not uncommon. A number of manifestations of hypothyroidism are attributed to rheumatism, although really due to myxoedematous infiltration of ligaments and fasciae, producing knock-knee, painful heel, flat-foot, and lordosis. The hand becomes lax and flabby, feeling, as Hertoghe says, like a glove stuffed with clay. A very helpful sign of hypothyroidism is the disappearance of the outer half of the eyebrows. The association of this with "rheumatic" symptoms should suggest the administration of thyroid extract. Nocturnal enuresis has been shown to be sometimes due to the same cause, partly because desquamation of the epithelium of the bladder renders it more irritable, and partly because of the deep somnolence. Infiltration of the nerve centres causes mental slowness, loss of memory, and difficulty in expressing ideas. Sometimes there are hallucinations of sight and hearing. It is rather surprising that acute mania should occur in myxoedema, but it does so occasionally. I recently saw an example in a middle-aged man whose myxoedema had improved extraordinarily under thyroid extract. Unfortunately he abandoned medical treatment and took up Christian Science. He became violently maniacal, and was removed to an asylum. Here they recognized that he was suffering from myxoedema, but at first they were afraid to give him thyroid extract because of his maniacal condition. But when they did so he again improved rapidly, and was soon able to give his medical history. He is now quite sane.

HYPERTHYROIDISM.

Turning to hyperthyroidism it is convenient, as McCarrison does, to classify the influences leading to it under the three heads of nutritional, toxic, and psychic.

(1) *Nutritional.*

Lack of vitamins leads to diminished thyroid secretion (McCarrison). Mellanby has suggested treating Graves's disease by cutting off the fat-soluble vitamin from the diet, but I have not been much impressed by the results of this method. Under the nutritional heading we may also include some part of the epochal changes in the gland, such as is so common in girls at puberty. In this connexion I should like to call attention to the importance of a small or twisted upper lateral incisor as evidence of gonadal deficiency. It is difficult to see the connexion until we recall that this condition of the incisor is the slightest degree of cleft palate. It is an atavistic stigma, and implies a difficulty in establishing adult development. This may explain why, as I have observed, such patients are liable to undue enlargement of the thyroid at puberty, since it is apparently more of a strain for them to achieve maturity.

(2) *Toxic.*

Two sources of toxaemia seem particularly apt to produce thyroid enlargement—namely, intestinal and oral. We can understand why intestinal toxaemia has this effect, since Kendall has shown that the active principle of thyroid secretion is an iodine compound of indol, a putrefactive decomposition product of the tryptophan in the protein molecule. It would appear as if the body provided in this way its own antidote, an increased production of indol necessitating and providing for more thyroid secretion. Quite as striking is the influence of oral, particularly tonsillar, sepsis. It is hardly too fanciful to connect this with the fact that the thyroid gland originally discharged its secretion into the mouth through the foramen caecum at the base of the tongue. Since thyroid secretion is evidently increased by reaction to bacterial infections, an infection so near to the point at which this secretion was originally discharged might be expected to be specially potent in this direction.

A few weeks ago I had a case in hospital of recent and severe thyroid enlargement in a lad of 17. The gland formed a tense collar from the jaw to the clavicles, and his neck measured 20 inches in circumference. I was afraid that he might have sarcoma of the thyroid, but Mr. Dunhill, who kindly saw him with me, thought it was probably subacute thyroiditis. His tonsils appeared septic, but before they could be enucleated he had an attack of tonsillitis, after which the gland rapidly subsided, so that in a few days the neck measured only 17 in. The tonsils were then enucleated by Mr. Harmer. *X* rays were applied to the gland and he was given thyroid extract. He improved with remarkable rapidity. It should be added that he showed no ocular signs, tachycardia, or tremors. His increased thyroid secretion had apparently been needed to combat the sepsis.

Squier has commented upon the rapid subsidence of thyroid enlargement after an acute infection, which he attributed to diminution of secretion through post-infective sclerosis of the gland. Of course, other septic causes may induce thyroid enlargement besides these two, and I recently saw a case of Graves's disease following pericarditis. Indeed, Walter Edmunds speaks of the toxin of acute rheumatism as one of the recognized causes of Graves's disease. But, after all, there is a good case for regarding acute rheumatism as due to alimentary streptococci of altered virulence.

(3) *Psychic.*

While making full allowance for the influence of the other two factors, I am convinced that in Graves's disease the psychic factor plays a very large part. Happy people do not get Graves's disease. "But who is happy?" you may retort. True it is that it would be hard to find anyone who during the past seven years had not been subjected to some kind of unpleasant emotional strain, whereas only a limited number developed this disease. But in cases both of fully developed Graves's disease and in the *formes frustes* the history of shock, strain or psychic conflict is generally pronounced, even though the medical man is not able to obtain it for some time. Matrimonial causes frequently lie at the root of the trouble, and these are not reasons which the patient cares to parade. The factor of shock was shown repeatedly during the air raids on London, as it was after the San Francisco earthquake and the Kischineff massacres. As Coué has expressed it, the emotions rather than the will affect structure. Now, the emotions find their expression through the sympathetic nervous system, and it is the sympathetic that innervates the thyroid gland. Cannon's classical experiment on cats definitely proved that stimulation of the cervical sympathetic would cause exophthalmic goitre. Once the vicious circle is started it is hard to break, for the sympathetic stimulates the thyroid and thyroid secretion lowers the threshold to sympathetic stimulation. To my mind, operation, radium or *x* rays, operate merely as factors in breaking this vicious circle by diminishing the amount of thyroid secretion and thus allowing the balance to be restored. But the earlier and more efficient the medical treatment the less frequently will surgical interference be required. And for medical treatment to be efficient all those factors must be carefully investigated, remembering that it is when more than one of them is at work that Graves's disease is most likely to result. Treatment will consist of rest, psychotherapy in the widest sense, elimination of toxic factors, and administration of quinine hydrobromide for its sedative effect upon the sympathetic. Indeed, this drug has been used in America as a test for hyperthyroidism. For while it is generally well tolerated in this condition, patients with an adenomatous or compensatory enlargement of the thyroid gland will display symptoms of cinchonism fairly soon. I usually give it in 5-grain doses three times a day to men and in 2½ to 3-grain doses to women.

THE INFLUENCE OF HYPERTHYROIDISM ON CARBOHYDRATE METABOLISM.

As is well known, glycosuria occasionally happens in hyperthyroidism, while lowering of carbohydrate tolerance is more common. What is not so clearly recognized is that the curve

of sugar in the blood after ingestion of carbohydrate is, as far as my observation goes, always abnormal. Usually the amount of sugar in the blood rises to a level at which glycosuria would normally occur, yet without the appearance of any sugar in the urine. There is also a delay in its return to the normal level. Since glycosuria does not occur, it would appear as if the kidney threshold for sugar had risen, presumably as a compensatory mechanism. This rise of blood sugar is the method by which the thyroid secretion provides for the increased heat production in fever. In other words, both in Graves's disease and in fever the thyroid contributes towards increased katabolism by mobilizing sugar into the blood stream, and the kidney holds it there by raising the threshold against its excretion. It is noteworthy that in several of my cases of this type transitory glycosuria has nevertheless occurred under emotional stress, or amenable glycosuria has come on as the hyperthyroidism became less acute. I would interpret this by saying that the threshold was lowered again before the carbohydrate plethora passed off. Conversely, in myxoedema the level of the blood sugar remains low, even after the ingestion of considerable amounts. In part, no doubt, these effects of the thyroid are due to its antagonism to the pancreas. This antagonism is expressed not only (1) in the high blood sugar which is common to increased action of the thyroid and diminished action of the pancreas; and (2) in the mydriasis following instillation of adrenaline into the eye, which occurs under similar conditions; but also (3) in the output of pancreatic diastase in the urine, which is diminished in hyperthyroidism.

Intermittent Swelling of the Thyroid in Certain Nerve Storms.

The close association between the thyroid gland and the emotional nervous system is seen in the following three cases:

Case I.

A lady of 50 was brought to see me because she suffered from periods of depression followed by periods of excitement, tachycardia, and tremors, in which the thyroid swelled. Hysterectomy had been performed four and a half years before, and a cystic adenoma had been removed from her thyroid ten years ago. She had no glycosuria after 100 grams of dextrose, and, unlike an ordinary case of hyperthyroidism, her urinary diastase was rather high. This was not observed, however, during a period of excitement. The effect of quinine hydrobromide was to cut out the periods of excitement, but to leave the periods of depression as severe as ever. Careful search was made in this case for a toxic factor, without success.

Case II.

A girl of 20 was admitted to hospital under my care with the history that some eight months previously her ovaries and tubes had been removed on account of tuberculous disease. After this she became distinctly fairer in complexion, and put on weight considerably. She suffered from hot flushes. Her thyroid had been rather full before the operation, but this had been less noticeable since, except during the attacks for which she was admitted to hospital. These occurred every three to four days. There was no aura, and consciousness was almost but not completely lost. She flushed and choked, while the pulse and respiration quickened very much. The attacks lasted about six minutes, and ended quickly, though the pulse rate subsided more slowly. The thyroid swelled noticeably in the attacks, and she passed a small amount of sugar then, but not at other times Under bromide and opocaps of ovomammoid the attacks ceased completely—the last having occurred on September 4th. Her weight has fallen considerably, the hot flushes have ceased, and her general condition has greatly improved.

Case III.

A man of 31, who had been subject to *petit mal* for three months following an accident thirteen years ago, had a recurrence of these attacks after another accident in 1917. In July, 1921, he had malaria, after which his *petit mal* assumed some new features; on recovering from a brief unconsciousness he became restless and excited, complained of difficulty in swallowing, and his thyroid swelled. On one occasion it was only the left lobe that enlarged. He is a man of great intelligence, and he expressed himself as feeling completely disorientated for about ten minutes by an attack. A curious feature was his bradycardia, the pulse rate varying from 48 to 52. Even when his temperature rose to 104° in an attack of malaria his pulse only went up to 64. Yet on vigorous exercise the pulse rate rose to 96 for a short time. I associate this bradycardia with his epilepsy.

It is interesting to note that the first two patients had their endocrine balance upset by the induction of an artificial climacteric, one in early life, the other shortly before the time when it would have normally occurred. I should like to call special attention to the benefit derived from the ovomammoid extract in apparently restoring endocrine balance in the second case. In the third case no doubt the thyroid specially suffered in the outbreak of excitement because it was already irritated by an infection—namely, malaria. I have since heard that on quinine hydrobromide till free from malarial parasites, and then on potassium bromide, he has kept entirely free from attacks. I also learned he had matrimonial troubles, which, as I have said, so often have an effect on the thyroid gland. The absence of tachycardia with emotional excitement suggests that vagotonia played a part in this case. But all three cases illustrate the influence of emotional excitement on the thyroid.

Such cases should, I think, be distinguished from the condition of thyroid instability described by Leopold-Levi and Rothschild where there are spurts of hyperthyroidism occurring with a background of continuing hypothyroidism. This may be compared to a state of "irritable weakness." In one such case I saw these spurts were accompanied by tachycardia and tremors, yet her weight was rapidly increasing, and until small doses of thyroid extract were given she appeared to be developing acute myxoedema. Pituitary extract was first tried without benefit, but on thyroid the condition cleared up rapidly.

It may well be asked what are the points which should guide us in determining whether thyroid enlargement is compensatory for a deficiency of thyroid secretion, or whether there is genuine hyperthyroidism. I would say that if basal metabolism is increased, if there is wasting, pyrexia, continued tachycardia and tremors, with attacks of diarrhoea, and if there is any glycosuria, the case is certainly one of hyperthyroidism, and thyroid extract should not be given, but quinine hydrobromide is indicated. If these signs are lacking and the patient is putting on weight, thyroid extract should be given a trial.

The Cardio-Vascular Complications of Thyroid Disease.

Hypothyroidism.

(*a*) *Vascular.*—The liability of the subjects of hypothyroidism to chilblains is well known. A condition like Raynaud's disease is not uncommon. It will usually be found that there is then a well-marked intestinal toxaemia, usually the result of definite visceroptosis, which often exhausts the thyroid while also affecting the vessels. Mr. Morley Roberts has suggested to me that histamine may be the product of putrefaction which damages the capillaries, and from some preliminary investigations I have made it seems to me this may be the case. Treatment should be directed to the condition of the bowel, such as by a Curtis support, Plombières douches and intestinal antiseptics.

(*b*) *Cardiac.*—I have seen a number of instances where patients with hypothyroidism and feeble flabby hearts have been labelled as suffering from "fatty heart." I agree with Leopold-Levi and Rothschild that thyroid extract benefits such cases greatly, but that great care is required in the dosage. Naturally some apprehension may be felt about giving such a drug in this condition, but half a grain twice a day has never, in my experience, produced any unpleasant symptoms.

Hyperthyroidism.

(*a*) *Vascular.*—Goodall and Rogers describe three stages in the reaction of the blood pressure to Graves's disease. First, a preliminary rise from the sympathetic irritation which has caused the thyroid enlargement, possibly from simultaneous stimulation of the adrenals. Next, a fall of pressure from the vaso-dilator effect of the excessive thyroid secretion, which they regard as the safest stage for operation. Thirdly, a rise due to reduction of this secretion, accompanied by some change such as cardiac hypertrophy.

(*b*) *Cardiac.*—Here again we are indebted to Goodall for a clear exposition of the position. Prolonged tachycardia may exhaust the myocardium. This leads to atony and dilatation with valvular incompetence. Then myocardial degeneration is apt to result, which may go on to auricular fibrillation. Quite lately I have seen three instances of this in the later stages of Graves's disease. Further, there is a danger of this fibrillation affecting the ventricles after operation, which is probably the cause of the sudden death which sometimes follows it, as unfortunately happened lately in a case under my care. There is a liability to a considerable rise of blood pressure after operation, which greatly adds to the work of an already overtaxed heart. Ventricular fibrillation is not compatible with life.

THE PARATHYROIDS.

These glands were first described as distinct entities by Sandström, while Gley was the first to attribute to them functions apart from the thyroid. But in 1907 Forsyth concluded that they were merely portions of the main thyroid gland which had not yet formed vesicles, and that all the intermediate stages between thyroid and parathyroid tissues occurred. Berry, as the result of 1,338 operations for the removal of goitre without the occurrence of tetany, altogether discredits any separate function for the parathyroids; but as he states he always leaves a piece of gland at the hilus, he presumably does not completely remove them. The consensus of opinion at the present time seems to be that the general effect of the parathyroids on metabolism is antagonistic to the thyroid, and that they play a special part in the fixation of calcium in the tissues. If the nervous system lacks calcium it becomes more irritable, and tetany is likely to occur. It is possible, however, as pointed out by Noël Paton, that it is the accumulation of methyl-guanidine which occurs after parathyroid removal that causes tetany, since injection of this substance will produce a similar effect. Parathyroid secretion may distoxicate methyl-guanidine. Korenchevsky has repeatedly produced tetany in rats by destroying their parathyroid tissue, which forms a distinct encapsulated structure in these animals, with the electric cautery. Clinical observations by Hurst, Cordier, and G. H. Clarke support the view that parathyroid disease causes tetany, tremors, and fibrillary twitchings, among other symptoms, which can be relieved by administration of parathyroid extract. That these glands have some effect in checking calcium loss has been shown by comparing the output of calcium salts on thyroid and parathyroid extract. Quite recently Vines has shown the value of parathyroid extract in promoting the healing of ulcers of the skin and stomach. He suggests that various chronic infections damage the parathyroids and thus prevent healing by diminishing the amount of ionizable calcium salts in the blood. Walter Edmunds has noted that after parathyroidectomy animals may be kept alive longer by an exclusive milk diet, with the addition of calcium lactate. He also quotes Eppinger, Falta, and Rudinger, who found that the removal of the parathyroids, one by one, tended more and more to favour the onset of glycosuria. This would suggest that the parathyroids work with the pancreas and fall into the anabolic group, while antagonizing the thyroid, which belongs to the katabolic group. It also raises the question as to whether the increased calcium loss in diabetes may be due to parathyroid deficiency.

CONCLUSION.

We are thus led to the conclusion that the position of the thyroid gland in the endocrine system is that of a powerful activator of metabolism. In this respect it co-operates with the adrenals and pituitary, and antagonizes the pancreas and parathyroids. On the nervous side it co-operates with the sympathetic nervous system, both being stimulated to increased activity by it and lowering the threshold to it. In this way it plays an important part both in external and internal defence. Externally it leads to greater manifestation of energy in the direction of fight or flight; internally it quickens the reactions to bacterial invasion. An important way in which it accomplishes this is by mobilizing the blood sugar. This increased supply of sugar may either be used for muscular energy in external defence or for heat in the febrile reaction of internal defence. As a provision against waste of this sugar the kidney threshold is raised to prevent its escape into the urine, so that despite hyperglycaemia there may be no glycosuria. Yet this blood sugar may exceed even this raised threshold, so that some escapes. This is particularly likely to occur during emotional excitement, when the gland is apt to enlarge. It interacts also with the gonads, and the undoubted fact that it plays a more active part in female metabolism may be due to its origin from the uterus of a Palaeostracan ancestor. This interaction may account for the disturbances which are so apt to occur in the gland after an artificial or natural climacteric. That in the former instance this is likely to take the form of intermittent hyperthyroidism may be due to the gland being still in full activity; in the latter instance hypothyroidism is more common, presumably because the gland is already undergoing retrogression. The combination of a distressing emotion of matrimonial origin with a toxaemia of alimentary origin is the most fertile cause of hyperthyroidism, and the biological consideration here presented may help to explain why this is the case.

RHEUMATOID ARTHRITIS DUE TO INFECTION OF THE NASAL ACCESSORY SINUS.*

BY

P. WATSON-WILLIAMS, M.D.LOND.,

LECTURER ON OTOLOGY, RHINOLOGY AND LARYNGOLOGY, UNIVERSITY OF BRISTOL; SURGEON FOR EAR, NOSE, AND THROAT DISEASES, BRISTOL ROYAL INFIRMARY.

IN this ancient city of Bath which our medical colleagues have made renowned throughout the world, not as the Mecca of the rheumatic, for that it has been long before medical practice could be termed a science, but as a centre where exceptional clinical opportunity has been utilized for scientific research and post-graduate study, it is with a certain sense of diffidence that I chose for the subject of my address such a group of diseases as rheumatism, neuritis, and arthritis.

The recognition of the infective nature of a considerable percentage of clinical syndromes loosely designated rheumatism, rheumatoid arthritis, chronic articular fibrositis, neuritis, and so forth, has led to investigations directed to the many possible sources of such infection. While the teeth, gastro-intestinal and genito-urinary tracts have received due consideration, there lies in the nasal accessory sinuses a possible source of chronic systemic infection which merits more attention than has hitherto been accorded to this region. And if, as I hope to show, the nasal sinuses may contain the cause even in a percentage only of such intractable diseases, it is the more important that these nasal cases should be recognized inasmuch as it is relatively easy to determine the presence or absence of nasal sinus infection.

Why a nasal source of the infection in rheumatoid arthritis is so liable to escape attention, and how it is that the joint affection is more prone to arise in patients whose nasal symptoms are slight rather than in cases where there is profuse purulent rhinitis, I shall endeavour to explain below. Before doing so I submit brief notes of some cases which have benefited so definitely by treating the infection of the nasal sinus that it seems to leave no room for doubt that by such treatment the source of the joint disease was eliminated. Of three examples the first illustrates the earlier or slighter forms of articular fibrositis; the other two were typical cases of chronic rheumatoid arthritis (fibrositis) of long standing.

CASE I.

Miss E. R., aged 40, was referred by Dr. Mary Morris, of Bath, on account of chronic fibrositis, involving several finger-joints, gradually developing for two years, chronic rheumatic pains in the legs and feet, central frontal headaches, and an occasional subjective sense of foul odour. For four years she had noticed some post-nasal catarrh, and this led her medical attendant to suspect a nasal source, particularly as treatment for pyorrhoea had failed to relieve her. Furthermore, the patient, formerly of a bright and active disposition, was mentally repressed. Examination of the nose revealed no nasal discharge whatever, yet the history of post-nasal catarrh and the general condition of the patient was so suggestive of a latent infection of an accessory nasal sinus that exploration of the sinuses seemed warranted if only to eliminate such a source of infection as a cause of the serious disease that menaced her health. Exploration of the maxillary antra, sphenoidal sinuses, and the left posterior ethmoid cells was made by means of my suction syringe, so as to obtain a "deep-sea fishing" from each cavity. No pus was obtained, though the left antrum and the left posterior ethmoid cell yielded turbid contents. On bacteriological examination by Dr. Kay Mouatt, both the maxillary antra yielded cultures of *Staphylococcus pyogenes aureus*, and the left ethmoidal cell staphylococcus, together with a bacillus that "is frequent in influenza-like catarrhs"; the other sinuses were uninfected. A solution of 1 in 10,000 mercury biniodide was injected into each cavity, and the diseased antrum was opened and drained. The patient rapidly improved and was further benefited by autogenous vaccines from the cultures. Not only did the rheumatic swellings largely resolve, but the general health improved and she regained her former cheerful disposition and betook herself actively to games.

The second example is of interest, not only on account of the very long history of the joint affection, but also as being one of the very large percentage of cases of appendicitis occurring in association with chronic infective rhinitis.

CASE II.

Miss B. D., aged 46, had suffered from rheumatism in the left knee from the age of 14 and in the right from one year later. This condition persisted without much change till, sixteen years later, the left wrist and finger-joints became involved; not very long afterwards she had an attack of neuritis in the left shoulder. Ten years before I saw her she began to suffer from pains and stiffness

* Abstract of the Presidential Address to the Bath and Bristol Branch of the British Medical Association.

n both ankles and the right wrist as well as the left. She had undergone five courses of baths at Bath in different years and for three years had been treated at Vittel. In 1906 her appendix was removed.

She had had some nasal trouble on and off since 1884 when she first consulted the late Dr. Edward Woakes, and at varying intervals she had consulted three other rhinologists for nasal catarrh.

On examination of the nasal passages there was little to be seen beyond some strings of opalescent tenacious mucous discharge, unseen except by endorhinoscopy. Cultures of the contents of the sinuses obtained by exploratory lavage were made by Professor Walker Hall, who reported that the maxillary antral cavities were sterile, but that the sphenoidal sinuses yielded *Staphylococcus aureus* and *Streptococcus brevis*. Fuller details of the case, particularly with reference to the pathological investigation, are given in a report to the Royal Society of Medicine.[1] The sinuses were disinfected by injecting collosol argentum and great improvement followed, particularly when later the infected sphenoidal sinuses were opened and drained. She lost all her headaches and her stiff joints became more supple and free from pain, but the most striking feature was the very marked diminution of the chronic rheumatoid arthritis, swelling of the wrist, and the absence of pain —an improvement which had been maintained when I saw her a year later.

Case III.

W. B., a man aged 54, had well-marked typical fibrositis in the left wrist and finger-joints of three years' duration; this had been followed by similar involvement of the right wrist and finger-joints, the knee-joints and one ankle. He had been through a course of baths and massage, first at Buxton and a year later at Bath; he was considerably relieved of the joint pains for the time being on each occasion. The patient had chronic catarrh, deafness, and slight rhinitis, and was mentally depressed. The successful result obtained in the previous case led me to explore this patient's nasal sinuses. The left maxillary antrum was found to contain much thick pus, the right was clear. The right sphenoidal sinus yielded a heavy growth of *Staphylococcus albus*. The sinuses were washed out and disinfected, and all the joints and swellings and pains were strikingly improved; after opening and draining the involved sinuses all the old pains had gone, and the stiffness and swellings of the joints abated.

In the course of a discussion following the contribution I made on this subject in the Laryngological Section of the Royal Society of Medicine several speakers cited examples occurring in their own practice. Mr. O'Malley, for instance, referred to a man, aged 50, with orbital cellulitis and a history of rheumatoid arthritis for twenty-five years; he opened the ethmoid region, evacuating foul-smelling pus, and eighteen months later the patient came again, saying, "The extraordinary thing is that I have no aches and pains in my joints now, whereas previously they had ached for years and years." At the same discussion Colonel Sharp cited an instance of fleeting rheumatic pains and well-developed melancholia in a woman. Many forms of treatment were tried in vain by her physician, and she was referred to Colonel Sharp to examine her tonsils, in the hope that something might be found to account for the rheumatism. But the tonsils and nose were healthy, except that the left sphenoidal sinus contained slightly milky fluid. The sinus was opened and drained, and within three days the melancholic regained her usual cheerful disposition, and in ten days she left, quite free of rheumatic pains—a good result which continued up to the time of the report several years afterwards. It is difficult to avoid the conclusion that in this patient the melancholia, as well as the muscular rheumatism, was directly due to toxic infection from the left sphenoidal sinus, and it is noteworthy that, so mild apparently was the sinus infection, that there were no localizing symptoms, the infective source being discovered here almost accidentally. A well-marked example of melancholia attonita due to nasal sinus infection was seen by me, in consultation with Dr. Wilson Smith, about two years ago.

Case IV.

A lady, aged 57, had suffered from purulent nasal discharge for about seven months, associated with headache and increasing loss of memory and mental depression, culminating in a state of mental stupor. Dr. Wilson Smith suspected that the nasal disease caused the mental condition, and examination of the nose revealed polypoid degeneration in the right middle meatus, with pus coming from the right frontal sinus and the right maxillary antrum. These sinuses were opened and drained. The pus from the right antrum yielded staphylococci, with a few streptococci; the left antrum and sphenoidal sinuses were apparently sterile. Several decayed teeth were subsequently removed. There was no great mental improvement for nearly a month; then her mind began to clear, and two months after the operation she was almost herself again mentally.

Many instances of profound mental depression, and in not a few suicidal impulses, have occurred among my cases of nasal sinus infection, but I think the examples I have cited are sufficient to emphasize the profound, and sometimes disastrous, effect on the central nervous system of a toxic infection from the nose.

To explain the relation of the general systemic manifestations to a source of infection in the nasal sinuses, I may digress for one moment to take the simplest and probably most common of all sources of toxic systemic infection, that due to enlarged tonsils and adenoids, so commonplace that the lessons such cases afford are apt to escape attention. A typical patient suffering from diseased tonsils and adenoids is listless, apathetic, with so-called poor circulation, and recurring nasal catarrh. With the removal of the septic adenoid masses of the nasopharyngeal and faucial tonsils the whole picture is changed and the transformation from a listless, apathetic, anaemic child with poor circulation is only to be accounted for by the removal of the sources of a persistent septic infection. One of the most striking facts about these cases is that often enough it is in those children in whom the tonsils and adenoids are relatively small that the greatest benefit results, and that in others where the hypertrophy is great the general symptoms are comparatively slight. We cannot say that the larger the tonsils and adenoids the more pronounced are the evil effects resulting from their presence; we are driven to the conclusion that the aggregations of lymphoid follicles called tonsils are in fact protective up to a point, and that when the hypertrophy proceeds *pari passu* with their ingestion of the infecting organisms the balance is largely held and the septic absorption inhibited until the tonsils have become overwhelmed by the infecting organisms.

When we turn to a consideration of nasal catarrh as a source of systemic infection we are confronted with a similar paradox. It will often be found that a patient whose nose is full of polypus and constantly streaming pus from one or both nostrils, looks bright, ruddy, and robust, and even fat, whereas another patient, who has nothing but a slight non-purulent nasal discharge, is depressed, thin, and sallow, and obviously in very poor health. I think the explanation is that, given an infection when there is a profuse outpouring of polymorphonuclear cells with phagocytosis, the invading organisms are so largely inhibited or ingested that the patient is protected from toxic absorption, whereas in other cases, where a similar infection exists with but a few pus cells, toxic absorption is more pronounced. We see precisely analogous conditions in *post mortem* wound infection: if the point of infection forms an acute abscess it is usually a local inconvenience, but if the infection spreads up the lymphatics there is infinitely graver danger of acute general septicaemia. It is necessary to emphasize the fact that the slighter and apparently harmless nasal discharges may be clinically more virulent and more prone to cause systemic infection than the profusely purulent discharge, otherwise we may fall into the error of arguing that, because with definite purulent discharges from the nose systemic infection is unusual, it must follow that with the less marked nasal trouble the nasal origin of an infection must be even a more remote contingency. This very natural error leads us to overlook the possible import of a slight nasal or post-nasal catarrh, particularly as a patient suffering from a painful affection, or who is feeling decidedly ill, does not pay much attention to such a trivial complaint in his nose or throat. No class of case serves better to support this view than the result of toxic infection of the optic nerves from nasal sinusitis, because in the ocular manifestations we can to some extent measure the damage done by the poisoning and the benefit following the removal of the source of infection by opening and draining the involved and infected nasal sinuses.

If we take one of the simplest examples of a canalicular neuritis due to sphenoidal sinus suppuration we observe that the optic nerve sheath lies in close contact with the very thin upper part of the outer wall of the sphenoidal sinus, forming sometimes a bulging prominence in the sinus wall, sometimes running in a thin bony canal through the cavity of the sinus. But the usual result is that toxic absorption through the thin sinus wall involves first the inner aspect of the optic nerve sheath, and consequently the inner fibres of the optic nerve are the first to suffer, with resulting contraction of the temporal visual field. The contraction of the visual field may be considerable before the central visual acuity is affected, and if the involved sinus is opened and drained there is good prospect of recovery of vision and of the visual field expanding to normal.

Reference.

1 *Transactions*, Royal Society of Medicine, 1919, xii, p. 220.

A CASE OF DIAPHRAGMATIC HERNIA.

[With Special Plate.]

BY

GEORGE J. LANGLEY, M.D., M.R.C.P.,

PHYSICIAN ANCOATS HOSPITAL, MANCHESTER.

With Surgical Notes by JOHN MORLEY, CH.M., F.R.C.S., *and Radiological Notes by* J. M. WOODBURN MORISON, M.B., C.M., of the same Hospital.

A LARGE number of these cases are now on record, but they still rank as pathological curiosities. They may be divided into several groups, which are very distinct:

(*a*) Traumatic cases, of which the war has provided a regrettably large number.
(*b*) True diaphragmatic hernia arising from a congenital defect in the diaphragm, through which abdominal content herniates.
(*c*) Eventration, in which there appears to be a congenital weakness of the diaphragm and consequent dislocation of related abdominal viscera.

The following case illustrates the difficulties of accurate diagnosis and of selecting the best method of treatment.

A schoolgirl, aged 10 years, was brought to hospital, having had a cough and cold for two weeks. There were eight other children in the family, all healthy and well. The mother had had one miscarriage, and one child had died at the age of 12 months from zymotic enteritis.

The patient had never been robust, but the only serious illness occurred when, at 2½ years of age, she developed morbilli followed by pneumonia. The child had been to hospital on three or more previous occasions for trivial ailments, but in spite of this had lost very little time from school. The only present complaint was of cough and cold. At no time had there been any reason to suppose that the gastro-intestinal tract was other than normal.

Routine examination resulted as follows:

The child is small and thin, with normal colour and no deformities. The chest is poorly covered, the ribs being easily visible and respiratory movement normal. The area of cardiac dullness, position of apex beat, and heart sounds were normal, and no extension of dullness to the right was found. The pulse was good.

The right lung appeared healthy, but on the left side an area of dullness to percussion was found, extending downwards from the fifth rib in the nipple line, eighth space in the anterior axillary line, and angle of the scapula behind. Over this area vocal resonance and fremitus were almost absent, while breath sounds were diminished but normal in character, with no adventitious sounds. In the abdomen the liver dullness extended from the sixth rib to the costal margin, where its edge could be felt; the spleen could also be felt, its dullness being merged in that above described.

No other abnormality was found beyond the fact that the pupils, though fully active, were not quite equal, the left being slightly larger than the right.

While under observation it was found that the upper limit of percussion dullness over the left lung was variable, being sometimes a rib or space lower than that above described. Hippocratic succussion and the coin sound could sometimes be obtained. At no time during observation were there any symptoms pointing to the digestive tract.

Dr. Morison, radiologist to the hospital, made repeated examinations of the chest at all stages of digestion, and the following is a condensed report of his findings:

The screen examination of the chest showed a complete regular dome on the left side, extending as high as the level of the third rib in front, and enclosing an air space through which in the upper part lung tissue was seen. At the bottom of this air space there was a sharply defined horizontal line of fluid on which waves and ripples were produced by palpation of the abdomen.

No definite movements of the bow line in the chest were observed during respiration, although on one occasion I thought there was a slight reversed movement (an upward movement during inspiration and a downward during expiration), but I was not quite confident of this.

The dome of the right diaphragm was at the level of the tenth dorsal vertebra. Its movements were normal. The heart was slightly displaced to the right. There was an increased density of the root shadows of both lungs.

On giving a bismuth meal the food was held up at the cardiac opening of the oesophagus, the lower third of which was dilated, the obstruction was soon overcome, and the stomach was seen to fill in an irregular manner. The cause of this was apparent when the patient, who up to this stage had been examined in the postero-anterior position, was placed in the right anterior oblique position. There were two sacs, the shadows overlapping in the postero-anterior position. The upper sac, when filled, spilled in a forward direction into the lower. The pyloric end of the stomach was directed backwards, and was not well formed. There was no delay in emptying.

In the lying-down position the bismuth meal passed up to the top of the bow line in the chest, displacing the air, and completely filling the dome, which was not altered in position. Nothing abnormal was detected in the small intestine. The colon was well outlined, and the splenic flexure was found to rise alongside the air cap of the stomach to the top of the bow line in the chest, but not beyond it. At other times the whole of the dome in the chest was filled by the air cap of the stomach.

A barium enema confirmed these observations on the colon, which was otherwise normal.

It soon became apparent that in this case the determining factor was the *x*-ray finding, and that it was the only possible means of differentiating the genuine hernia from an eventration.

The difficulty in the case largely lay in the fact that the patient had come under observation in the absence of symptoms, whereas so many of the other recorded cases had been acutely ill or had shown active gastric symptoms.

It was finally determined that the case was most probably one of true congenital diaphragmatic hernia, and that these cases usually did not come under observation until some acute condition, as volvulus or strangulation, had occurred. The prognosis was then extremely bad, and it was decided that for these reasons it were wiser to operate under quiet conditions and so prevent the onset of these more serious symptoms.

Mr. John Morley, surgeon to the hospital, was therefore asked to see the case, and operation was undertaken. It had been previously determined that the function of the stomach as regards acid and pepsin was normal, or at least that part of it from which the test meal was recovered.

Operation took place on February 19th, 1920; gas and oxygen with ether were administered by Dr. K. B. Pinson.

It was decided to perform thoracotomy in the first place, as it was considered that this would facilitate reduction of the herniated viscera through the diaphragm by affording more direct access. Accordingly, with the patient in the right lateral position, an incision five inches long was made along the eighth left rib, with its centre in the posterior axillary line. The rib was resected to the extent of four inches and the pleura opened. The ribs above and below were retracted widely by Tuffier's rib spreader.

The fundus of the stomach could now be seen projecting up into the thorax far above the level of the incision. It was at once apparent that a transparent layer of thinned-out diaphragm formed a covering for the elevated abdominal viscera and separated them completely from the true pleural cavity, which was greatly reduced in size. To the highest point of this thin translucent diaphragm the base of the left lung was firmly adherent. These adhesions were fibrous and vascular and were readily divided. The diaphragmatic sac was now incised. On opening it the splenic flexure of the colon and left extremity of the great omentum and greater curvature of the stomach were presented. These were quite free from adhesions. The upper pole of the spleen also came into view.

It was now plain that there was no functioning diaphragmatic muscle at all, but that the whole diaphragm was merely represented by a thin sheet consisting of pleura above and peritoneum below, with some rather dense fibrous tissue between. A partial excision of this diaphragmatic sac was determined upon, with the object of bringing down its level as near to the normal as possible, and so reducing the distortion of the stomach and allowing more expansion of the lung.

The opening in the sac, therefore, was enlarged backwards with scissors towards the posterior aspect of the heart, and an elliptical strip of thinned-out diaphragm removed. The abdominal viscera were now packed downwards, so as to remove upward pressure on the sac, and the rent in the sac was sutured with two layers of catgut in such a manner as to overlap the edges broadly and so reduce the diaphragmatic level. When this was completed the dome of the diaphragm reached to the seventh rib in the mid-axillary line. After wiping blood clots from the pleura the rib spreader was removed and the pleura and intercostal muscles sutured with continuous catgut. The superficial muscles and the skin were then sutured in layers.

The patient took the anaesthetic well, but the pulse became very rapid during the suturing of the diaphragm and reached a maximum of 180.

Convalescence was uneventful and rapid. There was considerable pain on respiration for the first few days, but it was noticeable that no pain was felt at the usual site of referred pain from the phrenic nerve—the tip of the left shoulder.

Microscopical sections of the piece of diaphragm removed showed normal endothelium on the pleural and peritoneal surfaces, and between these dense fibrous tissue, with no sign of muscle fibres. No nerve fibres could be made out in sections that were specially stained to show them.

The subject of non-traumatic hernia of the diaphragm was discussed by Scudder[1] in 1912, who stated that up to that date 1,000 cases had been reported, most of which were discovered *post mortem;* 53 operations had been performed, of which 11 were thoracotomies, with 7 recoveries and 4 deaths, and 42 were explored by an abdominal incision,



FIG. 1.—Perirenal inflation, right kidney; plate on back, tube below. Suprarenal body well shown.



FIG. 2.—The same, but with the patient lying on his back; tube above; and some amount of compression.



FIG. 3.—View of both kidney regions, same subject, one hour after perirenal inflation.

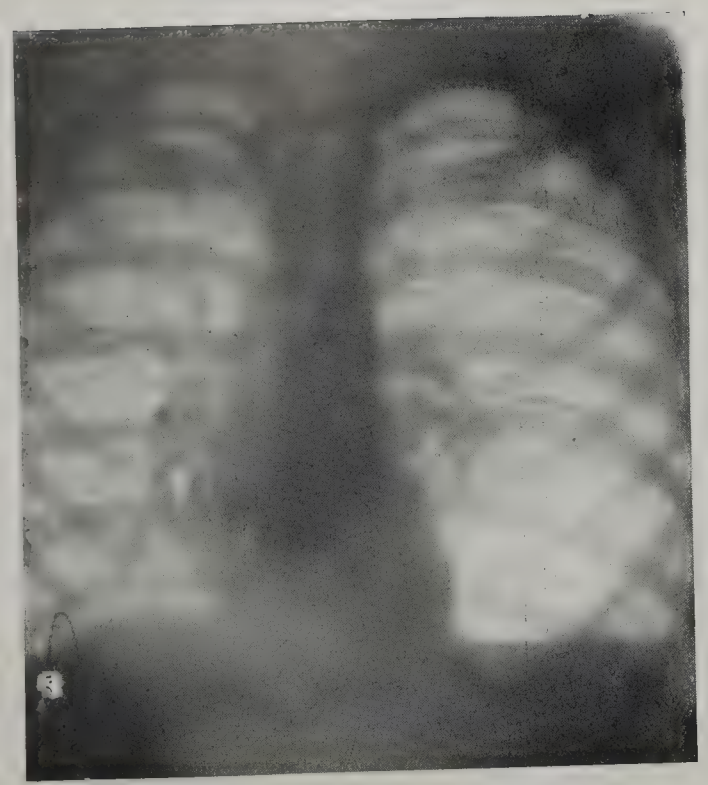


FIG. 1.—Chest. Note; (*a*) Regular dome through the upper part of which lung tissue is seen; (*b*) horizontal line of fluid; (*c*) slight displacement of the heart to the right.

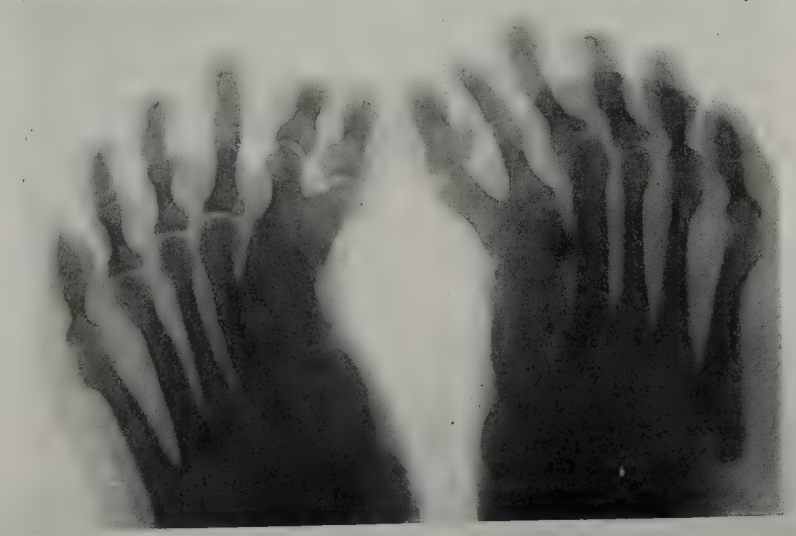


FIG. 2.—Stomach. Bismuth meal. Upright position, postero-anterior.



FIG. 3.—Stomach. Bismuth meal. Lying-down position. Note the food filling the dome in the chest.

R. F. YOUNG: HEREDITARY POLYDACTYLISM.



Right. Left.

J. N. LAIRD: FRACTURE OF END PHALANX OF FINGER.

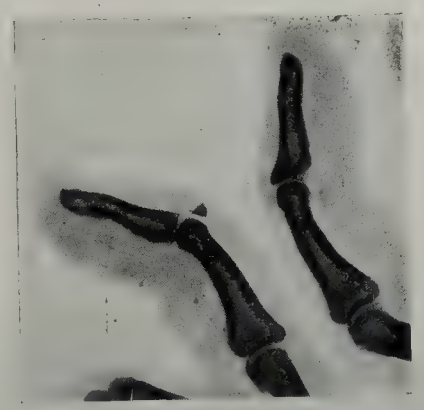


FIG. 1.—Before treatment. Showing piece of detached bone in injured finger. Same finger on other hand for comparison.



FIG. 2.—After treatment. Detached fragment still seen. Sound finger for comparison.

with 7 recoveries and 35 deaths. The diagnosis was made beforehand in only six cases. Operation was usually performed for acute intestinal obstruction.

Giffin,[2] writing in 1912, and discussing the differential diagnosis between congenital hernia of the diaphragm (with prolapse of viscera through a gap in the diaphragm) and congenital elevation or eventration of the diaphragm, enumerates certain skiagraphic features which, he considers, help to differentiate the two conditions.

Giffin considers that: (1) A dome-shaped outline of the diaphragm is invariable in congenital elevation, whereas the shadow of the diaphragm may be irregular in hernia. (2) Mottled lung tissue may be seen through the clear area in the thorax in cases of hernia, but not in cases of elevation. (3) If the colon be found extending up into the chest and beyond the bow line, the case is one of true hernia. (4) Paradoxical respiratory displacement in which the affected side, usually the left, moves up on inspiration and down on expiration, is found usually in hernia. In congenital elevation the movements of the diaphragm are normal, though of reduced range.

Our study of the present case would appear to disprove much of this. Thus we found that mottled lung tissue could be seen through the clear area below the dome formed by the shadow of the diaphragm; the splenic flexure of the colon projected high up into the thorax, and although reversed diaphragmatic movement was doubtful before operation, yet it became well marked after the operation, and this although the diaphragmatic bow line was at a lower level.

The recognized nomenclature of these conditions is hardly satisfactory. Custom has decreed that cases of congenital defect or gap in the diaphragm, with prolapse of viscera into the pleural cavity through that gap, should be labelled "hernia," although the hernia possesses no sac; whereas to cases such as the one we now report, in which the thinned-out diaphragm forms a veritable sac, the term "hernia" is denied. It must be admitted, however, that to alter the terminology now would be to lead to considerable confusion.

The etiology of congenital elevation of the diaphragm remains obscure. The appearance of our histological preparations suggests that the intermediate fibrous tissue was essentially degenerated and fibrosed muscle, and this would suggest a congenital absence or lesion of the left phrenic nerve, and in this connexion the inequality of the pupils is interesting. But this does not carry us very far, since we are without a clue as to the cause of the nerve lesion.

The condition cannot be ascribed to a failure in the descent of the diaphragm, since the skeletal attachments of that muscle at its periphery were found to be perfectly normal, and its great elevation was plainly due to its intrinsic weakness and inability to withstand the upward thrust of the abdominal viscera.

A further radiological examination in this case, four weeks after the operation, showed that the collapsed lung had completely expanded. There was considerable thickening of the shadow cast by the bow line in the chest, and now paradoxical movements of the diaphragm were seen, the bow line in the chest descending during expiration and ascending during inspiration, while the movements on the right side were normal. The examination of the stomach now showed that the two sacs were no longer present. Three months later examination showed that adhesions were beginning to form, the movements of the bow line in the chest being now greatly restricted though still reversed.

Conclusions.

It would appear from this case that:

(*a*) Physical signs at the base of the left chest may be sufficiently well marked in diaphragmatic hernia to make the differential diagnosis from subphrenic abscess and pyopneumothorax a matter of considerable difficulty.

(*b*) Ultimate diagnosis must remain in the hands of the radiologist, but the points which have in the past been regarded as valuable in differentiating true hernia from eventration cannot be entirely relied upon.

(*c*) In the light of recorded cases and the ultimate acute abdominal condition which may, and probably will, supervene, exploration is desirable in these cases, unless it can be conclusively proved that the case is one of simple eventration.

REFERENCES.

[1] C. L. Scudder, *Surgery, Gynecology, and Obstetrics*, vol. xv, 1912, 261–267. [2] H. Z. Giffin, *Annals of Surgery*, vol. lv, 1912, 388–397.

HEREDITARY POLYDACTYLISM.

[With Special Plate.]

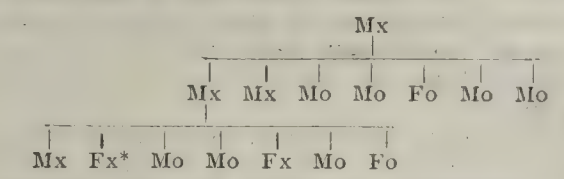
BY

ROY F. YOUNG, B.A., M.B., B.CH.,

ASSISTANT SURGEON, WESTERN INFIRMARY, GLASGOW.

THE following case of bilateral double great toe presents some points of interest, more particularly from the operative point of view.

The genealogical table is very incomplete, and can only be traced to the grandfather of this patient. Prior to him it is reported that accessory toes have "descended down, but was a matter which was never discussed." The only deformity has been that of additional toes.



M=Male; F=Female; *=Patient; x=Deformity; o=No deformity.

With regard to the pathology, the *x*-ray appearance (see plate) confirms the opinion that the accessory digits are due to fission. On the right foot the proximal phalanges were fused for half their length; there is also incomplete fission of the metatarsal. On the left foot the separation of the phalanges was complete; the *x*-ray appearance also suggests that the more external or lateral toe is the more rudimentary.

Operation.

After due consideration it was decided to remove the medial toe on the right foot and the lateral toe on the left. The reasons for the latter choice were the distinctly more rudimentary nature of the lateral toe on the left foot, and that the resulting scar would be less liable to pressure from the boot. On the other hand, by removal of the medial toe better alignment could be secured. Further, it was of value to discover which method gave the more satisfactory result.

The result was very convincing. The patient was seen two months after operation. The right foot was completely satisfactory in use and appearance, and there was no irritation from the scar. The left foot was found much as before operation. Three months later the left foot had improved considerably, both in use and in appearance, but at the end of a day's work it felt very tired. A year after operation the left foot was still less satisfactory than the right.

I have to express my thanks to Dr. Duncan Macartney, in whose ward I treated this case.

THE CARELLI METHOD OF PERIRENAL INFLATION.

AN ACCOUNT OF A RECENT DEMONSTRATION AT THE FRENCH HOSPITAL.

[With Special Plate.]

BY

F. HERNAMAN-JOHNSON, M.D.,

DIRECTOR OF THE X-RAY AND ELECTRICAL SERVICE, THE FRENCH HOSPITAL, LONDON; PHYSICIAN, X-RAY DEPARTMENT, THE MARGARET STREET HOSPITAL FOR CONSUMPTION.

A SHORT time ago Dr. F. G. Crookshank, physician to the French Hospital, while visiting Paris, was taken by Dr. André Leri to see a demonstration on pneumoperitoneum and the inflation of certain tissues, by Dr. Carelli of Buenos Aires. He was greatly impressed by the beautiful examples shown of gall-bladder disease, adhesions, cystic ovaries, Fallopian tube disease, and of pregnancy diagnosed at one month owing to the small but uniform increase in size of the uterus being made visible. What struck him most, however, was the entirely new procedure of *perirenal inflation*, an idea the carrying out of which is due to Dr. Carelli.

Dr. Carelli has demonstrated his methods in Berlin and Vienna, and is about to do so in the United States. Dr. Crookshank urged him to visit London, and he consented, though at considerable personal inconvenience. It was arranged that he should give an account of his methods at the Royal Society of Medicine, and I was asked to place my department at his disposal for an actual demonstration of

his kidney technique upon a patient. This I was most pleased to do. Dr. Carelli came to the French Hospital on December 8th, 1921, and, in the presence of several radiologists, performed a perirenal inflation.

The apparatus has been described elsewhere, as also the method: all I need do here, beyond referring very briefly to the principles involved, is to give some personal impressions.

By ordinary radiography the lower half of the kidney can be shown, provided that the patient is well prepared. Under favourable circumstances, the whole organ may be distinguished, but the outline is often vague and difficult to differentiate from the surrounding parts; this is more especially the case when disease, such as tuberculosis or malignancy, is present. Nor can one by the usual methods demonstrate the suprarenal capsule. On the other hand, the injection of gas into the peritoneal cavity does not fully define the outline, as the kidney is an extraperitoneal organ. Dr. Carelli therefore resorted to the production of an artificial emphysema around the kidney itself, and he informed us that he had carried this out several hundred times without accident of any kind.

Unfortunately there did not happen to be in the hospital at the moment any cases suitable from a medical point of view, so that the hope of demonstrating some actual pathological condition had reluctantly to be abandoned. However, with some difficulty I induced a normal subject to submit to the procedure.

Method of Procedure.

The subject was made to lie face downwards on the *x*-ray couch, and Dr. Carelli first took steps to find the transverse process of the second lumbar vertebra. This he did (1) by tracing the last rib to its junction with the spine and taking a point 2 cm. below the angle and an equal distance from the middle line (the 2 cm. is of course an average measurement only); (2) by counting the spinous processes upwards from the fourth lumbar and taking a point midway between the second and first, as giving the required level.

The patient was a man of average build, weighing 11 st., and his bony landmarks were not difficult to feel; but Dr. Carelli explained that, in the case of a stout man, it is necessary to localize the process according to some of the well known methods used in the case of foreign bodies.

The site of the second transverse process having been ascertained, the skin was swabbed with iodine, and a fine platinum needle about 10 cm. long was pushed in vertically until brought to a stop against the bone. This is landmark number one. Up to this point the patient felt nothing other than the prick of the needle. Having called our attention to the fact that the needle was actually against the process, Dr. Carelli proceeded to alter the direction of the thrust—the point slightly forward and a little outwards, so that it slipped past the obstruction. He pushed the needle in until he believed that he had reached the perinephric areolar tissue. (The needle appeared to be buried to the extent of about 6 cm.) He then waited a moment to see if any blood came out through the needle. Had this occurred, it would have meant that a vessel was punctured, and a reinsertion would have been necessary. This is point number two. Having satisfied himself as to this, he next connected the needle with the manometer of the oxygen container. The latter is similar to the apparatus used for artificial pneumothorax, and need not be described. The manometer readings constitute a third, and a very important, point in the technique. As soon as the connexion was made one saw the column of fluid move up with inspiration, down with expiration—the opposite to what would have happened had the needle been in the pleural cavity. It appears that sometimes the manometer column does not move even though the needle point is in the perirenal space. If no movement occurs, and the needle seems to be at a proper depth, a few centimetres of gas should be very carefully introduced, when the manometer will give the usual indications. Should the needle point be in the muscle, pain will be produced at once, and the occurrence of pain (other than a dull ache) is always an indication that a retrial must be made.

Having pointed out these facts to us, Dr. Carelli closed the manometer connexion and opened the stopcock connecting the needle with the oxygen chamber. He then proceeded to inject the gas very slowly. The patient complained of an increasing ache in his loin, and asked for the injection to cease after it had reached about 500 cm. Dr. Carelli said this was sufficient in most cases; he stopped the pump and pulled out the needle. The latter is of such fine bore that the track closes immediately.

Dr. Carelli's usual procedure is then to turn the patient on to his back and take plates from above with some degree of compression. I asked if we might first screen, and we did so. The kidney, like an island in a lake of air, was plainly seen by all, and any gross changes in its size and outline could have been readily seen. A plate was then taken in this position—that is, tube below, patient on face.

The patient was now asked to turn over, and did so without much apparent discomfort. A plate was taken with the tube above, the patient on his back; he did not object to a moderate amount of compression. He got off the *x*-ray couch unaided, and Dr. Carelli made him bend his back in various directions to show that the remaining discomfort was slight.

The patient walked up some steps and along a corridor to a waiting taxi, and I took him to my rooms, as I wished to secure some radiographs with my own apparatus. A preliminary screen examination, one hour after the original injection, showed no apparent diminution in the inflated area. Oxygen had been used, as it was the only gas available. Dr. Carelli himself always uses CO_2 because it is absorbed within an hour. But for the beginner oxygen presents certain advantages.

To sum up my personal impressions:

The essential points of the technique are—(1) Use of a fine needle; (2) accurate location of the transverse process of the second lumbar vertebra; (3) proper direction of the needle after it has struck the process; (4) use of needle *open* so long as it is being advanced: this permits observations of punctured blood vessels; (5) sound judgement as to depth of insertion; (6) determination of entrance of needle point into perirenal tissue by manometer readings; (7) slow injection of gas; (8) quantity not to exceed 500 cm.

As to indications for use, any case in which there are signs or symptoms suggestive of kidney trouble, and in which clinical and ordinary radiographic examination does not completely clear up the diagnosis, should be investigated by this method. Alterations in shape, size or density are at once made clear, also calculi too small or faint to show in the usual manner. A wide field should be the investigation of alterations in the *adrenal body*—thus the method is not limited to strictly urological cases, but should be used in elucidating certain disorders of the ductless glands.

As to risks, there may be a theoretical possibility of setting up perirenal cellulitis, but no suggestion of any ill effect has occurred in Dr. Carelli's practice. On the other hand, the procedure may turn out to have therapeutic uses, on the lines of Colonel Rost's paper in the BRITISH MEDICAL JOURNAL of December 10th, 1921. Personally, having carefully considered Dr. Carelli's radiographs, and seen his procedure upon the living subject, I have no hesitation in recommending the method as one of very great value.

DEEP X-RAY THERAPY IN MALIGNANT DISEASE.

*NOTES OF A VISIT TO ERLANGEN.**

BY

J. CURTIS WEBB, M.A., M.B., B.CH.,

HONORARY RADIOLOGIST, GLOUCESTER INFIRMARY.

DURING a visit to Erlangen last September I was able to make certain observations which I propose to relate. I will consider the principles underlying this form of *x*-ray therapy under three heads: (1) Physical, (2) biological, (3) therapeutic

1. *Physical.*

Wintz defines his unit skin dose (U.S.D.) as that dose of rays, generated at a special voltage (180,000 to 200,000 volts), by a special tube, and filtered through 0.5 mm. zinc, which, at 23 cm. distance from the skin, produces on the area treated a red blush after five to eight days, and distinct tanning after four weeks. This dose he calls 100, and he expresses in percentages the amount absorbed, and therefore active, at varying depths below the surface. He estimates these percentages by the iontoquantimeter of Szilard, which depends for its action on the fact that electrically charged air is discharged by *x* rays falling thereon at a rate directly proportional to the quantity, irrespective of quality—that is hardness—of such rays. It consists of a heavily insulated wire, one end of which passes into a closed cardboard chamber (of Bergmann's camera) like a large test tube. The other end is connected to an electroscope, one leaf of which is fixed, and the other held lightly against it by a fine hair-spring. When the whole is charged by a small influence machine the leaves separate. If now *x* rays be allowed to fall on the camera the air therein is discharged and the leaves come together. The time taken by the movable leaf to pass over a scale lying under it is taken as a comparative measure of the amount of rays falling on the camera. For example, if filtered rays fall direct on the camera, and the electroscope leaf takes 9 seconds to travel over the scale, or in other words to discharge the air in the camera, and if now a box of water, which has the same coefficient of absorption of *x* rays as the human tissues, of a thickness of 10 cm., be interposed between the *x*-ray tube and the camera, and it is found that the time taken is 54 seconds, the ratio of the amount of rays received by the camera in the

* Substance of a paper communicated to the Gloucestershire Branch of the British Medical Association.

two cases is 54 to 9, or 6 to 1; that is to say about 17 per cent. is still active after passing through 10 c.cm. of water. Such an instrument can be used to obtain an accurate indication of the active rays passing through any desired thickness of water or human tissue.

The bundle of rays given out from an *x*-ray tube consists of waves of varying lengths. The softest rays have a wave length of 1 Angstrom unit (A.U.), which is taken as the unit of wave length measurement, and the hardest are 0.25 to 0.14 A.U. The penetrating power of the softer rays, though they have biological activity, is slight and varying, and the aim of Professor Wintz has been to obtain a radiation that would be penetrating and homogeneous.

To obtain the first of these two qualities it was necessary to secure an *x*-ray tube that would not only emit a ray bundle which contained the maximum of hard, that is penetrating, rays, but this tube must be capable of sustaining a steady output of these rays for several hours on end. This has been secured, both in the form of the Coolidge tube, and a special form of self-hardening gas tube, with an ingenious method of automatic regulation, which secures the maintenance of a fixed hardness for many hours. To secure an output of these hard rays it is necessary to pass through these tubes a current of far higher voltage than we have been in the habit of employing hitherto. The optimum voltage, taking many other factors into consideration, including the greatly enhanced cost and destructibility of tubes according to the increased voltage, has been found to be 180 to 200 kilovolts; that is, if at these voltages the absorption of rays at 10 cm. deep is 18 per cent. of the unit skin dose, it is only 19 per cent. at 250 kilovolts. The special apparatus devised to give this output, and to maintain it for long periods without breaking down, differs from those in general use in that the latter are designed to pass the maximum current through a medium soft tube for a short time, while the Erlangen technique requires the passage of a small quantity through an intensely hard tube at a very high voltage for long periods.

If dosage is to be accurate it must be capable of being measured—that is to say, it must be possible to state in terms of percentage what proportion of the unit skin dose is absorbed, or active, at varying depths in the tissues. To attain this the ray must be practically homogeneous, a ray, that is, which has been so thoroughly filtered from the rays of longer wave length that, in its passage through the human tissues or other media, it is not further changed in *quality*, or, as a corollary, is absorbed in fairly uniform percentages by each equal amount of the tissue or other substance. This homogeneity is obtained by filtration of the ray, and Wintz states that with the special gas tubes referred to above it can be secured by using a filter of 0.5 mm. of zinc (= 12 mm. aluminium); in tubes of the Coolidge pattern working at the same voltage and with the same equivalent spark gap it is necessary to use 4 mm. of aluminium in addition to the 0.5 mm. of zinc. When these hard rays pass through the tissues they undergo a weakening, or loss, through each successive centimetre. This loss is made up of absorption *plus* dispersion; dispersion takes place through the "secondary ray." Wintz divides these rays into three groups:

1. *Beta rays*, which are actually formed in the tissues; they have a small range of action, but are, however, extremely potent, and play a very important part in deep therapy.
2. *Fluorescent rays*, which are very soft, are caused by the rays impinging on the filter or skin. In deep therapy they can be neglected unless the filter is placed directly on the skin.
3. *Scattered rays*, which have the same quality as the primary ray, and may be regarded as automatically generated additions to this ray. They are the most important of the secondary rays.

Their generation is increased as the voltage increases, as the diameter of the bundle of incident rays is increased, and as the rays penetrate deeper and deeper into the tissues.

These facts can each be proved by first calculating what should be the active dose at any given depth under given circumstances: if the accuracy of these figures be tested by the iontoquantimeter it is found there is a definite error, and that the actual is greater than the calculated amount. This error is due to the progressively increasing action of the secondary rays. It is found that the relative absorption at a given depth is increased the further the anticathode is removed from the skin. But this increase is obtained only by greatly augmenting the time of exposure. For example, if the U.S.D. is reached in 35 minutes at a distance of 23 cm. it will require 165 minutes at 50 cm. and 372 minutes at 75 cm., or over 6 hours, because the intensity of *x* rays, like that of light, varies inversely as the square of the distance. Nevertheless, in comparatively superficial cancers, for example, scirrhus of the breast, vulva, etc., where the cross-fire method of application is difficult or impossible, where the tumour is very large, or where it cannot be accurately located, this method of application is often necessary.

Wintz states the time of irradiation is not shortened by increasing the quantity (milliampèrage) of current passing through the tube. The optimum is about 2 milliampères, as appears from the following table, for a Furstenan Coolidge tube:

M a. through Tube.	Percentage Dose at 10 cm. deep.
1.0	24.2
1.5	24.0
2.0	24.2
2.5	23·4
3.0	23.0
4.0	21.0
5.0	19.0
6.0	18.0

It has been argued that because the rays are so hard they penetrate without action, but the fact seems to be that it is because the rays are hard that they set up the important secondary, or scattered radiations. In this country we usually employ 4 to 6 mm. aluminium to filter the rays, instead of the equivalent of 12 to 16 as at Erlangen, and the voltages used are too low to generate them in sufficient quantities.

As to the relation of radium to deep *x*-ray therapy, it is to be noted that the action of radium is local, and does not extend beyond, at the outside, 3 cm. from its source. It follows, therefore, that to attack a tumour of any size a number of tubes must be buried in the growth, which will each produce an intense local necrotic action, but its area of influence rapidly diminishes till, at about one inch away, the dose received by the cancer cells is no longer lethal, but may be actually stimulating. If radium could be obtained in larger quantities it might be different, but as things are its use at Erlangen has been entirely abandoned, save where a purely local action, as in a malignant stricture of the oesophagus, is required.

2. *Biological.*

The theory on which the efficacy of *x* rays on malignant growths and on ovarian tissue depends has hitherto been based on the action of the rays in splitting up lecithin—in which cancer cells are exceptionally rich—with the liberation of cholin, an intense poison, which when set free in the cells kills them. Wintz has found that with his technique, and calculating the U.S.D. at 100, the percentage required to destroy the following tissues is—for

Carcinoma cells	100–110 per cent.*
Sarcoma	60– 70 ,,
Tuberculous tissue	50 ,,
Ovarian cells (to produce amenorrhoea)	35 ,,
Bowel (normal)	160–170 ,,
Muscles (normal)	170–200 ,,
Irritation dose for carcinoma	about 50 ,,

*Minimum, 90 per cent.

The following theory has been evolved by Dr. W. J. Turrell, of Oxford. It fits in with the work of Dr. Rigaud, Director of the Biological Laboratory of the Paris Radium Institute, and I am much indebted to Dr. Turrell for permission to mention it before his forthcoming work—in which it is more fully elucidated—is actually published.[1]

Kohler has obtained microphotographs of the dividing nuclei in the gill plates of the salamander by ultra-violet rays, and has shown that the chromatin substance in these nuclei is so opaque to waves of very short length as to appear as though it were deeply stained; he has proved the complete absorption of these short wave lengths by the chromatin. Light is only active when it is absorbed and it is only absorbed when its wave length is in resonance with—that is to say, when its vibration corresponds with—those of the atoms on which it falls (law of Grotthus).

Further, Rigaud has shown that certain cells are very sensitive to *hard x* rays and the gamma rays of radium. A subcutaneous lymphosarcoma can be destroyed without producing any skin changes except the falling out of the

hairs; this result must be due to a selective action of the rays on two particular types of cells—the sarcoma cells and the generating cells of the hair follicles. This selective action appears to depend, not on the nature of these cells, but to be due to certain states or physiological moments in their life, the best known of which is the state of reproduction. The special radio-sensibility of cancer cells is due to their indefinite reproduction. The essence of reproductive power is in the chromatin, and hard rays poison chromatin, acting probably by a process of oxidation or reduction, so setting free a ferment or toxin. If this toxin is liberated in small quantities—as by a slight action of the rays—the action on the other cells would appear to be stimulating; if the action is profound, cell death follows.

This hypothesis of a toxin explains the latent period before the effects of *x* rays manifest themselves, and as the presence of a toxin in the blood always tends to the formation of a specific antitoxin, there is here an explanation of the fact that in such constitutional diseases as leukaemia much benefit is often derived from the first course of raying, while each subsequent course seems to be less and less efficacious. It is known that when the blood of a leukaemic patient is submitted to *x* rays leucopenia follows, and attains its maximum after an interval of five to ten days. It is probable that this leucopenia is due to a leucolysin caused by the toxin formed in the blood in consequence of the action of the rays on those nucleated white blood corpuscles whose nuclei are in a specially radio-sensitive state at the time they are exposed to the rays, that is to say, those whose chromatin granules are undergoing karyokinesis.

Curschmann and Gamp have proved that the serum of a leukaemic patient, subjected to repeated raying for a long period, would, if injected into the blood of another leukaemic patient who had not been rayed, cause a destruction of leucocytes, but that the leucocyte count returned to what it was more rapidly after each injection.* Can this be explained save on the assumption of the formation of a "toxin" and "antitoxin"?

If further research serves to establish this theory as the true explanation of the action on the tissues of waves of very short length, does it not open the question whether all our methods of *x*-ray therapy—at any rate, as far as attacking deeper structures is concerned—have not been fundamentally wrong? It has been the custom to use divided doses of medium hard rays spread over a period, each dose being far short of the full lethal dose. In these circumstances have we not frequently only succeeded in creating so much toxin as to stimulate the remaining cells to further activity, and, by allowing time for the production of the antitoxin, to thereby minimize or destroy the value of subsequent applications?

Another intensely interesting speculation which arises is whether it would be possible to ray carcinomata, either artificially produced or naturally occurring in animals, and thus load the blood of the animal with the specific toxin, which could then be injected into human beings, either as a prophylactic or curative agent. There is a strong analogy between such a procedure and the production of diphtheria antitoxin in horse serum. A further question is whether it is possible, prior to treatment, to secure that the maximum number of the growing cells of the tumour should be in the physiological moment of reproduction. This might be effected by giving preliminary small doses of rays designed to liberate so much toxin as should be a stimulant. Latterly Wintz had been administering to all his malignant cases a preliminary copper ionization, with a view to the introduction of copper ions into the growth, so as to secure an increase of secondary radiations in the tumour. The majority of electrotherapists are agreed that it is impossible to introduce ions from without deeply into living tissue; yet Wintz claims benefit from his ionization. May it not be that, just as intrauterine, or even percutaneous applications of the constant current will often cure amenorrhoea, or delayed or scanty menstruation, by stimulating the cells of the Graafian follicles, so the passage of a constant current will stimulate karyokinesis in the cancer cells, and thus bring the maximum number possible into a radio-sensitive condition? For this purpose only a mild, and therefore painless, current would be required.

3. *Therapeutic.*

This deep therapy has been used successfully in the treatment of carcinoma, sarcoma, tuberculous affections of the peritoneum, bones, glands, etc.; to produce amenorrhoea and shrinkage of the growth in fibroids; in leukaemia and other blood diseases, and in hypertrophy of the prostate.

It is possible to determine by the iontoquantimeter the exact percentage of the U.S.D. that is active at varying depths in the tissues. Thus, with the U.S.D. at 100, and with apparatus and tube functioning well, the active dose at 10 cm. deep is about 18 per cent. Now, the uterus is situated at about the centre of the circumference of the lower abdomen, and approximately 10 cm. from the skin. If we take the lethal carcinoma dose as 110 per cent. U.S.D., it is obvious that, if treatment be applied from six or seven ports of entry, the rays being directed on to the uterus, the skin in each area will only receive the U.S.D., but at the centre of this converging bombardment a total of 6×18 or 7×18—that is, 108 to 126 per cent.—will be reached. Similarly, as the dose at depths other than 10 cm. is equally well known, it is but a matter of calculation, and consequent arrangement of the cross-fire, to secure the "carcinoma dose" on to any malignant disease so situated that the cross-fire method can be employed.

In malignant disease situated in or closely under the skin and where, therefore, this cross-fire method is not available, the problem is totally different. Let it be supposed that the case is one of scirrhus of the breast, or of vulvar carcinoma, where the disease extends only 3 to 5 cm. deep. Every cell of such a growth must receive at least the minimum dose (90 per cent. U.S.D.), but, with the 23 cm. focus distance and field of 6×8, the dose received by the cells at the lowest part of the growth is only about 60 per cent., and the irritation dose, which causes an increase in the growth of cancer cells, is just about this figure.

Seitz and Wintz have found by experiment:

1. That increasing the distance of the anticathode from the skin increases the percentage of rays that are active at a given depth. Thus at 3 cm. deep, and using a field 6 × 8 cm., the percentage of rays absorbed is as follows:

If the anticathode is	23 cm.	from the skin	...	60	per cent.
,, ,,	30 cm.	,, ,,	...	66	,,
,, ,,	50 cm.	,, ,,	...	70	,,

2. They have further proved that the depth dose is improved by increasing the size of the impact field. Thus at 3 cm. deep, and at 30 cm. distance, the percentage absorbed is as follows:

With an impact field of	1.5 × 2 cm.	...	47	per cent.
,, ,,	6 × 8 cm.	...	66	,,
,, ,,	10 × 15 cm.	...	77	,,

3. By a combination of these two factors—that is to say, by increasing both the distance of the tube from the skin, and also the impact field, it has been proved that at 3 cm. deep:

Size of Impact Field.	Distance of Anticathode from Skin.	Amount of Rays Absorbed.
9 × 12 cm.	30 cm.	74 per cent.
10 × 15 cm.	50 cm.	86 ,,
9 × 12 cm.	80 cm.	86 ,,
10 × 15 cm.	80 cm.	90 ,,
9 × 12 cm.	100 cm.	90 ,,
10 × 15 cm.	100 cm.	93 ,,

It is thus seen that it is possible to reach the minimal "carcinoma dose" even in the lower lying cells of superficial cancers by greatly increasing both the field of impact and the distance of the anticathode, but this can only be attained by enormously augmenting the time of exposure. If at 23 cm. the U.S.D. is reached in forty minutes, at 80 cm. the time required will be approximately eight hours. As far as possible the dose lethal to the cancer cells is given at one sitting, and the after-effects on the blood are combated by injections of one of the arsenic preparations.

The most important matter is to decide how far this treatment is an adjuvant to, or substitute for, operation. At Erlangen operation is practically entirely dispensed with, save in cases of primary carcinoma of the ovary, except where it is required for a subsidiary purpose—for example, colostomy before treating a carcinoma of the rectum, to ensure rest to and absence of irritation of the part, or gastro-enterostomy, or other short-circuiting operation, where obstruction is threatened.

Personally, I am uncertain whether at the present time the results of this deep *x*-ray therapy have yet reached such a point of certainty that it is advisable, in the patients' interest, to dispense with operations, but I am convinced that the severity of the operations can be minimized. In cancers of the uterus and cervix I believe the best treatment to be pre-operative raying. After six weeks the patient should be re-examined, and the local disease will then

* Wintz has succeeded in inducing amenorrhoea in a patient suffering from menorrhagia by a similar course of injections.

probably be found to be on the road to cure, and the parametria can be attacked. If operation be necessary, certainly Wertheim's is not required.

In scirrhus of the breast I believe the local removal of the growth to be desirable, but not the removal of the axillary glands. By taking away the filters one tends to spread metastasis, but these cases should have a pre-operative and a post-operative raying.

Cases of malignant disease may, from the point of view of treatment, be divided into four classes: (1) Easily operable; (2) operable, but where there is every probability of there being inoperable extension of the primary growth; (3) hopeless for operation owing to position—for example, head of the pancreas, spinal cord, etc.; (4) inoperable owing to fixation of organs, extension of the disease, etc.

In Class 1 I believe in operation, followed by deep raying, and in Classes 2 and 3 in deep therapy alone; in Class 4 it is very difficult to decide. Nothing, save perhaps alleviation, can be hoped for from deep therapy, and, after the position has been fully explained to the patient or his family, the decision must rest with them.

When I was in Erlangen I asked for statistics, but was told that, at any rate as far as malignant cases were concerned, it was as yet impossible to give definite figures. The reason is evident, for this form of treatment was begun only a short time before the war broke out, and was then in the purely experimental stage. During the war, though Professors Seitz and Wintz were able to carry on some experiments, they were not able to obtain all the necessary instruments to carry out treatment on a large scale. Investigations were pursued to ascertain the best form of generating apparatus, of filters and of tubes, to find out the exact dosage that would ensure the cessation of the menses, and would cause the death of malignant and other cells. The former result has been definitely attained. Wintz has published a report of 500 cases of uterine haemorrhage, due to fibromyomata, the menopause, and other causes, which have all been cured by one single treatment in each case. Dr. Ernest Stark, practising the same treatment in the provincial clinic at Weiden, reports 19 cases with only one failure, which was attributed to the use of an insufficiently powerful apparatus.

The failure or success of applications for such purposes is almost at once evident, but the position is different when the results of the treatment of malignant disease are under consideration. To speak positively on the subject of "cure" the standard of five years' freedom from recurrence after treatment is generally accepted; consequently cases treated subsequent to 1917 must be ruled out. But it was only about this date that the technique was perfected, or that sufficient instruments, tubes, etc., could be secured to treat a number of patients sufficient to afford the required data.

Again, it is to be remembered that the earlier a malignant case is subjected to deep *x*-ray therapy the better is the prognosis. But it is just these early cases that are also best from a surgical standpoint, and it is only natural that some time must elapse before an old and accepted treatment is supplanted by a newer one. Patients with cancer of the female generative organs go direct to the gynaecological clinic, of which Professor Wintz is the director, and can therefore be rayed when in the early stages of the disease, but with this exception the majority of cases of malignant disease treated by deep therapy are either primary inoperable cases, or patients with secondary deposits or relapses. These cases are naturally more unfavourable than early primary ones, and hence statistics would not be nearly as good as if it were possible to select purely suitable patients—as surgeons are able to do.

I saw several cases of malignant disease of the cervix and uterus which had been rayed as long as three and a quarter years before, in which there was no evidence of the disease to be detected on examination, and the patients had put on weight, felt well and were able to work—in fact, were apparently "clinical cures." I saw a man who had had a large fixed tumour the size of half a cocoanut on the left side of the neck; an excised piece had shown it to be a lympho-sarcoma. He had been rayed twice, the first time ten months earlier. When I saw him the lump was about the size of half a tennis ball, painless, and freely movable. It was apparently simple fibrous tissue. The man had lost his pain and dysphagia, and was well and working. A case of periosteal sarcoma of the head of the humerus showed, both clinically and by *x* rays, an equally good result, as did a case of scirrhus of the breast treated two years previously. In none of these cases was any operation performed, except the removal of a small piece for diagnostic purposes.

The chief assistant at Wertheim's clinic in Vienna, who was at Erlangen at the same time as I, told me the results of this treatment in cancer of the uterus or cervix are so good that Wertheim's operation is gradually being abandoned in that clinic; it must, however, be remembered that owing to the central position of the uterus in the body it is ideally placed for "cross-fire" application, which is the most favourable method.

It has not been possible to read all the literature—even if one could obtain it—which has in recent years been published in Germany on this deep therapy. Suffice it to say that analyses and criticisms of the method have been produced, not only by the Erlangen school itself, but also by such authorities as Wernekrose of Berlin, Martius of Bonn, Fraenkel of Freiburg, Döderlein of Munich, Stark of Weiden, and many others. In most cases both successes and failures are impartially described and efforts made to explain the one or the other. From what I have read and what I learnt from those with whom I talked on the subject (and while in Erlangen I had the chance of discussing the subject with the professor of gynaecology in the University of Barcelona, with the physicians in charge of the *x*-ray and radium department in the University of Stockholm, and with the chief assistant at the clinic of the late Professor Wertheim of Vienna) I have formed the opinion that all who have had *practical experience* of the Erlangen treatment are most favourably impressed by it. As far as I can see, its detractors are those who have prejudged it on theoretical grounds, or on account of bias because of sensational publications.

The general inferences to be drawn from publications—and among the writers are surgeons as well as radiologists—and from my own impressions may be briefly summarized as follows:

1. That this form of treatment is a fundamental and epoch-marking improvement on pre-existing methods of *x*-ray therapy, and is the technique to be adopted in all cases (other than purely superficial skin lesions) where this form of therapy is indicated.

2. That, as in all other treatments, the earlier a suitable case is treated, the better are the results.

3. That it is the treatment of choice in all cases of menorrhagia or metrorrhagia in patients over 38, provided that suppurative disease of the tubes or ovaries be excluded. Eden and Provis (*Lancet*, February 12th, 1921) are in agreement with the use of *x* rays in these conditions, though they differ from the German school in excluding cases of malignant disease. It must, however, be remembered that they were not employing the Erlangen technique.

4. All the foreign authorities agree as to the immense value in every malignant case of either pre- or post-operative raying, or both, according to circumstances, and the majority—excluding Professors Seitz and Wintz and their immediate disciples—recommend operation according to the conditions that I have laid down above.

5. Great use is made of deep *x*-ray therapy in tuberculous disease of the glands, bones, joints, bladder, and peritoneum as an auxiliary to other treatments. If in tuberculous glands there be a caseous focus, such glands will break down under the treatment.

Personally I am convinced that this new therapy has opened up a fresh avenue of treatment, and has enormously increased the field for the curative use of *x* rays. Much was hoped for, and much disappointment has been experienced in the past from *x*-ray therapy in malignant and other diseases, but the researches of Professors Seitz and Wintz into the production of homogeneous rays and their accurate measurements, and into the absorption of these rays at varying depths in the tissues, and the practical results obtained at Erlangen and elsewhere have, I believe, carried us far along the road the end of which is the satisfactory treatment of that which was previously considered hopeless, and has simplified and expedited the cure of many other conditions—for example, fibroids and menorrhagia—the treatment of which has, up to the present, lain solely in the province of surgery. The British Association for the Advancement of Radiology and Physiotherapy, in issuing a warning to the public in connexion with the Erlangen treatment for cancer, said:

"We are, however, of the opinion that a closer co-operation between the surgeon and the radiologist would lead to a clearer appreciation of the value of radiation in treatment, and that, in all cases, both surgery and radiation therapy should be considered with a view to making the fullest use of both."

Advance will only come by this closer co-operation. It is not enough for the surgeon to order pre-operative or post-operative raying as his special predilection dictates. Deep therapy opens a newer and a wider field, and establishes the position of the medical radiologist as one to be called into consultation with the surgeon over a case, and to co-operate with him in deciding whether it is one for operation, for deep therapy, or for both.

REFERENCE.

[1] *Principles of Electrotherapy and their Practical Application.* By W. J. Turrell. Oxford Medical Press.

CASE OF TRYPANOSOMIASIS FROM PORTUGUESE EAST AFRICA APPARENTLY CURED.

BY

GEORGE C. LOW, M.A., M.D., C.M., M.R.C.P.,

SENIOR PHYSICIAN, HOSPITAL FOR TROPICAL DISEASES, ENDSLEIGH GARDENS, N.W.,

AND

H. B. G. NEWHAM, C.M.G., M.D., M.R.C.P.,

WARDEN OF STUDIES AND DIRECTOR OF PATHOLOGY, LONDON SCHOOL OF TROPICAL MEDICINE, N.W.

BEFORE one can speak of a definite cure in human trypanosomiasis some years of perfect health must elapse after the cessation of all treatment. Suggestions, such as have recently been made, of curing patients by one injection into the spinal canal of salvarsanized serum are, to say the least, of doubtful value and tend to indicate that the maker of them is ignorant of the literature of the subject. Judged by the test of time indicated above, however, there are quite a number of cases of infection with *Trypanosoma gambiense* that have been treated in England with successful results and are still alive years after their infection. (Cases of Manson and Daniels.) It is right to state, nevertheless, that this happy result has not been attained in all cases even of that infection; we know of two patients who have died recently of sleeping sickness, even though well treated over prolonged periods of time.

In infection with *Trypanosoma rhodesiense* (including under this term Portuguese East African infections) the prognosis is very grave, and down to the present date perhaps only one case of a European[1] can be said to have been cured (Mr. H., a case of Dr. Daniels). We have recently heard that this patient is at present farming in Rhodesia and is enjoying perfect health. The next best result we know of to this was the case of G. (under the care of Sir Patrick Manson and Dr. Daniels), who lived for two years and three months after infection. Though thoroughly treated with antimony and atoxyl, this patient died of sleeping sickness with typical lesions in the brain.

We have now the records of another case, that mentioned in the title to our paper, who is still alive three years after acquiring the disease in Portuguese East Africa, and who is at present apparently well and in a good state of health. One of us (H. B. N.) saw this patient in Dar-es-Salaam in 1918 and has already published a note about him,[2] while later Dr. W. A. Murray, under the heading of "Notes on the Successful Treatment of a Case of Sleeping Sickness," gave further details of his treatment and stay in Durban up to the time when he was transferred to the South African Institute for Medical Research, Johannesburg, on October 8th, 1919.[3] From that time till April, 1921, when he was sent home to England, Dr. Watkins-Pitchford, the Director of the Institute, has had him under observation and has very kindly supplied us with the details of his stay there. Finally the patient reached England on May 17th, 1921, and came direct to the Hospital for Tropical Diseases, where he has been under our observation since.

History of Case.

The patient, as far as can be judged, was infected about October 9th, 1918, in the Lugenda River valley while on the march between Alto Molucue and Ngomano, Portuguese East Africa. On October 15th he reported sick with a temperature, but rejoined his battalion on the 19th. On the 20th he noticed a swelling in the right axilla and was admitted into Ndanda Hospital on October 25th with a temperature of 102° F. and treated as a case of malaria. From there he was transferred to Lindi Hospital (November 14th, 1918), where a patch of cutaneous erythema with infiltration was noticed in the right mammary region and a general adenitis was detected. An examination of the blood on the 16th by Captain Butler showed trypanosomes. On November 26th, 1918, the patient was sent to Dar-es-Salaam Hospital, where he was seen by one of us (H. B. N.). On arrival the patient was anaemic and stated he had lost weight. The pulse was rapid, the spleen just palpable. An erythematous rash was seen on the trunk. There were one or two well-marked rings, but generally the rash was of a blotchy character. No local oedema or adenitis was found. Kerandel's symptom was absent. There were no eye symptoms. The temperature on admission was 100.8° F.

Examination of the blood: Total red cells, 2,672,000; total white cells, 4,800: lymphocytes 26 per cent., large mononuclears 17 per cent., polymorphonuclears 51 per cent., eosinophiles 6 per cent. Scanty trypanosomes were found. Treatment with intravenous injections of antimony was at once begun, but the patient did not stand the first injections at all well. On January 9th, 1919, he was transferred by hospital ship to Durban, where he passed under the care of Dr. Murray. On admission there the following points were noted by Dr. Murray.

Dr. Murray's Notes.

Weight 11st. 4lb., one stone below normal. Weakness is marked, but he can walk about, and sleeps and eats well. There is no oedema, no hyperaesthesia of muscles on pressure (Kerandel's sign), no cramps or pains in bones. The heart appears to be normal; urine normal; spleen enlarged. There is general glandular adenitis, with a red rash over the right chest.

Blood smears: Numerous trypanosomes present, also B.T. malarial parasites. Blood count: Red cells, 3,300,000; white cells, 5,500; haemoglobin 55 per cent. Differential count: Polymorphonuclears 40 per cent., large mononuclears 20 per cent., lymphocytes 24 per cent., eosinophils 6 per cent., mast cells 1 per cent., myelocytes 2 per cent., leucoblasts 2 per cent., broken nuclei 5 per cent.; a few normoblasts were present. Blood pressure 120 mm. Hg.

A rabbit and guinea-pig were injected on January 28th, 1919, each with 1 c.cm. of the patient's blood. The rabbit showed trypanosomes after thirteen days, and died in ten weeks. The guinea pig first showed trypanosomes after eleven weeks, and died in nineteen weeks. The trypanosomes were polymorphic, and posterior nuclear forms were found. A prolonged course of treatment was commenced on January 21st, 1919, as recommended by Dr. Newham (see below), and this was kept up till the patient was sent to Johannesburg.

Dr. Watkins-Pitchford's Notes.

The patient was admitted into the South African Institute for Medical Research, Johannesburg, on October 8th, 1919. Weight 11 st. 1 lb. He was kept under continuous observation and treatment until May 7th, 1920, by Dr. J. H. Harvey Pirie. The examination of the daily blood specimens was undertaken by Dr. Annie Porter, who found a few *T. rhodesiense* (many of which were degenerate forms) upon the day of admission and upon each day, with one exception, up to October 17th, 1919. The numbers were small, 3 per cubic millimetre at most. Although daily examinations (thick films) have been made from the last-mentioned date until April 8th, 1921, no further trypanosomes have been detected.

It is worthy of note that trypanosomes had not been detected in the blood for forty days prior to admission to the institute, the last occasion upon which Captain Murray, of Durban, found them being August 29th, 1919. Although treatment had not been intermitted during these forty days, trypanosomes were found, as stated, upon each of the first eight or nine days of the patient's stay in the institute. The question arises whether the change in altitude and temperature associated with his transference from Durban to Johannesburg had brought about the reappearance.

On May 7th, 1920, the patient was allowed to go home (Premier Mine, near Pretoria), the treatment being continued by Dr. Gow, daily blood specimens being sent to the institute for examination. The patient again attended the institute, this time as an out-patient, from December 18th, 1920, to April 8th, 1921.

The administration of soamin and of antimony oxide were stopped shortly after his admission on October 8th, 1919, tartar emetic only being given. This was administered intravenously in 2 grain doses twice a week until the end of October, 1920, and once a week from then till April 8th, 1921.

His total medicamentation with arsenical and antimonial preparations from the date of commencement, November 19th, 1918, four days after trypanosomes were first discovered, till April 8th, 1921, has been:

Atoxyl	13 grains
Soamin	224 grains
Nucleoarsitol	13.5 c.cm.
Galyl	0.5 gram
Liq. arsenicalis—a little on hospital ship between Dar-es-Salaam and Durban	
Tartar emetic	363 grains
Antimony oxide	4.75 grains

The patient was also infected with benign tertian malaria when in East Africa. He had regular quinine administration during most of the time he was under treatment in Durban. Dr. Murray states in his notes of July 7th, 1919: "No malarial parasites were seen in blood films since January, 1919"; and on that date the administration of quinine was stopped.

No malarial parasites were found in the blood films while he was at the institute until, without any rise of temperature or other symptom, they were found in considerable numbers on March 17th, 1920, and in small numbers the following day. Quinine administration was recommended, and continued for a considerable period. Malarial parasites have not again been seen.

His weight at the cessation of treatment was 11 st. 3 lb., which is only a few pounds under his normal pre-war weight. During treatment he had been down to as low as 10 st. 3 lb. He did a

certain amount of office work after January, 1920, and the improvement in his mentality as the result of having some occupation was obvious. It was noticed, however, that he was very shaky and inclined to be "jumpy," and it was apparent that he was about reaching his limit of toleration of injections. During the whole time of the patient's association with the Institute his observation and treatment were entrusted to Dr. J. H. Harvey Pirie.

The patient left Africa on April 29th, 1921, and arrived in London on May 17th, 1921. He came direct to the Hospital for Tropical Diseases, where he has been off and on to the date when this paper was written (November, 1921).

On admission there was little, if anything, to note: no fever, no enlargement of glands, no splenic enlargement—in fact, no definite signs of the disease. It was resolved then to stop all treatment and watch very carefully the results, the patient in the meantime living an ordinary life, going and coming from the hospital from time to time, just like an ordinary person. Blood examinations were uniformly negative for trypanosomes and malarial parasites, and inoculations into guinea-pigs and rats gave negative results. The only thing that one could say was wrong was that the patient did not feel as strong as he used to, and there was a fine tremor just visible in the hands.

In July, 1921, during one of his spells in hospital, he complained one day of the sight in one eye; he was examined by Colonel R. H. Elliot, who reported that there was a patch of paracentral choroido-retinitis in the right eye, a condition, as far as we know, only twice before reported in human trypanosomiasis (a case of Sir Patrick Manson's, the first case of trypanosomiasis at the London School of Tropical Medicine, in 1902; and one by Morax in 1910 associated with cyclitis [4]). This observation is of very great interest, as it records a third case of this condition, though other eye lesions (for example, cyclitis) are not uncommon and have been described by Daniels and others. Whether the condition has existed from the beginning of the infection or came on later in the course of the disease is not clear.

The question now arises, Is the patient cured of his infection? It is difficult to say definitely whether this is so or not. One point against it is that the tremors of the hands seem to be definitely increasing and the general condition, though very good, on the whole does not appear in some ways to be perfect.

During the autumn months the patient was in the country and kept well, with no complaints. He stated on his return that he had had no fever whilst he was away, and had been able to play a hard game of tennis without in any way getting exhausted. He returned to hospital for another examination in November, and we got Dr. Gregg to do a lumbar puncture in order that an investigation of the cerebro-spinal fluid might be made.

The fluid obtained was perfectly clear, with no increase of pressure. Microscopically the cells were normal in number, a few lymphocytes were present, and there were no signs of trypanosomes. The Wassermann reaction of the fluid as well as of the blood was negative.

This would seem to indicate that cure has taken place, but it does not absolutely prove that this is so. All that remains, then, is to observe the case for a longer period of time before definitely coming to the conclusion that he is really free from his infection, and we propose to do this and not to give any more treatment for the present.

As the patient's home is in South Africa he is going to return there, and he will notify the authorities at the Institute for Medical Research at Johannesburg if any further symptoms develop. His future progress can also be controlled there, and it will be of great interest to see what that will ultimately be.

REFERENCES.

[1] *Lancet*, November 7th, 1919. [2] *Journal of the R.A.M.C.*, October, 1919. [3] *South African Medical Record*, November 8th, 1919, p. 326. [4] *Bull. Soc. Path. Exotique*, May, 1910, No. 5.

ACCORDING to the records of thirty-seven leading American insurance companies, the year 1921 was the healthiest in the history of both the United States and Canada. It is stated that during that year influenza almost disappeared from the United States and Canada, and that pneumonia decreased by 50 per cent. as compared with 1920. On the other hand, the mortality due to automobile accidents showed an increase of 15 per cent.; the number of deaths from this cause was in round numbers 10,000. Homicides and suicides also showed large increases, being four times more frequent than in 1920.

THE SIGNIFICANCE AND TREATMENT OF SOME ABNORMALITIES OF THE URINE IN CHILDREN.*

BY

A. DINGWALL-FORDYCE, M.D., F.R.C.P.EDIN.,

PHYSICIAN, ROYAL LIVERPOOL CHILDREN'S HOSPITAL; LECTURER ON DISEASES OF CHILDREN, LIVERPOOL UNIVERSITY.

WHEN we are called upon to give a diagnosis in the case of a child, and to follow this up with prognosis and treatment, we seek for assistance from family and personal history, we study symptoms, and we determine facts. History may be elusive, is often imperfect, and sometimes unreliable; the recognition and valuation of symptoms is largely a matter of experience and opportunity, and, lacking these, perspective is imperfect. But the determination of facts is in the hands of every medical graduate, and one important means of search for facts is thorough examination of the urine. Certainly, in any doubtful or continuing illness general examination is incomplete without chemical and microscopical examination of the urine. In this paper I wish to discuss certain facts in urine examination and certain difficulties in the determination of their significance.

Bacilluria.

The first is a fact determined by microscopic examination of the urine—the finding of pus cells and motile bacilli. What is the significance of the fact? In the cases of healthy children, are motile bacilli and pus cells commonly present in catheter specimens of the urine? We may certainly answer, No.

But points of clinical difficulty arise in attempting to advance a step further. In apparently healthy children we rarely feel called upon to use the catheter for obtaining a specimen of urine for examination. If careful precautions as regards cleanliness, retraction of parts, asepsis, etc., are taken, do we find pus cells and motile bacilli present in the urine of healthy children? The answer here must be guarded, because we do sometimes find, in cases of perfectly healthy children, rare cells resembling pus cells and a scanty number of various micro-organisms, which in many, if not all, cases are probably present because of unavoidable contamination. But we may safely say we never find large numbers of pus cells and immense numbers of motile bacilli. While, however, this is true of perfectly healthy children, it is not true of certain children apparently in fair normal health.

I have at present under observation seven children whose mothers consider them in fair average health, who are, in the ordinary acceptation of the term, well, and whose urine, on regular microscopical examination, is found to be swarming with motile bacilli and to contain a distinct amount of pus. I also have reports of four other children, seen in private during the past year and not within the past three months, and who were carefully, thoroughly, and apparently successfully treated for acute pyelitis, and on recent examination of the urine I find that in one out of the four pus cells and motile bacilli are present in large numbers, although the child is apparently well.

It is quite certain that there must be a considerable number of children—probably mainly girls—who are "well" or "fairly well," or, it may be, "out of sorts," who are going about, with or without medical attention, and in whose urine motile bacilli and pus are present in quantity. What exactly is the condition? Why is it present? By what dangers, if any, is it attended?

The condition is not tuberculous and it is not due to calculus. There may be no urinary symptoms of any kind, but enuresis sometimes occurs. Renal efficiency is good. The urine is acid; it may show perceptible haziness with cold nitric acid, or it may not. When a fresh drop of urine is examined under the high power of the microscope, pus cells are seen in considerable or large numbers, and along with them great numbers of motile bacilli. If a catheter specimen is obtained and a report prepared by a laboratory, these bacilli are determined to be of the "coli" group, or "para-coli" or "meta-coli" or "pseudo-coli" group![1] In some cases cocci are also present. No casts are present, and usually no blood cells and no crystals. The general nutrition

* A paper read before the Liverpool Medical Institution, October 27th, 1921.

is fair, but the child is not fat. There is no fever. Constipation is, I think, always present, and it is often most intractable. There is often extensive caries of the teeth. The children, as a rule, are not undersized. All my cases have been girls.

We have to deal with a chronic infection of the urinary tract by bacilli of the nature of some form of the colon type. Catheterization of the ureters in young children cannot be carried out, and, consequently, it is not justifiable to define more accurately the locality of infection.

Important points we must bear in mind are these:

In 90 per cent. of cases in which the urine of *healthy* female infants under 2 years of age is drawn off by catheter under complete aseptic precautions, bacteria are found in it, mainly bacteria of the coli group.[2] Similar examination in cases at a greater age shows the urine to be sterile.

A temporary bacilluria is not uncommon in critical, acute, and continued illnesses accompanied with marked prostration.

Acute pyelitis occurs twice as often in babies as in older children.

A great deal of importance is laid on the relation between full control of the bladder sphincter in girls and bacilluria. The frequency of urinary infection by *B. coli* in female infants and the frequent occurrence of the symptom of enuresis in older girls in whom this infection can be noted is striking.

There has been much discussion as to the method of infection of the urinary canal. In female infants it may be impossible always to prevent an ascending infection, but obviously digestive disorder and diarrhoea must favour the passage. In older children, likewise, all marked digestive disturbances must favour infection by one means or another.

In many of the cases of the type of which I speak—chronic "colon" urinary infection—no definite history of an attack of acute pyelitis can be obtained. We do not know whether many of the cases have commenced acutely or not. In some probably a chronic course is run throughout with eventual cure. In some, acute pyelitis first attracts attention. In none is the general health really satisfactory, though it is often impossible to tell from consideration of the general health and physical examination whether bacilluria and pyuria are present or not. Microscopic examination of the urine alone shows, and such examination should be made in the case of every ailing child with doubtful or continuing disability.

If the condition is found to be present and the child "well" she may be considered "merely a carrier" or the type of bacillus present "non-pathogenic." But a child with long-standing continuance of pus and coli-like bacilli in the urine is one in imperfect health, who may at any time develop acute urinary inflammation as a sequel to comparatively trivial affections in practically any part of the body. We know litt e of the interaction of bacteria, and a chronic "coli" urinary infection can be powerfully influenced by totally different infections elsewhere. Further, it is possible that a reverse train of events may occur in some cases and the urinary infection produce far-reaching secondary effects.

When we turn to treatment we must of necessity divide it into two categories: (*a*) preventive, (*b*) therapeutic.

Preventive treatment consists in such dietetic and general hygienic measures as will ensure good digestion, a healthy mouth, normal evacuation of the bowels, and the absence of irritation or excoriation in the region of the perineum. The importance of such treatment from every possible medical point of view is of course self-evident, as it must form the basis of healthy childhood. Its proper carrying out, however, requires attention to many details, none of which should be neglected by the medical man. Its essence is correct diet and no septic foci.

Therapeutic treatment is at present greatly influenced by two conditions—namely, the infrequency with which urine is examined microscopically except in acute cases or cases with marked urinary symptoms; and, secondly, the prominence given in cases of acute pyelitis to treatment by alkalies, urinary antiseptics and vaccines.

The importance of microscopic examination of the urine I have already emphasized.

Acute pyelitis in infants, in the absence of pyelonephritis, can almost always be cured by sufficient dosage of alkali; urotropine and salol are useful in some cases, and autogenous vaccines are sometimes of value in cases of older children and in relation to acute attacks or relapses.

But in the cases of which I speak—the chronic cases with few and indefinite general symptoms—all such methods of treatment are extremely unsatisfactory. The only means of eradication of the firmly installed bacilli is the restoration to health of the various bodily functions. By all means let us use the above remedies as they may seem indicated in the individual case, but, above all, let us employ scrupulous care in our search for focal sites of infection, for the nature of disturbances of digestion, and for any other abnormalities whatsoever in the child. Let us devote our first attention to the securing of healthy orifices, healthy mouth and healthy intestinal canal, and we have taken the first secure step forward in what, even then, is often a long-drawn-out cure.

Presence of a Reducing Substance.

The second abnormality with which I wish to deal is that of the presence of a reducing substance in the urine.

We are examining the urine of, let us say, a thin, rather poorly developed girl of 6 years, and we find a positive sugar reaction. Is she diabetic? From our undergraduate days probably we have remembered and been influenced by the statements—"sugar is rarely found in the urine in children," and "diabetes in a young child is almost always rapidly fatal." For the moment, however, let us wash the slate clean and ask ourselves with an open mind—Is it uncommon when testing the urine of a child for sugar to get a positive reaction? The ordinary clinical tests for sugar in this country I take to be Fehling's solution and Benedict's solution. Both in the method of their use and in the interpretation of results there are many possible fallacies. Fehling's solution I have used according to the second method mentioned by Cammidge; Benedict's solution as described by Benedict.

Having for some time been much impressed by the reactions obtained in many cases, I recently took 100 unpicked cases to determine impartially the results of examination. The urine of 50 consecutive out-patients and of 50 in-patients of a hospital were examined, the ages of the patients ranging between 2 years and 11½ years. Of these 100 urines, 19 gave a positive reaction, in all cases very slight with Fehling's solution, and in most, but not all instances, confirmed with Benedict's. In some of the positive cases (9) I proceeded further to a fermentation test with yeast and got positive reactions in 6. In others (6) I sent the specimen to the laboratory, and got reports in 2 cases that the reducing substance was not glucose and in 4 either that it was glucose or was probably glucose.

Thus in 19 per cent. a positive reaction was obtained with Fehling's solution, and in 10 out of 15 of these specimens, on further examination, evidence was obtained of the presence of sugar. In this particular series of 100 cases, then, evidence of sugar in the urine was certainly present in 10.

These results would show that it is not uncommon to find clinical evidence of the presence in small amount of a reducing substance in the urine of ailing children, and that in many of these cases the reducing substance is some form of sugar. In all of these particular 100 cases the amount present was small and consequently the test reactions slight. How are we to account for the textbook statement that "sugar is rarely found in the urine in children"? There are three possible explanations, and I think the full explanation includes all. They are:

1. Lack of systematic examination of the urine for sugar;
2. Variations in sugar content of the urine in different districts; and,
3. Estimation of test results as negligible or "physiological."

As regards testing for sugar, this is obviously desirable in all cases. The test with Fehling's solution, as also confirmation with Benedict's, is readily carried out, though attended with various fallacies so far as a positive diagnosis of glycosuria is concerned. The tests should not be hurried, and if found positive even in slight degree, definition of the reducing agent present as a sugar or not a sugar can be conveniently made by reaction with yeast in a urcometer tube. In the series of 100 cases just quoted, sugar was found to be the reducing agent present in two-thirds of the cases showing a positive reaction.

Is it likely that the sugar content of the urine varies in different parts of the country? Sugar, we know, is normally present in the blood and in the urine in amount conditioned by complex processes of metabolism. The liver, the pancreas and the thyroid—to mention only a few of the important organs—are closely associated with its absorption, utilization and excretion. The nervous system is intimately affected.

Varying conditions of climate, diet—of hygiene generally—often affect in a degree so marked as to be obvious the grosser results of differing function of these organs and systems—for example, goitre, asthma. We cannot deny the possibility of a difference according to locality in the degree of frequency of excretion in the urine of a reducing substance in detectable clinical amounts.

This leads to the third consideration: Should such minor test results as those I am discussing be considered negligible and physiological or not? I think they should always be noted, however slight and however fleeting they be, and an explanation sought. It is possible that most, if not all, children from time to time may give detectable sugar reaction on examination of the urine, but even so this forms no foundation for an argument that the detection of such a reaction is of negligible significance.

If once found, examination of numerous specimens should be made—of the twenty-four hours' urine and also of morning and evening specimens. In a large proportion of cases the presence of a positive test corresponds with indiscretion in diet or digestive disturbance, and disappears on correction of such. In other children with indigestion and constipation the reaction is completely negative. This point is in itself important, as possibly affording evidence of individual idiosyncrasy in carbohydrate metabolism.

Another important line of consideration is demonstrated by the findings in the following case.

A girl, aged 6 years, has been under observation in hospital for several months suffering from what I suspected might be progeria. The urine was healthy. She developed a large abscess in the face with considerable sloughing, and the urine showed a distinct positive sugar reaction. The abscess is now healed and the urine free from any reducing agent.

Here was a well-marked case of "sapraemic glycosuria." The precise nature of the reducing substance or substances in the urine during the period of suppuration was not determined, but the fermentation test with yeast was positive and the urine after the abscess healed was free from sugar. I am not now concerned with the nature of "sapraemic glycosuria," but with evidence that slight positive urine reactions should lead to search for a septic focus.

The precise nature of the sugar present in a specimen of urine cannot be determined without expert laboratory assistance; and the examination of blood sugar is, in my experience, valueless except in the hands of a skilled worker in constant practice. The fermentation test with yeast is, however, simple, and in the presence of a positive fermentation test we are faced with the possibility that the reducing agent may be dextrose (glucose or grape sugar), or laevulose (fructose or fruit sugar), or both. (I am not here dealing with nursing infants suffering from gastro-enteritis, in whose urine lactose may be present.)

It has been proved that the presence of laevulose in the urine may be regarded as a sign of liver inadequacy. Laevulose often appears in the urine along with dextrose in marked clinical cases of diabetes. It may, however, appear alone and be derived from cane sugar, honey, vegetables, fruits, etc., in the diet. When it appears it is, as stated above, to be regarded as a sign of liver inadequacy. If, with this in mind, we now turn to the clinical aspect of cases in which we find traces of a sugar present in the urine, we find that in many there is definite evidence of attacks of acidosis; in many there is a history of recurrent attacks of "biliousness"; and in most there is what one may term a full fatty diet. In fact, clinical evidence goes to show that in most there is evidence of strain on liver function, and it seems reasonable to conclude that the small amount of sugar in the urine is probably laevulose. This is further borne out by the satisfactory result of treatment by reduction of fat intake and, if necessary, restriction in amount of other elements in the diet.

But in a considerable proportion of the cases in which only a small amount of sugar is present in the urine, and in the great majority of cases in which the sugar is present in large amount, the sugar is dextrose—that is, the patient has glycosuria. What is the significance of this fact? It is outside the scope of this paper to consider cases either of intermittent or of persistent glycosuria in which large quantities of sugar can be demonstrated in the urine. In all such cases we obtain expert laboratory assistance, determine the level of the blood sugar and the nature of its reaction to a dose of sugar, and also the leak-point for sugar. But whatever methods of research we employ, and however favourable the results we obtain, our treatment must be that of diabetes mellitus.

It is with cases which show minor results on urinary examination that I wish to deal. In the majority of them there is no marked polyuria, and there may be no excessive thirst or wasting.

The presence of glucose in the urine is, we know, the chief sign of the existence of diabetes mellitus, but we also know that a small detectable amount of glucose in the urine may exist in the presence of sound health. Glycosuria is a term the interpretation of which in any individual case lies somewhere in a scale extending from sound health at the one extremity to diabetes mellitus at the other.

Cammidge, speaking of transitory, intermittent, and persistent glycosuria and diabetes, says: "It is important that it should be clearly recognized that each is but a phase of the same metabolic error, and that no hard-and-fast line can be drawn between them." He further speaks of a "pre-glycosuric stage." The obvious truth would seem to be: watch for the earliest beginning of abnormality and attempt to check it, as otherwise it may develop into uncontrollable disease.

The markedly outstanding lines along which to attempt to check development are dietetic—a well-balanced diet with the avoidance of constipation and intestinal putrefaction—and aseptic, the removal of all discoverable foci of infection.

My subject deals with small things and is mainly concerned with the beginnings of disease. For fuller development it requires blasts of clinical ozone to play around the figurative laboratory frog.

REFERENCES.
[1] Mautner, *Monatsschr. f. Kinderheilk.*, May, 1921. [2] Samelson, Ibid., August, 1921.

BLOOD PRESSURE OBSERVATIONS IN FUNCTIONAL BRUITS IN CHILDREN AND YOUNG ADULTS.*

BY

A. F. MARTIN, M.D., CH.B.VICT.,

BRADFORD.

DURING convalescence from various mild infections children often go through a period in which they exhibit a sustained rise in blood pressure, the development of a systolic apical bruit presenting the usual functional signs, and accompanied by some cardiac dilatation. This phase of raised blood pressure is sometimes present during convalescence even from acute rheumatism, and its possibility must always be borne in mind when judging of the nature of a systolic cardiac bruit in children after pyrexia.

The child is far more unstable in its circulatory equilibrium than an adult, and the heart muscle just recovering from the damage of pyrexia is in no case able to sustain the increased work that a slight hyperpiesis involves. A rise of 10 or 20 mm. Hg, which is often to be observed, makes a far deeper impression than in an adult and can be the cause of the cardiac condition. My contention is proved by the fact that as soon as the blood pressure falls the cardiac sounds become normal, in the absence of an organic endocarditis.

The normal blood pressure in childhood has been very little studied in this country. I find a record of 3,000 repeated observations by Judson and Nicholson [1] in America. The standard of systolic pressure they lay down is as follows:

From 3 to 6 years	90-92 mm. Hg
,, 7 to 9 ,, ...	up to 94 ,,
,, 10 to 11 ,, ...	,, 99 ,,
,, 12 to 13 ,, ...	,, 103 ,,
,, 14 to 15 ,, ...	,, 106 ,,

I have found that children are very susceptible to the action of the nitrites, and I have employed them in the following combination for reducing blood pressure in my cases: Sodium nitrite, liquor trinitrini, and spt. aetheris nitrosi in suitable dosage. In adults these are of no use. Appended are some notes of typical cases.

W. E., female, aged 9, had a mild faucial attack of diphtheria in February, 1916. Increasing tachycardia was observed as convalescence advanced, and she was kept in bed; ten days later, in spite of cardiac tonics, the heart had dilated beyond the nipple line, and a systolic bruit, not conducted, and heard in all postures,

* Being abstracts from a paper read before the Bradford Medico-Chirurgical Society, February, 1921.

had developed. Blood pressure 110. There was no albumin in the urine. Nitrites were given. Seven days later blood pressure was 95; the bruit and dilatation had gone. Six days later blood pressure was 96, and there was no bruit. The improvement in the heart did not occur until the blood pressure was lowered.

W. B., male, aged 5, had scarlet fever in June, 1919. There was cardiac dilatation on the eleventh day, with suspicion of an apical systolic bruit. On the twelfth day blood pressure was 100, and on the thirteenth 105. Nitrites were given; on the fifteenth day blood pressure 75, sounds clear, apex beat in the nipple line. On the twenty-fifth day blood pressure was 90, sounds clear; there was no albumin in the urine throughout. He was a highly strung child of a very neurotic mother.

S. D., male, aged 12, had fibrositis with pyrexia in February, 1916. He was the only child of neurotic parents. He had a sudden attack of severe pain in the back, with tenderness to the left of the spine in the lower dorsal region. His temperature was 100°, but was quickly controlled by salicylates. After seven days the heart was rapid and dilated considerably; the sounds were not clear, but he had no bruit. Seven days later there was no improvement, though he was kept in bed; a systolic apical bruit had developed; blood pressure 140. He was given the nitrite mixture, and after three days blood pressure was 120; bruit doubtful. For the next two days nitrites were not taken because of indigestion, and the boy was allowed up without my orders. I found the blood pressure again at 140, with dilatation and bruit more marked. After another three days' treatment the blood pressure was 115, with bruit much fainter. Ultimately he became quite well.

H. B., male, aged 7, had acute chorea in December, 1920. On the 26th the movements were very violent. Temperature 101°; blood pressure 103; there was a systolic bruit at the apex. The bruit and increased blood pressure persisted after the acute phase had passed. On February 1st he was able to walk, and I thought it safe to give nitrites. Blood pressure on February 1st was 105. The bruit was heard both standing and sitting, but was not transmitted to the back; it was intensified on lying down. On February 7th, after nitrites had been given for one week, blood pressure was 95; no bruit was heard in any position.

My conclusions, as a result of this experience, are as follows:

1. To take regular blood pressure observations in all cases of "impure" heart sounds after fever.
2. A rise in blood pressure, usually after, but sometimes during, the acute stage of an infection in children shows that a want of control of the arterial system is developing, and explains a functional bruit when it occurs.
3. If the heart condition in children is relieved by lowering the blood pressure, rest in bed can be dispensed with after sufficient rest has been taken to ensure that the heart muscle has repaired the temporary damage of the pyrexia.

To explain these cases is difficult. Three factors at least must be considered:

1. The patient's temperament. It is particularly the "nervy" children who suffer this disability. The neurotic element is a large one in modern etiology. Cannon[2] has proved experimentally that the suprarenal secretion is much increased in emotional stresses, such as fear and pain.
2. The action of the toxin upon—
(*a*) The arteries. Toxins are universally credited with a depressor action on the musculature of heart and arteries. I do not wish to question this. My cases are a fairly common exception to the rule that the blood pressure is lowered during an infection. It must not be forgotten, as pointed out by Allbutt, that the same causes may operate to produce hyperpiesis in childhood as in adult life. These may be more active after a pyrexia. But this does not disprove my main contention, that the heart condition improves *pari passu* with lowering the blood pressure.
(*b*) The endocrine system. It is not unreasonable to assert that its delicate balance can be temporarily at fault during the toxaemia of childhood's illnesses, and that transient degenerative changes are present in these glands during a fever. It is quite possible, too, that the toxin may exhaust the sympathetic nervous system which controls them. The frequent presence of a compensated acidosis in these cases will, I hazard, be explained in the same way.

The condition thus described is on all-fours with the common "D.A.H." of the soldier. The very name is a glaring example of hasty and slipshod thinking, focusing the attention on the heart instead of on the circulation as a whole. Derangement of blood-pressure control is the correct diagnosis; the heart is only involved in so far as it is overworked to maintain an efficient circulation. Earlier symptoms, suggesting hyperthyroidism, were common in these cases. In 1921 this phase has passed, and a raised blood pressure is often the only genuine sign of derangement that can be found, suggesting hyperadrenalism. The soldier was taken from sedentary life and drilled to dropping point for some months; he lived for some years on poisonous "dixie" tea and eternal stews, smoked endless cigarettes, suffered fear, lack of sleep, and usually several distinct pyrexias of known or unknown origin. It is no wonder that blood-pressure control broke down, and that when the vicious circle has been confirmed it takes years to undo by reorganizing the endocrine system and building up the sympathetic nervous system which has become exhausted.

REFERENCES.

[1] Nicholson's *Blood Pressure*, chap. ix. [2] Cannon: *Bodily Changes in Hunger, Fear, Rage, and Pain*, 1920. [3] Sir Clifford Allbutt: *Dictionary of Treatment*, Hutchinson and Sherren.

A CLINICAL TEST FOR THE PRESENCE OF CELLULAR ELEMENTS IN THE URINE.

BY

T. H. C. BENIANS, F.R.C.S.,

PATHOLOGIST TO THE PRINCE OF WALES'S GENERAL HOSPITAL, TOTTENHAM, LONDON.

THE object of publishing this note is to put into the hands of the medical practitioner or the nurse a simple means of ascertaining the presence or absence of pus, blood, or bacteria in the urine. The principle of the test is not new, but I have not seen it in standard works on clinical pathology, and from extended observations it seems to me that it should have a useful place in clinical work. This method will frequently reveal pathological conditions in the urinary system where none had been suspected, since it has a wider scope and a much greater delicacy than the clinical methods ordinarily in use in general practice, where a centrifuge and microscope are often not available. If the presence of cellular elements in the urine is shown by this test a further specimen must then be submitted to microscopical examination to ascertain their nature. If the test is negative it can, with a few rare exceptions, be stated that in this respect no further examination is required.

Cellular elements are not normally present in a freshly passed urine, if we except an occasional epithelial cell. If cells are present they may be either bacteria, or cells derived from the body. These latter may be casts from the kidney tubules, or epithelium derived from the urinary tract; or they may be either red or white blood cells, the latter almost invariably polymorphonuclear leucocytes.

Nature of the Reaction.—The test is made to ascertain the presence of peroxide splitting enzymes in the urine. These enzymes have the power of setting free oxygen from hydrogen peroxide, and the reaction in a fluid medium gives rise to the ebullition of gas bubbles. In addition to enzymes certain other bodies have the power of setting free the oxygen, but for our present purpose haemoglobin is the only one that need concern us. If hydrogen peroxide is added to normal sterile urine no effervescence occurs even after a considerable time has elapsed. It follows that if the addition of the peroxide leads to effervescence we may take it that some abnormal element is present in the urine.

Source of the Enzymes.—These enzymes are present in pus cells or leucocytes in large amount, and these, therefore, give a very free reaction. The enzymes are said not to be present in lymphocytes, but in any case these cells are rarely present, alone at any rate, in urine. Epithelial squames give little reaction, unless heavily infected with bacteria, but the deeper epithelial cells react more freely. Tube casts may react vigorously. Red blood cells give the reaction on account of their haemoglobin. Of the albuminous fluids fresh blood serum gives an active reaction, probably on account of some blood cells remaining in suspension in it, since other albuminous fluids such as hydrocele and ascitic are inert. The slight reaction usually obtained from an albumin-containing urine is probably due to the presence of casts and a few blood and pus cells such as are usually present in such conditions.

Bacteria.—In an investigation of the various bacteria isolated in the course of routine laboratory work for a considerable period I found that practically all of the bacteria, with the exception of the streptococcal group (which includes the pneumococcus), gave active ebullition with hydrogen peroxide when the cultures were treated directly with it. At the same time it was noted, when bacteria were grown on sugar-containing media (which they fermented with the production of acid), that they were liable to give a negative reaction. This point has to be considered in dealing with very acid urines, since the peroxide-splitting enzymes only act well in neutral or alkaline media.

Minimal Amounts Giving the Test.—These were ascertained experimentally, using normal urine as a basis and adding the foreign substances in appropriate quantities. The

sensitivity of the peroxide test in the case of blood and pus was compared with the guaiacum reaction. It was found that the peroxide test was positive with about one-twentieth the amount of pus that would just give the guaiacum reaction (using ordinary tincture of guaiacum). The guaiacum test was positive only where there was sufficient pus in the urine to cause a definite turbidity, but the peroxide test gave a positive reaction where no trace of foreign matter could be seen.

With blood the peroxide test was positive with about 300,000 red corpuscles per cubic centimetre of urine, the guaiacum and ozonic ether failing at anything below 1,250,000. To the naked eye the former amount could not be seen in the urine. In the case of bacteria the presence of the staphylococcus was demonstrable in as small numbers as 200 million per cubic centimetre, which number was not obvious to the naked eye except by very careful comparison with a control.

Similar results were obtained with *B. coli* and *B. paratyphosus* B.

Technique of the Test.—If the urine is strongly acid or alkaline to litmus it should first be neutralized by the addition of a few drops of dilute alkali or acid. The peroxide should be fairly fresh, not less than 20 volumes in strength—40 volumes is better—and not too acid in reaction. I have obtained by far the best results with the neutral 100 per cent. fluid issued by Merck's under the name of "perhydrol," as with this concentrated solution only a few drops are needed for the test.

Take about a third of a test tube of urine and add about a quarter of the amount of the 20 volumes peroxide solution to it. Stand the tube in a rack, not in direct sunlight, or spontaneous evolution will take place. In a strongly positive reaction bubbles start to rise immediately and form a permanent layer of foam at the top of the fluid. If the reaction is only faintly positive bubbles will gradually rise and form a thin layer on the top; this may take from fifteen to twenty minutes or longer if the urine is acid. A few bubbles lying on the meniscus are made more evident by gently rocking the tube to throw them down into the fluid.

All degrees of effervescence may occur between the two described. In a normal urine one or two bubbles may rise immediately after the addition of the peroxide, especially if the urine is warm, but there is no steady evolution of gas or formation of a layer of foam.

Sources of Fallacy in the Test.—(1) Accidental contamination of the specimen with bacteria is a frequent source of error since the ordinary specimen glass is as a rule grossly contaminated with bacteria. Moreover, in non-catheter specimens, if several hours old, there is certain to be a good deal of bacterial growth which would give a positive reaction. It follows that the specimen must be collected in a quite clean vessel, and unless a carefully taken catheter specimen is available the test should be carried out shortly after the urine is passed. In the case of females a catheter specimen though not imperative is advisable on account of the cellular and bacterial débris that may be present. (2) The ordinary peroxide solutions are likely to be definitely acid, and this may lead to error in several ways. If an unnecessarily large amount of the reagent is added the action of the enzymes will be inhibited. More than this, if carbonates are present, the acid will act on them and lead to effervescence and so to a faulty diagnosis.

Summary.

Peroxide splitting enzymes are derived from most cellular elements. Hydrogen peroxide is also decomposed by haemoglobin from red blood cells. Cellular elements are not present in normal urine; in pathological urines those most often present are red blood cells, pus cells, and bacteria. In nearly all cases the presence of these bodies or their derivatives can be shown by this test, even when present in amount very much smaller than can be detected by the clinical tests commonly in use. The test, however, does not differentiate between one form of cellular element and another; it shows with a very small percentage of error whether abnormal bodies are or are not present, and whether or not further investigation is needed.

The reaction is negative with the various crystalline deposits (with the already noted exception of carbonates).

NOVEMBER 23RD was set apart by the municipal authorities of Berlin for the extermination of rats. The owners of property in the city were ordered under a penalty to distribute on that day in appropriate places upon their property effective rat poison to the value of fifty marks.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

FRACTURE OF THE END PHALANX OF A FINGER, WITH RUPTURE OF THE COMMON EXTENSOR TENDON.

(*With Special Plate.*)

THERE is a device, known to many, for opening a clenched fist. It consists in forcibly approximating the tip of a finger to the first interphalangeal joint (by flexion). I have had a case recently of this kind. The *fons et origo malorum* was a coin in the closed hand of one person which another individual was desirous of releasing.

The aggressor in the struggle began by forcing the tip of the little finger towards the first interphalangeal joint (flexion). The result of this procedure was a swelling in the distal interphalangeal joint, which did not subside in a reasonable time. I accordingly made a radiogram of the joint. This showed that a portion of the bony substance of the dorsal proximal part of the distal phalanx was detached, and the result was incapacity to extend fully the end phalanx.

Treatment, which consisted of hyperextension for a few weeks, was quite successful, power to extend the phalanx fully being completely restored. The illustrations are radiograms taken before and after treatment. (See Special Plate.)

I have found an injury due to similar kinds of violence described under the name of "drop finger" or "mallet finger," but I think the interest in this case consists in the detachment of bone, which is shown in the radiogram, and which I am unable to find previously described.

I have to thank Mr. Hedley Marsh for helpful criticism.

Macclesfield. JOHN N. LAIRD, M.D.

TORN SPLENIC ARTERY—SPLENECTOMY.

T. G. was admitted into the North Lonsdale Hospital in a state of collapse, as a result of an accident, on April 26th, 1921. He had fallen into the hold of a ship, first 30 feet on to a plank, then bouncing off the plank and falling another 10 feet.

On examination there was obviously acute abdominal trouble, with dullness in the left flank. I at once opened the abdomen and found blood in the peritoneal cavity, the splenic ligaments were torn away with the splenic artery, the artery was torn at the exact junction with the spleen as if shaved off, but the spleen itself was practically undamaged.

I removed the spleen, ligatured the splenic artery, closed the abdominal wound, and the patient left the hospital on June 20th.

The accident was remarkable inasmuch as there was no other bodily injury at all. I attribute the peculiar separation of the artery to the sudden break in the fall when at 30 feet he bounced off the plank and thus snapped the artery.

On November 23th I had a blood film examined at the Yorkshire Pathological Society, the report of which was that the red corpuscles showed no abnormality, and were almost uniform in size and shape, and that the leucocytes seemed to bear the normal proportion to the red corpuscles. On the same date the patient seemed to be in very good health, normal weight 9 st. 4 lb., height 5 ft. 4 in., and apparently not missing his spleen in any way.

JOHN ARTHUR REED, O.B.E., M.B., Ch.B.,
Honorary Surgeon, North Lonsdale Hospital, Barrow-in-Furness.

AN OPERATION FOR THE RELIEF OF ASCITES, FOLLOWING CIRRHOSIS OF LIVER.

A MALE Hindu, aged 35, about twenty-five years ago had an attack of malaria lasting nearly one year. About ten months ago he suffered again from malaria, and since that time he noticed gradual swelling of the hypogastric region. This swelling increased, gradually extending to the whole abdomen. He had severe attacks of epistaxis; soon after his legs also commenced to swell. The patient is an inhabitant of a village about sixty miles from Kurduwadi, Deccan, India, the condition of which is insanitary.

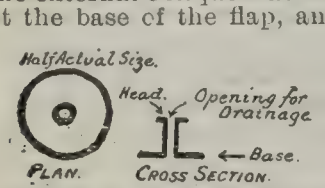
When he consulted me he complained of pain after food, he had dyspnoea while walking, and suffered from slight insomnia. On examination the chest was emphysematous

and the heart pushed upwards, due to fluid in the abdomen. The pulse was feeble. There was oedema of the face and lower extremities, and the abdomen was distended evenly; on palpation fluid and thrill were present. The abdomen was 40 inches in circumference, the liver was contracted, and the spleen enlarged. He was passing little urine, and that was high coloured, but with no albumin or sugar.

Injections of quinine bihydrochloride, 5 grains, were administered every third day; six injections were given in all, but there was no improvement. The abdomen was tapped three times, about every fifteen days, and 100 oz. of fluid were removed each time.

Operation.

The patient was tapped one evening previous to operation, and 100 oz. of fluid removed, but, as the pulse was weak and feeble, operation was not performed on the same day as the tapping. Under chloroform a semicircular skin incision, about 3½ to 4 inches long, was made midway between the umbilicus and left iliac crest, with the base downwards. A semicircular flap was turned down, the external oblique was incised for 1½ inches parallel to its fibres at the base of the flap, and the internal oblique was incised for 1½ inches along its fibres. The peritoneum was exposed and a puncture about the size of a quill carefully made, when an amount of ascitic fluid came away. A purse-string suture of catgut was put round the puncture through the internal oblique muscle, the head of the "stud," described below, was introduced into the peritoneal cavity, with the base of the stud resting on the internal oblique muscle. The catgut suture was tightened round the neck of the "stud." All haemorrhage was stopped by artery forceps or ligature. The external oblique came together by natural apposition, and was sutured with catgut. The semicircular skin incision was closed by silver suture and the wound dressed with double cyanide gauze.



Plan and section of "stud" made of silver. The principle of this stud is to drain the ascitic fluid accumulating in the peritoneal cavity through the opening into the surrounding tissues.

On the second day after operation the patient got up and walked, against advice; in consequence there was a serous discharge of fluid from the wound. A pressure bandage was applied for a few days until the skin incision had well healed. There was no complication of fever. On the third day the skin round the wound was slightly inflamed, due to application of tinct. iodi.

Within twenty-four hours of the operation the oedema of the body went down, and the abdomen was flaccid. The oedema of the legs diminished on the third day, and the facial oedema was greatly lessened. There was some oedema of eyelids and foot on the fifth day. The sutures were removed on the sixth day, and after twelve days the wound was healed. The patient left the hospital and returned to his own country about the sixteenth day, as he stated he was well, and did not complain any further of ascites. On the day he left there was still some fluid in the abdomen, but it did not cause discomfort.

JAMES L. BOCARRO, F.R.C.S.I., D.P.H.Camb.,
Chief Medical Officer, Barsi Light Railway
Kurduwadi, Deccan, India. Hospital.

THE CLASSIFICATION OF SQUINT.

AN interesting communication on squint by Lieut.-Colonel Smith in a recent number of the BRITISH MEDICAL JOURNAL recalled to me the classification of cases of squint which I was in the habit of giving to the medical students who attended my classes.

My general definition of squint is as follows: "When the axes of vision do not intersect at the point of fixation then there is squint." I divided the affection into two groups—namely, (*a*) mechanical squints, (*b*) functional squints. In the first the axes of vision are prevented from intersecting by such conditions as paralysis or paresis of one or more muscles of one or both eyes. To this class also belong those cases in which the presence of an orbital tumour prevents movement and thus interferes with the intersection of the axes at the point of fixation.

Functional squints are those in which there is no mechanical obstruction to movement, but where the defect is due to a difficulty of fusion. The commonest form of this variety is concomitant convergent strabismus. Under this head are also to be classed those cases in which there is marked defective vision in one eye, so that the intuitive perception of the third dimension of space is impossible. In general the squinting eye, when the condition is due to disease in one, diverges — that is, assumes the usual anatomical position of rest.

The exact classification of heterophorias is perhaps a little doubtful, and may be considered from two points of view. On the one hand, they may be regarded as due to deficiency in the nerve energy supplied to one or more of the extrinsic muscles of one or both eyes. If that view be taken they must be looked upon as cases of muscular paresis. On the other hand, if they are regarded as due to defective fusion centre, then they may more properly be considered as belonging to the second group.

Glasgow. A. FREELAND FERGUS, M.D., LL.D.

Reports of Societies.

HYPERTHYROIDISM IN FUNCTIONAL MENORRHAGIA.

AT a meeting of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine, held on January 5th, with the President, Professor HENRY BRIGGS, in the chair, Mr. ALECK W. BOURNE read a paper on hyperthyroidism in functional menorrhagia. There is, he said, a large class of women suffering from menorrhagia in whom no local signs of disease can be discovered in the pelvis. Clinical examination and curetting of the uterus both fail to reveal abnormality, and ordinary methods of treatment by drugs and organic extracts are useless in arresting the excessive haemorrhage. A series of cases of this type has been examined with a view to establishing hyperthyroidism as a cause, and defining a variety of functional menorrhagia as due to hyperthyroidism. Clinical examination of the patients was first made in order to detect those physical signs and symptoms usually associated with hyperthyroidism. The most prominent of these were loss of weight and nervous instability. Others less constantly present were increased pulse rate, slight tremors, and a tendency to sweat easily. Enlargement of the thyroid was occasionally present, but more often normal in appearance. Exophthalmos was only present in one case. The two pieces of evidence supporting the view of hyperthyroidism as the causal factor were, first, the increased basal metabolism, as determined in all cases by Dr. C. M. Wilson, and, secondly, the reaction of both the basal metabolic rate and the symptom of menorrhagia to the application of *x* rays to the thyroid gland.

Measurement of the basal metabolic rate (B.M.R.) differentiated the patients into two groups: (*a*) Those at or about the age of puberty (six cases only), who showed a normal or depressed B.M.R. in five out of the six, in spite of considerable thyroid enlargement in some of them; and (*b*) those patients who were sexually mature. All these cases (14 in all) showed a raised B.M.R. of about + 20 per cent., the lowest being + 14 per cent., and the highest + 46 per cent. Three were married, with menorrhagia dating from the last confinement. The uterus in these patients was distinctly smaller than normal. The suggestion was made that the normal hyperthyroidism of pregnancy had persisted with the production of a functional menorrhagia.

The second piece of evidence was the effect of *x*-ray application to the thyroid gland, carried out by Dr. G. Harrison Orton. The second group, sexually mature, reacted after a few doses of *x* rays to the extent that eight out of ten had the B.M.R. reduced to within normal limits (— 10 per cent. to + 10 per cent.), together with the return of normal menstruation, while the two patients whose B.M.R. persisted at a high figure showed no menstrual improvement. In cases where a relapse occurred the B.M.R. rose *pari passu* with the return of menorrhagia. The group at or about the age of puberty examined after *x*-ray application were too few, but of the four three had shown no improvement.

Dr. HARRISON ORTON said that all the cases described by Dr. Bourne, with one or two exceptions, had been treated in exactly the same manner, the procedure being as follows: a dose of 1/2 B or 5 X was given once a week for three doses, the filter being 1 mm. of aluminium and four layers of wash leather. After this, doses of 4/5 B were given once in three weeks through a filter of 3½ mm. of aluminium and wash leather as before; rays should be hard, not less than 9-10 on the Bauer qualimeter. The average number of doses was about eight. It was important that no erythema of the skin be produced, as this was likely to lead to the formation of telangiectasis in the skin, which might become very unsightly. In one of Dr. Bourne's cases, and in another case of Graves's disease, he had seen a tendency to myxoedema produced after eight such exposures, so he thought it advisable to have the basal

metabolism tested again after six exposures; on the other hand, some cases had had considerably more than eight exposures without improvement, so that the amount required seemed to be very variable. He thought it should be remembered, too, that cases of Graves's disease, which had had no *x*-ray exposures at all, had been reported, in which myxoedema developed subsequently. He had no doubt that the estimation of the basal metabolism would eventually lead to a much more accurate dosage being determined.

Mr. BECKWITH WHITEHOUSE read a short communication on salpingotomy *versus* salpingectomy in the treatment of tubal gestation. He pointed out that in all cases of tubal mole the attachment of the mole to the tube is small, and that the rest of the mole can be easily detached from the wall. These considerations suggested the possibility of preserving the tube after removal of the mole from the tube *in situ*. In a series of ten cases he incised the tube, removed the mole, and controlled the bleeding by suture, and then removed the tube for examination in detail for evidence of inflammatory change. In all the tissues appeared normal. Since then he had removed the gestation and sutured the tube in five cases, with apparently satisfactory results. He thought probably removal of the tube in cases of rupture was the better procedure, but in cases of tubal mole and tubal abortion salpingotomy appeared to be worthy of a trial.

Mr. JOHN B. HUNTER made a short communication and showed microscope slides from a case of general vascular carcinoma. The patient was a woman of 35, who had had six weeks' history of rectal and vaginal pain before admission to University College Hospital under Dr. Blacker. There was no history of bleeding, but there had been rapid wasting. Examination revealed infiltration of the vaginal walls down to the urinary meatus, the cervix appeared nodular, bleeding slightly on examination, but there was no ulceration. The only treatment thought likely to influence the condition was radium, and although there was apparently considerable improvement under treatment the patient remained in an exhausted condition and died. On *post-mortem* examination there was found a deposit of growth on the chordae tendineae of the mitral valve. The pleura, lungs, spleen and liver contained deposits of growth. Douglas's pouch was closed by adhesions in which growth was present. Microscopically, all the organs examined showed the presence of growth, and in the broad ligaments was widespread growth; some of the vessels were blocked by growth, some had central cores of growth with circulating red cells surrounding them. Mr. Hunter thought the peculiar distribution of the growth throughout the vessels of the body justified the term of a general vascular carcinoma.

Mr. BECKWITH WHITEHOUSE showed a specimen of tubal lithopaedion, the patient being a woman of 45, who had had two children. Fifteen years before being seen by Mr. Whitehouse she had had what was described as a very bad miscarriage followed by an acute illness, which had kept her in bed practically for three months. There had been no subsequent pregnancy, and the periods became regular, although profuse. Attacks of severe cystitis occurred at intervals for several years, and the diagnosis for renal calculus had been made five years before Mr. Whitehouse was consulted. The specimen showed the appearances of a typical lithopaedion corresponding to a gestation of about three months; the cranial bones, vertebrae, scapula, pelvic girdle, and certain digits were all recognizable on the surface. The patient made a good recovery, but five months later died from double pyonephrosis.

TREATMENT OF PSYCHOSES.

IN the Section of Psychiatry of the Royal Society of Medicine, on January 10th, with Dr. R. PERCY SMITH in the chair, Dr. R. G. ROWS gave an address on "Modern methods in the treatment of psychoses."

Dr. Rows said that there did not seem to be any basis for a scientific distinction between the psychoneuroses and the psychoses, although such a distinction might be useful from a clinical or descriptive standpoint. If it was intended to speak of an organic basis for psychoses, they must be considered from the earliest moment of their appearance and must not depend upon examinations which had been made a number of years after the trouble began, for in later stages there might be very definite changes in the central nervous system. From the point of view of recoverability, there was no distinction between the two things at all; both were recoverable if treatment was applied in the early stages, and were difficult if treatment was long delayed. All mental illnesses existed for a long time before they were obvious to those associating with the victim. By mental illness Dr. Rows meant a condition in which there was a disturbance of the ordinary mental activities, such as proceeding, thinking, feeling, judging, giving attention and assessing values. The patient himself was the first to recognize an abnormality. Sometimes there was definite disturbance during the night, but apparent normality in the daytime, until later the abnormality extended to relationships in the world.

Freud counselled that symptoms should be regarded merely as directing posts indicating lines of investigation, and this investigation would show the cause of the symptoms manifested. He himself found symptoms to be of extraordinarily little value in understanding a case. If the wildest deliriums were analysed some experience would be found in the earlier life of the patient to account for the form which the disorder assumed. Once the mental illness was established, with a dominant emotional tendency, every incident of the past which had been accompanied by a similar emotional state added its weight to the disturbing influence. His contention was that the emotion in all such cases was a normal reaction to the stimuli which caused the mental disturbance. The sequence of stimulus, association, inhibition, and reaction, although worked out possibly in an exaggerated form, was the product of the old mechanisms; no new mechanism was introduced into the evolution of the psychosis. The ordinary symptoms relied upon for the diagnosis of the various types of mental disorder were as a rule secondary developments. Mental illness was present before the delusion or the hallucination arose. As time went on, the repetition of the stimulus or the recollection of the stimulus brought about a habit of thought from which it was exceedingly difficult for the patient to escape. The most trifling cause was sufficient to set in motion the memory mechanism, and the patient thereupon fell into a state of terror or whatever the emotional manifestation might be.

Dr. Rows went on to say that it was impossible to understand mental illness by considering the psychic side alone. Every experience which crossed the threshold of consciousness had three results: an intellectual perception of the fact, an emotional reaction, and a physical reaction. The emotion of acute fear, for example, was associated with a disturbance of practically every organ of the body, quite as the normal result of the stimulus. Many of the symptoms of organic reactions in patients were simply physical changes connected with the expression of the emotions, and did not indicate any definite physical disease; they were natural consequences of the emotional state in which the patient found himself. Mental illness was not merely the result of a change in the nervous system; if the mental processes were to be understood the organism must be taken as a whole, or, at least, if attention was concentrated on the nervous system, its normal reactions must be very carefully worked out.

In the course of a brief discussion the CHAIRMAN expressed the opinion that Dr. Rows had been too sweeping in his suggestion that symptoms were recognized by the patient long before anybody else recognized them; in a good many cases the patient did not recognize the position at all. Dr. W. H. B. STODDART believed that Dr. Rows's method of approach was the correct one, although he thought it would be a long time before it came into general employment in the asylums. It was necessary to go back to a very early age to find the influences which prepared the soil for the subsequent breakdown.

Dr. H. CRICHTON MILLER said that the contention that in psychoses we constantly saw the normal reactions of the mind was rather discounted by the large number of mechanisms which were recognized as being normal in childhood but abnormal in adult life. It might be perfectly normal for the child to indulge in phantasy, but if this process continued or recurred in the adult a psychosis was apt to develop. To say that this regression to a puerile experience was due to a normal mechanism was only true in a limited sense; it was a regression, not a progressive reaction to experience, and therefore was abnormal.

Dr. Rows, in reply, disagreed with Dr. Crichton Miller, and claimed that the various emotions, such as remorse and fear, were normal reactions of the adult as well as of the child. They were part of a defensive mechanism which certainly appeared first in childhood, but remained with the individual throughout his life.

MATERNAL MORTALITY.

THE fourth meeting for the session of the Ulster Medical Society was held on January 12th, the chair being occupied by the President, Dr. ROBERT HALL.

Professor C. G. LOWRY read a paper entitled "Maternal mortality: a retrospect." Child-bearing, he said, was no doubt a physiological process, but it was not for the woman's own benefit, as other physiological processes were, such as eating, breathing, urination, etc.; it was for the benefit of the nation. It was incumbent, therefore, on the nation to see that the process was as safe as science could render it. Mortality had fallen in surgical work, and sepsis had practically been banished; it had also decreased in such affections which threatened the human race as tuberculosis, but the mortality from childbirth was still too high and had not fallen in at all the same proportion. In Ireland in 1920, 550 deaths had occurred attributable to child bearing, and of these 46 per cent. were due to sepsis. Deaths per 1,000 births in England and Wales had even increased; they were 4.81 in 1908 and 7.6 in 1918; this latter figure was probably due to influenza. In Ireland the mortality rate per 1,000 had varied from 5.62 in 1914 to 6.26 in 1920. No corresponding diminution followed the introduction of antiseptics or aseptics; it was 5.5 per 1,000 in 1850, 4.6 in 1860, 4.9 in 1870, 4.0 in 1880, 5.7 in 1892, 4.4 in 1902, and 4.9 in 1912. No diminution was found in the United States of America, nor in fifteen other countries. In Scotland it had risen from 5.0 in 1870 to 6.1 in 1915. England had a present average of 1 maternal death for every 250 births, Ireland 1 for every 191, Wales 1 for every 179, and Scotland 1 for every 175. Mortality from puerperal sepsis in England was 2.56 per 1,000 births in 1881–90 and 1.39 in 1911–14; in Wales, 3.11 and 1.67 in same periods; in Scotland, 2.42 and 1.44; in Ireland, 2.83 and 2.01. The death rate from accidents and diseases had altered very little.

Professor Lowry then gave a graphic account of the Vienna school in its earlier days and of the struggles of Semmelweis. He pointed out that instead of obstetrics being indebted to surgery for its rules and borrowing guidance from it in a belated fashion, if Semmelweis had received the support of an educated and unenvious profession obstetrics would have led the way to aseptics fifty years before surgery had learnt its lesson. He then laid down the lines of advance in the future, the use of the ante-natal clinic, which was now in full work at their maternity hospital, the necessity of endeavouring to prevent and anticipate trouble, such as eclampsia (a condition more easily prevented than cured), the advisability of having cottage maternity hospitals in every district, and other recommendations. Anaesthetics and antiseptics had proved very doubtful benefactors in midwifery; they encouraged interference when interference was harmful. The speaker paid a grateful tribute to the work of Mr. Victor Bonney, and for his inspiring help in this subject.

Dr. W. R. MACKENZIE read a note on "Rupture of Caesarean section scar in subsequent pregnancy," and showed the specimen of the uterus which he had successfully removed. A woman, aged 28, healthy, was delivered by Caesarean section in 1918 for contracted pelvis by Mr. John Campbell, and again in 1920; in her third pregnancy labour began on September 20th, 1921, and after eighteen hours she was operated on by Dr. Mackenzie. She had no sign of collapse or of internal haemorrhage; he found the dead foetus and placenta free in the abdominal cavity, and a large rupture, extending the whole length of the previous scars, in the anterior surface of the uterus; the uterus was removed by subtotal hysterectomy, and the patient made an uninterrupted recovery. Dr. Hall of Monaghan, who had assisted in the previous operations, assisted also in this one.

DRS. STOREY, TRIMBLE, RENTOUL, GAUSSEN, SHAW, THOMAS HOUSTON, offered criticisms and remarks on both papers, and Professor LOWRY and Dr. MACKENZIE replied.

ACUTE INTESTINAL OBSTRUCTION.

A MEETING of the Manchester Pathological Society was held on December 8th, 1921, with the President, Mr. J. HOWSON RAY, in the chair, when Mr. D. P. D. WILKIE of Edinburgh read a paper on acute intestinal obstruction. Mr. Wilkie first insisted on the distinction which must be drawn between simple obstruction of the lumen of the gut, and obstruction *plus* interference with the blood supply of a segment. He passed on to consider the question from the standpoint of the factors causing death in the three main types of intestinal obstruction—by (1) simple obstruction of the lumen in its continuity, (2) closed-loop obstruction, and (3) strangulation. In the first variety a clear distinction could be drawn between high obstruction with copious vomiting and an early fatal issue, and low obstruction with slowly increasing toxaemia. From experimental data it appeared that the absorption of toxins was a relatively slow process through unbroken intestinal mucosa, and that emptying of the bowel was necessary only in late cases. The toxin probably belonged to the proteose group, and retention of it in the upper jejunum was associated with most danger. In the closed-loop obstruction, most typically seen in acute obstruction of the appendix, toxaemic symptoms depended on the presence of faecal matter within the closed loop. Putrefactive changes in the retained faecal matter gave rise to profound toxaemia and to gangrene of the wall of the loop. When no faecal matter was present in the loop toxaemia was absent, and a mucocele or at most a slowly forming empyema of the loop resulted. In cases of strangulation shock was the primary and dominant factor, and death might result before toxaemia was demonstrable. The essentials of treatment consisted in prompt operative interference, minimizing shock by the free use of morphine, subcutaneous saline, and gas and oxygen anaesthesia. Rapid and conservative operating was necessary, and post-operative administration of saline subcutaneously, gastric lavage, and pituitrin and enemata were further measures which should be taken to ensure an early evacuation of the toxic content.

The lecture was illustrated by means of lantern slides showing charts, photographs of experiments, and water-colour drawings of specimens.

PRE-ANAESTHETIC INTOXICATION.

A MEETING of the Scottish Society of Anaesthetists was held at Glasgow on November 26th, 1921, in the Hall of the Faculty of Physicians and Surgeons, and Dr. J. JOHNSTON, of Aberdeen, the new president, read his inaugural address upon the subject of "Some pre-anaesthetic intoxications." The types of intoxication discussed included the various drug habits, alcoholism being considered at some length as being fairly typical and most likely to give trouble to the anaesthetist. The pathology was briefly outlined, and the possibilities of preliminary curative treatment were reviewed, particularly as to the reduction of acidosis; the value of the judicious use of pre-operative hypnotics was emphasized. The intractability of the alcoholic patient under general anaesthesia was regarded as being due mainly to defective oxygenation; the chief danger was paralysis of the medullary centres and heart failure. The choice of anaesthetic was discussed, methods combining the administration of oxygen with the various mixtures of ether and chloroform being preferred in most cases, the chloroform to be used as sparingly as possible. The danger of post-anaesthetic acidosis was noted and its prevention discussed. Variations from this type in the case of other drug habits, such as morphinism and cocainism, were mentioned, and the question was raised as to the possibility of anaesthetic troubles due to the habitual use of such drugs as aspirin. The late effects of shell-gas poisoning as affecting anaesthesia were also shortly reviewed.

Dr. JOHN ANDERSON, Pathologist, Victoria Infirmary, Glasgow, submitted to the society the clinical facts of the cases of death during the administration of anaesthetics which had taken place in Glasgow during the past thirteen years. Statistics of 417 cases were presented, showing the sex, age, and condition of the patient, the anaesthetic used and time of administration, the surgical operation or disease for which the anaesthetic was administered, and the opinion as to the nature of death. The paper was freely discussed by the members present.

CELLULOID SPLINTS.

AT a meeting of the London Association of the Medical Women's Federation on January 10th, at the Elizabeth Garrett Anderson Hospital, with Mrs. FLEMING in the chair, Dr. CHARLOTTE BROWN gave a description of the ambulatory treatment of tuberculous disease of bones and joints, and showed splints used by her at the High Beech Hospital, which has been established in the last two years by the Essex County Council for the treatment of cases of non-pulmonary tuberculosis. The object of her demonstration was to emphasize the many advantages of celluloid splints made on the Alton pattern for cases of bone disease where

activity had been arrested and where a limited amount of protected movement was beneficial. The celluloid splints were made from a plaster cast taken from the patient, so that they could be most accurately fitted. They were extremely light, very durable, and could be washed as easily as a dinner plate. They were not affected by the heat of the body, and the danger of the inflammability of celluloid had been overcome by mixing calcium chloride with the celluloid solution. Dr. Brown described the making of a splint in minute detail, and explained how easy this was. The time needed for the drying of the thirty or more layers of celluloid which had to be painted on was probably the reason why such splints were expensive to buy; when made at home the painting on of the celluloid took very little time. She added that light splints, such as she showed, could probably be employed with advantage for other than tuberculous conditions. They could be used for cases of infantile paralysis with great benefit, since the correction of malposition with the allowing of a certain amount of muscular action was very advantageous.

THE annual meeting of the Harveian Society was held at 11, Chandos Street on January 12th. The formal business having been completed, the retiring President, Dr. G. de B. TURTLE, delivered his address entitled, "Some points on spasm in the alimentary tract." The thanks of the Society to the retiring President were proposed by Dr. ROUTH and seconded by Professor LANGMEAD, and carried by acclamation. The Society then expressed its hearty approval of the work of the other officers, and Dr. Frankish replied on their behalf. The new President, Sir William Willcox, K.C.I.E., was then invested and installed in the chair.

Reviews.

SEX RELATIONS AND BIRTH CONTROL.

THE speech on sexual relationships which Lord DAWSON OF PENN was invited to deliver at the Church Congress at Birmingham last October has been published in a pamphlet entitled *Love—Marriage—Birth Control*.[1] The subject matter, as he says in a foreword he has written for the pamphlet, "aroused widespread interest and some controversy." The reports published at the time, he adds, being condensed, indequately and in some instances incorrctly set forth the views he championed. It is satisfactory therefore to have an authentic version, and by reading it in its entirety misapprehension may be avoided. We propose here to give an outline of what we understand Lord Dawson's argument to be.

The first part of the speech was devoted to the study of the significance and purport of sex love in a well ordered and Christian community, and provision for its healthy outlet. Sex love, says Lord Dawson, should be the physical expression of a lasting affection, blended so as to form a union of body, mind and spirit. Further, it should be associated with the love of and desire for children. To save time the speaker dealt with the problem of sex love and not with that of child love; and with sex love in relation to marriage and not with illicit intercourse; though he notes that if in any community marriage is difficult or late of attainment an increase of irregular unions inevitably occurs.

Lord Dawson considers that people need more knowledge of the scientific bearings of sex relations, and more clearly defined guidance in their rightful practice. He finds that people talk about instructing the young in these matters when, unfortunately, they are neither clear nor agreed amongst themselves. The Anglican Church, in the Marriage Service, appears, he says, to imply that marriage exists for the purpose of giving people who cannot be continent the best way out; while the Lambeth Conference seemed to condemn sex love as such, and to sanction it only as a means to an end—procreation. To Lord Dawson, on the other hand, the love indicated by the Lambeth Conference is an invertebrate, joyless thing—not worth having. "The churches will never gain the allegiance of the young unless their attitude is more frank, more courageous, and more in accordance with reality." "Romance and deliberate self-control do not, to my mind, rhyme very well together." "If sexual union is a gift of God it is worth learning how to use it." It should be cultivated so as to bring physical satisfaction to both, thus constituting a firm bond between two people and making for durability of the marriage tie. Passion, Lord Dawson continues, is a worthy possession; most men who are any good are capable of passion. But passion must not be confounded with sensuality. The real and effective restraints to passion are "a loving and sympathetic companionship, the privileges of parenthood, the exacting claims of career, and that civic sense which prompts men to do social service." Therefore Lord Dawson would like to add to the objects of marriage in the Marriage Service the following statement: "The complete realization of the love of this man and this woman, the one for the other."

Passing on to deal with the subject of birth control, the speaker began by pointing out that birth control is here to stay, and that as the Roman Catholic Church with its authority and discipline cannot check it, it is most unlikely that Protestant churches could do so. Absence of birth control means, according to Lord Dawson, late marriage, and late marriage means illicit intercourse with all its baneful consequences. The suggestion that the only birth control justifiable is voluntary abstention from connubial relations is dismissed with the statement that "such abstention would be either ineffective, or, if effective, impracticable and harmful to health and happiness."

In discussing artificial control, Lord Dawson says that it is no more unnatural to control conception by artificial means than to control childbirth by artificial means. The only question is whether these artificial means are for the good or harm of the individual and the community. Contraceptives do harm when they are used to render unions childless or inadequately fruitful. They may do good by limiting the number of children and spreading out their arrival in such a way as to serve their true interests and those of their home. There is no evidence that the use of contraceptives leads to excessive indulgence: by the time and circumstance of their application they involve prudence and control. Lord Dawson appears to favour a family of four born at proper intervals. In the view of other authorities also this is the minimum of children that should be born of every marriage if due allowance is to be made for deaths in infancy and childhood.

The reasons which lead parents to limit the number of their children are sometimes selfish, says Lord Dawson, but more often honourable and cogent. He gives the following: The desire to marry and to rear children well equipped for life's struggle; limited means; the cost of living; burdensome taxation; and, amongst the educated classes, the desire of women to take a part in life and their husbands' careers. Furthermore, Lord Dawson asserts that it must be admitted that baby after baby every year or eighteen months wears and often exhausts a woman's strength. It is at this point that we venture to raise two questions. Is it true, in the first place, that the average woman is exhausted or worn out by having a large family? Secondly, can Lord Dawson's other reasons be distinguished easily from forms of selfishness? Another writer[2] has given the reasons commonly adduced for restricting the number of births succinctly: "First, economy; second, comfort; third, safety; fourth, race welfare." And this writer has no difficulty in disposing of the first three reasons to his own satisfaction. He is prepared to admit some soundness in the fourth reason; but points out that people who wish to remain with none or with one or two children do not commonly bring this forward in support of their determination. Lord Dawson desires the selection of the times of conception of children so as to give those children a better upbringing rather than selfishly to leave the sequence of offspring to blind chance. The other view is that such selection destroys the spirit of adventure, reduces the incentive to exertion on the part of the father for the maintenance of his family, and is in reality the more selfish course. It is possible that this view receives some corroboration from the state of affairs that has prevailed in France.

We have tried to summarize Lord Dawson's speech in such a way as to avoid misapprehension. And we have expressed no views of our own because the matter seems at present by no means ripe for dogmatic statement. While admiring the courage of Lord Dawson in bringing this subject before such a body as the Church Congress, and inviting discussion of what he considers a vital problem, we are inclined to regret the absence from the speech of exact and definite indication why Lord Dawson advocates the practice of birth control. Is it on the ground of over-population, or for the improvement

[1] London: Nisbet and Co. 1922. (Demy 8vo, pp. 27. 1s. net.)

[2] Dr. J. W. Ballantyne's article on Birth Control in *Mothers in Council*, October, 1919.

of the race eugenically; or that more time and care may be spent in the bringing up of the fewer children actually born; or, lastly, is it for the more hedonistic purpose of allowing time for the "complete realization of the love of this man and this woman, the one for the other"?

It is possible, however, that in ventilating the subject before a clerical and lay body, Lord Dawson had in mind an indirect object—namely, to use popular interest in such a manner as to induce the medical profession to come to an opinion upon birth control and the measures to be taken to ensure it. The adoption of birth control as an established principle involves so many social, economic, and even political questions that the medical profession may well hesitate before making any collective pronouncement. It appears to us that for the present it must remain a matter of conscience between the two parties to a marriage in the first place, and secondly, if they seek medical advice, for the judgement of the doctor they may consult. But there are undoubtedly cases in which further pregnancy is undesirable or extremely risky. In such cases the patient or her husband is almost certain to ask for advice. The majority of medical men would probably feel justified in advising contraceptives in such cases; the propriety of birth control under certain conditions is thus conceded. The best and most innocuous method is therefore a subject proper for discussion by a medical society. The recent discussions in our correspondence columns prove that on the question of whether birth control should be favoured as a general practice medical opinion is divided. It is useless to shut our eyes to the fact that it is largely practised among the educated and well-to-do classes, or to the further fact that statistics collected before the war showed that the highest birth rates were recorded in the poorest districts, there being an almost regular fall from the fashionable districts to the slums.

TUBERCULOSIS.

THE seventeenth and eighteenth volumes of the *Traité de Pathologie Médicale et de Thérapeutique Appliquée*[3] offer a remarkably complete survey of tuberculosis by a number of distinguished collaborators. The first of the two volumes takes a general view of the tuberculous infection, its etiology, pathological anatomy, and bacteriology. There are also excellent chapters upon treatment of every kind, directed, not against particular localizations and manifestations of the disease, but against tuberculosis regarded in a wide sense as a specific infection. The second of the two volumes deals with the various clinical forms of tuberculosis as it affects the infant, the adolescent, and the adult. The book keeps marvellously to the limits implied in the title of the series—namely, a treatise of medical pathology. It is a topographical voyage of discovery through the human body in search of tuberculous lesions and the signs they give rise to during life. The colour photographs illustrating the morbid anatomy are as good as anything we have seen.

The book is one of reference and is full of information, but the index is not detailed enough to make the information readily accessible. The index treats of generalities; the value of the book really consists in a wealth of minute particularities.

Professor KLEMPERER's book on pulmonary tuberculosis[4] contains the results of the author's observations during twenty years of hospital and private practice. The post-war increase in pulmonary tuberculosis in the central countries of Europe induced him to think that a summary of modern views on consumption would be useful to medical men, but his book, though carefully written and well arranged, does not contain a great deal that is new to English physicians. Like most observers, he comes to the conclusion that the bovine bacillus plays a relatively small part in the production of pulmonary tuberculosis in man, holding that though it may set up other lesions it rarely attacks the lungs. He believes that the majority of all cases of tuberculosis in man are the outcome of infection contracted in childhood which has lain latent in the lymphatic glands. Two principal portals of entry are open to the bacillus—namely, the respiratory tract and the alimentary canal; Klemperer thinks they divide the honours fairly equally. The chapters on symptomatology are clear and tersely written. Physical examination is described in detail, with particular attention to the importance of percussion, and the account of auscultatory signs is admirable in its simplicity and avoidance of the confusion arising from the use of practically synonymous terms, a snare to which so many writers on pulmonary tuberculosis succumb. Radioscopic examination is allowed a prominent place in diagnosis. Nearly half the volume is devoted to treatment, especial attention being paid to the therapeutic use of tuberculin. The indications for and technique of the operation for artificial pneumothorax are excellently discussed, but on the whole the book is rather disappointing. It is mainly a painstaking compilation of other authors' views, and we miss the personal experience and deliberate judgement which Professor Klemperer may be credited with possessing and which would have lent interest to his book.

Dr. WALTERS's book on the *Domiciliary Treatment of Tuberculosis*[5] is designed to furnish the practitioner with a compact and reliable guide to the treatment of pulmonary tuberculosis. The first hundred pages deal with diagnosis, home conditions, general methods of treatment, and the relation of health and infection to ventilation and cleanliness. The remainder of the book is given to the methods of treatment, special and general, found best in the various contingencies of the phthisical patient's life. Dr. Walters writes clearly, and perusal of his pages makes it obvious that he has had great experience in dealing with consumptive patients. He gives full accounts of the numerous specific and general remedies for tuberculosis that have had or perhaps are still having their day; it is possible that the general practitioner would be glad to have the author's opinion as to their real value more often than it is given. The book may be recommended as an up-to-date and thoroughly practical account of the subject with which it deals.

PATHOLOGY OF THE NERVOUS SYSTEM.

IN a brief preface to their volume entitled *Pathology of the Nervous System*[6] the authors, Drs. BUZZARD and GREENFIELD, state their belief that in offering it to medical students and practitioners they are meeting a real need. We may say at once that they may be congratulated on having admirably achieved their object. Such a monograph is a valuable addition to the information available in the ordinary text-books of medicine. No attempt has been made to enter deeply into disputed questions of histology or pathogenesis, but the ordinary morbid anatomy, both naked-eye and microscopic, of the diseases of the nervous system is well described throughout and interest is stimulated by a brief consideration of the relations between the anatomical and the clinical phenomena. The first three chapters contain a succinct but comprehensive account of the doctrine of the nature of the neurone and of its degeneration and regeneration. This is supplemented in the next two chapters by accounts of the paths of infection in the central nervous system and by an excellent description of the cerebro-spinal fluid and the changes which it exhibits in various diseases. In the next section, dealing with the developmental and familial diseases, short but adequate descriptions of the morbid anatomy are given and enough clinical details to render the account more valuable. Chapters on injuries and circulatory disturbances of the brain and spinal cord follow. The chapter on syphilis of the nervous system is good and concise; the chief forms which it may assume are described separately, while insistence on the essentially identical processes at work is emphasized in a preliminary account of the general features of the syphilitic lesion.

In the section on other infective diseases there are particularly useful accounts of poliomyelitis and lethargic encephalitis. Special praise must be accorded to the chapter on tumours of the brain and spinal cord, which is richly illustrated by many admirable plates. Among the diseases of obscure origin we find satisfactory accounts of the pathology of disseminated sclerosis and subacute combined degeneration of the spinal cord. Two useful appendices contain brief

[3] *Traité de Pathologie Médicale et de Thérapeutique Appliquée.* Published under the direction of E. Sergent, L. Ribadeau-Dumas and L. Babonneix. *Tuberculose.* Tomes xvii and xviii. Paris: A. Maloine et Fils. (Tome xvii: Demy 8vo, pp. 387; 16 figures, 2 plates; Fr.20. Tome xviii: Demy 8vo, pp. 811; 48 figures, 9 plates; Fr. 35.)

[4] *Die Lungentuberkulose; ihre Pathogenese, Diagnostik und Behandlung.* By Professor Dr. Felix Klemperer. Berlin and Vienna: Urban and Schwarzenberg. (Sup. roy. 8vo, pp. 164; 5 plates, 16 figures. M.40.)

[5] *Domiciliary Treatment of Tuberculosis.* By F. Rufenacht Walters, M.D., B.Sc., M.R.C.P.Lond., F.R.C.S.Eng. London: Baillière, Tindall, and Cox. 1921. (Demy 8vo, pp. 302; 3 figures. 12s. 6d. net.)

[6] *Pathology of the Nervous System.* By E. Farquhar Buzzard, M.A., M.D., F.R.C.P., and J. Godwin Greenfield, B.Sc., M.D., M.R.C.P. London: Constable and Co., Ltd. 1921. (Med. 8vo, pp. xv + 334; 102 figures. 30s.)

descriptions of staining methods and details of the examination of the cerebro-spinal fluid.

The numerous photographs, both macroscopic and microscopic, with which the book is lavishly supplied, are a feature of great value; another useful feature is a short bibliography at the end of each chapter. The book has been brought well up to date, as the accounts of lethargic encephalitis and of such subjects as Lange's colloidal gold test will show. It is in no sense a work of reference for the professed neurologist, but rather a manual for those who desire more detailed information on pathology than can be supplied by the usual textbooks of medicine or neurology.

Unfortunately, the costs of printing and illustrating have combined to enhance the price of this volume, so that it may, we fear, prove somewhat high for students without much money to spare for books outside those which are absolutely necessary. To the more senior student, and especially those who intend to devote particular study to neurology, this volume will come as a thoroughly reliable and almost essential addition to their library.

UROLOGY.

THERE is no specialty in medicine that combines so fully the interest of surgeons and physicians as urology. For this reason a work like MARION'S *Traité d'Urologie*[7] should appeal to a very great number of readers. Written as it is with an admirable lucidity, and illustrated with excellent plates, it should be of interest not only to those who have become experts in this particular domain of medicine, but to all practitioners. One of the chief assets in the science of urology is the exactness of its methods of diagnosis, and the author has done well to devote considerable space to the description of methods of exploration. He has even included a brief survey of the commoner laboratory investigations required in the complete examination of a case. This summary should prove useful to those surgeons who carry out the simpler laboratory examinations in their own consulting rooms. The third portion of the work is devoted to signs and symptoms. The value and significance of pain as an indication of disease in the genito-urinary tract is fully dealt with. The section on haematuria as a diagnostic sign is particularly good. Following this comes the section on pathology, using the term in its most comprehensive sense to embrace the study of the causation, pathological anatomy, symptoms, diagnosis, and prognosis of disease. A useful addendum to the chapters devoted to treatment is a list of formulae and specimen diets used in the treatment of various pathological conditions. Authors not infrequently diminish the value of their recommendations as to treatment by failing to supply their readers with those details which may make all the difference between success and failure. By giving the exact formulae of various therapeutic agents and actual diets suited to different diseases Marion has avoided this error. The chapters on operative technique are well illustrated, so that the majority of the operations described may be understood with a minimum of labour. The work concludes with a series of coloured plates of urethroscopic and cystoscopic views. The quality of these varies considerably; some of them are realistic, whereas others err on the side of overcolouring. Some of these plates have already appeared in previous publications by the same author. The treatise is, for the convenience of the reader, published in two volumes. Considering the excellence of the printing, the workmanship of the plates, and the quality of the paper, the price charged for the work cannot be considered excessive. Altogether both the author and the publishers are to be congratulated on the result.

To the second edition of his *Traité Chirurgical d'Urologie*[8] M. FÉLIX LEGUEU has made many notable additions, especially in the matter of illustrations and coloured plates. Urology has made considerable progress since the appearance of the first edition in 1910, and as a result many of the chapters have been considerably modified and augmented. The author's appointment to the professorial chair formerly held by Guyon has given him facilities for drawing on the clinical material of the Necker Hospital, and much of the new matter included in the present work has been derived from the laboratory, out-patients' department, and the museum of that institution. The chapter on tests of renal function has been to a great extent rewritten, since it is only during the last ten years that the importance of this subject has been recognized. In summing up the value of the various tests that may be applied the author points out that we have no absolute criterion of the health of a kidney. We can only speak in relative terms, hence the necessity of multiplying the controls and tests; in the multiplicity lies safety, and only by the conscientious use of all the means of exploration at our disposal can we avoid the pitfalls which surround the practice of renal surgery. A new feature of the work is the chapter on the pathology of the suprarenal capsule, although, as a rule, these structures receive scant attention from genito-urinary surgeons. The association between the suprarenal capsules and the kidneys is, however, so intimate that it is probably wise to include the description of them and their lesions in a work that aims at being as complete as that under review. Another new chapter is that which deals with pararenal growths and perirenal haematomata. The experiences of the late war have added much to our knowledge of gunshot wounds of the kidneys and urinary tract. This has necessitated an expansion of the chapter devoted to this subject as well as the development of the paragraph dealing with plastic methods of repair. Other features of the new edition are the use of local anaesthesia in prostatectomy, a description of the vesico-transperitoneal route for the closure of a vesico-vaginal fistula, and the study of the ureter after nephrectomy. Many new illustrations and plates have also been added. As a result of this great increase in illustrations and text alike it has been necessary to divide the work into two volumes. However high may have been the reputation of the first edition, we have little doubt that the second will have a greater, for it is one of the completest works on urology that has yet been published. Dr. Félix Legueu, with the great facilities of the Necker clinic at his disposal, is well qualified to edit such a work, and his present volumes reflect credit, not only on the clinic of the Necker Hospital, which he administers, but also on the French school of genito-urinary surgery in general.

A HANDBOOK FOR THE MAIMED.

ALTHOUGH a man who has some teeth left is not called toothless, and one who has two or three coppers cannot strictly be called penniless—and many other analogies might be cited—yet it appears that one may have three-fourths of the normal allowance of limbs and yet be described as "limbless." It would show more sense of the meaning of words, and so be more logical, if less euphonious, to follow the French example and use the term "amputee," on the analogy of payee, employee, and trustee. The authors of the *Handbook for the Limbless*[9] are, however, not the original sinners in this respect, and, whoever may have been the first offender, the misnomer has been adopted by the Ministry of Pensions, thus showing how poor a safeguard against the commission of blunders in the use of English is the competitive examination of the Civil Service Commission.

Apart from its title, we have nothing but praise for this small book, from the foreword (there is a preface too) by Mr. John Galsworthy to the excellent index. It has been published, and is sold at less than cost price, with the good intention of giving the maimed man all the information which is likely to be useful to him in connexion with his disablement. The report of the committee of inquiry into the comparative advantages of metal and wooden limbs, which was noticed in our issue of November 12th, 1921, p. 805, occupies the first place in the book. The interesting account of the disabled drivers' rally, held last June in Richmond Park, after tests on Epsom Downs, shows how well arm and leg amputees can manage motor cars, even without any special fittings, but certain special attachments which have been found useful are shown in the illustrations. This demonstration and the records of amputee drivers prove that there is no reason to consider them more liable to accident than unmaimed men. The handbook contains many useful hints the outcome of the experiences of the wearers of artificial limbs, and full instructions in exercises and muscle training for those who have lost a leg are given by Miss M. Randell and Mr. G. A. Ponsonby. Detailed information is also given as to

[7] *Traité d'Urologie.* Vols. i and ii. Par G. Marion. Paris: Masson et Cie. 1921. (Roy. 8vo, vol. i, pp. xx+1 to 572; 160 figs.; vol. ii, pp. 573 to 1052; 15 plates, 258 figs. Fr. 100 net.)

[8] *Traité Chirurgicale d'Urologie.* Vols. i and ii. Par F. Legueu. Deuxième édition, revue et augmentée. Paris: F. Alcan. 1921. (Sup. roy. 8vo, vol. i, pp. 1 to 944; 335 figures, 6 plates; vol. ii, pp. 945 to 1881; 523 figures, 5 plates. Fr. 160 the two vols.)

[9] *Handbook for the Limbless.* Edited by G. Howson. Published by The Disabled Society, 48, Grosvenor Square, London, W.1. (Demy 8vo, pp. xiii+225, with illustrations in the text. Price 1s., or 1s. 4d. post free.)

the opportunities for training and employment offered to the disabled. An interesting section upon sports, including swimming, riding, and boxing, is contributed by General Sir E. C. Bethune, Captain du Buisson, Major P. A. Leahy, and others. Full particulars are given of the pensions and allowances to which amputees are entitled.

After looking through this book the reader is more than ever impressed by the pluck and spirit of the disabled, and is confirmed in the opinion that what matters most is the determination to succeed despite all difficulties.

SYNTHETIC DRUGS.

THE number of synthetic drugs is enormous, and the aim of Dr. PERCY MAY, in his book on *The Chemistry of Synthetic Drugs*,[10] has been to give a clear account of the principles which underlie their production. In spite of the fact that the relation between chemical structure and physiological action is by no means rigid, it serves as an indication of the roads along which investigations should be pursued. The opening chapters, devoted to the study of the theory of action of synthetic drugs, the effect of the introduction of various elements and radicles, and the chemical changes which drugs undergo in the organism, are of interest. Other chapters deal with local and general anaesthetics, antipyretics, antiseptics, purgatives, and the organic preparations of arsenic and antimony.

The methods of preparation of the more important substances are indicated, and throughout numerous references to the literature and to patent specifications are given. It will be observed that for the most part the references are to German literature; and it must be admitted that prior to the war the industry was almost entirely in German hands. Since that time much has been done in this country, and it is to be hoped that the enterprise of our manufacturers will provide our chemists with the necessary facilities and stimulus to prosecute research for new compounds which may have value in practical therapeutics. Perusal of this book cannot fail to stimulate; it is well up to date, and will be of great value to all interested in the subject of synthetic drugs.

NOTES ON BOOKS.

THE thirty-eighth annual volume of *The Year Book of the Scientific and Learned Societies of Great Britain and Ireland*[11] contains much information that would not otherwise be available without much trouble and research. To prepare a classified outline of the higher intellectual work in this country during the past twelve months, as it has found expression through the numerous learned and scientific societies, cannot have been an easy task, and much credit is due to the publishers, who from year to year continue to make this useful contribution to the advancement of science. The different sections of the volume include science generally; astronomy, mathematics, and physics; geography, geology, and mineralogy; biology, including microscopy and anthropology; economic science and statistics; mechanical science and architecture; law; literature, history, and music; archaeology; and, among others, medicine. In the section devoted to medicine are found details of the personnel of the Ministry of Health, the names of the principal officers, and the titles of the papers read at the Annual Meeting of the British Medical Association, the titles of the papers read at all the sections of the Royal Society of Medicine, the titles of the publications issued by the Medical Research Council during the year, and of the scientific papers published from the Lister Institute, together with similar details of the leading medical societies in London and throughout the provinces, Scotland, and Ireland.

Willing's Press Guide[12] is a useful compilation, giving particulars of the address and price of periodical publications issued in Great Britain and Ireland, and information also with regard to colonial and foreign newspapers, with the addresses of their London offices. It contains two pages of antiquarian interest, in which a list is given, with notes, of existing newspapers and periodicals founded in the seventeenth and eighteenth centuries; in many instances there has been a change of title, but continuity has been maintained. Leaving aside the *London Gazette* (first called the *Oxford Gazette*, publication having been begun there in 1665), the *Edinburgh Gazette*, and the *Dublin Gazette*, the oldest newspaper is believed to be the *Worcester Post*, founded in 1709. Within the next quarter of a century newspapers were founded in Nottingham, Stamford, Bristol, Hereford, Norwich, Canterbury, Leeds, Northampton, Gloucester, Reading, York, Salisbury, Chester, and Derby. The first newspaper in Ireland seems to have been the *Belfast News* (1737), and the first in Scotland the *Aberdeen Daily Journal* (1748).

Dr. CHAVASSE'S *Advice to a Wife*[13] has been such a worthy classic for a generation that the appearance of a new edition calls for brief notice only. This is the seventeenth authorized edition, and altogether four hundred and fifty thousand copies of the various editions have, it is stated, been issued. No wonder that Dr. G. T. WRENCH felt, when called upon to revise the book for this new edition, that to alter it beyond what was absolutely required by the march of progress would savour of sacrilege. As he well puts it: "Chavasse shows such a perfect handling of his theme, he is so wise, so genial, so trustworthy, so pillared with the best of English literature, that to change his book seemed to me as unfortunate a necessity as it is to renovate a beautiful yet timeworn building." That is the right spirit to show towards such a book, and it will suffice to say here that Dr. Wrench has succeeded in his process of "restoration" so completely that not even the connoisseur can raise a protest. There is no book of its kind that we can more cordially recommend to the young married woman who wishes a guide to the management of her own health.

The sixth annual report of the National Council for Combating Venereal Diseases, covering the period from June, 1920, to June, 1921, has just been issued.[14] It contains lists of officers, committees, and members of the Council; a report of the annual meeting and the address of the President, Lord Gorell; and a general account of the Council's activities during the period under review, together with the balance sheet and statement of accounts. Fifty pages are devoted to overseas branch reports and home branch reports. The branches of the Council now number 81 in England, 4 in Scotland, 7 in Wales, 1 in Ireland, and 10 overseas.

[10] *The Chemistry of Synthetic Drugs.* By Percy May, D.Sc.Lond., F.I.C. Third edition, revised. London: Longmans, Green and Co. 1920. (Demy 8vo, pp. 260. 12s. 6d. net.)

[11] *The Year Book of the Scientific and Learned Societies of Great Britain and Ireland.* Thirty-eighth annual issue. London: C. Griffin and Co., Ltd. 1921. (Demy 8vo, pp. vi + 366. 15s. net.)

[12] *Willing's Press Guide.* Forty-ninth year. 1922. London: James Willing, Ltd. (2s. 6d net.)

[13] *Chavasse's Advice to a Wife on the Management of Her Own Health.* Revised by G. T. Wrench, M.D., B.S.Lond. Seventeenth edition. London: J. and A. Churchill. (Cr. 8vo, pp. 346. 2s. 6d. net.)

[14] National Council for Combating Venereal Diseases, 80, Avenue Chambers, Southampton Row, W.C.1.

MEDICINAL AND DIETETIC PREPARATIONS.

Vaccines by the Mouth.

ANTIDYSENTERIC tablets and antityphoid and bile tablets are, the proprietors state, vaccines prepared according to the instructions of Professor Besredka, and are intended for oral administration. Besredka has advocated the administration of antityphoid and antidysenteric vaccines by the mouth. He found that typhoid vaccine when so given was efficacious only when bile was added, but that bile was not necessary in the case of the antidysenteric vaccine. Besredka claims that "the method of vaccination per os realizes three essential conditions: it is harmless, it is efficacious, it is rapid" (*Bull. de l'Institut Pasteur*, vol. 18 February 29th, 1920). It is obvious that if vaccines can be prepared which are efficacious when given by the mouth a very great therapeutic advance has been made. Anyone who served as medical officer to a battalion during the war will appreciate how much labour and trouble such an antityphoid vaccine would have saved a few years ago. Besredka's views as to the efficacy of vaccines given by the mouth have not, however, met with general acceptance, and the value of these preparations is still, therefore, a matter of uncertainty. The agents in this country are the Sealand Trading Company, Buchanan Buildings, 24, Holborn, London, E.C.1.

Coagulen-Ciba.

Coagulen-ciba is an extract obtained from blood platelets, and is recommended as a haemostatic suitable for oral, hypodermic, and intravenous administration. We find that the substance, when injected intravenously, causes a distinct shortening of the coagulation time of rabbit's blood, and does not produce any marked toxic effects. One gram of coagulen-ciba represents 20 grams of dried blood, and it contains a large amount of thrombokinase. The preparation is recommended for local application as a haemostatic, and also for hypodermic or intravenous use in cases where the coagulation of the blood is deficient. Good clinical results are reported by numerous authors. Coagulen-ciba is supplied in powder,

in compressed tablets, and in ampoules containing 3 per cent. of the powder in solution. The precautions which should be observed in administering the preparation are indicated on a circular which, we understand, accompanies each package. Coagulen-ciba is made by the Society of Chemical Industry in Bale, Switzerland, and is supplied in this country by the Clayton Aniline Company, 68½, Upper Thames Street, London, E.C. 4.

Tuberculous Egg Prepared Antigen.

Tuberculous egg prepared antigen is, it is stated, prepared by the process devised by Professor Besredka. In this method tubercle bacilli are grown in a nutritive medium of which the basis is yolk of egg. The four days old culture is killed by heat, diluted with sterile water, and an emulsion formed. The sero-diagnosis of tuberculosis is carried out according to a technique very similar to that of the Wassermann reaction for syphilis; the emulsion of dead tubercle bacilli is used as the antigen in the reaction. It is claimed that in cases of established tuberculosis the reaction is constantly positive, and that in cases of suspected tuberculosis a positive reaction renders the presence of that infection very probable. The exact clinical value of this reaction is still a matter of uncertainty. The preparation is sent out in sealed phials of 3 c.cm., and the manufacturers state that it will keep indefinitely. The agents in this country are the Sealand Trading Company, Buchanan Buildings, 24, Holborn, London, E.C.1.

MEDICAL AND SURGICAL APPLIANCES.

Electroscope and Endoscopic Tubes.

DR. IRWIN MOORE (London, W.) has designed combined electroscope and endoscopic tubes in order to simplify the technique and armamentarium for direct laryngo-tracheo-bronchoscopy and oesophagoscopy, and to reduce the difficulties met with in the exploration of the bronchi and oesophagus.

The important feature, he writes, is that both proximal and distal lighting is combined in one instrument, and that interchange is possible whilst the endoscope tube is *in situ*, without disturbing its position or necessitating its withdrawal, at the same time ensuring an enlarged field of vision and intensity of light for illumination, which can only be satisfactorily obtained with tubes of large diameter. By a simple turn of the screw which fixes the lamp shaft to the arm, the entire illuminating portion of the apparatus may be removed or replaced. Since the handle contains no mechanical or electrical connexions, as in the Brunings pattern, it may be readily boiled and sterilized. The advantages of the apparatus are obvious. The mechanism allows of the easy passage and free manipulation of instruments under direct inspection, without obstructing the field of operation; again, if the patient coughs, the mirror may be instantaneously switched out of the way, and therefore is not soiled by coughed-up material. Also, by dispensing with the mechanism by means of which the handle is rotated from side to side in Brunings's instrument, displacement of the distal end of the endoscopic tube, which frequently occurs, is prevented. The main principle on which these endoscopic tubes is designed is the same as that of the Chevalier Jackson tubes, but they are made of a size corresponding to the diameter of the larger tubes of Killian, Brunings, and Chevalier Jackson. Passing down the inside of the tube is an open half-circular slot for the passage of the distal lighting carrier. In this way the light carrier is out of the way of instruments, and there is no reduction in the inside diameter of the tube.

The apparatus has been made by Messrs. Mayer and Phelps, New Cavendish Street, W., to whom Dr. Moore desires to give credit for surmounting the mechanical difficulties. Full particulars can be obtained from the makers.

A Simple Aspirator.

Mr. H. O. GUNEWARDENE, M.B., B.S.Lond. (Clinical Assistant, National Hospital for Diseases of the Heart), writes: Having felt the want of a simple aspirator I have, in conjunction with an engineer friend, Mr. B. O. W. Cantrell, designed a combined aspirating syringe and trocar, shown in the illustration, and used it in place of the ordinary aspirator. The disadvantages and difficulties attending the use of the ordinary aspirator are well known; with the combination instrument depicted there is no rubber connexion to become perished and no valves to get out of order. The instrument may be used as a simple syringe for exploring, and it can also be used as a siphon for aspirating. It is convenient to carry, easy to sterilize and manipulate. It consists of a large "Record" type of syringe with trocars and cannulae of various sizes, and has been made by Messrs. Allen and Hanburys, 48, Wigmore Street, London, W.1.



THE WORK OF THE MEDICAL RESEARCH COUNCIL, 1920-21.

[SECOND NOTICE.]

IN dealing last week (p. 74) with the report of the Medical Research Council for 1920–21, attention was directed especially to the work of the National Institute for Medical Research. We will now attempt to give some account of the research schemes in specific subjects carried out at various centres, but the task is much more difficult, because to enumerate all the many and various inquiries, experimental and clinical, subsidized or directed by the Council, would be to compile a list of nearly all the subjects with which progressive clinical medicine is at present concerned. We can only pick out a few topics which may afford the reader a general idea of the many directions in which the Council is giving assistance.

Vitamins.

The inquiries into the nature and effects of accessory food factors, still conveniently termed "vitamins," although the theory on which the word was formed has been abandoned, have been continued during the year under the direction of a special committee appointed jointly with the Lister Institute of Preventive Medicine. The chairman of the committee is Professor Gowland Hopkins, and its members are Dr. Drummond, Professor Harden, F.R.S., Mr. W. B. Hardy, F.R.S., Dr. A. W. J. MacFadden, C.B., of the Ministry of Health, Professor C. J. Martin, F.R.S., Director of the Lister Institute, and Professor Edward Mellanby, now of Sheffield, with Dr. Harriette Chick as secretary. During Miss Chick's absence in Vienna Professor Harden has acted as secretary. The total annual expenditure of the Council under this head is nearly £10,000.

Under Professor Harden's direction, Dr. S. S. Zilva, working with Dr. Miura at the Lister Institute, has made quantitative estimations of the fat-soluble factors and has studied the very high potency in this respect of cod-liver oil; they have also carried out experiments on the diffusion of the antineuritic and antiscorbutic factors through membranes of varying permeability, with a view to obtaining indirect evidence of the size of the molecules of the vitamin substance and to devising means for its isolation. Experiments with ultra-violet light suggest that the destruction of the antiscorbutic factor at the temperature of boiling water is due rather to oxidation than to the direct action of heat. Dr. Zilva has continued with Dr. H. Schütze his study of the influence of deficient nutrition on resistance to disease, and, in conjunction with Professor Harden, has confirmed the absence of the antiscorbutic factor in fresh beer, but has demonstrated that yeast can synthesize the antineuritic factor. Dr. Drummond and Dr. Zilva are inquiring into the nutritive values of different commercial oils and fats; in addition to studying the process of manufacture in many factories in this country and on the Continent they paid a special visit to the Norwegian cod-liver oil industry. The results of this inquiry have immediate practical applications to the industry, and have been communicated to the Government of Newfoundland. They have thrown light also upon questions of general biological and geographical interest.

The work done by Professor and Mrs. Mellanby at Cambridge and Sheffield has been the subject of special reports, the last of which was noticed at length in our issue of January 7th (p. 20). At Cambridge Professor F. G. Hopkins has continued his investigations into the nature and properties of vitamin A; they have led indirectly to the acquisition of fresh facts with regard to the mechanism of oxidation in living tissues. Dr. C. Da Fano has continued at King's College his investigations into the structure and pathology of the ductless glands and the nervous system in deficiency diseases. The expenses of the clinical inquiry as to deficiency diseases in Vienna, carried out by Miss Chick and her colleague, have been borne jointly by the Medical Research Council and the International League of Red Cross Societies. It is hoped that a full report of the results of the work will soon be available; meanwhile preliminary reports on different departments of the subject have been published in our columns, the last being the paper by Drs. Harriette Chick and E. J. Dalyell on the influence of foods rich in

accessory factors in stimulating development in backward children, published in these columns on December 24th, 1921, p. 1061.

Rickets.

Under the direction of Professor C. J. Martin, Dr. E. M. Luce has studied the relation of calcium metabolism to the parathyroid and sexual glands. Erdheim and Korenchevsky have alleged that the parathyroids become hypertrophied in spontaneous cases of rickets in animals. Dr. Luce has studied the condition of these glands in rats in which rickets has been produced by diets deficient in calcium and in vitamin A; he has observed an increase in size without any unusual character in the cells. Erdheim has stated that rickets follows loss of the parathyroid glands in rats. But Professor Korenchevsky, who receives a whole-time grant, has made experiments on this line at the Lister Institute, and, provided due attention was given to the diet of the animals (a factor which appears to have been neglected in the original studies), his results have always been negative. In a series of experiments on the part played by diet in the causation of rickets in rats, he first gave a simple diet on which the animals remained healthy and grew well, producing abundance of healthy offspring, and then observed the influence of various conditions, including modifications of diet, in the case of both young and adult animals. Before the conclusion that rickets had been produced in any given case was accepted rigid conditions were enforced, involving a great number of chemical analyses and histological examinations.

"Confinement in small cages was not found to produce rachitic conditions, and negative results were obtained from attempted infection with live cultures of *B. perfringens*, *B. sporogenes*, and *B. bifermentans*. Conditions similar to rickets were produced by dietetic deficiency of calcium alone and of vitamin A alone, and most readily in the absence of both these substances; the changes were most marked in young rats where the mother had also been similarly dieted during pregnancy."

Tuberculosis.

The problem of tuberculosis is being attacked by a number of workers in different places. There are subcommittees on phthisis in relation to occupations, on tuberculin, and on the bacteriology of tuberculosis, but in no instance is it possible to do more than make a progress report.

Professor S. L. Cummins has been investigating, with the assistance of Miss C. M. Acland, the applicability of Kliene's "opsonic end-point" to the early diagnosis of tuberculosis. Experiments which were begun at the Royal Army Medical College and the Brompton Hospital Sanatorium are now being conducted in the laboratories of the Welsh National Memorial Association at Cardiff and at the Glan Ely Hospital. Some points of great interest with regard to the natural mechanism of self-protection against tuberculosis have been noted. It appears that the specific chemical substances which arise to aid phagocytosis act rather by increasing the activity of the phagocytes than by opsonizing or sensitizing the bacilli. The experiments afford some support of the earlier work of Sir William Leishman on stimulins.

Dr. A. Stanley Griffith, at the Cambridge Field Laboratories, has continued his study of the bacteriological characteristics of tubercle bacilli from different sources—lupus, abdominal tuberculosis, and tuberculosis of bones and joints. The human and bovine cultural types have been differentiated and their virulence investigated. With Sir Leonard Rogers, Dr. Griffith has estimated the curative effects of sodium morrhuate, sodium soyate, and sodium gynocardate, all of which have been found beneficial in leprosy. The results in tuberculosis were negative. In cultural experiments the first two drugs were found to favour the growth of the tubercle bacillus and the third to inhibit it. The inquiry at the Brompton Hospital into the value of artificial pneumothorax has advanced so far that Dr. Burrell, with the assistance of Dr. A. S. MacNalty, is now engaged in preparing a report upon the whole investigation, which includes the collation of the results of over a hundred cases.

Dr. A. Rowand is continuing his study of the early symptoms of disease in children, with special reference to tuberculosis; he has the advantage of working at the St. Andrews Institute for Clinical Research under the direction of Sir James Mackenzie, and of the collaboration of the members of the institute staff, and of the help of all the practitioners in the town. The scheme is designed to keep under observation all the children in St. Andrews from birth onwards; special attention is being paid to the appearance of palpable glands during infancy, to exhaustion and its value as an early symptom, to the conditions associated with the earliest appearance of enlarged tonsils or of adenoids, and to the effect of the diets in common use on failure of health and on the development of impaired digestion in later years. *X*-ray examinations of the chest in healthy children are being made at an early age to determine the prognostic significance of root shadows as revealed by the subsequent histories.

Dr. H. K. Ward, who receives a whole-time grant and works under the direction of Professor Dreyer at Oxford, has attempted to standardize degrees of tuberculous infection and to produce a standard tuberculin. Professor C. H. Browning, with the help of Miss Gulbransen and Miss Meldrum, has made further investigations into the behaviour of different strains of tubercle bacilli in experimental infections, and the work, upon which a report will shortly be published, has been carried far enough to enable a beginning to be made with experimental tests of the curative values of various compounds.

Grants to the King Edward VII Sanatorium at Midhurst, to Brompton Hospital Sanatorium, and the Peamount Sanatorium near Dublin, for the collection of records of the after-histories of sanatorium patients, have been continued, and a supplementary grant was made to Midhurst for the collection of the family histories of 300 patients and of collation of the records of ten years' work by Sir StClair Thomson on laryngeal tuberculosis.

At St. Bartholomew's Hospital, London, Dr. R. G. Canti and Dr. G. L. Lyon-Smith, both receiving part-time grants, have made preliminary investigations in the hope of devising a rapid and efficient practical method of recognizing the tubercle bacillus in milk without recourse to animal experiments. A collection has been made of the different acid-fast bacilli liable to be confused with *B. tuberculosis*, and methods of differential staining are being studied. At the University of Liverpool Professor J. M. Beattie, with the help of Mr. F. C. Lewis, is continuing his experiments on the electrical sterilization of milk. A report was published last year, but further experiments are being carried out with regard to the thermal death point of bacteria in stationary and moving columns of milk, and on the relative efficiency of the electrical method and of the application of external heat under similar conditions.

Disseminated Sclerosis.

Investigations begun by Dr. Gye as long ago as 1912 show that disseminated sclerosis can be communicated by the injection into rabbits of the cerebro-spinal fluid from a rapidly progressing case. His early results were confirmed by other workers, and have been amplified by his fresh series of experiments, which have recently been reported in *Brain*.

At the University of Glasgow the investigation of the etiology and treatment of the disease is being continued by Dr. D. K. Adams, who has the assistance of Drs. E. M. Dunlop, J. W. S. Blacklock and Wilfred Scott. The results so far obtained are against the theory of syphilitic origin; the colloidal gold reaction appears to be constantly positive. Prolonged courses of treatment with neosalvarsan have given favourable results. Dr. Adams related some of the results of his inquiry to the Section of Neurology and Psychiatry at the annual meeting in Newcastle. His paper was published in our columns of November 19th; to this we may refer readers for further information.

Radiotherapy.

The large amount of 5 grams of radium bromide, recovered from military uses, was entrusted by the Government to the Council for medical research purposes, and was lent in the first instance to the Middlesex Hospital for initial experiments and therapeutic trials. A report will shortly be published by the Council. The chief results of the clinical work was to show that by superficial applications of the radium a number of inoperable cases of malignant disease had been rendered operable. Application of a dose of radiation which did not seriously damage the skin was followed by temporary disappearance of the growth, but recurrences frequently occurred after a few months unless the exposures were repeated. In order to obtain uniform irradiation surface applications should be combined with the surgical insertion of radium.

The whole amount of radium bromide at the disposal of the Council has now been divided into a number of parts; this has been done at the National Physical Laboratory after

a due period of stabilization by Professor Sidney Russ and Mr. F. Harrison Glew. Certain quantities have now been granted on loan to the Middlesex Hospital, University College Hospital, King's College Hospital, St. Bartholomew's Hospital, the London Hospital, and the Radium Institute; to the General Hospital, Birmingham, to King Edward VII Hospital, Cardiff, and to the Royal Infirmary, Aberdeen. The Irish Public Health Council in Dublin has also received a portion, and is organizing a local scheme of distribution. At each centre special attention is being concentrated upon a particular form of malignant disease and its treatment, and each centre will make a yearly report. In selecting the centres regard has been had to the facilities for pathological work in the study of the many problems that confront the radiologist.

Experiments have been carried out at the Middlesex Hospital by Professor Russ and Dr. Chambers on certain effects of *x* rays; they indicate broadly that the reaction in a patient may not depend only upon the cellular changes occurring in the tumour mass itself, but also upon the effects of the rays upon various processes seated in normal tissues. The results are in many respects parallel to those obtained at the Rockefeller Institute, New York. "The possibility of stimulating instead of killing cancer cells by an insufficient dose of radiation," the report continues, "has already been shown experimentally, and it is clear that in the radiological treatment of malignant disease we are confronted with a balance of forces of which the nature in detail can only be revealed by further investigation."

A grant has been made to the Radium and *X*-ray Workers' Protection Committee to enable Dr. J. C. Mottram, of the Radium Institute, to examine the blood in normal persons and in persons exposed to radiation.

ASYLUM ADMINISTRATION.

A MEMORANDUM, appropriately headed by the motto, "*Audi alteram partem*," has been issued by the Mental Hospitals' Association [1] as a reply to the numerous criticisms of asylums in this country. This association is composed of the visiting committees of public asylums, and it is thus particularly well fitted for the task it has undertaken. Comprising as it does the elected representatives of the ratepayers who are called upon to govern asylums, the association has a more intimate knowledge of the economic position and general conditions of these institutions than any other section of the public. The views expressed in this pamphlet carry weight and merit careful consideration. In the introduction the writers draw attention to the improvements which have taken place in the care of the insane poor during the last thirty years; it is pointed out "that since the passing of the Lunacy Act, 1890, the conditions have been vastly altered for the better. The old barrack-like buildings in which the insane poor were herded together have all been improved, in instances beyond recognition, and the true hospital or healing spirit is cultivated in these institutions, by management and staff alike, to an extent which was never dreamed of thirty years ago." The steady progress in the care of the insane which is thus described can scarcely be disputed, and it is probably true to say that the average standard of comfort in British asylums exceeds the average of that found in any other country. It is otherwise as regards the progress of psychiatry as a science, and we have much to learn from other countries in this respect. In 1914, when the war broke out, the Board of Control, the visiting committees, and the Medico-Psychological Association were fully alive to the necessity for organized research and facilities for teaching. The pamphlet makes this evident in outlining the work of the Mental Hospitals' Association in endeavouring to further improved methods for the treatment of incipient insanity, and a conference of visiting committees in the year 1912 resulted in certain small grants being made from the Imperial Exchequer through the Board of Control in aid of research work. The grants are now consolidated and administered by the Medical Research Council. There is a significant gap in the activities of the committees as a collective body until 1918, when the pamphlet records the actual formation of the Mental Hospitals' Association. In the interval the war had broken out, with the result that the hopes and ambitions of asylum workers were frustrated, and regression rather than progress was inevitable. Little reference is made in the pamphlet to the war period, when asylums were carried on under conditions of the greatest difficulty. The writers might well have done so if their chief aim had been the refutation of the specific charges levelled recently against asylum management, since these have referred in a large measure to abnormal conditions which could, at the time, scarcely be remedied. A constructive policy is outlined in this pamphlet, and this we feel to be of much more value than a detailed reply to criticisms would have been.

The writers point out that while improvements have been made in the care and treatment of the insane, the asylum committees have felt for some time past that a wide field for further ameliorations still exists. Reforms are suggested in the following directions: (1) Increased grants for research; (2) amendment of the lunacy laws, in order that incipient cases of mental illness may be treated before the malady has reached such an advanced stage as to compel the certification and detention of the patient in an asylum; (3) power to receive voluntary boarders in public asylums; (4) the creation of out-patient departments; (5) an increased grant from the Exchequer in aid of the cost of maintaining patients in asylums; (6) the elimination of the taint of pauperism. With these suggestions we are in entire sympathy, and they are clearly indicative of a progressive and enlightened policy on the part of the asylum committees of this country.

A detailed scheme is outlined for the treatment of early cases of mental disorder which deserves careful consideration. As an immediate solution of the difficulty of securing suitable accommodation for the treatment and study of early cases it is suggested that seven or eight asylums, situated as near as possible to populous centres possessing good general hospitals with medical schools, might be evacuated, as was done when certain asylums were converted into war hospitals and utilized for the treatment of mental ailments free from any connexion with the lunacy laws. This proposal has much to commend it, but we observe an absence of any reference to the difficult question of power of detention. We feel that this subject cannot be ignored in view of the lack of insight which the subjects of a true psychosis so frequently exhibit. They may feel themselves wicked, persecuted, or unusually happy and vigorous, but on the whole they do not regard themselves as ill, and they have, in consequence, no wish to be treated or detained in a hospital. Yet many of these early cases are highly irresponsible and liable to perform antisocial acts, and it would thus appear that some form of detention against the wish of the patient may be required in some cases if the clinic is to serve its complete social function. It is, of course, useless to cite the fact that soldiers were treated during the war for mental disorder without any form of certification, as they were under military discipline and were not in a position to leave the hospital if they wished to do so.

The views expressed by the Mental Hospitals' Association cannot fail to exert a beneficial influence by enlightening the public as to the work of their representatives on behalf of the insane; their publication at this moment is opportune in view of the conference the Board of Control is holding this week with the representatives of the visiting committees and medical staff of the asylums, since it reveals an earnest desire to improve the conditions under which the insane are treated. Ultimately, as stated in the introduction to this pamphlet, "it rests entirely with the public as to what, if any, better conditions should prevail in connexion with the treatment and care of the mentally afflicted."

[1] *Thirty Years' Administration of Public Asylums in England and Wales.* By the Mental Hospitals' Association. London: Hodder and Stoughton. (Pp. 29. Price 6d.)

A JOURNAL with the title *Le Maroc médicale* is to be published at Casablanca, Morocco, under the editorship of Dr. E. Speder.

DR. J. MORTON HOWELL, of Dayton, Ohio, has been appointed diplomatic representative and Consul-General for the United States to Egypt.

THE *Malthusian*, a monthly journal published for the last forty-five years by the Malthusian League, is to be replaced this month by a monthly publication to be called *The New Generation*. Its general policy will be to advocate "early marriage combined with rational birth control."

MR. WILLIAM C. REID, of Edinburgh, who died on December 23rd, 1921, has left a total of £68,000 to charities, including £8,000 to Edinburgh Royal Infirmary, £8,000 to the Longmore Hospital for Incurables, Edinburgh, and £5,000 to the Royal Victoria Hospital for Consumption, Edinburgh.

British Medical Journal.

SATURDAY, JANUARY 21ST, 1922.

THE SOURCES OF VITAMINS.

THE composition, origin, and action of vitamins have been the subject of a very large amount of research during the past few years. Progress has of necessity been slow, for the subject presents difficulties which are almost unique. Vitamins are very unstable bodies of unknown chemical composition; they occur in minute quantities, and the only way in which their presence or absence can be proved is by animal-feeding experiments lasting several weeks. These characters represent a cumulation of difficulties which renders quantitative work of even approximate accuracy extremely difficult. Though the chemical nature of vitamins is still unknown recent researches have thrown light on the conditions under which they are formed. It is generally recognized that mammals are unable to synthesize vitamins and are entirely dependent upon the supplies which they obtain either directly from vegetables or at second hand from the flesh or milk of other animals.

It has generally been assumed that plants can synthesize vitamins, but doubt has been cast upon this by various workers. Bottomley stated in 1916 that certain plants obtained these accessory food substances from the growth of certain organisms in the soil. Recently Williams and other workers have gone further and have claimed that vitamins, and especially the water-soluble vitamin B, are necessary for the growth of yeast and other micro-organisms. These statements made it very difficult to conceive where and how the vitamin supply of the world was produced. Fortunately recent work has cleared up this question. Nelson, Fulmer, and Cessna[1] grew yeast for a year on a medium composed of inorganic salts and cane sugar; they made subcultures every other day, and calculated that the final solution only contained 1×50^{-180} of the original constituents of the medium or yeast. This yeast thus grown on a synthetic diet was found to contain a normal amount of vitamin B. Harden and Zilwa[2] also showed that yeast grown on a pure synthetic diet contained almost as much vitamin B as yeast grown under normal conditions.

These experiments seem fully to establish the contention that yeast can grow freely without any supply of vitamins, and that it can synthesize vitamin B from a diet of inorganic salts and sugar. Yeast does not synthesize the fat-soluble vitamin A, but the origin of this vitamin appears to have been demonstrated by recent experiments of Coward and Drummond.[3] These observers showed that dried seeds contained little vitamin A, and that this amount was not increased by germination, but that as soon as the seeds formed green leaves a considerable amount of vitamin A appeared. Experiments made with Tradescantia shoots grown on Sachs's solution also showed that green plants could synthesize vitamin A from inorganic salts. The production of vitamin A was shown to be dependent upon the presence of chlorophyll in plants, for etiolated seedlings contained no vitamin A, nor did white leaves from the interior of cabbages. In green seaweeds, containing chlorophyll, vitamin A was present, but red seaweeds contained none. Mushrooms were found to be almost completely deficient in vitamin A. It appears, therefore, that the presence of chlorophyll is essential for the synthesis of vitamin A, and that chlorophyll-containing plants can synthesize vitamin A when fed on a pure synthetic diet.

The chemical nature of vitamin A is still unknown. Coward and Drummond found that it could be extracted by fat solvents from green leaves and that it appeared in that fraction of the fat which is resistant to saponification. Vitamin A was at one time believed to be one of the yellow plant pigments. These plant carotinoids are the source of the lipochromes which produce the yellow colour of animal fat, and, as a general rule, those animal fats which contain most lipochrome also contain most vitamin A. Various workers have shown, however, that this association is not constant and that the association between lipochromes and vitamin A is probably accidental.

These researches give a fairly clear picture of the vitamin exchange in living organisms. Vitamin B is synthesized by all forms of plant life, whilst vitamin A is only synthesized by plants containing chlorophyll. Fishes and whales obtain the rich supply of vitamin A present in their oil either directly or indirectly from the chlorophyll-containing algae or from the chlorophyll-containing organisms in the *plankton*. Land animals derive their vitamin A supply from the green vegetables.

The source of the vitamin A in milk has been shown very clearly by Drummond, Coward, and Watson.[4] They measured the vitamin content of the milk of a herd of cows from April to July, 1921. The animals were stall fed until the end of April, and in April their milk contained little vitamin A; after the cows had been a week at grass their milk yielded a high content of vitamin A, which persisted during May and June. The drought last year spoilt the pasture, however, so that in July the cows had to be fed on cake, and the vitamin A content of the milk at once dropped. A quantitative study of the vitamin A content of butter showed that during the process of butter making a certain amount of vitamin A disappeared, but that butter could be stored in tins for many months without any marked diminution in vitamin content. The conclusion was drawn that the vitamin A content of butter was much more dependent upon the season at which the butter was made than upon the length of time for which it had been stored. This conclusion is obviously of great practical importance. The cow can only secrete in its milk the vitamins which it receives in its food, and the milk or butter of a cow fed on a vitamin-poor diet will contain very little vitamin. Our knowledge of the importance of vitamins has emphasized the necessity for obtaining fresh milk in which the vitamins have not been destroyed, but now it appears that it is equally important to obtain milk from a cow receiving a vitamin-rich diet. Drummond and his fellow workers have examined also the vitamin A content of the body fats of animals, and in this case also they found that the fat of a stall-fed animal often contained very little vitamin A; whilst, on the other hand, the fat in tinned beef obtained from grass-fed animals was often rich in vitamins after many months' storage. These conclusions as regards the vitamin content of tinned foods apply only to fats which have been stored under good conditions, and are probably true only for the case of vitamin A, which is more stable than either vitamin B or C.

It is, of course, a matter of extreme difficulty to preserve vitamin C; the only substances in which this vitamin is preserved for any length of time are the fruit juices, and even from them the vitamin slowly disappears. Harden and Robison[5] found that when dried orange juice was stored in a desiccator for fifteen months it lost 50 per cent. of its vitamin C content, and dried

[1] Nelson, Fulmer, and Cessna, *Journ. of Biol. Chem.*, 77, xlv, 1921.
[2] Harden and Zilwa, *Biochem. Journ.*, 438, xv, 1921.
[3] Coward and Drummond, *Biochem. Journ.*, 530, xv, 1921.
[4] Drummond, Coward, and Watson, *Biochem. Journ.*, 540, xv, 1921.
[5] Harden and Robison, *Biochem Journ.*, 521, xv, 1921.

orange juice kept under ordinary conditions lost 85 per cent. of its activity. The supply of vitamin A and vitamin C therefore appear to present two separate problems. In the normal adult there is really no problem, for an adequate quantity of green vegetables in the diet provides a full supply of all three vitamins. In the case of bottle-fed babies, however, the supply of vitamin A appears to depend chiefly upon the diet on which the cows supplying the milk are fed, while the supply of vitamin C is determined chiefly by the treatment which the milk undergoes during its passage from the dairy to the infant. The conclusions of Coward and Drummond certainly suggest that during the winter it is desirable to add cod-liver oil, or some other rich source of vitamin A, to the food of infants on a milk diet.

EDUCATION AUTHORITIES AND SCHOOL MEDICAL OFFICERS.

THE consolidated regulations for special services of elementary education, made by the Board of Education in 1920, direct that a local education authority "shall appoint a school medical officer, who will be responsible to the [Education] Authority for the efficient carrying out of any arrangements made by the Authority for the medical inspection, supervision, and treatment of children of elementary school age within their area, and also for the discharge of such other duties as may be from time to time assigned to him"; and that "the Authority shall annually submit to the Board a report from their school medical officer describing and tabulating the work of himself and his staff during the 12 months ending 31st December." It is further laid down that the records required by the Board must be available for examination by the Board's inspectors, and the term "inspector" is defined to mean "exclusively one of His Majesty's Inspectors of Schools, one of the Medical Officers of the Board, or any other persons employed by the Board for the purpose of inspection."

Throughout these regulations there is no reference to the functionary employed by many of the larger local education authorities, and described in some areas as the "'secretary of education," in others as the "director of education," and in others again as "secretary to the education committee" or "chief education officer." Since the passing of the Education Act of 1902 special appointments of this kind have been made by an increasing number of authorities, including most of the county councils. Such posts are not statutory; but the persons holding them are now numerous enough to have formed themselves into an association, and self-important enough to have drawn up a memorandum laying down what they conceive to be the relations which should subsist between the school medical service and the general educational administration, of which they evidently regard themselves as the keystone. According to our information, this document attempts to lay down the principle that in each area the school medical service —essentially a health service—should be placed under a lay official, the secretary or director of education.

The Board of Education, as we have said, directs that the school medical officer shall be responsible to the local education authority, and that the authority itself shall submit his report to the Board. This, however, does not go far enough to suit the Association of Secretaries and Directors of Education, which prefers to ordain that "the chief function of a school medical officer is to act as adviser to the local education authority through the *chief education officer* on all matters pertaining to the health and physical welfare of children"; and that the medical officer's duty is to report any defects in sanitation or equipment of school buildings which may be detrimental to the health of the children to the chief education officer and to none else. The height of presumption is, however, reached in the following declaration: "It is important to establish the principle that the school medical officer's report is a report to the Education Committee, who are consequently at liberty to publish such report in whatever form or with whatever alterations they see fit. . . . The report should, in common with other documents to be placed before the Education Committee, be presented through the chief education officer." In other words, the Local Education Committee is to give a free hand to its education officer to mutilate or rewrite its medical officer's reports. On what grounds, it may well be asked, is this claim to the lay editing of a medical report put forward? Here is the answer: "The school medical officer or the medical officer of health, when acting as such, is not in the position of medical officer of health acting in that capacity, in that his report is not made in accordance with statutory conditions as to publication." That there may be no doubt as to who means to be master, the right is demanded in so many words that all communications from the school medical officer or his assistants shall pass though the chief education officer; that all forms and circulars issued by the former shall be approved by and issued through the latter; and that all reports of the former of whatsoever kind shall be presented to the Local Education Committee through the latter. "In short, the Chief Education Officer must be the chief executive officer of the Education Committee in *all* matters."

We were aware that minor bureaucrats suffered at times from delusions of grandeur. In this instance the delusions would seem to be collective. Even so, little harm might perhaps be done if these local officials amused themselves by airing their pretensions in strict privacy; but their memorandum, to which we have referred, appears to have been circulated by the County Councils Association to county medical officers, not for comment and criticism, but "for private and personal use." So far as we are aware neither the County Councils Association nor its education committee has expressed an opinion upon the claims advanced by the Association of Directors and Secretaries of Education. It would be of interest to know whether the County Councils Association has yet formed any opinion on the administrative principle involved, and if so, what its nature may be.

The matter thus being common knowledge among those most concerned, the British Medical Association and the Society of Medical Officers of Health have decided that prompt action is needed. The two organizations have agreed to send in a memorandum to the Minister of Health and to ask him to receive a deputation. The opportunity will no doubt be taken to point out the dangers of delay in providing for unification of all agencies which are definitely connected with the health of the nation, and the risks of leaving the school medical service outside the general constructive organization of preventive medicine.

THE SOCIAL STUDY OF A COMMUNITY.

IN the rough and ready study of geography in vogue in schools twenty years ago or even less, the names of the rivers of India and the comparative heights of the mountains of the world were learned by rote and forgotten at leisure. To-day, however, under modern teachers of geography, the schoolboy begins with the study of his immediate surroundings, their physical features, climate, industries, local government, and so proceeds to wider horizons and more general knowledge. In human physiology advances have generally been achieved, first by the intensive study of small details, by the careful watching of one aspect of one part of an organ, and then by

weaving the knowledge thus gained into the fabric of the whole. So in the life of a nation real advance is not made by chaotic political ideas and war-cries, which loom so large one day and are forgotten the next, but by the development of true knowledge, built up little by little, of the things that constitute the foundations of national well-being. With such an object in view a pioneer effort has been made in Wales by a survey of the industrial, social, and educational life of one town during a period of ten years. The study was made in Aberdare, during the decade from 1910 to 1920, by the members of the Aberdare group of the Welsh School of Social Service. A comprehensive paper based on the considerable mass of material collected was read by Miss Dorothy Rees at the annual meeting, in 1921, of the School of Social Service, and an interesting summary of this paper has been published in *The Welsh Outlook* for January, 1922. Aberdare is a coal-mining district, where the population has increased from 1,500 in 1801, when it was still, of course, agricultural, to 54,000 in 1920. Within the decade studied electricity was introduced; it was generated from house refuse, and employed both for lighting and power and for the tramways. Two housing schemes were begun in 1911, and early in the decade Acts and by-laws for notification of births, employment of children, and shop hours were adopted. Land was secured in all the wards for recreation spaces and open-air swimming baths, and public parks were laid out; Aberdare, too, was early in the field in establishing infant welfare and maternity work. In education the town was a pioneer in the organization of physical training and play centres, and modern methods of education have been introduced. The education authority (for good or for evil) was the first in the kingdom to appoint a whole-time school medical officer, and a school clinic was opened in 1911. A prominent feature in the social life of the town has been the provision of workmen's halls, institutes, and free libraries, which knit together practically the whole community. Aberdare has long been renowned as a centre of music lovers, and in the last ten years over a dozen dramatic societies have also been established. The political life of the community has not differed much from other towns in the country, but its tolerance of widely differing political creeds has been noteworthy, and during the war extremist speakers, who were bitterly assailed elsewhere, were allowed in Aberdare to make public their opinions, although 5,650 of its men served in the army and navy. This miniature Domesday Book is not only a definite achievement but an example worthy of wide imitation.

THE MATERNAL MORTALITY PROBLEM IN NEW ZEALAND.

ACCORDING to statistics published by the United States Department of Labour in May last, New Zealand took the second highest place in regard to mortality from childbirth and the diseases of pregnancy. This publication led the Minister of Health of the dominion to appoint a special committee to investigate the facts and suggest a remedy. The report of the Committee has now been published in the official periodical of the Ministry, the *Journal of Health and Hospitals* (October, 1921), and it is not without its lessons for us in this country, where the persistence of the mortality rate from the same causes is a standing reproach. The Committee produce a graph covering the period from 1872 to 1920, which shows that after certain more or less ordinary fluctuations there has been a sharp rise in the maternal mortality rate in New Zealand from 1913, reaching a maximum of 6.48 per 1,000 live births in 1920. The principal causes of death are stated as: (1) "Puerperal septicaemia; (2) puerperal albuminuria and convulsions; (3) puerperal haemorrhage; (4) accidents of pregnancy and other accidents of labour." Thirty-six per cent. of the average maternal mortality for the last quinquennium was the result of puerperal infection, and it is to this subject that the Committee have almost exclusively devoted their report. They give as a reason for so doing that "deaths from sepsis are largely preventable," but if that is so, deaths from albuminuria and puerperal convulsions are even more so. We should like to have seen this point mentioned, and the life-saving value of a routine examination of the urine of every pregnant woman emphasized more specifically. For the high death rate from infection the Committee blame: (1) "Abnormal virulence of organisms and diminished resistance of individuals, due possibly to conditions during and subsequent to the war." Included in these conditions are housing difficulties and lack of domestic help. There is also evidence of "an abnormally high death rate due to septic conditions following on attempts to procure abortion." (2) With regard to unsuitable surroundings, it is said "private houses are often quite unhealthy places for confinements. Moreover, some private maternity hospitals are not free from conditions which easily lead to septicaemia and allied troubles." (3) The unduly large use of instruments and other operative measures is condemned; medical witnesses, it is said, stated that too often "the use of anaesthetics and instruments was urged upon the practitioner by the patients and their friends." Making all allowance for the difference between the conditions prevailing in New Zealand and those prevailing here, it may be accepted that all three conclusions are more or less applicable to this country, with perhaps the exceptions of any "abnormally" high rate of abortion-mongering, and the urgency of patients and their friends for the employment of instruments. All we would say about the first conclusion is that it is and must remain more or less a matter of opinion. But we are particularly glad to see reference made to the unsuitability of many private houses for confinements, for we hold that this is a big factor in our own problem at home. If we are to reduce our maternal mortality it is not enough to insist upon the proper training of medical students and nurses; we must educate the people to a comprehension of the necessity for the provision of suitable conditions for confinements. There is no gainsaying that every confinement partakes of the essential characters of a surgical operation. The placental site is a large wound surface, and in every first confinement at least there are numerous other small breaches of the surface. Yet practitioners are expected to confine women in conditions in which they would naturally hesitate to "operate," and the illusory immunity with which they appear to do so tends inevitably to produce a contempt of the risks. Many a man does—and in some degree is forced by circumstances—put his hand into a uterus under conditions in which he would never dream of putting that same hand into the peritoneal cavity. Again, we are glad to see the reference to private hospitals or nursing homes. The powers of inspecting such institutions, vested in the local authorities under the Midwives Acts in this country, would be kept in greater respect and efficiency by a little exercise. The recommendations of the Committee are very interesting. With the spirit of them we have no quarrel, but they deserve attention also from the fact that they indicate what may be expected under the bureaucratic rule of an active Ministry of Health. "That every case of maternal death shall be forthwith personally investigated by the Medical Officer of Health, who shall report to the Director-General of Health." "That every case of notified puerperal sepsis shall be forthwith personally investigated by the M.O.H. who shall report to the D.G.O.H." "That all maternity hospitals, public and private, make a quarterly return to the department of morbidity rate as well as mortality rate." This is an excellent recommendation, especially in its emphasis of the importance of the morbidity rate; but we should prefer to see a moral compulsion in response to an awakened public opinion rather than a legal compulsion. Recommendation 5 includes compulsory post-graduate study for practising maternity nurses every two or three years—of course at the expense of the State. Recommendation 8 is that "efficiently equipped private midwifery wards for paying patients should be established in connexion with public midwifery institutions or in other suitable places." This is greatly needed in this

country also. In Recommendation 11 the Committee seeks the co-operation of the profession in preventing excessive use of instruments. This is a most vital recommendation. Putting aside for the moment the inestimable value of instruments properly used in the presence of proper indications, there can be no doubt that thousands of labours are every year conducted instrumentally with detrimental results, which would terminate more favourably without such interference. The gynaecological wards of every hospital afford more than ample testimony to this. Lastly, the Committee lays stress on the importance of ante-natal clinics, and in private practice "the serious importance of ante-natal examination." With this we entirely agree. It is indeed but part and parcel of the proper modern conduct of obstetric practice, and while ante-natal clinics are a comparatively recent development, it is a reproach to the profession that adequate ante-natal examination in private practice should require any stressing.

INDUSTRIAL USES OF MICRO-ORGANISMS.

In view of the proposal recently put forward by Mr. Chaston Chapman, F.R.S., for the foundation of an institute for the study of industrial microbiology [1] it is of interest to note the examples he gave in the Cantor lectures for 1921 of the advantages reaped by industry from the scientific study of bacteria yeasts and moulds. In the ordinary fermentation of sugar by yeast 3 to 4 per cent. of glycerin is formed as one of the by-products. Early in the war the Germans, faced with a fatal shortage of fats, turned attention to the problem of the increased production of glycerin by yeast fermentation of sugar. As the result of carrying out the fermentation in an alkaline medium in the presence of sodium sulphite the direction of the enzyme action was so changed that glycerin was formed to the extent of 36 per cent. Americans in the later stages of the war produced glycerin by fermentation of molasses in the presence of sodium carbonate, and from 20 to 25 per cent. of the sugar taken was converted into glycerin. Another example of a recent modification of an ancient industry is the modern production of sugar from starch through the agency of a mould of the genus Mucor. From very early times moulds have been used in the East for the manufacture of wine from rice. The so-called Chinese yeast was analysed by Professor Calmette, who traced the diastatic action to a mucor mould. The organism was obtained in pure culture and has been used extensively in France for the manufacture of alcohol from starch, maize, rice, and potatoes. Since the process was first introduced, twenty years ago, more than six million hectolitres of alcohol have been prepared by this method, which illustrates the fact that by biochemical research and the application of modern scientific methods a crude process of very little utility, and dating almost from time immemorial, has in the short space of twenty years been raised to a position of high technical importance to the whole world. Recently the process has been further simplified by making use of the starch-liquefying enzyme secreted by *B. mesentericus* for the purpose of preparing the grain for the mucor. In this modification, therefore, three agencies are employed: First, a starch-liquefying enzyme secreted by a bacillus; secondly, the diastatic enzyme of the mould; and, finally, the alcoholic fermentation of the sugar by the yeast. As an example of an industry which has not benefited by the advances of modern science the vinegar industry may be mentioned. The manufacture of vinegar was certainly being carried on in this country in the early part of the seventeenth century, and in the reign of Charles II its taxation was provided for in the Revenue Act of 1673. As is well known, vinegar results from the oxidization of alcohol to acetic acid through the agency of micro-organisms, different varieties of vinegar being formed from the different alcoholic beverages oxidized. The apparatus employed is very crude, the alcohol being allowed to trickle over twigs of wood on which are growing the acetifying organisms. Vinegar manufacturers make no attempt to use pure cultures of the acetifying bacteria, and they rarely know anything of the precise character of the organisms they are using or the most suitable conditions for obtaining the maximum yield of vinegar. The result is that the process is wasteful and often uncertain in its results. Perhaps the most impressive example of the application of bacterial ferments for industrial purposes is exemplified in the "acetone process" developed during the war, when the demand for acetone was so greatly increased. This process consists of the bacterial fermentation of starch by the acetone bacillus under strictly aseptic conditions, and the separation of the two main liquid products, butyl alcohol and acetone, by fractional distillation. An enormous amount of acetone was manufactured in this way both in England and in Canada during the war, but the commercial possibilities of the method in times of peace depends on whether or not a use can be found for the butyl alcohol formed in such large quantities. In discussing the possibilities of the use of lower fungi for food of man Mr. Chapman drew attention to the German discovery in 1916 of an organism which during its growth produced fat and also built up protein from ammonia salts without any form of organic nitrogen. By a special chemical process it was found possible to prepare from it a food extract resembling extract of meat in its chemical and physical properties. Thus was built up in a few hours from glucose, converted sawdust, and ammonium phosphate, through the agency of this microscopic organism, large quantities of edible protein and fat. These few examples of the utilization of micro-organisms for industrial purposes illustrate the importance of close co-operation between science and industry.

[1] BRITISH MEDICAL JOURNAL, December 10th, 1921, p. 1074.

DR. THOMAS FOWLER'S SOLUTION.

FAMILIAR as is Fowler's solution, the identity of Dr. Thomas Fowler is not recognized in the *Dictionary of National Biography*; there is, however, an account of him in the late A. C. Wootton's *Chronicles of Pharmacy* (vol. ii, p. 133, 1910), and the *Presse médicale* of Paris of June 4th, 1921 (*Supplement*, p. 808), contained an interesting historical note by Dr. H. Leclerc. The following is the history of Fowler's solution: Towards the end of the eighteenth century a secret patent specific against ague was popular in Berlin, and these "tasteless ague and fever drops" came into vogue in this country, and were occasionally used from 1780 to 1783 at the General Infirmary of the county of Stafford, where Fowler was physician and a Mr. Hughes the apothecary. In October, 1783, Hughes told Fowler that he had found that the active constituent of this secret remedy was arsenic, and that he had made up a solution of arsenic to take its place; this substitute was tested and compared as regards its effects on patients, and some modifications in its composition were made. In 1786 Fowler published a pamphlet of 128 pages, "Medical Reports of the Effects of Arsenic in the Cure of Ague, Remitting Fever, and Period Headaches; together with letters from Dr. Thomas Arnold of Leicester and Dr. Withering, describing their experience of the effects of arsenic in intermittents." This contained a number of cases so treated, and pointed out that previously arsenic had been regarded in the light of a powerful poison only; indeed, writing again in 1788 he found it necessary to combat this prejudice against its medicinal use. Fowler gave full credit to Hughes for his investigations, but, as Leclerc points out, the preparation should perhaps be more justly called Hughes's solution. It is generally recognized that Fowler introduced the modern medicinal use of arsenic, and it is interesting to note that he derived it from a quack remedy. He also wrote *Medical Reports of the Effects of Tobacco in the Cure of Dropsies and Dysuries*, describing the diuretic action of tobacco; this passed into a second edition. Fowler was born in 1736 at York, where from 1760 to 1774 he kept a chemist's shop; he then went to Edinburgh and took his M.D. degree, and settled down to practice in Stafford. In 1793 he was seized with a painful affection, variously diagnosed by his colleagues. Leclerc summarizes the condition as "paroxysms of convulsive asthma with very painful symptoms of angina," and

a year ago there was on sale an autograph letter, written from York on June 3rd, 1795, by Fowler, asking for advice and detailing his symptoms as those of angina, to W. Withering, M.D., F.R.S., of Birmingham, the introducer of digitalis, which Withering endorsed with the diagnosis of spasmodic asthma. After leaving Stafford and trying all sorts of remedies for two years Fowler recovered completely, and in 1796 became physician to the lunatic asylum founded by the Quakers at York, where he died in 1801.

THE PROGRESS OF CREMATION IN ENGLAND.

DURING 1921 the number of cremations carried out at British crematoriums was, curiously enough, 1,922. This figure was 126 more than the total for the previous year, but 109 below that for 1919, the "record" number of cremations in that year being mainly accounted for by the influenza epidemic. The bodies of many notable persons who died last year were cremated, including, amongst medical men, Sir Felix Semon, Sir George Savage, Dr. P. S. Abraham, Mr. H. E. Juler, Dr. A. S. F. Leyton, and Sir Sidney Beauchamp. The hygienic advantages of cremation have been dwelt on so many times in these columns that the arguments in its favour must be familiar to all members of the medical profession. From an economic point of view it has the advantage of preserving land for the use and enjoyment of the living; it provides, moreover, a permanent resting place for the dead, in accordance with the ancient custom of church sepulture. Sir Thomas Browne, in his famous dissertation on urn burial, remarks that "carnall interment or burying was of the elder date. . . . But the practice of Burning was also of great Antiquity, and of no slender extent." The early Christians, he says, abhorred this way of obsequies, but the Jewish nation, though they entertained the old way of inhumation, yet sometimes admitted this practice. Such phrases as "cadaverous and corruptive burials" seem to show his own preference for "urnall interments and burnt Reliques." But cremation, although it is now being adopted in nearly every civilized country, makes slow progress in superseding earth burial as the accepted method of disposal of the dead. Of the fourteen crematoriums in England and Scotland—all placed in large centres of population—it appears that not more than six are at present paying their way. The reason for this is that they are not made use of often enough to cover ordinary working expenses in respect of establishment and maintenance, rates and taxes. The Cremation Society of England finds that, provided it has the support of only some 10 per cent. of the population of any large centre, a crematorium becomes a paying concern; furthermore, unlike a cemetery, it never becomes filled up and useless or a danger to health. Cremation would no doubt progress more rapidly, at least among educated people, if those who favour it recorded their wishes during lifetime and thus identified themselves with the movement. In recent years the Cremation Society of England, whose offices are at 52, New Cavendish Street, London, W.1, has instituted a scheme of registration whereby those in sympathy may record their wish. There is no charge for this service, and no liability attaches to those signing or to their executors, but the society endeavours to give effect to the desire so expressed.

SMALL-POX AND VACCINATION.

IT is stated that there are in England and Wales at the present time about 15,000,000 persons unprotected against small-pox, including great multitudes of unvaccinated children. While it is unlikely that this country, with its admirable public health service, will ever have such a visitation of small-pox as less civilized countries have had in former times, yet the fact remains that small-pox does prefer unvaccinated to vaccinated children. A leaflet which has been issued by the Research Defence Society points out that there is a part of the Gloucester cemetery where 279 unvaccinated children under ten years of age are buried, who died of small-pox in the Gloucester epidemic of 1895–96; with them is only one child out of more than 8,000 who were vaccinated before or during the epidemic. During the small-pox epidemic in London in 1901–2, of the deaths from small-pox in children under ten years of age, 442 were among the unvaccinated and only 2 among the vaccinated; while similarly in Glasgow in 1920, during the epidemic of that year, 36 unvaccinated children died and none of the vaccinated. In the epidemic at Ossett, in 1903, in a school of 169 children living under similar conditions there were 37 cases of small-pox among the 77 unvaccinated children, 5 among the 78 vaccinated, and none among the 14 revaccinated. Vaccination is not our only defence against the spread of small-pox: the disease is fought also by sanitary measures, but the great abatement of small-pox was certainly already achieved by 1812, before the rise of modern sanitary science. The Public Health Act, for instance, did not become law until 1875. The case of a well known public man in London having recently contracted small-pox through exposure to infection in Russia has focused attention again upon this disease, especially as in this case the disease was considered at first to be a somewhat severe form of chicken-pox, which, of course, it resembles closely in its early stages. The London County Council, it will be remembered, has made arrangements, with reference to small-pox, by which medical practitioners in its area can have the benefit of the opinion of a specialist at any time on application to the public health department of the County Council, at 2, Savoy Hill, W.C.2 (telephone: Gerrard, 3641).

POST-GRADUATE COURSES IN LONDON.

THE Fellowship of Medicine and Post-Graduate Association has arranged for a special course in surgery on lines similar to those of the course in medicine now in progress. Much will, no doubt, be learnt from these experiments. It may be, as some critics say, that the first quarter of the year is not the best season, and six weeks may be too long; but the needs and opportunities of post-graduates vary, and we trust that, whatever the result, the Fellowship of Medicine and Post-Graduate Association will be encouraged to repeat the courses at another season and to institute others of shorter duration. The course in surgery will begin on February 20th and conclude on April 1st. The hospitals taking part are the Cancer Hospital, the Chelsea Hospital for Women, the Royal Free Hospital, the Hampstead General Hospital, the Royal Northern Hospital, the Queen's Hospital for Children, the Royal National Orthopaedic Hospital, the National Hospital for the Paralysed and Epileptic, St. Mark's Hospital for Diseases of the Rectum, St. Peter's Hospital for Stone and other Urinary Diseases, and the North-East London Post-Graduate College. There will be a morning and afternoon session on each day of the course, and the appointments will be so arranged as to involve a minimum of travelling. The arrangements are nearly complete, and a syllabus will shortly be available on application to the Secretary of the Fellowship of Medicine, 1, Wimpole Street, W.1.

KEW GARDENS.

SIR DAVID PRAIN is about to retire, under the age rule, from the Directorship of the Royal Botanic Gardens, Kew, which he has held since 1905. *Nature* announces that he will be succeeded by Dr. A. W. Hill, who has been assistant director since 1907. Sir David Prain, who graduated M.B., C.M. at Aberdeen in 1883, entered the Indian Medical Service in 1884, and three years later became curator of the Calcutta Herbarium, a post he retained until 1898, when he was appointed director of the Botanical Survey of India and superintendent of the Royal Botanic Gardens, Calcutta. This post he held until his appointment to Kew. The Royal Botanic Gardens, Kew, are known to all Londoners as one of the most delightful resorts within easy reach of the centre of the metropolis; but they are far more than that: they are the centre for research in scientific and economic botany of the British Empire, and under Sir David Prain's direction

have maintained the eminent position achieved for them by his distinguished predecessors. He has received many distinctions. He is treasurer of the Royal Society, has been President of the Linnean Society, and is President of the Association of Economic Biologists. During the war he rendered important services to the War Office and other Government departments. His successor, Dr. Hill, is F.R.S., and before his appointment to Kew was lecturer in botany in the University of Cambridge, of which he is a graduate.

INFLUENZA.

In the week ending January 14th the number of deaths from influenza in the 105 great towns of England and Wales exceeded 1,200; in London 551 deaths were recorded, an excess of 197 over the figure of the previous week. It will be noticed that the rate of increase is slackening considerably, and we shall not be surprised if, so far as London is concerned, the last week proves to have been the worst of the present recrudescence. In Nottinghamshire and the West Riding, the earliest areas affected, the crisis is past. Clinically there is no doubt that the disease is generally of a mild type. Pulmonary complications have been less common and less severe. The "heliotrope" pneumonia of 1918 has been excessively rare, and, in the few cases reported, recovery has taken place, which was very unusual in 1918; as the lay press are tempted to thrill their readers with reports of "deadly blue" pneumonia, it is worth bearing the point in mind. So far as our information goes there is a great deal of influenza in Germany, but it has not been reported from France, and the North American continent appears at present to be free.

England and Wales.

WELSH NATIONAL SCHOOL OF MEDICINE.

A PUBLIC meeting to support the appeal of the Prime Minister for £100,000 to provide additional endowment and equipment for the Welsh National School of Medicine will be held at the City Hall, Cardiff, on Wednesday next, January 25th, at 3.15 p.m. The speakers will include Professor Sir Charles Sherrington, President of the Royal Society, the Right Hon. J. Herbert Lewis, M.P. for the University of Wales, Sir George Newman, K.C.B., M.D., and Lord Kenyon, Pro-Chancellor of the University of Wales. The Lord Mayor of Cardiff will be in the chair. It is urged that the sum asked for should be raised before August next, so that the Welsh National School of Medicine may qualify for the annual Treasury grant of £5,000. It is estimated that within a year or two the yearly expenditure of the school will reach £25,000. Money is also required for equipment in the shape of laboratories and apparatus, and for an endowment fund to provide the full complement of professors, lecturers, and trained staff. The organizing secretary of the fund is Mr. Gwilym Hughes, Welsh National School of Medicine, Newport Road, Cardiff.

HOSPITAL ACCOUNTS AND PATIENTS' PAYMENTS.

In view of recent developments in connexion with the income derived from receipts for services to patients, certain modifications have been made in the revised uniform system of hospital accounts by the King Edward's Hospital Fund, the Metropolitan Hospital Sunday Fund, and the Hospital Saturday Fund, which will affect all hospitals in the London area receiving grants from these funds. Instead of the former heading which dealt with the income from patients' payments and under the National Insurance Act, five subheadings are now to be used, which will distinguish the amount of the receipts from in-patients, out-patients, public authorities, approved societies, and other sources. The definition of patients' payments will apply to all receipts on account of services to patients, whether the receipts are from patients themselves, or from their friends, charitable agencies, public authorities, or other sources on their behalf. It is particularly emphasized that only exceptional voluntary payments quite outside the rules of a hospital as to patients' payments should be included under the heading of donations, and all receipts which result from applications made to patients to contribute towards the cost of services rendered should be included under the heading of receipts for services to patients.

A HOSPITALS WELFARE SOCIETY.

The Lewisham, Deptford, and Greenwich Hospitals Welfare Society is, we are informed, raising approximately £100 a week for local hospitals, by means of the "Wilfred Allen scheme" for collecting small amounts from the householders of the district. The scheme is worked by more than 1,700 voluntary workers, and in nine months of last year the society was able to allocate £3,600 to the five local hospitals and the Sydenham Infant Welfare Centre. A large proportion of this sum was taken in pennies from door to door; it is expected that in the present year the amount will be much increased. The secretary, Mr. Edgar F. Brooks (75, High Street, Lewisham, S.E. 13), states that the society welcomes inquiries from other hospitals or areas, and will be pleased to explain matters fully and to help in the organization of any district. The society holds that the voluntary principle "is of paramount importance for the really effective working of the hospitals, and that by an organized effort that principle can not only be maintained but greatly extended." Its desire is to present the scheme as a free gift to the cause of humanity, to maintain the hospitals on the basis of voluntary contributions. It has, we are informed, been adopted with much success in Barking.

METROPOLITAN ASYLUMS BOARD WAR MEMORIAL.

At the meeting of the Metropolitan Asylums Board on January 14th the memorial tablet erected by the Board in memory of officers of the Board who fell in the war, was unveiled by the chairman (Canon Sprankling). The memorial, which was designed by Mr. J. N. Comper, consists of a panel upon which the dedicatory inscription and 132 names of those who gave their lives are cut. The panel is enclosed in a projecting frame, and surmounted by a cornice supporting the Board's arms, the whole being carved in Nailsworth stone and decorated in gold and colour. The chairman, in unveiling the memorial, stated that 1,649 of the staff joined the forces, and 104 decorations and honours were gained. The Board is at present employing over 7 per cent. of disabled men amongst its male staff.

Scotland.

A GLASGOW UNIVERSITY APPEAL.

AN appeal is being made by Glasgow University for funds to extend the Students' Union, the Women Students' Union, the hostel accommodation for students, the Athletic Club pavilion, and to provide an endowment fund for the Athletic Club. Handsomely endowed and equipped for instruction in arts and sciences, in these other respects (which are to-day recognized as equally important in the training of the student) Glasgow takes a humble place in comparison with other universities, and especially with the ancient foundations of England. There was a time in the early history of Glasgow when its college was residential, but the time came when Scotland in general came to pin its faith upon class work and examinations, leaving—if they were considered at all—culture and character to nature rather than nurture. The present Students' Union of Glasgow was presented by Dr. John McIntyre, in 1889, to be "a centre to which the various university societies may be affiliated." At Glasgow the Union is the very heart of the university, but, although the original building has been extended twice, it is now capable of accommodating only a membership of 500. But there are 3,300 men students at the university, of whom 1,200 are members of the Union. There are fifty student societies at present at Glasgow, but their meetings are greatly hindered through the absence of accommodation in the building designed for them. The cramping conditions that affect the men apply equally to the women students of Queen Margaret College, who have urgent need of a new union also. In October, 1920, no fewer than 1,075 women students matriculated, and for them there is available in their union a dining-room able to seat only thirty at a time, while the largest room in the building holds but fifty people. Students of Glasgow have to seek lodgings in the city, and owing to the present shortage of houses the difficulties are many. There is thus a real and urgent call for hostels for about 600 students, men and women, for as things are at present 676 men and 237 women students at the university have

to live beyond twelve miles from the city. The present hostel accommodation provides for fifty women only, and for some forty men. The Athletic Club equally needs assistance; the only pavilion is a temporary erection where the numerous members of the various sections of the Athletic Club have to change in two small rooms, while the women students are even less luxuriously accommodated in a hut. In order to provide a staff sufficient to keep and work the enlarged athletic ground, an endowment is necessary to meet the permanent charges, for there is no resident body of past players to support the club by their subscriptions as honorary members, as is the case in ordinary athletic clubs. The University of Glasgow therefore appeals to all her members and friends to help generously in her efforts to meet these real needs, of which the experience of the past few years has made her more conscious than ever before.

Influenza in Scotland.

In Edinburgh there have been so far comparatively few cases of influenza, which have proved of a mild type, but in Glasgow the number of cases has been steadily increasing, and while the number of deaths has been small the prevalence of the disease has given rise to considerable apprehension. According to the *Glasgow Herald* nearly 200 members of the police force were off duty on January 12th, the majority of whom were suffering from influenza, while among tramway men, who from the nature of their employment are specially liable to attack, there were no fewer than 280 cases. Among school children the disease is likewise spreading, and the number of absences from school is also increased by an outbreak of measles which has occurred. In Kirkcaldy it has been estimated that fully 3,000 people are off work suffering from influenza, and in some cases as many as 50 per cent. of the employees of business houses are ill. The suggestion has been made in Edinburgh that, owing to the fact that all trained nurses are fully engaged, an emergency staff of those who have had nursing experience should be formed, whose services might prove very useful in case the influenza epidemic reaches Edinburgh.

Glasgow Medical Lunch Club.

At the weekly meeting of this club on January 12th, in Ferguson and Forrester's, Buchanan Street, Dr. Frank W. Martin presided, and Dr. James A. Adams was present as the guest of the club. After lunch Dr. Adams, who represents the Royal Faculty of Physicians and Surgeons of Glasgow on the General Medical Council, gave an address in which he referred more particularly to the efforts being made, or about to be made, to raise the standard of medical education in general. He discussed the proposal to raise the standard for the D.P.H., proposals which if accepted would render the diploma very difficult to obtain. A higher qualification of this kind was in his opinion suitable for those who wished to specialize in public health, and should be additional to, and not replace, the present diploma. Dr. Adams finally made a strong appeal for a larger membership of the Royal Faculty in Glasgow, so that its present influence in medical matters, local and general, might be strengthened.

Bellahouston Hospital.

At the monthly meeting of the Fellows of the Royal Faculty of Physicians and Surgeons of Glasgow, held on January 9th, 1922, the following resolution was passed respecting the administration of Bellahouston Hospital:

> After careful consideration the Faculty are of opinion that the report of the Committee of Inquiry into the management of Bellahouston Hospital affords a complete vindication and exoneration of the administration of the hospital and of the medical and surgical staffs.

Ireland.

Medical Advance and Development in Belfast.

(From our Belfast Correspondent.)

The large benefactions of the late Mr. Henry Musgrave of Belfast have raised considerable debate amongst those interested in the public institutions concerned; some of these bodies will no doubt be glad of the immediate relief in this time of financial difficulty. With regard to the Royal Victoria Hospital, it is considered an opportunity for some large developments. With great foresight and care the financial authorities of the board of management have kept the income at a high level; the workmen's contributions are liberal and much increased, and in the hospital itself economy has been pressed in all departments, provided that efficiency was not sacrificed. Much praise is due to Colonel Deane, ex-superintendent, and to his indefatigable successor Colonel Forrest. The result is that towards the end of the financial year there is a legitimate hope that if there be a deficit it will be but small, and that in this respect the hospital will compare most favourably with similar institutions. Consequently there is place for further enterprise. The foundation of a "clinic" on the lines of those started in some of the leading London hospitals, the building of a large and suitable nurses' home, the enlargement of the hospital by the addition of one or two units, and, lastly, the erection in connexion with the main hospital of a well equipped "pay" or "private" hospital for the middle classes. At present we have several excellent and well managed private hospitals, run by former nursing sisters; the charges are not exorbitant for the well-to-do and rich, but for the poorer middle class the minimum charge which it is found necessary to make to ensure a profit is prohibitive; this large and deserving portion of the community are not catered for; they can afford a moderate weekly sum towards their maintenance in hospital and a moderate fee for professional attendance, but they cannot afford a weekly sum that pays the proprietor of a private nursing home nor a fee that pays a medical attendant and a consultant or operator, and they refuse charity. One large institution could be run on more economical lines than several smaller independent ones, and the conditions would be more uniform. This project finds favour with many of the profession. The new plans of the Leeds Medical School (vide British Medical Journal of January 7th) have also received very favourable comment.

With regard to the university there is also much interest and debate; no doubt the arts, science and other faculties, will press their claims. In the faculty of medicine, which is by far the largest in the university, advances have in the last few years been made in the departments of anatomy, physiology, and pathology; the lectureship in public health has recently been raised to a professorship; a department of dentistry, with powers to confer a diploma, is now in full swing; and midwifery and gynaecology have now separate professors; in medicine and surgery no change has been effected for years; a lectureship in pharmacology is felt to have the first claim; but although no doubt evidence can be brought that the subjects for the half and third examinations are widening and require support for new effort, yet the final subjects will have either to assert their importance and their far-reaching influence in the light of modern science, or else sink into a merely technical training. We have six teachers in physiology, and but two—both part-time—in medicine, including acute infectious diseases, constitutional diseases, heart, lung, urinary, digestive, and blood diseases, neurology, psychiatry, dermatology, tubercle, and much of syphilis, etc. Surely this is stultifying the study of these subjects. Medical education and study may roughly be divided into three degrees or grades—that of the general practitioner, that of the specialist, and that of the research worker; any one of them requires the greatest brains we can give; it is a question of direction of study, not of ability. In the final subjects the standard of the first in Belfast, as in most medical schools in Great Britain, is high, and leaves nothing to be desired, but practically no effort has been made by the university to provide post-graduate work in the final subjects, in specialist's training, and, most important of all, in research work. The Royal Commission on University Education in London in 1913 found the same fault—the schools did not encourage research; the clinical teacher should be himself engaged in the discovery of fresh truths and should be at the growing point of knowledge. This finding was endorsed by the University Grants Committee in 1921 (page 11 of their report). In the report of the Development Committee of the Queen's University of Belfast (1919) no recommendation, except a slight increase in salaries, was made with regard to these final subjects. A department of medical research or experimental medicine was recommended, but in a half-hearted manner, without detail and with an altogether inadequate grant.

A strong hope is now entertained that with the aid of this large benefaction there will be a beginning in endowing scientific research in the final subjects and an earnest effort

made to enable clinical teachers to be at the growing point of knowledge. Confining attention for the moment to the domain of medicine, it may be said that lectureships with opportunities of research in neurology, psychiatry, metabolism, cardiology, dermatology, experimental psychology, tuberculosis, applied bacteriology and immunology, haematology, and syphilology, would prove generally valuable additions to the strength of the medical faculty, would promote research amongst those who are faced by the problems of the bedside, and would form a school for post-graduate instruction, and so be a valuable asset to the profession in Ulster. Great advances have no doubt been made by physiologists, anatomists, and pathologists, but the most valuable discoveries have been due to the work of those who had to face the realities of disease and daily receive the stimulus of direct contact with patients. Lister, and the pioneers of abdominal and brain surgery, and in the study of endocrinology, all received this double training and experience.

The senate of the university has recognized the importance of the medical school rising to the latest standards, and lately appointed a special committee to consider the enlargement and development of the medical school.

Death of a Belfast Philanthropist.

The death of Mr. Henry Musgrave, D.L., O.B.E., in the early days of this year removed a well known and much respected and beloved philanthropist and public benefactor; he was the last of a large family of brothers, and the Musgrave Chair of Pathology in the Queen's University of Belfast, the Musgrave Laboratories, and the Henry Musgrave Chair of the Russian Language and Literature—lately by consent of the founder devoted to Spanish—are but a few of the standing evidences of the interest of the family in education. His will continues his benefactions; £47,000 is left to the Queen's University, of which £20,000 is to be devoted to research scholarships, £20,000 to general purposes, and £7,000 to a readership in physics; £50,000 is left to the Royal Victoria Hospital, Belfast, and this institution is also residuary legatee; £20,000 is bequeathed to erection of four national schools; £10,000 to each of the two children's hospitals; £1,000 to the Samaritan Hospital; £5,000 to the Society for providing Nurses for the Sick Poor; £2,000 to the County Infirmary, Lisburn—his native town; £2,000 to the Royal Medical Benevolent Fund Society of Ireland; £2,000 to the Belfast Charitable Institution; £1,000 to the Belfast Maternity Hospital; £1,000 to the Stewart Institution for Imbecile Children and Hospital for Mental Diseases, Dublin; £1,000 to the Ulster Hospital for Diseases of the Skin; £1,000 to the Benn Eye, Ear, and Throat Hospital; £1,000 to the Cripples' Institute, Belfast; and many other sums to various Presbyterian institutions, of which denomination he was a devoted member. His pictures he bequeathed to the Belfast Municipal Art Gallery, his library to the University, and his residence, Drumglass House, and grounds as a public park. He left also several private legacies.

India.

Indigenous Medicine in India.

The Ayurvedic and Unani systems of medicine are still widely popular in the United Provinces, and the policy of the Government is to help in the extension to the poor of all kinds of medical relief, including the indigenous systems of medicine. For the encouragement of the latter the United Provinces Government has included a sum of Rs.25,000 in the current year's budget. The step was in part experimental, and the Government has not yet come to a final decision as to the best methods of affording financial assistance. It is, however, inclined to the opinion that the following methods are likely to be the most fruitful: (1) To give grants to local bodies to establish travelling or stationary Ayurvedic or Unani dispensaries. (2) To give grants to existing Ayurvedic or Unani dispensaries provided that they are controlled by influential managing committees. (3) To give grants to existing institutions for the training of vaids and hakims subject to the same proviso. The question of the management of Ayurvedic and Unani dispensaries maintained by local bodies is not free from difficulty. The ordinary medical staff of the district will not be available for the purpose, and the Government is of opinion that supervision will be best exercised through health committees of the local bodies concerned. No definite rule is laid down with regard to grants to private institutions, but before a grant is made the Government will require proof that the managing committee is influential and that the control exercised is adequate. The grants to local bodies have been allotted in most cases on the principle of giving three-fourths of the amount required for the year for the maintenance of the dispensaries which the local bodies propose to establish, but grants will not actually be made unless the local bodies agree to provide one-fourth of the actual expense. In future years the Government will insist on local bodies bearing a more substantial portion of the burden. In addition to Rs.25,000 distributed to various centres a sum of Rs.50,000, non-recurring, has also been sanctioned for an Ayurvedic college established at Hardwar.

The Housing Question in India.

The acuteness of the housing question in Great Britain and other lately belligerent countries has been reflected in India. Indeed, in that country the problem carries a peculiar complication of its own in the failure of the cantonment bungalow to respond to modern requirements of comfort, in contrast to the increasingly high standard obtaining at home. In the ordinary cantonment bungalow to-day exactly the same amenities are provided as were available to the officer and his wife in the Mutiny days, with the exception of those bungalows in which electric light and fans have been established. White-washed walls, thatched or mud roofs and ceilings intersected by rough-hewn wooden beams, are as much in evidence in 1922 as in 1857. The rise in the prices of materials and labour has made the landlord more reluctant than ever to pay much attention to repairs, and the continual change of tenancy, owing to the exigencies of war conditions, has added to that reluctance for obvious reasons. The lack of accommodation, moreover, has had the effect of raising rents and in causing officers to search for dwelling places far from the scene of their work. The Government has, however, now taken the matter up, and is proposing to acquire certain mess houses and to build, either in the mess compound or in the immediate neighbourhood, quarters for bachelors, and thus to release houses for the use of married officers and their families. To meet the difficulties of the situation a further innovation is being introduced in the shape of the erection of hostels for married families. The first of these hostels is shortly being opened at Lahore, where this problem has long been especially acute, and others will follow in stations where the circumstances warrant their erection.

Indian Red Cross Society.

The Indian Red Cross Society was constituted in 1920 to carry out the administration of the funds and property of the Joint War Committee of the Indian Branch of the British Red Cross Society and the Order of St. John of Jerusalem. The foundation of the society was largely due to the efforts of Sir Claude H. Hill, who retired from the Indian Civil Service in 1920 and is now Secretary-General of the League of Red Cross Societies at Geneva. The objects of the Indian society include not only the administration of gifts received from the public for medical and other aid to the sick and wounded of the Forces, either on the active list or demobilized, but also for the care of sufferers from tuberculosis, for child welfare, for comforts for hospitals and other institutions, assistance to the different branches of nursing and welfare work in India, and home service ambulance work. Dr. D. H. Mehta, of Baroda, has published, under the title of *World's Welfare*, an interesting account of the foundation and development of the Indian Red Cross Society, its relations with the International League of Red Cross Societies, and its programme of work in India for the future.

Plague in India.

During the later part of 1921 the number of cases of plague in India rose gradually from 366 notified for the week ending July 23rd, to 1,403 notified during the week ending October 8th. From that date the number of cases slowly declined, and for the week ending November 19th, the last week for which figures are available, the number notified was 1,199. The mortality seems to have been high; for the week ending October 8th, for instance, of the 1,403 cases reported, 1,158 were fatal, while in the week ending November 19th, of the 1,199 cases reported, 869 were fatal.

Correspondence.

TREATMENT OF CARCINOMA OF THE CERVIX.

SIR,—In 1905, at the Leicester meeting of the British Medical Association, Wertheim brought to the notice of British gynaecological surgeons the operation of abdominal panhysterectomy for carcinoma of the cervix devised by himself and known by his name. I performed my first operation in the late summer of that year, and have performed it as the routine operation ever since. I very soon realized its difficulties, and that only constant practice and experience would enable me to perform it with adequate dexterity, and would lead to the measure of success the operation itself merited. I think this will be the admission of every surgeon who has begun at the beginning and perseveringly followed the operation through. For instance, in point of time alone my first attempts used to last round about two hours; my average time now is between fifty and sixty minutes; nor do I think that in any but quite exceptional cases the operation can be completed in much less time than this.

Again, in details of technique and little things that matter in a difficult operation experience only has preceded improvement. In 1913 I read a paper before the Gynaecological Section of the Royal Society of Medicine advocating a certain technique and a modification of the operation involving crushing clamps and the cautery in the treatment of the parametrium and vagina in place of cutting and ligaturing. This is the operation I have invariably practised during the past ten years. In the *British Journal of Surgery* (vol. ii, No. 5, 1914) I published an account of the operation and of the technique I employ, and with it particulars of the first 18 cases operated on by this method (from July, 1912, to April, 1914), with 17 recoveries and one death, a mortality of 5.5 per cent., practically that of vaginal hysterectomy. Of course this is too small a number on which to estimate the primary mortality, but it is sufficient to establish the reliability and efficiency of the operation. Then came the war and with it a blank as far as reliable records are concerned. Throughout this time I was operating by this method, but I was only able to attend the hospital and do some of the major operations, and records and notes of cases were either not kept at all or are valueless for statistical purposes. Since midsummer, 1919, I have records which I hope to collect and publish later.

As regards operability rate, I regret I have no figures. This must vary with the judgement of different surgeons. My practice is the following: Every case is examined under an anaesthetic some days before operation to determine as far as possible whether the case is operable or not, to remove a portion for microscopical examination, and to curette away all the soft growth and apply the actual cautery to the base of the ulcer. If the case is manifestly inoperable, nothing further is done from a radical point of view. In any case where the least doubt exists the patient is prepared for operation, the abdomen is opened, and the decision is taken then. Any case which offers the smallest probability of satisfactory removal is tackled, and for this reason, that here, as elsewhere, in dealing with malignant disease, surprisingly good results may follow in apparently hopeless cases. That is my argument against picking and choosing in dealing with malignant disease anywhere. The result is inevitably fatal if the case is refused operation, whereas sometimes a prolonged freedom from recurrence is obtained in a case in which every circumstance appeared to forbid it. Of course, the surgeon who operates with one eye on statistics will obtain a better average in a series of cases by picking and choosing.

The two real dangers of the operation are shock and sepsis. I am glad to be able to state that by the technique and method I employ I have abolished the latter. I no longer see sepsis, though it occurred with considerable frequency in my earliest attempts. Briefly, the method is to curette away all the soft growth just before the operation and apply the actual cautery to the base of the ulcer, to dry out the vagina thoroughly and paint it with iodine in spirit, and to plug the cauterized cavity of the ulcer and the vagina with sterilized gauze, which is left in position till just before the vagina is cut across; to crush the parametrium at the pelvic wall and the vagina with powerful crushing clamps and cauterize them, and to leave the vagina open. Only four ligatures are used in the operation to secure the ovarian and uterine arteries.—I am, etc.,

Portsmouth, Jan. 16th. CHARLES P. CHILDE, B.A., F.R.C.S.

SIR,—It is surely incumbent on those who essay to criticize the results of Wertheim's operation to realize that they should do so with some sense of accuracy and responsibility.

Both Dr. Spencer and Mr. McCann state that the mortality of the operation is about 20 per cent. Do they refer to the mortality of the operation as practised by experts seven or more years ago, or to the mortality of the operation as practised by experts to-day? If they refer to the past, then their letters have no point, for it is with the present in this matter that surgery is concerned; while, if they refer to the present, then they have not taken the trouble, before embarking on criticism, to read Victor Bonney's and Fletcher Shaw's papers with that care which ordinary courtesy, let alone a regard for scientific accuracy, demands.

Mr. Victor Bonney in his paper gives the mortality for the first 100 Wertheim's operations that he performed as 20 per cent., the last operation of the series being performed in July, 1915—that is, six and a half years ago. Since then Mr. Bonney and I have performed the operation a large number of times with an ever-diminishing mortality. Mr. Bonney in his paper has set out this diminishment by means of a table so large and conspicuous that it passes my understanding how Dr. Spencer and Mr. McCann can have failed to see it. In that table it is shown that the operative mortality for the last 200 operations jointly performed by me and my colleague was 13.5 per cent., for the last 100 jointly performed 9 per cent., and for the last 50 jointly performed 6 per cent.

Mr. Fletcher Shaw, whilst giving his mortality as 19.1 per cent. for his series of 89 operations, expressly states that if he deducts the cases performed in 1911–12 the percentage mortality for the remainder is much less than this; but he might as well have spared himself the trouble of making the statement for all the notice that Dr. Spencer and Mr. McCann take of it. The humorous thing is that Mr. McCann in his letter first states that the mortality is 20 per cent. and then two paragraphs further down informs us that he has operated on 100 cases with 6 deaths. Why make the first statement when the second flatly contradicts it? He objects to an "operability rate," but without it no just comparison between different surgeons' results for the purpose of estimating the value of the operation is possible. The point that really matters is what is the total number of patients saved per 100 first applying for relief? His suggestion that a surgeon might perform rash and hazardous operations to maintain a high "operability rate" seems to me unworthy.

I again reiterate what I said in my first letter—that figures concerning the operation are of no value unless founded on a long series of cases dealt with on a basis of three, five, or seven years' freedom from recurrence, and Dr. Spencer and Mr. McCann would be best employed producing such figures of their own.—I am, etc.,

London, W., Jan. 16th. COMYNS BERKELEY.

SIR,—Mr. Bonney's interesting paper upon the results of the radical operation for carcinoma of the cervix (BRITISH MEDICAL JOURNAL, December 31st, 1921, p. 1103) is extremely valuable, but, I venture to think, somewhat incomplete in its statistics; answers to the following questions would add materially to its interest.

Out of his 160 cases 100 were submitted to radical operation. How many of the other 60 were found to be "absolutely untouchable" by operation? What was the mortality? How long did the patient live after the operation? How much of that time was spent in hospital, convalescent home, and infirmary? And to what extent was the patient incapacitated from carrying on her daily work as a result of the operation?

Of the 100 cases, how many would come under the category of "riding for a fall"? What was the mortality, the incidence of recurrence, the interval between the operation and such recurrence, and the length of life from the date of operation?

Mr. Bonney's concluding remarks upon the use of radium in carcinoma are not so valuable as the rest of his paper, for the comparison of radium with a red-hot poker is hardly worthy of him. It is not necessary to remind Mr. Bonney that, for the moment, the discussion ranges round the com-

parative merits of operation or radium in the treatment of *inoperable* cancer of the cervix; that the universal opinion abroad is in favour of radium; and that up to now what evidence we have from English surgeons supports that view.—I am, etc.,

London, W., Jan. 10th. SIDNEY FORSDIKE.

THE IRRIGATION TREATMENT OF GONORRHOEA.

SIR,—Mr. Howard English's case of acute arthritis following the irrigation treatment of acute gonorrhoea, and also Mr. Russ's reference to this method of treatment during the war, as reported in the BRITISH MEDICAL JOURNAL for January 14th, once more raise the question of the present position of the treatment of gonorrhoea by the irrigation method. As one who was responsible for introducing the method into St. Peter's Hospital many years ago, and so to some extent into this country, perhaps I may be allowed to make a few remarks thereon.

Like almost any form of treatment of an acute infection in such a delicate and vulnerable situation as the male urethra the details connected with its application are of paramount importance. One would like to have had more details of Mr. English's case, but apparently only the anterior urethra was affected and treated as the discharge was only forty-eight hours old. Coincidences are too frequent in the treatment of disease for the report of one case to be of any value. During the war I never ceased warning my friends who happened to be in the R.A.M.C. that the primitive and indiscriminate way in which the irrigation treatment was carried out would certainly bring a valuable form of treatment into disrepute. The outstanding offence was the irrigation into the bladder in a case of acute posterior urethral infection, often with the man in the upright position and without a local anaesthetic. How could a man be saved from a prostatitis or an epididymitis under such circumstances? I can safely say that not for twenty years have I irrigated at all into the bladder in a case of acute recent posterior urethritis. The acuteness of the attack must be allowed to subside thoroughly before commencing vesical irrigations, and then they should only be done under a local anaesthetic with the patient lying down and with a low head pressure of fluid. Between such a condition and a very mild inflammation when vesical irrigations may be undertaken at once many grades are met with, and this is where experience is of so much value in treatment. When in doubt it is better to trust to medical treatment for perhaps a few weeks before beginning irrigations in a case of posterior urethritis, especially in a first attack.

In quite a different category are anterior urethral infections where the disease has not spread to the posterior portion. But even here a highly acute condition should receive medical treatment for a while before commencing local treatment. In all moderate and mild cases irrigations of weak permanganate, 1 in 8,000, should be undertaken at once and a strenuous effort made to prevent the spread of the disease. Success will attend the treatment in a large proportion of the cases. Should the disease spread to the posterior urethra, and it is recognized very early, vesical irrigations may be undertaken, but they should be at once discontinued if no improvement takes place. My treatment here varies from the French school who irrigate into the bladder in every case of even purely anterior infection. In my practice it is therefore necessary to submit every patient at every visit to the diagnostic test of an anterior wash-out with 2 or 3 pints of a warm solution of mercury oxycyanide 1 in 6,000, or with boric lotion. I should feel quite at sea in the treatment of urethral infections unless this was done on every occasion. The test requires great care and some experience if you want to make quite sure that none of the fluid is going to be forced through the membranous urethra, carrying perhaps some discharge with it and so spoil the urine for diagnostic purposes. A bright urine free from flakes excludes posterior urethritis. A little mucus, or the early separation of a mucous cloud, is suspicious of a commencing posterior infection. Then is the time to try vesical irrigations. It is not possible in a short note like this to make any useful contribution to such a complex subject as the treatment of gonorrhoea, but I hope that the foregoing remarks will help to put the irrigation treatment in its place as a valuable friend which may be easily abused.—I am, etc.,

London, W., Jan. 14th. W. WYNDHAM POWELL, F.R.C.S.

PROBLEMS INVOLVED IN THE CONGRESS OF THE SEXES.

SIR,—All gynaecologists will welcome the interest evinced in the physiology of their subject by so distinguished an anatomist as Professor Arthur Thomson.

It has always been a grievance that most anatomists have ignored the anatomy of the female genitalia in their teaching and textbooks—notable exceptions being Sir Arthur Keith and Professor Wood Jones—and that physiologists have done the same in regard to the sex-functions. I do not know, however, how far our special science has suffered thereby, for we have ourselves now worked out many of the problems, apparently without the knowledge of the writers of anatomical and physiological textbooks. I hope, therefore, that when some general physiologist replies with an address on gynaecological anatomy, it will be more convincing than that of Professor Thomson, even though well lubricated with *oleum nocturnum*.

Professor Thomson, in discussing the endometrial glands, makes the following statement: "When we come to inquire what the functions of these glands may be, we are plunged at once into the realms of uncertainty. The generally accepted views are far from satisfying." Then he proceeds to discuss one or two long-forgotten ideas. Nowhere does he give any indication of having studied modern work, although he seems grieved that Marshall and Young have failed to satisfy his curiosity.

In regard to these glands, Professor Thomson wants to know, "What, then, is their function? Are they secreting or absorbent? *In truth the views on the subject are very vague*" (italics mine). Whose views? I do not think that any gynaecologist has any doubt on the matter, nor do I suppose any physiologist would have much difficulty in deciding between secretion and absorption. Professor Thomson also makes some curious remarks about "gland inclusions." He states, "The use of this expression is convenient, for it commits us to no definite view or to their nature." The expression has a very definite meaning to me.

Professor Thomson appears to have been influenced by the work of one Beiling (1906), who denies that the endometrial glands have a secretory function. Moreover, he states that the uterine glands fail to react to mucin tests. I would like Professor Thomson to test the accuracy of this last statement himself.

I refrain from further criticism. My object in writing this letter is to prevent, if I can, an impression getting abroad—as would be inevitable if Professor Thomson's paper were taken seriously—that gynaecological anatomy and physiology are vague and mediaeval.—I am, etc.,

Liverpool, Jan. 12th. W. BLAIR BELL.

SIR,—In view of the great interest now being taken in the whole subject of birth control, Professor Arthur Thomson's address to the Oxford Medical Society is very opportune. If the medical profession are to be in a position to give the best advice to their patients on the practical aspect of conception control—and the public are now looking to the profession to do this—much more serious scientific study of the subject is necessary. Hitherto it has been sadly neglected, and Professor Thomson is all the more to be congratulated, therefore, for having taken it up. I sincerely hope that he will continue his investigations.

The gist of his address is to suggest that sex intercourse has a distinctly beneficial effect upon the female through absorption of the male ejaculate, and that this absorption takes place through the glands of the uterine mucosa. He concludes by suggesting that the use of contraceptives may be injurious "by depriving the female of certain secretions which may exercise a far-reaching influence on her economy." This raises a very important practical point. Professor Thomson's final suggestion is altogether too vague to be left at that, and I hope that he or others will follow it up. There are different forms of contraceptives and Professor Thomson does not distinguish between them. Not all contraceptive devices prevent the semen from entering the uterus. Thus, quinine pessaries, which are very widely used, aim at nothing more than destroying the vitality of the spermatozoa. It does not follow that the active ingredient, quinine, would have any deleterious action upon the secondary effect of the seminal fluid to which Professor Thomson draws attention. Moreover, the use of such methods as the rubber cap, the tampon, or the sponge, whilst prevent-

ing the semen from entering the uterus, do not prevent absorption through the mucous membrane of the vagina. It is quite possible that as much, or more, absorption takes place there as in the uterus. Assuming, then, that sex intercourse is beneficial to the female as well as to the male, it seems reasonable to suggest that it is better to have intercourse in marriage, even if the full advantage of it is not obtained, than to go without it altogether, or to fall back upon *coitus interruptus*. For those are the only alternatives to contraceptives open to those who feel, for various reasons, that they ought not to have more children. Better half a loaf than no bread.

But however this may be, if we look at the matter from the point of view of the poor overburdened mother with more mouths to feed already than she knows how to provide for, I think we may assert without fear of contradiction that she will gladly forego the benefit of coitus for herself so long as she is able to escape from the evil of too frequent conception and excessive maternity, and at the same time be able to satisfy her husband.—I am, etc.,

Leicester, Jan. 15th. C. KILLICK MILLARD.

ENCEPHALITIS LETHARGICA AND MENTAL DEFICIENCY.

SIR,—In a paper in the current number of the *Journal of Mental Science* Dr. G. A. Auden refers to the "extraordinary moral changes which not infrequently follow an attack of encephalitis lethargica." He states that such children often prove a nuisance at school and at home, but that they cannot be dealt with under the Mental Deficiency Act.

May I say that in Scotland such cases *are* dealt with under the Mental Deficiency Act? I have two such cases in this institution, and Dr. Clarkson informs me that he has several at Larbert. No doubt these cases are not just the class of defectives for which the Act was intended, but some of them really require institution treatment, and it is obviously most desirable that they should be treated in a certified institution for mentally defective children rather than in an asylum or mental hospital for adult patients.

My two cases are quite unfit to be at home, but are attending the institution school. They are both certified by outside doctors as "moral imbeciles" on account of vicious propensities apparently resulting from their illness. I think it would be better to certify such cases, however, as "feeble-minded," even although their defect is more moral than intellectual. Their aberrant conduct is a symptom of mental defect acquired "at an early age," which renders them "incapable of receiving proper benefit from the instruction in ordinary schools." This brings them within the scope of the definition given in the Act of "feeble-minded persons," with the exception that in the Act the word "permanently" is used —"appear to be permanently incapable," etc. It does not at present appear to be possible to say whether or not the defect is of a permanent nature, but it is so obviously desirable that cases of the kind who may be likely to benefit by institution training, and who may be capable of attending school in an institution, though not an ordinary school, should be sent to a certified institution for children rather than to any other existing kind of institution or hospital, that I do not think medical men need hesitate to certify such cases under the Act. This is desirable, not only from the point of view of the child's interest, but as the best means of gaining knowledge regarding the prognosis in such cases when placed in favourable educational surroundings.—I am, etc.,

W. B. DRUMMOND,
Medical Superintendent.

Baldovan Institution for the Treatment and Education of the Feeble-minded, Dundee, Jan. 10th.

HOSPITAL POLICY.

SIR,—Thanks to Mr. Bishop Harman's effective co-operation, we now know that the letter (BRITISH MEDICAL JOURNAL, December 24th, 1921, p. 1095) signed "Chairman of the Hospitals Committee" did not contain an authoritative judgement of this Committee, but only certain propositions that had had the good fortune to secure Mr. Harman's personal approval. It was in the hope of banishing any doubt on this point that my letter (BRITISH MEDICAL JOURNAL, January 7th, p. 35) was written. Whether the propositions were original or borrowed is surely immaterial. The essential point is that the letter, though signed by the "Chairman," was not an official communication authorized by the Committee.

I confess that in the swift and commanding tones of Mr. Harman's sentences I had not recognized the resolution accepted at Newcastle, and I venture to think that if the views of the Asscciation are to be publicly announced, they had better be announced in the terms formally adopted rather than in the free translation effected by a challenging individual notice. Further, unless my memory deceives me, the resolution in question has no official authority or status, for it was taken on an issue on which the representatives had not been instructed by their constituencies. Perhaps I ought to have made a further speech. Mr. Harman seems to reproach my silence, and his own example, I gratefully allow, has been consistently opposed to such abstinence. In any event, not even the British Medical Association has authority to change the meanings of words, and current controversies show plainly that laymen, I fancy without exception, continue to use the term "voluntary hospital" in the sense described in my letter and recognized by Mr. Harman as based upon an accurate historical statement. To take an old-established word and to try to impose upon it a new definition is, to put the position mildly, a confusing and arbitrary procedure, and the promoters of such a policy cannot escape the reproach that they are posing in the stolen clothing of their predecessors. If the thing is to be changed, let the name also be changed.

With his natural generosity Mr. Harman will, I am sure, forgive my failure to trace in his letter the dignified inspiration which he now describes as its true source. And he will be all the more ready to do this when in reference to my own letter (a much more recent document) he recognizes that, not, as he suggests, a want of courage, but a desire for accuracy, prevented me from describing as one of the features of the "voluntary hospital" a system of "gratuitous nursing." My concern was with things as they are, and had I described a non-existent condition I should have failed to merit the compliment for historical accuracy which Mr. Harman has so graciously placed on record. This slight slip on his part will be the more readily excused seeing that but for it the readers of the JOURNAL might never have had the advantage of his penetrating though somewhat irrelevant observations on the respective merits of the three-legged and the four-legged table, and might never have realized that these strictly utilitarian and prosaic supports may be yoked to the service of high imaginative effort.

I will make no attempt to rival Mr. Harman in his forecast of the fate either of the "poor" or of the hospitals. Time, it is true, plays strange pranks with words, and it may be that in some distant future our hospitals will boast at one and the same time that they are "voluntary" and that they are *not* supported by voluntary contributions. Then, indeed, Mr. Harman will appear to be justified and will enjoy a post-humous fame as one of the earliest preachers of the doctrine that in a "voluntary hospital system" neither voluntary services (save those of management) nor voluntary contributions merit an essential and abiding place. The one risk is that there may appear some still more radical advocate, who will urge (why not?) that managers, equally with doctors, should be paid for their services, and in such circumstances it is to be feared that history will label the Bishop Harman of the twentieth century a mere Laodicean opportunist and a stoker of feeble and ineffectual fires.—I am, etc.,

London, W., Jan. 16th. C. O. HAWTHORNE.

SIR,—Mr. Harman's continued efforts to belittle the Cave verdict on the Leicester motion will deceive no one. Clearly the Chairman of the Council and the Representative Body did not deliberately and publicly snub the Cave Committee out of mere love of mischief. Ill judged as was that action, it was forced upon them, having adopted the Leicester motion, because it was obvious that the latter was wholly incompatible with the Cave report. No one, as alleged by Mr. Harman, has ever suggested anything so absurd as that paragraph 50 was "the quintessence" of that publication. It was, however, the particular portion thereof which dealt emphatically and authoritatively with the matter in debate, though of course many more considerable problems are involved in the study of hospital maintenance and finance, and was in fact penned, no doubt with full sense of responsibility, after twenty-eight meetings and examination of ninety-three expert witnesses. Nothing apparently would convince Mr. Harman but a promiscuous distribution of damnation of the Leicester motion over the whole document.

Mr. Harman has never replied to my inquiry: How many staffs of hospitals have so far commended this motion to their committees, and what happened if they did? Personally I believe that for all practical purposes the Leicester proposal is as dead as Queen Anne. We are asked to demand that an unnamed portion, which if we may judge by precedent will start at 10 per cent. and rise rapidly to 25 per cent., of a large number of payments collected by laymen from laymen for exclusively lay purposes—namely, hospital maintenance—shall be appropriated by the medical staff, and already the plea of a fund for altruistic purposes is abandoned. The precarious profits of this adventure are frankly designated by Mr. Harman "remuneration," and avowedly for the staff themselves. Whether payments in kind are to be included with those in cash is not specified, but clearly, since they equally contribute towards maintenance, our claim upon such is equally justified. Therefore we may visualize a weekly distribution of eggs, butter and garden produce by the still honorary committee among the sometime honorary medical officers. Now the action of the Representative Body in endorsing such a claim as the Leicester motion is strictly comparable to their action in December, 1912. Both exhibitions of folly, as I consider it, would have been avoided by first consulting a few competent laymen. I offer to the second the same strenuous opposition that I did to the first, and I hope, and indeed believe, with more success. Otherwise the result will be as before, we shall be, figuratively, kicked downstairs again.

I have, however, but little fear of such catastrophe. The Leicester motion has been utterly rejected by the staffs of Scottish hospitals; even in London the change in opinion with regard to it is already quite remarkable, and its final extinction in the county hospitals is, I believe, assured. It is a pity that it was ever invented, as it is calculated seriously to prejudice the profession in the eyes of the public, whose opinion upon it is, without doubt, accurately represented by paragraph 50 of the Cave report.—I am, etc.,

Chichester, Jan. 14th. G. C. GARRATT.

"STIMULANTS."

SIR,—Dr. Campbell's letter (BRITISH MEDICAL JOURNAL, December 24th, 1921, p. 1096), in reply to my criticism of his classification of alcohol as a "stimulant," should not be allowed to pass unanswered. The question at issue is whether alcohol is rightly regarded as a "stimulant" or as a "narcotic." Dr. Campbell is obliged to admit that it may act as a narcotic, but he declares it to be a "glaring fact—that under certain conditions alcoholic drinks are stimulating." The review issued by the Advisory Committee of the Central Control Board (Liquor Traffic), to which I alluded in my previous letter, appears to embody the clearest and most dispassionate study hitherto made of the action of alcohol; and the names of the members of the Committee are sufficient guarantee that its conclusions are of scientific value. I notice that Dr. Campbell makes no reference at all to the findings of this Committee, which are in direct conflict with his views.

Dr. Campbell asks whether I seriously maintain that in states of exhaustion alcohol may not have a "temporary reviving—that is, stimulating—effect," and instances the case of "an aged subject slowly and painfully recovering from a severe attack of influenza," and that of a man who habitually consumes two bottles of whisky a day, and has experienced several hours of unaccustomed abstinence. The proper reply to this question depends entirely upon what we mean by the terms "stimulant" or "stimulating." There is no doubt that alcohol commonly produces a sense of well-being, and in the words of the Advisory Committee it is this effect "which perhaps more than any other is the secret of its charm, its wellnigh universal attraction for the human race." This effect is primarily mental, and is shown to be due to "a blunting of the sensibility to the small aches and pains and a thousand hardly distinguishable sense-impressions which, except to those in perfect health, contribute to tip the balance of bodily feeling-tone to the negative or unpleasant side." No doubt the aged subject of influenza might feel his painful recovery lightened for a brief period by the effect of the glass of champagne, but I maintain that it is not true in the scientific sense to say that this is due to a "stimulating" action of the champagne. Is it not due to its blunting action on the highest centres, so that for a brief period the patient is not so conscious of his aches and pains? So given the use of alcohol may be properly justified, but we should acknowledge its action to be that of a sedative, not a stimulant.

As regards the two-bottles-of-whisky man, here the confusion of terms is more obvious. The two-bottle man would undoubtedly be much cheered by the advent of another bottle after an unaccustomed spell of abstention; but surely it is not true to say that this sense of comfort is due to a "stimulant" action of alcohol. He craves for the comforting sedative effect of his favourite narcotic, exactly as the opium-eater does if deprived of opium.

In my time as a medical student we used to be taught that alcohol had a brief stimulant action, but even this is denied by the latest research. The true explanation of the apparent brief stimulation, on the mental side, has already been stated. The quickening of the heart beat that is common after a moderate dose of alcohol is also shown to be a depressant rather than a stimulant action of the drug. To quote the Committee: "The acceleration of pulse appears to be due to depression in degree of the reflex cardio-inhibitory tone which normally restrains the heart beat." "When it (that is, alcohol) appears to promote recovery from fainting, it probably acts simply by virtue of its irritant action on the mucous membrane of the mouth and throat. . . . Its use in these circumstances is therefore comparable with that of smelling salts." "In this direction, as in others, the popular idea that it is a 'stimulant' proves on examination to be scientifically untenable."

Is Dr. Campbell prepared to prove that the Advisory Committee has erred in its conclusions?—I am, etc.,

Alderley Edge, Cheshire, Jan. 3rd. E. WEATHERHEAD.

TREATMENT OF TUBERCULOSIS WITH COLLOID CALCIUM.

SIR,—The results obtained by Dr. Prest, as published in your issue of January 14th, should stimulate others to try this method of treatment in conjunction with other therapeutic measures. One knows that nature will utilize calcium in her processes of repair if circumstances are favourable, but how can we explain the many failures of the past when not only calcium salts have been given by mouth but cow's milk, which contains an abundant supply of that mineral, is equally imbibed with faith and hope?

Calcium is present in the body in two forms—(1) fixed, (2) ionized—and it is in the latter state that calcium is "rushed up to the front" in times of emergency, the former remaining as a reserve "at the base" to be drawn upon when the mobile variety is exhausted. The calcium in cow's milk is in a non-ionized form.

We believe that the ductless glands are the regulators of this traffic, and can be divided into two main groups—(1) the calcium excretors, consisting of the genital glands and posterior pituitary; (2) calcium retainers, such as thymus, anterior pituitary, thyroid and parathyroid.

Broderick studied caries of the teeth from the point of view that caries was due to a decrease in the alkalinity of the saliva brought about by want of balance in the secretion of the ductless glands. But what brings about this want of balance? One answer is toxaemia.

The late Rupert Farrant examined the condition of the thyroid gland *post mortem* in 700 cases of acute disease, and could group these diseases according to their effect on the thyroid. Among other diseases (acute infections) he found that acute tuberculosis produced an acute or complete degeneration of the thyroid, whilst chronic tuberculosis gave rise to a colloid or chronic degeneration. If these observations are correct, is it not permissible to suggest that the endocrine glands, being poisoned by toxins, are only functioning feebly, and that therefore calcium, even if it can be ionized in the body, is not seized upon by those ductless glands whose work it is to distribute calcium to the scenes of action?

It seems as if Dr. Prest is taking a step in the right direction, in that tuberculous patients are in great need of ionized calcium, and if we can give it to them in a form that they can absorb, the lesion, if not too extensive, might heal, toxin production would be reduced, so that the ductless glands which regulate metabolism would, with renewed activity, build up the tissues, and the antibody mechanism could then assert itself fully.

It goes without saying that the usual treatment by fresh air, feeding up, and exercise, as well as oral hygiene and the psychological side, should not be neglected.

For two reasons I do not enthusiastically advocate the administration of glandular products together with Dr. Prest's form of treatment—first, because I have had no experience of

this form of medication in this particular disease, and secondly, because at present these products are not standardized and one knows so little as to what combinations are likely to be of avail; but I think that it is worth while to try either a single one, such as parathyroid extract, or a pluriglandular combination in conjunction with colloidal calcium. — I am, etc.,

A. D. SYMONS, M.D., M.R.C.S., D.P.H.,
Assistant M.O., City Isolation Hospital and Sanatorium.

Bristol, Jan. 16th.

HELIOTHERAPY AND THE WOLFRAM ARC REACTIONS.

SIR,—After reading Dr. Bernard Hudson's most interesting article on "Mountain climates in health and disease," in your issue of November 5th, 1921, it has occurred to me that the close analogy between his results from heliotherapy and my own from the use of the rays from the wolfram arc, in war service and private practice, might be of some interest.

It has long been established that the wolfram arc gives off an extreme volume of ultra-violet rays, electro-magnetic rays, and it is generally known that the rare metals are radio-active. These facts being acknowledged, there is at once established a comparison with the sun's rays.

The marked analgesic effect of wolfram rays in about one and a half to two minutes on, say, a recently reduced dislocation, a severely sprained ankle, acutely inflamed dental socket, acute frontal neuralgia, or acute lumbago, is a result only to be believed possible by actual demonstration. Many other painful conditions are capable of being relieved in the same way—for example, varicose veins and ulcers and eczema. Dr. Hudson claims similar results from the sun's first reaction, and I believe all who have had an extended use of the wolfram rays will agree that on this point the two reactions are similar.

In regard to pigmentation, here again the results are identical, fair or reddish people reacting much more quickly than dark; the concentrated intensity of the wolfram rays causes reaction much more quickly, anything over one minute's exposure producing pigmentation. In the absorption of adhesions I have had similar results.

Dr. Hudson refers to the general improvement in the patient under heliotherapy; it has frequently been my experience for patients to exclaim voluntarily, after, say, fourteen days' treatment with wolfram rays, how much improved they are in general health.

After using the wolfram rays continuously for four and a half years, with about 30,000 administrations in the N.Z.M.C. and a large number in private practice, my experience has been as follows: (1) The rays are extremely bactericidal; (2) they are markedly analgesic; (3) they produce tissue in the healing of wounds of a character and vitality quite different from ordinary scar tissue—that is, more natural; (4) they have never to my knowledge caused any harm to those treated or to those who apply them properly.—I am, etc.,

EDW. JAS. DECK, M.R.C.S., L.R.C.P.,
Ex-Captain N.Z.M.C.

London, W.1.

PROFESSIONAL SECRECY AND MEDICAL EVIDENCE.

SIR,—Dr. Brend's contribution on this subject in your issue of January 14th is highly interesting, and is written with that lucidity and clarity always so characteristic of his pen. He has laid down the position of English law relating to medical privilege, which I am not disposed to question or dispute; his conclusions, I trow, will nevertheless be considered more academic than just.

Perhaps it is true to say that no body of men are the recipients of such grave and profound confidences as general practitioners of medicine, and I am confident that the general practitioners will not be content to abide by the recent rulings in the courts, but, on the contrary, they will instruct their Divisions to insist upon the Representative Meeting emphatically declaring a very definite and decisive policy on the subject. Indeed, it seems to me, since medicine is becoming so rapidly and increasingly under public control, it is of paramount importance to the successful administration of such State medicine that medical privileges should be maintained.

It is surely obvious that if the public are possessed of any doubts in their minds concerning professional secrecy, the result can only be a disastrous handicap to the doctor in securing an accurate history, and in consequence will seriously militate against the successful detection of disease, as well as efficiency in treatment.

Professional secrecy should be maintained essentially in the interests of the State and the community, access to the treatment of disease being absolutely free and unfettered, and the promotion of justice is not at all likely to be defeated thereby. —I am, etc.,

Bournemouth, Jan. 16th. WALTER ASTEN.

MIDWIVES AND OPIUM.

SIR,—Referring to the report of the Central Midwives Board and the use of opium by midwives, I should like to state that opium, in reasonable medicinal doses, is not a dangerous drug, and can result in no harm to mother or child when given at a confinement except in a case of severe nephritis, in which case a qualified midwife will send for a doctor, if for no other reason than her own protection.

It is a great mistake to tie up midwives with too many and too stringent rules, as it limits their power of action and their usefulness, and has a decided tendency to turn patients away to "Gamps," of whom we have still a multitude.

I am not aware that midwives use pituitrin, except under a doctor's direction; but if so it seems unwise with their present knowledge, as it is by no means so safe a drug as opium. I have thirty years' experience of the use of opium for horses, cattle, and people of all colours, ages, and conditions, and have never had cause to regret its use where necessary, even in patients with advanced heart disease, or infants. It is still the most valuable drug we possess.—I am, etc.,

Northampton, Jan. 8th. ABRAHAM PORTER, M.D., Ph.C.

No. 1 CASUALTY CLEARING STATION.

SIR,—The achievement of No. 1 Casualty Clearing Statio was probably unique, amongst medical units, in the history of the war. On August 4th, 1914, orders were given to mobilize the "clearing hospital," which was afterwards officially designated No. 1 Casualty Clearing Station. On August 16th it embarked at Southampton under sealed orders for France and proceeded at once towards Mons, where it commenced work during the strenuous times consequent on the famous retreat. The late Colonel F. H. Symonds, R.A.M.C., was the first commanding officer. After having had many locations and vicissitudes throughout the whole period of the war, it finally laboured to keep up with the British advance which began about August 8th, 1918. The casualty clearing station was last under canvas at Escaudoeuvres, near Cambrai, and had the signal honour of moving into Mons and taking charge of the civil hospital on November 14th, 1918, just the day before General Horne made his formal entry into the town. The "Hôpital Civil" had been occupied by the Germans during the war as a Kriegslazarett, and when taken over by the medical officers of the casualty clearing station (seven in number, including the then commanding officer, Lieut.-Colonel E. M. Cowell, R.A.M.C.) it immediately became crowded with starving and (in many cases) diseased men belonging to the British Army who had been prisoners in Germany, and who were not very fit subjects for the epidemic of influenza which was prevalent at that time.—I am, etc.,

Belfast, Dec. 27th, 1921. S. W. ALLWORTHY.

THE ANTE-NATAL TREATMENT OF CONGENITAL SYPHILIS.

SIR,—I have read with interest Mr. Adams's criticism, in the JOURNAL of January 14th, page 56, of my communication to the British Medical Association at Newcastle on "Ante-natal treatment of congenital syphilis," criticism which I am specially pleased to see, as it is, at least so far as I am aware, the first reference by Mr. Adams to any work of his predecessors in this field. He however has confused the issue. In my communication the discussion was of ante-natal *versus* post-natal treatment of congenital syphilis, and I concluded, from my own work, from that of the French pioneers in the field, and from the more recent work of Mr. Adams himself, that ante-natal treatment gives far and away the best results; a conclusion substantiated by his latest figures. So far as I can gather from Mr. Adams's several communications he always practises ante-natal treatment, and thus merely carries out what I and others have been teaching for years. He makes no mention of post-natal treatment pure and simple.

His answer to my query regarding the time of election for treatment of syphilitic mothers is beside the point. He states his practice but without giving reasons for the faith that is within him. What I desire to know is, when (before pregnancy ensues or during pregnancy) is treatment most efficient so far as the health of the unborn child is concerned? My own work has led me to the view that more certain results, and apparently with greater ease, are obtained by treatment during pregnancy; but my experience is limited, and I asked for records of definite observations in support of or against such a view.—I am, etc.,

Glasgow, W., Jan. 14th. LEONARD FINDLAY.

Obituary.

SIR JOHN KIRK, G.C.M.G., K.C.B., M.D., F.R.S.,
Formerly Consul-General, Zanzibar.

SIR JOHN KIRK, the companion of Livingstone on some of his journeys, died at Sevenoaks on January 15th in his 90th year. He had been ill for a long time.

Sir John Kirk was not only a keen scientific worker but an intrepid explorer, and his life links us with a distant past. He was a son of the manse, and was born at Arbirlot, Forfar, on December 19th, 1832, and as a schoolboy he was fortunate in finding scope for his bent towards natural history, and particularly in botany, which doubtless influenced his later career. He pursued his medical studies in Edinburgh, where he graduated M.D. in 1854. The Crimean war was then in progress, and young Kirk saw active service in Turkey during the campaign, where, with a volunteer party of young Scottish medical men, he rendered help at one of the base hospitals in the Dardanelles. Having tasted this experience of foreign travel and adventure, it is not surprising that he should be attracted to share in African exploration under the great Livingstone. Sir Roderick Murchison, the distinguished president of the Royal Geographical Society, when announcing the choice of staff for the Zambesi expedition in 1858, said: "Dr. Kirk of Edinburgh, an accomplished botanist, zoologist, and physiologist, also accompanies the expedition."

During five years at least he occupied a foremost place in the exploration of the Zambesi region, including especially the tracing of the river Rovama and part of Lake Nyassa. He was at this time Livingstone's chief lieutenant, but there was no question as to who was the leader. Livingstone, himself a medical man, was a personality of outstanding powers and gifts, and it was natural that his work should overshadow the attainments of his colleagues, though he did not belittle them. Whether Kirk of his own initiative would have accomplished the same results without the guidance of his great companion is difficult to say, but there can be no question that Kirk rendered signal service to this expedition.

Little record seems to be available as to his scientific researches, though we find that he, as the naturalist of the party, demonstrated to the Royal Geographical Society in April, 1864, a collection of fossil animal bones. There is no mention of any human remains, but pieces of pottery were found which were regarded as showing the antiquity of man in that region, though the animals were of the same type as those now known. His medical work does not come into prominence, but with Livingstone already experienced in the study and treatment of tropical diseases there was not much scope for Kirk, who was engaged as a naturalist and not as a medical officer. At the same time he was the medical attendant to Mrs. Livingstone in her last illness, and at risk to his own health refused to leave Livingstone when he was attacked by illness at that time.

The next stage in Kirk's career found him at Zanzibar, where he was appointed Government medical officer in 1886. He does not appear to have remained long in this position, for, like Livingstone, he was destined to figure more prominently in administrative work than medical practice. Thus we find him during fifteen years first Assistant-Consul and then Consul-General and Resident of Zanzibar. It was hoped that in this position he would be able materially to help Livingstone in the matter of supplies and communications. The proverbial uncertainty of African trade routes in those days, with the constant menace from the slave-raider, made this difficult. Some misunderstanding with Livingstone ensued, but was happily removed.

At Zanzibar he was the constant adviser and friend of the various explorers who entered Africa from the east coast during his term of office. The political importance of Zanzibar at that period, before the delimitation of spheres of influence between the chief European powers, must be remembered. German competition and intrigue resulted in the assigning to Germany of the great territory to which Zanzibar was the door of entry. In all these negotiations Kirk appears to have acquitted himself with great tact and with a desire to uphold the best interests of his own country and the welfare of the native races of Africa.

That the value of his work was appreciated was shown by the bestowal upon him of decorations and academic honours. He was created a K.C.M.G. in 1881, G.C.M.G. in 1886, and K.C.B. in 1890. In 1882 he received the Patron's medal of the Royal Geographical Society; afterwards he became foreign secretary of the Society, an office he retained until 1910. He was an honorary LL.D.Edin., D.Sc.Cantab., D.C.L.Oxon., and was F.R.S. and F.L.S.; he was an honorary Fellow of the Royal Society of Tropical Medicine and Hygiene, and a corresponding member of the Zoological Society.

When the Brussels Conference was held in 1889 to deal with African affairs, and specially the slave trade, Kirk, as was most fitting, was a British plenipotentiary, and took a share in the inclusion of clauses relating to the African spirit trader, which were inserted at the instance of Great Britain, and have rendered famous the Brussels General Act of 1890.

One more official service was rendered by Kirk when as a British Commissioner he was sent to inquire into serious disturbances in Brass, West Africa, in 1895. His wide experience of African affairs stood him in good stead in this inquiry, and it must have come as a shock to him that in spite of the high ideals of the Brussels Act he was forced to conclude that in the district visited "the last four centuries of contact with Europeans and European trade have degraded rather than elevated or improved the people."

He married in 1867 Helen, daughter of Charles Cooke, and for many years he lived in a peaceful home at Sevenoaks, patient and courteous, a splendid type of an English gentleman. For a considerable time he was practically blind, and the death of Lady Kirk in 1914 was a serious loss to him. He leaves one son and three daughters.

The medical profession may well be proud of two such distinguished representatives as Livingstone and Kirk. Undoubtedly they were largely responsible for laying the foundations of the scientific work, medical and other, which has been a prominent feature of the explorers and administrators of Africa. High ideals are as important as detailed discoveries such as those which have been made with brilliant results by British medical experts of to-day representative of the Tropical Schools, of the Royal Society, of the Government, and of the Missionary Societies. Kirk took his share in blazing the trail which others have followed with infinite devotion and with the loss of valuable lives. There are still many secrets to be unfolded and pests to be conquered in the African continent, and the memory of one of the pioneers, who has died full of age and full of honours, should spur on many a younger worker to take part in this fascinating exploit.

E. MANSEL SYMPSON, M.D.,
Surgeon, Lincoln County Hospital.

THE announcement of the death of Dr. Edward Mansel Sympson, of Lincoln, will be received with great regret by a large circle of friends. He was the only son of the late Mr. Thomas Sympson, surgeon to the Lincoln County Hospital, and was born in 1860. He was educated at Lincoln Grammar School, Shrewsbury School, Gonville and Caius College, Cambridge, and St. Bartholomew's Hospital; there he held the offices of both house-physician and house-surgeon. He graduated M.A., M.B., B.Ch. at Cambridge in 1887, and proceeded M.D. in 1890. Soon after graduation he settled in practice in Lincoln, and became surgeon, first, to the Lincoln General Dispensary, and afterwards to the Lincoln County Hospital. He contributed a number of papers, chiefly on surgical subjects, to the medical journals, and took an active interest in the British Medical Association. He was secretary of the Section of Diseases of Children at the Annual Meeting at Nottingham in 1892, vice-president of the same section at the Annual Meeting in Cheltenham in 1901, and was president of the Midland Branch of the Association in 1906–7.

His hobby was archaeology, for the study of which his native city afforded many opportunities; he wrote a historical and topographical history of Lincoln, contributed the article on Lincolnshire to the *Cambridge County Geographies*, and

was editor of *Memorials of Old Lincolnshire*. He also edited *Lincoln Notes and Queries*, was co-editor of the Associated Architectural Societies' reports and papers, and honorary local secretary of the Society of Antiquaries. He took an active part in the life of Lincoln, was J.P. for the city, had been sheriff, and held a commission as honorary lieutenant-colonel R.A.M.C.(T.F.). He married the daughter of the late Mr. Joseph Knight, a well-known antiquarian and journalist.

THE LATE SIR GERMAN SIMS WOODHEAD.—A service in memory of Sir German Sims Woodhead was held in the Memorial Hall, London, on January 11th. The Rev. Principal W. B. Selbie, of Oxford (formerly minister of the church at Cambridge with which Professor Woodhead was associated), presided, and a large gathering included Sir Thomas Barlow, Sir F. W. Mott, and Mr. McAdam Eccles, as well as representatives of religious and temperance organizations. Sir Thomas Barlow, in a brief address, said that he first met Sims Woodhead forty years ago. He changed very little either in physique or character; at the time of their first association he was somewhat round-shouldered, rather pale, with a serious, thoughtful face and a very engaging manner, which, although he was a man of few words, showed that at the background of his personality there was not only a wide intelligence but a real goodwill to his fellows. He was then in charge of the pathological department of the Children's Hospital in Edinburgh, where his attention was early drawn to the subject of tuberculosis. One branch of this subject—namely, the dissemination of tubercle by cow's milk—was at that time little more than a speculation, and Woodhead subsequently threw a flood of light upon it. From Edinburgh he went to London, and from London to Cambridge, where he spread his abundant energies over many other matters than those relating to his professorship. No labour was too exacting for him, and his counsel and advice were at the disposal of all his junior teachers and assistants. There was no doubt that his health was broken and his life shortened by his unselfish devotion to his teaching duties, and still more by his indefatigable war labours. Sir Thomas Barlow concluded by expressing the opinion that the recognition of Woodhead's work came late; his zeal in temperance reform was perhaps a disability, but he (Sir Thomas) never heard a syllable nor saw a sign which would imply that Woodhead felt that his personal claims had been ignored. Mr. McAdam Eccles added a few words of tribute to "a great man, but one whose modesty was such that in his own eyes he was a little child." The Rev. Courtenay Weeks, on behalf of the National Temperance League, expressed its feelings of loss, and Principal Selbie closed the meeting after reciting a few instances of the late professor's love for his fellow man, and in particular his interest in lonely undergraduates at Cambridge.

DR. JOHN SIMPSON died at his residence in Belfast on January 11th. He was educated at Queen's College, Belfast, and, after a brilliant career as a student, graduated M.D.Q.U.I. in 1879. He showed special interest in the treatment of diseases of the chest, and as early as 1880, with the assistance of Dr. H. S. Purdon, he opened the Belfast Provident Institution for Chest Diseases, which was the forerunner of the Forster Green Hospital at Fortbreda Park. He built up a large general practice, and was widely respected alike for his personal character as for his qualities as a physician. His only son was junior surgeon in the ill-fated *Titanic*, which was lost on her maiden voyage across the Atlantic. Dr. Simpson was a former chairman of the Belfast Division of the British Medical Association, and took great interest in its work. He was a devoted Presbyterian, an elder of the church, and a convinced but moderate Unionist. He is survived by his widow and three daughters.

DR. WILLIAM GIBSON, of Campbelltown, Argyllshire, died on January 13th at the great age of 98. He graduated M.D.Edin. in 1854, and in the same year took the diploma of L.R.C.S. Edin. Only fourteen months ago he retired from public appointments which he had held for sixty-five years. Dr. Gibson was elected a member of the British Medical Association as long ago as 1870: he resigned in 1920 owing to ill health; he had thus been a member of the Association for exactly half a century. He is survived by a married daughter.

DR. PATRICK JOBSON HENDERSON, who died recently at Jansenville, South Africa, was educated at Aberdeen University, and graduated M.B., C.M. in 1896. After practising in Cumberland he went out to South Africa during the Boer war, serving as a captain in the Cape Medical Staff Corps; after the war he remained and went into practice.

WE regret to record the death of Dr. JOHN GALLOWAY, which took place at Port Elizabeth on November 22nd. He graduated M.B., Ch.B. at Glasgow in 1890, and took the D.P.H. in the same year. He went to South Africa in 1898, and had practised at Port Elizabeth ever since. He was for some years medical officer of health for the town.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

SIR ARTHUR SHIPLEY is announced to give a course of lectures and classes on the history of the biological sciences in the Arts School on Tuesdays and Thursdays at noon during the Lent and Easter terms.

Diploma in Tropical Medicine and Hygiene.—The following candidates, having satisfied the examiners, are entitled to the diploma: J. D. Gazder, P. M. Nanavate, W. W. Pratt, J. P. Rosha, J. Singh.

UNIVERSITY OF LIVERPOOL.

THE following candidates have been approved at the examination indicated:

D.P.H.—Mary A. S. Deacon, G. I. Griffiths, Mary E. Illingworth, Phoebe A. Ince, J. B. Murphy, A. E. Richmond, W. Williams.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY council was held on January 12th, when Sir Anthony Bowlby, President, was in the chair.

Issue of Diplomas.—Diplomas in Public Health were granted, jointly with the Royal College of Physicians, to 17 candidates; diplomas in Tropical Medicine and Hygiene to 17 candidates; and diplomas in Psychological Medicine to 15 candidates.

The War Office Collection.—The Council decided upon the architectural details needed for the proper display of this large collection, which is now entrusted to the care of the College.

Hunterian Oration.—The oration for 1923 will be delivered by Sir John Bland-Sutton.

The Services.

COLONEL ARTHUR M. CONNELL, late Officer in Command, 3rd Northern General Hospital, was presented by the Belgian Consul at Sheffield, on January 12th, with the insignia of the Order of St. Leopold, awarded to him by the King of the Belgians.

DEATHS IN THE SERVICES.

Major-General Sir Walter George Augustus Bedford, K.C.M.G., C.B., Army Medical Service (retired), died at Eynsham, Oxon., on January 8th, aged 63. He was the son of the late Vice-Admiral G. A. Bedford, R.N., and was born at Rathmullen, co. Donegal, on October 24th, 1858. He was educated at St. Bartholomew's and at Durham University, where he graduated M.B. in 1880; he took the M.R.C.S. in the same year. He entered the army as surgeon on February 5th, 1881, he attained the rank of colonel on September 19th, 1908, was placed on half-pay on completion of four years' term of service in that rank; he was restored to full pay on promotion to surgeon-general on January 1st, 1914; this title was changed to major-general in 1918. He retired on October 29th, 1918. After filling the post of adjutant of the R.A.M.C. dépôt at Aldershot, he was appointed deputy assistant director-general at army headquarters on January 11th, 1899, but before the end of the year was sent to South Africa as staff officer to the principal medical officer in the South African war. There he took part in operations in the Transvaal, Orange River Colony, and Cape Colony, was mentioned in dispatches in the *London Gazette* of April 16th, 1901, and received the Queen's medal with three clasps, and the C.M.G. He afterwards served as P.M.O. in South China, 1908–11, as D.D.M.S., London district, in 1912–13, D.D.M.S., South Africa, in 1914; then as D.D.M.S., Southern Command, in 1914–15, and as director of medical services in the Mediterranean and Egyptian Expeditionary Force in 1915–16, when he was mentioned in dispatches in the *London Gazette* of July 13th, 1916, receiving the C.B. on June 3rd, 1916, and the K.C.M.G. on June 3rd, 1918. From 1916 till his retirement he was D.D.M.S. of the Northern Command. Durham University conferred on him the D.C.L. in 1920. In 1880 he married the daughter of the Rev. D. J. Drakeford, by whom he had one daughter.

Lieut.-Colonel Kanta Prasad, Bengal Medical Service (retired), died of heart failure at Benares on December 16th, 1921, aged 61. He was a Punjabi, born at Meerut on May 17th, 1860, and was educated at Edinburgh, where, after taking the Scottish triple qualification in 1886, he graduated M.B. and C.M. in 1887, and M.D. in 1913. Entering the I.M.S. as surgeon on March 31st, 1888, he

became lieutenant-colonel on March 31st, 1908, and retired on June 3rd, 1913. He served on the North-East frontier of India in the Manipur campaign of 1891, receiving the frontier medal with a clasp; on the North-West frontier in the Isazai campaign of 1892, and in the Tirah campaign of 1897–98, on the Malakand, and in operations in Bajaur and the Mohmand country, receiving the medal with two clasps. Most of his subsequent service was spent in civil employ in Burma. He rejoined for service in India during the recent war from January 29th, 1915, until September 9th, 1921. He received the Kaisar-i-Hind medal, 1st class, on June 4th, 1917. He was the author of a work on *Health and Mortality among Educated Indians*, 1913.

Medical News.

SIR JOHN ROSE BRADFORD, honorary secretary of the Lord Lister Memorial Fund, has intimated to the Marylebone Borough Council that the committee of the Fund has accepted the council's offer of a site for the memorial to Lord Lister at the north end of Portland Place. The work will be carried out by Sir Thomas Brock.

THE *Journal of the American Medical Association* for December 24th, 1921, contains a personal appreciation of Sir William Osler, by Dr. J. M. T. Finney of Baltimore, being a lecture delivered under the auspices of the Osler Memorial Association of Los Angeles.

THE annual dinner of the Hunterian Society will be held on Wednesday, February 8th, at the Trocadero Restaurant, at 7.30 p.m., the President, Mr. Russell Howard, in the chair.

A GENERAL meeting of the Tuberculosis Society will be held at the Margaret Street Hospital, London, W.1, on Monday next, January 23rd, at 7.30 p.m., when the report of a committee on classification will be discussed.

THE fourth annual Overseas Medical Officers' dinner will be held at the Exchange Hotel, Liverpool, on Thursday, February 9th, 1922, at 7.30 p.m. Tickets (price 16s.) may be obtained from the honorary secretary, Dr. G. F. R. Smith, 19, Queen's Drive, Mossley Hill, Liverpool.

THE de Roaldes prize of the American Laryngological Association, a gold medal of the value of 150 dollars offered for the best original thesis upon a subject pertaining to laryngology or rhinology, is now open for competition to non-members of that association. Theses must be in the hands of Dr. D. Bryson Delavan, 40, East 41st Street, New York, U.S.A., Chairman of the Prize Committee, before April 1st, 1922.

A BOY died recently in St. Mark's Hospital, New York, shortly after admission, and on investigation it was found that he had been treated for two days before admission by a "chiropractor." *Post-mortem* examination revealed the fact that death was due to a ruptured appendix, which it was thought might be due to the manipulations the unfortunate boy had undergone. Several "chiropractors" are at present under indictment for murder in the United States on account of other cases of malpraxis.

THE entrance standard for students of the Faculty of Medicine at McGill University, Montreal, is to be raised next session; a preliminary standard of one year in arts, senior matriculation, or its equivalent will thereafter be necessary.

THE third South American Infant Welfare Congress will be held this year in Rio de Janeiro.

FOR the past twenty-five years the official monthly magazine of the Medical Mission Auxiliary of the Church Missionary Society has been known as *Mercy and Truth*, but it has now been decided to change its name to *The Mission Hospital*, as a better description of its contents. The first issue of the magazine, which is to appear monthly, was published on January 1st. It is well illustrated, and contains many articles and notes of interest in regard to mission hospitals abroad, including an article by Dr. D. Duncan Main on the work carried on at Hangchow.

THE United States Public Health Service is arranging to send, through the Naval Radio Station at Anacostia, U.S.A., a wireless telephone message every Tuesday and Friday, at 9 p.m., to advise on how the average man and woman may ensure continued good health. It is stated that the messages will be of such a wave length that any radio station, amateur or professional, which possesses a telephonic attachment will be able to hear them, and, according to the *New York Medical Record*, under favourable weather conditions the service expects that its "helpful health hints" will be heard as far as Europe, which we hope will be duly grateful.

TWO representatives of the Medical School of the University of Belgrade, Dr. George Joannovich, professor of pathological anatomy, and Dr. Radenko Stankovich, professor of medicine, paid a short visit to London last month as guests of the Rockefeller Foundation. They had previously visited Canada and the United States. In this country they were received by Sir George Newman, chief medical officer to the Ministry of Health, and under the guidance of Dr. R. J. Reece, senior medical officer to the Ministry, they studied the system of control of infectious disease in this country. They visited the medical departments of University College, the Medical Research Council's laboratories, the Lister Institute, the Cancer Research laboratories, and the Bland-Sutton Institute of Pathology at the Middlesex Hospital. They were shown the working of the V.D. clinic at St. Thomas's Hospital by Colonel Harrison and the North-Western Fever Hospital and Ambulance Station by Dr. Goodall; they also paid visits to the Royal Army Medical College, the Wellcome Bureau of Tropical Diseases, and the Museum of the Royal Sanitary Institute.

AT the criminal court of Hamburg, after a trial lasting fifteen days, a manufacturer and his superintendent were sentenced to three and a half years' imprisonment and to five years' disenfranchizement for adulterating salvarsan. Sixteen defendants were sentenced to two years' imprisonment and sixty-two others who had conducted a flourishing business in adulterating salvarsan were fined 20,000 marks.

THREE Canadian universities—Toronto, Western, and Queens—are co-operating with the Ontario Medical Association in a scheme to keep medical practitioners in out-lying districts in touch with recent developments in medicine by means of extension courses. The province has been divided into ten sections, and at a central point in each it has been arranged to hold various courses and give lectures covering a period of six weeks in each year. The courses have already been begun and have proved very popular, many practitioners travelling hundreds of miles to attend them.

A DINNER was held in New York, on November 22nd, in honour of Dr. Virgil P. Gibney, who has been for fifty years surgeon to the Hospital for Ruptured and Crippled Children, New York.

THE National Medical Association of China has issued a directory of Chinese medical graduates; it contains 1,160 names, and gives the year of graduation, qualifications, appointments held, and present address.

THE distribution in France of ninety prizes to the parents of the largest families, under the terms of the Chauchard trust fund, shows that whereas in 1920 only 24,000 families sought awards, in 1921 more than 42,000 entered the competition; several families of eighteen, sixteen, and fifteen children were reported, chiefly from the departments of the south.

UNDER the will of the late Mr. W. C. Reid of Edinburgh, the Edinburgh Royal Infirmary and the Longmore Hospital for Incurables, Edinburgh, each receive £8,000.

THE Royal Society of Archaeology of Brussels has formed a section of the history of medicine, the first meeting of which was held on December 9th. Dr. Mélis was appointed president, and Dr. Muls, of Brussels, secretary.

THE manufacture, sale, or offering for sale of horsehair shaving brushes has been prohibited in New York owing to the danger of anthrax being contracted through their use.

Up to November 19th, 1921, the total number of cases of plague affecting human beings reported in Queensland was 71; there had been 38 deaths.

MR. W. H. DOLAMORE, M.R.C.S., L.D.S., has been elected to a seat on the Board of the Medical Sickness, Annuity and Life Assurance Society, Limited.

A BANQUET was held recently at Havana to celebrate the twenty-fifth anniversary of the *Revista de Medicina y Cirugia*.

THE third annual dinner of the Incorporated Vermin Repression Society will be held at the Trocadero Restaurant, Shaftesbury Avenue, on Wednesday, January 25th, at 7.45 p.m., with the President, Lord Aberconway, in the chair. The chairman of the society is Dr. Nathan Raw, the honorary director Mr. Alfred E. Moore, the honorary secretary Miss E. D. Knight (Brentmead Place, Golders Green, N.W.11).

THE number of volumes collected for the library of the Jewish University at Jerusalem is 40,000. Separate volumes or collections should be sent to the secretary of the University, Dr. D. B. Stanhill, 75, Great Russell Street, W.C.1.

THE official account has just arrived of a Pan-Russian Congress of Epidemiology and Bacteriology held at Moscow in May, 1921; discussions were held on the diffusion and prophylaxis of plague, cholera, dysentery, malaria, epidemic jaundice, encephalitis lethargica, tuberculosis, syphilis, scurvy, and trachoma, on the provision of Pasteur institutes, and the control of serums, on disinfection, and on the medical press.

Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.*

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2630, Gerrard.

2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.

3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2630, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin;* telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

"M. W." asks for statistics with regard to the prevalence of progressive muscular atrophy amongst printers.

"PAROXYSM" asks for information regarding the treatment of bronchial asthma by injections of tuberculin, with special reference to dosage, and any untoward effects which have been observed to attend it.

TRAINING OF AN OPHTHALMIC SURGEON.

IN reply to an inquiry recently received we are advised that a practitioner of sixteen years' standing, with a good knowledge of refraction and a fair knowledge of diseases of the eye, would best obtain the experience necessary for taking up ophthalmic work as his sole practice by attaching himself to an ophthalmic hospital or general hospital where there is a post-graduate college—for example, in London he might join Moorfields, the Central London, Royal Eye, or Westminster Ophthalmic hospitals, the West London Hospital Post-graduate College, or North-East London Post-graduate College (Tottenham). As time is an object and a variety of experience is needed he should arrange to work at one hospital in the mornings and at another in the afternoons. He should aim at joining a hospital where he would be likely to obtain an appointment as clinical assistant at an early date, for he will progress in proportion to the responsibility attached to his work. He should reckon on one year as a minimum time required even in view of his present experience, especially if he desires to obtain some ophthalmic appointment in the region of his future practice; with a shorter period he can scarcely obtain such recommendations from those with whom he has worked as will carry weight with those who have the assignment of ophthalmic posts. He might consider the advisability of working for one of the diplomas in ophthalmology, either that of the University of Oxford or of the Royal College of Surgeons of England.

INCOME TAX.

"HIGHGATE" is a dental surgeon with a medical qualification. He holds an appointment to a home about twelve miles out of London; he is assessed under Schedule E for that remuneration, and the local inspector has refused his claim to an allowance for the expense of travelling to the home in question from his residence.

*** If the emoluments in question must be assessed under Schedule E the expenses cannot be allowed, as it was held in "Cook *v.* Knott" that such expenses are incurred not "in the performance of the duties," but to place the person assessed in a position to commence their performance. But medical practitioners holding appointments are permitted to include fees from such appointments with their general receipts for combined assessment under Schedule D, and in those circumstances the whole of the travelling expenses are deducted. Unfortunately this practice is based on concession rather than on right; and our correspondent's circumstances are not quite *pari passu* with the normal case, as he is not in private practice of a nature to necessitate travelling. We suggest that he ask the inspector to arrange for the combined assessment of both sources, but legally he cannot demand this or require the allowance of the expenses.

LETTERS, NOTES, ETC.

PARATHYROID IN THE TREATMENT OF CHILBLAINS.

"H. E. D." writes that he has obtained the most gratifying result in a very severe case of chilblains of long standing, by the administration of parathyroid gland (Armour), 1/20 grain daily. The patient was a boy, aged 15. As "H. E. D." has no opportunity of testing personally the value of the treatment in a large number of cases, he asks medical officers of public schools and physicians of children's hospitals to give the method a trial. He suggests that, in some cases, lime salts should be combined with the parathyroid, and, in others, that the latter be given separately, in order that a firm decision as to the part played by parathyroid may be reached.

THE NAUSEATING EFFECT OF QUININE.

COLONEL G. F. ROWCROFT, M.R.C.S. (U.P., India) writes: I think the medical and chemical professions have been altogether too complacent and self-satisfied with the final form that quinine has been allowed to remain at as a drug. How many tons of this costly product have been wasted! How often has one seen a dose administered and immediately rejected by the unfortunate patient by vomiting! I have been quite uncontrollably guilty of this waste myself, and I write this while convalescing from a severe attack of malaria, before the recollection of the event becomes dim. If a person be only slightly indisposed, even large doses of quinine can be swallowed without much worry or effort, and the taste wears away after half an hour or so, whilst small doses of a grain or two—for example, in ammoniated quinine—are as nothing. (I have met one or two individuals who, when in health, *said* they liked the taste of quinine.) But, when one feels almost *in extremis*, quinine is a nauseating and disgusting medicine, a dose of 5 or 10 grains or more often provoking the most violent vomiting, adding greatly to the distress and enfeeblement of the patient, and, in any case, leaving a taste which remains in the mouth for the whole of the rest of the day. Nothing seems to dispel it. It seems to instantaneously soak into the mucous membrane of the mouth and pharynx (and even nasopharynx after vomiting, some being frequently forced up there), as if that membrane were blotting-paper, and thence it exudes for hours and hours afterwards, even after nourishment is subsequently taken. There are, of course, various "dodges" for disguising the flavour, but none of them amount to much. Surely in the year of grace 1922 our chemists can produce something a good deal less nauseating and more palatable. Let them try (and not leave it to foreign chemists) and they will earn the gratitude of thousands of sufferers and incidentally save many hundreds of pounds.

P.S.—What about the theory of the value of a purgative before the first dose, the explanation given being that, otherwise, quinine and bile form an inert compound? One often continues taking the drug several times a day for several weeks, but if the above theory is true (though nobody denies the value of the purge), how do the later doses exert any therapeutic effect?

THE MOTHER TONGUE.

DR. W. L. STOREY (Belfast) writes: Allow me to express my appreciation of the first leading article in the BRITISH MEDICAL JOURNAL of January 7th. It is good reading and very provocative of thought. "The mother tongue" has unfortunately some descendants which are nothing but bastard English. Our profession is in constant need of the warning, *Cave canem*, the animal to be avoided being not only dog Latin but canine English. What would Addison or Macaulay think of the present-day spelling and colloquial speech, and the style of composition favoured by the newspapers? But, then, would either of those great writers now make his fortune as a leader writer?

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 29, 32, and 33 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 30 and 31.

THE following vacant appointments of certifying factory surgeons are announced: Allendale (Northumberland), Ampthill (Bedford), Deal (Kent), Polesworth (Warwick), Ramsbottom (Lancs), and Yaxley (Huntingdon). The appointment at Kingsbridge (Devon) will be vacant in March.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Six lines and under	0	9	0
Each additional line	0	1	6
Whole single column (three columns to page) ...	7	10	0
Half single column	3	15	0
Half page	10	0	0
Whole page	20	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

An Address

ON

TUBERCULOSIS OF THE LYMPHATIC SYSTEM.*

BY

PROFESSOR SIR ROBERT PHILIP, M.D., LL.D.,

PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH; CORRESPONDING MEMBER OF THE ACADÉMIE DE MÉDECINE, PARIS; PRESIDENT OF THE MEDICO-CHIRURGICAL SOCIETY.

No more fitting subject could have been selected with which to commence the activities of the Tuberculosis Society than that which has been proposed for discussion. The significance of the part played by the lymphatic system in the spread of tuberculosis throughout the body seems inadequately recognized in current medical practice and teaching. The subject calls for illumination.

Within the past hundred years medical vision has been progressively clarified regarding the main facts of tuberculosis in remarkable degree. Fundamental positions have been successively determined with precision. First came the clearing of the air, from the morphological point of view, through the convincing teaching of Laënnec as to the unity of tubercle in all its forms. Second, from the biological side, there followed the definite proof by Koch of the essential causal factor.

With these positions determined, advances have been made along numerous lines, both pathological and clinical. The morbid anatomy—macroscopic and microscopic—of tubercle, as it occurs in any organ, has been studied with great exactness. While lacunae exist here and there, our knowledge in this direction is almost complete. From the biological side the life-history of the tubercle bacillus has been followed by endless observers. Thereby much has been attained in explanation of its morbific action and in the suggestion and elaboration of methods of treatment and prevention. There has been a gradual evolution of thought regarding tuberculosis whereby the horizon has been widened and faulty perspective has been corrected.

Just Perspective.

The local manifestation of tuberculosis in any one organ, important as it is, is seen to be of relatively less significance compared with the larger fact—of which the local lesion is but part expression—that invasion of the system by tuberculosis has been effected.

Granted successful invasion and live bacilli within the body, the potential of manifestation is infinitely various, both focally and systematically. In no two cases is the pathological and clinical picture identical. In the same case kaleidoscopic effects occur from week to week, and month to month, and year to year. After many years of work in relation to tubercle, my experience is that hardly a day passes without some new point of interest or fresh illustration in one or other direction.

We are gradually getting to the vantage position in respect of tuberculosis which we have for long occupied regarding other chronic infective processes, such as syphilis and leprosy.

Continuous Observation.

This advance has been largely contributed to by prolonged continuous observation of individual cases—not for weeks or months only, but through many years—from the earliest manifestation, for example, in an isolated gland, to successive further developments throughout the subject's life. I have in this manner followed numerous patients from early childhood to manhood or from early adolescence throughout adult life. The line of study is tedious and difficult, but throws a flood of light—not otherwise available—on the natural history of tuberculosis as a whole and particularly on that aspect of the subject which we are now considering. I commend the method of observation to younger workers, who presumably have the potential of carrying it out for sufficient periods.

Facts observed clinically in this extensive fashion are illuminated by comparison with observations in inoculated animals, where the gradually advancing involvement may be more rapidly followed stage by stage from the initial changes at the point of inoculation through successive structures and viscera.

* Introductory to a Discussion on the subject at the Tuberculosis Society of Scotland, November, 1921.

Stages of Infection.

In offering a constructive representation of our present knowledge of the spread of tuberculosis in the human subject certain landmarks may be specially signalized.

Let us admit that the point of inoculation with the tubercle bacillus may be almost anywhere in skin or mucous surface. Opportunities for inoculation are numerous, obscure, recurrent, and notably conditioned by the subject's environment. Dates of exposure to tuberculous infection are less exactly determinable than in syphilis. Nor is the fact of successful invasion by the tubercle bacillus commonly registered in the human subject, as it is in the guinea-pig, by a local sore analogous to the primary sore in syphilis.

Primary Incubation and Initial Local Lesion.

None the less, from the occasional occurrence of demonstrable cases of local sore either of skin or mucous membrane with a definite history of precedent trauma—for example, in laboratory, *post-mortem* room, or slaughter-house—we are in a position to predicate a measurable period of primary incubation between the actual entrance of the bacillus and the occurrence of the initial local lesion. Whether or not the point of entrance is indicated by the occurrence of an evident local lesion, such point of entrance must be definitely predicated. Much confusion has been introduced into the consideration of the subject, as it seems to me, by the sharp, even acrimonious, difference of opinion which has emerged between supporters of the theory of introduction by inhalation, and of introduction by ingestion. Observers have come to be ranged as if in opposing camps, while the truth would seem to be that both are right.

The outcome of collective observation appears to be that inoculation of the human subject by the tubercle bacillus occurs by varying channels in different cases. While, if entrance occurs through the skin, the event is commonly registered by a definite sore, an obvious lesion is seldom traceable when inoculation has been effected by way of the mucous membrane, as may be the case at any point in the alimentary tract from the lips to the anal orifice, or in the respiratory tract from the nostril to the ultimate alveolus.

The absence of local lesion is likely when infection occurs, as it oftenest does, during the tender period of developing childhood. At that date the mucous surfaces are rapidly absorbent and succulent, and the entrance of the tubercle bacilli may leave little, if any, trace. Theoretically, especially at that age, the possibility of entrance at any point of the mucous surface must be admitted, but the greater vulnerability of certain points, notably the tonsillar region, including the posterior nares and fauces, will be kept in view.

Second Incubation Period: Involvement of Lymphatic Glands.

Following successful invasion, whether evidenced by local sore or not, ascertained facts allow us to predicate the occurrence of what may be termed the second incubation period, during which gradual spread by way of the lymph stream is taking place. In the experimental animal the completion of this secondary incubation is evidenced by enlargement of a lymph gland in the vicinity of the initial sore, followed by further extension to other glands.

Careful observation in the human subject, particularly in children, frequently reveals more or less clearly a similar succession of events. Thus, following inoculation of the tonsillar region, one or two external glands may be found evidently enlarged, and then others progressively until, it may be, a network of such enlarged glands in the submaxillary and supraclavicular regions is determinable.

Specially noteworthy in many cases is the fine multiple enlargement of lymph nodes extending in fanlike fashion from the angle of the jaw downwards. The enlarged glands may vary much in size. Such infiltrated and indurated glands may show little tendency to caseation or softening. Indeed, the enlargement is, for the most part, so slight as commonly to be passed over, unless the point is *deliberately investigated by specially detailed palpation over likely regions.* So far as these glands are concerned, this is all that may happen. To local incidents—or accidents—in the course of the tuberculous involvement I shall return shortly.

Further extension of infection throughout the system proceeds insidiously by way of the lymph stream—legitimate or irregular—until presently, as is readily followed in the experimental animal, groups of glands at a greater and greater distance become implicated, the individual glands undergoing changes similar to those just indicated.

Clinically the evidence of this progressive involvement varies according to the position of the glands and merits observation. In all cases the conditions of more accessible glands—for example, axillary, bronchial, abdominal—should be investigated. Such inquiry frequently yields most important evidence.

As we have seen, the commonly occurring change in the affected glands is infiltration and induration. For the most part there is little obvious disturbance of grosser sort. In this fashion infection spreads quietly from point to point. The glandular changes are so slight as readily to escape notice.

Incidents in Glandular Spread.

Gross enlargement with caseation, with all the possible inconveniences which may follow, is a relatively uncommon event. Such obvious involvement, causing deformity of outline and calling for operative interference on that account, or because of softening and risk of rupture, may be regarded as an uncommon incident compared with the frequency of slight, progressive implication of glands, one group after another, without more striking development.

The deforming swelling or threatened rupture naturally arrests attention. The question of immediate interference requires consideration. There is, however, a serious risk that treatment may be restricted to the obvious disturbance, to the exclusion of the more significant distribution of the disease. There is too little consideration of the steady passage of tuberculous infection in the quieter fashion that has been described. In presence of gross enlargement of glands a thorough-going search should be undertaken for less obvious infiltration which extends frequently over wide areas throughout the body.

Systematic Examination of Lymphatic Glands.

Whether or not immediate local interference is required—for example, with a view to immediate removal of gross deformity, such as a large mass in a pretty girl, or for the discharge of softened caseous material when rupture is threatened—the wider issues of the case must be carefully appraised and handled.

Were this line followed the guidance afforded by early illness would not be lost. It would cease to be common experience to have case after case come under observation for advanced disease with a history of two, four, six, even twelve, successive operations for enlarged glands, or to encounter as great a number of discharging sinuses without indication of effective attempt to deal with the larger question.

Sphere of Vaccine Therapy.

From long-continued observations in a great variety of cases I am satisfied that this is the moment to institute sufficiently prolonged vaccine therapy. The effect of tuberculin, maintained for long periods, is remarkable (1) on the glands which for the moment are more immediately in evidence, (2) on groups of glands less obviously affected, which may be discovered in other areas, and (3) on the intoxication, which is more or less determinable in most instances.

Under the continued use of tuberculin—whether subcutaneously or percutaneously (by inunction), as I have practised with excellent results for many years—the grosser tumours gradually melt away. The agglomerate mass separates into discrete glands, which in turn become smaller and smaller until all that remains, in most instances, is a firm, apparently fibrous core, possibly calcified in part. *Pari passu*, the glands at a distance are influenced, and the advance of *dis*intoxication is registered by the improved appearance of the patient, increase of weight, and recovery of muscular tone.

Further Spread of Infection.

If the lymphatic system has been widely invaded and the advance unchecked, the possibilities of extension to individual viscera and generally throughout the body become almost unlimited, in the absence of arrest of infection. The tubercle bacillus readily passes elsewhere by a variety of channels.

Let me accentuate the point that these channels may be what we may term legitimate, or they may be less regular. In presence of large masses of agglomerated glands—for example, about the neck—there is often conspicuous stasis, and even reversal, of lymph flow. The resultant is the production of the full, heavy, porcine or scrofulous aspect, to which older observers paid much attention. From many observations following the special lines of treatment indicated, it seems to me that the classic scrofulous appearance is to be explained largely in the way suggested. Under treatment, the gross enlargement becomes sensibly reduced and the agglomerate mass resolves into discrete glands, lymph stasis is gradually relieved, and the natural outlines of face and neck are restored.

Among most civilized peoples the stage of glandular involvement—whether as the more commonly occurring fine, multiple implication, or the grosser enlargement associated with deformity and softening—is chiefly determinable in children, occurring more rarely at later ages. Among uncivilized peoples, on the other hand, this stage or type of disease—which is fitly described as the "infantile type"—may be strikingly found in adults who, passing from primitive, more or less savage, life, come abruptly into close contact with massed infection in older countries. It was typically seen among native troops during the recent war—for example, the Senegalese troops in France. In his native country the Senegalese hardly suffers from tuberculosis. Its occurrence is limited to dwellers in more urban districts in contact with European settlers. The Senegalese troops recruited from such primitive regions were found on arrival in France—after minute examination—to be for the most part free from tuberculosis. Yet, notwithstanding the enforcement of good sanitary conditions, as typically in the Fréjus camp, where Professor Borrel made his observations, tuberculosis developed rapidly, with gross enlargement of lymphatic glands and grave toxaemic symptoms—commonly terminating fatally.

Passage from Lymphatic System.

The extension of infection from the glandular system to the viscera and blood stream does not call for detailed discussion on the present occasion. Suffice it to recall that extension may proceed along a variety of courses—for example, by way of the thoracic duct, or, more abruptly, by direct extension from an involved gland to other structure; by propinquity, as from glands to pleura or lung; or by more abrupt rupture of such gland into, it may be, a bronchus, with rapid widespread involvement of lung, or into a blood vessel, with the grave possibilities of generalized dissemination. On the details of such carriage I do not enter, as taking us beyond the limits of the present discussion. Much may be learned as to the possibilities of this extension from a study of the facts of comparative pathology.

Observations in the experimental animal and also in the slaughter-house point to the probability of the direct passage of the tubercle bacillus from one group of glands, in which individual glands have been successively invaded, to groups of glands in other regions, apparently by direct lymphatic connexion, and no less to the possibility of the passage of the bacillus from an adherent gland to a contiguous viscus. The deductions from such observations are endorsed by observations which have been recorded by various observers from autopsies in the human subject. The occurrence of direct spread from cervical glands downwards to thoracic and abdominal glands, and, conversely, a spread from abdominal glands upwards, may be accepted. The fact may be readily illustrated by comparing the results of inoculation—for example, of the guinea-pig—in one case in the groin, and in another case in the cervical region. While the ultimate result is a general involvement of the lymphatic glands, the sequence of events depends on the point of primary entrance.

SUMMARY.

In closing, let me rapidly recapitulate some of the chief points covered by this address towards which discussion may suitably be directed:

1. The part played by the lymphatic system in the early spread of tuberculosis requires to be emphasized.
2. Patients should be examined with that in mind, and the more important groups of glands should be systematically reviewed. In cases of general delicacy, all the readily accessible lymphatic glands should be carefully investigated.
3. In young children, the lymphatic system should be investigated with especial care, from time to time.
4. Lymphatic tuberculosis, conspicuous in children, becomes less marked in later life.
5. In cases of gross enlargement of one or more glands, exacting search should be made into the state of adjacent glands and other groups of glands.
6. Operative treatment should be limited to emergencies—for example, the immediate removal of an ugly deformity in

certain cases or the evacuation of an obviously softened gland.

7. Save in exceptional cases, such operative treatment should not involve extensive incision.

8. Operative treatment should not be regarded as radical.

9. Tuberculous involvement of the lymphatic system can be effectively combated by continuous vaccine therapy.

SOME LOCAL RESULTS OF DENTAL INFECTION.*

BY

W. G. SPENCER, M.S.,

SURGEON TO THE WESTMINSTER HOSPITAL.

I PROPOSE in this lecture to refer to various cases which have come under my notice during the year just past, in which local complications had been set up by infection arising in connexion with the teeth.

It will become evident to you that I have been greatly indebted to the teaching of the late Sir Henry Butlin, particularly concerning the way in which cancer of the tongue may be prevented, and also to that of Dr. William Hunter, consulting physician to Charing Cross Hospital, as to the manifold harm resulting from oral sepsis. The importance of Dr. Hunter's observations is shown by the number of communications which have appeared of late on the chronic general infections set up by oral sepsis—osteo-arthritis, gastric and intestinal complications, septic anaemia, etc. Such chronic general infections are much more frequent and of greater importance than the local complications which I am about to mention, but these latter are at least troublesome, and may be dangerous, whilst I hope to show how they may be prevented.

Irritation by Tooth Plates.—Patients complain of stinging pain and tenderness along the sides of the tongue; there may be no apparent alteration of the surface epithelium, or merely this, that some papillae have become unduly prominent, in particular the line of papillae running forwards from the junction of the anterior pillar of the fauces, in the rabbit called the foliate papillae, may be a little swollen. Close inspection may discover dental defects, and lead to explanation that there has been delay in carrying out what a dental surgeon had advised. But in many it is impossible to find anything wrong with the remaining teeth. I have had continual opportunities of confirming the note by Butlin on p. 126 of the second edition of *Diseases of the Tongue*, 1900, which refers to tooth plates made of irritating materials. The note commences:

"For some reason which I am not able to explain red vulcanite appears to me to act as a very decided irritant and exciter of chronic superficial glossitis."

In the middle of the note occurs this sentence:

"But the dental surgeons are by no means generally of my opinion."

No year has passed since that date but that patients have consulted me, and the persistent irritation has disappeared when the vulcanized rubber composition of the tooth plate has been replaced by metal. The black composition seems less often than the brown a cause of irritation. I do not know whether the irritant is a purely chemical one, such as a larger amount of sulphur used in vulcanizing, or whether a growth of micro-organisms occurs on the roughened surfaces, which cannot happen on smooth metal.

Herpetic eruptions are very painful when the corneous layer becomes detached and the persistent recurrence is very troublesome. It is quite useless to treat the middle-aged women, who are commonly the sufferers, for dyspepsia, neuralgia, and anaemia, unless all causes of dental irritation are removed first of all. Generally the outstanding dental treatment over which difficulty arises is that for the relief of pyorrhoea alveolaris affecting the lower incisor teeth; anything short of extraction may be unsatisfactory.

Precancerous Lesions.

Causes of patches of leucoplakia, papillomas, fissures, and chronic ulcers on the tongue and inside of the cheeks have of late years diminished. The clay pipe has become almost obsolete; tobacco, whether smoked in pipes, cigarettes or cigars, seems to give rise to much less irritation than was the case formerly, and most people, when any irritation is experienced, are wise enough to stop smoking, or to change the kind of tobacco. Only in the East, where tobacco is mixed with caustic lime and betel nut, and held in the mouth as a quid, is there any regular sequence of cancer. Of course this refers to tobacco when there is no other lesion present, for, although it is a matter on which it is difficult to speak with precision, smoking indefinitely increases the general effects of oral sepsis arising from the teeth.

Syphilis as an antecedent to cancer of the tongue has been influenced of late by the arsenical treatment; early superficial glossitis is quickly removed, and is thus prevented from going on to a definite leucoplakia, which neither mercury nor arsenic can remove. Against the improvement by the more rapid removal of early secondary manifestations is the uncertainty how far an advance has been made in the actual curing of syphilis. The effect of salvarsan and its substitutes in causing the rapid disappearance of the primary and secondary manifestations of syphilis may prove misleading, and prevent the carrying out of a prolonged course of treatment by mercury.

The practice of applying caustic to sores on the tongue continues; I am quite sure that caustic determines the commencement of those changes by which a chronic inflammation passes over into cancer.

There is one way in which cancer of the tongue can be prevented—namely, by the patient, or the first doctor he consults, or both, taking into account any lesion on the tongue, and in the mouth, as seriously as if it were an acute disease, to be kept continuously under observation until it has entirely disappeared, or has been cut out. I have never seen a case of cancer of the tongue or mouth, in a patient over 30 years of age, in which there has not been a definite history of a preceding inflammatory stage, during which interval the lesion might have been made to disappear, or it might have been removed by a slight operation.

In some cases, no doubt, the failure as to this lies with the patient, but it is a regular feature of the history of cases of cancer of the tongue that the impression made on the patient by the first doctor consulted has been that the condition was both trivial and transient. The doctor, however, failed to make the patient understand that for the trouble to be trivial and transient the patch should entirely disappear in a few days. The doctor did not tell the patient that every inflammatory condition affecting the mouth and tongue should under treatment completely disappear within three weeks, and that, if it should not do so, it should be removed by a superficial excision, and the wound so made closed by suture.

Complete disappearance implies that not only is any breach of surface covered by healthy epithelium, along with cessation of all pain and tenderness, but there should persist no subepithelial induration. If such epithelial induration is examined under the microscope it will be seen that a chronic inflammation is continuing which affects the epithelium from below. Hence an epithelioma can be started from below whilst the epithelial surface is apparently intact, just as well as when the epithelial surface is continually irritated by a jagged tooth.

The excision of patches of leucoplakia, fissures, subepithelial induration, nodules, warts, scars, and chronic ulcerations, however caused, followed by suture, is a completely successful procedure. The operation is attended by no danger, and as the removal involves only the epithelium, there is no impairment of the movements of the tongue.

Where there is subepithelial induration it is difficult to distinguish chronic inflammation from early malignant disease. Therefore when a patch has been removed and submitted to a microscopical examination, if in addition to epithelial overgrowth and subepithelial infiltration by small round cells, there has already set in a downgrowth of epithelial columns, the lymphatic glands, together with the external part of the submaxillary salivary gland, should be at once dissected out from the corresponding anterior carotid triangle. In such cases the lymphatic glands will generally show an increase of small round cells in the lymph spaces of the gland and its capsule, but definite epitheliomatous cells may not be recognizable. Exceptionally, when the patch removed has been situated across the middle line, the dissection has to be done in both anterior carotid triangles. Such operations are safe as regards life; there is little trouble after the operation, and that for a few days only, after which the patient is freed from anxiety, immediate and prospective. The scar of the incision in the neck becomes less obvious than one after removal of tuberculous glands.

* The Second Hunterian Society Lecture, delivered on January 11th, 1922.

When leucoplakia has been insufficiently treated and has spread widely over the surface of the tongue, an exceptionally extensive removal of epithelium may entail some impairment of the movement of the tongue, which, however, in course of time tends to disappear. There are also a few cases in which leucoplakia reappears on previously sound areas of mucous membrane, but if the patient submits to a repetition of excision of affected epithelium he escapes cancer.

Salivary Gland Infection.

Oral sepsis may penetrate the sphincters which close the orifices of the ducts of the parotid and submaxillary salivary glands, and set up a chronic inflammation in the walls of the ducts and in the substance of the gland. Acute septic infection, which in former days was common in the parotid, and generally fatal, has now become rare because among the duties of the nurses attending exhausted medical and surgical patients is that of keeping the mouth and teeth as clean as possible. The cases of chronic septic infection from the mouth commence by an induration of the papilla marking the orifice of the parotid or submaxillary duct; the duct itself becomes a thickened and painful cord, and it dilates during secretion, with an increase of pain. In the submaxillary duct a concretion may form, either a stationary large one, of the shape of a date stone, or one or more small ones which move in the duct backwards and forwards. Wherever situated, the calculus is the seat of great tenderness. If the infection spreads to the gland there is pain and tenderness, increased during salivary secretion. The following cases have been observed recently:

CASE I.

The patient complained of intermittent pain and swelling in the right parotid gland and along the line of the duct. The orifice of the duct formed a tender indurated nodule; a cord was felt along the line of the duct, at one point about the socia parotidis there was a cystic swelling. A canaliculus probe-pointed director was with difficulty passed up the line of the duct, and the duct slit up into the mouth as far as the anterior border of the masseter.

CASE II.

A patient had a parotid fistula over the position of the socia parotidis, the indurated papilla in the mouth had become impermeable to a probe passed from that direction. Therefore the probe-pointed director was passed from the fistula on the cheek down the duct into the mouth, and guided by it a second probe-pointed director could then be passed up the duct to a point beyond the fistulous opening. Thus guided the parotid duct was slit up into the mouth to a point nearer the gland than the fistulous orifice. The margins of the fistula having been then pared, and closed by clips, healing of the cheek occurred by first intention.

CASE III.

There was intense pain and tenderness at times along the line of the right submaxillary duct, which prevented the use of a lower tooth plate. The special point of tenderness shifted, at one time being just in front of the anterior pillar of the fauces, at another time right over the canine tooth. This sign was recognized as caused by a minute concretion moving its position in the duct; it could not escape because the papilla had become indurated and the orifice stenosed. The probe-pointed canaliculus director was passed with difficulty into and along the duct, which was then slit up as far as the intrabuccal portion of the submaxillary salivary gland. When seen a month later the saliva was being discharged directly from the gland into the mouth; the tenderness of the external portion of the submaxillary gland had been relieved; there was still some swelling and tenderness in the sublingual gland situated underneath the slit-up duct.

CASE IV.

When the septic inflammation has extended to the extrabuccal portion of the submaxil ary salivary gland, and this has not been relieved by slitting up the duct and subsequent massage to the gland, it has been necessary to remove the submaxillary salivary gland through an external incision. Glands so removed show chronic interalveolar fibrosis with dilatation of alveoli and of smaller ducts, many of which contain inspissated mucus in which calcareous material is deposited. A severe case of oral sepsis was started years ago, especially by pyorrhoea alveolaris affecting the lower incisor teeth. Both submaxillary salivary glands and the ducts were infected and also there was excited gastro-duodenal ulceration. The patient has had to undergo a series of operations on different occasions, the excision through the mouth of one, and then of the other thickened and dilated Wharton's duct, as far back as the gland; later the excision of the submaxillary gland on each side through an external incision; finally, gastro-jejunostomy to remove the gastric trouble. In addition all the teeth were removed and dentures fitted with considerable difficulty.

Acute Suppuration following Extraction of Teeth.

It may be described as the common procedure to extract one or more carious teeth, although there are present additional causes of oral sepsis. Any septic complication is so rare as to be negligible.

In the four cases I mention the extraction of two or three molars with all ordinary care was followed by acute suppuration. I believe that an acute septic infection of the raw surfaces of the gum and of the bare alveoli which followed the extraction in these cases was derived from the lower incisor teeth already affected by some degree of pyorrhoea. The character of the suppuration corresponded with that set up by virulent streptococci, mixed with staphylococci.

CASE I.

A female had become anaemic, for which there was no other evident cause than the state of her teeth. Three left lower molars were extracted, leaving eight teeth affected by pyorrhoea and some by caries. An acute septicaemia supervened at once, the temperature rising to 105° F. and the pulse to 130. There appeared an acute brawny oedema extending from the jaw to the clavicle on the side of the extraction. Under the presumption that the most dangerous part of the infection was due to streptococci, a 20 c.cm. dose of an antistreptococcic serum was administered every six hours for four doses. Meanwhile the exceedingly foul condition of the mouth was reduced by repeated cleaning and irrigation. The spread of the inflammation was arrested and suppuration supervened, fortunately superficial to the deep fascia. Under a general anaesthetic all the remaining teeth were removed by first wiping out the gum pockets around the teeth with iodine, and after extraction applying iodine to the alveolus. Then a long incision over the anterior carotid triangle laid open the suppuration. Healing followed without any reaction subsequent to the operation.

CASE II.

A female, after extraction, had acute inflammation below the jaw, which became circumscribed to the submental gland and to the gland over the bifurcation of the carotid on the corresponding side. All the rest of the teeth were sound except the lower incisors, which presented pyorrhoea alveolaris. The removal of these incisors and the opening of the abscesses had the same result as in the previous case.

CASE III.

A male, aged 50, had had oral sepsis for a long while. He was markedly thin and anaemic, for which there was no other evident cause. A couple of lower molars were extracted, following upon which he was attacked by septicaemia, attended by pain, sleeplessness, loss of appetite, and weakness. Suppuration started in the alveoli from which the teeth had been removed; internally pus spread forwards under the gum, externally there was inflammatory induration limited to the line of the horizontal ramus of the mandible. There was marked pyorrhoea alveolaris affecting the lower incisor teeth. Incisions were made through the gum from within the mouth, and suppurating cavities repeatedly syringed out. Later the incisor teeth were removed; the necrosis remained limited to the alveoli, and there was no extension to the neck. Convalescence was slow.

CASE IV.

This case ended fatally. A male, aged 40, had had some oral sepsis for probably ten years, and two or three carious teeth had been previously extracted without complications following. Then three molar teeth were removed from the lower jaw on the left side, and the patient went straight back to his office to work. Acute septicaemia followed, and three days after the extraction he was sitting up in bed with laryngeal stridor, the voice almost lost, swallowing with difficulty, temperature 105°, pulse 116, respiration normal in rate. The mouth was excessively foul; there was brawny oedema from the lower jaw to the clavicle on the left side. Injections of antistreptococcic serum were followed by relief to the laryngeal stridor, but signs of purulent bronchitis continued. Four days after extraction the foulness of the mouth had not been reduced in spite of the cleaning by the nurses. The brawny oedema of the neck had gone on to suppuration under the deep fascia. There was a limited necrosis of the jaw around the site of the extraction.

Under a general anaesthetic the remaining teeth, ten in number, were extracted whilst applying iodine as described above. Every tooth stank, more especially the lower incisors. Four incisions were made in the neck and tubes inserted; foul pus escaped. The result was an immediate improvement in the condition of the mouth; the necrosis of the jaw did not extend; foul pus and sloughs of fascia were discharged from the incision in the neck, but the purulent bronchitis increased. Ten days after the original extraction, and four days after the removal of the rest of the teeth, a little bright blood appeared with the pus and sloughs, so the drainage tubes were removed. Signs of a left-sided pleurisy being confirmed in consultation with a physician, on the eleventh day 15 oz. of turbid fluid were aspirated from the left pleura and found to be swarming with streptococci. Later, on the same day, the left pleura having again filled and the breathing and pulse becoming impaired, he was being carried into the operating theatre when suddenly the mouth was filled with blood and blood escaped from the neck. This was checked by thrusting a finger into a submaxillary incision and another through the mouth into the necrosing area around the jaw. An enlargement of the incision in the neck exposed facial blood vessels in the midst of foul granulations. The haemorrhage was apparently derived from both an artery and vein and was controlled by clamps. After this the fluid was let out from the pleura. The patient died ten minutes after his return to bed.

There are two ways of regarding these four cases. They may be considered exceptional occurrences, and many objec-

tions may be raised to the removal of the lower incisor teeth. On the other hand, when affected by only a slight degree of pyorrhoea, the lower incisors may become the source of a virulent infective agent, independent of the quantity of pus discharged, in particular as the focus from which a streptococcal infection may arise. Granted this, it may be best to extract these teeth first, and after the oral sepsis has been reduced remove the more deeply rooted teeth.

I have many times removed a number of teeth at one operation without noting shock or inflammatory reaction, but rather an immediate relief of the oral sepsis. The cases have, however, been treated like others undergoing major operations, including preliminary preparations, a general anaesthetic, disinfection, and extraction of a tooth at a time, and after-treatment in bed.

FEBRICULA AND INFLUENZA.

BY

A. I. SIMEY, M.D.CANTAB., M.R.C.P.,

MEDICAL OFFICER TO RUGBY SCHOOL, AND PHYSICIAN TO THE HOSPITAL OF ST. CROSS, RUGBY.

IN every great boarding-school there occur from time to time—and usually no term is quite exempt—a certain number of cases of a complaint popularly spoken of as "a chill" or "the flu," or, if much more severe, "influenza," and characterized in its simplest form by sudden onset, usually a shivering attack, and pains in the head, back, and limbs. Sometimes there is slight sore throat and a mild adenitis, with nothing but a little redness of the fauces to be seen, and the patients have perhaps only recently got rid of a slight cold and cough; but there is rarely much catarrh when they seek advice, nor, apart from the pyrexia and slight rise of pulse rate, is there any physical sign to account for the condition. After a few days in bed, the administration of a purge, gargle, and ammoniated quinine or some simple diaphoretic, the temperature drops either suddenly or by a descending zigzag to normal, and the attack is over. Such is the disease in its simplest form.

My object is to describe this disease and its varieties, and to establish its relation to certain allied conditions—namely, coryza, febrile catarrh, and influenza—and to consider the etiology, pathology, complications, and some points in the treatment of patients in whom they occur.

Sir William Osler, in his *Principles and Practice of Medicine*, describes febricula as "fever of slight duration, probably depending upon a variety of causes." A febrile paroxysm lasting twenty-four hours and disappearing completely is spoken of as "ephemeral fever." If it persists for three, four, or more days without local affection it is referred to as "febricula."

In the first place, it is obvious that the disease, which should be spoken of as febricula, is an infection, and may occur in mild or severe form; it has certain definite types and complications, depending, no doubt, partly on the strain and virulence of the micro-organisms concerned in any particular epidemic, and partly on the admixture of the micro-organisms and the introduction of new strains, and possibly also new species. Climatic conditions are also a factor in determining the prevailing manifestations of the disease.

There are four main types commonly seen:

In the commonest the onset is sudden, and the symptoms which have already been described very soon yield to treatment. The temperature chart is characteristic of the descending see-saw type, with about 1 to 2 degrees between the evening and morning records, normal being reached on the fourth, fifth, or sixth day; then follows a short period of subnormal morning temperatures with normal, or slightly above normal, evening records, then a continuous normal or subnormal temperature till convalescence is attained.

In the second type the temperature chart is more like that of a lobar pneumonia of three to five days' duration, with a sudden drop resembling the crisis in pneumonia, and often followed by a post-critical rise.

In the third type the temperature is far more irregular, beginning like a mild attack of the second type, then, after two or three days' normal temperature, relapsing and repeating the phenomena of the early period on a modified and milder scale. There may be several such relapses, or "exacerbations," the chart reminding one of a short attack of trench fever.

In the fourth type the chart resembles that of a mild enteric infection with high evening and much lower morning temperatures, but usually a steady rocking, descending swing, the steps becoming smaller and smaller until the normal or subnormal is reached in from ten to fourteen days.

The striking peculiarities of the disease are the absence of acute symptoms after the first few days, the cleanliness of the tongue, the keenness of appetite, and the rapid recovery. In schoolboys very few seem to be much debilitated by a moderate attack, and they find their legs again with striking rapidity, and need considerable supervision and restraint to prevent them returning to full exercise sooner than is safe. In spite of this they lose weight rapidly, but gain it as quickly under favourable conditions.

Such are the main types of this disease; one may almost predict from the first few cases which occur in a school in a given term to which of the types the outbreak is likely to conform. Once it has started it spreads with more or less rapidity by boarding-houses chiefly (because the infection is mainly a dormitory or study infection), then by forms and classes. The rate with which it spreads depends on several factors, chief of which are: (1) The number of individuals who are partially or completely immune owing to a recent attack, or to prophylactic vaccination; (2) the severity of the weather and the precautions taken to ensure against overcrowding and unnecessary exposure to wet, cold, and overexertion.

Complications.

There are certain phenomena which occur in the course of epidemics of febricula which hardly deserve the title of complications, being rather a part of the disease.

The chief are as follows:

Epistaxis.—Of very common occurrence, especially in the early stages.

Pharyngitis.—Is very common; the appearance of the tonsils is that of raw meat, the soft palate is scarlet, and "sore throat" is complained of.

Tonsillitis.—Is not often severe. In some epidemics cases of true follicular tonsillitis occur, but this is not the rule; occasionally quinsies develop, but not as a rule except in individuals predisposed to their occurrence.

Ear complications are unfortunately far from uncommon; there are two main forms:

1. Those beginning with Eustachian catarrh, and then developing otitis media with acute earache of a most distressing kind, accompanied by severe constitutional symptoms and high temperature. This may subside without perforation of the drum, but frequently relief occurs when otorrhoea appears with a discharge often serous for a short time, but usually becoming purulent within thirty-six hours. The pus contains the micro-organisms which are probably the cause of the disease, reference to which will be made later on, and it is likely that futile attempts to blow a completely blocked nose lead to the infection of the middle ear.
2. Those beginning without Eustachian catarrh, the first symptoms being earache, the drum becoming oedematous, with redness and loss of the usual landmarks. In some cases a blister forms on the outside of the drum, bursts, and discharges a pale thin watery fluid, and the attack is over in two or three days without further discharge. In such cases the walls of the auditory meatus often share in the inflammation, and the middle ear seems to escape.

Conjunctivitis is not at all uncommon, infection taking place through the nasal ducts. In some cases this conjunctivitis is most persistent and only cured by syringing out the ducts and douching the nose, in addition to treatment of the eyes with boracic lotion and protargol, or silver nitrate drops.

Adenitis in a slight degree is common; in cases where the throat is more than usually inflamed it is generally more severe. In individuals whose glands are usually somewhat enlarged, possibly owing to a tuberculous tendency, adenitis is much more marked.

Abdominal Complications.—Constipation is the rule whilst the temperature is high. Vomiting is rare, but occurs. In some epidemics the stomachic symptoms are much more marked than in others, hence the term "abdominal influenza." Jaundice is by no means an uncommon complication, occurring either as a late phenomenon or quite early. In certain epidemics of febricula small outbreaks of jaundice occur, and I cannot but think that they are not remotely allied in origin.

Cardiac complications are rare. Endocarditis very seldom occurs. A muscular weakness of the heart muscle, giving rise to a soft systolic murmur in the dorsal position, is quite common and lasts long into convalescence. Occasionally cardiac dilatation and hypertrophy persist, and require prolonged and persistent care. Rapidity and irregularity of the pulse not uncommonly persist even after convalescence seems to be established. Convalescents should return to exercise very gradually; in a mild attack not for at least three weeks from the onset of the disease.

Pulmonary complications are common in some epidemics, rare in others. Whilst lobar pneumonia is rare, bronchopneumonia and bronchitis are not at all uncommon. Pleural effusions are comparatively rare, but occur. In severe cases empyema may follow. In many cases there is a localized congestion at the base of one lung without any dullness or solidification; it is accompanied by cough, but no dyspnoea, and the symptoms are not those of bronchopneumonia, there being neither distress nor cyanosis nor great rapidity of respiration. A dry pleurisy sometimes occurs. In patients liable to asthma, an attack of asthma may supervene.

Nervous Phenomena.—Of these neuralgia is by far the commonest; it is usually unilaterial, affecting the supraorbital and, less commonly, the infraorbital branches of the fifth nerve. Sometimes it is most persistent and causes sleeplessness, which may lead to serious depression of spirits. Occasionally there are signs of a frontal sinusitis. Great relief is afforded by hot dry applications and administration of caffeine, aspirin, and phenacetin in suitable doses. Delirium is uncommon, but nightmares are common, and somnambulism occurs amongst those in whose family there is a history of epilepsy or its allies, sometimes very remote. Meningitis is rare, and, when it occurs, usually accompanies otitis media, without necessarily the formation of abscess.

Arthritis and nephritis never occur, but a transient albuminuria is common.

Diagnosis.

The diagnosis is usually easy, especially after three or four days of observation. The following are the conditions which must be borne in mind in the early stages:

1. The onset of one of the specific fevers, especially measles.
2. Enteric or paratyphoid fevers. This can be settled later on by agglutination tests. In the early stages a blood culture should be taken if there is any strong suspicion or history which would make the occurrence of these diseases probable.
3. In some cases of early phthisis attacks of this nature occur which may possibly be due to the spread of a tuberculous focus.
4. In some cases of gall stones attacks of cholecystitis occur with very similar symptoms, and not necessarily accompanied by jaundice.

Incidence and Immunity.

The disease is now endemic, with exacerbations at intervals when circumstances are favourable to its appearance in epidemic form, and the number of individuals whom a recent attack has rendered temporarily immune is comparatively low. The following figures will be useful by way of illustration, signifying the number of cases occurring during ten years at Rugby School since 1911, the number of boarders being approximately 550.

Year.	Term.	Cases.	Year.	Term.	Cases.
1911.	Lent	19	1916.	Lent	4
	Trinity	27		Trinity	34
	Christmas	8		Christmas	?
1912.	Lent	129	1917.	Lent	?
	Trinity	40		Trinity	?
	Christmas	21		Christmas	23
1913.	Lent	42	1918.	Lent	22
	Trinity	23		Trinity	187
	Christmas	23		Christmas	17
1914.	Lent	46	1919.	Lent	113
	Trinity	39		Trinity	21
	Christmas	2		Christmas	31
1915.	Lent	150	1920.	Lent	35
	Trinity	32		Trinity	261
	Christmas	31		Christmas	40

During the summer term of 1918 there was a considerable outbreak of febricula in Rugby School, and one may safely say that every boarder was exposed to the infection; 187 cases were admitted to the school sanatorium, or, roughly speaking, one-third of the school succumbed during the term; whilst others, amounting perhaps to 250 in all, contracted it during the holidays.

In the following winter term, when influenza in its severest form was epidemic everywhere, and especially severe in the Rugby district, there was not a single case among the schoolboys, and only 17 cases of a mild "febricula" were admitted into the sanatorium. Of these 17 boys, 4 were amongst those who had contracted it in the previous term. It is noteworthy that no restrictions were imposed upon the school which could possibly have prevented the infection being introduced from the town and neighbouring district into the boarding-houses.

During the next term, when another wave of influenza of severe type passed over the district, the school was again visited by febricula in epidemic form. Of the 187 boys who had contracted it during 1918 Trinity term, 170 still remained in the school, and of these, 31 succumbed out of a total of about 140 cases admitted.

From a consideration of these statistics and a careful examination of a large number of individual cases I have arrived at the following conclusions:

1. That an attack of febricula renders most patients temporarily immune to febricula and influenza.
2. That such immunity lasts from three to nine months, differing (*a*) in different individuals, (*b*) according to the severity of the original attack.
3. That there are some few individuals who are (*a*) highly immune to both diseases; (*b*) highly susceptible to both diseases, and in these individuals one attack conveys very little immunity against a second, such attacks sometimes following closely upon one another; (*c*) highly infectious to others when suffering from even mild catarrh—in fact, "carriers."
4. That some individuals who are liable to asthma, bronchitis, or febrile colds, with or without sore throats, appear to be free from typical attacks of febricula, the reason, no doubt, being that bacteriologically the same or a similar infection is the cause of all these phenomena, which differ rather in the site and vulnerability of the affected tissues than in the infection which disturbs them.
5. That febricula is closely allied to coryza and febrile colds on the one hand, and to influenza, whether "Spanish," "Russian," or "English" in its origin, on the other hand.

It seems highly probable that coryza, febricula, and influenza are an inseparable group of diseases beginning in the upper respiratory passages. If the infecting micro-organisms meet with sufficient resistance locally coryza is produced, exudation is profuse, and the infection is dealt with locally. If, on the other hand, the infection rapidly becomes systemic, there is usually little catarrh, but serious constitutional symptoms with an acute toxaemia or septicaemia appears; in other words, the disease is now "influenza."

As to what determines the clinical phenomena I would suggest that the following three considerations are of great importance:

(i) The relative proportions of the chief infecting organisms present in any given epidemic—that is, streptococcus, pneumococcus, *B. catarrhalis*, *B. influenzae*.

(ii) The presence of other "contaminating" micro-organisms whose activities increase, diminish, or in some way modify the infection.

(iii) The "strains" of these varying micro-organisms and the exaltation or attenuation of their virulence or modification in some other direction by the passage through the bodies of their hosts, whether human or otherwise.

An illustration may be drawn from chemistry. The particular properties of a chemical mixture depend very largely, not only on the particular constituents of which the mixture is composed, but also on the *proportions* in which these constituents are present. Thus ordinary gunpowder consists of the three constituents carbon, sulphur, nitre; but it is only when these three are thoroughly mixed together in certain definite proportions that the full "fighting efficiency" of the mixture is realized. If one or other of the constituents is increased and allowed to preponderate beyond the proportion required for maximum efficiency, the property of the combination is much modified and only "a sort of gunpowder" results.

Hence we are driven to the logical conclusion that "influenza" is a clinical term and not a distinct disease, and although the bacillus of Pfeiffer is almost invariably present, it is not the sole cause of the symptoms, but is only one of an innumerable variety of factors which, taken together, give rise to the alarming phenomena with which we are only too familiar. It is, so to speak, one step worse than febricula, which protects against influenza because it neutralizes the greater portion of the influenza toxins.

It is well known that the influenza bacillus is found in some cases of nasal catarrh, and is a constituent of many stock anti-catarrh vaccines; it is also found in the expectoration of patients suffering from febricula who present no physical signs of pulmonary disease.

Treatment.

I have already referred to the simple treatment of ordinary cases of febricula, and it is not my intention to deal any further with general and drug treatment, but it is necessary to speak of the use of vaccines in these closely allied conditions. There are two methods of vaccine treatment:

1. Prophylactic vaccines.
2. Remedial vaccines.

In both great successes have justly been claimed and in both failures must frankly be admitted. So far as my own experience goes, the prophylactic treatment is much more encouraging than the therapeutic.

For prophylactic purposes one may use (*a*) a stock vaccine, of which there are many good recognized preparations, or (*b*) a "local prophylactic" vaccine. This means, in the case of a school or other concentrated community, a vaccine prepared by swabbing the throat and noses of affected patients and by adding strains obtained from their sputum to the resulting cultures. Such a vaccine is reinforced or modified from time to time by the addition of fresh strains from new cases and kept up to date. It is best administered during the holidays in two doses of increasing strength with a fortnight's interval, and it is probable that the susceptibility to infection is slightly increased after the first dose. It is chiefly on this account that it is advisable to administer the doses in the holiday time, when the chance of exposure to infection can be minimized, and when rest and warmth after the first dose are more easily obtained than at school. Stock vaccines are sometimes efficacious, especially the polyvalent varieties, but their success is more a matter of chance. They should be employed only when, for some good reason, it is not practicable to obtain a local prophylactic vaccine or when success with a particular stock has been proved to be efficacious in a particular type of the disease.

Therapeutically, autogenous vaccines are far preferable to others, but owing to the delay necessitated by their preparation it is often imperative to begin with a stock vaccine. By the time the autogenous vaccine is ready for use it may be too late, and the patient may not be in a condition necessitating such treatment. Still, the possession of an autogenous vaccine made from a given patient is useful for the direct contacts of the patient from whom it is obtained, and possibly also, in a less degree, for the more remote contacts.

In a localized epidemic local prophylactic vaccines should constantly be prepared for future use, so that pace may be kept with the modification of the strain as it passes through individual after individual.

Conclusions.

1. The influenzoid group of diseases may be subdivided for clinical convenience into two groups:

(*a*) Localized infections, with slight toxaemia—namely, coryza, catarrh.

(*b*) General infections, with much toxaemia and possibly septicaemia—namely, febricula, influenza.

2. The severity of symptoms in the second group depends partly on the susceptibility of the patient and partly upon the proportions of the various micro-organisms present, their strains, and the contaminating organisms present. It may be that there are some ultra-microscopic micro-organisms of whose existence we are, as yet, unaware, but I cannot help thinking that the bacillus of Pfeiffer is rightly named *B. influenzae*.

3. Partial and temporary immunity is conferred by an attack of febricula against influenza and by influenza against febricula.

4. Vaccines therefore, to be most efficacious, should be specially prepared from local material, and in an epidemic these vaccines should be systematically reinforced to keep pace progressively with the advance of the disease.

For permission to publish these statistics I am indebted to the Right Rev. A. A. David, D.D., late Head Master of Rugby School.

SPASMODIC STRICTURE OF THE UTERUS.*

BY

MRS. M. A. DOBBIN CRAWFORD, M.D., M.A.O., F.R.C.S.I.

THE tonic contraction of a zone of circular fibres in the uterus was formerly described as hour-glass uterus. This term is not satisfactory, for, although it gives an accurate picture of the interior of the uterus, the general impression conveyed is false, for the exterior of the uterus remains ovoid in contour and the narrowing of the lumen is not, as a rule, perceptible by abdominal palpation or inspection. The condition may also be described as localized tetanus of the uterus; in some types the clinical picture very closely resembles that of tetanus uteri, particularly in the later stages.

Many other terms have been applied to this condition, as Schroeder's ring, Müller's ring, retraction ring, the last of which has been discarded. Eardley Holland's definition, "the active retention of the foetus by the uterus," omits the third stage of labour altogether. I prefer the more convenient term, "spasmodic stricture of the uterus," or, for short, the less definite term used by De Lee, "strictura uteri."

I would urge that the term be applied only to those cases in which the contraction ring is the cause of difficult labour, no other obstruction being present. Where there is other cause of obstruction, and the lower uterine segment is stretched, the term retraction ring should be used.

Eardley Holland has under this heading reported two cases of shoulder presentation with prolapsed arm, where the lower uterine segment was greatly lengthened, and where at the Caesarean section great difficulty was found in extracting the child, owing to the tonic contraction of a ring of muscle. Personally, I should describe these as cases of obstructed labour with well-marked retraction ring.

History.—The earliest report found of this condition was by Smellie in 1743, in his *Collection of Preternatural Cases and Observations in Midwifery*. He describes his case as "a laborious one; the uterus contracted before the shoulders of the foetus."

Since 1907, when Andrews and Maxwell drew the attention of the Royal Society of Medicine to this condition as a cause of dystocia, the subject has been discussed from time to time, and a comprehensive survey of the literature was made by Clifford White in 1913.

Etiology.—The cause is unknown. It is assumed to be some abnormal irritation or irritability of the uterine wall. It is said to occur most frequently in neurasthenic primiparae, and to be associated with malpresentations, premature rupture of the membranes, uterine inertia, prolonged first stage, with repeated vaginal examinations or attempts at manual or hydrostatic dilatation of the cervix. None of these associated conditions were present in my case.

With regard to parity, Clifford White found that the condition occurred twice as frequently in multiparae as in primiparae.

Types.—Strictura uteri or hour-glass uterus has been most frequently described as occurring in the third stage of labour and causing incarceration of the placenta, formerly due in many cases to unwise administration of ergot. I have seen this occur, too, after an injection of pituitary extract during the third stage in an attempt to hasten a dilatory placenta. The spasm, however, may occur during any stage of labour and at any part of the uterus. It will then be as follows:

1. In front of the whole child.
2. Around some part of the child, as in my own and the majority of cases, around the neck and obstructing the shoulders; or, as in a case reported of breech presentation, around the arms and body. Lady Barrett has reported a case where the ring was formed around the neck of a hydrocephalic foetus presenting by the breech.
3. Following one twin and ahead of the second child.

The Contraction Ring.—As regards position, although it is certainly true that the ring may form at any part of the uterus yet it has most usually occurred at the level of Bandl's ring—that is, where the upper and lower uterine segments meet; hence the confusion as to nomenclature. The contraction ring may run very obliquely across the uterus, as in that case reported by Clifford White where it corresponded to the groove between the thigh and body of the child. He considers that the contraction ring is largely formed by the close moulding of the uterus to the foetus, and doubtless this is true in those cases where the membranes have ruptured early and the liquor amnii has drained away. Jardine states that in all his cases where the ring has been situated around the neck of the child the membranes have ruptured before labour has begun at all. These observations do not apply to my case, in which the membranes had to be ruptured artificially.

Mortality.—The condition is very serious. Hedley gives the maternal mortality as 40 to 50 per cent., the foetal mortality as 60 per cent., and states that 10 per cent. of the foetuses are macerated. The child dies of asphyxia, the contracted muscle interfering with the oxygenation of the foetal blood. The same circulatory disturbance allows infection of the uterus and its contents to occur, and the woman may die of sepsis or exhaustion.

Report of Case.

The patient, Mrs. B., a quartipara, gave the following history of previous labours:

1. In labour for three days and nights; child born alive; forceps.
2. Twins. One born alive, but died in a few minutes, forceps. The other had to be taken away, was born dead, and disposed of without either parent being allowed to see it.
3. Child born alive, 9 lb. weight; forceps. Subsequently the patient spent five weeks in hospital for repair of complete perineal tear.

Her mother told me that all these labours had been prolonged and very difficult, that the doctor had said that there was "a shelf inside her," preventing the birth. This appears to me to suggest strongly that the uterine condition was habitual to this patient with every labour. I was therefore prepared for trouble, but when I saw the patient a few days prior to labour I could find nothing abnormal. The child was presenting by the vertex, and the pelvis showed no sign of contraction. The abdomen was pendulous; I judged that there was a large quantity of liquor amnii, and the woman had insisted upon doing heavy housework, such as scrubbing, up to the last without wearing any abdominal belt or other support.

Labour started at midnight, but the pains were very slight for some hours. I was called at 8 a.m. The patient was still in the first stage, the os dilating slowly, membranes intact. She had been up all night, so I gave her 1/4 grain of morphine and left with instructions that she was to go to bed and sleep. I returned at 11,

*Read before the North of England Obstetrical and Gynaecological Society at Sheffield, November 18th, 1921.

and found the nurse very worried; she said that the patient had been in great agony; the patient herself said that the pain was continuous and very severe. For a while the pain appeared to be due to tonic contractions of the uterus, the contractions increasing and then diminishing, but never completely relaxing. The woman's general condition was extremely good, but she was obviously in tremendous pain.

The cervix being three-quarters dilated, I ruptured the membranes and waited for the head to fix, keeping the patient quiet with chloroform for about two hours. It was now thirteen hours since the onset of labour; the head showed no sign of fixing, but was ballotting freely in the pelvic brim, and as I could perceive no cause for the delay I determined to make an intrauterine examination under full anaesthesia. This I did under ether, and found the following state of affairs:

The cervix was fully dilated and empty, the free edge hanging flaccid in the upper part of the vagina. During each pain the head would descend into the cervix only to recede again with equal regularity. I palpated the head, which was normal and presenting by the vertex. The pelvis was very roomy. Without any difficulty I passed my hand up beside the head and found that the uterine muscle was firmly contracted in a ring around the child's neck. Having passed the tip of one finger through this ring to confirm the diagnosis I withdrew to consider the position.

Both mother and child were in very good condition, but the contraction ring must now have persisted for some hours in spite of morphine and prolonged chloroform followed by deep ether anaesthesia, and as the force and frequency of the contractions were really alarming I decided to have the patient moved into hospital, where if the spasm did not relax within a reasonable time the operation of Caesarean section would be available.

The patient was not allowed to regain consciousness, but was kept quiet with chloroform until shortly before her arrival at hospital about one and a half hours later, when the supply gave out. As the ambulance drew up at the hospital door the child was born spontaneously—a healthy boy weighing 9 lb.

The subsequent history was uneventful; the patient was up and out on the eleventh day.

Remarks.

There are a few points in the case which I think deserve emphasis:

As regards the suggestion that the condition was habitual, one case has been reported where the contraction ring recurred at three successive labours in the same patient.

The symptoms are confusing. One does not expect to find a tight contraction ring in a patient who is obviously not threatened with rupture of the uterus, in a patient having a roomy pelvis and carrying a normal child in a normal position. However, it is just under these circumstances, where labour is unwarrantably prolonged, that one should suspect the presence of spasmodic stricture.

The following symptoms struck me as most obvious:

(*a*) Contractions very strong, frequent and painful, for a while practically continuous; uterus very tender.
(*b*) No distension of lower uterine segment; contraction ring neither visible nor palpable externally.
(*c*) The head ballotting freely in the pelvic brim, advancing and retiring again with each pain.
(*d*) The woman's general condition extremely good.

I have tabulated these symptoms for comparison with those commonly found in obstructed labour with threatened rupture of the uterus, as described by Tweedy.

Obstructed Labour. *Retraction Ring.*	Spasmodic Stricture. *Contraction Ring.*
1. Vagina hot, dry, walls swollen, lips oedematous.	1. For some hours vagina remains moist and introitus normal.
2. Vagina ballooned, fornices pulled up.	2. No ballooning nor stretching of fornices.
3. Cervix may be fully dilated and drawn completely up, or may be imprisoned in pelvis, thickened and swollen from oedema and effusion of blood.	3. Cervix flaccid, empty, hanging loose in folds, no signs of pressure.
4. Contractions continuous or almost so, fundus and especially lower uterine segment very tender.	4. Contractions continuous or almost so, very powerful, tenderness marked.
5. Lower uterine segment becomes progressively distended, the child forced down into it, the body of the uterus steadily retracting. Retraction ring mounts higher and higher, the groove being visible and palpable externally.	5. Contraction ring remains at one level. Position of child unaltered. No groove visible or palpable externally.
6. Presenting part high up, fixed.	6. Presenting part high up, unfixed.
7. No advance of presenting part.	7. Advances with each pain and recedes again at once.
8. General condition poor. Face anxious, pale, sordes round lips, rapid pulse, exhaustion.	8. General condition good for some hours, colour good, pulse good, no sordes. Frantic with unavailing pain.

As regards No. 4 my case differs from the majority of those recorded in these points: that the contractions were very powerful and for a time tonic, and that the uterus was very tender. Records of other cases state that the uterus has, as a rule, been in a state of inertia and there has been no tenderness. Galabin in 1897 described the spasm in hour-glass uterus in the third stage as analogous to rigid cervix of the first stage, and says that it is always associated with absence of active expulsive pains.

It is possible, then, that there are these two types of spasmodic stricture:

1. Associated with uterine inertia and caused by local irritation; due in part to early rupture of the membranes and manipulations; uterus not tender.
2. Associated with powerful tonic uterine contractions, cause unknown; presumably due to some inherent irritability of the uterine muscle; uterus very tender.

As regards No. 5 there has been some discussion. Clifford White has queried the first entry, saying that neither he nor some of his colleagues had ever felt Bandl's ring per abdomen in a case of obstructed labour. On the other hand, some writers when reporting cases of dystocia due to contraction ring have stated that the ring was externally palpable.

Diagram 1 shows the outline of a uterus during the second stage in normal labour, the three constrictions being of course the upper limit of the lower uterine segment, the internal os, and the external os.

Diagram 2 shows the outline of a uterus during the second stage in obstructed labour with threatened rupture. The vagina, cervix and lower uterine segment are all stretched up and ballooned out to receive a large portion of the foetus. The upper segment has retracted and the retraction or Bandl's ring is well marked.



Diagram 1.



Diagram 2.



Diagram 3.

Diagram 3 shows a uterus during the second stage in a case of spasmodic stricture. The vagina is normal, the free edge of the cervix hangs loose and flaccid, there is no distension or ballooning of any part. In my case the head lay in the lower uterine segment and the upper part of the cervix, firmly held by the neck. The outline of the uterus remained ovoid to palpation and inspection.

I am aware that these diagrams may appear exaggerated, particularly to anyone who has seen the illustrations of those cases in which the uterus was removed entire and afterwards frozen and sectioned. What remained of the contraction ring is seen as a ridge in the uterine wall, so slight that one cannot imagine it to have caused obstruction. This diagram shows the impression conveyed to my mind at the time of intrauterine examination.

Treatment.

It is universally acknowledged that the correct treatment of hour-glass uterus in the third stage of labour, uncomplicated by haemorrhage, is morphine and rest. By analogy, one would suppose that many cases occurring earlier in labour will yield to such treatment, and doubtless this is true, many of such cases passing unrecognized. But there are other cases in which the spasm will not relax under any expectant treatment. A case has been reported which was watched for thirty-six hours without relaxation. Willett has reported a case which only yielded to continuous traction applied for three hours after craniotomy.

Great anxiety attends any intrauterine operation, on behalf both of the child and the mother. Wilhelm, of Missouri, reported six cases treated by manual dilatation. In five of these he turned the child and extracted by the breech. All the children were stillborn. In the sixth case he applied forceps after manual dilatation and extracted the child alive. He states, as a result of this experience, that the foetal mortality is very high, but there is little danger to the mother in manual dilatation and delivery. In this opinion I cannot concur, nor do I find it corroborated by other authorities. I agree rather with Hedley, who says that manual dilatation carries the threefold danger of rupture, shock, and sepsis. There are records of deaths from these causes following manual dilatation. De Lee's opinion is that a uterus in localized or general tetanus will not rupture spontaneously,

but there is considerable danger of tearing the uterus by operation during the spasm.

Incision of the ring per vaginam is too dangerous to be attempted. Version is absolutely contraindicated; it is, moreover, often impossible.

The application of forceps is very rarely helpful. Where the ring is around the child's neck the blades almost invariably slip. If they do succeed in dragging the head down to the vulva it simply carries the ring down with it, unless the latter has been torn in the process. A case has been reported where the ring had formed around the shoulders of the second of twins, and where very gradual traction with forceps caused a tear of the vagina, cervix, and lower uterine segment into the broad ligament. The application of forceps, therefore, is not advisable in the case of a living child. Where the child is dead forceps with cleidotomy and steady traction will doubtless be sometimes successful.

Craniotomy also has but a limited field, even within that class where the child is already dead. Embryotomy has succeeded in a few cases, in others it has been impossible to deliver even after evisceration.

There is no doubt that where the child is dead the ring in the majority of cases will yield to slight steady traction if that part of the foetus endeavouring to enter the ring be cone-shaped. Division of the clavicles will therefore be of use where the shoulders are obstructed. Again, in that case of breech presentation reported by Lady Barrett to which I have already referred, a hydrocephalic head was successfully extracted through the ring after puncture of the spinal canal.

There remains but Caesarean section. Mr. Munro Kerr has said very recently that probably Caesarean section will in future be more frequently performed for the relief of this condition. And it surely is the ideal treatment for obstinate cases if only the uterus be not already infected. Where infection has already occurred the section should be followed by hysterectomy, or, if the child be dead, a hysterectomy alone is indicated.

With regard to treatment I am impressed by the following facts:

1. The difficulty, danger, and high mortality attending active interference.
2. That the only abnormal condition is a localized spasm of the uterine muscle.
3. That deep anaesthesia diminishes muscular spasm.
4. That repeated examinations increase spasm and are therefore contraindicated.
5. That in the case I have reported deep and prolonged anaesthesia alone resulted in the spontaneous delivery of a healthy child.
6. That in the previous confinements of this patient forceps were applied on every occasion, with an infant mortality of 50 per cent.

As a result I consider that the correct treatment for this condition is *deep anaesthesia, if necessary prolonged, and nothing else.* This treatment will, I believe, very nearly eliminate the necessity for Caesarean section.

BIBLIOGRAPHY.

Holland: *Journ. Obstet. and Gyn. Brit. Emp.*, 1911, xix, p. 526.
De Lee: *Principles and Practice of Obstetrics*, 1913, p. 574.
Andrews and Maxwell: *Proc. Roy. Soc. Med.*, 1908, i, Obstetrical and Gynaecological Section, pp. 138–50.
Clifford White: Ibid., 1913, vi, pp. 70–85.
Barrett: Ibid., p. 86.
Jardine: *Journ. Obstet. and Gyn. Brit. Emp.*, 1911, xx, p. 11.
Hedley: *Pract. Encyclop. of Mid. and Dis. of Women*, ed. Fairbairn, 1921, p. 204.
Galabin: *Manual of Midwifery*, 1897, p. 754.
Tweedy: *Practical Obstetrics*, p. 263.
Willett: *Proc. Roy. Soc. Med.*, 1912, v, p. 335.
Wilhelm, J.: *Missouri Med. Assoc.*, 1910, xvi, p. 295; quoted *Surg., Gyn., and Obstet.*, Abst., January, 1920, p. 56.
Munro Kerr: BRITISH MEDICAL JOURNAL, 1921, October 1st, p. 519.

RECTAL ADMINISTRATION OF TARTARATED ANTIMONY IN BILHARZIASIS.

BY

H. F. WILSON, M.C., M.B., B.CH.,

DAVID GORDON MEMORIAL HOSPITAL, LIVINGSTONIA, NYASALAND.

ALTHOUGH a number of papers have appeared recently on the treatment of *Schistoma hæmatobium* by tartar emetic, the method invariably advocated has been intravenous injection. For any parasitic infection of the general circulation this could hardly be improved upon, as the drug enters the blood stream in such quantities and at such precise times as the introducer desires. But where it is desired to destroy a parasite whose habitat does not generally extend beyond the portal circulation it seems more reasonable to introduce the parasiticide directly into the radicals of that system, so that it may meet with what it is intended to kill in greater concentration than if injected into a superficial vein and accordingly distributed to all parts of the body before reaching its object.

As, however, accessible veins of the portal circulation are not available for injection, we are thrown back upon the absorbing powers of the rectal mucous membrane, reached by solutions of the tartarated antimony given as small enemata. The drug absorbed in this way enters the superior haemorrhoidal vein, where, in cases with rectal symptoms, the worms are understood to lay their eggs.[1] The free intercommunication between this vein and the vesical plexus allows of the drug passing to the bladder wall, in which oviposition is the rule in cases with haematuria or other vesical symptoms. That part of the dose which does not find its way into the vesical veins passes up to the portal vein itself, where the pairing of the worms takes place, and so reaches the liver, where the younger immature forms are found, and in this way exerts its maximum action upon all stages of the creature's life cycle before being merged into the general circulation, in which worms are only found, Kartulis tells us, in the inferior vena cava; this is the first part to be reached by the antimony.

Whether the portal system can be "sterilized" by the administration of a few large doses in this way, and the treatment reduced to, at most, one or two administrations, must be left for further investigation. The purpose of this preliminary note is to draw attention to the tolerance of the rectum to what would be considered very large doses if given in any other way, and in particular to emphasize the convenience of this method where the personal idiosyncrasy of the patient, or, in women and children, the difficulty of locating and entering a vein, makes the intravenous method undesirable.

Indeed, as an alternative it must always be of practical value to practitioners who, for whatever reason, do not go in for intravenous work, or who find the necessary sterilization of solutions, needles, etc., an undesirable call upon their time, apart from the need for giving an intravenous injection personally. Finally, experience of the high lying plateaux of Central Africa goes to show that, both in the rains and in the cold season which succeeds them, many days are most unsuitable for finding veins in the subcutaneous tissues of naked and shivering patients; at times weeks have passed without days sunny enough to give what may be called "good veins." At such times, when many cases of bilharziasis are waiting treatment, the method advocated here is a real boon.

Four cases only will be cited to illustrate the possibilities of intrarectal treatment.

CASE I.—*Child with Old-standing Bilharzia Infection of the Bladder Cured after Fourteen Intrarectal Injections.*

John, a half-caste boy aged about 7, who had come up country from Southern Rhodesia eighteen months before, complained of suprapubic pain and of passing blood at the end of micturition; these symptoms were of some four or five months' duration. There was a history of a streak of blood in the stool, which had defied treatment for some time, but at that time no search seems to have been made for schistosoma eggs in the faeces. Examination of uncentrifugalized specimen of urine revealed terminal spined ova in astonishing numbers; the specimen was red and loaded with urates. No eggs were found in faeces. Treatment was commenced with an injection of 1 grain in 100 c.cm. of water at body temperature. A few drops of tincture of opium were added, but as there was no intolerance this was not repeated. Two days later a dose of 2 grains was given in the same way, and thereafter for three weeks the drug was given every second day in gradually increasing doses—2 grains, 3 grains, 4 grains, 5 grains, etc. During the first week the urine cleared of blood, but after eleven doses a few shrivelled eggs were still to be seen. The 12-grain dose was repeated twice, and two days later 14 grains were given, after which no sign of an egg was found on examining the last part of a specimen passed in the morning on rising and centrifugalizing the sediment after some hours' standing. At no time in the course of treatment did the boy show any sign of nausea, nor were his appetite or spirits in any way affected. He received in all 104 grains.

CASE II.—*Child with Enlargement of Liver, Ascites and Anaemia: Schistosoma Ova in Faeces: Cured after Fourteen Injections.*

Simiyon, a boy of perhaps 6, was brought in with a much-distended belly, containing a quantity of free fluid; the liver was two fingerbreadths below the costal margin. The boy was anaemic and listless.

Examination of the faeces showed numbers of ova, chiefly lateral-spined in type. He was treated *pari passu* with Case I, and in the same doses up to 12 grains; this was then followed by one of 16 grains. No eggs were found thereafter; the abdomen had decreased in size so as to be no larger than that of the run of native children of his age, and although the liver was still easily palpable

the free fluid had disappeared. Under tonics the anaemia improved, and he was dismissed after six weeks a totally different boy, having received in all 108 grains without showing any tendency to nausea or vomiting.

CASE III.—*Lad with Haematuria Cured in Eight Attendances.*
Naaman, an apprentice carpenter, aged about 17, complained of passing blood in the urine for the previous month or two. The urine was smoky, and on centrifugalization showed ova of bilharzia. He came every other day for three weeks, receiving doses of 2 grains, 4 grains, 6 grains, etc. The urine cleared after the third injection, and by the time that he had received eight doses, amounting in all to 68 grains, the urine was found to be free of ova. He spent his midday rest hour receiving the injection and lying down, but otherwise was not away from his ordinary work.

CASE IV.—*Old Man with Pronounced Haematuria Cured after Four Injections Administered in Five Days.*
This old man could give no history of his complaint, but the urine was of a thick port-wine appearance with a sediment of urates. Ova were found easily. The first dose was 5 grains; this was followed two days later by a dose of 8 grains; the urine was then amber in colour without a trace of blood. On the next two days he received successively 10 grains and 12 grains; treatment was then discontinued as the centrifugalized specimens of urine examined contained no more ova. He had been given 35 grains in the five days without showing any symptom of intolerance.

The treatment was in all these cases carried out in the following manner: The bowels were caused to move daily in the morning by giving if needed a mild laxative at night. Some three hours afterwards the patient lay down upon his left side, and the dose, made up to about one or two ounces by the addition of warm water, was administered by the hospital orderly by means of a funnel attached to a No. 12 rubber worm catheter, which after being lubricated was passed well up into the rectum; it is advisable to compress it firmly between the finger and thumb as it is being withdrawn so that the whole of the solution be introduced. The patient has been directed to lie down for a couple of hours, but whether this is essential has not been finally settled. In some cases the bowel must be cleared first by a soap and water enema, but this is not the rule by any means.

Conclusions.

1. The results of intrarectal administration of tartarated antimony are in no way inferior to intravenous.
2. It economizes time, and is free from all risk.
3. Nausea and vomiting occur less frequently than when the drug is run into the general circulation.
4. Case IV suggests the possibility of reducing the number of attendances for treatment considerably.

REFERENCE.

1 Castellani and Chalmers: *Manual Trop. Med.*, second edition, p. 482.

SOME FUNCTIONS OF THE SUPRARENAL GLANDS.

BY

EVELYN E. HEWER,

LECTURER IN HISTOLOGY AND ASSISTANT LECTURER IN PHYSIOLOGY AT THE LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN.

THE medullary portion of the suprarenal gland (derived, with the cells of the sympathetic ganglia, from the neuroblasts of the central nervous system) is well known to be concerned with the elaboration of an internal secretion which contains as one of its active principles the substance known as adrenaline; but the part played in the animal economy by the cortex (developed from the mesothelium of the genital ridge) is still obscure. In view of the vital importance of this organ some experimental results recently obtained in rats seem to be worth recording. Even though there is no evidence that the suprarenal gland of rats is functionally homologous with that of man, yet there is no evidence to the contrary, and some of the findings are most suggestive.

The experiments consisted of feeding or inoculating white rats of varying ages with different preparations of suprarenal cortex for varying periods, and then killing, and examining various organs histologically. The preparations used were as follows, and I am much indebted to these firms for their courtesy and assistance in obtaining these preparations:

1. Adcortogen (by Carnrick Co.), which was dried cortex, and contained some adrenaline.
2. Cortex lipoids (by British Organotherapy Co.), which was a liquid extract containing only the lipoids.
3. Cortex extract B (by Carnrick Co.), which was a watery extract of cortex, containing no lipoids but some adrenaline.
4. Cortex extract C (by Carnrick Co.), which was the same as B, but free from adrenaline.
5. Adrenaline (by Parke, Davis). This was used to obtain control animals for those treated with cortical preparations which were found to contain adrenaline.

In all, 118 animals were used, and the following are the most striking of the results obtained. It is not proposed to give here all the details of the experiments, as it is hoped that the work will be published in full elsewhere.

The general health of the animals was not affected, except rarely when using adrenaline-containing extracts. But an extraordinary formation and deposition of fat was obtained in most of the animals, thus confirming the observations of others that the suprarenal cortex plays a part in controlling the fat metabolism of the body, which may thus become perverted in hyperactivity of the gland. In addition, nearly all the rats developed a curious condition of the coat; the fur was thick, fine and glossy (as it should be in health), but came out very freely on handling; the hair follicles microscopically showed degeneration. This condition was not due to the adrenaline, and points to a connexion between suprarenal cortex and calcium metabolism, as perversion of the latter is known to give rise to nutritional disturbances of the skin.

The organs to which attention was directed more particularly were those of internal secretion, and the following are the most conspicuous of the results obtained.

Thymus.—The gland was obviously affected by the treatment. There was most marked increase of invading mast cells; some of these cells are apparently always present in this animal, but the significance of this great increase is not clear. The gland was apparently responding to stimulation in the direction of involution, as indicated by an increase in the Hassall's corpuscles and chromophobe complexes, normally so scanty in the rat. In many cases, also, there were present large clear eosinophil cells of endothelial type invading the gland by the lymph channels, and sometimes completely destroying the normal structure. The appearance of these cells, both here and in the haemolymph glands, can hardly be a specific effect of the treatment, but probably indicates some degree of lowered resistance, the lymph glands being the organs first attacked.

Pancreas.—The gland appeared normal, but two points of interest may be mentioned. First, in the series where adrenaline was being given, a definite thickening of blood vessel walls, both here and in the spleen, was frequently found; secondly, lymphocytes were usually present in the islets. This lymphocyte increase was not confined to the pancreas, but was found in many organs, and is interesting in view of the increase commonly found in Addison's disease. The suprarenal gland, as a whole, appears to stimulate the appearance of lymphocytes in the tissues (no blood counts were made); perhaps there may be some connexion between the sexual immaturity of status lymphaticus and the influence exerted by the suprarenal cortex on the gonads.

Spleen.—Generalized lymphocytic increase was well shown, and the vascularity and blood pigments were very constantly increased. Adrenaline appears to affect the organ adversely; the capillaries were found engorged with blood, lymphocytes were frequently found below the endothelium of the blood vessels, and the typical structure was lost. Increase of giant cells was frequently observed, but no evidence of tuberculous infection.

Male Gonads.—The treatment at first hastened the genital development, but, when continued for some time, in every case degeneration of the seminiferous tubules occurred. The breakdown was very marked, but after a long interval some repair was usually found. The interstitial tissue was also affected, the lipoid constituent causing a cellular decrease and the non-lipoid constituents an increase; in this way a balance may be kept by the full action of the gland. The interstitial tissue contained a large quantity of eosinophil exudate in nearly every case.

Female Gonads.—Sexual precocity in the female rat is difficult to determine experimentally. Degeneration of the older follicles was always found; the younger follicles appeared normal, and therefore were either more resistant to treatment or had undergone repair. The interstitial cells were constantly increased.

Suprarenals.—Evidence was obtained that normally cells atrophy at the medullary border, and that regeneration occurs from the zona glomerulosa; this change was found to be accelerated in pregnancy, and could be stimulated by treatment with cortical preparations more easily in the female

than in the male. Acute degeneration of the whole gland followed inoculation with the non-lipoid cortical constituents, together with adrenaline.

Thyroid.—The gland was apparently stimulated by the cortex, but adrenaline over-stimulated it to the point of exhaustion.

Haemolymph Glands.—The most striking change observed was in the pigment. Three types could be distinguished. First, the yellow-brown amorphous pigment due to breakdown of haemoglobin; this was always increased, showing that the suprarenal stimulates blood destruction. Secondly, bright yellow pigment in fatty droplets, probably representing some of the inoculated lipoid material laid down in altered form in these glands. Thirdly, brown pigment found in special cells of varying size and shape in varying amounts; these are melanoblast cells, and were found most frequently in the haemolymph glands, occasionally in the true lymph glands, and rarely in almost any situation, distributed by the lymph channels. The suggestive point about these cells is that they were only found when the preparation contained adrenaline, and never under any other conditions. Excessive or perverted activity of the suprarenal medulla, therefore, may be directly responsible for the pigment formation of Addison's disease and may also play a part in the formation of pigmented tumours.

Conclusions.

Although it is not possible to apply results obtained with certain animals to another species, nor possible always to distinguish between glandular hyperactivity and perverted activity, nor between purely structural hyperplasia and functional hyperplasia, yet the following conclusions seem worthy of record:

1. The suprarenal cortex plays a part in fat metabolism and in calcium metabolism.
2. The suprarenal cortex stimulates the thymus to involution.
3. The suprarenal cortex controls the gonads in both male and female with respect to both reproductive and interstitial cells.
4. The suprarenal gland acts as a whole in controlling general health, in controlling haemoglobin breakdown, in regulating the production of lymphocytes, in regulating the production of mast cells, and in stimulating the thyroid.
5. The suprarenal medulla is connected with the formation of melanoblast cells.
6. Inoculation with various suprarenal extracts appears to lower the resistance of experimental animals, as is indicated by the condition of the lymph and haemolymph glands.

I should like to thank Professor Cullis for her continued interest and helpful criticism throughout this work. The expenses of this research are being defrayed by a grant from the Royal Society.

THE VIRULENCE OF DIPHTHERIA-LIKE ORGANISMS.

(Further Note.)

BY

A. J. EAGLETON, M.D.LOND., M.R.C.P.LOND.,

AND

E. M. BAXTER, M.SC. SHEFFIELD.

(From the Wellcome Physiological Research Laboratories.)

THE bacteriological diagnosis of diphtheria, though based generally on the morphology and cultural characteristics of the *Bacillus diphtheriae*, must depend ultimately on the animal test, whereby the pathogenicity of the infecting organism can be definitely established. While the animal test is advisable, even in clinical work, as a periodical check on the routine methods of diagnosis, in dealing with the carrier problem and prevention of diphtheria it is indispensable. The time may come when some other test may replace it; this is, however, very improbable.

By the intracutaneous method (Eagleton and Baxter, 1921) a large number of pathogenicity tests can be carried out speedily and economically. Further experience of this method has served to confirm our belief in its reliability, evidence of which is given in the second part of this paper. The first section deals with 161 cultures of diphtheria-like organisms, all of which were tested for pathogenicity, and the majority for fermentative power. Slopes of Loeffler's serum medium were employed for primary cultures, and plates of the same medium for subsequent purification.

The intracutaneous method was used for testing pathogenicity, checked frequently, especially when the findings were negative, by subcutaneous injections, as will be described later.

I. EXAMINATION OF CULTURES.

The cultures were derived from three sources, and each group will be considered separately.

(*a*) Thirty-seven cultures from cases of clinical diphtheria gave the following results:

Morphology.	Glucose.	Saccharose.	Virulence.	
B. diphtheriae	Acid	Negative	+	33
B. diphtheriae	Not done	Not done	+	3
Hoffmann's bacillus ...	Not done	Not done	−	1
				37

Of the 33 virulent cultures of *B. diphtheriae* the "sugar" reactions of which were tested, 2 fermented saccharose as well as glucose. These cultures, after plating, had been maintained on Loeffler medium for over ten weeks, and were seemingly pure, judging by smear preparations and appearance of growth. On replating, however, a very slight contamination was found—in one case a coccus and in the other a Gram-positive bacillus which produced acid in saccharose. When freed from these impurities the two strains failed to ferment saccharose.

(*b*) A single throat swab was taken from 112 patients who had had diphtheria and had completely recovered at the time of examination. Nineteen strains of *B. diphtheriae* and Hoffmann's bacillus were obtained, and gave the following results:

Morphology.	Glucose.	Saccharose.	Virulence.		
B. diphtheriae	Acid	Negative	+	9	10
B. diphtheriae	Not done	Not done	+	1	
B. diphtheriae	Acid	Negative	−		1
Hoffmann's bacillus ...	Negative	Negative	−	5	8
Hoffmann's bacillus ...	Not done	Not done	−	3	
					19

Five of the nine virulent strains, when first tested in sugars, produced acid in saccharose; this was, however, due to a very slight degree of contamination. The fermentation of saccharose in these cases was generally slight, and might not take place till after the third day of incubation.

The most difficult contamination to eliminate is a Gram-positive sporing bacillus, which may lie dormant for weeks in a culture on solid medium. This organism ferments glucose and saccharose, and, when abundant or in pure culture, liquefies Loeffler medium.

(*c*) Comprises 105 cultures from 67 carriers, none of whom had had diphtheria, but most of whom had been in contact with a case. The results found in this group were as follows:

Morphology.	Glucose.	Saccharose.	Virulence.		
B. diphtheriae	Acid	Negative	+	30	33
B. diphtheriae	Not done	Not done	+	3	
B. diphtheriae	Acid	Negative	−	52	61
B. diphtheriae	Acid	Acid	−	8	
B. diphtheriae	Not done	Not done	−	1	
Hoffmann's bacillus ...	Negative	Negative	−		11
					105

Of the 30 virulent cultures, one produced acid in saccharose, but as with similar cases in the other groups, a very slight contamination was found to be responsible.

When we compare these three groups we notice that in Group A only one culture was avirulent and that was Hoffmann's bacillus. All the remainder were virulent, and, except for three not tested, gave typical "sugar" reactions. In Group B we find 10 virulent and one avirulent *B. diphtheriae*, the remainder being Hoffmann's bacillus; whereas in Group C, of 94 bacilli morphologically resembling *B. diphtheriae*, only 33 were virulent; excluding the eight strains which fermented saccharose (*B. xerosis*) and the one avirulent

strain, the "sugar" reactions of which were not tested, we find 33 virulent and 52 avirulent.

Of the cultures of *B. diphtheriae* from clinical cases we find 100 per cent. virulent; of those from convalescents 90.9 per cent.; while of the cultures from carriers which were typical on morphology and "sugar" reactions we find only 38.8 per cent. virulent.

These results agree with the findings of most other workers in so far as they show that avirulent strains are rarely found except in people who have never, or at all events not recently, suffered from diphtheria (Graham Smith, 1908, Arkwright, 1912).

Fermentation Reactions.—Of the 161 cultures in the three groups the sugar reactions were tested in all except twelve instances. We used as a routine only glucose and saccharose. Thirty strains were also examined for action on dextrin, salicin, and litmus milk. We found, however, that by using glucose and saccharose alone we obtained as much information as we could from the more extended set of reagents. All the virulent *B. diphtheriae* which we have tested hitherto produce acid in glucose but not in saccharose. The same reaction was, however, given by 53 out of 61 avirulent cultures, though the amount of acid produced by two of them was very slight. We have not so far met with a virulent strain which, when absolutely pure, produces acid in saccharose. Graham Smith (1908) has reported several from one epidemic. Our difficulties in getting rid of contamination by saccharose-fermenting organisms have been noticed. We succeeded only by repeated plating, and in more than one instance after picking off several colonies from the same plate and testing the sugar reactions of each, we found that some of the "single" colonies failed to ferment saccharose, whilst others did so.

We have so far found no evidence that a culture may "lose its virulence" on being kept. It need only be mentioned that smears must be made from every culture before it is used for inoculating animals. One culture in our series appeared to be a pure culture of Hoffmann's bacillus and was avirulent by intracutaneous test. Two months later, when examined for morphology, sugar reactions and virulence, it was found to be indistinguishable from *B. diphtheriae* on morphology and "sugar" reactions, and to be virulent. The culture was plated, and from the plate a number of colonies were picked off. Some proved to be pure cultures of Hoffmann's bacillus, others *B. diphtheriae*. Hoffmann's bacillus and *B. diphtheriae* may therefore live in the same tube for months and neither be destroyed. A culture originally avirulent may, when next examined, be found virulent because the *B. diphtheriae* are in enormous excess, and vice versa.

II. Reliability of Intracutaneous Test.

We have compared the results of determination of virulence by the intracutaneous method with those obtained by the methods hitherto mostly used—that is, the subcutaneous injection of a forty-eight hour broth culture or of the growth from a Loeffler slope.

We chose for comparative testing by the subcutaneous method 83 cultures which had been tested and classified by the intracutaneous method; of these, 57 were avirulent and 26 virulent. All these cultures were subsequently tested by the subcutaneous injection into guinea-pigs of either an emulsion of the whole growth on an eighteen-hour Loeffler slope culture or of 2 c.cm. of a forty-eight or ninety-six-hour broth culture. Twenty-one of the cultures were tested in two ways by the subcutaneous method, the emulsion of a Loeffler slope culture and 2 c.cm. of a forty-eight or ninety-six-hour broth culture being injected subcutaneously into separate guinea-pigs.

As a control a known virulent culture, a Park 8 strain, was used throughout. A small fraction of an eighteen-hour Loeffler slope culture of this organism killed, while of a forty-eight-hour broth culture 0.01 c.cm. killed; smaller doses were not tested.

The batch of broth employed was in constant use for the routine production of high grade toxin; we were, therefore, certain that the broth used in testing our cultures was one suitable for the production of toxin.

In every instance the results obtained by the intracutaneous and subcutaneous methods agreed—that is, no culture proved to be virulent by one method but avirulent by the other.

We think it may be justly claimed that this method of testing virulence is not only rapid and economical but simple and reliable.

Results of Repeated Swabbing.

We had the opportunity of examining swabs taken from seven notified "carriers" who were under observation for two to four months. Twenty-six cultures of organisms morphologically indistinguishable from *B. diphtheriae* were obtained from these carriers and examined by the intracutaneous method. One child gave four "virulent" cultures over a period of two months. One gave a "virulent" followed by an "avirulent" culture. In one case an "avirulent" *B. diphtheriae* and a Hoffmann's bacillus were found on different dates over a period of three months. Cultures indistinguishable from *B. diphtheriae* but, when isolated, found to ferment glucose and saccharose, were repeatedly obtained from the throat swab taken from two children.

Results and Conclusions.

Of 161 strains cultivated from cases of diphtheria, convalescents and carriers, 79 were virulent *B. diphtheriae*, 62 were avirulent *B. diphtheriae* (including 8 *B. xerosis*), and 20 were Hoffmann's bacillus (all avirulent).

Cultures of *B. diphtheriae* from cases of diphtheria were virulent in 100 per cent. of those examined; from convalescents in 90.9 per cent.; from carriers in only 38.8 per cent.

Sugar reactions were carried out with 149 cultures; glucose and saccharose were the only reagents used as a routine. The value of "sugar" tests may be summed up as follows:

If glucose is not fermented, the culture is not virulent *B. diphtheriae*.

If glucose is fermented but not saccharose, the organism may be virulent or may not.

If both glucose and saccharose are fermented, the organism may be *B. xerosis*, may be contaminated, or (Graham Smith) may be virulent.

We have found no evidence that virulent cultures, if isolated in a pure condition, become avirulent.

For absolute diagnosis, a culture morphologically resembling *B. diphtheriae* and capable of producing acid in glucose must be submitted to a virulence test.

The intracutaneous method is simple, economical, and apparently reliable.

Our thanks are due to those who have provided us with material for this research, especially Dr. F. Foord Caiger and Dr. Graham Forbes. Without the help of Dr. Okell and our other colleagues and the guidance of Dr. O'Brien, our work would have been still less complete than we have left it. Finally, to Mr. Tottem and the rest of the laboratory staff we hereby offer acknowledgement of their large share in whatever success we may have obtained.

References.

[1] Eagleton and Baxter, "The Virulence of Diphtheria-like Organisms," British Medical Journal, May 28th, 1921. [2] Nuttall and Graham Smith, *The Bacteriology of Diphtheria*, Cambridge, 1903, pp. 160–161, 194, 185, and 200. [3] Ledingham and Arkwright, *The Carrier Problem in Infectious Diseases*, 1912, chap. iv. (Summaries of the work done up to that date and full references.)

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

AN EMERGENCY METHOD IN PRESBYOPIA AND HYPERMETROPIA.

The following cases are recorded as examples of the use of the stenopaic disc in presbyopia and hypermetropia:

Case 1.—Aged 58. Vision: R. = J. 6; L. = J. 6. With disc, R. = J. 1; L. = J. 1.

Case 2.—Aged 61. Hypermetropic, wearing for distance + 4.5 D. sphere in each eye. Vision: R. = 6/60; L. = 4/60. With distant glasses, R. = 6/12; L. = 6/12 partly. With disc only, R. = 6/9 partly; L. = 6/12 partly. Without disc, R. = J. 18; L. = J. 16. With disc only, R. = J. 10; L. = J. 6. With disc and correcting lens for distance, R. = J. 1; L. = J. 1. Retinoscopy revealed astigmatism in the left eye.

Case 3.—Aged 47. Vision: R. = 6/6 H.M., with + 1.0 D. sphere, R. = 6/6; L. = 6/6 H.M., with + 1.0 D. sphere, L. = 6/6. Without disc, R. = J. 2 with some difficulty; L. = J. 2 with some difficulty. With disc only, R. = J. 1; L. = J. 1.

We have thus a simple substitute, in emergency, for the reading glasses of presbyopes.

The presbyope, even an early presbyope, without the suitable lens, is in a most helpless condition when trying to decipher the small print of a telephone directory, time table, newspaper, exhibition catalogue, etc. This small print is easily, though slowly, read by means of an improvised stenopaic disc, which can quickly be made with a piece of paper or cardboard, through which a hole 1 to 2 mm. in diameter is pierced by a pin, the point of a pencil, or knife. Such an emergency measure would be of real benefit to the presbyope, stranded without reading glasses, specially in the country or on a railway journey. A hole, about the same size, through a piece of bread forms an excellent emergency substitute for a convex lens! The tunnel formed by the fingers and palm of a partially closed fist acts in the same way, though not so clearly.

The reading distance is also much decreased. Case 3 could read J. 1 at 16 cm. with a disc; J. 2 at 29 cm. without a disc.

For distant vision in hypermetropia this emergency method would probably not be of so much practical use, though, as shown in Case 2, the distant vision is much improved.

AGNES ESTCOURT-OSWALD, M.B., D.P.H.,
Clinical Assistant, Royal London Ophthalmic Hospital.

A CASE OF FULL TERM ECTOPIC GESTATION WITH LIVING FOETUS.

I THINK there are few cases on record in which a living foetus at full term has been extracted from an ectopic sac, as in the following case:

A woman, aged 30, married nine years, who had had one full-term child eight years ago, gave a history of pelvic pain when she had missed two periods, and there was also a small amount of loss of blood per vaginam. She took no notice of this, and did not complain of anything until she had missed six periods, when she suffered from partial retention of urine. Rest and catheterization on one or two occasions soon resulted in the normal passage of urine. At this time there was a soft swelling in the middle line extending a little above the umbilicus. This seemed to be an intrauterine pregnancy. Behind the uterus was an ill-defined swelling, which was thought to be an adherent fibroid or ovarian tumour. With this diagnosis the patient was allowed to go to term with a view to Caesarean section.

At term the abdomen showed a soft, uniform swelling which was in no way different from a normal intrauterine pregnancy at term. The foetal parts could be felt, and the heart was heard beating strongly in the left iliac fossa. What appeared to be the foetal head was fixed and well down in the pelvic cavity. On vaginal examination there was a hard fixed mass lying low in Douglas's pouch with the cervix high up in front. As this appeared to be the foetal head and no other tumour could be made out I thought we had to deal with an ectopic gestation and not with an intrauterine pregnancy with a tumour behind. I decided to open the abdomen and attempt to extract a living foetus.

On opening the abdomen a soft surface, like an ordinary pregnant uterus, was found, but while there was plenty of room in front, above, and to each side, the large and small intestine were firmly adherent. I decided to go through the anterior wall of the sac, and at once found that the incision had gone through a very thinned-out anterior wall of the uterus, which covered and was implanted into the anterior wall of the sac. There was no other way to the foetus except through the posterior wall of the uterus. This was cut through and the placenta found lying in front of the baby. The baby was delivered quickly and the placenta, which was very adherent to the sac, was removed piece by piece. At this stage the haemorrhage was most alarming. The cut edges of the anterior uterine wall, which formed the anterior wall of the sac, were quickly sutured to the lower part of the abdominal incision and the sac was packed firmly with gauze strips. This controlled the haemorrhage.

The patient, after a somewhat stormy convalescence, made a good recovery. The baby, pink and healthy, weighed 7½ lb.; its trunk was well formed; the head was anvil-shaped from prolonged pressure and both lower limbs were greatly deformed. There was no liquor amnii in the sac of the ectopic gestation. The baby died about thirty hours after delivery.

My experience in this case has led to the following conclusions:

1. The diagnosis between an intrauterine pregnancy complicated with a tumour and an ectopic gestation at term is often very difficult, and such cases are rarely seen at this stage.

2. If diagnosed, the question of saving the foetal life should be neglected. The foetus will most likely be deformed, and the haemorrhage from the living ectopic placenta is extremely alarming.

3. The patient should therefore be allowed to go through the spurious labour (when the foetus dies), and the operation should take place about three weeks later, when the dangers of haemorrhage will be much less.

As far as could be ascertained, the ectopic pregnancy had begun in the left tube, and the slight bleeding from the uterus in the early history of the pregnancy no doubt denoted a threatened rupture.

H. T. HICKS, F.R.C.S.Eng.,
Honorary Gynaecological Surgeon, Derbyshire Royal Infirmary.

RESUSCITATION AFTER APPARENT DEATH.

IN view of the opinions held about the cessation of function of the brain cells after stoppage of the circulation, I beg to report the following case:

On December 7th, 1921, I performed double middle turbinectomy on an apparently healthy woman aged 38 years. The following notes are copied from her case sheet, which was entered up at once, the times and statements being the common agreement of several observers.

6.5 p.m.: The patient left the theatre in a perfectly satisfactory condition, in very light anaesthesia, as she had only been under the anaesthetic for five or six minutes, and she had had scarcely any haemorrhage. She was put to bed in the ward, and at 6.15 p.m. it was noticed that she had stopped breathing and had no pulse. I received a request in the theatre to go to the ward at once. I was just completing the succeeding operation, and went to the ward immediately it was finished.

I found the patient ashen and pulseless. There was no heart beat to be heard on auscultation. Artificial respiration had been in progress and oxygen had been administered since 6.15 p.m.; these measures were continued whilst preparations were made for heart massage.

At 6.25 p.m. an incision was made along the left costal margin; the heart was found to be stopped in diastole. Bimanual massage was applied through the diaphragm, whilst another house-surgeon applied Schafer's method of artificial respiration. The foot of the bed was raised on to chairs, the legs bandaged tightly from below upwards, hot bottles placed around the patient, and pressure applied to the splanchnic plexus. At 6.40 p.m. the heart was still inert, so 1 c.cm. of adrenaline was injected direct into the left ventricle. At 6.42 p.m. the heart began to beat. At 6.45 p.m. the radial pulse was felt, and at this point digitalin gr. 1/100 and strychnine gr. 1/60 were injected into the median basilic vein. By 7 p.m. the heart was beating strongly, but there was no respiratory effort, in spite of continuous artificial respiration and massage to the heart in order to assist its efforts, so 1 c.cm. pituitrin and 1 c.cm. adrenaline were injected into the left ventricle.

In spite of continual heart massage and artificial respiration there was at 7.25 p.m. still no effort to breathe. The pulse was good, the rate 100 a minute. As the other house-surgeon, the anaesthetist, and myself were unable to carry on any longer, two more house-surgeons took our places. At 7.50 p.m. the heart was beating strongly, but there was no respiratory effort. The house-physician and a dresser were now assisting by doing artificial respiration alternately. At 8 p.m. the patient made a voluntary inspiration, and one minute later made voluntary inspiratory and expiratory efforts. At 8.5 p.m. she was breathing well, the pulse rate was 90 to 100, respirations 24. She moved her position in the bed, rolled her head, moved her eyelids and eyes; she retched but did not vomit, and the pupil reflexes were present. The incision was stitched up, hot saline having been run into the abdomen, and a tube placed in the left kidney pouch. At 9.10 p.m. the pulse was scarcely perceptible; 1 c.cm. pituitrin and 1 c.cm. adrenaline were given direct into the left ventricle, and also hot saline and 1 oz. brandy per rectum. A moment after the heart became weaker, and before the intra-ventricular injection was given, the breathing became more feeble, so artificial respiration was restarted. At 9.12 p.m. the patient had a good pulse and was breathing normally. At 9.20 p.m. heart and respiration both stopped at the same time. Digitalin gr. 1/100 and strychnine gr. 1/60 were given into a prominent vein over the anterior part of the left deltoid, and 1 c.cm. pituitrin and 1 c.cm. adrenaline into the left ventricle. Artificial respiration was again begun. At 9.25 p.m. 1 c.cm. ether was given into the left ventricle and continuous artificial respiration carried on. At 9.40 p.m., however, all attempts at resuscitation were reluctantly given up.

In spite of the fact that apparently the patient "lived" for 1 hour 20 minutes it will be noted that the heart was stopped for 27 minutes, so far as its own efforts were concerned, and that it was completely inert for 10 to 12 minutes before massage was begun. When further endeavour was decided to be useless the first question which arose in one's mind was whether the patient was dead all the time, and the actions which were aroused were merely on a par with a physiological experiment. I am indebted to Mr. A. L. Macleod, honorary aural surgeon to this infirmary, for permission to publish this case.

GILBERT R. A. ARMSTRONG, M.B., Ch.B.Edin.,
Late House Surgeon, Leicester Royal Infirmary.

FRACTURE OF THE TERMINAL PHALANX OF A FINGER WITH RUPTURE OF THE COMMON EXTENSOR TENDON.

THE case reported by Dr. J. N. Laird (p. 101) is interesting to me, for I had the misfortune to experience a similar injury to my right ring finger while playing football in 1913. The shot was very forceful and at close range to the goal. The chip of bone from the dorsal aspect of the base of the terminal phalanx seems to have been larger in my case. Treatment by hyperextension was tried for fourteen days, but without success.

Sir J. O. Skevington, Windsor, kindly agreed to operate. He made a horseshoe skin flap (base proximal) over the joint and took a "tuck" in the dorsal tendon expansion, which was sutured with catgut. The skin was then stitched back in position. The finger was splinted for fourteen days. The result is excellent, both functionally and aesthetically. Only with difficulty can the line of incision now be demonstrated.

It may be worthy of mention that the pain experienced after operation was considerable, presumably due to effusion under the unyielding tendon. It was relieved by morphine.

London, W. CECIL BURNHAM, M.B., Ch.B., F.R.C.S.E.

Reports of Societies.

PROOF OF LIVE BIRTH IN CRIMINAL CASES.

AT a meeting of the Medico-Legal Society on January 17th, the President, the Right Hon. Lord Justice ATKIN, being in the chair, Professor HARVEY LITTLEJOHN read a paper entitled the proof of live birth in criminal cases.

The crime of infanticide, he said, had from time immemorial been common, and on this account, as well as from the difficulties of proof and special circumstances associated with it, had given rise to a vast amount of literature and attracted the attention of medical jurists in all civilized countries. The chief difficulty encountered in proving infanticide arose from the fact that before the charge of causing its death could be preferred the law demanded evidence that the child had been "born alive"—that is, had had an existence when completely outside the body of its mother. In Germany and certain other countries proof of life at the time of birth only was required, since the crime consisted in causing death during or after birth, and the birth was held to have commenced whenever the presenting part became engaged in the pelvis as a result of labour pains. In this country the essential test of life demanded was the occurrence of respiration, and it was generally held that it was not possible to affirm positively that respiration—even full respiration—did not occur before complete expulsion of the child's body.

Importance of Thorough Post-Mortem Examination.

In Professor Littlejohn's opinion, however, the difficulty arising from the above-mentioned cause had been exaggerated, and this he considered was to a large extent due to faulty teaching, and to statements in the textbooks, which did not lay sufficient stress on the significance of full respiration, and unduly emphasized the fallacies said to underlie the hydrostatic test. In his opinion a careful *post-mortem* examination should, in most cases, enable a definite opinion to be given as to whether or not the child had been born alive. It was desirable, however, wherever possible, to have these *post-mortem* examinations performed only by persons with large experience in dealing with such cases. In commencing the necropsy he considered it to be a good practice to examine the head first, as this afforded an opportunity of noting the condition of the contents of the skull before the blood drained away during the examination of the trunk, and also because it enabled the appearances in the lungs to be better interpreted when they came to be examined. It was specially important to note the presence of injuries such as fractures of the skull, the site and extent of the caput succedaneum, the amount of head moulding, and the presence of intermeningeal haemorrhage. Many infants, even of ordinary development, whose mothers had normal pelvides, suffered from very considerable compression of the head during birth, with the result that they were born dead. From such observations we might, even in an infant which showed evidence of air in its lungs, be able to affirm the extreme likelihood of a natural cause of death during or immediately after birth. The air passages should next be examined, the mouth being explored for any obstruction or wounds, such as might be produced by the insertion of the fingers into it. The tongue, together with the pharynx, should be carefully dissected out and the entrance to the larynx exposed to view. Great care must be taken in doing this not to interfere with any mass of mucus or other foreign matter which might be resting over the entrance to the larynx. One of the most frequent causes of death during birth was the accidental obstruction of the air passages by mucus sucked into the mouth during labour owing to premature efforts at respiration. The windpipe was next ligatured about halfway between the larynx and bifurcation of the trachea and divided; the contents of the thorax were then removed *en masse* after placing a ligature around the oesophagus immediately above the diaphragm. Next the lungs were examined as to physical condition, volume, crepitation, colour, marbling of surface, and, above all, for the presence of the fine mosaic of expanded air vesicles on the surface, which was absolutely characteristic of the presence of air either respired or artificially introduced. The trachea and bronchi were examined by the naked eye for foreign matter, and some of the contents were submitted to microscopic examination. The presence of blood, lanugo hairs, meconium, particles of vernix caseosa, indicated respiratory action during birth, and might supply a satisfactory cause of death. The hydrostatic test should be performed, but it merely confirmed the conclusion which any experienced examiner would have already drawn from his observations. Valuable corroboration of respiration was afforded by the presence of air in the stomach and intestines. Observations tended to show that the longer an infant lived the further the air extended down the intestines, and air in the duodenum and intestines was not only confirmation of respiration but also of the respiration having lasted for some time. If air were insufflated into the lungs of a dead child some entered the stomach but did not pass into the duodenum.

Possible Fallacies in Interpreting Appearances in the Lungs.

Two fallacies were frequently mentioned as attending the interpretation of the appearances in the lungs: (1) That the lungs might have been artificially inflated; (2) that putrefaction might be the cause of the condition. With reference to artificial inflation, while this was a valid object in a general sense, it had no importance in criminal cases in which births took place in secret and unassisted, because if the child was dead or stillborn, the mother was the last person to try to resuscitate it, even presuming that she knew how to do this. Even if the possibility were admitted, the *post-mortem* examination would disclose the true cause of death and prevent any miscarriage of justice occurring.

The objection that the appearances might be due to putrefaction was equally invalid in a case likely to lead to a criminal charge. The lungs of an infant, to all appearances fresh or only showing signs of early putrefaction, would emphatically not float in water from the presence of gases of putrefaction. The lungs of newly born infants which had not respired, and accordingly contained no organisms, resisted putrefaction to a greater degree than most of the other internal organs, and even when decomposition was advanced in the rest of the body the lungs were practically unaffected. The presence of early decomposition which might sometimes occur when a child had inspired decomposing matter at or after birth practically indicated respiration and consequent introduction of organisms. But in such cases no doubts could arise as to the respective parts played by respiration and putrefaction in causing flotation.

The Significance of Respiration.

Did the fact of a child having respired enable us to affirm that it was born alive? This was the great difficulty in connexion with medical evidence in cases of infanticide. The circumstances under which respiration could take place during the passage of the child into the world were (1) vagitus uterinus; (2) vagitus vaginalis; and (3) breathing after the birth of the head but while the rest of the body was still in the maternal passages. All authorities were agreed that the first two could only occur when there had been introduction of the hand into the maternal passages during labour or in instrumental deliveries—that is, in assisted births, which were of course very unlikely to be the subject of criminal charges. These conditions accordingly had no importance with reference to the question under discussion. The possibility of respiration occurring after the birth of the head and before complete extrusion of the body was readily to be admitted, but Professor Littlejohn submitted that in this short period, while the chest and shoulders of the child were still firmly compressed by the maternal passages, any respiratory effort must be cramped and could lead only to incomplete expansion of the chest and to partial filling of the lungs with air. He was of opinion accordingly that full expansion of the lungs with air could only take place after the body was wholly outside the mother, and that this condition was therefore proof of "live birth." He would go further and hold that expansion of the greater part of both lungs in a healthy child entitled the observer to come to a similar conclusion. No injustice was done to the mother by such an opinion, because the cause of death always afforded a means of control. If in a child with partial expansion of the lungs there was sufficient natural cause of death, such as mucus obstructing the larynx, or intermeningeal haemorrhage and evidence of compression of the brain, then the cause of death was explained. It was the presence or absence of a natural cause of death, together with the fact that from the evidence of respiration the infant was living at the time of birth, that should guide the medical man in forming his opinion. If there were injuries to the child, and these

appeared to have been caused during labour or were consistent with attempted self-delivery, it had to be admitted that the child with only partially expanded lungs might not have been born alive, and the mother must get the benefit of the doubt. If, on the other hand, the injuries were not to be explained by an unintentional act, and there was no natural cause of death, it was surely difficult to avoid the conclusion that the child was born alive.

In conclusion, Professor Littlejohn emphasized his opinion that respiration complete or involving the greater part of both lungs was positive proof of live birth in the legal sense, and he was unable to agree with the statement in Taylor's *Principles and Practice of Medical Jurisprudence*, edited by the late Dr. F. J. Smith, that "for respiration, however complete or incomplete, to be considered proof of live birth, an eyewitness to those respirations is essential."

The paper was discussed by the PRESIDENT of the Society, Sir WILLIAM WILLCOX, Dr. AITCHISON ROBERTSON, Dr. SPILSBURY, Dr. BREND, and others.

RELATIONS BETWEEN VEGETABLE AND HUMAN PATHOLOGY.

AT the meeting of the Royal Society of Tropical Medicine and Hygiene on January 19th Sir JAMES CANTLIE, who presided, said that the society that evening was venturing into a province which it had not touched before—namely, the comparative study of plant disease and human disease—but even a knowledge of botany had its value to the worker in tropical medicine.

Dr. E. J. BUTLER, Director of the Imperial Bureau of Mycology, then read a paper on relations between vegetable and human pathology. He said that the directions in which the older pathology might learn something from the study of certain disease phenomena in plants were to be sought in certain branches of cellular pathology, in the diseases involving changes in physiological processes, such as altered metabolism, in certain classes of parasitic and virus diseases, and in the effect of environmental conditions on the interaction of host and parasite. He spoke first of tumour formation in plants, as illustrated in the well-known crown gall tumour caused by *Bacterium tumefaciens*. Most of the tumours were of the ordinary connective tissue cell type, and were the nearest approach that one could expect to get in plants to sarcomata, but in a few cases the tumour appeared to be composed mainly of epidermal elements, and these might be compared with epitheliomata. Secondary tumours frequently developed by a definite outgrowth from the primary of a tumour strand of infected cells. The organism could be isolated and cultivated.

Of the virus or contagium diseases, as plant pathologists called them, the most important was the mosaic group, so called because the most obvious symptom was the variegated effect of light and dark green patches on the leaves. These diseases were constitutional, the virus reaching all parts of the plant within a few days, three or four in the case of the mosaic of cucumber. Carriers had been found—that is to say, plants which showed no symptoms after inoculation, yet contained the infective virus in transmissible form. The disease was not usually fatal to annual plants, though death from weakness might occur. Mosaic and allied diseases of potato in England might cause a reduction of over 50 per cent. in the yield. So far as was known these virus diseases were insect-borne, chiefly by means of sucking insects. In no case had transmission by mere contact been demonstrated. The life of the virus varied from twenty-four hours (sometimes in cucumber mosaic) to a year or more (tobacco mosaic if dried). The lecturer said that there were a few vegetable pathologists who preferred the enzymic or toxic hypothesis to the parasitic explanation of these diseases, but most agreed that their study had made it necessary to assume that they were caused by ultramicroscopic living organisms.

In conclusion he dealt with the set of problems arising from geographical and seasonal distribution of certain diseases. It had been found possible to correlate the geographical distribution of a considerable group of plant diseases with the temperature and humidity reactions of the parasite and its host. In the simplest cases a single factor, like the degree of relative humidity of the air, acted by limiting the development of the parasite. The meteorological factor might also act by affecting the receptivity of the host plant. Thus, in the vine mildew infection was dependent on the condition of the stomata through which the parasite entered. But in many cases the action of the morphological factors on both parasite and host in their mutual relations—the host-parasite complex—had to be taken into account.

Dr. ANDREW BALFOUR raised the question of alkaloid production by certain trees, and the possibility that this might be a protective mechanism against insects. In the trees of the genus Cinchona, for example, quinine and other bitter alkaloids were produced, and it would be interesting to know whether plants which produced alkaloids were proof against insect-borne disease. Gum production might also have a protective action like that of the scab which formed over a wound. He believed that an organism from the gum of two species of acacia had been isolated, and on cultivation in a liquid medium containing levulose among other constituents, the organism produced at first slime and eventually gum.

Dr. BUTLER said that work had been done in France on a group of alkaloid-producing plants in order to study the effect of alkaloids such as nicotine on certain of the more common plant parasites. A great many plants did successfully resist parasitic invasion because they had an alkaloid, but whether this was a definite protective reaction one could not say. Gum production had been shown to be due to bacteria in a number of cases; but in the plum and peach of Europe a parasite had not been detected, and production seemed to be due to a degeneration of the cell wall, favoured by atmospheric influences, especially by rapid alternations of humidity and dryness. He added, in reply to another question, that among plants nothing similar to antibodies had been found.

Ear Disease in the Tropics.

Dr. SALISBURY-SHARPE read a paper on disease of the ear in relation to life in the tropics, particularly with regard to the ear tests which should be required of candidates for tropical service. The prospects of cure of ear disease in the tropics were not good in most cases, especially in those localities where the proportion of water vapour in the atmosphere was high. In the tropics persons liable to wax accumulations suffered more from this trouble than in temperate countries. Middle-ear suppuration also was more troublesome and dangerous in the tropics. One great cause of chronicity in these cases was a secondary infection from outside, and this was apt to be more complicated and virulent in the tropics than in other climates. Residents in the tropics were also liable to deafness from malaria and other fevers. True malarial deafness in its early stages was wholly or partially amenable to quinine. Malaria might also cause intermittent attacks of intense earache, a true otalgia. He had seen many cases of suppurative disease of the middle ear the origin of which was said to have been an attack of malaria, though he was sceptical as to the possibility of this disease originating *de novo* in that way. Ménière's disease might occur through considerable exposure to the hot sun. In Japanese river fever deafness was often a marked feature.

ELECTRICAL TREATMENT IN GYNAECOLOGY.

AT a meeting of the Electro-Therapeutics Section of the Royal Society of Medicine on January 20th, Dr. E. P. CUMBERBATCH presiding, Dr. A. ZIMMERN, electrologist of the Salpêtrière Hospital, gave an address on electrical methods in gynaecology.

Dr. ZIMMERN said that in recent years electricity in a good many of its applications had been forsaken in favour of *x* rays, and this was especially the case in gynaecology. It was true that electricity here had not the brilliance of surgery, but its general results, now tested by time, entirely justified its early claims. He knew of cases particularly in which uterine haemorrhages had been controlled by the application of the continuous current when other methods, including *x* rays, had failed. In cases of fibroid the introduction into the uterus of a carbon electrode as the positive pole of the galvanic current, at an intensity of 30 to 50 milliampères for five minutes twice a week, had resulted in the reduction or even the disappearance of the haemorrhage. In metritis, when complicated by menorrhagia or metrorrhagia, his custom again was to use the positive pole of the galvanic current, and this served a double purpose. If the haemorrhage resulted from muscular weakness the current was useful in stimulating the muscle fibres, and if the cause was ulceration the caustic effect of the carbon sound of suitable size was all to the good.

The intensity of current where caustic action was desired must be high; Apostoli used even 100 milliampères or more, but his own experience had shown him that too high intensities caused

pain and disadvantage. The intensity he used was usually somewhere about 40 milliampères, but he could give no exact figure, because it depended on the sensitiveness of the patient. It was a good precaution to begin with relatively weak intensities—20 milliampères—and the principle should be to employ only that current which was what he called *utérinement tolérable*. To obtain a cauterizing action on the uterine cavity the sound must be drawn slowly down during the passage of the current, so that there was action on every part of the walls. Obstinate haemorrhage was in many cases due to a local cause, such as a submucous fibroid, and that was a matter for operation. If, however, the haemorrhage was not the predominant symptom and the metritis was not too recent, the negative current (15 to 20 milliampères) would sometimes give excellent results, as would high frequency (the small spark of the resonator). In subacute or chronic metritis of gonorrhoeal origin he had found silver ionization of value, a silver sound being connected with the positive pole of the continuous current, and not more than 20 milliampères given for five or ten minutes, with two sittings a week to begin with.

He regarded it as an elementary rule that the presence of acute, subacute, and purulent inflammation of the appendages was a contraindication against electricity. In such cases electricity was dangerous. If, again, pyrexia was present, or if it made its appearance after treatment had begun, electricity should be abandoned in favour of more classic methods, for this meant that a subacute salpingitis was not entirely extinguished. But when there was mere congestion of tubes and ovaries, electrical treatment was in no way to be feared.

Dr. Zimmern had employed electrolysis with platinum, silver, or nickel sounds to good effect in stricture of the cervix, and he claimed that this procedure was absolutely without danger in the treatment of any kind of stricture. Its object was, by making use of the resolving properties of the negative pole, to broaden and make more supple the cervical passage.

After the sound was introduced a small intensity of current, up to 6 or 10 milliampères, was applied. In subsequent sittings sounds of larger diameter were employed, so that the narrow canal in time came to admit instruments which could not have been introduced at the first sitting. It was remarkable how easily a sound, negatively charged, might be introduced, when, without the current, the same instrument would have been quite impossible of introduction. Negative electrolysis might also be useful in amenorrhoea and in sterility. In amenorrhoea, when the case appeared very obstinate, his custom was to introduce a galvanic current of 20 milliampères for five minutes twice or three times during the week preceding what might be presumed to be the period. This method, however, need only be resorted to in exceptional cases, and in ordinary amenorrhoea it was sufficient to apply continuous current in the vagina by means of a cotton tampon covering a carbon sound, or perhaps merely to excite the ovaries through the abdominal wall by moistened electrodes, the negative one being placed in front of each in turn, and the positive on the lower part of the back.

Dr. Zimmern touched, in conclusion, upon such conditions as incontinence of urine (where faradic current might give encouraging results, although the treatment required a long time and there was often relapse) and anal fissures, where he had found high frequency, with Oudin's resonator and metal electrodes, of very great use, the treatment nearly always giving him satisfaction, and surpassing in its results any of the surgical measures usually employed.

Dr. C. A. ROBINSON spoke of the value of diathermy in gonococcal infections in women. In the electrical department at St. Bartholomew's, under the superintendence of Dr. Cumberbatch, twelve cases of cervicitis and urethritis with gonorrhoea had been treated by diathermy, and in every case except one—which was an undoubted case of reinfection—a positive diagnosis had given place to a negative. One of the cases had been followed up for a year, and others for shorter periods, and the results appeared to be permanent. He believed that the lethal temperature for the gonococcus was easily attained by diathermic methods.

Dr. AGNES SAVILL gave an account of some cases of uterine haemorrhage treated by electrical ionization. She preferred not to undertake such cases until she had had an opinion from a gynaecologist. She used a zinc positive electrode, or, in very severe cases, a copper one. The drawback to copper was that it adhered so firmly to the membrane lining the womb that the current had to be reversed before the sound could be withdrawn. She had originally employed a curved sound, but found its insertion very difficult; a straight sound was easier, and the patients did not have so much pain. Latterly, on Dr. Zimmern's suggestion, she had given larger doses than the cautious ones with which she began, and had even gone up to 30 or 40 milliampères, and the results appeared to be obtained more quickly, though the discharge a day or two afterwards was increased.

One of her cases was a woman, aged 23, whose periods had never been regular and the discharge always diffuse. She had been curetted more than once, and after each operation had had amenorrhoea, but the moment the periods restarted the diffuse bleeding recurred, and went on for months. She was brought to the speaker as a last resort to avoid hysterectomy. Copper ionization was given, and a current of 20 milliampères applied for twenty minutes on eleven occasions. The womb then had become nearly normal in size, and the patient so much improved as to be able to earn her living.

Mrs. Savill described other successful cases and one failure.

Dr. SLOAN CHESSER demonstrated the apparatus she commonly employed for endocervicitis and similar conditions. She used a zinc electrode for acute cases, and a copper one for others, customarily giving 20 milliampères for twenty minutes, and on reversing the current for three minutes there was no difficulty in withdrawing the sound. The number of treatments necessary was somewhere between six and twelve. She also exhibited an arrangement for applying faradic current in bladder conditions. The speaker referred to the value of the static wave in dysmenorrhoea and amenorrhoea; the technique of application was advantageous, especially in the case of unmarried women.

Dr. W. J. TURRELL spoke of the value of diathermy in the treatment of amenorrhoea and dysmenorrhoa. In the former condition an increased nutritional effect was desired, and therefore the current should be administered for a relatively long period and at a low intensity. In dysmenorrhoea the object was to induce relaxation of spasm, and hence a stronger current for a shorter time was indicated. It would be absurd to maintain that electrical treatment was the method of choice in all amenorrhoea, but he thought diathermy was rational in those well-known cases in which, owing to overwork, the nutritional forces had been diverted and an amenorrhoea set up.

Dr. A. LAPTHORN SMITH said that many years ago, when there was a high mortality from the surgical treatment for fibroid, he adopted electrical methods and found them very successful. Out of 108 cases of fibroid tumour treated by electricity, 103 were symptomatically cured—that is to say, the principal symptom, menorrhagia, was cured in all of them—and the tumour in all cases shrank very much. With the improvements in surgical technique, which practically reduced mortality to vanishing point, he abandoned electricity in favour of operation. He did so because electricity in comparison was so slow and took up such a great amount of time. In dysmenorrhoea he had found electrical methods always satisfactory, and in amenorrhoea it was not to be doubted that the galvanic current supplied something that was lacking to the trophic nerve. He had found electricity useful also in cases of sterility.

Dr. JOHN ELLISON urged that before electrical treatment was undertaken for conditions diagnosed as endometritis and cervicitis it should be made certain that there was no malignant disease present. Malignant changes sometimes took place in fibroids, and he did not know whether electricity had any effect there, but he thought there was a certain amount of risk unless malignancy was definitely excluded.

Dr. G. B. BATTEN said that his own experience bore out the lecturer's opinion with regard to the considerable value of high frequency in fissures and haemorrhoids.

The members of the Section, on the proposition of Dr. TURRELL, expressed their thanks to their French confrère.

LOCAL RESULTS OF DENTAL INFECTION.

THE second Hunterian Lecture of the session was delivered before the Hunterian Society on January 11th by Mr. W. G. SPENCER, F.R.C.S., who took for his subject, "Some local results of dental infection." Mr. RUSSELL HOWARD (President of the Society), was in the chair. Mr. Spencer's lecture is printed in full at p. 131.

Sir JAMES DUNDAS-GRANT recalled some interesting cases from his own experience. One was an abscess in the parotid gland, which, on looking into the mouth, he found to be due to a feather, evidently from a pillow, which was projecting out of the orifice of the duct. Frequently he had had cases of haemoptysis brought to him, and was unable to find any cause for this condition in the chest or upper passages. He had then noticed a tooth with a polypus, and on inquiry had discovered that the patient had blood in his mouth on waking in the morning, having evidently sucked the blood from the polypus just before waking. He agreed that the incisors might be very influential in producing mischief. One reason why the pyorrhoea connected with them was so difficult to

deal with was because these were the teeth of all others most under the influence of the tongue, which kept pressing upon them and making them rock, so that the sacs around them were opening and closing with great frequency.

Dr. JOHN ADAMS referred to the relative immunity of women from cancer of the tongue. He thought it a pity to remove the lower incisors, which were the most durable of all the teeth.

Mr. SPENCER, in reply to a remark by the PRESIDENT, said that he agreed with those dental surgeons who thought that plates should never be fixed; and yet it was wonderful what fixed plates were put in, especially in the case of persons who had been fitted in America, and how they got on without complications he did not know. With regard to the advisability of removing the incisors, it was true that often there was only a small amount of pyorrhoea alveolaris connected with them, but they were an infective focus, and therefore it was risky to make a raw surface in their neighbourhood. Cancer of the tongue was certainly less frequent in women than in men, but it was not very rare; he thought it possible that 30 per cent. of the cases were in women.

SPASMODIC STRICTURE OF THE UTERUS.

A MEETING of the North of England Obstetrical and Gynaecological Society was held at Leeds on December 16th, the President, Mr. CARLTON OLDFIELD, in the chair. An adjourned discussion took place on Mrs. Dobbin Crawford's paper on spasmodic stricture of the uterus, read at the November meeting of the society, and printed in this week's JOURNAL at p. 135. In her original paper Mrs. Crawford related a case recently under her care, and urged the adoption of the term "spasmodic stricture" as being simpler than "hour-glass contraction," and a more accurate description of the condition. The correct treatment was deep surgical anaesthesia, and this would be found successful in all but a few obstinate cases for which Caesarean section might still be required.

Mr. MILES PHILLIPS (Sheffield) agreed that prolonged surgical anaesthesia was of the greatest value in these cases. Dr. FLETCHER SHAW (Manchester) mentioned that Clifford White had recommended prolonged traction by means of a weight attached to the presenting part. Dr. MACGREGOR YOUNG, speaking from the anaesthetist's point of view, did not think that any depth of anaesthesia would sufficiently relax the uterine muscle.

Dr. T. G. STEVENS (London), invited to take part in the discussion, strongly opposed the adoption of any new name for the condition, and thought the best treatment was to leave such cases alone. Dr. DOBBIN CRAWFORD briefly replied.

Specimens and Cases.

Miss IVENS (Liverpool) showed a specimen of primary carcinoma of the Fallopian tube.

Dr. J. W. BRIDE (Manchester) showed specimens recently removed from a case of ectopic pregnancy. The left tube contained a gestation sac which had ruptured and given rise to the symptoms demanding operation. The uterus was bicornuate, the right horn being rudimentary but enlarged at its distal end, and very like a subperitoneal fibroid in appearance. This horn was removed, and on examination was found to contain a lithopaedion. Dr. Bride also read notes of a case where two ectopic pregnancies had occurred in the same patient within a period of two years.

Dr. CROFT (Leeds) related a case of full-term ectopic pregnancy for which he had recently performed abdominal section. The breech of the child lay in the pouch of Douglas, and the placental site was over the left iliac vessels and ureter. The child, which weighed 4½ lb., was delivered alive, and lived a week. The placenta was not removed, but the amniotic sac stitched to the abdominal wound and a tube inserted into it. The patient was still in hospital, but the wound was now almost healed. No pyrexia followed the operation.

OBSTETRICS AND GYNAECOLOGY.

A MEETING of the Midland Obstetrical and Gynaecological Society was held at the Medical Institute, Birmingham, on January 3rd, with the President, Professor EWEN MACLEAN, in the chair.

Mr. FURNEAUX JORDAN showed a specimen of myxosarcoma of the Fallopian tube. The specimen, which showed a growth in the left cornu of the uterus and in the left tube, was from a multipara, aged 47, giving a history of twelve months' menorrhagia. At the operation numerous secondary deposits in the pelvis were found, and hysterectomy was performed solely for the arrest of haemorrhage. In connexion with this case Mr. Jordan reported the case of a schoolgirl, aged 16, in whom the sudden onset of profuse haemorrhage was accompanied by the appearance of a tumour at the vulva. The tumour was removed by the practitioner in attendance by ligation of its pedicle. Six weeks later haemorrhage recurred, and the vagina was found to be again filled with soft friable growth. This was found to be a sarcoma botryoides, and total hysterectomy was performed.

Mr. Jordan also showed a specimen of parovarian cyst complicating pregnancy. The patient, a primigravida eight months pregnant, was found to have a large cyst in the pouch of Douglas. Caesarean section at term was advised and performed, when the tumour was found to be a pedunculated parovarian cyst. Removal of the cyst at the time of its discovery was contraindicated by the undesirability of exposing the woman to labour with a newly healed scar, and tapping of the cyst at the onset of labour contraindicated by the marked preponderance of dermoids amongst cysts of this class. Mr. Jordan also reported the case of a woman, four months pregnant, with similar symptoms to the last in whom a solid tumour was felt in the pouch. The tumour, which was a fibromyoma growing in the posterior wall of the uterus, was removed by myomectomy, and the pregnancy continued uneventfully.

Dr. H. SHUFFLEBOTHAM showed a large teratoma of the ovary removed from a woman aged 34. The tumour presented as a nodular mass, filling the pelvis, and extending upwards to the umbilicus. On opening the abdomen the mass was found fixed to the back of the uterus, and many intestinal and omental adhesions were present. The tumour, which was solid, contained isolated cysts and some bone. Histologically, elements of all the layers of the trilaminar blastoderm were represented. There was no evidence of malignancy. Dr. Shufflebotham also showed a large pedunculated fibromyoma removed from a patient, aged 50, who gave a history of pain and constipation of three weeks' duration. A central tumour, extending to just above the umbilicus, was present. At laparotomy the tumour was found to be a large fibroid originating from the right cornu of the uterus, and having three complete twists in the pedicle.

Dr. W. A. POTTS read a short paper on psychotherapy in relation to obstetrics and gynaecology. Having generally reviewed the respective places of hypnosis, suggestion, and analysis in psychotherapy, he went on to show how and when these might be used in the treatment of certain obstetrical and gynaecological disorders. In particular, he thought psychotherapy of use in the treatment of labour, and of menstrual disorders associated with pain, by removing or lessening the unreasoning dread of the unknown, experienced in greater or less degree by most women.

THE West Kent Medico-Chirurgical Society held a clinical evening at the Miller Hospital, Greenwich, on January 13th, when Mr. WILLMOTT EVANS showed a case of multiple exostoses in a dwarf man; the condition was familial, his father, brother, half-sister, and sister's children suffering similarly. Mr. C. A. JOLL showed a young woman from whom he had removed the right clavicle containing a hard nodule which showed egg-shell crackling. He also showed a man, aged 43, with Pott's disease of the spine, treated with a bone graft from the tibia. Dr. HAROLD PRITCHARD showed a child which developed hard nodes on one fibula and one tibia after acute septic meningitis. He also described the treatment of a case of pernicious anaemia treated by intramuscular injections of collosol manganese. Dr. BOWEN WILLIAMS showed a man operated on by Mr. H. Davis for stricture of stomach due to swallowing sulphuric acid. Dr. JAMESON showed a case of ulcer of the tongue with acid dyspepsia; a case was also shown of head injury, who developed spastic paralysis of the legs six years later, which was relieved by a decompression operation.

THE Ambassador of the United States to France has presented Professor Bergonié with the medal and diploma of the Franklin Institute of Philadelphia in recognition of his services to science, and more particularly for his apparatus employing electricity in the search for, and extraction of, fragments of projectiles.

Reviews.

THE ANATOMY OF THE ORBIT.

IN his monograph *The Anatomy of the Human Orbit and Accessory Organs of Vision*[1] Professor S. E. WHITNALL of McGill University has provided the ophthalmologist and rhinologist with a most extensive and elaborate account of the details of structure and development of that part of the body of chief interest to them. The book represents in an amplified form the substance of a series of lectures delivered to candidates for the Oxford diploma in ophthalmology. The work is so complete in every other respect that it seems almost a pity that the author has not included an account of the gross and minute structure and development of the globe, but other parts are so fully described, together with the results of several original investigations, that the work becomes of real value and interest to the anatomist.

The text is divided into four parts. Part I is devoted to osteology, and includes a very clear account of the air sinuses and an important section on the growth and variation in shape of the orbit. Part II deals in minute detail with the eyebrows, eyelids, conjunctiva, and lacrymal apparatus. Part III is concerned chiefly with a description of the ocular muscles, including a simple yet efficient account of their actions, and with the blood vessels and nerves of the orbit. Part IV consists of a brief sketch of the cerebral connexions of the nerves, and it would appear that this section might be amplified with advantage to the clinician.

A perusal of the monograph is both refreshing and interesting, since it is obviously written with the primary intention of emphasizing all points which may be of real practical service in diagnosis or surgical treatment, yet the more scientific aspect has not been neglected and attention is drawn repeatedly to the limitation of our knowledge on certain points and imagination stimulated by the original manner in which some subjects are presented. Almost all parts are dealt with in an exhaustive manner, but we would mention especially the sections on the fascia of the orbit and the lacrymal apparatus. Professor Whitnall is to be heartily congratulated on the extraordinary amount of detail he has found it possible to introduce without destroying the clearness of presentation and without inducing weariness in the reader.

The text is clearly and freely illustrated, and the majority of the figures are taken from original dissections. An important and useful addition to the monograph consists of a fairly complete list of papers and books, published since 1900, relating to the anatomy, histology, and embryology of the subject. We fear the price may preclude some from purchasing a book which fulfils a long-felt want.

RENAL EFFICIENCY TESTS.

PROFESSOR HUGH MACLEAN'S extensive work during the war, mainly published under the aegis of the Medical Research Council, is well known, and he has now placed the medical profession under an obligation by his clear and skilful presentation of a difficult subject in *Modern Methods in the Diagnosis and Treatment of Renal Disease*.[2] This book, though small in size, contains a great deal of information, more, indeed, than the title alone would lead the reader to suppose, for it deals to some extent with the clinical manifestations of acute and chronic nephritis, and includes some interesting information about war nephritis—a subject on which the author speaks with the highest authority. It is intended for the general practitioner, and accordingly only those tests which are of proved clinical value and can be carried out easily are described. In the simple scheme which Professor Maclean constructed for the examination of renal patients there is only one of the five tests—namely, that for the diastatic activity of the urine—which demands any special apparatus, and this appliance is not complicated—only an incubator or a hot-water bath maintained at a constant temperature of 37° C.

While the great value of the chemical tests of renal efficiency is insisted on, and is emphatically shown in connexion with genito-urinary cases in which an operation under a general anaesthetic may be involved, the importance of careful clinical examination is wisely pointed out. In the critical account of the chief renal functions the excretion of acid products and the subject of acidosis in renal disease are described, the difference between renal and diabetic acidosis being clearly demonstrated. In acute nephritis oedema, hydraemia, and raised arterial blood pressure usually run a parallel course, and as a rule their disappearance is preceded and accompanied by diuresis due to the accumulation of urea in the blood and the returning functional power of the recovering kidneys. Retinal changes in acute nephritis are, Professor Maclean finds, commoner than is generally thought, may clear up, and are without the serious prognostic significance that they have in chronic renal disease.

On the basis of chemical tests cases of chronic nephritis fall into two main groups: The commonest type is the azotaemic, usually spoken of as chronic interstitial nephritis, characterized by retention of nitrogenous products and without any impairment in the excretion of water and common salt; the other, the hydraemic form, generally known as chronic parenchymatous nephritis, is characterized by difficulty in excreting sodium chloride and water and by oedema, but there is no retention of nitrogenous products. Not infrequently, however, the same patient presents the symptoms of both azotaemic and hydraemic disease.

The most important chemical test is the estimation of the non-protein nitrogen—urea, uric acid, creatinin and purin bodies—in the blood, and for this purpose the examination for the amount of urea, a comparatively simple process, is sufficient. This test has great prognostic value; thus, if the blood contains 100 mg. per 100 c.cm., surgical procedures requiring a general anaesthetic—for example, prostatectomy—almost always prove fatal. But a fall in the high blood urea in severe renal disease, such as can be effected by diet, is not necessarily followed by improvement. For cases in which the kidneys are damaged, but not so severely as to lead to an accumulation of urea in the blood, two simple urinary tests are recommended: the author's "urea concentration" test after ingestion of 15 grams of urea, and the diastatic test, a high diastatic value in the urine pointing to renal efficiency. In addition Ambard's coefficient of urea excretion, the phenolsulphonephthalein and other tests are described. The chapter on the relation of nephritis to blood pressure and cardio-vascular changes clearly shows the value of chemical tests in confirming or correcting an otherwise obvious diagnosis of uraemia.

The last chapter, entitled "Some observations on the dietetic treatment of nephritis," recalls the dictum ascribed to a former authority on the subject, to the effect that "the great danger of chronic renal disease is that someone will find it out and treat it," by which was meant the virtual starvation of a milk diet. Professor Maclean carefully points out the limits of protein restriction and insists that the amount of protein prescribed should not be dictated by the degree of albuminuria. In the section on chronic parenchymatous nephritis Epstein's explanation of the beneficial effect of his high protein diet is critically discussed and the diuretic value of urea is shown by examples.

In conclusion, this well-written work, which breathes a spirit of personal investigation and experience, should be in the hands of every medical man who has not already travelled over the voluminous literature of recent years dealing with the modern conceptions of nephritis.

MENTAL DISORDER AND LEGAL RESPONSIBILITY.

Insanity and Mental Deficiency in Relation to Legal Responsibility[3] is a contribution of definite value to psychiatry in its legal aspect, and its author, Dr. WILLIAM G. H. COOK, has rendered a distinct service to the alienist by his concise presentation of an obscure and difficult subject. His research was accepted as a thesis for the degree of Doctor of Laws in the University of London, and its purpose is to summarize and clarify the legal principles relating to the civil responsibility of the insane.

[1] *The Anatomy of the Human Orbit and Accessory Organs of Vision.* By Professor S. E. Whitnall, M.A., M.D., B.Ch.Oxon, M.R.C.S., L.R.C.P.Lond. Oxford Medical Publications. London: Henry Frowde, and Hodder and Stoughton. 1921. (Demy 8vo, pp. 413; 195 figures. 35s. net.)

[2] *Modern Methods in the Diagnosis and Treatment of Renal Disease.* By Hugh Maclean, M.D., D.Sc., Professor of Medicine, University of London, and Director of the Medical Clinic, St. Thomas's Hospital. London: Constable and Co. Ltd. 1921. (Demy 8vo, pp. viii + 102; 4 figures. 8s. 6d.)

[3] *Insanity and Mental Deficiency in Relation to Legal Responsibility: A Study in Psychological Jurisprudence.* By William G. H. Cook, LL.D.Lond. London: George Routledge and Sons, Ltd. New York: E. P. Dutton and Co. 1921. (Demy 8vo, pp. 192. 10s. 6d. net.)

As the author points out, while the law relating to the *criminal* responsibility of lunatics has reached a comparatively advanced stage and definite rules have been laid down for courts when dealing with cases in which the person convicted of crime pleads insanity, no such precision exists in regard to *civil* responsibility. Altogether the law relating to the civil responsibility of lunatics is in an indefinite and unsatisfactory state, and the present volume is the only modern work in which the subject is adequately treated. In successive chapters Dr. Cook deals with mental deficiency—a term here used in its widest sense—in relation to tort, the law of contract, marriage, divorce, and testamentary capacity. The law in respect to these subjects is dealt with historically, and legal decisions in over two hundred important cases are referred to in the text. A full discussion of the law in various countries is included in the various chapters, and the summary given of the laws of ninety-one other countries relating to insanity as a ground for divorce is perhaps of particular value and interest in view of the attempts which are being made to change the English divorce law at the present time. The author's survey makes it clear that the laws of several non-Catholic foreign countries, as well as those of New Zealand and of Western Australia, evince a tendency to regard the contract of marriage as voidable upon proof of the confirmed insanity of one of the parties. One of the most valuable chapters in the book from a purely practical point of view is that concerned with testamentary capacity and insanity. It is in relation to this question that the physician is most likely to be involved in his practice as far as the civil responsibility of a lunatic is concerned, and most practitioners would be well advised to master Dr. Cook's clear and able survey of the attitude of the law towards wills made by those who are subsequently alleged to have been insane.

In concluding this volume Dr. Cook makes some suggestions for the reform of administration relating to lunacy and mental deficiency. His view is that the Board of Control should be made a sub-department of the Ministry of Health, and that it should become the central authority for the care and treatment of all persons of unsound mind. He advocates, moreover, the abolition of the Statutory Committee of county or county borough council set up by the Lunacy Act, 1890, and the transference of all its powers and duties to the central authority. It is difficult to see how the proposed changes would be to the advantage of the institutions concerned. The Central Lunacy Board should certainly retain its control over the medical treatment, discharge and detention of patients, but it is another matter where administration is concerned. The visiting committees are in a position to carry out the business management of the asylums more efficiently and economically than is a Government department, and they constitute furthermore a useful court of appeal for patients in asylums and their relatives. No Government department could be so accessible or so sympathetic as is the elected local representative of the ratepayers.

This book can be unreservedly recommended, and the author is to be congratulated on having filled a gap in the literature of psychiatry.

PATHOLOGY AND TREATMENT OF SYPHILIS.

THE first of two volumes on syphilis in the *Traité de Pathologie Médicale et de Thérapeutique Appliquée*,[4] edited by EMILE SERGENT, L. RIBADEAU-DUMAS, and L. BABONNEIX, deals with generalities and with the disease in the adult; the second with the signs and symptoms it produces in early life.

The account given of the general pathology of the disease is excellent and embodies an adequate summary of animal experiments, and of the application of the results thereby obtained to the treatment of syphilis in man. After a description of the various drugs used in the treatment of the disease and their mode of administration, we find a discussion of the situation with regard to syphilis and marriage. The authors admit that in spite of advances in our scientific knowledge of the disease, rules on the subject of marriage are still lacking in precision and scientific accuracy. A pathological condition of the cerebro-spinal fluid must, they consider, be regarded as an absolute contraindication to marriage. On the other hand, considerable discrimination must be exercised in giving or withholding permission to marry. If too high a standard be set up there is a danger that the medical man will not be consulted.

The chapters containing the discussion of these introductory considerations are followed by others dealing with syphilis of various structures, both visceral and peripheral. Dr. Clement Simon contributes the section on syphilis of the skin, mucous surfaces, and lymphatics. The remarks on skin lesions are well illustrated by photographs. The sections on syphilis of the bones and joints, of the nasopharynx and larynx, and of the respiratory organs and mediastinum, contributed by Rostaine and Bellin and Mirande respectively, are remarkably complete, the subjects being treated in considerable detail. Rostaine contributes the chapters on syphilis of the circulatory and genito-urinary systems, and Babonneix the important section dealing with the nervous system. Altogether the contributors have been well selected, for their names are associated with the subjects on which they write. By the collaboration of these experts a mass of material has been collected between the covers of a single volume and presented in a concise and readable form. The work is in the nature of a general review of the subject of syphilis, whilst at the same time the authors have succeeded in preserving much of the force of an original memoir. It will certainly be useful as a book of reference not only for syphilologists but for specialists in various branches of medicine and surgery. If we have to give expression to any regret it is that there is no bibliography to enable the reader to refer to the original work when desired.

The question of economy has apparently been borne in mind in the production of the volume, otherwise additional illustrations might with advantage have been inserted in several of the sections. We confidently recommend it to all who desire an up-to-date reference work on this subject. We do not know of any other modern book that covers the same ground so successfully.

The second of the two volumes deals with syphilis in early life. It is divided into three parts—on acquired syphilis in infancy, by Dr. P. Fernet; on congenital syphilis in infants, by Dr. Edmond Fournier; and on late congenital syphilis, by Dr. P. Fernet. Nearly four-fifths of the volume is, naturally enough, devoted to the full consideration of ordinary congenital syphilis. After an interesting account of the ways in which syphilis can be acquired in early life, Dr. Fernet discusses the diagnosis between acquired and congenital syphilis; this rests on the absence of certain manifestations, such as coryza, palmar and plantar pemphigus, and pseudo-paralysis, and the presence of a chancre and of more obvious enlargement of the lymphatic glands in the acquired form. The same author's description of late or delayed congenital syphilis owes much to Professor A. Fournier's epoch-making work on this subject, and gives an interesting account of the various dystrophies that may occur and of their relation to the endocrine glands, to which responsibility is unhesitatingly attached. In the treatment of such cases treatment by antisyphilitic drugs should therefore be supplemented by extract of the endocrine gland thought to be affected—for example, of the thyroid in hypothyroidism, and of the testis or ovary in infantilism. Dr. Edmond Fournier's well illustrated description of ordinary congenital syphilis begins with some general remarks on congenital syphilis in the second generation, with a report of a case in the third generation, on the influence of congenital syphilis on the descendants, and on marriage and syphilis. He is fully conscious of, and thus partially disarms, the opposition which his opinion, that a person with syphilis, whether congenital or acquired, should not marry, must arouse. The early manifestations of the congenital disease are fully described, and then a detailed account of the visceral and bony changes given. In the account of the relation of congenital syphilis to rickets it is pointed out that the antagonism excited by Parrot's well-known view—that rickets is a manifestation of luetic infection—has been followed by a counter-reaction, and stress is laid on the special frequency of rickets in the subjects of congenital syphilis and on Kirmisson's arguments in favour of the connexion between these two conditions. In addition to many references to the work of others, Dr. Fournier has brought in many observations of his own, and thus provides the reader with a wide and suggestive monograph on this important subject.

[4] *Traité de Pathologie Médicale et de Thérapeutique Appliquée.* Publié sous la direction de Emile Sergent, L. Ribadeau-Dumas, et L. Babonneix. Tome XIX: *Syphilis; Généralities et Syphilis de l'Adulte.* (Demy 8vo, pp. 668; 109 figures, 1 plate. Fr. 28.) Tome XX: *Syphilis acquise et héréditaire de l'Enfance; Syphilis héréditaire tardive.* (Pp. 279; 66 figures, 8 plates. Fr. 18.) Paris: A. Maloine et Fils. 1921.

EARLY CIRCULATORY DISEASE.

DR. R. MCNAIR WILSON is the author of a volume entitled *The Clinical Study of the Early Symptoms and Treatment of Circulatory Disease in General Practice*,[5] dedicated to the workers at the St. Andrews Institute for Clinical Research, and to Sir James Mackenzie, who supplies a foreword. This book is an exercise in the clinical method, and distinguishes between the effects of disease and the reactions of the body to these effects, as shown in the circulation. It contains an investigation into the mechanism of the variations of the pulse rate in health and disease, based on the analysis of a large number of personal observations. Dr. Wilson believes that the distinction between vagal activity and sympathetic activity as occurring at different times is incorrect, and that there is a continuous reciprocal reaction. Thus external stimuli of the skin and other sense organs primarily excite the vagus, and so would slow the heart, but this vagal "pull" is normally followed by a reflex response on the part of the sympathetic, and an increased pulse rate, which in many cases so dominates the picture that the preliminary vagal effect is not noticed; mechanical stimuli from within, such as food, the foetus *in utero*, menstruation, and pathologically a renal calculus, or a "controlling" appendix, first excite the sympathetic, but a reflex vagal response follows and often dominates the scene; if now external stimuli, mental or sensory, occur, the vagal activity is intensified, and as a result nausea, vomiting, exhaustion, and fainting are prone to follow. By their toxins the infections, other than those of the typhoid and paratyphoid group, render the vagus irritable and more susceptible to external stimuli; hence the vagus is continually making a call on the sympathetic for response, thus causing a rapid pulse; exhaustion may follow, because the reciprocal action of the sympathetic fails from depletion, and the heart and other organs do not react properly. The truth of the statement, at first sight paradoxical, that an irritable vagus may cause tachycardia is shown by the slowing of the pulse that follows a small dose (1/200 grain) of atropine. The toxins of typhoid and paratyphoid are exceptional in exciting the sympathetic and so producing a vagal response, as seen by the relatively slow pulse.

With this conception of the reciprocal action of the vagus ("the nerve of diastole") and the sympathetic ("the nerve of systole") in mind Dr. Wilson ingeniously analyses the various manifestations accompanying cardiac disorder, such as breathlessness, cyanosis, hyperalgesia, and cardiac pain, and thus provides much stimulus for thoughtful investigation by practitioners working on the lines of the St. Andrews Institute for Clinical Research; but it should be pointed out that, although the words "general practice" come into its title, this book stimulates thought rather than provides dogmatic help for the immediate successful treatment of cardiac disease in the course of busy practice.

X-RAY DIAGNOSIS.

THE book on *x*-ray diagnosis, by Dr. HERBERT ASSMANN of Leipzig,[6] is perhaps the most comprehensive which has hitherto appeared. Unlike many of the standard works on radiology, it contains no introductory chapter on instrumentation and technique, and throughout very few instruments are illustrated. In its main construction the work divides itself into four parts. The first is a comprehensive treatise on the heart and great vessels, with a short chapter on the mediastinum. This occupies 146 pages, the normal and the abnormal being both fully discussed and illustrated. The diagrams are a distinct feature of this part. The second deals in detail with the lungs and pleura in about the same number of pages, and is profusely illustrated by radiographs of both usual and unusual pathological conditions. The gastro-intestinal tract is discussed in 250 pages. In the concluding portion are found sections dealing with, amongst other things, the liver and gall stones, the diagnosis of kidney conditions, various abnormalities affecting the bones, and so on.

The whole is essentially German in its style, its scope, its wealth of detail, and the painstaking method which is obvious on every page. It is also essentially German as evidenced by the fact that, with a few exceptions which go to prove the rule, the whole of the extensive bibliography which is added at the end of each section consists entirely of German and Austrian references. A perusal of the work and its references leads the reader to the inevitable conclusion that no *x*-ray work of any kind has ever been done outside of Germany and Austria, not even by those of German nationality or extraction who have the good fortune to live in other countries. Having, however, made this criticism—which is a fair one—one cannot fail to recognize the general merits of the book. As a work of reference for an *x*-ray worker who understands the German language, and who is also prepared to wade through a considerable amount of detail in order to extract essentials, it should be invaluable. Nearly 700 pages of letterpress and 633 illustrations speak for themselves. These illustrations are extraordinarily good, and cost has apparently been of no consideration. Many excellent diagrams and reproductions of both photographs and radiographs appear on almost every page, whilst in addition there are some twenty pages of reduced bromide prints which illustrate all the more important points of *x*-ray diagnosis. These are of great excellence and are admirably chosen. Further, both the printing and the paper are of the best. It is not too much to say that the illustrations and diagrams alone are so complete and good that the book will be of value to any radiologist even if he knows no German and so cannot read the letterpress.

[5] *The Clinical Study of the Early Symptoms and Treatment of Circulatory Disease in General Practice.* By R. M. Wilson, M.B., Ch.B. With a Foreword by Sir James Mackenzie, M.D., F.R.S., F.R.C.P. Oxford Medical Publications. London: Henry Frowde, and Hodder and Stoughton. 1921. (Demy 8vo, pp. 245, figures 111. 15s.)

[6] *Die Röntgendiagnostik der Inneren Erkrankungen.* By Dr. Herbert Assmann. Leipzig: F. C. W. Vogel. 1921. (Imp. 8vo, pp. 693; 613 figures, 20 plates. M. 330: bound, M. 350).

THE PHYSIOLOGY OF BACTERIAL INFECTION.

PROFESSOR MAURICE ARTHUS has produced a most readable *Précis de Physiologie Microbienne*.[7] He describes how he was led to undertake his task because all the existing books on this subject gave too large a place to technical considerations and to mere theories. Accordingly he has omitted all description of technique employed in bacteriological and serological practice. His book is not illustrated with diagrams portraying Ehrlich's side-chain theory, nor is it encumbered with the ponderous terminology such expositions necessitate. The known facts are stated with regard to each problem dealt with and the logical deductions carefully considered. The author makes no attempt to disguise his partisanship, for he is a devotee of the "cellular," as opposed to the "humoral," school of thought.

The earlier chapters of the book, which deal with the nutrition and enzyme action of bacteria, are clearly written and the subject matter attractively presented. But the description of bacterial species is somewhat meagre and not altogether free from errors, such as that which occurs on page 110, where the author states that protozoa cannot be cultivated. In subsequent editions attention should be drawn to the fact that spirochaetes, trypanosomes, and some amoebae can be cultivated with ease. The next following chapters deal with immunity problems, such as anaphylaxis and the different properties of normal and immune serum. In discussing the manner of action of complement or alexine, the author points out that, strictly speaking, this substance is neither "fixed" nor "deviated," and therefore to describe the disappearance of complement in immunity reactions he employs the phrase, "consommation de l'alexine." This will illustrate with what assiduity the writer attempts to escape from the compromising effect of inaccurate terminology. He makes his meaning clear in all he has to say about immunity. For him phagocytosis is the basis of the protective properties of both normal and immune serum, and the leucocyte is the pivot on which immunity rests.

This book will appeal to all interested in the theoretical aspects of resistance to infectious disease, but owing to the complete absence of a bibliography and references it is unlikely to replace the existing standard textbooks on immunity.

NOTES ON BOOKS.

MADAME BÉROT-BERGER'S little book on the science of infancy[8] is the last of a series of five from her pen on subjects of medico-social importance. With the French the dwindling birth rate has long been a matter of grave concern, and the authoress has taken a worthy and practical part in conserving the vital resources of the nation. In 1913 the Strauss Act was passed. It has been described as the Baby's Charter,

[7] *Précis de Physiologie Microbienne.* Par M. Arthus. Paris: Masson et Cie. 1921. (Cr. 8vo, pp. 408. Fr. 17 carbonné; Fr. 19 net.)

[8] *Science de l'Enfance, pour de développement général des Tout-Petits.* Par Madame Bérot-Berger, Membre du Conseil Supérieure de la Natalité. Paris: A. Maloine et Fils. 1921. (Cr. 8vo, pp. 90. Fr. 5.)

because under it a fixed daily sum was paid to every working woman in the last four weeks of pregnancy, and for four weeks after her confinement; it authorized also a small financial dole to the working woman who, often at financial sacrifice, nursed her infant for the first year of life. For years before this Madame Bérot-Berger was at work in the industrial towns of Northern France, where the exigencies of female labour in the factories levied a heavy toll of infant life; in certain towns in the Department of the Aisne the organizations she created effected a great reduction in the infantile death rate. Her contribution to the problem was twofold: first, by making it possible for factory women to suckle their infants and continue at work; secondly, by the formation of nurseries for little children from one to four years of age where during the day they were fed and their education in every sense, physical and moral, was carefully supervised by trained workers. The account she gives of this work is enthusiastic; it is supported by minute clear details as to the equipment, personnel, and management of these "garderies d'enfants." The book is written for the guidance of voluntary workers in France in the cause of child welfare, but it can also be recommended to the notice of those engaged in similar work in this country. It cannot fail to be of interest, and may very well also convey valuable practical suggestions for the organized efforts now being widely made on this side of the Channel towards the same end.

THE ninth volume of *Collected Studies*[9] from the Bureau of Laboratories of the City of New York contains some sixty original papers written during the years 1916–1919 on a great variety of what may broadly be termed public health questions. Many of them deal with the prophylaxis or treatment of meningitis and poliomyelitis, others with bacteriological detail of all sorts, others with the practical problems of sanitation—such as the bacteriology of public swimming baths. The book should be accessible to all medical officers of health and public health laboratories.

The *Pharmacopoeia of the University College Hospital*[10] is a neat little waistcoat-pocket volume, and, in addition to the formulae commonly forming the bulk of such books, contains over twenty special tables, lists, and directions of service to medical students and practitioners. It is interleaved for the user's convenience.

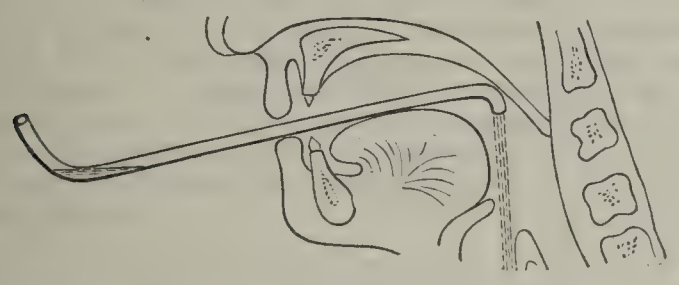
[9] *Collected Studies from the Bureau of Laboratories (Foot of East 16th Street) City of New York.* Dr. W. H. Park, Director. Vol. ix, 1916–1919. City of New York, Department of Health. (Sup. roy. 8vo, pp. 491; 12 figures.)

[10] *Pharmacopoeia of the University College Hospital.* Edited by C. H. Hampshire, B.Sc.Lond., F.I.C. London: J. Bale, Sons, and Danielsson, Ltd. 1921. (3 × 6, pp. 96. 4s. net.)

MEDICAL AND SURGICAL APPLIANCES.

Intratrachael Medication.

IN view of the present epidemic of influenza, with frequent involvement of the larynx, trachea, and bronchi, Dr. A. R. FRIEL thinks that medical men may be interested to be referred to the method recently devised by Professor Leduc of Nantes for the introduction of medicated oily fluids into the trachea by the patient himself, as illustrated in the diagram. It is simple and efficacious. Half a



teaspoonful of oil of almonds containing 1 per cent. of menthol or 1 per cent. of phenol, or both combined, is poured into the wide curve of the glass tube; the short curve is placed far back in the pharynx, the lips tightly closed round the stem, and an inspiration made through the tube. This carries the fluid into the trachea. Each dose can be repeated twice or thrice at a time, and the treatment carried out four or five times daily. No coughing is caused. The tubes can be obtained from Messrs. Mayer and Phelps, New Cavendish Street, W.1.

Snook Apparatus.

Messrs. NEWTON AND WRIGHT, Hornsey Road, London, describe in their latest catalogue some new types of the Snook apparatus which was first manufactured by them in 1908. Amongst other patterns, perhaps the most interesting is that described under the title of "the universal model." This machine is stated to be capable of passing 150 milliampères through a Coolidge tube at a 5-inch spark gap, and to be suitable for deep therapy with a tube working at an alternation gap of 12 inches. The machine is oil-insulated.

LUNACY ADMINISTRATION.

CONFERENCE OF MEDICAL SUPERINTENDENTS AND CHAIRMEN OF VISITING COMMITTEES.

A CONFERENCE on lunacy administration was held in London on January 19th and 20th, at the instance of the Board of Control, and was attended by the medical superintendents and chairmen of visiting committees of practically all the mental hospitals of England and Wales. Sir FREDERICK J. WILLIS, Chairman of the Board of Control, presided, and was accompanied by the Commissioners. The proceedings appeared somewhat inconclusive, owing to the chairman's refusal to take resolutions, although on certain matters there was an evident division of opinion, but it was understood that the Board would be guided by the measure of general assent given to the views expressed, apart from an actual vote. On one matter only the chairman asked for a decision of the Conference. This was the proposal that means should be provided for early treatment without certification, and it commanded the unanimous assent of the Conference. On a further point, that the Board of Control should be the supervising authority with regard to early treatment, there appeared to be only one dissentient.

Sir ALFRED MOND, the Minister of Health, in welcoming the members of the Conference, said that mental disease was only one aspect of disease generally, and in the proportion in which it lost its stigma early treatment would become practicable. If alteration of the law was necessary to secure this end, it would have to be the result of very general agreement on the part of those best able to speak on the subject. The Minister of Health went on to speak of the duties of a medical superintendent, saying that the best use was not made of his attainments if he was compelled to spend very much of his time in routine work. He hoped some means might be found for relieving him from such pressure, and also for providing assistant medical officers with opportunities for post-graduate study.

Early Treatment Without Certification.

The first subject discussed was early treatment (in-patient and out-patient) at mental or general hospitals without certification. Dr. EDWIN GOODALL (Cardiff) supported the policy of the Mental Hospitals Association, that certain institutions should be taken over as psychiatric clinics, and that these should have no association with lunacy or lunacy law. He deplored the complete segregation of all mental cases, and believed that mental disease should be brought into the broad sanctuaries of general medicine. His plan was a system of primary, secondary, and tertiary centres, on the lines of the Dawson report. At the primary centres, in the remoter parts, the patient would be attended by the general practitioner, and hydrotherapeutic and other forms of treatment would be available. At the secondary centre, in a larger town, there would be special wards as well as an out-patient department, with some medical men with special experience in these diseases. At the tertiary centre there would be a separate building for the reception of these cases, and the help of specialists would be available. This tertiary centre would be in a town where there was already a general hospital and medical school. A research institute should also be set up. He was anxious that the whole of this arrangement should be dissociated from mental hospitals. The idea of making it a part of mental hospital organization was one of the compromises dear to the Anglo-Saxon mind.

Professor SHAW BOLTON (Wakefield) took a different view. If this was a new country, with no previous experience of lunacy administration, he would favour the reform suggested by Dr. Goodall, but as it was, he believed it more practicable to work within and to improve the present system. He did not like the prospect of all early cases being removed from asylums, which in that event would be mere gaols. His plan was the provision of an out-patient department and the use of a well-equipped hospital of moderate size, attached to the mental hospital, but involving no question of legal detention or certification. There was an out-patient department attached to his own institution, and those who attended came largely on the recommendation of other patients. He wanted official permission to classify patients; at present if the medical officer permitted any considerable latitude as between one patient and another, he was personally responsible in case of accident.

Dr. T. S. GOOD (Oxford) urged the provision of early clinics, which should be called nervous disorders clinics, not mental clinics, attached to general hospitals, on the ground that

general hospitals were more accessible than mental hospitals, and more comprehensively equipped, and that it would be possible for the general hospital staff to work with the psychiatrists as a united team. Alderman J. G. TAGGART (Chairman, Mental Hospitals Association) regretted that the Board of Control had not given a lead on this matter. His association was unanimously in favour of the introduction of legislation by the Government enabling clinics to be set up for early treatment. He wanted mental experts to be available outside the asylum walls. Lunacy was the only disease of which it might be inferred from the attitude of the authorities towards it that prevention was not better than cure. He did not want the Board of Control to be associated with these prospective centres. Sir GEORGE TRUSCOTT (City of London) said that although his committee's mental hospital was seventeen miles from the city, he thought there would be no difficulty in setting up out-patient departments, one at the hospital itself, and another in the city, at the offices, where one of the medical staff could attend. He wanted any legislation to be permissive, and to be embodied in a short bill, not in an omnibus measure like that proposed in 1920. Sir W. HODGSON pressed for legislation to give enabling powers to local authorities to carry out early treatment, whether by clinics or otherwise.

Dr. HUBERT BOND, speaking as a Commissioner of the Board of Control, deprecated too much insistence on legislation, and pointed out the difficulties with regard to those patients who did not and could not come voluntarily for treatment. Here would be the rock in the passage of legislation. If it was proposed to legislate that such persons should be taken into clinics or mental hospitals without being certified, a section of the public would say that the safeguards of the lunacy laws were being relaxed.

Dr. BEDFORD PIERCE gave an account of an experiment at York where, for the last two years, borderline cases had been received at two comfortable country houses which had been adapted for the purpose. Of the 66 patients received, 13 had recovered, and of those who failed to recover, 13 had subsequently to be certified. The houses were conducted on a voluntary basis, and if a patient became so disordered as to require certification he had to be removed. The individualized medical and nursing care required was considerable, and he did not think that such homes could be conducted at less than six or seven guineas a week for each patient. Dr. WOLSELEY-LEWIS (Maidstone) suggested as a start that the existing mental hospitals should rent one or two houses geographically separate from the institution, but administratively connected, so that the treatment of all mental disease would be in the hands of one and the same authority.

The view that the Board of Control should have charge of the arrangements for early treatment found general acceptance. Dr. RUTHERFORD JEFFREY (Bootham Park) thought that cases for early treatment should be compulsorily notified to the Board. It was not easy to see how there could be control for one group of cases and no control for another. All mental illness affected conduct, and those who treated the early cases deserved protection. Dr. W. F. MENZIES (Cheddleton) and others also thought that the necessary powers should be vested in the Board of Control. One of the Commissioners on the legal side, Mr. A. H. TREVOR, said that the legal members of the Board had always been in favour of the alteration of the law in the direction now suggested. They were anxious to see the law relaxed to permit of early treatment of incipient cases. These early cases should be medically treated without certification for a period, subject to necessary safeguards, and should be kept separate from lunacy cases, though it would be necessary to inspect the treatment afforded. He thought it would be inadvisable to have two Government departments concerned in all this administration, and the Board of Control seemed to be the only authority to carry out this reform.

The CHAIRMAN asked whether he might convey to the Minister of Health the unanimous feeling of the Conference that proper arrangements should be made for the early treatment of mental cases without certification, and that it must be ensured that the places where such early treatment was provided were properly equipped and conducted.

To this proposition the Conference signified unanimous agreement, and to the further point, that the Board of Control was the proper authority to undertake the necessary supervision, there was only one objection, from Alderman TAGGART, who, while willing that the Board of Control should give its approval to the building and equipment, desired that it should not interfere with the management.

Research and Pathological Work.

The organization of research and pathological work was very briefly discussed. Sir FREDERICK MOTT gave an account of the work at Maudsley Hospital, and pleaded for more encouragement to medical men to enter for the Diploma in Psychological Medicine. The kind of research which he desired to see carried out would involve the adequate staffing of mental hospitals with young, energetic medical officers having the right spirit of investigation. Dr. T. P. COWEN (Rainhill) said that too often the pathologist had been regarded as a junior assistant medical officer and had to work isolated and at a disadvantage. He mentioned that the laboratory at Rainhill had been affiliated with Liverpool University, and the benefit had been mutual. Dr. B. H. SHAW (Stafford) emphasized the importance of having the laboratory staff working in close association with the clinical officers. He thought that certain mental hospitals, suitably situated, might have a laboratory and staff capable of undertaking the tests necessary for complete diagnosis, and relieve the necessity for expensive local laboratories; such an arrangement might form the nucleus of an organized laboratory system throughout the country.

Medical Staff and Superintendent's Duties.

The delegation of the duties of medical superintendent was next discussed. Dr. M. A. ARCHDALE (Cambridge) said that in the multiplicity of his administrative duties the medical superintendent tended to become a sort of combination of prison governor and hotel manager, and to get rusty in his medical knowledge. A way must be found whereby the medical superintendent could keep control over his institution and yet not exhaust himself in the details of management. He suggested that in the smaller mental hospitals the medical superintendent should have a non-medical private secretary to relieve him of a good deal of his administrative work, and that in the larger it should be a rule for the second physician to carry on the administration of the hospital under the general direction of his chief, the first officer to be called the medical director and the second the medical secretary. Dr. C. F. BARHAM (Claybury) thought that a new post of sub-administrator, akin to that of registrar of a military hospital, might be created, and only matters of great importance or new policy would then be referred to the medical superintendent.

The DEAN OF LINCOLN said that what the medical superintendent wanted was a bursar secretary, who should be appointed, supervised, and, when necessary, discharged by him. Sir MARRIOTT COOKE (a Commissioner) thought that the medical superintendent might do all the work that was essential in the way of administration and still be able to encourage his medical officers in the pursuance of new systems of treatment, and so forth. Another Commissioner (Dr. H. J. BOND) said that he could not understand what the pother was about: the medical superintendent could do as much or as little in medicine as he liked, and he had only to tell his committee if he had not the necessary officers to whom to delegate his duties.

Study Leave and the Diploma.

In opening a discussion on study leave, Colonel J. R. LORD (Horton) said that the special committee of the Medico-Psychological Association which had been appointed to consider this and cognate questions would, he believed, recommend that county councils should require that all medical officers should obtain the diploma in psychological medicine before their posts were confirmed, or at least that they should go through Part I of the course. Sir WILLIAM HODGSON objected to this requirement being urged at the present moment. It was not true to say that no special training had been afforded hitherto in mental diseases, and it was not wise to place too many impediments in the way of committees in making their selection. Dr. W. F. MENZIES said that committees got what they paid for, and generally more. Years ago the salaries of assistant medical officers were certainly insufficient, and in many cases this was still true. He did not make that complaint of his own institution (Staffordshire Mental Hospital), where the salary of the assistant medical officer started at £700 and rose to £850, with an additional £50 for the diploma.

Dr. E. GOODALL pointed out the educational argument for psychiatric clinics. At present there were only about three places in Great Britain where instruction in psychiatry could be obtained—in the new hospital attached to Bethlem, at the Maudsley Hospital, and at Dr. Robertson's clinic in

Edinburgh. It was a fallacy to suppose that instruction could be obtained by perambulating the asylums. What was wanted was something on the scale of American and Continental clinics, like those at Baltimore, and Chicago, and Munich. Dr. HUBERT BOND associated himself with Dr. Goodall, and suggested that advertisements for medical officers should indicate a preference for holders of the diploma, or should even state that, if an officer without the diploma were appointed facilities would be given for study leave. Dr. D. G. THOMSON pointed to the example of the army and public health services in granting study leave, and said that the root of the difficulty in mental hospitals was under-staffing. Dr. R. H. COLE was inclined to regard the diploma for the time being as a highly specialized attainment, and one which ought not to be required unless it was clearly the intention of the candidate to remain permanently in medico-psychological work.

Women Assistant Medical Officers.

The question of the more frequent appointment of women assistant medical officers was raised by Dr. J. E. P. SHERA (Bath), who praised the capabilities of women, while pointing out certain administrative embarrassments. Dr. W. D. MOORE (Holloway Sanatorium) agreed that women officers were capable, well informed, and painstaking, though occasionally hasty in judgement and lacking in the sense of proportion. He doubted whether medical women considered mental hospital work a career. His own institution had had ten medical women as junior assistant medical officers during the last thirty years; seven of these had left to engage in other forms of work, apart altogether from mental hospitals, and two had resigned owing to ill health. Dr. BEDFORD PIERCE and others paid tributes to the value of the woman officer.

Visiting Specialists.

The advantages afforded to the staff, both in the way of practical help and moral stimulus, by visiting specialists, were instanced by Dr. R. WORTH (Wandsworth), and several medical superintendents gave particulars of the services given by specialists and the fees paid to them.

Classification of Patients.

Dr. R. C. TURNBULL (Severalls) introduced a discussion on this subject. He thought it a mistake to classify patients entirely according to their mental state. Classification was of chief importance with regard to recent cases. Each hospital should have small additional villas for recent cases which were restless and excited; also convalescent villas at a distance from the main hospital. Dr. DAVID RICE (Norwich) thought it desirable to concentrate on keeping one ward at as high a level as possible for recoverable cases. Intellectual and social considerations were important, and he would put a mild epileptic into a ward with recently admitted and recoverable cases if this seemed justifiable on the ground of behaviour and intelligence. The minimum classification for small hospitals was (1) recovering, (2) recoverable and "asylum sane," (3) epileptics and middle-grade chronic, (4) turbulent and lower-grade chronic, (5) infirm, (6) dysenteric and tuberculous. Dr. J. R. LORD said that at Horton the classification was into recoverable and non-recoverable types; it did not matter what the type of insanity was, if there was a chance of recovery the patient should be kept in the recoverable category. Dr. S. J. COLE did not agree with this segregation into recoverable and non-recoverable, and quoted the experience of the Psychiatric Research Institute in Germany to show that dissociation between clinics and asylums had been carried too far.

Dietary of Patients.

The subject of dietary was introduced by Dr. T. C. GRAVES (Birmingham), who pleaded for variety and for regard to the individual patient, especially his customary habit, active or sedentary. Dr. R. W. BRANTHWAITE, one of the Commissioners, said that, on his visits of inspection, in nearly all institutions he found the dietaries insufficient in fat-soluble A and water-soluble B. The food was reasonably varied, but more general use should be made of green vegetables and of flour which was not denuded of the grain embryo. Dr. W. F. MENZIES begged the Board of Control to represent to the Ministry of Health the undesirability of too much economy by local authorities in the provisioning of mental hospitals.

General Administration.

The Conference left much of its agenda unfinished owing to lack of time, and a scheme brought forward by Dr. J. R. LORD for effecting general improvements in lunacy administration was not discussed. His proposal, as briefly outlined to the Conference, was that the country should be divided into a few convenient areas, and that for each area there should be created by the Ministry of Health an advisory committee on mental hygiene composed of lay and medical members elected by each authority having charge of the insane. This body would advise the Board of Control and the local authorities on such matters as the prophylaxis of insanity, after-care of discharged patients, the provision of clinics, the training of staffs, the establishment of laboratories, and general administration of mental hospitals.

A communication from Dr. J. MIDDLEMASS (Sunderland) was read, pleading for the extension of the voluntary boarder system in county and borough hospitals, and arguing that this would facilitate early treatment, and also proper treatment, of cases in which there were recurring attacks with sane intervals.

The question of the nursing staff was not discussed at any length because certain negotiations are now proceeding. On another matter, the CHAIRMAN said that the Board had appointed a small committee to consider the revision of case-books and other records. In declaring the Conference at an end, he expressed a hope that such a conference might be a periodical, perhaps an annual, event.

THE WORK OF THE MEDICAL RESEARCH COUNCIL, 1920-21.

(*Concluded from page 111.*)

Problems of Child Life.

AN important part of the expenditure of the Council is devoted to an extensive scheme for the study at many centres of problems of child life; the practical object immediately in view is to secure knowledge, at present greatly lacking, which may be a sound guide to the conservation of healthy life in the child before and after birth. The account given in the report of these investigations is appropriately divided into two sections—pre-natal and post-natal studies. The minds required for the one section are not necessarily apt for the second; indeed, speaking generally, the obstetric pathologist excels in the ante-natal and the pediatric pathologist in the post-natal work. It is largely the result of the stimulus given to investigation by the Medical Research Council that we find such skilled obstetric and pediatric pathologists available to carry out these studies at the present time.

The report on the pre-natal studies is somewhat disappointingly promissory in character. Statements that certain pieces of work are ready for publication, are almost ready, have been reported on preliminarily, or are being carried forward, are not so attractive as definite information would be. An exception to this general character is found in the work from the Edinburgh Royal Maternity Hospital, where Dr. F. J. Browne has published two important articles, the one on the causes, pathology, and prevention of stillbirths, with full histological details, and the other on syphilis of the newly born; of the former a fairly full summary appeared in this JOURNAL, and the latter was published in the *Journal of Obstetrics and Gynaecology of the British Empire* in its summer number. From these published papers two conclusions can be drawn: the first is that syphilis is a remarkably frequent cause, not only of stillbirth, but also of early post-natal death; and the second that an extraordinary number of stillbirths fall within the hopeful purview of prevention by adequate ante-natal supervision. The researches on stillbirths by workers in Glasgow, London, Liverpool, Leeds, and Cardiff are all in a forward condition; and the Medical Research Council, anticipating difficulties in co-ordinating the results from these various centres, have appointed a small committee, consisting of Professor Noël Paton, Dr. Ballantyne, and Dr. Eardley Holland, to consider the arrangement of the records. Other subjects falling within the group of pre-natal studies are those dealing with problems of pregnancy and lactation; here again some very promising reports seem to be in preparation, and Drs. James Young and Douglas Miller of Edinburgh published last April in this JOURNAL an article on the etiology of eclampsia, in which great causal importance is ascribed to placental infarcts. Dr. J. A. Stephen of Aberdeen is at work on the pathological lesions underlying the commonly reported

deaths from "prematurity"; and by and by we shall have some light on the effect of social and industrial conditions during pregnancy, from the analysis of the data obtained at the various ante-natal clinics which are carefully filling in schedules.

The post-natal studies are in a more forward condition as regards publication than the pre-natal ones. Miss Gladys Hartwell has published the results of feeding lactating rats on excessive amounts of different proteins; the effect on the litter was bad. Five articles on metabolism in infants have been published by Dr. G. B. Fleming of Glasgow and Dr. J. A. Gardner of London dealing with the respiratory exchanges and with sterol metabolism respectively; and work on acidosis in atrophic infants done by Dr. Ruth Guy (of Johns Hopkins University) at the Royal Hospital for Sick Children, Glasgow, has also appeared. A most important conjoint investigation is in progress in connexion with the influence of various factors on nutrition and growth. It is being founded on the study of the schedules used at the Welfare Centres in Glasgow, Edinburgh, Dundee, and Rosyth; the medical officers of health of these towns have been appointed, along with Dr. Stephen of Aberdeen and Dr. Leonard Findlay, a subcommittee to direct and advise on the investigation of post-natal problems. Some of the results of the study of nutrition and economic conditions in Glasgow and Vienna have been published by Miss A. M. T. Tully, Miss Madge R. Gribbon, and by Miss Margaret H. Ferguson. Professor Noël Paton has continued his researches into the relation between the development of the testes and that of the thymus; and Dr. Dingwall Fordyce (now of Liverpool) has carried on his work on the thyroid function in sick children and the effect of thyroid treatment.

Dr. T. Y. Finlay's work on Pirquet's weight and stem length factor should yield useful guides in fixing the measure of normal nutrition at different ages. In all these directions there is plentiful evidence that much good work is being accomplished, and from the results which have already appeared its high value may be gauged. Whilst one would wish for more completed researches and fewer interim reports there can be no doubt that the Medical Research Council is wise in its policy of not attempting to press the research scholars into precipitate publication. Nothing can be less helpful to a piece of investigation than to fix a date for its compulsory termination. The Council is doing a great public service in this as in other respects.

Syphilis.

In the Department of Biochemistry and Pharmacology at the National Institute for Medical Research the routine testing of salvarsan preparations for purity has been continued under the general direction of Dr. Dale. Dr. Burn, Miss Durham and Miss Marchal, members of the staff of the department, have been making a series of estimations of the comparative therapeutic activities of the different salvarsan preparations, and clinical comparisons now being made by Major C. J. White may be expected to show whether the determination of the curative action of salvarsan preparations on mice infected with trypanosomes will furnish an accurate index of the therapeutic value of the preparation in human syphilis. If so it may be possible in due course to add a test for therapeutic efficacy to that which is now made to ensure freedom from abnormal toxicity.

At Oxford Professor Dreyer and Dr. H. K. Ward have devised a new and simple diagnostic test for syphilis, based on the well-known Sachs-Georgi reaction, but differing in the employment of a more stable form of antigen, the sensitiveness of which can be standardized. This new "Sigma test" is quantitative, so that its results can be expressed in standard units. This quantitative element, together with the fact that "complement" and red blood corpuscles, which cause so much trouble in the Wassermann test, are eliminated, offers considerable advantages. The new test has been compared with the Wassermann in a long series of cases, and is claimed to be of at least equal diagnostic value. It is intended to arrange an extensive comparative trial of the two tests in a series of cases in different stages of the disease.

Industrial Medicine.

For the financial reasons stated in our first notice of the Medical Research Council's Report (January 14th, p. 76), it was necessary to reorganize the Industrial Fatigue Research Board. The instruction under which the Board now works is to promote investigation into "the relations of hours of labour and of other conditions of employment, including methods of work, to functions of the human body, having regard both to the preservation of health among the workers and to industrial efficiency; and to advise the Council upon the best means for securing the fullest application of the results of this research work to the needs of industry." Inquiries are now in progress by a number of investigators at different centres into the effects of high temperature, humidity, air movements, and weight-lifting in several industries, including the pottery trade, the cotton industry, linen weaving, and boot and shoe factories. At Glasgow Professor E. P. Cathcart, with the whole-time assistance of Miss E. Bedale, is studying the efficiency of different muscles with special reference to the muscles of women. The services of Miss May Smith, who formerly worked at Oxford with Professor William McDougall on alcohol, have been secured for an investigation of fatigue amongst women workers in laundries, having special reference to arrangement and length of hours, functional periodicity, and general conditions. A committee on the physiology of muscular work has had before it data collected by Dr. H. M. Vernon of temperature, humidity, and other atmospheric conditions in the pottery trade, and by Mr. S. Wyatt of output as correlated with temperature, air movement, and other atmospheric conditions in cotton and flax-weaving factories, special attention being given to questions of ventilation as affecting health and efficiency. The same committee has been considering the report by Professor A. D. Waller and Miss G. de Decker, who receive a grant from the Council, on the physiological effects of muscular work measured by the exhalation of carbon dioxide. The results have been published by these authors in the BRITISH MEDICAL JOURNAL.

Worms and Mites in Cornish Miners.

In 1902 Haldane and Boycott found that ankylostomiasis was rife in certain Cornish tin mines, and that in particular the underground workers in the Dolcoath mine were heavily and generally infected. Seven years later Dr. Boycott reported that in spite of the introduction of sanitary measures there was little diminution in the incidence of the infection. Owing to the difficulty of securing samples from the underground workers Dr. Boycott had found it desirable to rely on the occurrence of eosinophilia as a more readily applicable method of diagnosis. He held that when eosinophilia exceeded 8 per cent. this might be attributed to *ankylostoma* infections. During the summer of 1920 Dr. R. T. Leiper, of the London School of Tropical Medicine, was commissioned by the Council to investigate the present position, with the assistance of Dr. M. Khalil and Mrs. F. E. Philpot, M.Sc. Dr. Leiper found that a remarkable change had taken place since 1909; of 116 underground workers examined only eight exhibited hookworm ova, and of these only two came from the Dolcoath mine. In one other mine, however, six infected men were found among twenty-two underground workers, but the inquiries here could not be continued as the mine was flooded. Dr. Leiper found that eosinophilia up to 29 per cent. occurred in cases where no *ankylostoma* infection could be detected, but in which other parasitic worms were present.

"Of the total of 130 persons examined, including 14 outside workers at the Dolcoath Mine, 14.6 per cent. harboured *Ascaris lumbricoides*, 14.2 per cent. *Trichocephalus*, 2.3 per cent. *Oxyuris vermicularis*, and 5.4 per cent. *Strongyloides intestinalis*, while in 12 persons—that is, 9.2 per cent.—were found the eggs of mites. These last were determined by Mr. Stanley Hirst, of the British Museum (Natural History), as belonging to *Aleurobius farinae*, and to species of *Glycyphagus*. These mites commonly occur in wheat, cheese, sugar, and the like, and apparently gain entrance to the body as contamination of food. The adult forms are killed in their passage through the alimentary canal, but the eggs survive and are able to continue their development after leaving the body. As species of *Glycyphagus* give rise to various skin lesions, among which 'grocers' itch' is the best known, it was thought that some etiological association might be found with the 'bunches' or boils which occur in Cornish miners and are attributed to skin infection with hookworm larvae. Experimental efforts to establish this, however, failed."

With material from the hookworm cases Dr. Khalil, working in London, discovered that in fluid media the larvae always moved towards a source of heat. This observation appears to afford a rational explanation for the penetration of the human skin by hookworm larvae, and is not unlikely to provide a simple and good method for the laboratory detection of the larvae of all nematode worms which pierce the skin.

British Medical Journal.

SATURDAY, JANUARY 28TH, 1922.

THE WELFARE WORKER IN FACTORIES AND WORKSHOPS.

Of welfare workers there are several kinds. The variety with which a report issued recently by the Joint University Council for Social Studies is concerned, is the welfare worker employed in factories and workshops. The report begins by pointing out that, although a few well-known firms had appointed welfare workers before the war, especially where many women were employed, it was not until the advent of the Ministry of Munitions that any great development took place. The Health of Munition Workers Committee was set up in September, 1915. The appointment of a welfare supervisor was made obligatory in all national factories, and was pressed by the Ministry on all controlled munition works. The chief difficulty was to find an adequate supply of trained men and women; and the Welfare Department of the Ministry of Munitions endeavoured to assist employers and managers by providing a panel of selected persons. In 1917 a report was issued on courses of training for welfare workers, which forms the basis of the present report. In 1918 a Final Report of the Health of Munition Workers Committee emphasized further the importance of university training for welfare work.

The Home Office has defined welfare work as "the provision by the management for the workers of the best conditions of employment . . . including everything which bears on the health, safety, and general well-being and efficiency of the worker, while avoiding any interference with his private affairs." To the welfare worker, says the present report, is delegated some part of the function of management; and these definite duties, giving him a recognized place in the internal economy of the factory, form the point of contact between him and the management on the one hand and the workers on the other. Under his supervision come canteens, recreational and educational schemes, medical departments, employment departments, and thrift societies. The isolation of management from workers, which is practically inevitable in large-scale production, is being met by the machinery of the works committees; but the setting up of a works committee does not, says the Committee, solve the problem completely. The whole body of workers must take an interest in its proceedings; a joint committee of the Woolwich Trades and Labour Council and the Woolwich Labour Party states that "Welfare schemes and supervisors must be under a democratic system of control, in which the workers shall have equal participation with the employer." The Joint University Council for Social Studies set out to "equip men and women for posts requiring a wide outlook and some understanding of social theory." The students are divided into three classes: (*a*) the graduate; (*b*) the experienced worker with little or no previous academic training; (*c*) students, matriculated or otherwise, desiring to train for some career for which, given other qualifications, a university degree, though desirable is not necessary—for example, the welfare worker.

The course of training proposed, except in the case of graduates, covers full-time work for two years. The first year is to be devoted to general social study, the second to specialized training. The curriculum includes industrial and social history, economics, social and political philosophy, health and hygiene, psychology, the outlines of central and local government, elementary statistics, industrial law, business organization, and industrial structure and problems. First-aid training is not considered a proper or possible part of the university course, but it is considered desirable that a certificate should be obtained from another source. The course includes actual participation, under supervision, in various social activities which will "give the candidate some first-hand acquaintance with working-class life." This may be obtained partly by working as an operative in a factory (though exclusive training in factory life is deprecated), and partly by residence in a settlement in a working-class neighbourhood. One member of the Committee felt strongly that every candidate for training should have practical experience in a factory for at least six months or a year, and that this should entail residence in a working-class family, the student supporting herself on her wages. The practical side of the training is to include administration in connexion with health, housing, employment and unemployment, education (adult and continuation), administration of justice, juvenile organizations, and after-care.

From this description of the proposed curriculum it may be gathered that the ideal welfare worker will be a veritable Admirable Crichton in social studies. Knowledge, even in small quantities, is not dangerous provided it is not ill-applied. But it is possible that knowledge, which might be perfectly safe in the hands of the distinguished head of the Ratan Tata Department of Social Science and Administration, might not always be wisely applied by an enthusiastic young welfare worker of two years' university training. No doubt it is essential that the welfare worker should be well-educated and broad-minded, since there is evidence in the report that the post is one needing infinite tact. The most illuminating part of the report is to be found in the appendix, which consists of a memorandum on welfare workers prepared by a joint committee of the Woolwich Trades and Labour Council and the Woolwich Labour Party. The welfare worker in a factory is appointed by the employer. The Home Office defines welfare work as the "provision by the management" of the best conditions of employment. The report of the Joint University Council says, "to the welfare worker is delegated some portion of the function of management." The Labour Party has not yet got over its suspicions of the employer. Hence probably the first condition in the Woolwich memorandum that "welfare supervision must aim primarily at promoting the welfare of the workers, and not at increasing the workers' output."

It is unnecessary to go through the other conditions in the memorandum, involving "democratic control," recognition of trade unions, appointment of welfare workers from amongst the workers, "knowledge of trade union aims and methods," and so on. It is sufficient to draw the inference that highly trained welfare workers paid by the employer are likely to need a great deal of tact, whatever may be their knowledge of social and political philosophy and history. On the employer's side also the university-trained worker will need to walk warily. Excessive zeal in scrapping some sanitary arrangement which does not come up to the particular standard favoured by the university professor may involve the employer in an expense he may not be willing or able to face. Again, there exists already an official charged with certain medical duties in connexion with factories—the certifying factory surgeon. We hope the curriculum of the Joint University Council will include some instruction on the relation of the welfare worker to this medical officer. Lastly, though the Woolwich memorandum suggests that there should be the "maximum of

efficient co-operation between local welfare schemes and the municipality, especially with regard to health, housing, transit, and recreation," it would probably be advisable for the welfare worker to refrain from carrying his beneficent work into the home of the worker.

For the moment the development of the activities of the welfare worker in factories and workshops may seem remote from the work of the ordinary medical practitioner. But although in some directions, such as education, employment, and thrift, the functions of the welfare worker may seem quite apart from medical matters, his or her main duties will be concerned with health. In view of the universal demand for improvement in the health of the community, it is the duty of the medical profession to assert its right to the position to which the training of its members entitles it. The fact that a new form of health worker is being evolved should arouse in medical men more than a passing interest in the report of the Joint University Council.

The first curious fact to be noted is that in a council of thirty-two men and women concerned with university courses in social studies for health workers only two members belong to the medical profession—Dr. Janet Lane-Claypon and Sir Cooper Perry, the latter a co-opted member. Even more surprising is the fact that amongst the twenty members of the committee which made recommendations on a syllabus which includes the subjects of health and hygiene, and psychology, there was not a single medical member. The committee was formed of various distinguished professors of economics and social science, a few manufacturers, some representatives of welfare societies, and one or two Government officials. Whether the Committee took any medical evidence does not appear, but even if it did, we venture to suggest that a committee constituted in the way described would have derived considerable advantage, in a matter which is largely one of health, from the presence of a member possessing medical knowledge. Of the value of educated lay opinion in these matters there can be no doubt, but a balanced judgement is more likely to be obtained when all the essential sides of a proposition are represented. The name of the committee appointed by the Ministry of Munitions, the "Health of Munition Workers Committee," is sufficient evidence that the functions of the welfare workers are largely concerned with health. Moreover, the subject of industrial medicine has developed greatly since the war, and proposals have even been made for the employment of whole-time or part-time medical officers in factories in order to prevent the dissipation of energy by fatigue or ill health.

Whether the Joint University Council's vision of a welfare worker who stands between employer and employed on all sorts of questions materializes or not, we are inclined to think that the relation of this individual to the medical profession will sooner or later become of importance. In the meantime the suggestion has been made in some quarters that many of the proposed functions of the welfare worker can be dealt with better by means of works committees, whereon the employer and the employed can discuss broad questions of welfare and management. The position of a highly trained university welfare worker whose allegiance must be to those who employ him, while he is supposed to represent the grievances and difficulties of the employed, can hardly prove satisfactory. In any case we cannot too strongly insist that so far as health and sanitation go, it is to a medical officer of some kind that the management should look for advice, and not to a welfare worker, however intensive his training. This does not preclude the use of suitable women to supervise the girls employed in factories. Nor does it prevent such matters as recreation and thrift being dealt with by committees of the workpeople themselves, with the assistance of their employers. The British workman must be sadly devoid of initiative and energy if, with suitable works committees, he is unable to develop methods for providing himself with many of the facilities set forth as coming under the supervision of the welfare worker.

INFLUENZA.

LATE last week the Ministry of Health issued to the press a summary of the information then available with regard to the prevalence of influenza, a statement most of our readers will have seen in the daily papers. Owing to the fact that the mortality figures of the great towns are not available before we go to press, comments on the epidemiological position necessarily refer to data nearly a fortnight old when the JOURNAL is published, but it will be of some interest to notice such features of the epidemic as had been recorded down to the time of writing.

The Ministry of Health expressed the opinion that, in London, the wave was probably at or near its maximum. The purely statistical evidence, imperfect as this is, supports the conclusion. Deaths in London ascribed to influenza in the four weeks from that ending on December 24th numbered 54, 151, 354, 551. If we apply a method by means of which Farr attempted (with some success) to predict the course of epidemics, and determine the constants of the curve of the particular type he sometimes used[1] so as to make it pass close to the four observations, this curve gives 54, 238, 342, 557, as "calculated" values for the weeks in question, 14 for the week ending December 17th, and 678, 616, 417, and 211 for the weeks ending January 21st, January 28th, February 4th, and February 11th. Upon this hypothesis the maximum would occur in the week ending January 21st. But it is evident that the hypothesis is incorrect and probable that it exaggerates the mortality to be expected. This is confirmed by the actual figure for the week—443.

This particular curve is symmetrical, and our experience of influenza is that the epidemic declines more slowly than it rises. A comparison of computed with actual values shows that, to force events into the required shape, the earlier part of the curve must be exaggerated so as to reach 238 "calculated" at the point when only 151 were actually "observed."

Passing from the imperfect statistical information—imperfect because even *complete* mortality returns are not a satisfactory basis on which to discuss prevalence and the allocation of causes of death can never be scientifically complete—we gather that in hospitals and other institutions in London admissions on account of influenza are decidedly decreasing, an observation which is also favourable to the view that the crest of the wave has been reached.

The Ministry of Health pointed out that the age distribution of deaths in the present recrudescence differed from that of the great pandemic. The relative excess of the oldest age groups which the Ministry noted in the London figures for the week ending January 14th is present, although less emphasized, in the statistics of the 105 great towns where the proportion of deaths at ages over 65 has been rising for three weeks and is now nearly 30 per cent., as compared with less than 10 per cent. in the 1918–19 pandemic. The proportion is indeed very nearly as great as in London in 1891. There is some indication that in the other great towns the proportion of deaths under 5 is appreciably higher than in London. It would be interesting to learn whether any relation exists between a high rate of mortality in childhood (mere returns of deaths at ages without a record of the age distribution of the population at risk are uncertain guides) and the state of nutrition. No doubt the privations imposed by the present condition of

[1] See Farr's *Vital Statistics*, edited by Humphreys, p. 318

trade have varied in severity in different districts, and the relief allowances made by different localities vary.

We have little to add to the information respecting prevalence abroad contained in the Ministry of Health's statement, but we notice in a South German newspaper a telegram, dated January 17th, from Stockholm, asserting that nearly half the inhabitants are more or less stricken by influenza. An earlier telegram in the same journal implied that the numbers of patients removed to hospital in Berlin were beginning to decline at the end of December, while, to judge from local messages, the epidemic was in full progress in the south.

We think there can be no doubt that in this country the disease is generally of a milder type than that which characterized the two later phases of the pandemic of 1918–19. Although it cannot be said that any signs or symptoms have been recorded so far which had not been observed previously, the proportional frequency of particular types is different. Non-catarrhal forms, with a dry and irritating cough, and gastro-intestinal types, sometimes simulating appendicitis, have been more frequent, and the "heliotrope cyanosis" has been much rarer. A good many observers have noted "rashes," in some cases like that of scarlet fever, and lumbago is often mentioned as an early and distressing symptom.

Neither in respect of treatment nor prophylaxis has anything been added to our knowledge within the last few years; the measures recommended in the Ministry's circular, and employed on previous occasions, are still our best means. There is, we believe, a general impression among competent observers, that insufflation of a permanganate solution in normal saline is a much more useful prophylactic than gargling the throat.

On the whole, we see no reason to modify the opinion we expressed a fortnight ago—that this recrudescence is unlikely to attain the dimensions of the third wave of 1918–19, and will be more on the scale of the post-pandemic prevalences of the nineties. We repeat, however, our warning that influenza is terrible on the rebound. What we should like to believe is that the prevalence in the London schools, mentioned in the Ministry's circular, which was noticed towards the end of November and left little trace on the mortality records, was the first wave, and that the present is itself the rebound. But obviously this would not account for the wide dissemination of the disease throughout England. So there remains the small—as we hope and believe, the very small—chance, that after a temporary decline another wave may quickly develop. In our opinion this is an improbable contingency, and we think that the official statement of the case upon which we have commented very justly describes the actual position—namely, that we are experiencing a somewhat severe example of the secondary epidemics which follow in the track of such world storms as shook us in 1918–19.

ART AND MEDICAL SCIENCE.

BERLIOZ—one of the most daring musical minds of his time—was intended by an unimaginative father for the medical profession. There is an apocryphal story that the young man got as far as the dissecting room, and was so horrified at the sight that he incontinently fled and could by no means ever be persuaded to embark on a medical career. Yet if he had, he might have been a happier man, for he would have passed through the fires of self-discipline, and would not have remained, as he did, a moth continually scorching his wings in the flame of life; he would have had the wide experience that was necessary to steady his vision.

It may perhaps be said that it was fortunate that Berlioz abandoned a medical career, for the world might have lost a great artist. This is not really to the point, for it is certain that he could never have become wholly a doctor. He was temperamentally an artist, and artistic expression was absolutely necessary for his very existence. But it is more than probable that the breadth and stability conferred by a medical education would have helped him better to order his imagination, and conduct his life and work.

There are some artists who, along with the artistic temperament, possess an inherently stable intellect which remains unshaken by the emotional storms that are for ever occurring on the sea of creative energy. Others have not this mental strength, and are at the mercy of external suggestion and chance impulses; they are driven hither and thither by the winds that buffet them. Among musicians Wagner, who harnessed his forces, was of the former type; of the latter was Berlioz, who was their slave.

A scientific training may be very beneficial to an artistic mind by keeping it in contact with the realities, out of which science and art spring. For the measure of the difference between these two great sources of human activity is the divergence in their respective interpretations of natural phenomena. This would be hotly denied by the apostles of unreality and unnaturalness, who have of late occupied the foreground of the transformation scene of art, but who are now receding into their proper place. For them art in relation to natural phenomena is played out, and progress lies along the warped way of the grotesque and pathological. We have suffered them long enough. "Their lean and flashy songs grate on their scrannel pipes of wretched straw." The function of the artist is to transfigure, not to distort. To this end science—and especially medical science—may lend him grace. Conversely, it may be held that the possession of artistic susceptibility is inimical to the pursuit of medicine. It may be; but only if uncontrolled. If it is allowed to wander freely and to mix and mingle with the stream of scientific thought, it may become a source of danger. But, kept apart and used on its rightful occasions, it is leaven to the mind.

Mr. Edmund Gosse, in a recent review of the life and work of Mark Akenside, poet and physician, said that he always suspects a doctor of having a half-finished sonnet in his pocket. A pleasant exaggeration, and perhaps a sly dig. Nevertheless, there is no reason why a medical man's work should suffer because his consciousness is occasionally occupied by artistic thoughts. His subconscious thinking continues at least as effectively as if he spent his leisure in any other way. There are some grounds for saying that the practice of medicine is becoming more and more a science and less and less an art. The clinician turns perhaps a little too readily to the laboratory for the solution of his problems, and, when the two differ, it is not always the clinician who is wrong. The rise of the scientific spirit in medicine is one of mankind's finest achievements in progress; no man can foretell what will be the outcome of its growth. But, as long as individual idiosyncrasy exists, the application of scientific methods and results to the human body will continue to be something of an art; demanding, like the other arts, accurate observation, swift intuition, and a catholic understanding.

TESTS FOR COLOUR BLINDNESS IN SEAMEN.

UNTIL comparatively recently candidates for certificates as mates and masters in the mercantile marine, and men working on the railways, were examined for colour blindness by means of pigments of different colours. In the sea service Holmgren's wools were employed, in the railway service the men were asked to distinguish between the colours of dots on a white card. The dot test was employed until quite recently upon the Great Western Railway, and may even now be in use. The North-Western and other railways have for some

years given up pigment tests and used an efficient lantern. The Board of Trade not only prescribed Holmgren's wool test for the examination of officers in the marine, but they also laid down the rule that candidates were not to be asked to name colours, but were to match skeins of wool with three standard, so-called confusion colours. Dr. Edridge-Green and others pointed out that these methods of testing were open to grave objection, in that many who were able to match the colours were in reality dangerously defective in colour perception, while others who failed were not colour blind at all, or at any rate not dangerously so. Dr. Edridge-Green also drew attention to the fact that by none of these tests were men eliminated for whom the red end of the spectrum was shortened. Such men—and there is no doubt that they exist—are unable to perceive a red light of low intensity which is plain to a normal individual. In other words, in a fog at sea they may fail to appreciate a red light which is obvious to the normal sighted. It is only necessary to allude to the fight, long and fierce, waged by Edridge-Green and his supporters with the Board of Trade. Step by step, in face of bitter opposition from officials, from physicists, and from some physiologists and ophthalmologists who might have been expected to know better, ground was gained, although the Board of Trade were supported by the Royal Society, till eventually a committee was formed to examine the whole question. As a result of its report, a lantern was used in the examination side by side with the now obsolete wools. The battle was all but won. The final victory coincided with the appointment of Dr. Edridge-Green as Adviser to the Board of Trade on colour vision and eyesight. Dr. Edridge-Green has just issued his report, which lies before us. It is agreed that anyone who can distinguish between red, green, and white lights at a distance of a mile has sufficiently good colour perception for navigation. Edridge-Green states that 25 per cent. of men have diminished colour perception, and that 5 per cent. will fail to differentiate red, green, and white lights, in a properly constructed lantern, or the actual lights themselves, at a distance of one mile. We gather that, in the opinion of Edridge-Green, men who fail with the lantern are to be held dangerous at sea, and those who pass the lantern test are safe, and this no matter what degree of abnormality in colour perception they may show with other tests. He says definitely that the possession of a sense of yellow is a sure indication of safe colour vision. There are many who will not agree with that portion of the report which deals with the Edridge-Green theory of colour blindness. In the main it may be true, but there are some anomalous cases which the theory fails to explain. As regards the tests we are on surer ground. The men have to name colours shown in a ship's sidelights or from shore lights. It is not part of their duties to match wools. Common sense demands that if the men have to distinguish lantern colours they shall be examined with a lantern. This will in future be done. The Board of Trade will come into line with the Royal Navy and the more enlightened railway companies, and will test its candidates for the work they have to do, and as far as possible under conditions similar to those which obtain at sea.

THE PLAGUE IN SHAKESPEARE'S LONDON.

IT is not always realized that there were several outbreaks of plague in London before the Great Plague of 1665, and that each of them in its turn was called great. The outbreaks of 1592–93 and 1603 were described by Dr. F. P. Wilson, lecturer in English at Oxford University, in an address to the History of Medicine Section of the Royal Society of Medicine on January 18th. Among other details he gave a list of the prophylactics which were recommended by the wiseacres of the time. These included the chewing of lemon rind, which it was suggested later in the discussion might have had a scientific basis, for the essential oils of lemon rind are antiseptic. Another procedure was to fumigate rooms by sprinkling vinegar on a red-hot brick; great faith was placed in peeled onions, the idea being that they would gather to themselves all the infection in the neighbourhood. Treacle was taken internally, and the smoking of tobacco was regarded by some as a rare antidote; others advised a more drastic safeguard in the shape of a draught composed of sack, salad oil, and gunpowder, which, by causing vomiting, expelled any incipient infection. By the writers of the period the plague was ascribed commonly to any of four causes. The first was supernatural, the outbreak being regarded as divine punishment for sin; the second was the corruption of the air. The author of *Timon of Athens*, whether Shakespeare or another, coupled these causes:

> When Jove
> Will o'er some high-viced city hang his poison
> In the sick air.

The third cause was planetary influences; in 1603, for example, astrologers noted that Saturn and Jupiter were in conjunction in Sagittarius. The fourth cause was derangement of the body humours, and treatment differed according to these humours; thus, the sanguine man was bled, and the choleric purged with rhubarb, but it was added that all treatment must be "under the direction of a learned and diligent physician, and not according to the fancy of foolish charwomen." As in many other cases, doctrines false in themselves resulted in excellent hygienic measures. Thus the idea that the air was corrupt caused certain sanitary precautions to be taken, and the idea that the plague was encouraged by body humours led to attention being paid to diet. The plague orders of 1603 showed that the dog was regarded as a carrier; it is an irony that suspicion should have fallen upon the enemy of the rat. The orders forbade the attendance of crowds at burials, fixed the fees of profiteering sextons, and warned the public against unsound food, especially tainted fish and musty corn. Before the sixteenth century there had been no attempt to isolate the infected, but in 1518 infected houses were ordered to be marked by a special sign, and by 1603 the sign was a red cross, and usually the inscription "Lord have mercy upon us!" was added. To this practice Shakespeare refers in *Love's Labour's Lost*. The plague of 1603 reached its height at the end of September, when 3,000 people died in London in a week. Unhappily, when the epidemic became really virulent, the populace got out of control, and the authorities had to sit with folded hands. Many magistrates and others left the town, as did a number of physicians, whose desertion earned the bitter comments of the satirists. But others stayed, including Dr. Thomas Lodge, who in 1603 wrote from Warwick Lane *A Treatise of the Plague, containing the Notes, Signs, and Accidents of the Same, with the certaine and absolute Cure of Feuers, Botches, and Carbuncles that reigne in these times . . .* In the brief discussion following the lecture Dr. F. G. Crookshank quoted from this book to show that even thus early the rat was linked with plague, for Lodge noted that before an outbreak rats, mice, and moles left their underground homes and died in large numbers. Dr. F. W. Cook suggested that the whole of the mortality in these plague years may not have been due to plague; possibly influenza, typhus, and later in the seventeenth century small-pox, took their toll.

MEDICAL MORTALITY IN AMERICA.

IT is estimated by the *Journal of the American Medical Association* that 2,343 medical practitioners died in the United States and Canada during 1921. This, on an estimate of a total of 160,000 practitioners in those countries, is equivalent to an annual death rate of 14.65 per 1,000. The age was stated in 2,118 cases; 29 were under 30, 160 between 31 and 40, 298 between 41 and 50, 409 between 51 and 60, 571 between 61 and 70, 393 between 71 and 80, 240 between 81 and 90, 17 between 91 and 100, and one lived to the age of 101. The greatest number of deaths for a given age occurred at 66, at which age 71 deaths were recorded. Of the 2,009 known causes of death 426 were from diseases of the heart and circulatory system, 128 were from carcinoma and sarcoma, 196 from cerebral haemorrhage, 167 from pneumonia, 79 from chronic nephritis, 47 from tuberculosis, and 32 from

appendicitis. Ninety-seven deaths were stated to be accidental; 41 were caused by automobile accidents, and of these 22 occurred at railway level crossings; firearm accidents accounted for 17 deaths, railway and tramway accidents for 14, and drowning for 6. Nineteen deaths were due to homicide, all caused by firearms, while, *horribile dictu*, one medical man was electrocuted on conviction of the murder of his wife. There were 69 medical deaths from suicide—29 by poison, 19 by firearms, 7 by jumping from high places, 5 by cutting instruments, 4 by drowning, 3 by asphyxiation, and 2 by strangulation.

MAN AND THE LOUSE.

IN his short monograph on *The Louse as a Menace to Man*,[1] issued by the Natural History Department of the British Museum, Dr. James Waterston gives a straightforward account of the life-histories of the three forms of lice which prey on man, and describes methods for their destruction. He insists that the essential factor in the spread of lice is a person who is already infested by the parasites, and, as a rule, transference to a clean person is effected by contact of a more or less direct kind. Contact has long been recognized as the determining condition of dissemination in the case of the crab-louse, but it is no less true of head and body lice, in regard to whose spread many misconceptions are prevalent among the lay population. The importance of close association between clean and infested persons in spreading these pests was abundantly demonstrated in the late war, when men were crowded for long periods in dug-outs and billets, or herded together in prison camps. The normal activity of both head and body lice is found to be greater than was commonly supposed, and this is responsible for their spread; but, in certain circumstances—temperature being the decisive condition—lice will leave their host without the stimulus afforded by contact with the fresh victim. Broadly speaking, says Dr. Waterston, body lice tend to leave a host whose temperature rises above, or falls below, the normal; they are stirred to activity by violent exercise on the part of their host, and in cases of fever will be found moving on the upper blankets. Similarly after the host's death lice appear, sometimes in enormous numbers, while the body is cooling and migrate to surrounding bodies. Typhus fever, relapsing fever, and trench fever are, of course, well known to be spread by lice, while *Bacillus pestis* has also been found in lice feeding on plague patients. There is no evidence, however, that lice are of importance in spreading this disease, although in Dr. Waterston's opinion there is reason to believe that they might on occasion do so. In regard to the destruction of lice, he recommends, for lice on the body, smearing the skin thickly with undiluted paraffin emulsion, followed by a hot bath and clean clothing. In cleansing the head he recommends paraffin oil (preferably) or its emulsion, rubbed in thoroughly, the head being afterwards swathed in a tightly wrapped towel for an hour. Mr. A. Bacot found wood tar oils effective. Mr. Burt Hamilton recently, however, pointed out in our columns that the one essential to safety in any mixture that is to be prescribed for home use is non-inflammability, owing to the ingrained carelessness of the class for which such treatment is usually required; he considered paraffin effective for institutional use, but refused to prescribe so dangerous a method for home use. The question of a suitable mixture for this purpose, which should be cheap, non-inflammable, and harmless to the skin and hair, is one which merits further study.

INDUSTRIAL FATIGUE AND MOTION STUDY.

IN Report No. 14 of the Industrial Fatigue Research Board Mr. Eric Farmer gives a critical summary of the chief observations made by Taylor, Gilbreth, and others on what is generally known as "Time and Motion Study," and the methods of industrial work which they instituted as the result of these observations. Taylor's main object was to obtain a better output from the worker, without much regard to his fatigue. In fact, he stated quite frankly that "all employees should bear in mind that each shop exists, first, last, and all the time, for the purpose of paying dividends to its owners." His method was to divide the work into its various elements and time them separately. The results were then summed and a certain percentage added for unavoidable delays. He chose his best workmen for time study, and induced them to work as fast as possible by increased remuneration. Finally, a standard "task" was set, which required the workman "to do between three and a half and four times as much work in a day as had been done in the past on an average." Gilbreth endeavoured to attain the same objects as Taylor—namely, the standardization of the human element in industry—but he not only standardized the time for doing a task, but the method of doing it. He took the time required by various expert workmen to perform the constituent parts of an industrial operation, and found that some men were quickest at one stage, others at another. He selected the quickest timings from the various men, and combined them to form a standard which represented the shortest possible time that the operation could be completed in. Hence Gilbreth regarded the quickest movement as the best, and he even goes so far as to say that in teaching a new movement speed must be insisted on from the very first. He regards it as more important to get speed than to get accuracy of movement or quality of work. His reason for adopting this point of view is that the path a movement follows is different when the movement is done quickly than when slowly. Mr. Farmer, in criticizing these methods, maintains that the quickest movement is by no means always the best for a worker to accustom himself to. Owing to its inherent difficulty it may cause too great a nervous strain and fatigue him unduly. He considers the underlying principle of motion study to be rhythm and not speed. The best set of movements is the easiest set and not the quickest set. The efforts of the investigator should be concentrated on increasing the ease with which an industrial operation can be performed, thereby lessening fatigue. He should not worry about increased production, though in actual practice it was found invariably that when a proper system was carried out the production went up. For instance, in sweet dipping, when an almond or other centre is placed in a basin of melted sugar and, after being coated, is placed on a tray, most of the workers performed the operation by moving the hand in straight lines first in one direction and then in another, but by getting them to move the hand in curves, without any sudden changes of direction, they performed the operation more smoothly and easily, and soon increased their output considerably. By the application of somewhat similar methods to the process of packing sweets in bottles the output was increased 50 per cent. When applied to the packing of chocolates in boxes it was increased 38 per cent. Even more striking results than these have been obtained by Mr. Farmer in a metal trade.

THE DETERMINATION OF SEX.

AT the Royal Society of Arts, on January 18th, Mr. Julian S. Huxley, M.A., of Oxford, read a paper on the biological theory of sex. After recalling some of the facts recently ascertained, he said that some twenty years ago American observers had noticed that the chromosomes of various insects differed in the two sexes, the male having one less than the female. Later work had shown that there was a similar sexual difference in the chromosomes of a large number of animals, and it was evident that sex control would be possible if any means could be discovered of influencing the behaviour of the chromosome by causing it more often than usual to stay in the egg and play a part in the embryo. In moths this had actually been achieved. It had yet to be explained, however, how variation in chromosome mechanism in the early stages of development was translated through complex processes into adult sex differences. He gave an account of some very interesting work, as yet unpublished, by Dr. Crew on fowls. It was established

[1] *The Louse as a Menace to Man.* By J. Waterston, B.D., D.Sc. London: Printed by order of the Trustees of the British Museum, and sold at the British Museum (Natural History), and by B. Quaritch, Ltd. and Dulau and Co., Ltd. 1921. (Demy 8vo, pp. 20; 4 figures. 6d.)

that changes in metabolism in the delicately adjusted internal environment of higher animals might produce profound alterations in sexual characters. It was possible that substances might be found whose injection, even into the adult organism, might bring about sex change. The only evidence that large changes in sex ratio might be brought about in man was afforded by the recent and as yet unconfirmed work of Siegel, based on statistics collected during the war concerning children conceived when their fathers were home on leave for short periods, and was held to show correlation between the probable sex of the offspring and the time during the menstrual cycle at which impregnation and fertilization occurred. It had to be remembered, of course, that very little certainty had yet been reached as to the exact time during that cycle at which the ovum was liberated. If these statistical results corresponded to reality, the way would be open to a large measure of human sex control, which, if not properly directed, might bring about the most revolutionary social changes. The lecturer touched on partial sex reversal, leading to the production of intersexes, usually referred to in medical literature as pseudo-hermaphrodites; he thought it probable that maladjusted sex factors might exist in man even as in moths. If human sexual abnormality were considered in the light of recent work on animals, there seemed to be a distinct theoretical possibility that cases of sexual perversion might be cured by injection or grafting of the proper reproductive organ, a procedure which was being tested in Germany. It was highly probable that human intersexes were neither male nor female, but definitely intermediate, and, if so, it must be wrong to assign a normal sex to them legally. Departures from sexual normality were visited with legal pains and moral censure, but if many who thus departed from the normal were simply in the grip of blind hereditary forces, it was clear that a new standard was needed to measure what was now called moral perversion. In conclusion, Mr. Huxley pleaded for a fuller appreciation of the science of pure biology. The tendency at present was for medical research to become more and more biological; but this might induce biology to become more and more medical, which he considered would be dangerous. The medical point of view must naturally be dominated by the study of human and mammalian physiology, while pure biology, busy with nature's myriad types, would be continually discovering more favourable material and new points of view. Dr. P. Chalmers Mitchell, F.R.S., secretary of the Zoological Society of London, who presided, said that in so fundamental a thing as sex, which went right back to the lowest organisms, he would be rather surprised to find different ways of determination. He thought it difficult to believe, for instance, that birds or moths determined through the female and mammals through the male. He would expect to find the same laws operating throughout the animal kingdom. It appeared that the primary distinction of sex was determined at fertilization, and the mechanism was adjusted so that under normal conditions there would be an equal proportion of males and females; although Mr. Huxley had shown that this ratio could be altered experimentally in certain cases, there was a very great difference between primary and secondary sexual characters. He hoped the audience would not go away with the idea that because certain discoveries had been made regarding moths, the world would be revolutionized or even that the criminal law would be amended.

THE HISTORY OF CHEMISTRY.

A GALLERY has been set apart at the Wellcome Historical Medical Museum to illustrate the history of chemistry, from the most primitive use of still and furnace to the exact and elaborate methods of the present day. It has been arranged in such a manner as not merely to interest or even instruct the casual visitor but to inspire the student, and to furnish, so far as this can be done by pictures, manuscripts, and models, a graphic outline of the progress of chemistry through the ages, not forgetting the cloud of magic and superstition out of which it emerged. On the pillars and frieze the student is reminded of the epochs into which the history of chemistry may be divided, the names of its pioneers, and the symbolism which has been employed by ancients and moderns. At one end of the gallery there is placarded the definition of chemistry which appears in Johnson's dictionary, and at the other the definition which appears in Murray's. The objects in the collection include examples of ancient glass apparatus employed by the alchemists; these include matrasses, cucurbits, alembics, and the like. A model of the alchemist's hearth, with its pewter and stoneware, has been installed, as well as the "aludel" of the sixteenth century, used for subliming sulphur or mercury, and, in curiously shaped bottles, specimens of the elements and their symbols as they were known at this period. A most interesting section illustrates the history of perfumes and aromatic substances. The curator has gathered together many specimens of the little containers in which, from Roman times onwards, mixtures of substances of powerful odour have been carried in the hope of warding off plague and other infections. In another cabinet there is a collection of the chemical substances known in ancient times, together with specimens of alkaloids, with the names of those who isolated them, and the date of their introduction so far as these can be ascertained. Other articles, in original or replica, have an interest on account of a particular individual; these include appliances used by Dalton and Faraday in their demonstrations, the pneumatic trough used by Priestley for collecting gases, a porcelain retort which belonged to Joseph Black the discoverer of carbonic acid, old books on chemistry which had been in the possession of the Boyle family, and documents in the handwriting of Caventou, one of the discoverers of quinine, and Labaraque, whose name is associated with the manufacture of sodium carbonate. On the walls of the gallery are carefully chosen pictures, in oil and water-colour, representing personalities and episodes of interest to chemists. Such primary figures are depicted as the Greek Hermes, the Arabian Rhazes, and the German Paracelsus, who insisted that the function of chemistry was not to make gold artificially, but to prepare medicines and substances useful to the arts. The various alchemical processes used in the search for the "philosopher's stone" are depicted on long scrolls by a fifteenth century draughtsman, and there are many paintings of the Dutch and Italian schools, whose artists appreciated the pictorial value of the alchemist in his laboratory, lighted by lurid flames and heaped up with strange accessories, though their rendering may not always have been quite faithful. One interesting portrait is that of Mayow, the father of pneumatic chemistry, who was originally a physician; the visitor is reminded in the same way of Lavoisier, and of Scheele, to whom we owe glycerin and prussic acid; of Dalton, Humphry Davy, and Liebig, and many others. The gallery is dominated by the statue of Joseph Priestley, the discoverer of oxygen and nitric and nitrous oxide.

A SURGICAL TOUR IN THE UNITED STATES AND CANADA.

WE are indebted to Lieut.-Colonel Henry Smith, C.I.E., who has recently retired from the Indian Medical Service, for the following note of his American tour. The Ohio State Medical Association asked me to address their annual meeting in May last, and arranged a tour for me over the North American continent to discuss and demonstrate the treatment of cataract. Though I was not in America on any official footing, the reception I met with was overwhelming. The American War Office put an aeroplane at my disposal, and my American friends arranged for me to see their President. Through the names of Dr. Vail of Cincinnati and of Dr. Meding of New York I wish to thank all those who co-operated with them in giving me hospitality and the opportunity of demonstrating intracapsular extraction of cataract. The arrangements made were perfect, and must have given those concerned an enormous amount of trouble. It was well known that I was not satisfied with the older operations for cataract and after cataract. The American

and Canadian surgeons wished to discuss these matters with me personally and informally in all their aspects. As I have had experience of every variety and every complication in quantity, I was able to give them definite opinions with my reasons for them. At first I was unwilling to operate as I had not my trained assistant, nor would the cases be under my care after operation. So much pressure was put upon me, however, that I consented. Many of the clinics had thus to be raised at short notice, but despite this the material put at my disposal was ample, the clinics ranging from 20 to 78 cataracts. Altogether I operated on over 500 cataracts together with many cases of other intraocular conditions requiring operation. A large proportion of these cases were complicated, and had been already turned down as inoperable—such as cataracts with the iris tied down to the lens all round, night blindness, choroidal degeneration, etc. These cases were much more interesting to the American surgeon than the normal cataract. They were second and third class risks, but I did not object to do them so long as the patient and his surgeon recognized the risks. With the experience I have had I was able to estimate the risks closely, and thus was able to operate with a small percentage of failures. In normal cases I had practically no failures. The American surgeon was interested to learn that cases complicated with night blindness were as good a surgical risk as any other. The cases which interested me most were those of cataract where the other eye had been operated on by the capsulotomy method; all left something—many of them much—to be desired. After seeing these I felt that I had previously been overestimating the merits of the capsulotomy method. From the magnitude of the cataract clinics raised for me at short notice one would think that cataract was prevalent in the United States of America as it is in the Punjab (78 cataracts in one day, for instance). This is not so; it is no more prevalent than in the British Isles. I doubt if America has ever before seen a clinic of 30 cataracts in one day. These clinics and the number who co-operated in raising them prove that the American is not satisfied with the results of the capsulotomy method. The American surgeon stands in the front rank of the surgeons of the world (and he finds that many cataract patients refuse capsulotomy operation because they do not think it worth while). He has no school. The world is his school. He is ready to scrap his machinery the moment he finds someone else has got better. The old world has to look to the new world for the spirit of advance. Another interesting advance was Dr. Lister's ophthalmic school in Chicago, of which I hope to write an account elsewhere. In conclusion, I cannot say how much I appreciate the reception given me by both the general and ophthalmic surgeon in the United States and Canada.

POST-GRADUATE INSTRUCTION IN LONDON.

To consider the needs for medical practitioners in South-West London for post-graduate instruction a committee has been formed of representatives of the Wandsworth Division of the British Medical Association, the South-West London Medical Society, and the medical staff of the Bolingbroke Hospital. Under the auspices of this committee a post-graduate association has been formed, and courses of instruction are being started in connexion with the Bolingbroke Hospital and the St. James's Municipal Hospital; the latter has 750 beds, and has now twelve consultants attached to it. It is intended that members of the South-West London Post-graduate Association should have facilities for attending the practice of those hospitals, and the inaugural address of the course will be delivered on Wednesday, February 1st, at 4.30 p.m., at St. James's Municipal Hospital, Ouseley Road, Balham, by Sir Almroth Wright, K.B.E., F.R.S. All medical practitioners in South-West London are invited to this inaugural meeting; tea will be served at 4 p.m. The idea of carrying on post-graduate instruction in a well equipped municipal (formerly Poor Law) hospital in a suburban district, linked up with a neighbouring general hospital, is an excellent one. The general practitioners in the district will find it very much easier to attend a post-graduate course that is brought, as it were, to their doors than to spend an hour or more getting to the hospital where the course is being conducted. Similar courses might well be started by the consultant staffs of municipal hospitals in other London suburban areas. The provision of post-graduate instruction in the heart of London continues to occupy the attention of other hospitals. During the past year the medical staff of the Central London Throat and Ear Hospital has introduced several new features into its course of instruction for post-graduate and senior students. In December last a special intensive course of eight lectures and demonstrations was given, and this was very largely attended. Another innovation has been the introduction of a consultation afternoon once a month; at these meetings cases are shown and discussed by the members of the staff.

SIR PATRICK MANSON.

A PORTRAIT of Sir Patrick Manson was unveiled on January 20th at the London School of Tropical Medicine by Sir James Michelli, C.M.G. The portrait was subscribed for by a large number of past and present students of the School and other friends of Sir Patrick Manson at home and abroad. It has been executed by Mr. E. Webster, and suitably reproduces the characteristic features and genial expression of the founder of the School. It has been hung in the vestibule, where it will be seen by everyone entering the building. Reproductions are being made by Mr. Malcolm Osborn and will soon be ready. Money has also been subscribed for a medal in recognition of Sir Patrick Manson's services as a clinician. It will bear a portrait of Sir Patrick by Mr. John Pinches, and will be awarded annually to those who distinguish themselves in clinical work. The presentation of the portrait was acknowledged by Sir Patrick Manson himself, and among those present at the ceremony were Admiral of the Fleet Sir Henry Jackson, G.C.B., F.R.S., Surgeon Rear Admiral Sir Percy Bassett-Smith, K.C.B., Major-General Sir William Leishman, K.C.M.G., F.R.S., Major-General Sir Thomas Yarr, K.C.M.G., Sir Leonard Rogers, C.I.E., F.R.S., Dr. J. B. Christopherson, C.B.E., Dr. Andrew Balfour, C.B., Dr. A. G. Bagshaw, C.M.G., Director of the Bureau of Tropical Diseases, and many members of the staff of the Tropical School.

INTERNATIONAL SOCIETY OF THE HISTORY OF MEDICINE.

A MEETING of the permanent committee of this society was held at the Faculty of Medicine in Paris on January 7th. Professor Menetrier (France) presided in the absence of Dr. Tricot-Royer (Belgium). There was a large attendance of delegates, including those from Belgium, Denmark, France, Great Britain, Holland, Norway, Poland, and Switzerland. The statutes of the society were considered and adopted. It was decided that the society should meet in congress in London on July 17th to 22nd next, and afterwards every three years in any town selected by the general assembly. The subscriptions for membership of the society, including the congress, were fixed at 40 francs; for membership of the congress in London only, 50 francs; and for students, associates, and relations of members, 10 francs. Subscriptions from countries other than France were to be paid in the equivalent value in the nation's coinage independently of the exchange. For England the subscriptions will be as follows: For members of the International Society, including annual subscription, £1 12s.; for members of the London Congress only, £2; and for associates, students, and relations of members, 8s. Members of the society and those joining for the congress will be entitled to receive a copy of *Liber Memorialis*, or volume of the proceedings, which will be published after the meeting. The forthcoming congress in London, the headquarters of which will be the Royal Society of Medicine, will, it is hoped, be interesting, and a large attendance is anticipated. Papers will be read on the history of medicine in all its branches. A programme of the meetings and entertainments connected with the congress will be issued shortly. All communications should be addressed to the general secretary, Dr. J. D. Rolleston, 21, Alexandria Mansions, King's Road, London, S.W.3.

Paris.

(From our Correspondent.)

FEE-PAYING HOSPITAL PATIENTS.

I HAVE already mentioned the revolution quietly brought about in the method of recruiting the medical staff of the Paris hospitals, but a movement even more revolutionary from the social point of view is going on in the method of recruiting hospital patients. Nothing is changed in the principle to which the hospital owes its name; the poor are still admitted as freely as ever, but our hospitals are no longer gratuitous. Strange abuses have come to light. In the consultations for minor ailments many persons have presented themselves, glad to benefit by the advice of a leading consultant, but disinclined to put themselves to the cost of even saying "Thank you." Others have unblushingly obtained admission to the surgical clinics or the maternity wards. This scandal at length caused the professional associations to take the matter up, and new regulations have now been made. Henceforth our hospitals are to be free only to patients found after inquiry to be really poor.

In practice, every patient who presents himself at an out-patient department is examined, and it is only on his second attendance that inquiry is made. This plan is followed in order that urgent cases may not be refused. The fee for consultation varies, but is never more than five francs. A hospital day brings in about twenty francs in the surgical department. This money is turned over to the funds of the Assistance Publique, and the medical staff receive nothing. Thus, our hospitals in Paris tend to become in part private hospitals at reduced prices, to the great advantage of a class otherwise too rich for the hospitals and too poor for the nursing homes. What, then, it will be asked, is the position of the medical staff? The *clientèle* they lose on the one side is not given back to them on any other; once again the medical man is to sacrifice himself for humanity, an attitude the nobility of which is recognized by everybody except the tax collector! Again, will not medical teaching suffer? The great specialist consultations, such as those at La Salpêtrière and at the St. Louis, live, so to say, on the immense number of patients who apply; from among them it is possible constantly to keep in touch with some that serve as illustration of a rare syndrome. Shall we not see this source dry up, and will not a number of interesting cases prefer private life to the payment of fees?

This same question arises in provincial towns where the medical staffs show a disposition to transform the hospitals into nursing homes, and where they do not pretend always to give their time, experience, and responsibility *gratis pro Deo*. It must be recognized that in this new after-the-war world actual pauperism is tending to disappear. It is only the disabled and the old who cannot make their own living. A good pair of arms is worth more than a diploma. Everything commands its price. The value of intellectual work only is at the lowest level. Thus, the discussion is carried on between those who look upon medicine as a priesthood and those who hold it to be an occupation by which a man may live.

The priest, it is said, lives by the altar, and there are many of us who ask if our scientific world does not push generosity to a point where the term ceases to be applicable. The example of Pasteur is typical, the commercial development of his discoveries would have endowed his institute more royally than could any Rockefeller. Fortunes have been built up by speculators who have exploited such disinterestedness. In France antidiphtherial serum is sold, on presentation of a medical prescription, by all pharmaceutical chemists, who keep it always in stock and sell it at cost price. In addition local authorities and hospitals supply it gratuitously. Is this a logical procedure? Should not Plutus be invited to recognize generously the value of the life of his child? On the other hand, it is true that we salute with enthusiastic esteem that apostle of antitoxic treatment, Dr. Roux, of whom it may truly be said that he made himself poor for us.

THE FEMINIST QUESTION.

The feminist question has come up again in connexion with the proposal to elect Madame Curie to the Academy of Medicine. It may be recalled that her candidature was turned down before the war by the Academy of Sciences. I ought, perhaps, to say that the Academy of Sciences is one of the five academies which constitute the Institute of France, while the Academy of Medicine is an independent society not attached to the Institute. It includes 100 titular members representing the medical and allied sciences; not all belong to the medical profession. The scientific fame of Madame Curie is such that an academy would honour itself by electing her. There is no objection, then, to her as an individual. It is simply the principle which is in question. There is no doubt that our academies will eventually open their doors to women, but the fruit is not yet ripe. It is a curious thing, but the only systematic opposition to Madame Curie that I have come across is on the part of a lady whose salon may be described as an antechamber of the Institute: "The election of Madame Curie would create a precedent of which Madame X. Y. Z. would take advantage to enter the Académie Française—and that would be scandalous." At the beginning of this letter I spoke of the revolution which has taken place in our minds after the war. As you may now see, I exaggerated!

Yet the times *are* new. The military school of public health in Paris has just opened its doors to civilian medical men and students; they may all make use of the library, museum, lectures, and laboratories. In order to obtain admission foreign medical practitioners must address a request to the Minister of War.

England and Wales.

MEMORIAL TO PROFESSOR DELÉPINE.

IT is proposed to place a bronze memorial tablet to Professor Sheridan Delépine in the Public Health Laboratory at Manchester, and old pupils and friends have been invited to subscribe sums not exceeding one guinea. In connexion with the matter a committee has been formed, including Sir Henry Miers, Vice-Chancellor of Manchester University; Sir Edward Donner, Dr. Niven, Medical Officer of Health of Manchester; Dr. Brindley, Dr. Slater, Mr. Heap, and Dr. Sidebotham. Contributions should be sent to Dr. E. J. Sidebotham, Public Health Laboratory, York Place, Manchester.

ROYAL SANITARY INSTITUTE.

The thirty-third congress and exhibition of the Royal Sanitary Institute will be held at Bournemouth from July 24th to 29th, under the presidency of the Right Hon. J. E. B. Seely, M.P. A preliminary public meeting to inaugurate the organization of the local arrangements was held at the Town Hall, Bournemouth, on January 12th. The introductory lecture to the spring courses of lectures will be delivered at the Institute, 19, Buckingham Palace Road, S.W., by Professor H. R. Kenwood, on January 30th, at 5.30 p.m. A course for sanitary officers will begin on February 1st, and will be in two parts, the fee for the complete course being 5 guineas. Practical training for meat and food inspectors will commence on February 10th, and will be held over two months, the fee, including lectures and demonstrations of Part II of the course for sanitary officers, being 5 guineas, or, without Part II, £4 14s. 6d. A course for women health visitors and child welfare workers will commence on February 3rd, and will be in line with the course of training which has been set out by the Board of Education. The fee for the complete course of lectures and demonstrations is 5 guineas. Forms of application and full particulars of the courses can be obtained from the secretary.

Scotland.

ABERDEEN MEDICO-CHIRURGICAL SOCIETY.

AT a meeting of the Aberdeen Medico-Chirurgical Society held on January 19th Dr. Scott Riddell, the President of the Society, made feeling reference to the deaths of Dr. G. M. Edmond and of Dr. W. R. Pirie. He said that during the last few weeks the hand of death had been laid very heavily on the society, and it was fitting that they should place on record their sense of personal loss and their deep regret at the passing of two of the senior members, Dr. George Maitland Edmond and Dr. William Rattray Pirie. The traditions of medical skill, of professional rectitude, and of devotion to the service of suffering humanity, had always stood high in Aberdeen, and these colleagues whom they

mourned nobly upheld these traditions. But the loss was more than personal to his colleagues; it was felt by the community, by the medical profession in the North of Scotland, and by past and present students of the medical school. Dr. Edmond and Dr. Pirie, as teachers of clinical medicine at the Aberdeen Royal Infirmary, had left their impress on a generation of its graduates, and their names would long be held in affectionate remembrance by many old students at home or abroad. "Our colleagues," Dr. Scott Riddell concluded, "have passed to their rest, full of years of honourable service. They were 'good and faithful servants' of the public and of the profession. 'Si monumentum requiris,' it will be found in the fragrant memories of their full and fruitful lives, which are enshrined in the hearts of many grateful patients and many sorrowing friends. The loss to the medical profession and the medical school is deplored by the members of this society, who had such ample opportunities of appreciating their professional skill, their devotion to duty, and their worth and worthiness as men."

Health of School Children in Glasgow.

In the annual report on the medical inspection and treatment of school children issued by the education authority of Glasgow, Dr. E. T. Roberts states that the statistics confirm the constant improvement in respect of cleanliness and skin conditions since the institution of medical inspection. An improvement in the clothing of the children was also noted, except in the case of footgear. The amount of treatment carried out in the authority's clinics during the year shows an increase in all departments except in that of diseases of the eye. The most striking growth, however, was less in the number of cases treated than in the number of attendances made by these cases. This increase was due to the additional days upon which attendance was possible, and to the improved organization for reporting attendances, absences, etc., between schools, clinics, and attendance officers. The number of ear cases was practically the same as for the previous year, but the number of attendances showed a large increase.

Ireland.

Memorial to Dr. James Little.

A bronze plaque bearing a portrait in bas-relief, the work of Mr. Oliver Sheppard, R.H.A., has been erected in the hall of the Royal College of Physicians, Kildare Street, Dublin, in memory of the late Dr. James Little, ex-President of the College, who died in December, 1916. The memorial was presented by the Fellows of the Royal College of Physicians of Ireland, and the ceremony of unveiling took place on January 17th, in the presence of a large and distinguished company, with the President of the College, Sir James Craig, in the chair. Dr. Walter G. Smith, in asking the College to accept the memorial of their ex-president, referred to his intimate association of fifty years with Dr. Little. He could never forget his unvarying kindness and his fostering help to the young aspirant in medicine. Dr. Little was born in Newry, and carried with him through life the impress of his northern nationality. Attracted by the lure of Dublin he forsook his country practice, and came up to town to try his fortune. His appointment as physician to the Adelaide Hospital laid the foundations of his future success. For sixteen years he was Regius Professor of Physic in the University of Dublin, and he was one of the founders of the Dublin (late Leinster) Branch of the British Medical Association. He was appointed Crown nominee on the General Medical Council, and for nineteen years he remained a member of the Council, in the proceedings of which he took a very active share. He was warmly attached to the Royal College of Physicians of Ireland, and received from it every possible token of honour or office. For two years he zealously and courteously filled the responsible and sometimes trying post of registrar of the College. He reigned as President for two years, and steered its course with unfailing dignity, generous hospitality, and consummate tact. He married at the age of 35 and had two sons and a daughter, who survive him. During a long and active life Dr. Little gained the esteem and affection of an immense circle of friends and patients, and his memory would ever be cherished by those who knew him. The Provost of Trinity spoke of the respect and esteem in which Trinity College had ever held its professor of physic, and said that Dr. Little was a good man as well as a great physician.

Correspondence.

CERTAIN ASPECTS OF PAIN.

Sir,—I read with much interest Dr. Henry Head's address on "Certain aspects of pain." Thirty years ago I published the records of my first attempts in the study of pain, Dr. Head following shortly after. He pursued his investigations by tracing the paths into the nerve trunks, spinal cord and brain, and we all admire the brilliant results he achieved. His address, however, reveals that he is not aware of the great progress that has been made in the study of the subject at the periphery, for I find in his paper all his references are based on cases recorded more than a quarter of a century ago.

Records made in the early stages of an investigation with imperfect methods should be discarded when the methods have improved, and the views based upon these imperfect records should be submitted to a rigorous re-examination.

It was in 1891 I discovered that cutaneous hyperalgesia was frequently present in disease of the viscera. At the time I vaguely realized that in this sign we had a valuable aid to diagnosis, and I have since then devoted a good deal of time to the subject. My methods of investigation at first were rather crude, but as years went on these improved, so that I was able to perceive that the matter was more complicated than it appeared at first. Thus there were different kinds of hyperalgesia. Two forms at least could be detected in the skin—a superficial and a deep. They were sometimes both present, and then the superficial lay within the wider-spaced deeper area. In many instances the areas were ill defined, the borders being in a continual state of fluctuation*—that is to say, one part when tested would be extremely sensitive, and a few minutes later it would be found no longer hypersensitive. This fluctuating region would be of a depth sometimes of 2 or 3 inches. Moreover, the size of the area was continually varying, and in some cases with the variation in the disease. Then other tissues besides the skin were found hyperaesthetic, such as the muscles and other subcutaneous tissues. Moreover, a sign often of greater help in diagnosis is the contraction of a few muscle fibres or of a portion of the abdominal muscle wall.

When Dr. Head put forth his views and described his "segmental" areas of cutaneous hyperalgesia, he was not aware of these varieties of hyperalgesia. One of the reasons that has hindered the use of this method of examination is because no one could detect areas such as Dr. Head described. We now realize that cutaneous hyperalgesia does not appear in "segmental bands."

It is a curious matter that no neurologist seems to have sufficiently recognized the great importance of the peripheral distribution of the nervous system or of the skin as a sense organ. For instance, though Dr. Head reckons to tell us the parts of the brain which the pain stimulus reaches, neither he nor any other neurologist can tell us the mechanism by which the stimulus of pain or any other cutaneous sensation passes through the epidermis to reach the nerves which convey the sensation to the brain!

Dr. Head refers to some who "have tried to maintain that the viscera are 'insensitive' and incapable of generating afferent impulses of this order." As I have repeatedly stated that the viscera are insensitive, I take it I am included under the "some." But Dr. Head does not comprehend what is meant. I have found by an enormous number of observations that the viscera are insensitive to mechanical stimuli; that is to say, the stimuli which, when applied to the skin, produce pain, heat, cold, touch, when applied to the viscera do not produce these sensations. I have cut the bowel and stitched it, and pricked and pinched the various abdominal organs in conscious subjects, and no sensation has been experienced. Yet I am well aware that pain can arise from the viscera.

There are two points of great importance that arise from these observations which Dr. Head has missed:

1. The regions of the body which respond to mechanical stimuli such as those described above are supplied with cerebro-spinal sensory nerves. The regions of the body which do not respond are not supplied with these nerves but only with the sympathetic or autonomic nerves.

* This condition of fluctuation is turning out to be a matter of considerable importance in the functioning of peripheral nerves, for we have found it in constant operation in the normal process of life. We can trace evidences of its presence in the central nervous system, and even in the mechanism regulating the heart beat. It seems to be a part of the vital process concerned in the activity of all structures concerned in the production and conduction of stimuli.

2. Pain when it arises in the viscera is due, not to mechanical stimuli, *but to a vital process.*

If the first of these points is correct it opens up a new field in neurology. While my researches support this view, I recognise the matter requires further investigation, and at St. Andrews Institute the whole subject is being reviewed.

In regard to the second point, that visceral pain is produced only by a vital process, we are dealing with the most important part of the subject. Dr. Head speaks of tension as the cause of pain. Now tension, in the ordinary acceptation of the term, is not a vital process. You can distend a hollow muscular organ and make it as "tense" as you like, but you will not produce pain *until you cause a contraction of the muscle fibres*—that is, until you produce a vital process adequate to cause pain. The most effective stimulus for muscle contraction is stretching of the muscle fibres. A full uterus or bladder does not cause pain until the muscle contracts. Stone in the bladder does not cause pain until the contraction of the emptying bladder is stimulated to severe contraction by the presence of the stone.

Dr. Head says, "Tension is the most effective stimulus to any hollow organ; . . . but the injection of even a small quantity of fluid" into the gall bladder "so as materially to raise the pressure, will cause a profound disturbance due to the afferent impulses so generated." He has entirely missed the point in this experiment. You can give a distending enema and raise the pressure, but no pain is produced till the muscle of the bowel contracts. It is the contraction of the wall of the gall bladder, that is, the vital process, which produces pain—not the mechanical raising of the pressure.

The recognition of the fact that pain, the various kinds of hyperalgesia, and the contraction of the muscles of the external body wall are reflexes produced by definite stimuli, and the co-relation of these symptoms with the disease process holds out the prospect for one of the greatest advances in diagnosis that medicine has witnessed.

Recognizing this fact, we are given a clear line to follow, but it must always be remembered that such an investigation requires an accuracy of observation which is rare in clinical medicine. One of the greatest obstacles to the progress of clinical medicine is the absence of accurate observation, or rather the failure to recognize the need for accurate observation, as is shown by Dr. Head when he refers to precise descriptions of accurate observations as "hair-splitting dialectics."—I am, etc.,

J. MACKENZIE.

The St. Andrews Institute for Clinical Research, St. Andrews, Fife, Jan. 12th.

TREATMENT OF CARCINOMA OF THE CERVIX.

SIR,—The object of my letter on this subject was to point out a serious error in Dr. Fletcher Shaw's paper and to suggest eclecticism in the operation, according to the situation and nature of the growth and the condition of the patient, as a possible means of improving the excellent final results given in Mr. Bonney's paper, which dealt with a series of 100 cases with a primary mortality of 20 per cent. I pointed out that this was about the same mortality as that of the chief foreign clinics—as given in Döderlein-Krönig's book on operative gynaecology, published last year (1921), the latest statistics available to me.

If Mr. Bonney has personally performed a second hundred operations and will give his results I shall be happy to quote them; but I do not think it is right to quote the results of the "last hundred" or the "last fifty" cases without knowing that the series was not selected, any more than it would be right to lower Dr. Shaw's 19 per cent. mortality by excluding his early cases, in which the mortality was higher.

Mr. Comyns Berkeley speaks of an absence of accuracy, responsibility, and courtesy in the critics of the results of Wertheim's operation. When a man without obvious cause uses intemperate language of this sort one naturally concludes that he has been touched on a sore spot. I wonder if Dr. McCann's and Dr. Shaw's allusion to the fallacy of the "operability rate" is responsible for this outburst. It is very difficult for an individual to give his "operability rate," though a *hospital* "operability rate" could be given. At the Middlesex Hospital it would include the cases in the special cancer wards. If the gynaecologists see cases in these wards, the cases should be included in determining the "operability rate."

But let us see what Mr. Berkeley's "operability rate" means. In 1916 (BRITISH MEDICAL JOURNAL) Berkeley and Bonney stated that they had operated on 100 cases. For the first 70 they stated that their operability rate was 62.5 per cent. For the remaining 30, owing to the increased number of advanced cases seen, they would not give their operability rate, but did not hesitate to apply the operability rate of 62.5 per cent. to the whole series. And now Mr. Bonney applies this operability rate to a further series—it is true he gives it as *63.5* per cent., but this is evidently a misprint—and says, "the 100 cases with which this paper is concerned represent, therefore, a selection out of 160 cases presenting themselves for treatment." This "inaccuracy" of Berkeley and Bonney is responsible for misleading even a gynaecologist, Mr. Forsdike, who alludes to an important point in his letter—namely, the deaths and disabilities of patients "explored" with a view to performing the extended abdominal hysterectomy.—I am, etc.,

London, W., Jan. 22nd. HERBERT R. SPENCER.

SIR,—Mr. Comyns Berkeley appears to revolve in a small circle, and when he comes to rest he may yet acquire that attitude of sweet reasonableness to enable him to comprehend the purport of my first letter.

He seems to forget that the extended abdominal operation for carcinoma of the cervix is practised by surgeons all over the world, and that the mortality of an operation which is accepted from time to time is not that of Smith and Jones working individually or conjointly, but the average mortality rate based on the mortality statistics of a large number of competent surgeons.

Wertheim in his 500 completed operations published more than ten years ago had 93 deaths (18.6 per cent.), which were distributed as follows:

In the first 100	30 deaths.
In the second 100	22 ,,
In the third 100	17 ,,
In the fourth 100	9 ,,
In the fifth 100	15 ,,
Total	93 ,,

Further, it will be seen that the mortality for the last 200 cases operated on *more than ten years ago* is 12 per cent., whereas Mr. Berkeley states "that the operative mortality for the last 200 operations conjointly performed by me and my colleague was 13.5 per cent." Although individual operators may from time to time be able to achieve a diminished mortality, which I have achieved in my own work, yet the mortality of the operation must be reckoned by the results obtained from a large number of competent operators, and for this reason I maintain that the mortality still remains at, roughly, 20 per cent.

This high rate can and will be reduced by better technique and by the exercise of judgement in the selection of cases. As the extent of the disease can often only be determined by abdominal exploration, this should be done in all cases which are otherwise suitable, and if the disease be found to be irremovable the operation should be abandoned and subsequent palliative treatment employed.

In conclusion, I would only remark that Mr. Berkeley's sense of humour is such that it causes him to laugh at the wrong time.—I am, etc.,

London, W., Jan. 22nd. F. J. MCCANN.

SUICIDE IN BORDERLAND CASES.

SIR,—With your permission I will briefly deal with a few only of the truly momentous questions arising from Dr. S. E. White's letter in the JOURNAL of January 14th (page 79).

First of all I express the following opinions: Melancholia is a functional disorder. Recovery from it takes place in course of time in practically all who are neither senile nor suffer from chronic disease. All at one stage or another of their illness are potential suicides.

Dr. White writes: "The success of treatment is to be measured by recoveries, not by a drastic system of repression." Those who commit suicide she must admit do not recover. What percentage of suicides does she consider legitimate and permissible under the system of care she advocates? And are the alternatives only her suicidal system and the so-called drastic system? Is there not a rational system? I will say nothing of the loss of valuable lives under the suicidal system, which she faces with brave unconcern, almost all of whom would have recovered under appropriate care, but I will add this from my own observation, that more than one of those who have been in some measure responsible

for such suicides have themselves afterwards broken down from distress resulting from the tragedy. I must apologize for calling her system "suicidal" for short, but no one will, I think, misunderstand what I mean.

Next, Dr. White has not grasped the essential difference between the natural depression, which is a reaction to an appropriate cause in the environment, let us call it melancholy, and melancholia, which is a morbid state, a disorder of the mind, which arises in the majority of cases from no known cause whatever, and the occurrence of which is a mystery even to the patient himself. As is well known, it is often rhythmical and periodic. It is true that in many cases some "slings and arrows" of ill-luck may have been the exciting cause of the attack, but true melancholia, once it has developed, continues independently of this cause, bears no relation either in intensity or duration to it, and it may be quite forgotten; further, the character of the depression is essentially different. It is, in Maudsley's words, a species of caricature of the natural phenomena.

Dr. White, having found that melancholia is natural melancholy, next proceeds to point out that in most cases suicide is no proof of mental aberration. By implication she appears to go much further. The worst cases, she says, may occur in persons with unclouded minds and with altruistic motives, and such acts of suicide may be regarded as heroic. The philosophy of suicide by sane persons is a very abstruse subject, but when we are dealing, not with the sane but with insane persons suffering from melancholia, our line of action, in my opinion, is a very direct and simple one—namely, to prevent it and earn the gratitude of the patient when he recovers.

Lastly, Dr. White wishes to do away with asylums, and to try the effect of hostels, apart from lunacy. There is nothing in the world to prevent the treating anywhere those who "do not need to be certified," but in the meantime what are we to do with those tens of thousands who do need certification? Asylums are necessary just as much as hospitals. Everyone will agree with her that hostels or homes are needed for the early treatment of mild and doubtfully uncertifiable cases of mental disorder. We are all everywhere doing what we can to obtain these. In Edinburgh over fifty beds are now available for this purpose, thanks to our system of lunacy laws; but unfortunately such treatment is open only to those who can afford to pay for it. But, whether treated in an asylum or a hostel or a home, the patient suffering from melancholia must be prevented from committing suicide, though, let us hope, not by the employment of methods that can be described as "drastic."—I am, etc.,

University of Edinburgh, Jan. 21st. GEORGE M. ROBERTSON.

SIR,—My own experience in over a quarter of a century of practice, many years of which have been given to dealing with nervous and borderland cases, leads me to agree entirely with Dr. G. M. Robertson's dictum as to every melancholic being a potential suicide. If the physician who has charge of such cases takes any other view, he will some day get a very rude awakening. It is questionable if almost any system of guarding other than that used in the condemned cell will entirely preclude the risk of suicide, but the "open door" treatment of such cases would inevitably lead to frequent suicide were the treatment carried out in a sanatorium such as advocated by Dr. White. To entirely prevent suicide in such cases is almost impossible.

I have known of a patient choking herself with a bread poultice, and being found dead by her husband's side in the morning, black in the face! I once had to go and cut down a lady—in rooms—who had "swung off" from the curtain pole during a moment's absence of her nurse. I recall another man who drove a three-inch metal pocket-knife handle and blade into his head through his temple with a lump of coal, during a similar very brief unguarded moment. This was in a nursing home, and the remarkable thing was that the patient, owing to the downward course of the knife, did himself no vital injury and made a perfect recovery.

In July, 1920, a patient I had been treating at a hydropathic came to bid me good-bye, and stated he was now quite well and very grateful and so on. He had been very depressed and peculiar. A few minutes later he went for a motor run with his wife, who drove, beside her husband, the nurse behind. He asked her to stop a moment by a beautiful stretch of the Tweed (where the water was deep). A minute later he was drowning before his wife's eyes, deliberately gulping water down to choke himself. He left me at 11 a.m. and by half-past two I saw him stiff and stark dragged out of the river. He had, we found, left his watch and chain, pocket book, and loose silver, and everything of the slightest value, locked up in a drawer in the hotel. This indicated Scottish frugalness perhaps, but more the deliberate and carefully concealed intention to do away with himself.

Such suicides can hardly be prevented in an institution even, certainly not in an open institution of the sanatorium type. The extreme resistive and almost certainly suicidal melancholic is best treated *with all precautions* in a proper institution—more so than almost any type of mental disease, because properly treated they almost invariably recover. Many such cases require forced feeding with mechanical restraint at the time.

Milder borderland cases where there may be no indication of but a possible suspicion of suicidal tendency can well be treated under private medical care without certificate, as advocated by Dr. G. M. Robertson in the *Times*, February 14th, 1920. Close association with a medical man whose sympathy the patient feels he has, will often be of the greatest help. The medical man, needless to say, requires to gain the patient's confidence and to acquire a certain personal dominance over him. This can hardly be gained over a large number of such patients. A few weeks ago an ex-soldier was admitted in a very unstable mental condition to a neurasthenic hospital in the vicinity of Bristol, with, of course, "the open door." About three days later he flung himself over the highest cliff in the Avon gorge and smashed himself almost to pieces. So much for cheerful sanatoria.—I am, etc.,

Clevedon, Somerset, Jan. 16th. THOMAS D. LUKE, M.D.

SIR,—In the JOURNAL of January 14th Dr. S. E. White gives some views on suicide in borderland cases. In my opinion, if a case is committed to an asylum, that is, if the mental condition of the patient is such that it is necessary, under the present conditions in this country, to commit him to an asylum, then, if the case is one of a suicidal nature, to avoid such a calamity and get the patient well is surely the aim and object of an institution. Such an institution which boasts of never having had a suicide for over thirty years shows that it is run exceedingly well.

It would appear from Dr. White's remarks that no effort is made in asylums to cure a patient. It is regretted if cases are sent to an asylum that are unsuitable, but surely the asylum authorities would immediately deal with such a case after a short period of observation, and discharge him. Obviously the success of any treatment is measured by recovery, but in order to get such a case as is under discussion back to normal it is necessary for the patient to remain alive.

Surrounding us at the present time are many causes for natural depression, but should we begin to view these natural causes of depression in such a morbid manner that our minds refuse to function normally on other matters and we become obsessed with a hopeless future and feel that our nearest and dearest would be better without us, then surely we have reached the stage when we can be regarded as slightly mentally unbalanced and requiring treatment.

Dr. White mentions cases having attempted suicide being admitted to an asylum on account of depression due altogether to natural causes. It is agreed that the depression may be due to natural causes, but once an individual carries his depression to such an extent that he wishes to take his life, then he is not meeting the natural causes of depression with normal behaviour. It is obvious that it is not possible to change the conditions under which most of our patients are living, and therefore this explanation is not a solution of the problem. It is agreed that the dread of being taken to an asylum is a very great factor in precipitating a crisis in suicidal borderland cases, but in the absence of suitable institutions it is absolutely essential in many instances to have patients certified in order to preserve their lives for future activities, and I contend that it is better to tide a man over a temporary breakdown by certifying him and sending him to an asylum than to allow the grave risk of his destroying himself and so defeating recovery and removing from his wife and family the hope of future support.

Suicides are far more frequently the termination of a deranged mind than the reverse. One comes across the patient who has worked himself very, very hard, and at the age of 45 to 50 has a severe breakdown and becomes temporarily very suicidal. This type of case generally suffers from an enormous exaggeration of minor facts, and will regard the termination of his existence as being the very best solution for his nearest and dearest. There is not the slightest sanity about such a train of thought. His relatives all love

him, and he is probably the best of husbands, fathers, or brothers, and it is their dearest wish that his life should be preserved and that he should be guarded against committing any injury to himself. This is one of the commonest types that one meets, and I think a large number of suicides we see in the daily papers would come under this heading. The suicide's clarity of vision is only for himself, and all his arguments and statements are quite easily broken down but not eradicated, at any rate for some time.

Suicide is not so common amongst women as amongst men. I think statistics show about three men to one woman as being the average. The commonest form of suicide in the male appears to be hanging, whereas in the female drowning seems to be the principal selection. The spring of the year, about May, is the period in which most suicides occur. This, no doubt, may have some connexion with sexual life increasing the mental depression.

In time we shall have proper institutions for the treatment of borderland cases; cases being admitted for a period in order that the physician may have a good opportunity of effecting a recovery before resorting to certification. It is hard to treat a man who imagines that he is a poached egg and wishes to sit down on a piece of toast and regards the physician who tries to dissuade him from such a belief as the fool of the party, side-by-side with a hard-worked depressed individual who has got a temporary mental breakdown and whose reasoning powers have not entirely left him and is willing to extend every possible help of which his tired mentality is capable towards assisting the physician in his recovery. Nevertheless, it is far better in every case not to take the risk of the patient losing his life, but to send him to an asylum under proper supervision, and in all probability as soon as he has recovered from his attack he will be the first to come and shake your hand and thank you for having acted so wisely.—I am, etc.,

P. G. PHILLIPS.

Ministry of Pensions Neurological Hospital, Oulton Hall, near Leeds, Jan. 17th.

MENTAL HOSPITALS.

SIR,—The plan now being advocated by the Mental Hospitals Association—namely, to set apart seven or eight asylums for voluntary boarders only, as described in the pamphlet just issued—can but result in these particular institutions being stepping-stones to certification, more especially as the treatment will be similar to that given to lunatics.

This was the method adopted during the war as a response to the outcry that the soldiers should not be certified before being given every facility for getting well first. The arrangement did not prove satisfactory, as it has resulted in the number of soldiers certified going up 300 per cent. since 1919.

The atmosphere and traditions of an asylum cannot be wiped out by merely calling a patient a voluntary boarder and the group of buildings a mental hospital. The voluntary boarder will still be held in the meshes of the lunacy administration. Any desire to leave the institution is likely to be met with certification, which often occurs under present conditions. The word "voluntary" becomes meaningless. The medical superintendent can always take it upon himself to say that the patient is not fit to go out. We do not want to perpetuate the system that has worked so disastrously with the soldiers.

There are, according to the pamphlet, 18,000 vacant places in the asylums. How is this? Have they been vacated, as in war time, by overcrowding elsewhere; or by increase in the mortality rate—already far too high? The real, crying need is for hostels—free from all stigma, from all association with lunacy administration—where a large percentage of cures is aimed at, where every effort will be made to stay the patient from becoming a permanent charge on the country. This scheme will obviously lead to great saving of expense.

The pamphlet asks for legislation. None is necessary for hostels without detention. This was emphasized specially in the memorial presented to the health authorities in July, 1914.—I am, etc.,

OCTAVIA LEWIN.

London, W., Jan. 23rd.

BIOLOGICAL EFFECTS OF X RAYS.

SIR,—I have read Dr. Curtis Webb's notes of a visit to Erlangen with much interest. Under biological considerations he refers to a theory evolved by Dr. W. J. Turrell of Oxford to account for the observed effects of *x* and gamma radiations.

It has been shown by several observers that a cell whilst undergoing mitosis is especially vulnerable to these radiations. Starting from this fact, he says: "the essence of reproductive power is in the chromatin, and hard rays poison chromatin, acting probably by a process of oxidation or reduction, so setting free a ferment or toxin." Having thus obtained a mythical toxin from the action of radiations on chromatin, he proceeds to elaborate the theory by further assumptions in respect of antitoxins. Further, he says that "this hypothesis of a toxin explains the latent period before the effects of *x* rays manifest themselves." How it explains this is not told.

Everyone appreciates the value of a theory which truly leads the investigator, and also the danger of one which gives a false lead because it does not correlate the observed facts and thus has a false basis. I write to call attention to this danger.

Many attempts have been made to detect chemical changes in irradiated tissues and in the various substances of which they are composed; in the vast majority of cases no chemical change has been detected or only insignificant alterations. In contrast to these negative results, the evidence of physical changes is abundant; I refer more especially to alterations in colloidal state. The importance of colloidal states in the manifestations of living matter is every day becoming more clear.

When, further, we take into account, apart from biology, the numerous and profound physical changes which are known to follow exposure to *x* rays, and the difficulty of effecting chemical changes, must we not hesitate to accept a chemical theory as a working basis, more especially if physical explanations can account for the facts? For there is evidence that some of the biological effects are physical in nature—I refer to alterations in the permeability of membranes, and to the precipitation of colloidal solutions and suspensions, and perhaps to the mitotic changes. Lastly, it may be pointed out that *x* rays are effective in producing biological change only through the secondary kathode rays (negative corpuscles) which are produced on absorption. There is no doubt that chemical changes will occur later—for instance, after the death of the radiated cells, and it is just here that the latent period may be explained as an interval of time following physical changes before chemical changes supervene.

For these reasons I favour a physical explanation rather than a chemical, in which effects are thought of in terms of toxins and antitoxins.—I am, etc.,

J. C. MOTTRAM,
Research Department, Radium Institute, London.

January 23rd.

MEDICAL ASPECTS OF DELINQUENCY.

SIR,—Dr. Tyson's letter of December 31st, 1921, p. 1130, is so immediately interesting to the profession that I fully expected a number of replies to it.

I quite agree with Dr. Tyson that the profession should have more representation on the magisterial benches, for these reasons:

(*a*) Medical men have had a far wider education than have the majority of recently appointed justices.
(*b*) Medical men have had some training in jurisprudence.
(*c*) Medical men have had daily, almost hourly, to weigh the value of statements and symptoms of those they treat, or, in other words, to deal with evidence, and that is what the justice should do.

I do not agree with the necessity or value of a psychological expert. Personally I should have more confidence in the opinion, as a justice, of a medical practitioner of say some ten years' standing, because such men are daily in contact with the general public, the majority of whom are normal, whilst the psychological expert usually deals with cases of mental deficiency which are more or less pronounced; the opinions of such experts should have more effect when giving evidence, when they could be cross-examined and their evidence weighed with that of the other witnesses, than when their views are stated to their colleagues on the Bench. Unfortunately expert medical evidence, even in important cases, is generally so contradictory that neither jury, judge, nor the public are satisfied.

Neither do I accept the statement that it is the duty of the Bench to prevent crime. Their duty, which they have taken on oath, is to decide upon the weight of evidence whether the accused is guilty or not guilty. What the action of the Bench may be if they find the accused guilty depends upon many circumstances.

If any member of a Bench of justices has any doubt as to

the mental condition of a defendant he can ask for medical evidence. I have been a justice for over forty years, and sat on various benches in two counties and now at this borough, and I have never had any difficulty in obtaining medical testimony, either before or subsequent to the Mental Deficiency Act of 1913.

Even in cases where there have been convictions I have followed them up and asked for careful medical observation while under sentence. As a visiting justice for fourteen years to a large prison I have witnessed how well similar requests for observation are carried out.

At our recent borough quarter sessions, at which Dr. Tyson was present, I felt doubtful as to a prisoner's mental state, and so communicated with the Recorder, who evidently had similar ideas, for though the lad had several previous convictions and had served a period in a reformatory, he simply bound him over and placed him under the observation officer. Here I would suggest that upon a second conviction the observation period should not be less than two years, with a careful medical examination.

For some years I have followed "observation cases," and am satisfied that the majority of those who relapse do so between the tenth and sixteenth months after their first conviction. Probably many even psychological experts will differ from my views; the chief object of this letter is to elicit such differences.—I am, etc.,

Folkestone, Jan. 13th. P. BROOME GILES.

ENCEPHALITIS LETHARGICA AND MENTAL DEFICIENCY.

SIR,—In the BRITISH MEDICAL JOURNAL of January 21st, p. 122, Dr. Drummond draws attention to a statement of mine concerning the difficulty of dealing with children who show moral changes after recovery from an attack of encephalitis lethargica. In the paper in question (*Journal of Mental Science*, October, 1921) these character changes were mentioned as a problem for investigation rather than as an *ex cathedra* pronouncement upon procedure.

However, I hardly consider that Dr. Drummond proves his case, for he explicitly states that "no doubt these cases are not just the class for which the (Mental Deficiency) Act was intended." That was, and still is, my contention. The question at issue is not whether these cases are suitable for institution treatment, but how far they can be brought within the interpretation of mental deficiency as defined by the Mental Deficiency Act, 1913. There are, of course, cases in which the behaviour and the intellectual capacities have undergone so profound a change that they "require care, supervision, and control for their own protection, or for the protection of others," but there are not a few cases in which the alteration in character shows itself as an impish perverseness and lack of emotional control, evidenced, for example, in paroxysmal outbursts of temper, without very marked reduction in educational capacities. Similar results are common in adults, and relatives will, often reluctantly, admit on tactful inquiry that since the illness the patient has become "difficult" or "impossible." I do not think that anyone would suggest that such persons could be dealt with under the Mental Deficiency or Lunacy Acts. Yet these persons belong to the same category as children who have been similarly affected. The difference is one of behaviour—that is, of reaction to the environment of child and adult.

Dr. Drummond states that the two cases under his care were certified as "moral imbeciles on account of vicious propensities apparently resulting from their illness." I submit that to include such cases within the definition of moral imbeciles in the Act is to strain the interpretation which that definition is intended to convey. This view he himself appears to admit, for he writes that it would have been better to certify them as feeble-minded rather than as moral imbeciles. My own view is that while from a practical point of view the use of the term "moral imbecile" has advantages as a generalized description of a particular class of mental defectives, yet from a psychological standpoint it is misleading, for it appears to lend support to the supposition that there exists a specific ethical or moral sense, separate and distinct from the general capacity for reason and the formation of judgements.

The more we learn of the repressions of childhood and of the complexes which may result, the more chary we shall become of diagnosing aberrant conduct as "moral imbecility." I need hardly say that I am fully in agreement with Dr. Drummond in believing that institution treatment is almost always in the interests of these children, as it certainly is in the interest of psychological investigation. The comparatively simple environment of an institution may very possibly restore their emotional balance, so that they may, in course of time, reacquire that control of action which is a necessary qualification for civic life.

Dr. Drummond admits that this question of *permanent* incapacity is a stumbling-block round which a way has to be found if such children are to be dealt with as feeble-minded persons under the Mental Deficiency Act.

If the parents are anxious that their child shall be admitted to an institution, or at any rate are consenting parties to the petition, the case might be dealt with under Section 2 (*a*) of the Act, provided that the Board of Control was prepared to accept the medical certificates as describing a person who may properly be dealt with under the Act. The difficulty will arise if the parents withhold consent, for many magistrates will not be prepared to make an order if they are not satisfied that clear evidence as to "*an early age*," "*permanent* incapacity," etc., is forthcoming.

The whole subject is full of administrative and psychological interest, which must be my excuse for the length of this letter.—I am, etc.,

Birmingham, Jan. 22nd. G. A. AUDEN.

SPINAL ANALGESIA.

SIR,—In his interesting paper on "Eleven thousand cases of spinal analgesia," published in the JOURNAL of November 5th, 1921, Mr. Morrison has not mentioned the actual composition of the solution of stovaine which he uses. I think that possibly the explanation of the persistent headache as an after-effect may be found to lie in the composition of the solution, and perhaps also in the large amount which he injects. Possibly it lies partly in the amount of strychnine injected. What is the strength of the solution? I think he might find headache less frequent and persistent if he were to employ a preliminary injection of morphine and scopolamine.

There is one disadvantage of spinal analgesia—a very real one—which he has not mentioned, and that is the dread of many patients of being pierced in the spine with a needle. Will he tell us how he gets over this? I freeze the skin with ethyl chloride spray, then nick the skin with a scalpel before inserting the needle.

It would be interesting to know how Mr. Morrison ensures anaesthesia for operations on the upper part of the thorax and on the clavicle. Perhaps the specific gravity of his stovaine solution would give the answer. Will he kindly state what that is? Undoubtedly the abdominal relaxation obtained under stovaine spinal analgesia is very complete and satisfactory, and it is a marvel to me that this method has not more completely displaced general anaesthesia for abdominal work.

In the same issue of your paper Dr. Stuart Stock discusses Mr. Boyle's article on "Anaesthesia" published in the JOURNAL dated October 15th, 1921. Referring to ethanesal as a non-toxic inhalation anaesthetic, Dr. Stock adds that "future progress lies along this line of research rather than in the devising of new ways and apparatus to give the older drugs." May I suggest that perhaps future progress also lies along the line of local and spinal analgesics which at one stroke abolish nearly all the dangers and disadvantages of general anaesthetics, whether new or old. I think the day may come when the giving of a general anaesthetic, except in rare and selected instances, for an abdominal operation will be regarded, in Dr. Stock's words (referring to something else), as "little short of a surgical catastrophe" which "must have weighed heavily in the balance against them" (the patients).—I am, etc.,

Indore, Central India, Dec. 2nd, 1921. W. R. BATTYE.

MEDICINE IN ASSAM.

SIR,—I was much interested to read the article on medical work in Assam, in the JOURNAL for December 31st, 1921, page 1128.

I was never a tea-garden doctor, but I was for some years district medical officer on the Assam-Bengal Railway, stationed in Assam, and I was the first secretary of the Assam Branch of the British Medical Association. Consequently I knew personally most of the men practising in the province, and had many opportunities of seeing the conditions of their work. I can unhesitatingly support every-

thing that my old friend Dr. McCombie states in his reply to Dr. Forde.

A keener and more efficient body of men than the majority of the tea-garden doctors it would be difficult to find, and many of them have done good original work in tropical medicine. In their relations with the garden managers everything depended on the possession of their confidence, and once a medical officer had proved himself, his recommendations were always listened to and carried out as far as possible. Of course, nobody ever got all he wanted—what sanitarian ever does? But tea-garden managers are intelligent, educated men, and for the most part thoroughly realize that money spent on sanitation pays good dividends in the increased efficiency of the labour force under their control. As Dr. McCombie says, there is not much opportunity for surgery, but in parasitology and tropical medicine generally there is an unequalled field.

If Dr. Forde had stuck it out and proved his worth, he would have had a very different tale to unfold.—I am, etc.,

W. A. MURRAY,
Late Medical Officer, Assam-Bengal Railway.

Harrogate, Jan. 3rd.

SIR,—Dr. Forde's description of the medical arrangements on the tea gardens of Assam is accurate. The great drawback to the life of the "planters' surgeon" is, in my opinion, the general conditions under which he has to live. The doctor, in the words of one of the senior managers, "is fair game for everybody," his means of getting about are almost impossible; I, for instance, was expected to travel over twenty miles at least once a week on a horse that could hardly carry itself. It is true that the so-called "medical committee" of managers had arranged that I should find my own means of transport, but they did not tell me anything of the difficulties of travel, etc., before I went there. My advice to those whose sentimental ideas of romance and adventure in the East overcome their better judgement is not to take one of the tea-garden appointments—

1. If you are married.
2. If you are offered anything less than Rs.800 a month, together with a free, furnished bungalow to yourself.
3. Unless your first-class passage is paid to and from the place.
4. Unless the usual three years' agreement contains a clause to the effect that you can relinquish the appointment at any time on giving three months' notice in writing.
5. Unless the position as regards the means of getting about is explained. (This is important.)
6. Unless medicine occupies a secondary place in your preferences.

By all means take one of these appointments if—

1. You like games and riding (and polo).
2. If the tropics appeal to you.
3. If you do not feel particularly concerned as to the matter of "saving for a rainy day."
4. If you are lucky enough to get one of the really good billets; there are just a few.
5. If surgery does not appeal to you.
6. If you are in the pink of health and can stand anything.

—I am, etc.,

EXPERIENCED.

January 3rd.

HOSPITALS IN THE TERRITORIAL FORCE.

SIR,—Dr. Bertram Rogers writes rather in anger in reply to my letter on the future of the Territorial general hospitals. It is an unfortunate attitude from which to approach this question, for it has led him to make a communication built up mainly on the two logical fallacies known as *ignoratio elenchi* and *petitio principii*. In plain words, he begs the question and misses the point.

The question that he begs is whether it is better that these great institutions for the treatment of the sick and wounded soldier—and that is their only *raison d'être*—should be run on the rigid military lines which were followed during the war, or whether they should be constituted on the model of the great civil hospitals which has been evolved from the experience of centuries. Dr. Rogers settles this by his statement:

> "The system is the best yet devised for soldiers and the well-being of the patients; the efficiency of the administration and the comfort of the officers depends entirely on the qualities of the officer commanding and on him alone."

No doubt that is so under the system in force during the war; but the statement carries with it its own condemnation. To make the efficiency of a hospital to depend on the qualities of one man whose only qualifications might be that he held a commission of lieutenant-colonel, and that he had acquired his experience by having done "a yearly training in a military hospital," was surely a gamble equal to the gamble of the Dardanelles campaign. The "military hospital," it must be remembered, was a regular military hospital where he could certainly learn the whole system of army forms, and indents and official correspondence and all the rest of the red tape of the army, but where he could never acquire the art of working with the medical officers he would meet in the Territorial General Hospitals, officers designated in the "Regulations of the Territorial Force" as "distinguished members of the medical profession" and intended to be treated as such. Nor did his original appointment as administrator ensure anything—it was the "accident of any accident"—he might be a distinguished hospital surgeon or physician, or a general practitioner with no experience of hospitals except as a student, or a professor of anatomy or of any other science. And yet on him depended "the efficiency of the administration and the comfort of the officers."

That is the military system, highly essential in the organization of a battalion fighting in the field, but of very doubtful value in the conduct of a great hospital for the treatment of injury and disease. The "benevolent despot" would no doubt always make the best governor if only he were competent as well; but so far the world has failed to find him; and that is why a good system of government is so very important. Of course no system can ensure efficiency if you get the wrong man to work it, but human nature being what it is the better the system the better the result.

Now the system which seems to me to be the best is that by which our great civil hospitals are run. Dr. Rogers says there were "no gaps" in the Territorial hospitals. I have mentioned two—namely, the absence of medical boards and the want of resident house-surgeons. Dr. Rogers is pleased to jest as to medical boards, and to imply that, once you do away with the unchecked autocracy of the C.O., you are reduced to a sort of Soviet government of medical officers, nurses, orderlies, and patients. The importance of a medical board in a large civil hospital is well known to those who have sat on one, and its suggestions are almost invariably adopted by the lay committee who find the money and manage the business affairs of the institution. Why is it out of place in a hospital where the patients happen to be men in uniform instead of out of it?

The want of house-surgeons was obvious, and should have been met from the earliest period of the war.

Dr. Rogers's treatment of my complaint that consultants were set to do the mechanical work of signing letters and forms and railway warrants and the like is an example of his missing the point. His answer is:

> "For my own part I cannot see why the clerical work of making formal replies and filling up forms cannot be done by the sergeant-major or even less highly placed N.C.O. Does the 'Late Captain' wish to do it himself?"

My complaint was not that the N.C.O. wrote the letters but that a busy consultant should have had to waste hours in the mechanical work of signing them. But that is the army system which is "the best yet devised." Not even a rubber stamp was permitted. In my civil capacity I happen to be a magistrate, and I often sign warrants committing a man to prison by a rubber stamp. But to thus complete some form "passed to you, please," is "flat blasphemy" in the army. The main point is, of course, the waste of valuable time involved.

Dr. Rogers is good enough to say that I have never learnt the "first duty of a soldier—namely, to obey." Again I say that I agree that that is the first and most imperative duty of the soldier. But we *à la suite* officers of home general hospitals were in reality nothing but civilians in uniform. Our responsibilities were to the sick and wounded; we were not ordered to apply such-and-such treatment to our patients; our duty was to use our knowledge and our judgement to do our best for them. The soldier is ordered, and rightly ordered, by his superior to do exactly what his superiors think right. If I had been ordered by my commanding officer to amputate the leg of a soldier when I did not consider it necessary to do so, I should have refused, and no court-martial would have ordered me punishment for refusing. But if I had been the captain of a company in the field ordered to attack a certain position and had refused, I should have been shot, and deservedly so. Here is an illustration of the folly of applying military methods to matters which are not really military at all.

Of course there is a class of mind to which all the pomp of

military methods appeals with great force. They love the titles and the rank, the constant salutes, the standing to attention (or at ease) of patients when the medical officer goes round the wards, and the rest of the parade of the army. Very necessary, I again agree, for armies in the field. But is all this necessary for the welfare of hospitals at home? On the contrary, does it not tend to throw into the background the real object for which these hospitals exist? After all, the real problem is this—namely, how best to employ all the best medical and surgical talent of the country for the benefit of the soldier in time of war. My own opinion is that it is unwise to attempt to apply the methods of the regular army to any future Territorial General Hospitals. Dr. Rogers thinks otherwise; but he would be doing a real service if he would explain why, as he says:

"The *à la suite* hospitals have not come up to the expectations that were formed of them and a new system is necessary. I need not say how or why they failed. Anyone who was in charge of a hospital during the war, and kept his ears and eyes open, knows why."

That is not very illuminating. If he knows why he should surely tell us.—I am, etc.,

January 8th. LATE CAPTAIN R.A.M.C. *à la suite.*

VIENNA AND LONDON.

SIR,—I have obtained and have studied a copy of the programme of the post-graduate courses now in progress in Vienna. It is a broadsheet printed on both sides. On the one side are the particulars of a course designed apparently for general practitioners and consisting of a score or more lectures and demonstrations, by as many authorities, on diseases of the digestive organs and their treatment. The course lasts the inside of a fortnight, and the charge even to an outlander is only 10,000 kronen, or something less (so I am told) than 10s. at the present rate of exchange in Vienna. On the other side is announced a long series of courses on a great variety of subjects, from ordinary anatomy to the use of those latest instruments of clinical precision—the bronchoscope and the ureteroscope; the charges for most of these courses vary from 5,000 kronen to 200,000 (£10), but in respect of some it is stated that the post-graduate must make his own terms with the teacher, and I have heard rumours of as much as £100 being charged; but this may be for a course in English, and it may be, too, that the total is divided among all the attendants: if they numbered ten, or even five, the charge to each might not be out of the way.

Incidentally, I would ask the Executive Committee of the Fellowship of Medicine and Post-Graduate Association whether it might not follow the example of Vienna and replace its extravagant weekly bulletin by a broadsheet such as this, which contains all the information for a whole quarter any possible applicant can want.

But it is not on this very minor point that I am moved to write. I see that the broadsheet is issued by the Wiener Medizinische Fakultät; the courses, then, are organized by the medical faculty of the University of Vienna. I seek information as to what the University of London and its medical faculty have done to help in the organization of post-graduate teaching in London. I pause for a reply, suggesting only that the properest person to make it is the Dean of the Faculty of Medicine, who is also, I believe, the representative of the Senate of the University on the Council of the Fellowship of Medicine and Post-Graduate Association.—I am, etc.,

January 21st. PALINURUS.

THE INHERITANCE OF ACQUIRED CHARACTERS AND OF MATERNAL IMPRESSIONS.

SIR,—There has been for a long time, and there still is, a diversity of opinion amongst biologists as to the inheritance of acquired characters. Some affirm that such inheritance does take place, at any rate occasionally; others affirm that these characters are never inherited, and they proceed to explain how such an occurrence is impossible, because, for a character to be inherited, the factor upon which it depends must exist in the germ plasm, by means of which it is conveyed from parent to offspring; whereas an acquired character, not being of germinal origin, is not inherited, nor, indeed, can be. A feature which is not characteristic of the species, and which makes its first appearance after birth, or, indeed, at any time after conception, is an acquired character, and is not transmitted from parent to offspring.

A familiar example of an acquired character is the "docked" tail of a fox terrier. The docking takes place after birth, and is an artificial modification; it does not depend upon the germinal constitution of either parent, and is never transmitted, so far as I have been informed. On the other hand, the features which are specially characteristic of the fox terrier breed, such as size, general build, shape of head, colour, texture of coat, and "mental" qualities, are dependent upon the germinal constitution derived from the parents, and are inherited.

A conflict of opinion also exists in regard to the influence of maternal impression. Some observers contend that strong, violent, or unusual impressions, whether mental or physical, experienced by the mother during pregnancy may, and sometimes do, produce an associated modification in the offspring, and there undoubtedly is a strong and widespread tendency to attribute any abnormality in the child to some unusual effect experienced by the mother during pregnancy. Others declare that such a sequence or apparent correlation is merely a chance coincidence.

There are great difficulties in testing these questions in the human subject by the experimental method, so that we are practically restricted to observation. As a matter of fact, however, the late war has supplied us with the conditions of experiment on the grandest scale, and it is very desirable that full advantage should be taken of the opportunity. Many mothers must have experienced unusual and painful impressions during their recent pregnancies, and thousands of men who fought, and were more or less mutilated by gunshot or otherwise, have become fathers since returning home.

If acquired characters are inherited to any marked extent, or if there is solid ground for the prevalent belief in the influence of maternal impressions, surely we ought to meet with some instances in the families of our ex-service men. If any such instances are observed they should be reported, and I would like to suggest that such reports should not be published in various journals but sent to some central office, where they can be collected and investigated. Probably the best place is the Eugenics Laboratory of University College, London. This is under the direction of Professor Karl Pearson, who, I am sure, would be glad to receive and deal with any reports sent to him.—I am, etc.,

Wrexham, Jan. 19th. H. DRINKWATER, M.D.

TREATMENT OF GONORRHOEA BY ELECTROLYSIS.

SIR,—My paper in the BRITISH MEDICAL JOURNAL of December 31st, 1921, reported the results obtained in 500 cases. This led to a letter from Mr. Wyndham Powell, in which incredulity was expressed at more than one aspect of the work, though at the outset he declined to enter into the value of the method. This latter is all that matters to the profession or the public. His latest letter is directed entirely to personal opinions on irrigation, which is not the principal matter.

In view of the need for improvement in the treatment of gonorrhoea the experiences of others of the positive value of electrolysis would, I believe, interest your readers.—I am, etc.,

London, W., Jan. 23th. CHARLES RUSS, M.B., M.R.C.S.

SIR,—I was pleased to see that Mr. Russ was able to publish a further series of cases of gonorrhoea treated satisfactorily by electrolysis.

Whatever may be the facts and their interpretation concerning the pathological lesions of an infected urethra there can be no doubt that many patients up and down the country have reason to be grateful to Mr. Russ for his investigations. I hesitate to accept all Mr. Wyndham Powell's findings as correct, as they are in many respects contrary to my own experience; especially is his statement that a second infection can be cured in a week or ten days open to discussion. It must, however, be admitted that many years will elapse before a final verdict, as to whether strictures do or do not occur under electrolytic treatment, can be finally given. That they do form when irrigations are largely used we know full well, and we seldom meet a patient with a stricture who does not give a previous history of a long course of lavage at some earlier period of his life.

In 1917, as a temporary surgeon lieutenant in the navy, I found myself in Italy with spare time and a large number of cases of gonorrhoea. Having read Mr. Russ's book I had the necessary rheostats and apparatus made on board, and,

following his methods closely, proceeded to treat the cases. Those with fresh infections were chosen, and in all a cure was obtained more rapidly than by any of the orthodox methods. Treatment was given daily or on alternate days, and after about the tenth application the patient's urethra was "dry," that is to say, no sign of discharge could be found macroscopically—a condition rarely seen so soon under other methods. Further applications were given at wider intervals until no threads were voided in the morning specimen, this being the rough and ready but practical standard of cure used in His Majesty's ships.

A microscopic examination of the urine of several patients was made later in the Army Hospital at Gibraltar, and in nearly all of these no gonococci were found. It must be remembered, too, that the whole treatment was carried out in an experimental manner with home-made apparatus in a foreign country, away from many of the ordinary facilities of practice. Subsequent elaboration of the technique has only further convinced me that we have in this method a valuable new weapon. Admittedly it has its limitations, the chief being that as each case must be treated individually for some time every day it is more suitable for private practice than for dealing with large bodies of service patients. This, however, should not deter us from practising it whenever opportunities offer.—I am, etc.,

Westminster, S.W., Jan. 7th. G. MURRAY HEIRON.

SIR,—Anyone taking the trouble to look over the monographs and subject matter of the principles of Dr. Charles Russ's work on the treatment of gonorrhoea, cystitis, ulcers, septic hands, etc., will see that since 1910 there has been a continuous development of that work. Moreover, anyone who has had the opportunity of seeing (as I have) the results of his treatment, especially in gonorrhoea, can but recognize the powerful weapon Dr. Russ has placed in our hands for the treatment of many septic processes.

In consequence of the widespread adoption of his electrolysis treatment by medical men, both in their private and institutional work, it appears now to be the time to ungrudgingly admit its value and acknowledge the good results we can attain through it.—I am, etc.,

VIVIAN WALL, L.R.C.P., M.R.C.S., L.S.A.,
Late R.M.O., London Lock Hospital (Female).

London, W., Jan. 27th.

PELIOSIS RHEUMATICA.

SIR,—I read with much interest Mr. H. V. Jackson's letter in your issue of December 24th, 1921, on "A case of peliosis rheumatica." The disease is no great rarity in Constantinople. My experience of it, however, leads me to differ from your correspondent as regards the first of the three points he mentions as distinguishing this affection from acute rheumatism. I recall one case at least (ending in death) in which the joint pains were excessively severe, so severe, indeed, that the mere movements of persons in the sick-room seemed to cause the patient exquisite suffering. (Osler, too, I may recall, states that "the joint affections are usually slight, though associated with much pain.")

In another case a complication developed which I have not found mentioned in any textbook. The case was a mild one, and all the symptoms were subsiding when pain and redness appeared in one eye, rapidly proceeding to an acute panophthalmitis and destruction of the organ. The rapidity of the process was remarkable. When seen one day at 2 p.m. there was no sign of eye trouble; but on the next day's visit at 6 p.m. there were intense chemosis, violent conjunctivitis, irido-cyclitis, pus in the anterior chamber, and the eye was already doomed. Unfortunately neither the patient nor his friends had realized the gravity of the condition; they sent for me during the twenty-six or twenty-seven hours that had elapsed since the eye symptoms set in, and the eye had consequently remained without treatment during that period.

The complication made no difference to the course of the general disease, which steadily and indeed rapidly subsided.—I am, etc.,

Constantinople, Jan. 12th. F. G. CLEMOW, M.D Edin.

MULTIPLE TOOTH EXTRACTION.

SIR,—There is no doubt that a considerable number of teeth are extracted for diseases to which they have no relation, and there is also no doubt that in some cases many teeth are retained which might have been sacrificed to the benefit of the patient. The difficulty is to determine the degree of infection for which they may be responsible. Mr. Denison Pedley assumes that by clinical examination he was able to determine that a patient of his, a doctor, had two teeth which were the cause of his ill health. The teeth being unsaveable he extracted, and the others, which he is treating, he is retaining, to the advantage of the patient.

Now, the misfortune about pyorrhoea alveolaris is that it is impossible clinically to determine the degree of infection of the alveolar process, and many cases submitted to radiological examination are found to show deep infection of the bone—to show, in fact, a chronic alveolitis.

The all-important question is, Can this osteitis be cured by local measures when the teeth are retained? My impression is that it cannot be cured, so that even if the gum margins by treatment be given a healthy appearance the patient is still suffering from osteitis and getting infection by way of the lymphatics.

In cases of oral sepsis supposed to be related to systemic disease it is doubtful, except when the local disease is advanced, whether the clinician can give a sound opinion without a careful examination of radiograms of the jaws of his patient.—I am, etc.,

London, W., Jan. 16th. STANLEY COLYER, M.D.

THE VALUE OF FRUIT JUICE.

SIR,—Dr. H. C. Cameron, whilst rightly castigating the exploitation of the word "vitamin," fails to appreciate the importance of fruit juice in therapeutics when he says, "Fruit juice will not do anybody any harm. It will cure and it will prevent one thing only—scurvy."

If he will recall the experience of the ages as to the value of grapes and oranges in all febrile conditions, and of the important effects of apple pulp and apple juice in chronic nephritis, and will, for example, experiment with and observe the result of the use of raisin tea in gastric catarrh, and the debilities connected with atonic indigestion, he will, I think, place on a far higher standard various fruit juices in the prevention and treatment of ailments which are greatly reducing the happiness of living.—I am, etc.,

London, W., Jan. 16th. JOSIAH OLDFIELD.

ROYAL MEDICAL BENEVOLENT FUND.

AT the meeting of the Committee held on January 10th 18 cases were considered and £181 voted to 14 applicants. The following is a summary of some of the cases relieved:

Daughter, aged 66, of M.R.C.S.Eng. who died in 1896. Owing to diminishing income applicant finds it difficult to pay her way. She received last year £28 for copying work, £30 from dividends, and a Christmas gift of £5. Rent, light, and use of kitchen stove cost 14s. per week. Voted £18 in twelve instalments.

Widow, aged 62, of L.R.C.P.Edin. who died in 1909. Applicant receives boarders and is helped by a niece. She asks for help towards paying mortgage interest. Relieved eleven times, £110; last time £10, January, 1921. Voted £10.

Daughter, aged 69, of M.D Edin. who died in 1875. Applicant and her sisters are unable to meet their expenses; their income amounts to £127; rent and rates £50 per annum. Relieved six times, £78; last £18, January, 1921. Voted £18 jointly.

Widow, aged 80, of M.R.C.S.Eng. who died in 1870. Applicant's income is diminishing and last year she only received £41 from investments and £35 from a married daughter. Ground rent and repairs amount to £13, and her board and lodging cost £52 per annum. Relieved three times, £76; last £12 in twelve instalments, December, 1920. Voted £12 in twelve instalments.

Daughter, aged 48, of M.R.C.S.Eng. who died in 1885. Through ill health she is entirely dependent upon her sister. Relieved by the Fund five times. Last time, £10, April, 1920. Voted £10.

Subscriptions may be sent to the Honorary Treasurer, Sir Charters J. Symonds, K.B.E., C.B., F.R.C.S., at 11, Chandos Street, Cavendish Square, London, W.1.

The Royal Medical Benevolent Fund Guild is overwhelmed, in these days of exorbitant prices for clothing and household necessaries, with applications for coats and skirts for ladies and girls holding secretarial posts, and suits for working boys. The Guild appeals for secondhand clothes and household articles for the benefit of the widows and children who in happier times would not have needed assistance. The gifts should be sent to the Secretary of the Guild, 43, Bolsover Street, W.1.

ADMISSIONS to the clinic of the Innsbruck medical faculty have been suspended, as the number of medical men in the country is considered to be excessive. Owing to financial strain the administration of the principal hospital in Innsbruck has limited the number of beds to 300, and has dismissed a certain number of its medical and nursing staff.

Obituary.

EDWIN RAYNER, M.D., F.R.C.S.,

Formerly Treasurer of the British Medical Association.

MEMBERS of the British Medical Association will learn with regret that Dr. Rayner, Treasurer of the Association from 1907 to 1916, died on January 18th. He had been in failing health for some years, and last autumn underwent the operation of prostatectomy. He had attained the age of 77.

Edwin Rayner was a member of a family long settled in Stockport. He was the eldest son of Dr. William Rayner, who was a member of the Stockport Town Council for twenty-three years and mayor in 1883–4. His son received his early education at the Stockport Grammar School, of whose governors in later life he was chairman. His scientific education began at Owens College, Manchester, and was continued at University College, London, and in Paris. He graduated B.A.London in 1863, but his time in Paris was something more than a passing visit, for he took there the degrees of B.L. and B.Sc. in 1864. He always retained a strong interest in French medicine, in which he was well read, and also in French politics; the capacious pockets of the rather old-fashioned coat he affected were seldom without one or two copies of the Paris newspaper to which at the time he happened to be subscribing. He was British juror in the class of medicine and surgery at the International Exhibitions held at Brussels in 1910 and at Turin in 1911.

As a young man he held the appointments of house-surgeon and house-physician at University College Hospital. He graduated M.B.Lond. in 1869, taking honours and the gold medal in forensic medicine, a success which put him in a position to graduate M.D. in the following year. He was an Associate of Owens College, Manchester, and in 1883 received the degree of B.Sc. from the Victoria University. He had taken the diploma of F.R.C.S.Eng. in 1869. He settled in Stockport, and for many years his activities were closely associated with that rapidly growing town which, though in the county of Chester, is only five or six miles from Manchester, and, like its big neighbour, is a busy centre of the cotton trade. He was for nineteen years medical officer of health and public analyst for the borough, offices he resigned in 1892. He was a hard working member of the staff of the Stockport Infirmary, and after serving for thirty-four years as surgeon was in 1908 elected consulting surgeon. He was J.P. for the borough and took an active interest in its affairs, showing himself always ready to promote medical and social schemes for solving the many difficulties which inevitably arise when the growth of trade causes great increase of population on a cramped site. He was an original governor of the Pendlebury Orphanage, and was eventually chairman of the governors, and had been a magistrate for the borough of Stockport since 1880. During the war he interested himself in the establishment of an auxiliary military hospital in Stockport, and was an active member of its surgical staff.

Dr. Rayner had long been a member of the Association when in 1894 he was elected President of the Lancashire and Cheshire Branch. Then as now, perhaps then even more than now, that large and active Branch exercised a great influence on the policy of the Association, and Rayner's interest in its administration may be said to have dated from his tenure of this office. He represented the Branch on the Council in 1896–97–98, in 1903 and 1904, and again in 1905 and 1906. As he became a member of the Association in 1877 he had known it before the reconstitution of 1883, the principles of which he never approved. The old plan of a large Council, meeting once a year, with a committee of council elected out of it to maintain continuity in the administration of the affairs of the Association, had many defects and was not wholly logical, but it at least put the final decision into the hands of a body of men who were constantly interested throughout the year in the work of the Branches. The constitution of 1883 reduced the size of the Council and made it the actual administrative body, meeting quarterly and holding also several meetings during the annual meeting. The Association, however, remained a company (trading not for profit) and the Council was required to make an annual report to the general meeting of the company. The vast majority of members took very little interest in this meeting, which was more or less a chance assembly of those attracted by other considerations to the town in which the annual meeting was being held. A certain number of members critical of the proceedings of the Council, however, made it a practice to attend, and discussions ensued which were often acrimonious and seldom edifying. The need for a reform in procedure had become evident.

Rayner was an old-fashioned English Liberal in politics and a firm believer in the representative system of government as commonly understood. He therefore welcomed proposals for a revision of the constitution, but the idea of delegation with which many of the most active reformers were imbued was distasteful to him. He, however, accepted it, believing probably that in practice the Representative Meeting would as a general rule act in the sense its title connoted. His election to be Treasurer was something of a trial of strength: the Council had put forward another candidate, but Rayner was successful.

His term of office as Treasurer was not free from anxieties; the Association had sunk a large sum in its new buildings, and was subsequently called upon to meet serious expenditure in connexion with the discussion of the National Insurance Bill and the proposals for its amendment. He resisted a proposal to incur a permanent debt by the issue of debentures, believing that the Association would be able to meet all liabilities within a reasonable time by the judicious management of its income. In this he proved to be right, and with the able assistance of the late Mr. Guy Elliston so managed matters that when he laid down his office the finances of the Association were in a sound position. He gave a great deal of thought and time to the work of Treasurer, was acquainted with every detail, and seemed to be almost as much in London as Stockport.

Dr. Rayner was a man of quiet demeanour and, outwardly at least, of tranquil temperament. He was shrewd and kindly, ready to sympathize with a friend in trouble and to help if possible. He had his own share of sorrows and bore them with quiet courage. As a member of the Council of the Association his fellow councillors learnt to place great reliance on his judgement, never willingly given without full consideration.

He retired from Stockport eighteen months ago and went to reside at Woking; there he died and was buried at Frensham, near by, on the afternoon of January 21st. The British Medical Association was represented at the funeral by Dr. Alfred Cox. At the same hour a memorial service was held at St. Mary's Parish Church, Stockport. It was attended by representatives of the borough and county magistrates, of the Stockport Infirmary, of the Stockport Medical Society, and of the many local institutions with which Dr. Rayner had been connected, and by the Mayor and other members of the Stockport Town Council.

Dr. Rayner married in 1870 Miss Hartree of London, by whom and by two sons and four daughters he is survived.

We are indebted to Sir JENNER VERRALL for the following tribute to the memory of Dr. Rayner, with whom he worked on the Council for many years:

Though there are, one will hope, many members thoroughly conversant with the work of Dr. Rayner on behalf of the Association, may I be allowed from an intimate knowledge of the way in which the work was done, to add my testimony to his great worth? As Treasurer his most important help was given, and this at very difficult and anxious times. For a long period we were indebted to him for sound advice on financial matters; it was a great pleasure to Dr. Rayner that the position of the Association in this respect had been much improved during his tenure of office. But out of my memory of many years' association with him I would speak of his geniality and charm of manner, his goodness of heart, and abundant sympathy. This he carried with him in working hours and, when work was over, he was an excellent friend and companion. I have never met anyone who so convinced you that hospitality and friendly intercourse were a joy to him. So long as his health and strength remained he grudged no labour, no thought in our service, and we who loved and trusted him will assuredly keep his memory green.

Dr. ALFRED COX, Medical Secretary of the Association, writes:

Dr. Rayner belonged to that honoured band of men who are prepared to do anything for the British Medical Association, and fate so ordained it that he was placed in a position to prove his devotion. With an excellent practice and an assured local position he found himself able to give as much time to our central work as is expected from a Treasurer—and that means a great deal. I had met him on some of the committees of the Association beforehand, but my first real

acquaintance with him began in August, 1907, when, at the Annual Meeting at Exeter, Sir Victor Horsley moved and I seconded his election as Treasurer. There was a sharp contest, in which Dr. Rayner represented those who earnestly believed in the then new constitution of the Association, while his opponent, Mr. C. R. Straton of Wilton, a highly esteemed member of the Council, was regarded as representing the more conservative views. After the election Dr. Rayner said that he had been a member of the Association for some thirty years and had taken a great interest in the work both of his own Branch and that of the Association generally; he hoped that at the end of his term of office, if he lived for the three years, they would say he had done his work as well as those who had preceded him. He lived not only to have this said of him, but to make a record, for he held the office for nine years, resigning in 1916. In that year he was elected by the Representative Meeting as a whole as one of the four members of Council chosen by it, and finally retired from the Council in 1917. In 1914 he was awarded the Gold Medal of the Association, and the Chairman of Council (Dr. Macdonald), in presenting it, told the meeting what an anxious post that of Treasurer had been for the past few years, and referred to the "distinguished bravery" Dr. Rayner had shown in administering the finances of the Association during a critical period. The term was not an exaggeration.

I came on the Central Staff in 1908, and then saw a great deal of Dr. Rayner, though, of course, as Treasurer he came much more in contact with my deceased colleague Mr. Guy Elliston. A Treasurer, however, is *ex officio* a member of all committees, and Dr. Rayner did his full share of committee work. The impression mainly left on my mind by him was his cheery optimism. He was as good as a sunny day coming into the office. We went through some most anxious times during his term as Treasurer, but I never saw him downhearted. His faith in the future of the Association was unassailable. The most striking evidence of this was the occasion on which, when the funds of the Association were heavily overdrawn by the demands made on us by the Insurance Act fight and the bankers were getting restive, he offered to place (and I believe did place) his own private account at the service of the Association. He was a very hospitable man and nothing gave him greater pleasure than to collect a few of his fellow workers together, as he frequently did at the National Liberal Club, and give them a good dinner. He enjoyed such a function thoroughly, and he saw that all his guests did too. Another thing which could not fail to strike anyone brought closely into contact with him was his pride in his profession, in his own practice, and in his own town. I never knew a man who was prouder of his position as a general practitioner than Dr. Rayner was. He regarded his patients as part of his family and was ready to put himself to any amount of inconvenience for any of them. As I look at his photograph which hangs in my office I feel devoutly thankful for the privilege of having worked with a man like Dr. Rayner and for an Association which can attract and command the devotion of such men.

DR. JAMES LAWRENCE, late of Darlington, died at the close of last year at Westward Ho, North Devon, whither he had retired some two years ago. Born in 1844, near Portrush, he received his medical education at Belfast and Dublin, graduating M.D., M.Ch., R.U.I. in 1871, and taking the M.R.C.S.Eng. diploma in 1872. In the latter year he went to Darlington Hospital as house-surgeon, and in 1874 he was appointed medical superintendent to the Infectious Diseases Hospital, becoming medical officer of health in 1882. He supervised the building of the Darlington Fever Hospital on its present site, and worked hard and successfully to improve the sanitary conditions of the town. He had also an extensive private practice, and was for many years senior surgeon to the Darlington General Hospital. He was held in the highest affection and esteem by all who knew him, and his fellow practitioners marked their appreciation, personally and professionally, by making him a handsome presentation on his retirement from the office of medical officer of health in 1911. Dr. Lawrence was keenly interested in many branches of sport; he had been a well known oarsman, and he was a director of the Darlington Football Club. He was an old member of the British Medical Association, and at the last meeting of the Darlington Division a resolution of condolence was unanimously passed, many tributes being paid by the members present to the memory of Dr. Lawrence. He leaves a widow and five children.

VITAL STATISTICS FOR ENGLAND AND WALES, 1921.

WE are indebted to the Registrar-General for the following statement regarding the birth rates and death rates and the rates of infantile mortality in England and Wales and certain parts of the country during 1921.

ENGLAND AND WALES.

Birth Rate, Death Rate, and Infant Mortality during the Year 1921 (Provisional Figures).

	Birth Rate per 1,000 Total Population.	Death Rate per 1,000 Population (Crude Rate).	Deaths Under One Year per 1,000 Births.
England and Wales	22.4	12.1	83
96 great towns, including London (populations exceeding 50,000 at the Census of 1911)	23.5	12.3	87
148 smaller towns (populations from 20,000 to 50,000 at the Census of 1911)	22.7	11.3	84
London	22.8	12.4	79

The death rate for England and Wales relates to the whole population, but that for London and the groups of towns to the civilian population only.

The death rate for England and Wales is the lowest on record for the country as a whole, and the infant mortality is the lowest on record with the exception of the rate in 1920. The birth rate is the lowest recorded for the whole country except in the war years 1915–1919.

The Services.

SANATORIUM TREATMENT FOR TUBERCULOUS OFFICERS.

AN Army Council Instruction (No. 15 of 1922) provides that as from January 1st of this year the cost of sanatorium treatment for officers and nurses on full or half pay who are suffering from tuberculosis, and whose disabilities have been contracted in and by military service, may be refunded up to a limit of 8 guineas a week. Officers and nurses whose disabilities have not been directly contracted in and by military service, but have only been aggravated by such service, will cease from the same date to be eligible for such sanatorium grants. This Instruction cancels Army Council Instruction 339 of 1919.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

AT a congregation held on January 20th the following medical degrees were conferred:—

M.D.—Sir William T. Lister.
M.B., B.CH.—R. L. Williams.
B.CH.—*D. Crawford, G. F. Abercrombie, W. R. Carling, *C. Dunscombe.
* Admitted by proxy.

UNIVERSITY OF ST. ANDREWS.

AT the Graduation Ceremonial held on January 20th the following were among the degrees conferred:

M.B., CH.B.—T. K. Buchanan, Phyllis Fleming, Nona S. Lesslie, Katharine D. Macfarlane, J. N. D. Smith, Margaret H. R. Young.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Hunterian Lectures.—Mr. Kenneth M. Walker will deliver a Hunterian lecture on the nature and cause of old age enlargement of the prostate in the theatre of the Royal College of Surgeons, Lincoln's Inn Fields, W.C., on Friday, February 3rd, at 5 p.m. Mr. Alan H. Todd will deliver a Hunterian lecture on orthopaedic aspects of rheumatoid arthritis on Monday, February 6th, at 5 p.m.

THE provisional figures of deaths in the great towns registered in the week ending January 21st show a considerable decrease in London, where 443 deaths from influenza are returned, as compared with 551 in the previous week. The total for the 105 great towns has increased from 1,262 to 1,433. The most noteworthy increases are in the northern and midland cities, especially Newcastle-on-Tyne, 82 against 23 in the previous week, Gateshead 42 (13), Sunderland 40 (6). In the south, Brighton, Bristol and Portsmouth record increases. One-third of the deaths from influenza in London are of persons over 65.

Medical News.

THE first of Sir Leonard Rogers's three Lettsomian Lectures on amœbic liver abscess will be given before the Medical Society of London on Monday, January 30th, at 9 p.m. This lecture will deal with etiology and pathology. In his second lecture on Wednesday, February 8th, Sir Leonard Rogers will consider the varieties and treatment; and in the third lecture on Monday, February 20th, he will discuss prevention and the recent reduction in prevalence and mortality.

A THREE weeks' course of post-graduate study for general practitioners will be given, under the direction of Sir James Mackenzie, at the St. Andrews Institute for Clinical Research, commencing on May 3rd. The course will consist of lecture demonstrations dealing with the symptomatology of disease in its early stages, and will be supplemented by demonstrations on matters of clinical interest in anatomy, physiology, chemistry, bacteriology, ophthalmology, and radiology. The fee is 10 guineas. Early application should be made to the Secretary, the Clinical Institute, St. Andrews, for particulars and advice with regard to securing rooms.

SIX lectures on the physiology and pathology of ante-natal and early post-natal life will be given by Dr. W. M. Feldman at the Infants' Hospital, Vincent Square, Westminster, S.W., on Thursdays, at 4 p.m., commencing on February 2nd. Members of the profession are invited to attend.

A FUND for a wedding present to Princess Mary has been opened by the Lord Mayor of Manchester and the Mayor of Salford. It is hoped to raise one million shillings (£50,000) between Manchester and Salford, and the object to which this sum is to be devoted is the District Nursing Association. The income will be used to add another fifteen nurses to the fifty-three at present working among the sick poor of Manchester and Salford, and it is proposed to call them Princess Mary nurses.

A FURTHER course of lectures and practical instruction for the Diploma in Psychological Medicine, granted by several universities, will be held at the Bethlem Royal Hospital, London, commencing at the end of this month. Lectures will be given by members of the staff of the Bethlem Royal Hospital and others, including Dr. Kinnier Wilson, Dr. William Brown, Sir Maurice Craig, Dr. M. H. Smith, Dr. J. A. Hadfield, Dr. James Collier, and Dr. C. Standford Read.

A REUTER'S telegram announces that Sir Arthur Currie, principal of McGill University, has received the following intimation from Lord Atholstan, the Canadian newspaper proprietor, better known in this country as Sir Hugh Graham, LL.D. *honoris causa* of the University of Glasgow: "To help in stimulating the work of research throughout the world I hereby offer a prize of 100,000 dollars to the graduate or student of any recognized university who within five years after this date is the first to discover a medicinal treatment for the effective cure of cancer, the decision to be left to the Royal Colleges of Physicians and Surgeons, London, England. This offer may be renewed."

THE Voluntary Hospitals Commission has had under consideration the preparation of a simplified uniform system of accounts which could be recommended for adoption by hospitals to which the uniform system of King Edward's Fund may be inapplicable. The Commission has appointed a small subcommittee to draft proposals for this purpose, and has secured the assistance of Captain H. G. Howitt, D.S.O., of Messrs. W. B. Peat and Co., who was closely associated with the preparation of the financial statements for Lord Cave's Committee on the Voluntary Hospitals.

A CONGRESS of medical education, licensing, public health, and hospitals will be held in Chicago from March 6th to 10th. The congress will include representives of the Council on Medical Education and Hospitals and the Council of Public Instruction of the American Medical Association, the Association of American Medical Colleges, the Federation of State Medical Boards of the United States, and the American Conference on Hospital Service.

THE last issue of the *St. Dunstan's Review*, which is published monthly as a record of St. Dunstan's men all over the world, is a special memorial number commemorating the life and work of the late Sir Arthur Pearson, whose tragic death all interested in the welfare of the blind so greatly deplore. Included with the account of the funeral and details of Sir Arthur Pearson's fascinating career are a number of personal memoirs and tributes, which were paid to his memory from all over the world. The work to which he was so devoted is being carried on unfalteringly, and, as we have already announced, a memorial fund has been initiated to consolidate and endow all the charities for the blind in which Sir Arthur Pearson was interested.

DR. J. GORDON THOMSON, lecturer on protozoology at the London School of Tropical Medicine, has, at the invitation of the British South Africa Company, gone to Rhodesia to investigate protozoological diseases in Rhodesia. Dr. Thomson, who sailed on January 5th, expects to be absent six months, and will give special attention to the etiology of blackwater fever.

A CONFERENCE of experts is in session at the Ministry of Health, under the chairmanship of Mr. I. G. Gibbon, C.B.E., Assistant Secretary to the Ministry, to consider what measures can be taken in view of the shortage of water which now exists, and is thought not unlikely to increase in the near future. The members are Sir Alexander Houston, M.D., Metropolitan Water Board; Dr. W. H. Bullough, M.O.H. for Essex; Dr. W. H. Hill, M.O.H. South Oxfordshire Combined Districts; Mr. R. Ross, Public Analyst, Burnley; Mr. F. W. Davies, Waterworks Engineer, Nottingham; with Dr. S. W. Wheaton, Medical Officer, Mr. E. A. Sandford-Fawcett, Chief Engineer, and Mr. R. J. Simpson, a principal of the Ministry.

THE annual general meeting of the Society of Superintendents of Tuberculosis Institutions will be held at 122, Harley Street, on Monday, January 30th, at 4 p.m.

THE annual report of Livingstone College, Leyton, for 1920–21 states that during the year the lectures and clinical work at the college were opened to women students, of whom five attended during the whole or part of the session. The college was founded in honour of Dr. Livingstone in order to provide practical training in medicine, surgery, and tropical hygiene for missionaries who expect to work in fields where qualified medical aid is not available. The value of such partial training, though it is, of course, no substitute for the medical curriculum, is considerable, and at the last Commemoration Day Sir George Makins said that such instruction as the students received would make them capable of doing an amount of good impossible without it. The number of students attending the courses showed a slight increase on the previous year, although the numbers are not yet up to pre-war entries. The financial state of the college shows an increased deficit, and the committee urges those interested in the work to do all in their power to raise the £1,500 to £2,000 needed to balance the accounts.

Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.*

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2630, Gerrard.

2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.

3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2630, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin;* telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

MENTAL DEFECTIVES.

"D. C. D." describes a case of mental deficiency with vicious tendencies in a boy, aged 15, and asks to be recommended a special school.

*** The case is possibly certifiable under the Mental Deficiency Act, 1913. In this event the course "D. C. D." can be advised to take depends upon the financial position of the parents or guardians.

(1) If not moderately well off the case should be referred to the county authorities. Each county council has a special Mental Deficiency Committee for the administration of the Act, and

application should be made to the clerk to the Mental Deficiency Committee at the county or town hall belonging to the area in which the boy is resident. The necessary steps will then be taken to have the case sent to a home, if it should prove to be mentally deficient.

(2) If the parents are in a position to make the boy a private patient in some certified institution, application should be made for his admission to one or other of the various homes in the country. The institutions which may be suggested are the Royal Albert Institution, Lancaster, or the Royal Earlswood Institution, Redhill, Surrey (Secretary, Mr. H. Howard, 14-16, Ludgate Hill, London, E.C.). The diagnosis of these cases is often very difficult, and possibly it would be well to seek expert opinion and advice.

Miss Evelyn Fox, Secretary of the National Association for the Feeble-Minded, 296, Vauxhall Bridge Road, Westminster, London, S.W., would probably be helpful and be in a position to give all particulars as to various institutions.

INCOME TAX.

"R.A.M.C." writes: (1) Can I claim an assessment on the three years' average if two of them were spent as a captain R.A.M.C. and the third as an assistant? (2) I received a bonus as assistant on April 10th, 1921, for the previous fourteen months; in which year does this fall?

*** It is assumed that "R.A.M.C." is still an assistant. (1) Yes—not as a legal right, but on the strength of the concession semi-publicly announced by the Board of Inland Revenue; (2) the bonus should be regarded as spread over the period for which it was paid; the accident or incident that the actual payment was postponed is not material.

"IKONA" (to whom a reply was given on December 10th, 1921, p. 1015) writes to explain that though he has pressed for the allowance of expenses, his claim has not been allowed, and the collector is still demanding payment of the full amount of tax charged.

*** As our correspondent has given notice of appeal (presumably within the statutory time limit), the collector has no right to apply for the tax, and certainly no claim to payment unless the appeal has been heard. We advise "Ikona" to write to the inspector pointing this out, and requesting him to arrange for the collector's application to be withdrawn until the appeal is settled; he might further say that he cannot conveniently call on the inspector, and would be glad if the latter will state in writing his objections to the claims made.

LETTERS, NOTES, ETC.

THE Librarian of the British Medical Association wishes to replace a copy of Dr. Batty Shaw's book *Organotherapy*, which has been lost, and cannot be supplied by the publisher as it is out of print. The Librarian is prepared to pay the publishing price, 6s., for a copy of the book.

FLAT-FEET AND TOE TROUBLES.

DR. CHAS. J. HILL AITKEN (Kilnhurst, near Rotherham) writes: About four months ago a man of 45 asked me to look at his great toes. The right was extremely tender on pressing on the nail, and the left looked as though the ulcer of an ingrowing toe-nail would shortly appear. I had read an article in the *Practitioner* by Dr. Robert Hutchison on flat-feet, and took the trouble to examine the patients' insteps. It seemed to me they were inclined to bulge downwards as he stood. With the idea that when one part of a mechanical device gets out of order the mischief may show in other parts, I suggested that his flat arches were really the cause of his painful toes. He differed from me, and decided to buy bigger boots. He did, but returned to me in a week limping. He then acted on my advice, and bought a pair of instep supports. With these he found he could get about comfortably in any boots, new or old, big or proper fitting. I saw him the other day, and he told me his left toe bothered him not at all, and his right only a little. He was wearing the boots he originally blamed for his trouble—block toes.

HANGNAILS.

DR. CHAS. J. HILL AITKEN, M.D. (Kilnhurst, nr. Rotherham) writes: I have looked in two well-known books on skin diseases, and find no reference to hangnails. The following facts were told me by a layman who used to be much bothered by these unsightly and potentially dangerous lesions. Various popular preventives had proved useless, and my profession had availed him nothing. A nervous person, he discovered he would unconsciously fiddle with his nails and so start a hangnail. He broke himself of this habit and had no hangnails. He then had a series, and discovered he was wounding himself when using wooden matches to light his cigarette. The sharp edge of the cover was the agent. He eliminated this cause by using care in opening the box. He then had another series, and usually in the right hand. He discovered the cause to be a suit of hard cloth which he was wearing. The breast pocket was small, and his spectacle case was a tight fit. He was wounding his fingers when he thrust the case into the pocket. By acting on the result of his own observations he freed himself from hangnails, which had been the bane of his life for years.

HERPES AND VARICELLA.

DR. LEONARD ABRAHAMSON (Dublin) writes: In view of the recent discussions on the relationship between varicella and herpes zoster, I deem it of value to publish the following experience: Some time ago I was called upon to treat a boy suffering from chicken-pox. After he had recovered his little sister fell ill with the same complaint. A week after the girl had got well, two members of the household—the mother and a maid—developed attacks of typical herpes zoster.

MOTOR CARS: SPARE PARTS.

DR. J. WILFRED GEORGESON (Lawder, Berwickshire) writes: The dynamo of my Standard two-seater became faulty after five months' use. I wrote to the company and asked if they would give me a dynamo on loan while mine was being repaired. They sent a new one by return. I fitted it and returned the old one. They now have written that the defective dynamo has been repaired, but since the new one I got is absolutely perfect and gives me complete satisfaction, they wish me to keep it, and they make no charge in the matter whatever. Such exceptionally kind and generous treatment of "Standard" owners deserves mention in a paper whose readers are so dependent on cars. Let me further add the car is very good indeed in every respect. I have no interest in the company in any way except that of a satisfied and grateful user.

MOTOR INSURANCE.

"F. D. B." (London, S.W.) writes: I should like to draw the attention of fellow members with cars to the advantage gained by insuring through the Medical Insurance Agency (c.o. the British Medical Association, 429, Strand, London, W.C.). I paid £16 17s. on Lloyd's H.P. Policy, and out of curiosity filled in a paper for a quotation from the Medical Insurance Agency, which was £15 3s. 4d. for identically the same thing. As the benefits accruing from this source are all devoted to medical charities, whose resources are so strained at present, members by taking advantage of this Agency would be benefiting not only themselves but the less fortunate members of the profession.

WOOLLEN WINDING SHEETS.

DR. C. M. DAVIDSON (Ruskington, Sleaford, Lincoln) writes: This is a copy of an affidavit sworn April 8th, 1733, at our local church:

> "Mary T—— made oath that the body of Widow Rogers was not wrapt up or wound up in anything but which was made of sheep's wool according to an Act of Parliament in that case provided.
>
> (Signed) A. S.,
> Curate."

On turning up the deaths I find that from April 8th to May 9th there were seven deaths out of a total of ten for that year, two being in the same house on one day. Evidently an epidemic. In 1729 (four years previously) there was evidently a similar epidemic in April and May, there being seventeen deaths at this time out of a total of twenty-four for the year, several being in the same house. It would be interesting to find out the Act mentioned and the reasons for this particular method of burial being used.

*** Among the expedients resorted to for stimulating the demand for woollen goods in Stuart times was an Act passed in the reign of Charles II, decreeing that all dead bodies should be buried in woollen shrouds. This remained on the Statute Book for 120 years.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 29, 32, 33 and 34 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 30 and 31.

THE following vacant appointments of certifying factory surgeons are announced: Aberdeen (Aberdeen), Long Sutton (Lincoln), Manchester, West Central (Lancs), Reading (Berks).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£ s. d.
Six lines and under	0 9 0
Each additional line	0 1 6
Whole single column (three columns to page) ...	7 10 0
Half single column	3 15 0
Half page	10 0 0
Whole page	20 0 0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

An Address

ON

SOME ASPECTS OF THE ABDOMINAL EMERGENCIES OF CHILDHOOD.

DELIVERED TO THE FIFE MEDICAL ASSOCIATION, SEPTEMBER 23RD, 1921.

BY

JOHN FRASER, M.D., F.R.C.S.,

SURGEON TO THE ROYAL HOSPITAL FOR SICK CHILDREN, EDINBURGH.

THE responsibilities associated with the recognition and the treatment of acute abdominal conditions are at all times anxious and considerable; when one comes to deal with the abdominal emergencies of childhood the responsibilities are exaggerated, because the difficulties are increased.

The majority of my hearers are engaged in general practice; their duties are chiefly concerned with the recognition of these conditions, and therefore I propose to limit my remarks to questions of investigation and diagnosis.

First let me unburden my mind of this sentiment: I have the greatest sympathy with the general practitioner in his dealing with cases such as these, because I believe that his judgement is constantly liable to be biassed by two influences to which the hospital surgeon and the specialist are less likely to be exposed: (*a*) the influence of environment, (*b*) the influence of constant association with the case—"clinical staleness." Let me for a moment elaborate these two points, because I am convinced that they are important, and the more so as it is difficult to see any remedy which may counteract them.

The influence of environment must constantly make itself felt, and its various bearings are legion—the resistance and objection of the patient to an efficient examination, the attitude of parents, the adverse social conditions (only the other day a doctor in a Highland parish told me that the first intussusception he ever saw he examined in a gipsy's tent by the light of a heather fire). How very different, and, I confess, how much easier it is to arrive at a considered diagnosis when your patient lies in a hospital cot surrounded by the diagnostic aids with which science and mechanics have provided us. That is one reason why I sympathize with the general practitioner, and appreciation of the difficulties cultivates the best of all virtues—a humble spirit.

The second adverse influence I believe to be as important as the first, because its effect is insidious, and the appreciation of it therefore more difficult. I have termed it "clinical staleness," an inelegant term perhaps, but it expresses what I mean. Paget knew the danger of it, for you will find the remark in his *Letters:*

> "If I am in constant attendance on a difficult and doubtful case my endeavour is to approach it on each successive occasion as though it were an entirely new problem. I attempt to shake myself free from all previous impressions."

I am convinced that Paget was right, and it is in the doubtful abdominal emergency that the danger is greatest. You see the case and you examine it. You find it difficult to arrive at a definite decision regarding it. You see it again, and you pick up the thread where you left it. Doubt begins to enter your mind. You revise your impressions, but the diagnosis is more uncertain than before. This means delay, and in abdominal emergencies delay is always dangerous. Such is the process which I have crudely termed "clinical staleness." You now ask a consultant to see the case, and he quite readily supplies the diagnosis: it may be because of his greater clinical experience—he has seen similar cases before; it may be because he has made a more thorough examination than you have made; but I assure you in many cases it is because he approaches his subject with a fresh and unbiassed mind, while you have been in some degree the victim of "clinical staleness."

I have said that these two adverse influences are important, because it is difficult to see how they are to be combated. I know one or two simple rules which certainly minimize the danger of the second:

1. When you first see your patient, let your original investigation be as complete as it is possible for it to be.
2. Use the evidence which you have to furnish a diagnosis. I believe that even a wrong diagnosis is preferable to none.
3. If, in spite of your attempts at diagnosis, there is still doubt, err on the side of safety; and, where the diagnosis of acute abdominal conditions in children is concerned, safety will lie in surgical interference. I prefer to open an abdomen and find nothing wrong rather than to delay my diagnosis until surgical interference is too late.

But these are generalities, and I would speak of something more definite. I have expressed these sentiments, however, because I constantly feel that one sympathizes far too little with the difficulties which the man in a busy general practice has to meet and overcome.

TWO ASPECTS OF THE ACUTE ABDOMEN IN CHILDREN.

If you view the subject from a certain aspect the abdominal diagnosis in children is easier than a similar problem in adults, while from another point of view it is certainly more difficult. Let us consider for a moment the factors which affect the problem and either simplify or complicate it.

1. *Simplifying Factors.*

(*a*) *Limited Origin.*—One of the most comforting features in the investigation of the acute abdomen of the child is the knowledge that the pathological conditions which produce the emergency are comparatively few in number. It is obvious that large and difficult groups may be left entirely out of consideration. I may put the matter more concisely by saying that in children emergency surgery of the upper abdomen and of the pelvis is exceedingly uncommon. There are exceptions, of course, but they are rare. In other words, the surgical emergencies of childhood are localized to the large and the small intestines. This fact when realized is constantly of value in the diagnosis of a difficult case.

I have said that there are exceptions to the rule, and it is interesting to notice that the exceptions are examples of congenital errors in development, and therefore become apparent in the first few days or weeks of life. The emergencies of the upper abdomen are congenital obliteration of the duodenum, congenital obliteration of the bile ducts, and congenital stenosis of the pylorus. The inclusion of the last condition as an emergency may be criticized, and of course it does not rank as an acute one, but I believe that it should be included, for I am convinced that when the condition is recognized, early operation offers the best prospect of cure. In the pelvis, imperforate anus in any of its varieties constitutes the common emergency.

This is the first point which I would make—the limitation, with the exceptions which I have stated, of abdominal emergencies to the distribution of the small and large intestines.

(*b*) *Limited Pathology.*—The second simplifying feature is the recognition that one can practically exclude the malignant conditions and the various chronic ulcerative diseases, both of which are fertile in the production of adult abdominal emergencies, but both of which are practically negligible in the abdominal surgery of the child.

(*c*) *The Psychological Factor.* — The third simplifying feature is of a psychological nature. Children are largely free from the mental and nervous conditions which in the adult so often lead to the exaggeration of abdominal complaints, or even to the creation of phantom signs and symptoms. If the child is old enough to describe his sensations his description is generally correct. An experienced clinical observer, whose knowledge of the surgery of children is based on twenty-one years' work in a children's hospital, has repeatedly told me that, when investigating a possible case of appendicitis in a child he attaches the main importance to the single instruction, "Point to the place where you have the pain." He very rarely has reason to question the diagnosis which the child himself really makes.

There are other simplifying features, but I have mentioned the most important. This is the bright side of the picture; there is another, however—the difficulties which beset the diagnosis. I shall mention these in less detail.

2. *Complicating Features.*

(*a*) *Difficulties of Examination.*—In young children there is difficulty in obtaining a subjective history. Such a deficiency may often be supplied by the parents, more especially by the mother, and while the maternal instinct often makes a mother a shrewd clinical observer, we have to exercise discretion in the degree of value we attach to the story. There is further the difficulty which exists in obtaining the confidence of the child to such a degree as to permit of an efficient examination. A certain amount of tact in dealing with older children generally overcomes this obstacle—the spoilt child is the type which is embarrassing. Where young children are concerned, and such a question as that

of an abdominal tumour (intussusception) falls to be considered, there should be no hesitation in producing light anaesthesia, merely sufficient to induce relaxation of the abdominal musculature. Many mistakes will be avoided if this plan is followed. I use the method of light anaesthesia in the investigation of inflammatory abdominal conditions also. There is a type of child it is impossible to comfort, who resists with all the musculature at its command the slightest attempt at examination. A few drops of chloroform induce a light slumberous condition, but the stupor is so superficial that local muscular rigidity can be detected, and the information so obtained is infinitely more reliable than the erratic manifestations of a struggling child. I would, of course, remind you of the importance of the fact that to ensure the desired effect the anaesthesia, if I may so call it, must be of the lightest possible description.

(*b*) *Rapid Progress of the Disease.*—The time factor is worthy of closer attention in children than in adults; certain of the acute conditions may progress with great rapidity in the child, such as intussusception, acute appendicitis, and intestinal obstruction. Resistance has not yet reached the stage which it does in the adult body, and the sudden flooding of the child's system with powerful toxins may rapidly lead to a fatal termination. The lesson is specially impressed upon one in dealing with acute intestinal obstruction, where, after a certain stage is reached, and that quickly, there is an extremely rapid collapse.

But these questions are, after all, of general interest, and it would seem as though I had difficulty in getting down to the more essential details of the discussion. Let me therefore tabulate the common clinical conditions which we may group together as constituting the "acute abdominal emergencies of childhood."

A. Acute appendicitis.
B. Pneumococcal peritonitis.
C. Intussusception.
D. Acute intestinal obstruction.
E. Volvulus.
F. Strangulated hernia.

They are not numerous, and you will observe the truth of the statement that they are localized to the distribution of the large and small intestines. I propose to deal with each of them in turn, not in any detail, but rather with the question of diagnosis continually before us, and to bring out one or two points of special interest in regard to each.

A. Acute Appendicitis.

I have no intention of announcing to you the well-known features of the ailment. In the comparatively short time which has elapsed since it was first described it has probably received wider literary notice than any other surgical condition, but I would ask you to consider one or two aspects of the disease which have not always received the attention they merit.

1. *There is no Age Limit of the Disease.*

In my comparatively short experience I have seen five cases of acute appendicitis occurring in breast-fed babies at relative periods of four, six, six and a half, seven, and nine months, and the pity of it is that in every one of these cases the condition was recognized too late to save life. In every case the same erroneous observation had been made, "It cannot be appendicitis; the child is too young." For one of these mistakes I must assume personal responsibility, but it taught me a painful lesson, and I am anxious that others should not fall into a similar error. There is this comforting side to the age question, that owing to the comparatively small amount of appendicular lymphoid tissue which is present in the early months of life the disease does not assume the fulminating character which it may do in the older child. The greater reason therefore that it should be efficiently treated in the time which is available.

2. *The Relation between Appendicitis and the Bilious Attacks of Childhood.*

My surgical suspicions are always aroused when I am told that a child has been constantly subject to bilious attacks. My suspicions fall upon the appendix. As the appendix may be responsible for the appendicular dyspepsia of the adult, so it is often the feature at fault in the child. In the latter, however, the irritability of the juvenile mucosa is reflected in vomiting, while in the former the evidences are more chronic; possibly, too, an imperfect association of the sympathetic nervous system of the child may play a part. The essential point is the realization of the fact that repeated attacks of sickness in a child should at once suggest that close attention be paid to the condition of the appendix. If this is neglected, a severe perforating attack may be the result, with all its dangerous and unpleasant accompaniments; if an acute attack should not develop, the digestive system, and, in fact, the general health, becomes weakened and debilitated.

3. *The Order of the Occurrence of Symptoms in Appendicitis.*

It is largely due to the work of Murphy that the significance of the sequence of signs and symptoms has been realized. He classed the features in the following order as regards the time of their appearance:

(*a*) Pain—epigastric, umbilical, sometimes general.
(*b*) Nausea or vomiting.
(*c*) Local iliac tenderness.
(*d*) Fever.

The features occur almost without exception in the above order, and when the order varies doubt may justifiably be entertained as to whether the condition is actually one of appendicitis. A recognition therefore of the relative time occurrence of the various features is an important factor in arriving at the diagnosis.

It is interesting to note the explanation of the various features. They are, of course, perfectly well known to you, but I would refresh our memories on the point.

The causes of the early pain (and you will remember that it is referred to the umbilicus or epigastrium) are two—exaggerated peristalsis of the appendix and painful contraction of the caecum. Obstructive types of appendicitis—such, for example, as are associated with concretions—are accompanied by severe referred pain, because in these cases the peristalsis is especially well marked. It has been said (though I cannot vouch for the accuracy of the statement) that in these obstructive varieties the early pain is epigastric in position.

The second feature is the vomiting, and you will notice that it appears subsequent to the early pain. It is reflex in origin, the result of an antiperistaltic wave in the stomach and the emptying of that viscus. There are two points in regard to the vomiting to which I would allude. Though in adults it may be absent, in which case its place is taken by nausea, in children vomiting occurs almost without exception. The second point is that, if vomiting is especially severe, it means a distension of the appendix with contents, and in all likelihood early perforation of the organ.

Local iliac pain and tenderness is third in the order of sequence, and its comparatively late appearance has two explanations: at first it tends to be masked by the more generalized pains, and its full degree is not appreciated until the overlying peritoneum becomes irritated and inflamed. Accompanying the local tenderness there is muscular rigidity. The closer the appendix lies to the parietal peritoneum the more marked is the rigidity, and the distribution of the muscular rigidity is generally an indication of the position of the appendix. The last point is well illustrated in such a condition as retrocaecal appendicitis, when rigidity of the anterior muscles is slight or even absent, while the contraction can be made out in the muscles of the loin.

In connexion with the occurrence of fever, its appearance is comparatively late, because its development denotes an actual bacterial infection and the absorption of toxic products.

4. *The Variation of Signs and Symptoms According to the Position of the Appendix.*

I refer to this point because we sometimes forget how striking may be the variations in symptomatology dependent on the situation of the appendix.

The Pelvic Appendix.—If the appendix is dependent and lies low within the pelvis abdominal symptoms may be comparatively few. There are three features, however, one or all of which may be present—suprapubic tenderness, frequency with pain on micturition, and diarrhoea. The last two symptoms depend upon the proximity of the inflamed appendix to either the bladder or rectum. In all cases of pelvic appendicitis rectal examination shows severe local tenderness. I would allude to another feature sometimes present in pelvic appendicitis—the so-called "obturator test." If an inflamed pelvic appendix lies in relation to the obturator internus muscle it produces rigidity of that muscle, and the rigidity is demonstrated by the inability to rotate

the flexed thigh inwards and by the pain which is produced within the pelvis when the movement is attempted.

The Retrocaecal Appendix.—If the appendix lies in a retrocaecal position there may be very real difficulty in the interrogation of the symptoms. The situation is altered by the deep position of the appendix, and by the fact that in some of these cases it is actually an extraperitoneal organ. I should say that the distinctive points of a retrocaecal appendicitis are the comparative slightness of the symptoms in the early stages, the possible absence of vomiting (and this is one of the few instances in children in which appendicitis may be unaccompanied by vomiting), and the tenderness and rigidity of the loin. There is one evidence of retrocaecal appendicitis which, in my experience, is practically constant, and to which I believe insufficient attention has been paid. When the inflammation of the appendix causes oedema of any contiguous part of the abdominal parietes (posterior, anterior, or lateral), muscular rigidity invariably appears. In retrocaecal appendicitis rigidity of the psoas and iliacus muscles results, and this rigidity may be demonstrated by attempting to extend the right thigh while the patient lies on the left side.

The Mesenteric Appendix.—A third situation which may be accompanied by distinctive signs arises when the appendix lies in relation to the lower end of the ileum. It most frequently occupies a position behind the bowel and beneath the mesentery. Three or four features suggest this position of the appendix—umbilical pain with marked central muscular rigidity, early and persistent vomiting, severe small intestine colic, and early abdominal distension. These distinctive features exist because this variety of appendix is so apt to be accompanied by early small intestine semi-obstructive symptoms.

The High or Hepatic Appendix.—Finally, we may have distinctive signs in that variety of appendicitis which occurs with an undescended caecum. It is really a congenital abnormality in so far as the caecum retains a high position beneath the liver, while the appendix is foetal and terminal in type. This variety may be most disconcerting, because in its local features it simulates so exactly a basal pneumonia or a diaphragmatic pleurisy. I shall have occasion to allude to it again when I speak of the question of diagnosis.

5. *The Differential Diagnosis of Appendicitis in Children.*

Let me remind you that in any problem of diagnosis two questions fall to be discussed, and these arise in appendicitis in common with other conditions. There is the actual diagnosis—I know by certain signs and symptoms which the case presents that this is an example of appendicitis. But there is the problem of differential diagnosis. What are the conditions which resemble appendicitis, and how am I able to exclude the possibility that I am dealing with one of these conditions?

I have nothing to say in regard to the question of the actual diagnosis of appendicitis; you are as familiar with the problem as I am. I would remind you of the importance of noting the order of appearance of symptoms, and of the variability of local signs according to the position of the appendix. But I would tell you something regarding the differential diagnosis in children. It may be that it is a record of error, but one's mistakes are among the most valuable lessons if we only possess the wit to benefit by them.

The subject may be said to resolve itself into the question, What are the conditions in children which we are liable to mistake for appendicitis? I have said that this may be considered a record of error, and I confess that I have made most of the possible mistakes I record, but to know the possibilities of misdiagnosis is a step towards their avoidance in future. Let me record the possible errors one by one.

(*a*) *Acute Pyelitis.*—This condition is a fruitful source of confusion. Your attention is directed to a female child—and note the sex! A history is obtained of indefinite abdominal pain, of high temperature, of vomiting and constipation, of marked general disturbance, and frequently of rigors. On examination one is struck with how ill the child appears to be, and there is a degree of general irritability which is typical of the disease. Abdominal examination reveals local tenderness, with a certain degree of muscular rigidity. In certain respects the case resembles one of acute appendicitis, but it is really an example of acute pyelitis. The main safeguard against error is the examination of the urine, and, of course, such an examination should be a matter of routine in every abdominal case. It is possible that such an examination is forced upon you by the occurrence of dysuria and frequency of micturition, but in many cases these regional signs are absent. The urine is opalescent and acid, a deposit is slow to form, albumin is present, but slight in amount, and if microscopical examination is made of a drop from the middle of the specimen—not from the deposit, and this is an important detail—pus cells and colon bacilli are found to be present.

But, apart from the characteristic condition of the urine, certain points should arouse suspicion—the female sex (in 75 per cent. of cases); the early and high temperature, remittent in type; the marked degree of illness in the absence of severe local signs; the irritability, which is not in keeping with the apparent prostration; the situation of the abdominal tenderness (it is over the pelvis of the kidney and much less marked in degree than the features of acute appendicitis); finally, the order of appearance of symptoms differing from that of appendicitis. Of course there is a great deal more in the differential diagnosis than I have stated, but perhaps I have said sufficient to draw your attention to the possibility of the error. It is a disconcerting mistake to make because pyelitis yields so readily to alkalinization of the urine.

There are two minor points I would recall to you, and I have finished with the question. Remember that the symptoms may have lasted for a few days before pus appears in the urine, though colon bacilli are present from the beginning, also that in a unilateral case which has existed for a few days pus may disappear from the urine because the ureter has become blocked.

(*b*) *Cyclic Vomiting.*—I have put this condition second because it is a frequent source of error, but more especially because it is so important that the error should not occur, operative interference and the administration of an anaesthetic being extremely detrimental to the condition—in fact, they may be the deciding factors in a fatal termination. A child becomes pale, irritable, and tired-looking, and complains of indefinite pain, which is often localized to the pit of the stomach; there has been a preceding period of constipation and flatulence. Then, and often with extreme suddenness, vomiting appears, and it is most distressing in its frequency and severity. The error in diagnosis is most likely to occur if one first sees the child during the maximum period of the attack. The child looks drowsy and exceedingly ill, the abdomen is retracted, and from the persistent retching and vomiting it may be tender and even slightly rigid to the touch. It is then that the error may arise, but it should not. Similar attacks may put one on one's guard. There is an absence of localizing abdominal signs, the breath shows the characteristic odour of acetone, the appearance of the child suggests intense illness without any definite explanatory feature, the urine (and again there is illustrated the importance of routine examination) shows the presence of acetone, together with casts and small quantities of albumin and blood. It is possible that some of you may question the likelihood of this condition being confused with appendicitis, but I assure you the error does arise, and in many cases the dissimilarity between the two conditions is not so marked as you may imagine.

(*c*) *Ileo-caecal Lymphadenitis.*—Some nine years ago, when interested in certain aspects of glandular tuberculosis, I drew attention to a condition of the abdominal glands which may closely simulate lesions of the abdominal viscera. The condition is most characteristically seen in the ileo-caecal region. The sequence appears to be that the glands become the subject of tuberculosis; as a result, the bacteria-resisting properties are diminished, and from time to time there are attacks of subacute lymphadenitis, which no doubt arise from an intestinal absorption with which the gland is now incapable of efficiently dealing. The pathological process is comparatively common in children, and when it occurs it may simulate very closely an attack of appendicitis. The characteristic points in the history are as follows: There is frequently a preceding attack of diarrhoea or intestinal disturbance, and the association of this is important, because the resulting alteration of the intestinal flora is possibly the exciting feature of the process. Severe abdominal pain appears—there may be vomiting, though such is by no means constant, there is considerable general disturbance and fever. The symptoms rarely last for more than twenty-four to forty-eight hours, when they abate with characteristic suddenness. How is one to distinguish such a case-history from that of appendicitis? I confess it is often exceedingly

difficult—sometimes it is impossible. One or two features may be suggestive.

In lymphadenitis the pain is local from its commencement—it is never referred. This is a point, however, which in young children it may be impossible to verify. The tongue usually remains clean, the attack subsides with characteristic rapidity; fever introduces the illness, while in appendicitis temperature is comparatively late in its appearance. It may be possible to palpate the enlarged tender glands.

But I fully realize that the points I have mentioned, while difficult to verify, are capable of considerable variation, and, if your experience tallies with mine, the diagnosis of the great majority of these cases will be made after they have been operated on for what was considered to be acute appendicitis. In view of the danger in children of the "wait and see" policy where appendicitis is concerned, it is better that things should be so.

(*d*) *Basal Pleuropneumonia and Diaphragmatic Pleurisy.*—If an inflamed appendix occupies an abnormally high position, such, for example, as is associated with an undescended caecum, difficulty may arise in distinguishing this variety of appendicitis from the acute pulmonary conditions which involve the base of the lung and the upper surface of the diaphragm. There are the commonly quoted distinguishing points, that in pleuropneumonic conditions the initial temperature is high (103° to 105°), the respiration pulse ratio is increased, the alae nasi are working vigorously. But distinct from these and apart from peculiarities of onset and history, there are two tests which we find of considerable value in doubtful cases. The first is that of "opposite side palpation"—the hand is pressed firmly into the left side of the abdomen. If the origin of the pain is abdominal an accentuation is referred to the site of the infection; if, on the other hand, the pain is thoracic no alteration is produced by the left-sided pressure.

The second test is of great value, though I confess it may be difficult to demonstrate in young children. It is sometimes called the "collar test," and it has a developmental basis. The diaphragm develops in the region of the fourth cervical segment, its musculature is derived from this segment, and its nerve supply (the phrenic) is also derived from the segmental nerve (the fourth cervical). In later development the growth of the thoracic contents displaces the muscle caudalwards, and it ultimately takes up its position at the thoracico-abdominal junction. Its connexion with the higher segment, however, is extremely valuable from the diagnostic point of view, for any irritation of the diaphragm is referred along the distribution of the fourth cervical nerve, and an area of hypersensibility can be marked out which is, roughly, of a collar shape—hence the name given to the sign. In high appendicular infections the collar sign is absent, while in pleuropneumonic conditions it is present, though its demonstration in children may be difficult. It is well to remember that, if the high appendicular infection extends to such a degree as to involve the diaphragm, the collar sign will then become positive.

Of course there are many other conditions which may complicate the diagnosis of appendicitis in children, but I have mentioned these four because in my experience they are the most common sources of error.

B. Pneumococcal Peritonitis.

It is a matter for regret that so little is known regarding the etiological pathology of this condition. It is the most fatal and acute of all the abdominal emergencies of childhood; I have seen death occur within twenty-four hours of the onset of the illness. We meet with the disease under two conditions—there is a primary variety, in which, so far as we know, the original manifestations of the disease are abdominal, and there is a secondary type in which a pneumococcal infection previously existed in some portion of the body, most commonly in the chest, the abdominal manifestations in this instance being secondary.

It is the primary type which is of such special interest. This variety is apparently limited to the female sex, and it is believed that the path of infection is through the vagina and the Fallopian tubes. Such a route would explain many distinctive features of the disease—the sex association, the commencement of the condition as a pelvic peritonitis, the age period, and the occurrence of the infection among the less hygienic classes of society. The last two points require a word of explanation. The age of election at which the disease occurs is five years. It has been suggested that it is at this age that the genitalia becomes sufficiently patent to admit the infection. The further suggestion has been offered that at this period an alteration takes place in the vaginal secretion, its reaction altering from acid to alkaline, and so permitting bacterial infection. The relationship of the disease to unhygienic surroundings is beyond question. I believe it will be universally acknowledged that the condition is only met with in hospital practice, and it impresses one with the importance of insisting upon the most careful hygiene of the genitalia of the female child.

The clinical features of the disease are characteristic, and the appearance of an acute case leaves a lasting impression. The following actual history is typical of many.

> A healthy female child, aged 6, partook of a hearty breakfast, and at 10 a.m. was playing with her companions. At 10.30 she returned home complaining of intense abdominal pain.
>
> Throughout the morning hours she was repeatedly and violently sick, and there were several attacks of diarrhoea. During the afternoon her condition became aggravated in that she was more seriously ill, though the pain and sickness abated and the diarrhoea ceased. She became delirious, and when she was admitted to hospital the following morning, within twenty-four hours of the onset of the illness, she was practically moribund. She died at 11 a.m. on the second day of her illness.

Fortunately all cases do not demonstrate such a degree of intensity, but the quotation illustrates the ravages of which the disease is capable.

There would appear to be a definite sequence in the disease—the invasion of the pelvic peritoneum with a virulent strain of pneumococci, the rapid development of a pelvic peritonitis; diarrhoea and pain on micturition are direct evidences of such. From this point the course of the disease varies. In cases of intense infection and low resistance the peritonitis becomes general, septicaemia quickly supervenes, and it is the last feature which produces such a rapidly fatal issue. In a more promising type of case the infection is limited to the pelvis, the more acute characters of the disease subside, and the case acquires the features of a pelvic abscess.

To distinguish such cases from other examples of general peritonitis may be a matter of difficulty. In the early stages, an acute pelvic peritonitis in a female child, accompanied by diarrhoea and intense general disturbance, should suggest a primary pneumococcal peritonitis. In the later stages of the more acute type the appearance of the septicaemia overshadows the local abdominal signs. There is a slight cyanosis, the alae nasi work vigorously, there is delirium, with intervals of unconsciousness.

I have purposely avoided any reference to treatment in discussing these conditions, but I would say that early operation affords the only prospect of recovery in the great majority of cases. It is necessary to establish drainage, and this should be done with the utmost rapidity under gas and oxygen anaesthesia.

During the later stages of the disease we are beginning to have encouraging results from the use of blood transfusion.

C. Intussusception.

You are all perfectly familiar with the symptoms and physical signs of this condition—the colic, the appearance of blood and mucus from the rectum, the formation of a mobile abdominal tumour. But there are several features of interest which do not generally find their way into textbooks.

Two potential features govern the occurrence of intussusception—a local point of irritation within the bowel (generally the lower end of the ileum) and abnormal laxity of the colon attachment.

The question of irritation is interesting. If you consult the records of the Children's Hospital you will find that a large percentage of the cases of intussusception originate during the week end, and the explanation appears to be as follows: the father receives his weekly wages on Friday, some special dainties are secured in which baby unwisely shares, and, before the week-end has elapsed, the infant has had every opportunity of developing intussusception. This, further, is the explanation of the fact that the disease affects the children of the poor. During the nine years of my association with the Children's Hospital in Edinburgh over 300 cases of intussusception have been under treatment, and in this period I have only met with five cases in private practice. In respect of feeding, therefore, it is to some extent a preventable disease.

The other etiological point is in regard to the abnormal laxity of the colon attachment. I often remark to students that the intussusception of to-day is the neurasthenic

visceroptotic of to-morrow. There are these two points of interest in regard to the etiology of the disease.

Of the various pathological varieties the one which we most dread is the ileo-colic. In this type the ileum is projected through the ileo-caecal opening, and the tension of the orifice, together with the thickness of the small intestine mesentery, leads to earlier gangrene than in the other varieties. The colic variety is the most promising, because it is at first incomplete in so far as the obstruction of the bowel is concerned.

The Diagnosis of Intussusception.

As a rule the diagnosis of intussusception is easy, but there are two pitfalls to which I would direct your attention. The first is in regard to the question of the passage of blood and mucus. We attach great importance to the presence of blood and mucus in the bowel, and I would remind you that in the enteric or small intestine intussusception, which later becomes the ileo-colic, blood may not appear until late in the history of the disease, if indeed it appears at all. The explanation of this peculiarity is that the irritation of the enteric intussusception produces a closure of the ileo-caecal valve, and the closure leads to a retention of the blood. The second pitfall occurs in the colic variety. In this type the disease is chronic, it may last for weeks, and during that time the obstruction is incomplete, while the extravasation of blood is small. Thus in this variety the bowel may appear to move with a loose blood-stained motion, though a large intussusception is present.

Regarding the question of the differential diagnosis, there should be little difficulty in the distinction from acute enteritis and rectal prolapse. In acute enteritis the absence of a tumour, the absence of persistent vomiting, and the occasional presence of blood in a liquid stool is sufficient to characterize the condition. In prolapse of the rectum the question is purely one of careful examination.

But in distinguishing intussusception from abdominal or Henoch's purpura the problem is a much more difficult one. A surgeon of extensive experience once told me that on five occasions he had failed in his diagnosis regarding possible intussusceptions. On four occasions he had opened the abdomen to find that a Henoch's purpura was the cause of the symptoms; on the fifth occasion operation was negatived under the impression that it was purpura, but, as events showed, it turned out to be an intussusception. Often, I assure you, it is no easy matter to come to a decision. If I may be allowed to trouble you for a moment with a personal reminiscence—one of the first emergencies with which I had to deal in the Children's Hospital was an example of Henoch's purpura. It was a regrettable experience, and it taught me a lesson which I have never forgotten.

A boy of 7 was admitted with signs and symptoms suggestive of intussusception—intermittent attacks of colic, vomiting, the presence of a tender tumour in the left iliac fossa obviously in relation to the colon, the appearance of blood and mucus from the bowel. I did not notice a faint purpuric eruption, and to this day I have regretted that want of observation. Laparotomy was done, and it revealed a local haemorrhagic infiltration at the junction of the iliac and pelvic colons. Surgical operation under such conditions is, of course, nothing short of a disaster.

Suspicions of Henoch's purpura should be entertained in older children (and more especially boys) when the abdominal colic is indefinite, when no true obstruction exists, when there is an indefinite abdominal tumour, which, however, is fixed and tender, above all when a scanty purpuric eruption appears in the skin, or haemarthrosis is present, and when rectal examination shows the characteristic oedematous sensation of an infiltrated mucosa.

D. ACUTE INTESTINAL OBSTRUCTION.

This subject is too extensive to deal with in a paper of this description. I would remind you that in children the great majority of these cases, apart from intussusception, have abdominal tuberculous disease as their origin.

In the child the first sign of obstruction should entail the serious consideration of early surgical intervention. It is very undesirable to wait until the obstruction becomes acute. Children stand acute obstruction very badly, but if operation be carried out during the chronic or even the subacute stage, brilliant results may be obtained. Some variety of exclusion operation may then be done, and all the disadvantages of enterostomy, so fatal to children, may be avoided.

There should be little doubt in the diagnosis of intestinal obstruction, though on several occasions I have seen difficulty arise in distinguishing acute obstruction from cyclic vomiting. From your point of view the impression I most desire to make is that where children are concerned the large majority become obstructed because of abdominal tuberculosis. It will be exceptional for the obstruction to be acute from the beginning—weeks, possibly months, will elapse during which the signs will be those of a chronic obstruction, and this is the period during which surgical assistance should be enlisted, because at this period operation offers excellent results. Do not delay until the condition becomes acute.

E. VOLVULUS.

The volvulus of children differs from that of adults in so far as it is ileo-caecal in type; in adults, as you will remember, it is most commonly the sigmoid colon which is affected. To some extent it may be claimed that the disease in children has a congenital origin, for the condition cannot very well occur unless the colon has a long and loose attachment. It is interesting that in children both volvulus and intussusception should have a close etiological relationship to a loose mesocolic attachment of the ascending colon.

The method by which the volvulus is actually produced must remain a matter of surmise. The suggestion has been put forward that there is a preceding period of constipation. The first step in the formation of the volvulus is said to be due to some sudden movement, as turning quickly in bed or playing with other children. When the torsion has been established it is accentuated by the violent peristalsis which invariably results. In the child volvulus gives rise to the most acute and distressing symptoms. The pain is intense, the sickness is early and urgent, collapse quickly appears, and in the absence of operative interference a fatal issue rapidly supervenes.

F. STRANGULATED INGUINAL HERNIA.

Where children are concerned this title is a misnomer. By using the term "strangulation" we mean an interference with the blood supply of the herniated tissues, and it is remarkable that this is an exceedingly rare event in the clinical history of the hernia of the child. I have looked over the records of 3,000 cases of inguinal hernia which have been under treatment in the Edinburgh Children's Hospital, and among such a large number there has been no instance of strangulation as we find it in the adult. Many of the cases have been irreducible, but even in those which have been irreducible for several days strangulation had not resulted. In one instance there were two small devitalized patches on the wall of the bowel at the level at which the external ring exerted pressure, but local invagination was sufficient to deal with the condition.

This clinical detail should give you considerable comfort but I do not bring it forward with the suggestion that it should induce you to delay operation in these cases. If a hernia is irreducible, the sooner it is operated on the better; but, if your position is such that operation is impossible, you may delay with an infinitely greater sense of security than would be the case where adults are concerned.

CONCLUSION.

As I said at the beginning, I have made no attempt to deal exhaustively with the features of the acute abdomen of childhood; such a subject is too vast to be covered in a single lecture. I have tried instead to present to you certain aspects of the problem which may be of interest to the general practitioner. My purpose will have been served if I have been able to make any easier for you a problem which must always be an anxious and a difficult one.

THE papers set at the third M.B., B.S. examination of the University of London, held last October, have been printed and can be obtained from the University of London Press, 17, Warwick Square, E.C.4, price 1s., postage 1d. extra.

THE Fuel Research Board is instituting a systematic investigation of coal seams at present being worked or developed, with the view of ascertaining the suitability of each particular coal for those purposes for which its individual qualities render it most adequate—gas making, coke making, steam raising, or for domestic use. It has recently recognized the Lancashire and Cheshire Coal Research Association as its representative body in those districts.

FATS IN RELATION TO THE GENESIS OF GOITRE.*

BY

ROBERT McCARRISON, M.D., D.Sc., LL.D., F.R.C.P.,
LIEUT.-COLONEL I.M.S.,

IN CHARGE DEFICIENCY DISEASES INQUIRY, INDIAN RESEARCH FUND ASSOCIATION, DEPARTMENT OF PHYSIOLOGY, UNIVERSITY OF OXFORD.

IN a paper published in the *Indian Journal of Medical Research* in January, 1920, I drew attention to the effect of a diet containing an excess of butter in favouring the development of thyroid hyperplasia of the Graves's disease type. The experiment which led to this observation was carried out at Coonoor, Nilgiri Hills, Madras—6,000 ft. above sea-level—where goitre is practically unknown. It was made on pigeons and lasted 248 to 250 days, at the end of which period the birds that had survived were killed; several had died in consequence of maltreatment by their fellows.

EXPERIMENT.

1. Eighteen semi-wild pigeons were confined in a large netted wire cage, 5 ft. by 3 ft. by 2 ft. They were fed on a mixture of grains consisting of white millet seeds 12 oz., small dark millet seeds—known in India as *ragi*—8 oz., and split peas, of the variety known in that country as *mungdal*, 8 oz.; 3 oz. of fresh butter were intimately mixed by hand with the grains. The birds received this mixture daily. No sand nor grit was provided.

2. Eighteen other semi-wild pigeons were similarly confined and fed on the same mixture of seeds and butter, but with the addition to it of a daily allowance of 6½ oz. of freshly chopped onions. These also received neither sand nor grit.

3. Forty-two pigeons similarly confined and fed on millet seeds only, without the addition of butter, onions, or sand, acted as controls to the experiment.

In all three cases water was supplied in shallow troughs suspended a few inches above the bottoms of the cages.

Results.

1. The average weight of the thyroids per kilogram of body weight was 82 mg. in control birds receiving mixed millet seed only; in those which received mixed grains with butter and onions it was 128 mg.; and in those which received mixed grains with butter only, 183 mg.

2. Of fifteen pigeons which received *butter and onions* the weight of both thyroids exceeded the maximum weight in controls in five cases. Goitre was present in 33⅓ per cent. and absent in 66⅔ per cent. of cases.

3. Of seventeen pigeons which received *butter without onions* the weight of both thyroids exceeded the maximum weight in controls in eleven cases. Goitre was present in 65 per cent. and absent in 35 per cent. of cases.

4. On histological examination the enlarged thyroids of pigeons that received *butter and onions* presented a picture showing moderate congestion with the formation of many new acini whose epithelium did not exceed in height, or but slightly, that of the normal actively secreting gland. There was slight tendency to acinar budding. Colloid was comparatively scanty, thin, and pale-staining. Multiplication of acini was the essential feature of this type.

5. On histological examination the enlarged thyroids of pigeons that received *butter without onions* presented a picture showing little or no colloid, increase in height of the acinar epithelium, pronounced vesicular budding, irregularity in shape of the acini and plications of their walls—a picture similar to that characteristic of Graves's disease. Hypertrophy of acinar epithelium was the essential feature of this type of goitre.

The excessive richness of the food in butter was in this experiment a determining factor in the production of the thyroid hyperplasia and of the pronounced acinar budding.

A not less noteworthy result was the protective influence exerted by the onions. The addition of this vegetable to the diet of mixed grains and butter tended to lower the incidence of goitre, to reduce the average size of the thyroid enlargement, to restrain the intensity of the hyperplasia and the tendency to acinar budding, and to alter the character of the histological picture from an epithelial hypertrophy to a multiplication of acini without notable hypertrophy of their epithelial lining.

Variations in the histological types of goitre may thus be brought about by variations in the components of a goitre-inducing food.

The incidence of goitre in pigeons fed on mixed grains and butter, but without onions, was 65 per cent.; in the remaining 35 per cent. there was no goitre; and judged by two samples taken from this minority there was no appreciable departure of the thyroid gland from normal. The cases that did not develop thyroid hyperplasia have a significance second only in importance to those that did. They suggest that the excess of butter was not in itself the cause of the goitre, but that it was made a potent contributing or determining cause by the operation of some other factor or factors. My previous work had indicated the important part played by bacteria introduced into the alimentary tract in the causation of goitre. The restriction of such bacterial intervention would afford an explanation of the protective influence exercised by onions in restraining the thyroid hyperplasia; in view of the minute content of iodine in onions it seems unlikely that a sufficient explanation is to be found in an increased iodine intake consequent on the addition of onions. I think it well to insist on this probability of bacterial intervention, for my recent work on "deficiency disease" has impressed upon me the necessity for bearing in mind not only the conditions of faulty food to which animals or man may be subjected, but also the variable character of the bacterial flora with which the faulty food may be associated in the digestive tract. Here we are concerned with faulty food in relation to goitre production—in relation, that is, to a malady whose prevention is dependent on the provision of an adequate supply of iodine for the needs of the thyroid gland. It is necessary, therefore, to take account of every means by which this supply may be interfered with. I interpret the results of this experiment to mean that in conditions of overfeeding (with butter in excess in the dietary), of lack of exercise, and of imperfect hygiene, the food must, for some reason, provide, in a high proportion of cases, an additional supply of available iodine for the normal functional activity of the thyroid gland.

So much, then, for my original observation with regard to the effects of a diet excessively rich in butter in contributing to the production of thyroid hyperplasia of a type similar to that found in Graves's disease; but this hyperplasia did not involve the discharge from the gland of an amount of thyroid secretion in excess of the requirements of the tissue cells. The pigeons presenting the thyroid hyperplasia did not exhibit any other signs of Graves's disease. The resemblance to this malady ended with the similarity of the histological picture of the thyroid gland in the two cases.

This observation as to the part played by food excessively rich in butter in producing hypertrophic goitre has recently received confirmation from the work of E. and M. Mellanby, who have reported similar results in puppies. They found that of the fats used by them butter induced the greatest degree of hyperplasia. They found, moreover, that cod-liver oil did not produce thyroid hyperplasia, and attributed this protective action to the oil's content of iodine. They comment also on the fact that the thyroid enlargement tended to be less marked when the fat-fed puppies had ample opportunity for exercise and an out-of-door life.

In pursuance of my original observation and of the more recent results of the Mellanbys I devised an experiment to contrast the action on the thyroid gland of free oleic acid with that of butter and of cod-liver oil. A small shelter, 6 ft. square and open at one side, was built on the roof of the laboratory at Oxford. In contrast to Coonoor, where the first experiment was carried out, simple goitre is common in Oxford. A number of small netted wire cages, approximately 16 in. square, and having a netted-wire bottom beneath which was a removable zinc tray, were placed in this shelter. The cages were piled one on top of another in columns of three. Two pigeons were placed in each cage. The amount of movement possible to the birds was thus more limited than in the first experiment and the hygienic conditions less perfect. The conditions under which the birds lived were, in short, highly favourable to the production of goitre, as the results noted in control birds at the conclusion of the experiment show. Some of the pigeons used were highly bred casters from among show birds, descended from a stock that had always lived a confined life; the tendency to goitre production was thus enhanced by hereditary factors. Twenty-eight birds were employed in the experiment, which commenced on April 4th, 1921, and terminated on August 26th (a period of one hundred and forty-four days). The birds were fed on a shop mixture of buckwheat, wheat, split peas, barley, maize, dari, and white African maize. Each bird consumed of this mixture approximately 50 grams a day. Six were in addition each given 1.6 c.cm. of oleic acid a day mixed with the grains; six each received 4 grams of butter a day, and six 1 drachm (3.55 c.cm.) of cod-liver oil in admixture with the grains; the birds ingested the major part of the several fats given. The cod-liver oil was the so-called "cattle cod-liver oil," and contained 0.002 per cent. of iodine. Six birds acted as controls; these

* A Mayo Foundation Lecture delivered at Rochester, Minnesota, on November 30th, 1921.

received the same grains, in the same proportion, but no fats. They were confined in the same way (two to a cage) and in the same shelter as the birds receiving fats. One bird from each batch was killed during the course of the experiment in order to ascertain how the experiment was proceeding. The remainder were killed on the 143rd and 144th days; their thyroids and other organs were removed and weighed. It was found first that goitre, sometimes of large size, was present in controls, in those which received butter, and in those which received oleic acid, but was not present in those which received cod-liver oil. Secondly, it was found that the incidence of goitre was as high in controls as in birds that received butter or oleic acid.

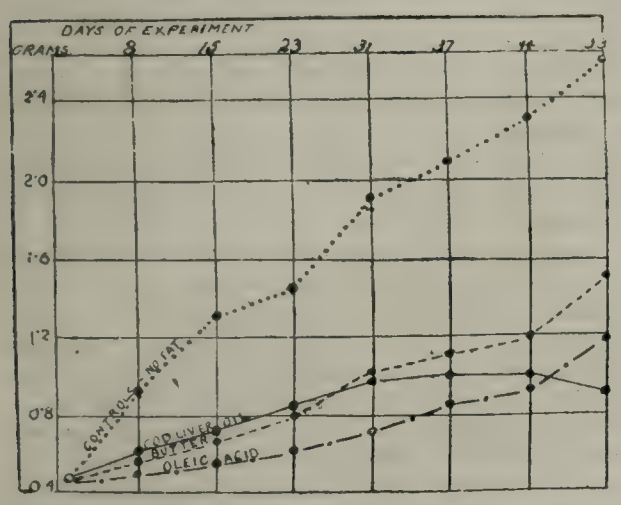


FIG. 1.—Showing the effect of *cod-liver oil*, *butter*, and *oleic acid* in retarding the growth of tadpoles.

The average weight of the thyroids per kilogram of body weight was, however, different. It was:

In controls	... 537 mg.
In butter fed pigeons	... 675 mg.
In oleic acid fed pigeons	... 909 mg.
In cod-liver oil fed pigeons	... 93 mg.

Great variation in size of the goitres in the first three categories was a notable feature.

The outstanding results of this experiment are: (1) The potency of the conditions of close confinement, want of exercise, overfeeding, and faecal contamination of the food in causing goitre. (2) The completeness of the protection against goitre afforded by cod-liver oil. (3) The influence of butter in favouring the development of the thyroid swelling, and the still greater influence of free oleic acid in so favouring it. (4) The pronounced individual idiosyncrasy to the disease as evidenced by size of the goitre. The last feature is one to which I have drawn attention in the case of congenital goitre produced in kids and in rats by feeding their mothers throughout pregnancy on cultures of faecal bacteria from goitrous persons.[1] It suggests the possible influence of individual variations in metabolic rate in determining the size of the goitre, the greater need of some individuals for iodine than of others, or the more potent operation in some cases than in others of bacterial agencies in the digestive tract in hampering the absorption or utilization of iodine. The fact that free oleic acid appears to be more potent in favouring goitre production than butter, suggests that it may be by means of the free unsaturated fatty acid derived from butter in the digestive tract that the latter exerts its harmful action on the thyroid gland.

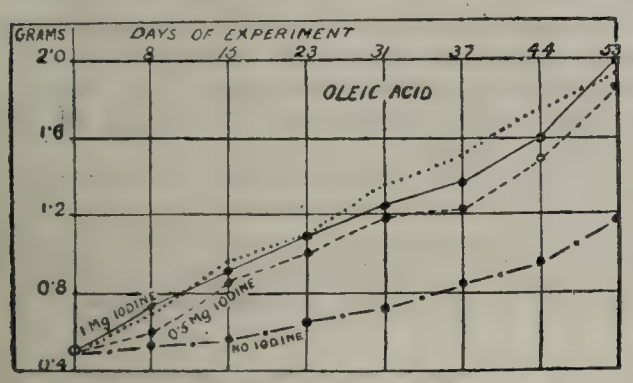


FIG. 2.—Showing the effect of iodine in compensating for the retardation of growth induced in tadpoles by an excess of *oleic acid* in their food. Dotted line: Controls receiving 1.0 mg. iodine per gram of food mixture, but without oleic acid.

The two main facts brought into prominence by this second experiment—namely, that the free unsaturated fatty acid (oleic acid) is peculiarly potent in respect to goitre production (in certain cases only), and that cod-liver oil, containing 0.002 per cent. of iodine, is peculiarly beneficial in respect to goitre prevention, both point to iodine as a common factor concerned in the results. It would seem that in the presence of an excess of free oleic acid the iodine in the food is in certain cases either rendered unavailable for use by the thyroid gland or a larger amount of iodine is in these circumstances required by the thyroid gland; or that the absorption of oleic acid in excess creates in certain cases an increased demand for thyroid secretion on the part of the tissues. In the presence of an excess of cod-liver oil, on the other hand, it would appear that a supply of iodine sufficient to resist goitre-producing influences of a high degeee of intensity is provided by the oil. Further experimental evidence is available relative to both these points.

While the second experiment was proceeding others were in progress with the object of studying the relation between fat-excess and iodine-intake. For this purpose tadpoles were used. It was thought that their sensitiveness to the influence of iodine might serve as an index of the harmful effect exerted by fat-excess on the thyroid gland. The experiments yielded remarkable results.

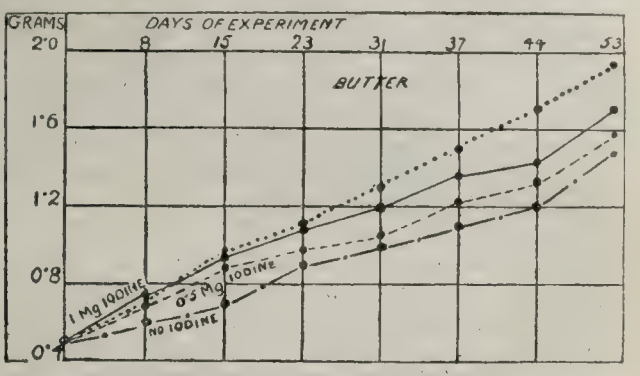


FIG. 3.—Showing the effect of iodine in compensating for the retardation of growth induced in tadpoles by an excess of *butter* in their food. Dotted line represents the rate of growth of controls receiving 1.0 mg. of iodine per gram of food mixture, but without butter

EXPERIMENTS WITH TADPOLES.

The tadpoles used were of the same age—eleven days—and approximately the same size. Fifty were used for each test. They were kept in white pudding dishes each containing one litre of tap water; great pains were taken to keep the dishes clean and the water fresh. They were fed on a mixture of flour 85 parts, and caseinogen 15 parts, with green pond weed q.s. The flour-caseinogen mixture was made into a soft dough with water, and pills of it were dropped into the dishes. These the tadpoles ate greedily; cannibalism was very rare. Among the fats tested were butter, oleic acid, and cod-liver oil. The several fats were mixed with the flour-caseinogen mixture in the proportion of approximately one part of fat to two of the mixture. The addition of the fat enabled small pills to be prepared as above mentioned. These a so the tadpoles ate greedily during the earlier part of the experiment, more sparingly during its later stage. Three series of experiments were carried out. In the first the effects on the developing tadpoles of the several fats were observed in contrast with controls receiving the same food without fats; in the second the effects of the several fats with the addition of 0.5 mg. of iodine per gram of food-mixture were observed in contrast with controls receiving the same amount of iodine but no fats; and in the third the effects of the several fats, with the addition of 1.0 mg. of iodine per gram of food mixture were observed in contrast with controls receiving the same amount of iodine but no fats. Details of the experiments have recently been published in the *Proceedings of the Royal Society*.

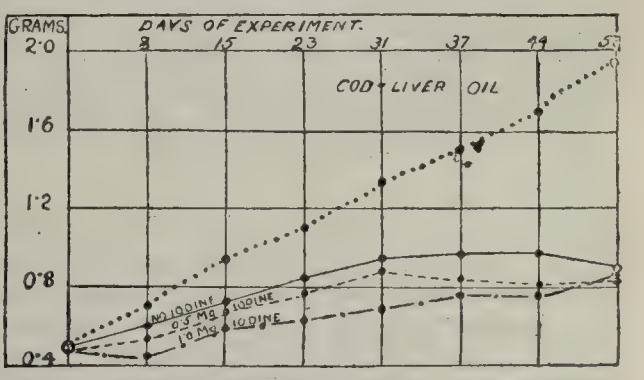


FIG. 4.—Showing the effect of iodine in accentuating the retardation of growth induced in tadpoles by an excess of *cod-liver oil* in their food. Dotted line: Controls receiving 1.0 mg. of iodine per gram of food mixture, but without cod-liver oil.

RESULTS.

1. An excess of the several fats in the food of tadpoles caused remarkable retardation in their rate of growth (Fig. 1).

2. Iodine in amounts of 0.5 to 1.0 mg. per gram of food mixture tended to prevent the retardation of growth induced by butter and oleic acid, but not that induced by cod-liver oil (Figs. 2, 3, and 4).

3. The compensating action of iodine varied in the case of the several fats; it was complete in the case of oleic acid (Fig. 2), almost so in the case of butter (Fig. 3).

4. So far from iodine exercising any compensating action on the retardation of growth induced by cod-liver oil, the retardation was increased by the iodine (Fig. 4).

5. The normal rate of metamorphosis was only slightly affected by the harder fats, such as butter; but was delayed by the fluid and less saturated fats, oleic acid and cod-liver oil.

6. The delayed rate of metamorphosis induced by oleic acid was compensated for by the presence of 1 mg. of iodine per gram of food mixture, but was not compensated for by this amount of iodine in the case of cod-liver oil.

7. The retardation of growth induced by the fats was associated with delayed development of the thyroid gland. Iodine in the above proportion compensated for the retardation of thyroid development induced by butter and oleic acid, but did not compensate for that induced by cod-liver oil.

8. Finally, in a further experiment, in which tadpoles were fed on flour-caseinogen mixture 100 parts and metallic iodine 1 part, the abnormally rapid metamorphosis induced by the high iodine intake was considerably hastened by a high proportion of butter in the food mixture, but markedly delayed by a similar proportion of cod-liver oil.

From these results the general conclusion may be drawn that, in so far as butter and oleic acid are concerned, an intake of iodine approximately proportionate to the intake of these fats in the food is requisite for the maintenance of normal metabolism, and for the normal functional perfection of the thyroid gland. The influence of iodine in further retarding bodily growth and development of the thyroid gland in the case of cod-liver oil, when administered in dosage favourable to both in the case of butter and oleic acid, is not yet understood. It is to be noted, however, that this effect of iodine was the more marked the larger the dose of this element. A further contrast in the behaviour of butter and cod-liver oil is afforded by their action in the presence of a high iodine intake by tadpoles. The abnormally rapid metamorphosis induced by the iodine was hastened by a high proportion of butter in their food, but was delayed by a similar proportion of cod-liver oil. While it is not yet possible to afford a complete explanation of these reverse effects of butter and cod-liver oil, the facts as they stand indicate an important relationship between thyroid function and the metabolism of iodine and fats. Free oleic acid and cod-liver oil also, in respect to their relations with the thyroid gland, have reverse effects; the former favours thyroid hyperplasia, the latter protects against it. In respect to iodine they seem also to have reverse relations: the former when ingested in excess requires to be combined with iodine in the approximate proportion of one part of this element to 3,000 of the unsaturated fat, in order that it may be rendered harmless to tadpoles; the latter when ingested in excess by tadpoles becomes more harmful if combined with this amount of iodine.

Oleic acid also seems to have an effect on the thyroid gland of tadpoles which has not been observed in the case of cod-liver oil, nor in the same degree in the case of butter; it would appear, from the limited number of observations I have so far made, to cause a diminution of the colloid-content of the gland out of proportion to its retardation in development. This observation was made as follows: The tadpoles were serially sectioned, each section being 10 μ thick. The area occupied by the thyroid could thus be measured and the total number of vesicles counted. By measuring with the micrometer eye-piece the diameter of the colloid in each more or less circular vesicle, and adding the figures so obtained together, an arbitrary figure was reached which in the case of tadpoles that received oleic acid was one-third less per gram of tadpole than in controls. The addition of iodine to the food mixture containing oleic acid restored the colloid-content of the thyroid gland to normal. This observation suggests that oleic acid has a special tendency to prevent the storage of iodine-containing colloid in the thyroid gland.

Discussion of Results.

The results of these three experiments possess a number of interesting features. If the question of goitre production be considered simply from the point of view of iodine available for the needs of the thyroid gland, then it may be concluded that under the conditions of the first experiment the food contained a sufficiency of iodine for these needs when butter was absent from the dietary, but not always when it was present. The excessive richness of the food in butter thus became in a relatively high proportion of cases a determining factor in the production of thyroid hyperplasia. In the second experiment on pigeons the results appear to incriminate oleic free acid as a peculiarly harmful derivative of butter, and in this the influence of the unsaturated fatty acid was apparently exerted in increasing in certain cases the difficulties of the thyroid in securing the requisite amount of iodine under the goitre-producing conditions of the experiment. When a sufficiency of iodine was provided, as in cod-liver oil, these difficulties ceased and goitre did not arise. The results of the experiments on pigeons may, I think, be correlated with those in tadpoles; they emphasize the dependence of the animal organism and of the thyroid gland upon an amount of iodine approximately proportionate to the amount of edible fat or of free unsaturated oleic acid ingested. When the available iodine is not sufficient then the organism and the thyroid gland suffer; when it is rendered sufficient, but not excessive, then metabolism and thyroid function proceed normally.

The results of the experiments indicate that there is such a thing as a "fat-thyroid-iodine balance," and that this balance may be disturbed either by an intake of iodine insufficient for the needs of the body in the particular circumstances in which it finds itself, or by the presence in the digestive tract of an excess of fat, and more especially of an excess of free unsaturated oleic acid. Goitre may arise, therefore, either from actual or from relative deficiency of iodine. We thus have an example of a deficiency disease (goitre)—due to an insufficient supply of one essential element of the food (iodine)—arising in consequence of, or favoured in its development by, excess of another essential element of the food. It has become usual of late in connexion with goitre to read of "relative deficiency of iodine in the food" as though the conditions under which it may arise had been known. The present results indicate one means by which such relative deficiency may be brought about—namely, by an excess of edible fat or of free oleic acid in the digestive tract.

But if free oleic acid in the digestive tract is to be incriminated as a determining cause of goitre in actual practice, and as a derivative of digested fat peculiarly harmful to the thyroid gland, it is necessary to ascertain how it becomes relatively excessive to the available iodine in the food. People do not ordinarily ingest the excessive amounts of fats eaten by the animals in these experiments; nor is free oleic acid used as a food. Provided that fats are ingested in normal amounts it seems unlikely that in the ordinary processes of their digestion free oleic acid would normally be relatively excessive to the available iodine in the digestive tract. It is possible, however, that abnormal conditions may arise in this situation in consequence of bacterial action that would render by one means or another the small amount of available iodine in the food relatively deficient, or free oleic acid relatively excessive. A number of possibilities as to the mode of action of bacteria introduced into the digestive tract suggest themselves. What, for instance, is their effect on the iodine-holding elements of the food? Do they rob these elements of available iodine, absorb it in some way, and pass with it out of the body? Or, do they split up the components of the food in such a way as to enable some cleavage product to absorb iodine and pass with it out of the body? What effect have they on ingested fats? Do they interfere with that combination of fatty acids with alkali or bile salts that is necessary for the solution and absorption of these acids? Do they, by some means, lead to a relative excess of free oleic acid over the available iodine in the digestive tube? And, if oleic acid be absorbed in excess, in what way does it increase the difficulties of the thyroid gland in securing an adequate supply of iodine? Or in supplying the demands of the tissues for thyroid secretion? And why are these difficulties greater in some cases than in others? These are among the questions that suggest themselves; their solution will, I think, materially advance our knowledge of the mechanism of goitre production.

I am glad to find that the bacterial aspect of the goitre problem, to which I have devoted so much attention in the past, is at length receiving recognition. Dr. Plummer, whose work has contributed so much to our knowledge of disorders of the thyroid gland, has recently expressed himself as follows:

"That introduction of bacteria into the digestive tract is an important factor, if not the primary cause of endemic goitre, is fairly well established. As to how the organisms act in the host, there is no definite evidence. That the bacterial flora in the digestive tract may sufficiently interfere with the absorption of the small amount of iodine available in the diet is a possibility, particularly in areas in which this element is relatively small. The relation of the bacterial flora to the available iodine would explain the geographical distribution of goitre."

Formerly, I considered that the harmful effects of bacteria in the digestive tube on the thyroid gland were due to positive toxic agents produced by them in this situation. Of late, however, the possibility that their harmful influence may be due in some part to interference with iodine absorption or utilization has seemed to call for consideration.

I venture to think that the new facts I have brought to notice here throw a further light on the difficult problem of the genesis of goitre. They indicate that the composition of the food has an important bearing upon it; that the food must be considered both in relation to its content of available iodine and in relation to its content of fats; that the thyroid may enlarge not only from insufficient intake of iodine

(a comparatively rare occurrence), but from relative insufficiency of iodine consequent on the presence of an excess of certain edible fats or of free fatty acid (oleic) in the digestive tract; that the food must be considered in relation not only to the normal processes of digestion but in relation to abnormal processes that may arise from the introduction of bacteria into the digestive tube; and that variations in histological types of goitre may result from variations in the composition of a goitre-inducing food. They provide, too, a new point of view from which to consider the genesis of simple goitre, of sporadic goitre, and of exophthalmic goitre.

REFERENCE.

[1] McCarrison, R.: *The Thyroid Gland in Health and Disease.* London. 1917.

THE RECOGNITION OF AORTIC INCOMPETENCE.

BY

E. M. BROCKBANK, M.D., F.R.C.P.,

HONORARY PHYSICIAN, ROYAL INFIRMARY, MANCHESTER.

I HAVE on many occasions in recent years, in private and hospital work, found incompetence of the aortic valve which had not been previously recognized or even suspected. It has been present in several soldiers, officers and men, who had been demobilized or discharged as physically fit, although at that time they must have had aortic disease, judging from the condition of the heart when first seen by me. I also meet with it from time to time in insurance work in supposed healthy persons, men and women, and in people with known aortic stenosis but unsuspected incompetence. I think it worth while, therefore, to emphasize the importance of a most careful and systematic examination for this lesion, which is, in my experience, more commonly overlooked or unsuspected in its early stages than any other valvular lesion in proportion to the relative frequency of its occurrence.

The failure to recognize aortic incompetence in its early stages is most unfortunate, because the strain thrown by a leaking aortic valve on the ventricular muscle is greater than that produced by any other diseased valve, and steps should be taken to assist the muscle to withstand this strain at the earliest possible moment.

Aortic incompetence is most likely to be overlooked when it occurs, as it not uncommonly does, without any accompanying obstruction or stenosis to attract attention to the diseased aortic valve by its definite, easily recognized systolic murmur heard over the second right costal cartilage. But even when there is obstruction, and it is remembered that it is unusual for this condition to occur without some leaking of the valve as well, the diastolic murmur of incompetence is sometimes not found.

The chief reason why aortic incompetence is frequently overlooked in its early stages is that then its diastolic murmur—which is short, soft, and blowing in character—is generally heard only, or heard best, not at the aortic cartilage where the systolic murmur is heard, but down the left edge of the sternum, and often only in the fourth intercostal space against the sternum—that is, the so-called tricuspid area of the precordia.

With this source of error it is necessary to adopt some safeguarding rules for examining the heart of every patient, and those which I practise myself as well as teach every day are as follows:

I.

To ascertain as accurately as possible, by palpation and percussion, the position and nature of the cardiac impulse and apex beat, always feeling for the latter well out towards the axilla. To assume invariably that aortic valvular disease is present whenever, with no increase of blood pressure, there is any enlargement of the left ventricle with forcible impulse (even if the enlargement be slight in degree) and the heart's action is moderately slow and regular. The onus of proof to the contrary then rests with the clinician, but the assumption will be justified at least in four out of five of such cases.

Hearts which are enlarged with good compensation in aortic disease generally beat regularly and at a moderate rate as compared with enlarged hearts associated with mitral incompetence and auricular fibrillation.

In advanced cases of aortic incompetence with marked cardiac enlargement and muscle failure there is often considerable irregularity, but then there is no difficulty in recognizing the condition.

II.

To examine, in the first place, over the aortic area for auscultatory evidence of valvular disease—namely, the systolic murmur of obstruction and the diastolic murmur of incompetence.

The diastolic murmur is generally, but not always, heard at the aortic area when there is accompanying actual aortic obstruction and the regurgitation is free. Unfortunately, however, in many cases where there is no obstruction and the regurgitation is slight, and also, but less frequently, when there is obstruction and free regurgitation, the aortic diastolic murmur is not heard at the aortic cartilage. The stethoscope must then be applied down the left edge of the sternum and in the fourth left intercostal space—that is, the tricuspid region of the precordia. In the cases in question a diastolic murmur will very likely be heard in this situation, but if one is not found, further search must be made, for this murmur is occasionally heard at a very limited area of any part of the precordia, sometimes nowhere but at the true apex beat. So when the conditions set forth above, which point to aortic disease, are present, the whole of the precordia, but especially that down the left region of the sternum, must be searched for a diastolic murmur.

If such a procedure be adopted there is little likelihood of aortic incompetence being overlooked. I have known an individual practitioner find it in this way in one of his ex-soldier patients when a medical board has not done so.

A diastolic murmur heard down the left edge of the sternum might, of course, be caused by incompetence of the pulmonary valve. This lesion is, however, very uncommon, but if it were present there would be evidence of pulmonary valve disease, especially of hypertrophy of the right ventricle with a heaving forcible impulse in the left of the epigastrium under the costal arch.

Mitral or tricuspid diastolic murmurs with their associated physical signs need rarely be mistaken for aortic diastolic murmurs.

In several of the cases I have observed there was no previous history of rheumatism in any form, of chorea, tonsillitis, scarlet fever or trench fever, the only illness remembered having been influenza or malaria. In one or two I could get no history of any previous acute illness or of venereal disease, and I was forced towards the conclusion that the very strenuous exertion of physical training and active service had caused some dilatation of the aorta and incompetence of the valve. I did not always use the Wassermann test to check statements, but I felt convinced that some of the young soldiers with aortic disease had not had syphilis.

In some of the soldiers I was much impressed by the fact that when aortic incompetence developed in muscular and vigorous men the heart muscle was evidently able to compensate so well for a time that there was no breathlessness on exertion and no sensation of over-action sufficient to attract attention and cause a visit to the medical officer.

I add notes of a few of the more interesting cases:

CASE I.

J. D., a motor driver, aged 33, who drove a Ford ambulance car in the Expeditionary Force from Mesopotamia to Baku was admitted to the Manchester Royal Infirmary in 1919 for a relapse from malaria. He had a forcible cardiac impulse, with extension of the heart to the left 4½ in. from the mid-sternal line; there was no increase in the blood pressure and no albumin in the urine. On auscultation the only evidence of valvular disease was in the fourth intercostal space at the left margin of the sternum. At this point was a definite soft aortic diastolic murmur, which I demonstrated at a post-graduate clinic. I advised him to inform any medical board before which he went of the existence of the valvular lesion, and I also told him that he was not fit for hard manual labour. He was readmitted to the infirmary the following year, when he informed us that his medical boards had not found the valvular disease. The murmur was more marked and the cardiac enlargement greater then. I saw the man at a later date, when the condition of the heart was worse. He had not had any other illness than the malaria to account for the aortic disease.

CASE II.

R. C., aged 29, served at Salonica, and was demobilized July 7th, 1919. He had had no malaria or other definite illness, but only pain in the back in May, 1919, for which he was given aspirin. He was discharged with "V.D.H." I saw him in November, 1919, at the request of his own doctor, who considered that there was mitral disease and aortic incompetence, although the medical board said there was no aortic disease present. The heart was enlarged, extending 5 in. from the middle line. I found that he had mitral stenosis and aortic incompetence, there being a definite soft diastolic murmur at the left of the sternum in the third intercostal space. There was a crescendo murmur but no diastolic murmur at the apex.

CASE III.

W. D., aged 28, farmer, served under the R.F.A. and was demobilized as fit without asking for any medical board in June, 1919. I saw him on August 22nd, 1919, as he was complaining of great shortness of breath and severe pain over the spleen, which I thought after examination was due to an infarct. I found that his heart was about twice its normal size, extending to the left six inches from the mid-sternal line. There was marked aortic and mitral incompetence, with septic endocarditis. He had had myalgia in the army in 1916, and went back to his duties before he really felt well. He got "all right" afterwards, he thought, and never asked for a medical board or demobilization; but there must have been valvular disease then, and I advised him to claim for it. He died within four weeks of admission to hospital.

CASE IV.

F. W., aged 23, served throughout the war as stretcher-bearer in the R.A.M.C. He had influenza in May, 1918, but did not lie up with it. During the last twelve months of duty he found his heart thumping in a way it had not previously done. He was demobilized as "fit" in June, 1919, without going before a board. He was sent to see me in the following November; I found that he had an enlarged, heaving heart, rate 94, regular. There was a systolic murmur at the apex conducted into the axilla, and a to-and-fro murmur at the aortic area, the diastolic murmur being most distinct in the tricuspid region. He died the year after I saw him.

CASE V.

L., aged 17, examined for insurance in 1918, had an enlarged, regularly beating heart with forcible impulse. In the fourth intercostal space against the left edge of the sternum was a soft diastolic murmur. There was no other evidence of valvular disease. I reported that he had aortic incompetence and advised refusal of the policy. Two years later I was asked to review the opinion as he had been taken to a doctor who said there was no aortic disease. I found the diastolic murmur in the same situation, and my finding was checked by an independent examiner.

CASE VI.

B. F., aged 45, was known to have a faint systolic murmur at the aortic area, and I was asked for my opinion on the value of the case for insurance purposes. I found that the heart was enlarged, with good compensation, the apex being in the sixth space, five inches from the middle line. The rhythm was regular and rate about 88. There was a faint systolic murmur at the aortic area, but there was also a very definite diastolic murmur in the fourth interspace against the left side of the sternum.

CASE VII.

A lady, aged 25, a teacher of physical exercises in schools, who played hockey and looked quite healthy, was an apparently good life. On palpation I was surprised to find that the impulse was regular, forcible and slow (78), and extended four inches to the left from the middle line. The blood pressure was normal. The only auscultatory evidence of valvular disease was a distinct soft diastolic murmur in the fourth left intercostal space against the sternum, which was undoubtedly caused by aortic incompetence.

I can call to mind at least four other insurance cases, all men, in whom I unexpectedly found aortic incompetence with a murmur in the same situation and no other auscultatory evidence of valvular disease.

Conclusions.

When a heart is enlarged, and beating regularly, or fairly regularly, and at a moderate rate, and there is no increase of blood pressure, aortic valvular disease must be suspected and auscultatory evidence sought for, not only over the aortic cartilage but also down the left border of the sternum, and especially over the tricuspid region of the precordia where the earliest evidence of aortic incompetence is most likely to be found.

THE TREATMENT BY REST OF ACUTE INFECTION OF THE KNEE-JOINT.

BY

SIR JOHN O'CONOR, K.B.E., M.A., M.D.,

SENIOR MEDICAL OFFICER, BRITISH HOSPITAL, BUENOS AIRES.

A RECENT publication[1] in which active movement has been suggested during the acute stage of streptococcic infection induces me, as a surgeon who, in civil practice since 1896,[2] has opened and drained all cases met with of streptococcic (including pyaemic) joint effusions, to enter a protest against any form of movement in acute septic arthritis until the microbic fight has terminated. This period may be recognized by the cessation of "discharge," pain, tenderness, fever, and accelerated pulse; then, and not until then, I advocate, and for years have practised, encouraging the patients to move their knee-joint, gently, once or twice daily, and gradually to increase the number and extension of same.

In my opinion the main factor in this, as in most other acute septic problems, is to do everything possible to secure what is the natural foundation of all rational treatment, rest, as expounded by our master, Hilton. And I maintain that thorough drainage is the natural corollary of Hilton's ideal in that it clears the "field" of the virulent débris of battle, and, if combined with irrigation by suitable antiseptics,[3] rapidly destroys the headquarters of the enemy, thus affording the human cells a chance tranquilly to execute their curative function.

I do not hesitate to state that in case the drainage system adopted is so insufficient as to require voluntary traumatism on the part of the patient to expel pus from the recesses of his already belaboured knee-joint, the auxiliary virtues of surgery are sadly discounted by a half-hearted and inadequate operative method which is positively dangerous to life, in that a virulent articular pus bag is formed which is certain to receive further contamination from outside through bacterial trap-doors which do not admit of automatic drainage from within.

Drainage, like many other things, may be classified as good and bad; the former, if properly done, does not necessitate any violation of Hilton's law; but the latter may embrace anything—loss of reason, dismemberment, or death.

A very simple illustration will suffice to demonstrate the effect of voluntary traumatism in a very common septic condition. One sees a boil on the back of the neck time after time converted into a carbuncle by the patient's efforts to squeeze the pus out of it.

It is not an exaggeration to mention that a considerable percentage of my hospital work has been devoted to atone for the mentality of those who are lured to ignore the elementary principles which govern the natural process of repair by the transient complaisance of some temporizing finesse, which, as often as not, redounds to the anguish of their patients, to the detriment of themselves, and to the discredit of their profession. Seldom a week passes by without my being forced to ask myself the question: Why has Hilton's *Rest and Pain* been allowed to go out of print?—a classic which every English surgeon worthy of the name should take national pride in transmitting to posterity. It stands to reason that the greater the evolution in the science of operative surgery the greater becomes the facility for the application of its doctrine.

I am aware that there are different strains of streptococci and different degrees of virulence of each and of the same strain, and that a treatment which might be futile in the superlative might be effective in the positive; yet it is a duty, founded on long experience, to mark the fact that it is infinitely more culpable to mistake the former for the latter than vice versa, and I do not know of anything outside a grave abdominal crisis in which it is more imperative to order a "general attack" than in a pronounced case of septic infection of a knee-joint, remembering that in what is always a life and death struggle the surgeon merits congratulation who ultimately finds that his dispositions exceeded the necessities.

The plan[7] which I adopt for such cases is as follows:

Ether by the open method is administered to the patient on an operating table heated by electricity. The limb is shaved, scrubbed with soap and hot water, thoroughly washed with alcoholic mercurial solution (1 in 1,000), and then mopped with acid mercurial lotion (1 in 2,000). A tourniquet is then applied round the upper third of the thigh. Two lateral 1½ in. capsular incisions are made above the patella into the synovial pouch. A long pair of blunt-pointed curved scissors is passed upwards through one of the lateral wounds to the apex of the synovial pouch and a similar opening made. The scissors, again as guide, are passed diagonally downwards through each lateral incision behind the patella to the most dependent points of the inferior angles of the capsule, and the same length of incision is made through the capsule on either side.

The joint is thoroughly irrigated with warm hydrogen peroxide lotion (2 oz. to the litre), the tube is inserted in turn through each of the five openings, and this is promptly followed by a good wash-out with warm carbolic lotion (1/2 oz. to the litre).

Firm pressure is then made with large sponges all around the joint so as to make sure that no pockets of pus escape detection. If any suspicious fluid is seen exuding after firm forward pressure in the popliteal space, the patient is turned on his side and a posterior incision made into the capsule of the joint. The tourniquet is then removed, and spurting vessels seized and ligatured with fine catgut.

Wisps of ten to twenty strands of silkworm gut are then

drawn into the joint by means of a peritoneal forceps passed through from an opposite wound. Each wisp is fixed by a catgut stitch to the edge of the skin incision excepting the posterior opening, which is kept patent by a very thin roll of gauze.

A towel is momentarily applied to cover all wounds while a suitable splint is being brought into position. The towel being removed, dry gauze is applied to the posterior wound, and the splint is then accurately adjusted to the limb and bandages applied, independently, above and below to maintain immobility.

The whole exposed portion of the knee is then enveloped in a hot mercury perchloride fomentation (1 in 3,000), wrung dry, and sterilized wool with bandage applied.

On return to bed in an open corridor facing the sun the limb is suspended in a Salter's cradle, outside the bedclothes. A hypodermic injection of strychnine and digitalin is given every six hours.

Six hours later the irrigation programme commences: Four-hourly flushing is carried out through each of the anterior wounds with warm peroxide and warm carbolic lotions in the order and strength mentioned above, and a hot perchloride fomentation applied after each irrigation.

Even at the risk of boring my readers with detail I think it opportune to mention a few reflections of a twenty-five year innings in infected knee-joint surgery.

Heated Operating Table.

Many of these cases are admitted into hospital in the throes of septicaemia, and as it takes at least twenty minutes to complete the procedure just mentioned, I know of nothing more conducive to the diminution of shock than keeping the patient warm during operation. For this purpose I have for years used hot water tanks or hot water cushions, but recently I have found that an electric heating installation (fitted into the body of the table) is infinitely more satisfactory.

Posterior Drainage of the Joint.

It may have been noted that I make this contingent on the result of forward pressure behind the knee after the five anterior openings have been effected and joint well irrigated. My reason for adopting this course is that (except in the case of a foreign body penetrating or lodged behind the articulation or a direct septic wound) I have found that there is rarely any collection of infective material in this area if the joint has not assumed a decided flexed position prior to operation.

While writing this paper a desperate case of pyaemic infection not only helped to verify this conclusion, but yielded some information which may be of interest to record.

Judging from the general swollen condition, internal tension, and large quantity of "dirty liquid" escaping from the joint while anterior incisions were made, I felt certain that there was general infection of the whole sac, and, as time in this instance was vital, before irrigating and without the above test, I had the patient rolled on his side and (of course, with the limb extended) rapidly exposed and opened the posterior portion of the capsule. Not a drop of fluid exuded even when the edges of incised capsule were forcibly drawn apart by blunt hooks. With a 3 ft. elevation of the irrigator the tube was inserted into the joint, but no liquid was seen to escape through any of the anterior openings; as a matter of fact, it all ran back alongside the tube. Not being satisfied, I reversed the procedure and got two assistants to plug up four of the anterior openings with bibules while I inserted the tube through the remaining anterior one, and I succeeded in apparently distending the joint to its utmost limit, yet not a drop appeared in the posterior opening, although this was held patent by another assistant with blunt hooks. I was still sceptical, and instructed the sister carefully to note the daily condition of the posterior wound dressing, thinking that some of the four-hourly anterior irrigation would eventually percolate backwards. Five days later she reported: "I changed the gauze drain at back each day, but it was never wet." We gave it up, omitted the gauze pack, and, although generally forgotten, this wound healed up of itself aseptically. In parenthesis, I might mention, we saved the limb, largely due to the incessant care of Sister Knight.

My experience dictates that in infected knee-joints the dangerous zone generally lies directly in front of the anterior line of the articulation, particularly intensified in the external and internal inferior angles of the anterior portion of the articular sac, and, although the tension of anterior structures renders drainage of this region comparatively difficult, it must be deliberately and thoroughly executed, otherwise the rest of the procedure would be futile.

Drainage by Silkworm Gut.

Like other surgeons, I have had my share of difficulty in finding an efficient material, and although I am certain that rubber tubes have, in the past, prevented thousands of catastrophes in my work, yet there is no denying the fact that, *per se*, they do very little drainage, and their beneficial use consists in keeping the wound open until tunnels have formed through which drainage takes place after their removal. A short time ago I substituted bundles of ten to twenty strands of silkworm gut, doubled in two, and ligated with a piece of fine silk about half an inch from each end (of double). From the reports of the staff, as well as from personal observations, the results have been most gratifying: they afford excellent drainage, do not become foul, and no tube of pyogenic membrane forms around their track irrespective of the time they are retained, without changing, in abdominal or other wounds. Their removal at any time can be easily effected by a few gentle rotations before they are drawn outwards. In some cases I place two such wisps in each wound, removing one on the first or second day to facilitate entrance of the irrigating tube, and retain the other *in situ* until the fifth or sixth day. Their insertion into the knee-joint can be most easily effected by passing a long forceps through an opposite wound, seizing one end, and liberating the grip of the forceps when the end of the wisp reaches the centre of the joint; a catgut stitch to skin secures its remaining in position.

Disinfectants.

The more I employ the "perchloride–peroxide–carbolic" combination in the treatment of grave septic wounds the more convinced do I become that it is the ideal antiseptic which does not cause any irritation of surrounding skin. It never produces toxic symptoms; it promptly gets rid of any smell; if used in the strength above indicated it does not mortify living tissue cells; and after the septic elements are removed it induces the formation of granulations of a vigour and normal living flesh colour superior to anything with which I am acquainted.

If one observes its action daily, for instance, in a large gutter wound of a femur or tibia in acute osteomyelitis, its fire-brigade order of procedure is truly remarkable; immediately following the primary irrigations the whole infected field assumes a grey, superficial, sloughy aspect due to the rapid chemical fixation of every particle of infected tissue. Such an appearance for the moment might be disconcerting if one did not visualize a concomitant decline in the temperature and pulse charts. Profuse discharge (the more the better) commences within a few days, and by the end of the first week some scattered bright dots of healthy granulations make their appearance. At the end of the second week, if drainage has been complete and pockets thoroughly exposed, the whole vista is transformed into a huge bright red sore studded here and there, in bold perspective, with isolated white islets of necrotic tissue, which promptly disintegrate and vanish. Within twenty days or so nothing septic-looking remains, except, perhaps, a few marooned black patches of necrotic bone, which in turn promptly become detached, leaving the camp clear for the "sappers" to fill up the breach with living vermeil bricks. As the discharge of pus declines the daily number of irrigations and fomentations is reduced, and the sore quickly heals under the benign influence of the best of all dressings[4] for a post-septic wound, a perchloride of mercury fomentation (1 in 3,000), wrung dry, applied once or twice daily. No form of rubber tissue is ever used in these fomentations. The sterilized wool is placed directly over the impregnated lint and the bandage applied. A perchloride fomentation must not be used after disinfection of the skin with iodine until all visible trace of the latter has disappeared or has been removed by washing thoroughly with alcohol. Otherwise a sodden or irritable condition of the skin is likely to result.

Alcohol.

Some years ago the late Professor Nicolas Senn honoured me with a visit, and was much interested in the treatment adopted for railway septic cases. When I had concluded my explanation of the routine, he asked: "What do you do about alcohol in these cases?" I replied: "I generally give them something." "That is right," he said, "I pour brandy into them." Such a practice at the time struck me as somewhat unorthodox, but as years rolled by I gradually came to the conclusion that there was far more in Dr. Senn's statement than I was prepared to admit at that time. I am now convinced that it would be fatuous to withhold 4 oz. of brandy, with or without half a bottle of champagne, daily, while a previously healthy adult is quivering on the brink of eternity

in a state of profound septicaemia, delirious, with a pulse of 120, dry tongue, and no appetite except for bits of ice or sips of water. If he can be induced to swallow diluted alcohol in some form or other, backing this up with serum injections and nutrient enemas, given previous sound surgical intervention, our feeling is "We shall win."

During the convalescent stage of any acute disease, while I am no partisan of the continued use of spirits, I have such a profound belief in the benefit[5] of the daily administration of stout, beer, or wine with meals, and after the remarkable and rapid improvement which I have seen, times out of number, following its initiation, I can, in all truth, state that, "To doubt would be disloyalty, to falter would be sin."

Drop-Foot.

I cannot conclude without reference to a condition which affords us considerable trouble. Case after case of some joint or bone lesion of leg, treated for some time elsewhere, comes into hospital complicated with a drop-foot; usually, inquiry reveals that these patients have been for months in plaster or splints, and that the doctor in charge never thought of keeping the foot at a right angle, or impressing upon the patient the necessity of moving his ankle-joint once or twice daily. In some of these cases I have observed that trophic changes have taken place, with the result that when one attempts to correct this deformity, the slightest pressure of a pillow, splint or bandage wipes the skin off the foot, leaving a most intractable sore on instep or heel. This in itself constitutes a pretty delicate problem, not to mention the serious handicap such a condition of things entails as far as any rectification of the primary lesion is concerned.

Active Movement in Tuberculous Arthritis.

In the publication referred to at the commencement of this article I also observed that passive motion, under extension, has been suggested in tuberculous disease of the knee-joint, associated with the name of a very eminent surgeon whose personal results I do not doubt, and for whose work in general I have very great respect. With all deference, in this instance I must beg to differ in so far as to state that, even in the most dexterous hands, passive ("the damnation"[6]) movement of joints should be consigned to the past tense, and that active movement should not be permitted until the *x* rays show a normal osteal condition, and *tumor* and *calor* have visibly and palpably ceased to exist in the affected joint.

After some experience in the treatment of this lesion, which has invariably taken the form of one to two years' absolute rest in a splint, with nutritious diet and continuous life outdoors, I can vouch that the result will be cure with normal articular movement in 90 per cent. of the cases who seek attention before disorganization of the joint structures takes place or advanced caseation and sinuses have formed.

In thirty years' hospital work I cannot recall a single instance in which a tuberculous hip- or knee-joint (that has been got in time) has become ankylosed after a treatment of two years' rest in splints. And, moreover, I have been frequently astonished to find what a remarkably slight tendency there is to the formation of adhesions, and short duration of same, even in cases in which the *x* rays, on admission, had demonstrated marked caries. The day after this article was passed to my typist the following coincidence arose:

A patient, aged 21, was admitted to hospital on September 13th, 1918, suffering from early, but well defined, tuberculous disease of the right knee-joint, for which he was treated out of doors by absolute rest in splints until August 20th, 1920. As the limb had now resumed its normal contour, and there was no extra heat on comparative palpation (verified by three different pairs of hands) I asked him (for the first time since admission) to move the joint. This he willingly complied with, and without the least hesitation moved the knee, painlessly, through a visible angle. Apparently no adhesions had formed, and the absence of even initial temporary stiffness after twenty-three months' fixation points an instructive moral. I saw him again, three days later, on a wheel chair in the garden, proudly demonstrating the increase in his range of daily active movement. The *x* rays showed a normal joint.

I cannot imagine a greater victory for Hilton's teaching than these phenomena.

REFERENCES.
[1] *Lancet*, July 10th, 1920. [2] Traumatic Lesions of Knee-joint, *Medical Press and Circular*, 1896. [3] Treatment of Wound Infection, *Ann. of Surg.*, April, 1917. [4] Skin Asepsis in Surgery, *Ann. of Surg.*, April, 1918. [5] Dietetic Value of Alcohol, *Lancet*, March 13th, 1920. [6] Fixation of Simple Fractures, *Ann. of Surg.*, January, 1915. [7] Treatment of Wound Infection. BRITISH MEDICAL JOURNAL, December 2nd, 1916.

A CASE OF JEJUNO-COLIC FISTULA FOLLOWING GASTRO-ENTEROSTOMY.

BY

CLAUDE FRANKAU, C.B.E., D.S.O., M.S.LOND., F.R.C.S.ENG.,

SENIOR ASSISTANT SURGEON, ST. GEORGE'S HOSPITAL.

JEJUNO-COLIC FISTULA following gastro-enterostomy appears to be sufficiently uncommon to warrant record of the following case in detail. The patient was a man, aged 33, who was admitted into St. George's Hospital under my care in July, 1919, for abdominal pain and vomiting.

Previous History.

In 1914 he was operated on in a London hospital for duodenal ulcer, which had produced symptoms for two years and was demonstrated at operation. A posterior no-loop gastro-enterostomy was performed, as a result of which his symptoms disappeared and he regained his normal health. Pain, however, recurred some nine months later and continued in spite of medical treatment. He was accordingly readmitted into the same hospital in December, 1916, and submitted to further operation. During the operation difficulties arose with the anaesthetic and the investigation had to be abandoned; it was reported to the man's doctor that hard glands were present in the mesentery and that there were nodules in the peritoneum and the liver. He derived no benefit from this second operation, and for over two years had had persistently recurring attacks of pain in the right hypochondrium, with occasional vomiting. The pain had little or no relation to food unless anything solid was taken, when a severe attack came on in about an hour. On five occasions during 1918 and 1919 he had had attacks of haematemesis and melaena—the last attack in May, 1919, being of a severe character. He had been steadily losing weight and was unable to take anything but liquid food.

Condition on Admission.

He was a slightly built man, extremely poorly nourished and haggard from pain. The abdomen showed two soundly healed scars; there was no evidence of any enlargement of the stomach nor tenderness over it. Over the duodenum pain was elicited on light palpation and there was constant muscular rigidity. *X*-ray examination showed that the stomach emptied quickly and completely, the barium passing out both by the pylorus and the stoma. There was no *x*-ray evidence of an ulcer. The gastric juice contained 0.26 per cent. HCl.

Operation.

On July 9th, 1919, I reopened his abdomen and found as follows: The original anastomosis was quite satisfactory with no signs of ulceration in the stomach at the site of the anastomosis or in the jejunum; the liver and gall bladder were normal. On the antero-internal aspect of the second part of the duodenum there was a scar of an old ulcer, puckered and adherent to the pancreas. Half an inch proximal to this and rather more anterior in situation there was a second small active ulcer with considerable induration and hyperaemia around it. As the local treatment of the ulcers appeared to be impossible, the pylorus was clamped and divided, the two ends being closed with silk stitches. The abdominal wall was then sutured in layers.

The immediate result was satisfactory, and he was discharged from hospital four weeks later free of all symptoms. He was given careful instructions as to his diet, and in addition had an alkaline mixture to take after meals for three months. He remained well and without pain or vomiting for about fourteen months, during which time he increased considerably in weight. In October, 1920, after a surfeit of periwinkles, he had a sudden attack of severe abdominal pain followed by vomiting and diarrhoea. The pain subsided after a few days, but the diarrhoea, to the extent of eight to twelve evacuations a day, with occasional attacks of vomiting and eructations of foul gas, continued. He steadily lost weight, and eventually in May, 1921, applied for further treatment at St. George's.

Condition on Readmission.

He was greatly emaciated (weight 6 st. 5 lb.); his skin was earthy in colour; the pulse was small, thready and rapid, and a considerable degree of anaemia was present (haemoglobin 55 per cent.; red blood cells 3,500,000). Local examination of the abdomen was negative, except for some slight fullness above and to the left of the umbilicus. *X*-ray examination, after a barium meal, showed that a portion of the meal passed, after a very short delay, into the transverse colon. He was kept under observation for ten days, during which time his bowels acted, on an average, ten times a day, and he vomited from ten to thirty ounces in each twenty-four hours. The vomit and the material evacuated from the bowel were identical in appearance, consisting of a lemon-yellow, frothy fluid, of the consistence of thin porridge, acid in reaction, and with a smell which was usually sour, but at times slightly faecal. The condition being evidently one of gastro-colic or jejuno-colic fistula, operative interference offered the only chance of saving the man's life.

Operation.

A mass of adhesions were found about the pylorus, preventing any investigation of this region. The gastro-enterostomy stoma was in good order, with no thickening or sign of ulceration; the efferent loop was dilated and hypertrophied, and about three inches from the stoma the jejunum and transverse colon were intimately adherent, this evidently being the site of the fistula, a fact which was confirmed by opening the jejunum distal to the adherent portion and introducing a finger, which passed through the fistula into the colon. Separation of the two pieces of gut, which were greatly thickened at the site of apposition, was carried out with some difficulty, and after being effected the hard edges of the old ulcerated areas were excised, and the openings into the two pieces of gut were closed by means of two layers of catgut stitches, without noticeable lessening of the lumen in either case. As an additional precaution an omental graft was applied to each suture line. The abdomen was then closed.

His condition was precarious for forty-eight hours, after which time he made a rapid recovery; the vomiting ceased immediately after operation, and the diarrhoea, although troublesome for about a fortnight, eventually entirely subsided. He was kept in bed for a month, during which time he gained weight steadily, and on discharge on June 20th weighed 7 st. 6 lb., a gain of 15 lb. since admission. He returned to the care of Dr. Shephard, of Sheerness, who reported that in August, 1921, his weight was 9 st. 10 lb., and that his abdominal condition was quite satisfactory, as it is now in January, 1922.

Conclusions.

1. It seems probable in this case that the causative factor for ulcer formation was some abnormality of the gastric juice.
2. The gastro-enterostomy performed in 1914 allowed the original ulcer to heal, but a persistence of, or a recrudescence of, the abnormality of the gastric juice caused the formation of a second ulcer.
3. The second ulcer healed after complete diversion of the stream of gastric contents by division of the pylorus; but
4. As a result of this proceeding, and in spite of dietetic and medical treatment, a jejunal ulcer formed from the same causative factor, aided by a dietetic error.
5. The jejunal ulcer was of an acute type, as it is remarkable that no symptoms of jejunal ulceration were noted until the fistula was established.

A SEROLOGICAL INVESTIGATION OF ORIENTAL SORE.

BY

W. H. McKINSTRY, M.D., D.P.H., M.R.C.P.LOND.,

LATE PATHOLOGIST AND BACTERIOLOGIST, QUEEN ALEXANDRA MILITARY HOSPITAL, MILLBANK.

DURING the last three years a number of cases of oriental sore attended Queen Alexandra Military Hospital for diagnosis and treatment. Most of the cases had multiple sores either of the ulcerative or non-ulcerative type, and in many of the cases both types of sores coexisted. For the reason that the sores were found on exposed parts of the body they frequently presented a more or less symmetrical distribution, which characteristic, coupled with their chronicity, often suggested the question of syphilis. In the majority of cases of oriental sore the clinical history and the finding by the microscope of Leishman-Donovan bodies quickly decide the diagnosis. But in some cases, more particularly those of the ulcerative type where Leishman-Donovan bodies cannot be found, the question of diagnosis between syphilis and oriental sore becomes one of great importance and very great difficulty. And this difficulty may be enhanced in some cases by the occurrence of a solitary sore involving such a situation as the lip or eyelid.

The diagnosis of oriental sore from syphilis has been hampered by writers on tropical diseases stating that the blood in some cases of oriental sore has been found to give a positive Wassermann reaction. Professor Hewlett,[1] for instance, in his well-known *Manual of Bacteriology*, writes: "The reaction (W.R.) is not confined to syphilis. It may also be obtained (with the antigen employed for syphilis) in leishmaniasis." Stitt[2] states that "Rabello noted that a positive Wassermann may be present in cutaneous leishmaniasis." Daniels,[3] and Castellani and Chambers,[4] while recognizing the difficulty of differentiating oriental sore from syphilis, fail to mention the Wassermann test as an aid to the diagnosis. The same may be said of Manson.[5] In Daniels's work on *Tropical Medicine* we read: "Syphilis is the disease for which oriental sore is most likely to be mistaken. The absence of the other symptoms of syphilis and the failure of antisyphilitic treatment should enable a correct diagnosis to be made." Castellani and Chambers write: "The only way to come to a definite diagnosis in difficult cases is the microscopical examination." From these quotations it may be legitimately concluded that a great deal of doubt exists as to the value of the Wassermann reaction as a clinical test for the differential diagnosis of oriental sore from syphilis.

Influenced by these considerations I examined the blood of 28 cases of oriental sore by the complement fixation test according to the Wassermann technique used at the Military Hospital, Rochester Row. In 27 of the cases the diagnosis was established by the microscopic findings of Leishman-Donovan bodies. In one case of the series no Leishman-Donovan bodies were found. This case presented many old cicatrices on both legs and arms, which, from their clinical history and position, were obviously the result of oriental sores.

Of the 28 cases examined by the Wassermann test only one case gave a positive reaction. This case had points of clinical interest which helped to establish the fact that a positive Wassermann reaction is practically never found in oriental sore without concomitant syphilis. The case which proved the exception to the rule was one with an ulcerated oriental sore on the left cheek. Leishman-Donovan bodies were found. The skin on the outer side of the sore presented an irregularly raised dry scaly appearance, not unlike a chronic eczema of the beard, and prevented shaving. This condition of the skin was at first thought to be part of the ulcerated oriental sore, and would most likely clear up after the intravenous injections of sodii antimonial tartrate solution, the line of treatment pursued. In this, however, we were disappointed. The sore on the cheek healed, and the Leishman-Donovan bodies could no longer be found, but the condition of the skin posterior to the sore remained unchanged. The patient's blood was then submitted to the Wassermann test and found strongly positive. A few intravenous injections of "914" with mercurial treatment quickly brought the skin to a satisfactory condition, and confirmed the diagnosis of concomitant syphilis, and further anti-syphilitic treatment changed the Wassermann reaction from a strong positive to a negative.

Although these twenty-eight cases may be considered a small number to dogmatize on, I may be permitted to point out the following facts:

1. The series includes cases in all stages of the disease.
2. All the cases, except the one mentioned with multiple scars, were diagnosed definitely oriental sore by the microscopic findings of Leishman-Donovan bodies.
3. The blood serums from all the cases were examined independently by the Wassermann test at Rochester Row Military Hospital, London.
4. The findings of the Wassermann reaction were negative in all the cases examined except the one recorded with concomitant syphilis.

From these facts it may be confidently concluded that, in the absence of concomitant syphilis, the Wassermann test never gives a positive reaction in cases of oriental sore.

REFERENCES.

[1] Hewlett, *Manual of Bacteriology*, seventh edition, 1921, p. 608. [2] Stitt, *Diagnostics and Treatment of Tropical Diseases*, third edition, 1919, p. 104. [3] Daniels, *Tropical Medicine and Hygiene*, Part I, 1913, p. 181. [4] Castellani and Chambers, *Tropical Diseases*, third edition, 1921, p. 2173. [5] Manson's *Tropical Diseases*, seventh edition, 1921, p. 165.

TREATMENT OF RAT-BITE FEVER WITH NOVARSENOBILLON.

BY

NORMAN BRIGGS, M.R.C.S., L.R.C.P.,

CAPTAIN I.M.S.

THE following case presents several points of interest. The severe inflammatory symptoms and fever commenced four days after the bite, whereas the incubation period is usually said to be five weeks to two months. The patient suffered from relapsing fever with intervals of three days. The Wassermann test was at first strongly positive, but became negative after the disappearance of all signs and symptoms which immediately follow the injection of 0.2 gram of novarsenobillon.

A havildar was admitted to hospital on August 30th, 1921, with the history of having been bitten by a rat on the right forearm fifteen days previously whilst on leave. Five hours after the bite

he went to the local civil hospital, and the bite was cauterized with what appears from his account to have been silver nitrate. Three days later he returned to Secunderabad, felt quite well, and had no local pain.

On the fourth day he had fever, swelling of the forearm, with pain and tenderness around the bite. For the next ten days he was "excused duty," and attended the medical inspection room for treatment with hot fomentations. There is no record of attacks of fever during this period, but the symptoms did not improve nor the inflammation subside.

On the fifteenth day after the bite he was sent to the Indian Station Hospital for admission. The temperature was then 101°. The right forearm showed general swelling, with a localized brawny infiltration around a shallow ulcer about the size of a sixpence. The blood film revealed no malaria parasites or spirilla. The epitrochlear gland of the right arm was enlarged and tender, but the axillary glands were not affected. No rash or urticarial lesions were noted. Fever continued for four days, but was never higher than 101°. On the fifth day after admission the temperature was normal, and continued normal for three days. Blood was taken for Wassermann test; scraping of ulcer found negative to organisms of streptothrix type.

On the eighth day after admission the temperature again rose to 102°, and the inflammation showed no improvement.

On September 8th, 1921, ten days after admission, or twenty-fifth day after the bite, 0.2 gram of novarsenobillon was injected intravenously in 10 c.cm. of sterilized double distilled water. The following morning the temperature was 99°, and in the evening normal; there has been no recurrence.

Four days later all signs of inflammation had completely disappeared, and the patient was quite well. The Wassermann test of blood before the injection of novarsenobillon was strongly positive; twelve days after the injection it was negative.

In the literature at my disposal I have been unable to find any record of a positive Wassermann reaction in association with rat-bite fever, but I am informed that a positive reaction has been recorded twice previously.[1]

In my case, as the Wassermann reaction became negative after what was virtually a provocative dose of novarsenobillon, it appears unlikely that the positive result was due to a syphilitic infection; furthermore, the patient had no history, symptoms, or signs of specific disease.

My thanks are due to Lieut.-Colonel W. D. A. Keys, C.I.E., I.M.S., for permission to publish the note on this case.

REFERENCES.

[1] Costa and Troisier, *Bull. et Mém. Soc. Méd. des Hôp. de Paris*, June 14th, 1918, Nos. 21, 22, pp. 616–621; Low and Cockin, BRITISH MEDICAL JOURNAL, February 16th, 1918, p. 203.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

ARTHRITIS DEFORMANS AS A DEFICIENCY DISEASE.

OSTEO-ARTHRITIS, or arthritis deformans, has always been the subject of much speculation regarding its true pathology, and at the present moment many different theories are advanced respecting the proper classification of the disease. Its etiology also seems obscured in its origin. While the multiple arthritis frequently associated with some deformity in children can, like acute rheumatism, usually be said to be related to some blood infection, the chronic arthritis occurring chiefly in adult or middle-aged women, less often in young adolescents and men in middle life, does not to my mind seem to come under the category of an infection. There is a tendency to believe that this type of chronic rheumatism among civilized communities is on the increase, unfortunately without any specific curative remedy; all that can be done is to check it from getting worse; but when once developed, though there may be periods of rest in the stage of onset, yet eventually the progressive nature of the malady asserts itself, rendering the sufferer sooner or later a hopeless cripple.

From many years' experience of treatment of these disappointing cases, and comparing them with types of diseases connected with improper feeding, I am of opinion that the condition is connected with the class of deficiency diseases. Arthritis deformans is frequent in women of the poorer classes, who rarely have a properly selected meal, living, as they say, "on anything" in the house, usually bread and margarine with tea, their husbands being at work and having their meals away; thus these women are depriving the metabolism of those essential salts necessary to a healthy existence, and the mineral salts contained in the bones are dissolved out into the poorly nourished blood and tissues with low mineral content, leaving the bones in the eroded deformed condition so well known in the later stages of the disease; but at the early stage, of course, this erosion is not evident, only the gradual molecular destruction productive of pain in the joint.

One of the chief reasons which has induced me to associate arthritis deformans with deficiency disease is the fact that its occurrence is most often in that class of patient who for years have lived upon an improperly selected diet; granted that it is found among better class people who can have a proper diet, yet if the food of these cases were analysed over a period of years a deficiency of some kind would be found. Apparently, when the tissues become unstable it is impossible to say whether the salt-dissolving properties of the fluids of the body or the calcium salts of the bone itself are less easily retained; but nevertheless the process once started becomes progressive, with the results described.

Another point of some significance bearing upon the above is the water supply. I happened to have a knowledge of two districts, one where the supply was hard water containing a large amount of both temporary and permanent salts; here the amount of osteo-arthritis was very little. In the other district, where the water was soft, with little or no temporary hardness and very little permanent hardness, the cases of osteo-arthritis were much more numerous.

Of course, my experience is very limited, but it would be interesting to know if in other places the difference has been observed. We may, in the last district, quite well conceive that the intake of fluids deficient in salts, and food likewise poor in this respect, the fluids of the body, being low in mineral content, dissolve from the bones the salts necessary for their stability, thus producing the disease of osteitis deformans.

G. C. BELCHER, M.B., B.Ch., D.P.H.Birm.

RESUSCITATION AFTER APPARENT DEATH.

IN view of the case reported in the BRITISH MEDICAL JOURNAL by Mr. G. R. A. Armstrong (January 28th, 1922, p. 141) the following notes may be of interest:

A boy, aged 15 years, was admitted to the Manchester Royal Infirmary suffering from a right-sided empyema. His general condition appeared satisfactory and operation was carried out shortly after his admission.

The patient was anaesthetized with the usual A.C.E. mixture and the operation commenced at 6.20 p.m. Five minutes later, when the periosteum was being separated from the rib, it was found that both respiration and the heart beat had ceased. The pupils were widely dilated, the patient was a deathly pallor and appeared to all intents dead. Artificial respiration was instituted and the head lowered, but met with no response.

At 6.33 p.m. the abdomen was opened through the left rectus muscle and bimanual cardiac massage carried out; at the same time an injection of 1 in 1,000 adrenaline was made into the heart, artificial respiration being continued meanwhile. At 6.40 p.m., fifteen minutes after it had ceased to beat, the cardiac rhythm restarted with slow strong beats. The massage was discontinued and the heart beat ceased immediately, but restarted when massage was resumed and then became automatic. Voluntary respiration started ten minutes later, the corneal reflex returned, and the operation was rapidly completed. About one hour later generalized convulsions appeared at intervals of two minutes, and these increased in frequency until at midnight they came on with every second breath. Nothing appeared to control them; the pulse became more rapid and weaker until 1.30 a.m., when the patient died.

A *post-mortem* examination on the following day showed that, apart from the chest condition, the organs appeared healthy. There was no bleeding into the pericardium along the puncture track. Microscopic examination of the brain showed no demonstrable lesion in the cells of the cerebral cortex.

We find, therefore, in this case that automatic action of the heart was stopped for fifteen minutes. Animation was suspended for a similar period, but ultimately signs of cerebral irritation supervened, as the result of cerebral anaemia from stoppage of the circulation.

It would appear that the highly specialized tissues of the central nervous system could not stand deprivation of the blood supply for a period of fifteen minutes, and irreparable damage was done to these tissues. Cases of this type are fortunately rare, and successes after cardiac massage still more uncommon. Yet with increased knowledge of the method and its earlier adoption we may perhaps look for happier results in the future.

A. H. SOUTHAM, M.Ch.Oxon., F.R.C.S.Eng.,
Assistant Surgical Officer, Manchester Royal Infirmary.

INTRACTABLE VOMITING DUE TO CEREBRAL SYPHILIS.

A MARRIED woman, aged 48, complained of persistent vomiting of frothy matter, which had persisted for many months, unrelated to food in time, quantity, or quality. The retching commenced usually in the early morning and continued until lunch time at irregular intervals. She also complained of general weakness and flushings, giddiness and fainting attacks.

Such a history naturally suggested a climacteric causation, but examination of the patient revealed several unusual symptoms. She was anaemic and looked ill; the pulse was weak and rapid (pulse rate 120); examination of the abdomen was negative, and her other organs appeared to be normal. The central nervous system was in every respect normal, with the one exception that pin-hole pupils were present. The knee-jerks were slightly increased. There were no sensory or paretic changes, and indeed nothing to suggest a syphilitic causation beyond her pupils. The optic discs appeared to be normal.

On vaginal examination a large fibroid uterus was found, and as it was supposed that this might be the cause of some of her symptoms it was removed, total hysterectomy being performed. The only result was apparently to increase her discomfort, so far as the sickness was concerned. The surgeon was again called in for further advice, but his diagnosis was that the sickness was mainly of a functional nature.

A variety of medicinal preparations were subsequently tried, but without success. The suspicion that the condition was due to some cerebral lesion was eventually confirmed by a strongly positive Wassermann reaction given by the cerebro-spinal fluid; the blood gave a negative result. The effects of four intravenous injections of neo-salvarsan, commencing with 0.2 gram, were remarkable. The vomiting ceased almost at once, and the patient was able to take solid food. Her condition after four injections has been so greatly improved that she is now able to do her ordinary household work, and to go out daily by herself.

The case seems worthy of record on account of the difficulty in diagnosing her malady correctly, owing to the absence of any signs of cerebral syphilis beyond the contracted and inactive pupils. This symptom led to an examination of the blood as soon as she came under my observation, but as the blood was reported to be negative for the Wassermann test, the idea of syphilitic causation was unwisely neglected until everything else had been tried without success.

Southsea. R. HAMER HODGES, M.B.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

YORKSHIRE BRANCH: LEEDS DIVISION.

A MEETING of the Leeds Division of the British Medical Association was held on January 12th. Before the meeting the members of the Division visited the Armley School Clinic, where they were conducted round by Dr. Algernon Wear, and much interest was shown in the different departments. The meeting was then held at the Medical School, Leeds.

SCHOOL MEDICAL WORK.

Dr. WEAR read a paper on "Some aspects of school medical work." He said that school medical inspection dated back some eighty years. The first country to make a start in this direction was Sweden, in 1830, and by 1868 all Swedish schools were medically inspected. While the idea was gradually taken up by other countries, England did not really wake up to the meaning of school medical inspection until about 1905; the chief cause which led to the adoption of a scheme by this country being the result of a Royal Commission on physical training in Scotland in 1903, which showed that deplorable conditions existed among school children. The School Boards of London and Bradford had taken action in 1891 and 1893 respectively, and by 1905 school medical officers were appointed by seventy-nine different local authorities. The Education (Administrative Provisions) Act of 1907 made it the duty of all authorities to provide medical inspection, and since that date many other Acts have been passed affecting the school medical service, practically the whole of which had been consolidated into the Education Act of 1921.

The Leeds System.

School medical inspection in Leeds, continued Dr. Wear, is carried out by 8 full-time and 3 part-time medical officers, 6 dentists, 27 nurses, 24 clerks, and several dental attendants; the dental attendants are trained by us, and act as dental nurses and clerks. In our school medical work the main object is to make the school children cleaner and healthier, and by that means to raise the standard of health of the coming generation. The examination is comparatively simple, and occupies about seven minutes, or twenty per service. There are 120 schools in the city and 85,000 children on the roll, and three routine examinations are carried out for every child—on entering school, on leaving school, and when 8 years of age. Teachers may bring forward any child for examination, and all children found defective have to be re-examined, usually six weeks after the routine examination. The dentists periodically visit each school, and enter treatment on record cards. Nurses visit all schools twice a year and examine all children as to cleanliness. Parents present at medical inspections are personally informed, and subsequently get a stereotyped notice: "Your child has been found to be suffering from so-and-so, and you are advised to obtain medical advice."

For administrative purposes the city of Leeds is divided into six districts, each of which contains an approximately equal number of schools and children, together with a clinic. Each district is in charge of a medical officer with a number of nurses, the nurses assisting and carrying out minor treatment. The medical officer does all the examinations and re-examinations in his own schools, and attends his clinic two or three afternoons a week. The clinics vary in size; the largest has 57,000 attendances a year and the smallest 16,000. The total attendances for all purposes at all the clinics for the year 1920 was about 190,000. The minor ailments treated are discharging ears, blepharitis, impetigo and other skin diseases, and verminous heads and bodies. Eye work, including refraction and provision of spectacles, and massage and dental work, are also carried out. Before the days of clinics such work probably remained undone, or was very badly done at home. None of this treatment is beyond our scope, as none of it would be undertaken by medical men, and would still be carried out in the home as of old without necessary supervision. In addition to the six clinics noted, there is also a seventh clinic, situated centrally, at which special cases of all kinds attend for more thorough examination, such as mentally defectives, blind, deaf, epileptic, cripples, and tuberculous cases. Here there are various departments—eye, nose, throat, dental, massage, and *x*-ray treatment for ringworm. At this clinic there were 19,000 attendances in 1920. Dental work is carried out at four clinics, and all extractions are under gas anaesthesia.

The aim of the school medical work is mainly preventive, the parent being advised to take the child to a medical practitioner for treatment. The school medical officers want the fullest help and the trust of the general practitioner.

Treatment of Ringworm.

Dr. L. A ROWDEN gave an account of the treatment of ringworm. The *x*-ray treatment by the single dose method, he said, was first described in this country by Sabouraud, in a paper published in the *British Journal of Dermatology* in June, 1906. Dr. Rowden treated his first case of ringworm in July, 1906. To be successful the technique had to be perfect and the aim was complete depilation of the hair within three weeks. If the dose was too small the hair failed to fall out, and if too great the hair failed to grow again and a permanent alopecia resulted. If the hair failed to fall out, it was not safe to give a second dose till several months had elapsed. The dose was measured by means of a colour test, the Sabouraud pastille. Dr. Rowden did not like to treat children under 8 years, chiefly because it was difficult to keep the head still. The skin should be free from inflammation or suppuration, no metallic ointments, such as zinc, copper or mercury should have been used, on account of the danger of dermatitis and baldness. The hair should be clipped off short all over, not shaved, then when the hair begins to fall out it can be gently removed, put into a paper bag and burnt, and the diseased area wiped clean with spirit on cotton-wool. Caps, not skull caps, should be worn and boiled daily; the cap should cover the ears and back of neck and be fastened under the chin. All material possibly infected should be boiled or destroyed.

The scalp was free from infection in from three to five weeks. Regrowth of hair took place in from three to six months; the new growth was thicker, coarser, darker, and more curly.

For after-treatment an ointment of half a drachm each of sulphur and salicylic acid in an ounce each of vaseline and adeps lanae was used.

There were two ways of applying radiation to the scalp: (1) By hexagonal-shaped glasses or the honeycomb method. This was the best method, but tedious, especially useful in single patch cases. Seven or eight cases could be done in a morning's work of three and a half to four hours. (2) Adamson's method, in which the whole scalp was done in five areas. In this method there was difficulty on account of uneven surfaces, of keeping the

rays applied at right angles, and consequent danger of over-action at parts and causing a bald hot-cross-bun shaped area.

Dr. Garrett, M.O.H. of Cheltenham, had described the iron treatment of ringworm in the BRITISH MEDICAL JOURNAL for February 22nd, 1913 (p. 390); and Dr. Rowden said that he had now largely given up *x*-ray treatment, and used the iron treatment for most cases.

The scalp should be freed from scurf and grease by washing with antiseptic soap spirit, then swab twice with petrol on pledgets of tow. The head must be kept away from naked lights. The liquor ferri perchloridi fortior (*B.P.*) should be used, dabbed or pressed in with a brush until the scalp is thoroughly stained with it. Apply once daily for three days, then every other day for three times, and then once a week for three times. Dr. Rowden has modified Dr. Garrett's distribution of the nine times of application to every other day for three times, and then every third day for six times.

Avoid washing the scalp after the treatment has begun, as washing readily removes the soluble perchloride. It will usually be found that a cure has resulted. If left alone, the iron-stained scurf and epidermis will come away in the course of a few days, leaving a healthy scalp. The same ointment may be used for after-treatment as after *x* rays. Dr. Garrett says it is not absolutely necessary to cut the hair except over the affected patches. An occasional prophylactic application of the iron may be made to the parts unaffected; the child may go to school.

Dr. Rowden holds that to ensure success the medical man must personally supervise the treatment. It is important that all scabs be removed before each application. An old linen cap should be worn. He directs that the scalp be shaved, then washed with antiseptic soap spirit and dry well; swab with petrol on cotton-wool twice over the affected areas and let dry; then with cotton-wool swab press in the iron into the diseased areas, let dry, and cover head with old linen cap.

This method was suitable for young children, and when the disease was extensive and no expensive machines were required. Many fewer cases of ringworm were seen in Leeds, possibly because of treatment at school clinics. In 1910 there were 900 school cases of ringworm.

Professor M. J. STEWART then read a paper on pathological aspects of sarcoma of bone. He pointed out that such tumours were of low malignancy and metastases were very rare indeed; recovery after removal was likely if the growth was thoroughly and widely excised, and not merely scraped.

Pins Removed from Bladder and Prostate.

Dr. JAMES ALLAN showed a urinary calculus removed by the suprapubic route from a patient, a man aged 45 years, in the Leeds Township Infirmary, of which, it was afterwards found, four large brass pins formed the nucleus. The calculus was egg-shaped, $2\frac{1}{4}$ by $1\frac{1}{4}$ inches.

The patient said that some twenty years ago the pins were introduced into his bladder by a woman who had a grudge against him, when he was unconscious. Some of the pins were removed at the time, and since that time a pin occasionally had come away with the urine. When he was admitted to the Infirmary he had been for a considerable time in much distress from bladder trouble and was contemplating suicide. On passing a metal bougie about two months after the operation a metallic object was detected at one side of the prostatic urethra and partly embedded.

The operation wound, which had not quite closed, was opened and the metallic object found and removed. It was found to be a large brass pin $1\frac{1}{4}$ inches long, with a head and fairly sharp point, somewhat bent at the junction of the upper third with the lower two-thirds, and slightly corroded. Six weeks later a similar pin came away in the urinary stream; it had probably been disturbed by the last operation. This pin was the same size as one previously removed, with a similar bend and with a thin crust on it.

An *x*-ray examination was then made by Dr. Rowden to see if the man had any more pins in him, and the radiograph showed a pin in the prostatic region. This was removed by the perineal route; it was found embedded in the prostate, parallel with and in front of the urethra, with the head towards the bladder. This pin was similar to the others, but quite straight, slightly eroded and encrusted. The patient made a satisfactory recovery.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: CARDIFF DIVISION.

A CLINICAL meeting of the Cardiff Division of the British Medical Association was held in the King Edward VII Hospital, Cardiff, on January 18th, the Chairman, Mr. WILLIAM MARTIN, being in the chair. The meeting was entirely devoted to general surgery, and a large number of most rare and interesting surgical cases and specimens were obtained.

Mr. HERBERT G. COOK demonstrated a cyst of the spermatic cord. The boy had been sent in with inguinal hernia, but was sent home, no hernia being found, and came back in the present condition. The cyst had been excised and was unilocular containing about 4 to 6 grams of clear fluid.

A case of intussusception was reported and a specimen shown, removed from a male aged 30. The case was a chronic one and three operations had been performed: (1) The condition was irreducible and enterectomy was performed; (2) the condition developed again, when laparotomy and reduction was performed; (3) after some months it again developed, was irreducible, and enterectomy was performed. The man made a good recovery.

Mr. CORNELIUS GRIFFITHS showed an extreme case of molluscum fibrosum. The entire body and limbs were covered thickly with these swellings of various sizes, but all of soft consistency. The hands and feet were extensively involved. There was some pigmentation of the skin. The condition had been present for fifteen years and caused no trouble, the patient seeking advice for an enlarged prostate.

Mr. GEARY GRANT showed: (1) A specimen of intussusception in a young child; rupture of the bowel had occurred and enterectomy had been performed. The child died. (2) Osteogenesis imperfecta in a female child of six weeks; the legs and arms were very bent, and an umbilical fistula was present; *x* rays showed an appearance like multiple united fractures. (3) Prostatic calculi; prostatectomy had been performed with good result; the condition was rare, Young reporting only eleven cases.

Mr. WILLIAM MARTIN showed a case of anthrax. This was about the angle of the jaw on the left side; the glands were enlarged, but after free excision of the primary focus these subsided, and the wound was now granulating healthily. He also showed a sarcoma of the neck in a lad; the case was inoperable, but was being treated by radium. The circumference of the neck had been $18\frac{1}{2}$ inches before treatment was commenced, and after three applications of radium was now $13\frac{1}{2}$ inches; the local condition thus showed improvement, but *x* rays had demonstrated secondary growths in the lung.

The meeting was very successful, and was the first of a series of clinical meetings, each to be devoted to a separate speciality. The cases and specimens were freely discussed by many of those present, and several interesting debates arose.

Reports of Societies.

THE DIAGNOSIS OF GASTRIC ULCER.

AT the Royal Society of Medicine, on January 24th, a discussion took place on the diagnosis of gastric ulcer, the further subject of treatment being reserved for a subsequent evening. Dr. G. NEWTON PITT presided, and there was a very large attendance, many standing throughout the two-hour discussion.

Clinical Signs.

Dr. CHARLES BOLTON, in opening, showed a number of lantern photographs to illustrate the different types and phases of gastric ulcer and its various stages of healing. There were three principal means, he said, by which the presence of gastric ulcer could be recognized: (1) The occurrence of accidents—that is, haemorrhage and perforation—to which the condition was liable to give rise; (2) the disorders of the gastric function which it occasioned; (3) the characteristic deformity of the stomach as made out by the *x*-ray examination. The amount of blood lost in gastric ulcer was generally considerable, but not invariably so, and an unusually small haemorrhage might be followed after an interval by a profuse one. The bleeding in chronic gastric ulcer nearly always was concurrent with considerable pain, in which the diagnosis of ulcer was established. It was an unusual thing for a chronic ulcer to declare itself by profuse haemorrhage as the first symptom. It was essentially the chronic ulcer which gave rise to pyloric hypertension or spasm. The acute ulcer did not cause such disturbances unless it happened to be situated near one or other orifice. Pain in gastric ulcer must be ranked very high as a diagnostic sign. Its leading features were its situation in the epigastric region, its tendency to be severe, sufficient occasionally to waken the patient at night, and its occurrence during the digestive process, ceasing after the stomach was emptied, either naturally or by vomiting. Its character was generally unaltered in the one patient.

Sir CUTHBERT WALLACE, who could not be present, wrote that the subject of gastric ulcer had suffered from dual control. The physician saw the beginning, and the surgeon the end, and the former, while he had the opportunity of comparing the symptoms with the different lesions, had not the same opportunity as the surgeon of handling the lesions

themselves. The clinical history was all-important in arriving at diagnosis, and other methods of examination were important in so far as they could confirm or refute the opinion arrived at on clinical signs. Pain was the leading feature, though it was doubtful what caused the pain, whether the friction of the stomach contents, the action of the gastric juice, or the irregular muscular movements. Most people who suffered from chronic ulcer referred the pain to the epigastrium, but the situation of the pain or tenderness was of no value in locating the ulcer. If the taking of food caused pain there was a distinct interval between the meal and the commencement of the pain, and this interval was longer the nearer the ulcer to the pylorus. Vomiting was a fairly constant symptom, preceded by pain, which it often relieved. He had not sufficient experience to give an opinion as to the value of fractional meals. High HCl usually accompanied an ulcer in the pylorus. Sometimes *x*-ray examination was helpful for showing—most readily on the profile of the stomach—an actual break in the outline of the shadow at the site of the ulcer. The rays also indicated cicatricial deformity, the filling defect often associated with carcinoma, and the abnormality of the duodenal cap. If there was no constriction and no abnormality of form it was unlikely that a condition was present which could be remedied by the surgeon. The diagnosis as between ulcer and carcinoma was very difficult, if possible at all without operation and pathological examination.

Dr. W. GORDON dealt with a number of clinical points. The onset of diabetic coma might simulate gastric perforation. In subdiaphragmatic abscess leucocytosis might help diagnosis considerably. A latent abscess would sometimes cause surprisingly little disturbance. Syphilis as a cause of gastric ulcer was uncommon in this country, but should not be forgotten. The frequency of ulcer as a forerunner of cancer in the stomach had lately been over-estimated. Such instances were relatively rare, and he was glad to find radiologists in agreement on this point. As regards diagnosis generally, he thought that a recumbent diminished cardiac dullness made carcinoma more likely, though in conditions of extreme weakness from starvation he had found a similar recumbent dullness. In gastric ulcer cases, except in instances of surgical urgency, abdominal exploration for diagnostic purposes was a procedure only justifiable when all other means of diagnosis had failed. Abdominal exploration meant abdominal adhesions, and these were to be avoided.

Dr. J. A. RYLE thought that as far as possible the patient should be examined when pain was present, and this raised the question whether they might not try more frequently to induce pain in a patient for the purpose of examination. He had been paying some attention to the reflex phenomena accompanying ulcer, and had found deep tenderness present in from 60 to 70 per cent. of all cases of active ulcer examined; most frequently this tenderness was in the midline, but in duodenal ulcer very commonly over the right rectus. He also indicated the frequency of other signs—increased abdominal reflex, for example, in 16 per cent. Not all these cases had been examined during pain, and if such signs were found when active pain was not present, how much more likely were they to be found when pain was present! The speaker also touched on the value of the hypersecretory curve in ulcer in the duodenum or near the pylorus. The curve was seen in conditions other than duodenal ulcer—in a small proportion of normal subjects, for instance, and also in appendicitis, and gall stones, and in tabetic crises—but it did not as a rule show the distinctive features which it exhibited in duodenal ulcer.

Chemical Estimation.

Dr. J. H. RYFFEL confined his remarks to the fractional meal introduced by Einhorn and developed by others. He showed some typical gastric analysis curves illustrating the acidity and free HCl obtained in duodenal and pyloric ulcer. Unfortunately for diagnostic purposes, in the case of ulcer in the lesser curvature, the degree of acidity was about normal or below normal, and the rate of emptying of the stomach was also approximately normal. A study of the curves, therefore, would not suffice to distinguish gastric ulcer proper as opposed to pyloric ulcer, and the blood had to be examined; but here again there was a difficulty, because aspiration was liable to cause some bleeding, and thus it became necessary to refer to the examination of the faeces for blood, because blood would not be found in the faeces after a test meal if the bleeding was due to trauma. He worked on a large enough scale to examine the faeces spectroscopically, investigating in this manner the faecal extract for acid haematin and haematoporphyrin. In pyloric ulcer, when the bleeding was consistent, one could practically always find haematoporphyrin present in the faeces, and it was not found in the faeces of a normal person on full diet. Gastric ulcers were variable in the results so far as examination for blood was concerned, but in pyloric and duodenal ulcer the presence of blood was consistent.

Dr. G. W. GOODHART desired to know how users of the fractional test meal decided that blood was due to a condition of the stomach and not to trauma. In his experience he had rarely found anything that looked like blood with the fractional test meal.

Dr. IZOD BENNETT said that his experience of gastric analysis went to show that one got no disturbance of gastric secretion in this condition except such as might result from derangement of the normal function of the pylorus.

X-ray Examination.

Dr. A. E. BARCLAY discussed the technique and results of *x*-ray examination. The patient should be prepared by having the bowels thoroughly cleared two days beforehand, and should have no food for at least three hours before examination. The opaque meal employed for outlining the stomach was a mixture of barium sulphate (3 to 4 oz.) in half a pint of milk, to which was added a little raspberry syrup and a teaspoonful of sodium bicarbonate. Just before the opaque meal the patient ate a spoonful of toasted breadcrumbs, the object being to irritate any ulcer which might be present, and in this way to produce spasm. The liquid meal demonstrated the shape of the cavity, but was of little value as a test for motor function; hence on the next day the patient should have a real food-test meal, which was given five hours before he came for examination. The food was barium sulphate or bismuth carbonate mixed with bread and milk or porridge. Frequently at this second examination another liquid meal should be given to confirm what had been seen on the previous day. The examination was conducted for the most part in the upright position. The observer must make the most painstaking palpation of the abdomen. Any method would show the obvious, but no method would show the fine detail that was necessary for the diagnosis of certain lesions if it did not include a very careful palpation. The *x*-ray negative sometimes showed points which had been missed by the screen examination, but he did not recollect a case in which the final diagnosis had been made from plates. The demonstration of the actual break in the outline of the shadow cast by the ulcer was the direct evidence on which a definite opinion of ulceration could be given. Without this direct evidence, which was becoming more frequent with the increase of experience and the improvement in apparatus, there remained only deduction from indirect evidence. The diagnosis of duodenal ulcer depended on the establishment of the fact that there was definite deformity invariably present; this deformity was little guide to the size of the ulcer, and was due to a localized contraction not seen on the operating table. He could not yet distinguish between adhesions and ulcers of the duodenum. Dr. Barclay went on to discuss in detail the hour-glass contractions, many of which, he said, were purely spasmodic; also delays in emptying, which did not necessarily mean a pyloric lesion, and atony of the stomach, which was not necessarily a pathological state, and might be accounted for by the mere distaste for the opaque meal. The peristalsis of the stomach might furnish some clues. The wave might be interrupted at some point; this was more suggestive of a growth than an ulcer, though occasionally it was noticeable in cases of indurated ulcer. He urged that the operation theatre and the *post-mortem* room were of the utmost importance to the radiologist, and that often his presence in the former might be of service to the surgeon.

Dr. J. M. REDDING added a few words on the *x*-ray diagnosis. For the direct method the essential was a fluid meal which would hold barium in good suspension. He relied on radiograms for the final diagnosis rather than on the screen image. One helpful feature was the consistency of any deformity, whatever shape it might assume. A point to insist upon was that the area under suspension should constantly show a deformity of the same character.

Morbid Anatomy.

Dr. BERNARD SPILSBURY, who showed a number of specimens, said that the digestive activity of the gastric secretion undoubtedly played a very important part in

maintaining the morbid process. When the secretion was very active the destruction was pronounced and the ulcer enlarged; when the activity was arrested the destruction was replaced by processes of repair and regeneration of the tissues. In the destructive stage the ulcer had sharply cut margins and the base was fairly smooth. As the destructive process diminished the margin lost its punched-out appearance and became rounded. In the stage of repair the ulcer became smaller and the margin much thickened, so that it assumed a cup shape in section. The destructive stage was the one seen in the *post-mortem* room in most cases in which ulceration was the cause of death, and the regenerative stage was the one seen in specimens removed by the surgeon after more or less prolonged medical treatment. He gave a description of the microscopical appearances, and added that it was comparatively very rare to find malignant disease following upon ulceration. The origin of cancer from peptic ulcer must be looked upon as an uncommon event.

A Comparison of Methods.

Dr. NEWTON PITT, from the chair, in closing the discussion, recalled that thirty years ago, in Fagge's *Principles and Practice of Medicine*, the question of duodenal ulcer was simply referred to incidentally and not discussed at all. Between 1890 and 1900 the improvement in diagnosis was due largely to the surgeons who found the ulcers; between 1900 and 1910 the great advance was in the chemical estimation of the stomach contents; between 1910 and 1920 the progress had been chiefly on radiographic lines. He was sure that there was a great deal more still to be learned from the fractional meals. No one had compared the respective merits of these methods of diagnosis that evening. In the early stages of a case he thought that more was to be learned from clinical examination than from the radiographic picture, whose help was chiefly valuable at a later stage when the ulcer became large and pouched. What was the relative proportion of accuracy in diagnosis arrived at by these various methods? At the Mayo clinic last year the proportion of accurate gastric diagnosis by *x*-ray examination was said to be 95 per cent. Perhaps in a chemical examination the proportion of mistakes was greater, but, fortunately, the cases which presented difficulty by one method were cleared up by another. It was difficult to find out from surgeons what was the proportion of cases in which they operated after a diagnosis of gastric or duodenal ulcer and found something else. It was possible that not an inconsiderable number of abdomens were opened for ulcer and no ulcer was found nor any lesion, and perhaps 5 or 10 per cent. in which carcinoma or gall stones or some other lesion was found. It would be very useful to get a general statistical review of the experiences of the London hospitals, but merely to look through the reports furnished no information, because errors in diagnosis were rarely entered.

PREVENTION OF DIPHTHERIA.

AT a meeting of the Section of Epidemiology and State Medicine of the Royal Society of Medicine, on January 27th, when the President, Dr. A. K. CHALMERS, was in the chair, a discussion on the Schick test and the prophylaxis of diphtheria was initiated by a series of short papers.

Dr. S. MONCKTON COPEMAN, F.R.S., exhibited a series of lantern slides of arms showing various phases of the reaction. He then briefly described the arrangements made to carry out a series of tests in an institutional school at Mitcham; he referred to the practical absence of constitutional reaction to the test and the importance of a control.

Dr. EAGLETON read a paper on the bacteriological examination of 300 school children. During the wane of a diphtheria epidemic in an institutional school at Mitcham, nose and throat swabs were taken by Dr. Okell and himself from all the inmates; 329 children were so examined (Series I), and the process was repeated eight weeks later on 327 of these children (Series II). Series I showed a carrier rate of 5.47 per cent., Series II a rate of 1.8 per cent., the diagnosis of the diphtheria bacillus being made on morphological grounds only. In Series I virulent diphtheria bacilli were isolated five times and avirulent three times. In Series II no virulent bacilli were isolated, but avirulent diphtheria bacilli four times. Comparing the results with those obtained in a series of diphtheria convalescents, and bearing in mind the pitfalls met with in routine morphological diagnosis of diphtheria bacilli, he felt that a knowledge of the percentage of contacts from whom virulent diphtheria bacilli could be isolated was of more value than the finding of the "carrier rate" by a method of diagnosis depending solely on morphology.

Mr. GLENNY read a paper on laboratory control of the Schick test and active immunization. The standard adopted by Schick of 1/50 M.L.D. of toxin as a test dose for the test was not, he thought, ideal. The test was quantitative, depending upon neutralization of toxin by antitoxin. Antitoxin also neutralized toxoid, and as toxoid was present in varying proportions in different batches of toxin a standard depending upon toxin content alone would give different results with different toxins. It was possible to produce a toxin of which 1/50 M.L.D., as the Schick test dose, would condemn as susceptible individuals with as much as 1/10 unit of antitoxin per cubic centimetre of blood, while another toxin would pass as immune those possessing only 1/100 unit. Until a more satisfactory standard involving neutralization of antitoxin was adopted it would be necessary carefully to choose the toxin to be used for the test. Toxin in high dilution being very labile, each preparation must be controlled by animal tests. Two methods were in use: (1) The determination of the minimal reacting dose, (2) the titration against antitoxin. Both methods involved intracutaneous injection into guinea-pigs. The second of these methods would form a satisfactory standard for the dose to be adopted for different toxins. Doubtful Schick reactions could be controlled by determining the antitoxin content of the blood of the individual under test. For such determination the usual intradermic method of testing was used, with slight modifications necessary in dealing with small quantities of blood and low antitoxin content. The preparation of toxin-antitoxin mixtures for active immunization needed careful control. According to the American authorities the mixtures must be shown to be non-toxic for guinea-pigs in doses of 1 c.cm., but in addition the immunizing properties should be tested on guinea-pigs and rabbits. When such methods of testing antigenic values were established, the immunizing values of the mixtures might be increased by selection of toxin used.

Dr. R. O'BRIEN read a paper describing the results obtained from the Schick test and the subsequent active immunization. Of 300 children, 31 per cent. gave a positive result when tested by the Schick method. This figure closely resembled that found by Park and Zingher in New York. Repeated tests on the same subjects gave the same results. Of readings made on the first day, 95 per cent. agreed with the final readings of the fourth day. When readings were recorded as "doubtful," it was probable that nearly all the subjects were really immune, assuming that the toxin dilution used was of full potency and the injection technique correct. Eighteen children who had had diphtheria some weeks earlier were tested; three gave a positive Schick response, two a negative, and thirteen a negative (and pseudo) reaction. Five carriers of virulent bacilli were tested, and all gave a negative reaction. It was probable that all true carriers of virulent bacilli gave a negative Schick response; if positive, they were incubating the disease and would suffer from it in the immediate future. Avirulent carriers might give a positive or negative reaction; of seven tested, one gave a positive Schick reaction and six a negative. All children giving a positive Schick reaction were immunized with toxin-antitoxin mixture. Ninety-nine were tested eleven weeks later, and two only gave a positive response; the remainder were immune. These two were reinoculated, and now gave a negative Schick reaction. Practically no general reactions occurred; local reactions were common, but caused very little interference with the children's activities.

A communication from Sir GEORGE BUCHANAN (who was prevented by an attack of influenza from attending) was then read. Having referred to the report recently issued by the Ministry of Health (noticed in our issue of December 10th last, p. 994), he remarked that residential child communities of all social grades appeared to be most suitable fields for the introduction of active immunization. "Dr. Copeman and Dr. O'Brien," he continued, "have shown how the method has been applied at an institution where the authorities felt it incumbent on them to make use of new knowledge to protect the children under their care. At this institution 100 per cent. of natural or induced immunity, in the sense of the Schick test, has been secured. If, as I hope, the system is maintained with new arrivals, and records are kept, we should obtain in course of time a valuable piece of independent evidence in our own country of the degree and duration of the protection obtained. We have already good reason to expect

that it will be high and will last substantially over many years, and we seem to be justified in promoting the adoption of the method in any other similar institution in which it can be undertaken with necessary thoroughness and skill. The question whether the method should or should not be recommended by public health authorities in such institutions is so important at the present time that I hope that if any objections, theoretical or practical, can be made, they will be brought out in the discussion and fully considered." Sir George further remarked that although theoretically it would seem best to initiate the process at a time when the institution was free from cases of diphtheria and the disease was not epidemic, practically it might be difficult to secure the consent of parents or public authorities. He concluded by asking whether (*a*) the staff of an isolation hospital should not always be subjected to the test and the positive reactors offered immunization, and (*b*) whether the reaction ought not to be demonstrated in the ordinary instructional courses of medical students.

Professor C. J. MARTIN, F.R.S., congratulated the authors upon their admirable piece of team work, and wished to emphasize the importance of technique and material in the use of the test and in the application of active immunization. Dr. TOPLEY commented upon the apparent rarity of a "combined" positive reaction (that is, a positive and pseudo-reaction on one arm and a pseudo-reaction on the control arm) and raised a difficulty as to the relation between active and passive immunization; he asked whether any statistical information was available as to the comparative frequency of relapses or second attacks before and after the introduction of antitoxin. Dr. GOODALL said that relapses certainly occurred both before and after the introduction of antitoxin, but he would not like to say without examination whether the proportional frequency had changed. He attached much importance to this investigation and congratulated the authors. He hoped that ultimately an administrative consequence would be the relief of pressure on hospital accommodation, urgently required for other cases, due to bacteriological cases of diphtheria. As to instruction, he demonstrated the Schick test to his students, and had no doubt that his colleagues did the same.

Dr. HEATH criticized the terminology used. Dr. MANBY emphasized the difficulty, if not impossibility, from the administrative side of using the method in the absence of cases or public fear of diphtheria. Dr. GREENWOOD said that accurate statistics of second or third attacks of infectious diseases were unobtainable in most cases, and would be, when obtained, very difficult to interpret. Dr. CARNWATH pointed out the need of further research, and of answering specific questions as to the duration and degree of immunity conferred by active immunization, standardization, and allied questions.

The PRESIDENT, having read some notes on the results of Schick tests carried out in the Belvidere Hospital, Glasgow, inquired whether pyrexia contraindicated the test. In the course of a general reply Dr. O'BRIEN observed that the quite reasonable criticism of members of public bodies that these tests were done on the children of the poor, would be met if the authorities of a preparatory school for the children of the wealthier classes would consent to such an investigation as that carried out at the Mitcham schools. Dr. COPEMAN said that he was glad to be able to state that such a proposal had been favourably received by the authorities of a preparatory school, and steps were being taken to invite the consent of parents. With regard to the President's question, he did not think the reaction was interfered with by pyrexia, but in his Bristol experience he had found definitely severe pseudo-reactions in some cases of diseased children tested (congenital syphilitics).

The Section passed a hearty vote of thanks to the authors of the papers.

A CASE RESEMBLING LEUKAEMIA.

AT the meeting of the Medical Society of London on January 23rd Dr. F. J. POYNTON, in a paper, gave details of a case which resembled leukaemia, but had unusual clinical and pathological features. It was a case of a woman, 31 years of age, whose breast had been removed for interstitial mastitis. After the operation she suffered from pains in the limbs, painful sore throat, weakness, and wasting, and was readmitted to hospital five months after operation almost pulseless. At this time the liver edge was 2 inches and the spleen 1 inch below the costal margins. The right kidney was very large, and the left also enlarged; the heart was feeble, but not diseased. Red blood cells were 5,460,000 and white 7,000 per c.cm. The differential count showed 16 per cent. polymorphonuclears and 82 per cent. mononuclears, of which 73 per cent. were lymphocytes. The case was diagnosed as lymphatic leukaemia. The remarkable features were the extreme variations in the size of the liver, spleen, and kidneys, and in the blood pictures. The spleen and kidneys rapidly enlarged to the umbilicus, and as rapidly diminished until, a month after admission, the liver, spleen, and left kidney could not be felt. The temperature fell to normal, and there was wonderful improvement. The red blood cells were now 2,000,000 and the white 6,600 (polymorphonuclears 46 per cent. and mononuclears 54 per cent.). Six weeks later there was an even more rapid failure in health. Within less than a week the liver and spleen enlarged to the level of the umbilicus, the right kidney became more enormous, and the left very large, the red cell count rose to 6,000,000, the white cell to 12,000 (polymorphonuclears 46 per cent., mononuclears 52 per cent.), and death occurred, hastened by rupture of the spleen and haemorrhage into the abdomen.

Dr. J. W. MCNEE, who carried out the pathological examination, said that microscopically the outstanding features of the case were (1) the presence of a large mass of whitish tissue, occupying the anterior mediastinum and involving also a large part of the left pleura; (2) enormous enlargement of kidneys, one of which weighed 29 oz.; (3) considerable enlargement of spleen, which measured 9 inches in length; (4) considerable enlargement of liver; (5) alterations in marrow of long bones. In some organs, notably the liver, the histological changes were those seen commonly in lymphatic leukaemia, the portal tracts being infiltrated with large collections of small lymphocytes, and the vascular capillaries containing also a considerable excess of lymphocytic cells. In the kidneys, spleen, and the mass of the anterior mediastinum the changes were different and resembled more closely lymphosarcoma. An abundant, newly-formed connective tissue meshwork replaced the greater part of the normal structure of these organs, and in the meshes of this framework abundant small cells of lymphocytic type were contained. The remaining breast showed almost identical changes to those noted in the kidneys and spleen. He regarded the case as one of an atypical group standing somewhere between leukaemias and lymphosarcomas. No adequate explanation could be offered from the pathological side to account for the extraordinarily sudden shrinking of the liver, spleen, and kidneys. Two possible explanations might be thought of—namely, that the lymphocytic cells passed suddenly out from the organs into the blood stream, or that the cells were destroyed *in situ* in the organs involved; but the blood counts and the histological picture lent no support to either of these theories.

Sir HUMPHRY ROLLESTON thought that the case might correspond with Sternberg's leucosarcomatosis. The case strongly suggested that leukaemia was a form of sarcoma, and that here one had a tumour which was much more on the sarcoma side.

Dr. PARKES WEBER urged the usefulness of examining the mediastinum by *x* rays. In a case of Sternberg's leucosarcomatosis he would never have arrived at the diagnosis but for that method. He instanced several descriptions in literature of analogous cases. Some interesting points would be found in the third edition (1919) of *Blutkrankheiten und Blutdiagnostik*, by Naegeli. The speaker considered that the existence of these so-called leucosarcomatosis cases afforded the very best arguments for supposing leukaemia to be of the nature of a new growth, but if one went so far as that one would have to divide up the leukaemias, because it was almost certain that some cases of acute leukaemia were of the nature of an infectious disease.

Dr. GORDON WARD thought that this was a case of ordinary leukaemia more or less altered and modified by a succession of clinical accidents—operation, heart failure, and so forth—ending in the rupture of the spleen. To talk of malignant disease in connexion with it was to obscure a plain issue.

Dr. POYNTON, in reply, said that the condition of the amputated breast fitted in quite well with the idea that this was a leukaemic condition. He admitted that it was a weak point on the clinical side of the case that there was no close analysis of the urine. Dr. MCNEE could not accept the view that this was a case of Sternberg's leucosarcomatosis. The histology was quite definitely different, and there was nothing in the Sternberg cases of the fibrous tissue stroma which was laid down in the case under discussion.

CAUSES OF DEATH IN VALVULAR DISEASE.

A MEETING of the Royal Medico-Chirurgical Society of Glasgow was held on January 13th, 1922.

Dr. JOHN COWAN made a communication on the causes of death in chronic valvular disease of the heart. In a *post-mortem* series of 100 cases which showed some form of endocarditis at death 19 cases had acute endocarditis and 81 chronic endocarditis. Of these 81 cases of chronic endocarditis 37 showed a superimposed acute endocarditis and 44 did not. Of these last 44 cases, death was due in 21 cases to progressive cardiac failure of unknown origin, in 12 cases to pulmonary lesions, in 4 cases to cerebral lesions, and in 12 isolated examples to starvation, otitis media, over-exertion, acute rheumatism, paroxysmal tachycardia, purpura, and heart-block. Chronic renal disease was present in 25 cases. The most common cause of death in 81 cases of chronic valvular disease was thus acute endocarditis, which obtained in 42 per cent. of these patients. Of the original 100 cases which presented some form of endocarditis at death 56 showed an acute endocarditis.

Mr. G. H. EDINGTON communicated particulars of a case and showed macroscopic and microscopic specimens of sarcoma affecting an undescended testicle, which was firmly fixed in the pelvis between the bladder and rectum. The specimen was from a labourer, aged 49. There were no signs of secondary extensions thirteen months later. Mr. Edington commented on the unusual situation of the organ and drew attention to statistics, as showing special tendency to malignant disease in undescended or malplaced testicle. Mr. G. H. Edington also showed a large urachal cyst removed from a farmer, aged 50. A palpable tumour in the hypogastrium had been present for between two and three years. It was cystic, and resembled the distended bladder, except that it was very fully motile from side to side. There were no visceral adhesions, and although firmly attached to the apex of the bladder, the cyst was comparatively easily enucleated. It measured 13 cm. by 9 cm.; its fluid contents were alkaline and non-albuminous, but gave a marked reaction for urea.

Dr. JOHN ROWAN, in showing a cinematograph film illustrating the mechanism of the refraction of the eye, commented upon the value of this method of teaching many subjects. He also referred to its value in recording methods of operation and the condition of patients from time to time as regards appearance, muscular movements, gait, etc.

INVERSION OF THE UTERUS.

AT a meeting of the Edinburgh Obstetrical Society on January 11th, with the President, Dr. LAMOND LACKIE, in the chair, Dr. HAIG FERGUSON read a paper on inversion of the uterus, of which he had met with four cases; two of them were puerperal and two associated with neoplasms of the uterus, one of the latter being a fibroid polypus and the other an adeno-carcinoma. All were successfully treated by vaginal hysterectomy except one of the puerperal cases, in which the abdomen was opened and the uterus re-inverted after division of the posterior part of the constricting ring (Haultain's method), an assistant pushing the uterus up from below. This case also made a good recovery.

Dr. Haig Ferguson considered that acute inversion was not so uncommon a condition as was frequently supposed, and that many cases were unrecorded. The mortality of acute cases was probably 30 per cent., but if they survived the initial shock and haemorrhage the danger was not immediate, as shock was probably the main cause of death in acute puerperal cases. In dealing with such cases no prolonged attempt should be made at the time to replace the uterus. Such attempts, even if successful, might do more harm than good. Paradoxical as it might seem, patients might die from successful reposition.

The most important point was to strip off the placenta and then plug the vagina with sterile or iodoform gauze, while combating shock, which was often the main cause of a fatal issue. He advised caution in the use of pituitrin in the treatment of shock in such cases, as it might render the subsequent reinversion more difficult. As to reposition after the initial shock and haemorrhage had been successfully dealt with, taxis and repositors were of little use where inversion had existed for any length of time, and their use was not without danger. They might, however, be tried with all care in comparatively recent cases after shock had passed off. Modern treatment of chronic inversion tended towards surgical interference. If the uterus was septic, seriously damaged by previous manipulations, or had undergone fibrotic changes, the vaginal route was indicated. If, however, the uterus had not been seriously damaged, was not septic, and there seemed a reasonable chance of effecting reposition, the abdominal route should be chosen. Operation by the vaginal route had hitherto given the smallest mortality, due to the less degree of shock and less risk of infection. The want of sufficient room to work in could be overcome to a great extent by using Schuchardt's incision or paravaginal section.

Caesarean Section in Multiple Pregnancy.

Dr. WM. FORDYCE read a note on a case of Caesarean section in multiple pregnancy. The patient was a primipara who had been married ten years. For two months before admission she had been more or less of an invalid suffering from great pain, aggravated on lying down, and accompanied by difficulty and pain in micturition. On admission she looked extremely ill, was very breathless and emaciated; there was a small amount of albumin in the urine; the pulse rate was 100. The upper part of the abdominal swelling reached to the umbilicus, and it extended forwards and downwards over the symphysis pubis, forming a conical tumour the apex of which touched the patient's thighs. The vagina was very elongated and the anterior lip of the cervix could be touched with great difficulty. It seemed to lie above the promontory of the sacrum. The posterior lip and external os could not be felt at all. The pelvis was perfectly normal in shape and size. No presenting part could be made out. Delivery *per vias naturales* being obviously impossible, Caesarean section was performed; the uterus was raised up out of its pendulous position, thus enabling the uterine incision to be made on its anterior surface. Two male foetuses, each 7 lb. in weight, were extracted; the first lay longitudinally, the head below, the second behind it and transversely. The uterus contracted well and was readily replaced in the normal position. Nothing could be found to account for the markedly pendulous condition of the uterus.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

A CLINICAL meeting of the West London Medico-Chirurgical Society was held at the West London Hospital on January 13th, with the President, Sir G. LENTHAL CHEATLE, in the chair. Mr. S. SIMMONDS reported a case of ossifying spindle-celled sarcoma in a man aged 31. The tumour had arisen in the thigh in the site of a contusion caused by a large shell fragment three years ago. At operation the tumour was found to be unconnected with bone, but involved the adductor magnus and femoral vessels. It was removed, together with three and a half inches of the femoral artery and vein. The microscope showed the tumour to be an ossifying spindle-celled sarcoma. The patient had recovered without any complication. Mr. Simmonds also showed a case of congenital deformities in an infant aged 8 months, showing (*a*) transposition of the heart, (*b*) absence of the left nipple, (*c*) congenital bands from the left pectoralis major to the internal condyle of the humerus, and (*d*) post-anal dimple. Dr. H. CHAMBERS showed a case of congenital absence of the right upper limb in a man aged 37, showing development only of the fixed portion of the shoulder girdle. The free portion of the arm was represented by a finger-like process of soft tissue attached to the lower part of the skin over the glenoid border of the scapula. Dr. Chambers remarked on the rarity of the unilateral deformity, most cases reported being bilateral. Mr. O. ADDISON showed a branchial cyst in a woman of 35. The cyst had been aspirated and the fluid withdrawn found to be typical of that found in dermoid cysts. Mr. N. SINCLAIR showed a cystic swelling in the neck of an infant aged 1 month, shown for diagnosis. The child's birth had been easy and non-instrumental, and the swelling present since birth. The diagnosis rested between a cystic hygroma or a cyst of branchial origin. He also showed an interstitial hernia associated with imperfect descent of the testis in a boy of 16; and, third, a case of large femoral and inguinal herniae on the same side in a man aged 61. The PRESIDENT considered this a suitable case for operation by his recently introduced subperitoneal method. Dr. J. BURNFORD showed, first, a girl of 16 with sub-acute infective polyarthritis treated by colonic lavage and intestinal antiseptics, with success; and second, a case of retrobulbar neuritis associated with influenza in a boy, aged 8. Mr. R. MAINGOT showed, first, a case of chronic

myositis ossificans traumatica in an ex-cavalryman aged 50. There were multiple lesions in the left thigh and a large plaque in the right. The condition had been accidentally discovered in the course of a routine examination. He also showed a central dislocation of the head of the femur in a man of 50, successfully reduced and subsequently treated by abduction and later by a walking calliper splint. The man had recently been able to return to work.

AN ordinary meeting of the Manchester Clinical Society was held in the Pathological Department of Manchester University on January 20th, with Professor G. R. MURRAY, the President, in the chair. Professor H. R. DEAN opened the meeting by giving a brief summary of the history of the Wassermann reaction, and described the technique of the method pursued in his department, together with the precautions taken against error. Dr. WILLIAM DYSON opened the discussion from the clinical aspect, and pointed out the value and limitations of the reaction as applied to clinical medicine. Dr. MUMFORD, Dr. DIBLE, Dr. SAVATARD, and Professor MURRAY also took part in the discussion.

Reviews.

THE LEGACY OF GREECE.

"I DO not ask that a man shall know Latin and Greek, all I ask is that he shall have known them." Although it may be easy to agree with Sainte-Beuve's remark it is hard to say why we do so; the series of essays edited by R. W. LIVINGSTONE and published under the title *The Legacy of Greece*,[1] is an attempt to solve the problem so far as the study of Greek is concerned. The debt modern civilization owes to Greek thinkers is analysed under various headings. Professor Gilbert Murray discusses the value of Greece to the future of the world, and while it is true that many of the questions he propounds are left unanswered, his general survey is one to set any man thinking. He tells how the geometry of Euclid, the grammar of Dionysius Thrax, and the medicine of Hippocrates have lived into our own times. For him, as also for the artist or poet, the secret of ancient Greece lies in the underlying quality of beauty. This beauty is displayed in the directness, truthfulness and simplicity with which the Greeks say what they want. We admire in the Greeks freedom, reason, beauty, excellence and the pursuit of truth, and we realize that they were the first to formulate these ideals clearly. The mass of us can be stimulated to feel these ideals to be worthy and pleasant, but Professor Murray does not explain why these ideals should be latent in the mass of humanity and be capable of being awakened. He supposes, for instance, that the normal language of Greek poetry is in itself in some sense sublime. He asks what gives words their character and makes a style high or low. His answer is "the company they keep in the minds of those that use them." An answer which will scarcely satisfy a race that has preferred the speech of the Saxon churl to that of the Norman aristocrat and kept alive the English tongue.

Dean Inge writes frankly of the influence of Greek thought on Christian faith and dogma. Historically and philosophically his chapter is of absorbing interest, but he does not make us feel that modern religion would have been the poorer without the influence of Greece. Greek philosophy, as Professor Burnet shows in another essay, was at its best when undivorced from science. His explanation of the various Greek schools makes intelligible the evolution of modern philosophy, and traces the development of speculative thought from Greek origins. Sir T. L. Heath is lavish in admiration of Greek mathematics and astronomy, but somehow he fails to arouse in us a desire to study mathematics in the Greek originals or to persuade us that our debt to Greece can outweigh the simple gift of Arabic numerals or the "cipher" which the Arabians bequeathed to us for ready reckoning.

Dr. Charles Singer has an easy task. Biology and medicine had never a mind to be forgetful of all they owe to Greece. But we acknowledge the brilliant fashion in which he has represented our spacious heritage. The essay on literature is by the editor, Mr. R. W. Livingstone. We are reminded how the Romans confessed their debt to Greece. "In learning," says Cicero, "and in every branch of literature, the Greeks are our masters." The Renaissance bears testimony to the same enthusiasm, and it has lasted even into the twentieth century. The Greeks were the first people in the world to make language express the thoughts that are in the minds of men. They invented every literary genre which we know, they laid the lines which European literature has followed, they created a body of prose and poetry which has won the homage of the world. They discovered for literature the essential qualities of simplicity, perfection of form, truth and beauty. But in all the admiration he outpours there is a strange omission. He has contrived to write of Greek literature without reference to Aesop and his fables, even though he may deem spurious those that have come down to us.

History at the hands of Professor Toynbee receives less than due justice. He uses certain phases of Greek history to illustrate some not very inspiring views of his own on contemporary events. Herodotus, for him, is mainly interesting as a fatalist, not as a chronicler, and not at all as the first of all geographers. Xenophon escapes his notice. Professor Zimmern depicts in faint outline the political life of the Greeks, and overshadows his sketch with partisan reflections on affairs of to-day. The Greeks, he says, have a message for us not only as regards the material of our politics but as regards ourselves. The message in fact reads more like Professor Zimmern's own.

In the Lamps of Greek Art a difficult task has fallen to Professor Gardner. The appreciation of the plastic arts and the pleasure given by the contemplation of painting or sculpture is so elusive and so personal as to defy exact analysis. On the whole the task is well performed, but in order to be receptive of the Greek ideals it is not necessary to cultivate a distaste for the work of Rodin. An art critic who is driven to express appreciation of one school of art in terms of his dislike of another soon becomes tiresome. Sir Reginald Blomfield dwells on the splendour of Greek architecture and gives a careful summary of its various forms.

One essay remains. When we have read all the rest we are inclined to say their arguments will revive the ardour of men who once studied Greek and increase the enthusiasm of those who already confess their obligations to ancient Greece, but they may fail to convert anyone who has never before heard the fame of Hellas. A modern barbarian might feel that the other essayists smacked too much of the schoolmaster lecturing on the advantages of Greek study and regretting that it had ceased to be compulsory. It has been left to Professor D'Arcy Thompson to entice where others would drive. His essay on "Natural Science" is in the first place an almost perfect example of the English essay. In the mere choice of words, in the balance and rhythm of his sentences, and in the treatment of his subject he displays a masterly skill. He makes us feel in very truth that "draw her close as we may to our hearts, Greece brings along with her a breath of the East, and a whisper of remote antiquity." He writes of more than the natural history of the ancients. We want to follow him, a-wandering into the by-ways of this literature that offers us the Indian tales of Ctesias and Megasthenes to add to the familiar stories of Herodotus, where we can sit with Athenaeus and his friends at the supper table listening to the merry troup of convivial gentlemen capping verses and spinning yarns. We ask to be taken to the greater world of letters wherein poet and scholar share in the love of nature and enliven the delicate background of their story with allusions to beast and bird. Aristotle becomes our familiar gossip as modern as Gilbert White of Selborne. We wonder what Fabre can tell us that Aristotle had not seen. Professor Thompson makes us sensible that in Greek wisdom and sweet Hellenic speech we have a priceless possession no longer confined to the school desk or lecture room but for our everyday life in a workaday world.

So we leave the book very well content, in spite, or perhaps because, of the fact that some of the essayists have not responded identically to the message of ancient Greece. At least we feel we can be co-heirs to the legacy without quarrelling because we enjoy our portions differently. The pleasure of reading these stimulating essays is enhanced by the "get-up" of the book. The size of the volume is convenient, whilst the type and proportion of letterpress to margin are excellent.

[1] *The Legacy of Greece.* Essays by various authors. Edited by R. W. Livingstone. Oxford: Clarendon Press. 1921. (Cr. 8vo, pp. xii+424; illustrated. 7s. 6d. net.)

CATARACT.

COLONEL KIRKPATRICK, in his *Cataract and its Treatment*,[2] has produced a book which will be found most useful, not only by the civil surgeon in India, for whose benefit we judge that it has been written, but also by all ophthalmic surgeons. It contains chapters dealing with the development, anatomy, and nutrition of the lens; with the histological, physical, and chemical changes in the opaque lens; with the etiology and the varieties of cataract; with symptoms, signs, and diagnosis; with treatment, non-operative and operative; and with after cataract, and so on.

Where all is good it is, perhaps, a little invidious to single out any particular chapter for commendation, but we do not hesitate to say that the chapters on operative treatment are most excellent; the pros and cons of the various types of operation are placed before the reader in a lucid way, and it is refreshing to find that the author does not mind admitting that his right hand is his master hand, for we are convinced that the number of men who are absolutely ambidexterous is limited; we agree with Kirkpatrick that in a left-sided cataract the patient should be given the benefit of the master hand.

The author has had a larger experience of operative ophthalmology than that which falls to the lot of any surgeon who has practised solely in this country, and his pages abound in useful hints and sound practical advice. The book is well written, the illustrations are excellent and to the point, typographical errors are very few in number.

Our only criticism is directed to an unfortunate footnote on page 110, where "*the late Sir Anderson Critchett*" is stated to have practised a certain type of capsulotomy between the years 1876 and 1881. We suppose that Colonel Kirkpatrick is referring to the late Mr. George Critchett, for his son, Sir Anderson, happily is still with us.

PHYSICAL DIAGNOSIS.

IT is no easy task to write a book on a subject such as *Physical Diagnosis*,[3] which can only be fully taught in the living subject. More especially is this the case when the author writes, as does Dr. ROSE, who is lecturer on diagnosis in the University of Arkansas, both for students and practitioners. The former look for elementary facts, the latter for details of some particular matter presenting difficulties. Dr. Rose has set himself a task which he has hardly achieved, for the wealth of detail in some sections is in contradiction to the sketchy treatment in others. Ten pages, for instance, are devoted to a discussion of blood pressure, and the information contained therein could be compressed with advantage. It is doubtful whether practitioner or student would be much helped by the description of the various instruments or methods of estimating pressure, unless he had seen a sphygmomanometer in use, and if he had, the description is unnecessarily long. A similar criticism may be levelled at the very brief section on the nervous system, occupying less than fifty pages. Of these, ten are devoted to a discussion on equilibrium, the Bárány tests being described in great detail. As a turning chair is found in the equipment of only the very few, and those specializing in diseases of the ear, it seems unwise to burden the text with detail more appropriate to a monograph, to the exclusion of such simple matters as looking for cerumen in a case of vertigo.

Of the four parts into which the book is divided, those dealing with the thorax and the abdomen will be found of most value. The author rightly emphasizes the importance of inspection in diagnosis. How often is valuable information missed because auscultation or percussion is at once proceeded with, when a deliberate survey of the stripped patient will reveal some abnormality of contour, colour, or habit which reveals a diagnosis forthwith. The physical signs associated with intrathoracic disease are very fully described and illustrated by semi-diagrammatic drawings, which indicate the physical reasons for the production of alterations in the percussion note and auscultatory signs. This section will be of undoubted value to the student.

In dealing with radiographic diagnosis the author traverses the whole body, illustrating his remarks by a series of plates which show the value of this diagnostic method, though we doubt whether the untrained observer will learn much from them. X-ray diagnosis cannot be learned from plates in a book, but only by constant study directed by an experienced observer; in a textbook for students a definite statement of the type of case in which radiography will be of assistance is of far greater value than a number of plates, many of them illustrating rarities in medicine.

The cardiac section contains a good deal of valuable information, but here again there are strange omissions; no mention is made of the polygraph, which has surely established itself as part of the equipment of the expert diagnostician.

The book is furnished with a wealth of illustrations which are well produced. The text is, however, overburdened by the reproduction of many drawings apparently taken from an instrument catalogue. We are disposed to think that the author has attempted too much, and that the main lesson to be derived from his book is that diagnosis can only satisfactorily be learned at the bedside.

[2] *Cataract and its Treatment.* By H. Kirkpatrick, Lieutenant-Colonel I.M.S. (retired). Oxford Medical Publications. London: Henry Frowde, and Hodder and Stoughton. 1921. (Demy 8vo, pp. xiii + 201; 69 figures. 12s. 6d. net.)

[3] *Physical Diagnosis.* By W. D. Rose, M.D. Second edition. London: Henry Kimpton. 1921. (Med. 8vo, pp. 735; 309 figures. 45s. net.)

BENIGN STUPORS.

THE contributions of Dr. AUGUST HOCH to psychiatry are perhaps not so well known in this country as they deserve to be. Those who valued his work, however, will be glad that his last study, *Benign Stupors*,[4] was sufficiently completed before his death to be published in a book form. It is edited by Dr. John T. MacCurdy, who found it possible to discover from copious notes the intentions of the author as to the details of the uncompleted chapters. It has often been urged that Kraepelin's "dementia praecox" includes more than it should with its inevitably bad prognosis. The inclusion of Kahlbaum's "catatonia" in this group was especially open to question, as it implied that stupor could not be an acute, recoverable condition. Such a view is too rigid, and Hoch, recognizing this, set himself to discover if there were any observable clinical differences between cases of stupor which recovered and those which progressively deteriorated. The investigation met with success, and Hoch was enabled to offer a number of suggestions which merit further consideration. There appears to be a relatively pure form of benign stupor reaction in which the symptoms appear with tolerable consistency. The clinical picture is made up of the following symptoms: Poverty of affect or intense apathy; inactivity, often profound; diminished mentation during the illness with a subsequent memory blank for experiences during its course; an ideational content associated with thoughts of death; and certain marked physical disturbances. Cases belonging to this group can be differentiated from the deteriorating stupors of dementia praecox and the episodic retarded stupors of manic-depressive insanity. Thus in separating out this benign stupor reaction Hoch would seem to have indicated valuable prognostic criteria for a symptom-complex the clinical significance of which it is often difficult to estimate.

Hoch aimed to describe the stupor reaction not only in its psychiatric bearing but also as a life reaction. All his cases occurred in individuals who had some reason for unhappiness, and a survey of the precipitating circumstances and the delusional content led him to consider the reaction as a profound psychological regression often accompanied by the delusion of death. Such observations would seem to suggest that the benign stupors are closely allied to a severe form of the "psychogenetic" or "situation" psychoses.

This excellent clinical study may be thoroughly recommended; it will be particularly valuable to those who are commencing the study of insanity. It serves to emphasize the necessity for accurate observation of cases and to indicate the directions in which further clinical study is desirable in the present state of our knowledge.

A SYNOPSIS OF MIDWIFERY.

A Synopsis of Midwifery,[5] by Dr. ALECK W. BOURNE, of which a second edition has recently been published, will prove useful to students preparing for qualifying examinations. As the author states in his preface, the book is not intended to be a substitute for, nor indeed does it fill the part of, the ordinary textbooks on the subject, but should be used merely

[4] *Benign Stupors: A Study of a new Manic-Depressive Reaction Type.* By August Hoch, M.D., late Professor of Psychiatry, Cornell University. Cambridge: University Press, 1921. (Cr. 8vo., pp. x + 284. 14s. net.)

[5] *Synopsis of Midwifery.* By Aleck W. Bourne, B.A., M.B., B.Ch.Camb., F.R.C.S.Eng. Second edition. Bristol: John Wright and Sons, Ltd.; London: Simpkin, Marshall, Hamilton, Kent, and Co., Ltd. 1921. (Cr. 8vo, pp. 211. 15s. net.)

to supplement the latter. There are many students who, having thoroughly learnt the groundwork of the subject and, let us say, having passed the examination of the Conjoint Board, may perhaps one or two years later come up for a university degree at Oxford, Cambridge, or London. To such men this synopsis should be convenient as a means of refreshing their knowledge. As Dr. Bourne admits, and as is perhaps excusable in a synopsis, literary style has been sacrificed to brevity of expression, but none the less the reader will not fail to appreciate the clear, concise, and complete manner in which the subjects are dealt with. On the last count especially the synopsis reminds us of notes which a lecturer might make if he were anxious to omit nothing from his lectures.

In this second edition the book has been revised and brought up to date. It has moreover been enlarged by the addition of new matter, dealing in particular with the treatment of the toxaemias of pregnancy and of *ante-partum* haemorrhage. The book is divided into six sections following the general plan of Dr. Eden's classical work. The first two deal with normal and abnormal pregnancy, the third and fourth with normal and abnormal labour, the fifth with the puerperium and the newly-born child, and the sixth with obstetric operations. It is almost impossible to criticize in any one particular where the general standard of excellence is high. In points of controversy extreme views have been avoided, and the intermediate path taken—which usually means the generally accepted opinion. The book is to be recommended both to the senior student and to the general practitioner.

THE HOT SPRINGS OF NEW ZEALAND.

In England the hot springs of New Zealand[6] are little known, and the facilities offered for treatment there are still less known. Dr. A. S. HERBERT has now supplied the information in a book entitled *The Hot Springs of New Zealand*. He is admirably fitted for his task, being consulting balneologist to the Dominion of New Zealand, after having been for many years the Government balneologist resident at Rotorua (the chief balneological station of New Zealand). The chapter on the climate of New Zealand has been contributed by the Rev. D. C. Bates, Director of the Dominion Meteorological Office.

The book is divided into three parts, of which the first contains a general description of the country and its hot springs, geysers, and boiling mud springs, illustrated by numerous photographs. The second part deals with the springs and various balneotherapeutic facilities and spas of New Zealand; whilst the third part is devoted to an account of general balneological principles and spa treatment, together with accessory physical treatment from the author's point of view. In this connexion we may note that he has made a special study of rheumatoid and arthritic affections, whether connected with traumatism or not. A picture is given of tophaceous masses in the hands of a Maori, but the author remarks that the "old-fashioned" kind of gout, of which he saw much in England twenty or thirty years ago, and of which so little is seen in New Zealand—gout, that is, with great tophaceous masses and fulminating attacks in the joints—requires wholly different handling from the kind more often seen now. A patient of this old-fashioned sthenic and plethoric type, "put without precautions straight on to full balneological treatment, is pretty sure to get an acute attack within the first week. He requires dieting and purgative waters, and, unfortunately, it is in good purgative waters that New Zealand is most deficient."

In his chapter on the classification of the "rheumatic" diseases Dr. Herbert suggests (as he has suggested to the Royal Society of Medicine) a classification into three groups: Group A, containing cases in which what he calls the "jaw-neck syndrome" is absent, includes gout (acute and chronic) and rheumatism (acute and chronic). Group B is a toxic and infective group, in which the "jaw-neck syndrome" is present; it includes gonorrhoeal arthritis or rheumatism, dysenteric arthritis or rheumatism, toxic arthritis or rheumatism, rheumatoid arthritis, arthritis following acute specific fevers (for instance, measles, scarlet fever, typhoid fever, mumps, influenza), and "thyroid (?) arthritis." Group C, which is not rheumatic, includes cases of traumatic arthritis.

A good many pages are properly devoted to a description of Rotorua, the chief place in the thermal district of New Zealand, and likewise the principal spa and the principal tourist centre. The native settlement was originally determined by the presence of the boiling springs—

> "For as in Europe wherever there is a hot spring there may be found a trace of Roman occupation, so in New Zealand wherever there is a hot spring there will be found a Maori whare (hut). The boiling springs and fumaroles serve to cook all the food, to wash all the clothes, and to supply primitive but luxurious open-air hot baths. . . . It is no wonder that the Maori built alongside the hot springs."

For a description of all the varieties of hot springs, geysers and boiling mud springs we must refer those interested to the author's own account. He thinks that change of environment is very important in the thermal and spa treatment of chronic diseases, and that "the picturesque Maori inhabitants and the weird thermal phenomena of the Rotorua district are assets of no mean value to a health resort." We can recommend the book to all medical men interested in balneotherapeutic methods, and likewise to all persons who intend to make a tour in New Zealand.

THE WAR AT SEA: WINTER, 1914–15.

THE second volume of *Naval Operations*,[7] the official history of the war at sea, contains less matter directly concerning the medical service than the first, but an acquaintance with the great multitude of facts Sir JULIAN CORBETT has marshalled in it will be indispensable to the historian of the Medical Service of the Royal Navy. The volume covers the period from November 20th, 1914, to May 8th, 1915. The earlier chapters describe the redistribution of the Home Fleets at the end of 1914, the raid on the Yorkshire coast on December 16th, 1914; the Dogger Bank action on January 24th, 1915; and the early operations on the Belgian coast and their abandonment. Incidentally opportunity is here found to give some account of the work of the mine-sweepers. Sweeping began on a large scale immediately after the raid when the Germans laid a large field; the work increased rapidly, and was maintained at a high level to the end. It was perilous, arduous, and nerve-racking. "It is difficult," Sir Julian Corbett writes, "to gain a full impression of all the toil and danger, the skill and devotion which went to make up what mine sweeping flotillas were giving to the common cause. Their part was but the sober background against which the more conspicuous exploits of the navy are thrown into relief . . . all this grim fishing was over and above the hunt for submarines. . . . We have been taught to be proud of how in days gone by the sea spirit of the nation answered the call at the hour of danger, but never in all our long story had there been such an answer as this."

The British casualties in the Dogger Bank action (January 24th, 1915) were astonishingly small. The *Lion*, Admiral Beatty's flagship, which suffered more damage than any other British ship, began firing at very long range at 8.52 a.m.; she was first hit at 9.28; within the next fifty minutes she was hit four times, and between 10.35 and 10.50 shell after shell hit her; at 11 she "was shaken from stem to stern by a hit that drove in the armour on the water-line abreast of one of the boiler-rooms, and did so much damage to the feed-tank and in the engine-room that the port engine had to be stopped . . . and the list to port increased to ten degrees." She was out of action, had afterwards to be towed, and was only brought into the Forth "by a fine display of seamanship." Yet her total casualties numbered only eleven men wounded. The destroyer *Meteor* "was hit forward by a heavy shell, which burst in the foremost boiler-room and put her out of action"; her casualties were four killed and two wounded. In the *Tiger* the senior engineer officer and nine men were killed, and three officers and five men wounded. The loss in the German fleet was heavier, for one battle cruiser, *Blücher*, sank, and credible reports from Denmark told of 1,150 wounded brought into St. Paul's Hospital at Hamburg, and of 260 landed at Wilhelmshaven from another battle cruiser, the *Derfflinger*, which does not seem to have been heavily engaged.

The volume is, however, mainly concerned with the Dardanelles operations from their inception as a naval diversion to their development into a combined eccentric offensive, and their failure as a *coup de main*. The military

[6] *The Hot Springs of New Zealand*. By Arthur Stanley Herbert, O.B.E., M.D., B.S.Lond. London: H. K. Lewis and Co., Ltd. 1921. (Demy 8vo, pp. xiv + 284; 3 maps, 87 figures. Cloth, 15s. net; paper covers, 14s.)

[7] *Naval Operations*. Vol. ii. By Sir Julian S. Corbett. London: Longmans, Green, and Co. 1921. (Cr. 8vo, pp. xi + 448, with 5 large and 12 smaller plans. 21s. net.)

movements are dealt with only so far as some account of them was essential in order to elucidate what the navy did. The full story will be told in a separate section of the official history. The last chapter in this volume relates the loss of the *Lusitania*, the negotiations which preceded the Italian convention, and the movement of opinion in Great Britain which led to the formation of the Coalition Government. The publishers have again been very generous in the provision of maps and charts, and there is a copious index.

TYPHUS IN THE BALKANS.

MR. J. JOHNSTON ABRAHAM'S *My Balkan Log*[8] deals with his adventures and experiences in a surgical unit which went to Serbia in October, 1914, and was demobilized in March, 1915, after a crowded time of most strenuous work under very difficult conditions.

The account of the overwhelming outbreak of typhus in which doctor after doctor and friend after friend sickened and died reads like a terrible dream. At that time, although 123 medical men in North Serbia had been attacked, and 97 had died, the censorship was concealing the ravages of typhus in the Serbian army, and the members of Mr. James Berry's Royal Free Unit arrived in ignorance of what lay before them. At an earlier date Mr. Johnston Abraham's unit had plenty of surgery among the Austrian prisoners and the Serbian soldiers, though the wild free Serbs had a primitive man's horror of any maiming operation, and so hated the surgeon and all his works that they often obstinately refused operation until it was too late to save life.

In spite of the horrors of these struggles the story is so fascinatingly told that it is difficult to put the book down. Mr. Johnston Abraham is a most accomplished writer, with a style light and always attractive. It is, therefore, not surprising that his two earlier books, *The Surgeon's Log* and *The Night Nurse*, are in their twelfth and ninth editions respectively, and it will be curious if the present volume is less successful.

NOTES ON BOOKS.

THE September number of the *Annals of Medical History*[9] appropriately bears on its cover the portrait of Hermann Ludwig von Helmholtz, who was born on August 31st, 1821, and in 1851 elaborated the ophthalmoscope, about which he modestly remarked, "Good fortune, rather than any personal merit, favoured me in its invention." Americans have a special interest in this great physiologist, as his mother was a direct descendant of William Penn. In the course of an account of John Shaw (1778–1809), a now forgotten medical poet of Maryland, Dr. John Ruhrah makes some interesting references to other medical poets, such as William Harvey, Haller, and von Volkmann, the last of whom, although a hard-headed surgeon, wandered into the fields of fantasy under the pseudonym of "Richard Leander." The attractively written article by Dr. H. A. Colwell on Gideon Harvey and sidelights on medical life from the Restoration to the end of the seventeenth century, is noticed on p. 202. The second of Dr. J. S. Taylor's three instalments of "Montaigne and Medicine" deals with the preservation of health, his attitude to medicine, his ailments and his travels, and contains a number of illustrations. The last illness and necropsy of Marcellus Malpighi is the subject of a note by Dr. John Donley, who also gives an account of George Baglivi, "the Italian Sydenham," author of *Praxis Medica*, one of the most interesting books of the seventeenth century. The translation of Baglivi's record shows that Malpighi suffered from gout and urinary calculi, and died in his 64th year from cerebral haemorrhage. Dr. M. Charlton, in his short account of W. R. Beaumont (1803–1875), who was born in Beaumont Street, Marylebone, and was a favourite pupil of Abernethy at St. Bartholomew's Hospital, and in Paris of Amussat, does not say anything about the better-known William Beaumont (1765–1853), whose physiological observations on the gastric fistula of Alexis St. Martin are so familiar. "A Christian Science cure in the sixteenth century, introducing the reader into very high society," is a translation by Dr. Horace Manchester Brown of Milwaukee from Hieronymus de Rubei of Ravenna. Dr. C. G. Cumston's historical summary of the treatment of trachoma, with special reference to the Arabian school and the writings of Ali-el-Aïssa (Jesu Hali), read before the Historical Section of the Royal Society of Medicine in May, is reproduced here. Among the editorial notes there is an interesting account of Dr. Crawford W. Long's removal of two cystic tumours from a patient's neck under ether in 1842, thus anticipating W. T. G. Morton by four years; but Long did not publish anything on the subject until after Morton. It is also pointed out that the words "anaesthesia" and "anaesthetist" were first employed by Oliver Wendell Holmes on November 21st, 1846, in a letter to Morton. The editor's reviews include an appreciative notice of *Studies in the History and Method of Science*, edited by Dr. Charles Singer.

Under the title *The Microscope, a Simple Handbook*,[10] Mr. CONRAD BECK has produced a useful book. It contains a description of the microscope, of different forms of illuminating apparatus, and of the manifold appliances used for measuring, enumerating and photographing. In discussing such problems as the numerical aperture of objectives, a subject which the student always finds it difficult to understand, the author succeeds in explaining his meaning without presupposing a knowledge of advanced mathematics. The chapter on object glasses and eye-pieces gives a great deal of information on the magnifying power of lenses, and contains a wealth of practical detail. The price in 1922 of instruments and apparatus described in the book is given in an appendix. Here the reader, whose interest has been awakened by the cunning devices described in the text, may check any hasty resolution by counting the cost. The book will be of particular value to those about to purchase a microscope, for by perusing its pages they will be able to consider the type of instrument which would best suit their requirements.

Perhaps the most interesting thing about the *Hazell Annual*[11] for 1922 is the fact that the price has been reduced very considerably since the last issue, and the volume is now published at 5s.; nor has any section been dropped that will be missed. Short articles are included on the Washington Conference and the League of Nations, and tables are given of the post-war strength of the navies of the United Kingdom, the United States, and Japan. Final statistics of the war casualties will also be found. The volume contains a great mass of condensed information on a large variety of subjects—such as occultation of stars by the moon, professional fees, London clubs, close time for game, the Royal family, knighthood and other orders, a commercial guide, a racing retrospect, embassies in London—in addition to the usual civil service, army and navy, and similar sections. On medical matters, so far as we have tested the *Annual*, the information is accurate, if not exhaustive. The volume forms a most useful work of reference.

Dr. BUCK'S *Dawn of Modern Medicine*[12] is a somewhat disjointed volume, divided into thirteen books and twenty-seven chapters; the author endeavours to trace the revival of the science and art of medicine which, he says, took place in Western Europe during the second half of the eighteenth century and the first half of the nineteenth. It consists for the most part of brief biographies of the eminent physiologists, physicians, surgeons, and men of science generally who flourished in Europe during the period in question, together with short extracts from their published works. The book is well illustrated, and its chapters will be read with interest by readers of all sorts who wish to know about the progress of science and scientific medicine at a period of rapid development.

The second part of the third volume of KREHL and MARCHAND'S well-known handbook of general pathology[13] deals with necrosis, calcification, uratic deposits, and pathological pigmentation, in articles written by Ernst, Schmidt, and Hueck. Each chapter of this exhaustive and up-to-date treatise ends with a list of references to the literature of the subject with which it deals. The volume may be recommended to pathologists as a book of reference.

In his book, *Prostitution und Tuberkulose*,[14] Dr. SAMSON supports Spillmann's contention that tuberculosis in prostitutes is to be regarded as a venereal disease, like syphilis and gonorrhoea, with almost equal facilities for propagation. Discussing alcoholism in prostitutes, he concludes that it is not a factor of importance in their acquisition of tuberculosis; the use of tobacco, however, he thinks accelerates the

[8] *My Balkan Log.* By J. Johnston Abraham. London: Chapman and Hall, Limited. 1921. (Demy 8vo, pp. 311; 16 plates. 15s net.)

[9] *Annals of Medical History.* 1921, iii, No. 3. Edited by F. R. Packard, M.D. New York: Paul B. Hoeber. Yearly subscription, 8 dollars, single numbers, 2½ dollars.

[10] *The Microscope.* By Conrad Beck. London: R. and J. Beck. Ltd. 1921. (Demy 8vo, pp. 144; 131 figures. 2s. 6d. net.)

[11] *The New Hazell Annual and Almanack for the Year 1922.* Edited by T. A. Ingram, M.A., LL.D. Thirty-seventh year of issue. London: H. Frowde, and Hodder and Stoughton. (Cr. 8vo, pp. xlv + 559. 5s. net.)

[12] *The Dawn of Modern Medicine.* By A. H. Buck, B.A., M.D. New Haven: Yale University Press; London: H. Milford, Oxford University Press. (Med. 8vo, pp. xix + 287; illustrated. 25s.)

[13] *Handbuch der Allegemeinen Pathologie.* Herausgegeben von L. Krehl und F. Marchand. Vol. III, Part 2. Leipzig: S. Hirzel. 1921. (Roy. 8vo, pp. vii + 497; 10 figures. M. 66.)

[14] *Prostitution und Tuberkulose.* Von Dr. med. I. W. Samson. Leipzig: G. Thieme. 1921. (Roy. 8vo, pp. 118. M.54.)

progress of the disease once they become phthisical. Dr. Samson suggests that in the interests of public health special regulations should be made for the control of the tuberculous prostitute; on this account the book should be read by medical officers of health.

Dr. EWALD'S book on Abderhalden's reaction[15] is a laborious attempt to establish the value and validity of this reaction, now much called in question, as a means of diagnosis; or, should its failure here be admitted, to prove that Abderhalden's work has at any rate enriched our theories of cellular activity. The volume is well written and full of detail, particularly with regard to the employment of the reaction in psychiatric practice.

The *Union Médicale du Canada*, which is a monthly medical journal, published in French at Montreal, has just celebrated its jubilee, having been founded in 1872; Dr. A. Lesage is the present editor-in-chief.

Before giving an order for a German book the intending purchaser should ascertain the price at which it can actually be supplied by the agent in this country.

[15] *Die Abderhaldensche Reaktion, mit Besonderer Berücksichtigung ihrer Ergebnisse in der Psychiatrie.* Von Privatdozent Dr. G. Ewald. Berlin: S. Karger. 1920. (Sup. roy. 8vo, pp. 210. M. 24.)

THE RHODESIAN SKULL.

ADDRESS BY PROFESSOR G. ELLIOT SMITH, F.R.S.

THE ancient human skull recently discovered in northern Rhodesia,[1] and now lodged in the Natural History Museum at South Kensington, was the subject of a remarkably interesting address by Professor G. ELLIOT SMITH, F.R.S., at the Royal Society of Medicine on January 26th, on the occasion of the President's reception.

Professor Elliot Smith, whose discourse was illustrated by lantern views and Mr. Frank Barlow's wonderfully perfect endocranial cast of the Rhodesian skull, said that hitherto anthropologists had been familiar with only three species of the genus *Homo*. All living members of the human family which were known were regarded as belonging to the species *Homo sapiens*, and only two distinct species had been regarded apart from this—namely, *Homo neanderthalensis* and *Homo heidelbergensis*. There were, however, two other more primitive members of the human family, represented by the *Eoanthropus*, or the Piltdown skull, and the *Pithecanthropus*, or ape-man of Java, for the reception of which special genera had to be created. It was a very remarkable event to have one more of these species added to the genus *Homo*; moreover, this new discovery came from a continent —Africa—which hitherto had provided us with no species of man other than *Homo sapiens*.

The newly discovered skull from Rhodesia presented a number of new points for discussion. Although there was no doubt that the skull represented a distinct species, and that the face was more primitive than in any other known member of the human family, yet the remains presented every appearance of being recent. The teeth, for instance, were attacked by an extreme form of caries, hitherto regarded as a relatively recent ailment. It was true caries, not merely the opening of the pulp cavities, and in Egypt caries was practically unknown before the pyramid age. The third molar also presented a remarkable reduction in size compared with the other molars, and this had also been assumed by many people to be a relatively recent modification in man. Although the remains were commonly spoken of as fossil, the bones were not fossilized in the true sense of the term, but as their surface was coated with oxides of zinc and lead and other metals which had protected them from the influences of the soil, one could not draw any inference from the fact that they were not mineralized. The animal remains which were found in the same cave all represented modern species, which were still living in Africa. There was no geological evidence to give even the slightest clue to the period of this remarkable individual.

The skull was found in a kopje in Northern Rhodesia, more than 300 miles north of the Zambesi, and not very far from Lake Nyanza. The hillock was about 300 feet high, and was rich in ores of zinc, lead, and vanadium, and running through it from west almost due east was a long cave from the floor of which had been collected several thousands of tons of animal bones. It was obvious from an examination of these bones that many of them had been brought in by hyenas, but others must have been handled by human beings, because there was evidence of the cracking of the bones to obtain the marrow. This process of accumulation must have taken an enormous number of years. It was not until the cave had been cleared out of animal bones that, at its extreme end, there were found the remains of two human beings, including the skull of one and a portion of the jaw of another, as well as other bones belonging to either. One of the chemists who was present at the discovery told him that an almost complete skeleton were there encased in a metallic mould of the surface of the body, but, unfortunately, the negro miners smashed up the encasement and destroyed many of the bones before they could be prevented. About fifteen years ago, when this cave was first opened, several investigators found in its floor a number of rough stone implements, so crude that one could scarcely affirm them to be artificial, were it not for the fact that the stone of which they were composed—quartzite—was not found within many miles of this spot.

The skull arrived in England in November last, the directors of the mine having presented it to the British Museum. The incrustations of zinc and lead were carefully removed by the museum authorities, and a remarkable face was revealed. The cranium was extremely low, the ridges of the brows were massive and about double the size of those of Neanderthal man, the orbits had a peculiar form, less rounded than in the ordinary skull, and a remarkable feature was the great distance which separated the nose from the alveolar process. The face altogether was extremely primitive. It bore a certain superficial resemblance to the famous Gibraltar skull in the museum of the Royal College of Surgeons of England, and further investigation had shown it to be more like this Gibraltar specimen than any other type which had been unearthed. As Gibraltar was on the threshold of Europe one would not be surprised to find a kinsman of this Neanderthal man in Africa, but the Rhodesian skull rather suggested a more ancestral type. It might be that the Rhodesian man was simply a survival of a primitive pre-Neanderthaloid race. Neanderthal man in Europe was associated with the mastodon, the woolly rhinoceros, and a whole series of animals now extinct in Europe, but some of these animals or near allies of them were still living in Africa, in the neighbourhood of Rhodesia, and it was just possible that a primitive type of man might have survived there also.

Professor Elliot Smith went on to draw attention to the enormous mass of bone in the Rhodesian specimen for providing attachment for the neck muscles. The head was not carried exactly vertically upon the vertebral column in spite of statements recently made to the contrary. In the outline of the forehead it resembled the Java skull. The teeth were very big, yet the canines did not project in the ape-like way found in the Piltdown jaw. The palate was enormous. The fossil lower jaw from the Mauer sands near Heidelberg had hitherto been regarded as an exceptionally massive example of a human jaw, yet it was too short by 3 mm., and too narrow in about the same proportion to fit the Rhodesian skull. The nasal configuration was important. In the ape, and indeed in all mammals other than man, there was no clear line of division between the nose and the face. The nose simply was merged in the face to form a snout. In this skull there was also a gradual slope from the nose to the face, very much as in the gorilla; but, at the same time, there was an attempt to form a nasal spine, which one never found in the gorilla. It was probable that the Rhodesian man had a similar outsplaying of the margins of the nose to that seen in the anthropoid ape, but there was also a nasal spine associated with a horizontal position of the septum, so that a definite tip to the nose was very likely formed. A face of this type might represent an intermediate condition between the apes and such broad-nosed types as the negro, the aboriginal Australian, and the Tasmanian.

Among the other remains of bones found in the Rhodesian cave was a tibia and a femur, as well as a sacrum. The tibia was perfectly straight and not curved, thus suggesting a more erect attitude than that of Neanderthal man. This had been taken as evidence that the Rhodesian man was a later type than the Neanderthal man of Europe. But if one based any argument on the tibia or femur one was met with the difficulty that the femur of the most primitive member of the human family, *Pithecanthropus*, was straighter than the Neanderthal femur. Moreover, the face of the Rhodesian was much more primitive than the face of the other. In any case the crucial evidence in determining the position of a member of the human family was the features of the brain.

[1] BRITISH MEDICAL JOURNAL, November 19th, 1921, p. 856.

Here the lecturer exhibited an endocranial cast of the Rhodesian skull, which Dr. Smith Woodward had kindly given him, and he referred to Mr. Barlow's technical achievement in making so excellent a mould under circumstances of exceptional difficulty. The endocranial capacity was 1,280 c.cm., slightly greater than that of the Piltdown skull, and much less than the Neanderthal. When controversy arose over the status of *Pithecanthropus* the Germans regarded the bones as those of a gigantic ape, English anatomists as a primitive type of the human family, and Dutch observers, as befitted their intermediate geographical position, as a kind of missing link, neither human nor simian. But the endocranial cast of *Pithecanthropus* was obviously human in type and left no possibility of doubt that the Javan fossil represented a member of the human family. The outstanding acquirement which differentiated the ape from the human being was that of speech, or the power of transmitting from one individual to another something more than the mere expression of emotion—of enabling one individual to acquire information and knowledge from another and so enhance his chances of survival. Thus the earliest types of human brain showed an expansion in the regions surrounding the auditory centre. In the Rhodesian brain, while one found the same imperfect condition of the frontal area as in the *Pithecanthropus* and *Eoanthropus*, there was also the same localized extension in the second temporal region, and the Rhodesian differed from the Piltdown in that this expansion spread to the inferior parietal region.

Generally speaking, the Rhodesian brain (when seen in profile) corresponded almost exactly with the Piltdown. The difference in size between the two casts was determined by the fact that the Rhodesian, having a very much broader base, was wider than the Piltdown, and therefore had a slightly larger capacity, but the evidence of the brain structure was quite conclusive that this individual of Rhodesia was very much more primitive than the Neanderthal race of Europe. This, of course, had no bearing on the relative ages, and it was possible that the primitive type of man survived in South Africa long after the Neanderthal type had perished from Europe. The fact that we had here a more primitive type of individual was borne out alike by the character of the face (which was much more ape-like than in the Neanderthal species) and the form of the brain. The particular regions of the brain which were obviously deficient were those areas which were the latest to attain their development in the human child—namely, the parietal area, the pre-frontal, and the inferior temporal, and of these the area most strikingly deficient was the inferior temporal. The first change which occurred in the transformation from the simian brain to the human was that which was associated with the power of articulate speech. The fundamental difference was in the territory concerned with auditory symbolism.

In conclusion, Professor Elliot Smith said that here we had to deal with a skeleton all the evidence of the finding of which suggested that it was comparatively modern in time, but extremely primitive in type—in fact, more primitive than any remains of extinct man, with the exception of the "ape-man" of Java and the Piltdown skull of Sussex. It was a type which presented extraordinary deficiencies in those parts of the brain which we associated with the higher powers of intelligence and the more subtle and delicate discriminations. A difficulty had arisen in interpreting certain features which seemed more like those of modern than of Neanderthal man, but those who argued from this that the Rhodesian was later in type failed to take into consideration that the Neanderthal had lost a great many primitive features by specialization, although these features were still found in modern man. The anatomical evidence was complete that here we were dealing with an extremely primitive type of the human family, even though it might be proved to represent a people who had inhabited South Africa until comparatively recent times. It belonged to a stage in the evolution of man before the superior parietal, the frontal, and the temporal regions expanded into the condition in which we now found them, raising up the vault of the cranium into the domed form of modern man; and the evidence supplied by the face that this was an extremely primitive type was completely borne out by the form and proportions of the brain. He added that he was shortly bringing before the Royal Anthropological Institute a more exhaustive study of this subject.

We are indebted to Dr. John Hunter for the tracings of the four endocranial casts by which this report is illustrated.

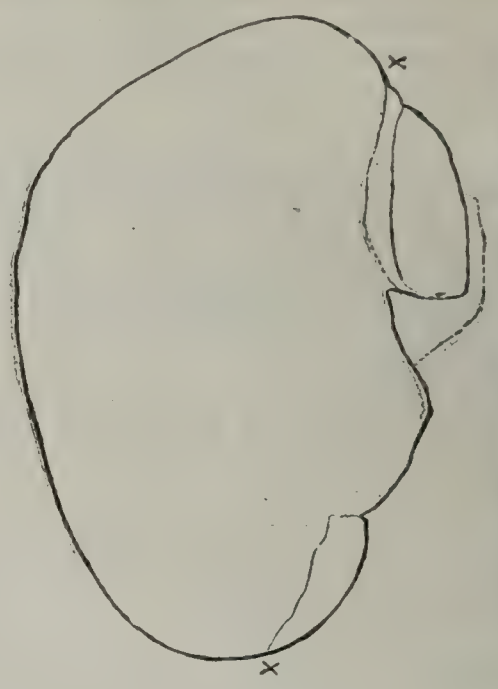


FIG. 4.—MODERN EUROPEAN. Tracing of profile view of endocranial cast of skull of modern European. One-third actual size. Cranial capacity, 1,370 c.cm. The crosses indicate the subcerebral plane.

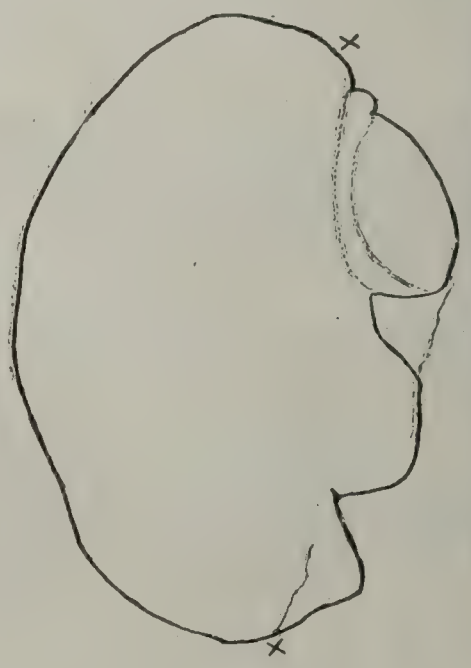


FIG. 3.—NEANDERTHAL. Tracing of profile view of endocranial cast of La Chapelle Neanderthal skull. One-third actual size. Cranial capacity, 1,625 c.cm. The crosses indicate the level of the subcerebral plane.

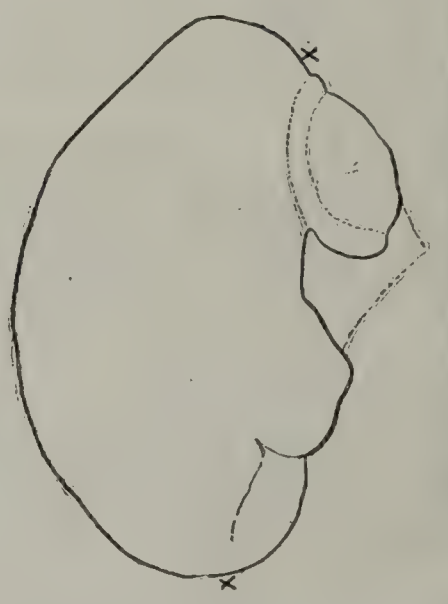


FIG. 2.—RHODESIAN MAN. Tracing of profile view of endocranial cast of skull of *Homo rhodesiensis*. One-third actual size. Cranial capacity, 1,280 c.cm. As before, the crosses indicate the subcerebral plane.

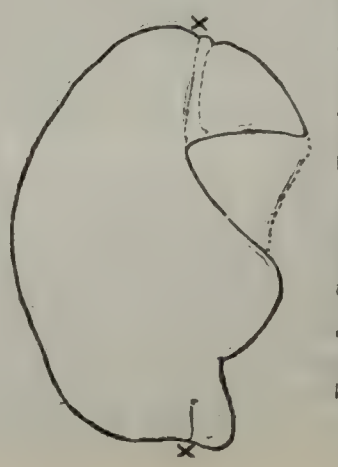


FIG. 1.—GORILLA. Tracing of profile view of endocranial cast of the largest gorilla skull in the Royal College of Surgeons of England. One-third actual size. Cranial capacity 500 c.cm. The crosses in this and succeeding diagrams indicate the subcerebral plane.

British Medical Journal.

SATURDAY, FEBRUARY 4th, 1922.

THE TREATMENT OF MENTAL DISORDER.

It is to be hoped that the Conference on lunacy administration, an account of which was published in our last issue, will give an impetus to proposals to provide those increased facilities for the treatment of mental disorder which are so eminently desirable. The whole subject is so complex that some divergence of opinion as to the methods of reconstruction is inevitable. The views expressed at the Conference, however, make it quite evident that those who are entrusted with the care of the insane are unanimously in favour of a broad and enlightened policy in regard to the problem of mental disorder as a whole. It is beginning to be realized that existing mechanisms are only designed to deal with what is included under the terms "lunacy" or "insanity," and that such terms entirely fail to cover what is meant by the term "mental disorder." Lunacy is a purely legal and not a medical term; it refers only to those subjects of mental disorder whom it is necessary for social reasons to deprive of their liberty by means of a legal process.

Outside the certifiable cases, however, there exists a large group of mental disorders which remain untreated and unrecognized as such, though they constitute a problem of the greatest social significance. In this category are included types such as high-grade defectives, juvenile and many adult delinquents, alcoholics and drug-takers, nervous and difficult children, inadequate personalities, the sensitives and the misunderstood, psychoneurotics, cranks, misfits, cyclo-thymics, incipient and mild psychotics, and so on. Quite apart, then, from questions relating to an improvement of the conditions under which the certified insane are treated, the problem created by the existence of this wider group of mental disorders has to be seriously considered. The problem has social and individual aspects. At the very least these psychopathic personalities must lead anxious and unhappy lives; they are haunted by a sense of inferiority and tend to lose their feelings of social esteem; they are out of contact with their surroundings, and are apt to drift into delinquency or sink into poverty; sometimes in despair they commit suicide or even destroy their families; and many of them eventually swell the numbers of the certified insane. From the social point of view such types tend to be unproductive; they constitute a source of anxiety to their *entourage*, upon whom they make considerable demands, and in a number of cases they are responsible for much domestic unhappiness; often they have, sooner or later, to be supported by the community. As Dr. T. Toulouse has said: "It is the psychism of individuals which constitutes the essential condition of all social activity. Though a serious lesion of one or more organs may be compatible with an almost normal professional life, a defective mental state, however slight, entails the diminution or the arrest of productive activity. In that which concerns the 'productivity' of an individual, as an element of the national prosperity, psychic integrity is thus of the first importance."

It is this uncertified and uncertifiable group of cases which constitutes the most pressing problem in relation to mental disorder. It must be recognized that the unhappy lives of the psychopaths, often culminating in delinquency, pauperism, or insanity, are to some extent to be attributed to the fact that they are unable to obtain adequate help and treatment. These cases need not necessarily pursue an unfavourable course. If they are treated in the early stages, when abnormal traits are first becoming apparent, much may be done to bring about a condition of readjustment or cure; and in those cases in which inherent instability exists, the patients may be directed to that kind of life which will do much to prevent the occurrence of severe psychotic episodes. There is an urgent necessity, therefore, for the creation of centres where these borderland cases and incipient psychoses can receive the treatment which they require, and it is certain that if this were done the number of certified cases would soon show a marked diminution. The establishment of psychiatric clinics is discussed with authority by Dr. E. Goodall in a letter published this week. There would appear to be nothing to prevent the creation of out-patient clinics for mental cases in the general hospitals, and it is to be hoped that hospitals for teaching and research will before long be opened along the lines indicated by various speakers at the Conference.

It has to be recognized that the problem of mental disorder is by no means exclusively medical. Abnormal behaviour is partially the outcome of a defective social organization, and all workers interested in sociology, housing, education, and industrial conditions are contributing indirectly to its prevention. In predisposed persons the seeds of mental disorder are often sown in childhood, and the teacher can probably do much to prevent the development of abnormal traits by an increased understanding of the nervous and peculiar child. The teaching profession is already taking a great interest in this question, and the activities of the British Psychological Society are productive of much valuable knowledge in respect to education, as also in respect to industrial and vocational problems.

It now remains to arouse the interest of the public, to whom the whole question of mental disorder is one of vital concern. It is not only a matter of financial assistance, but actual public co-operation is necessary if the campaign for the prevention and cure of mental disorder is to be effective. Experience has shown that propaganda is required in all movements of social reconstruction, and that voluntary organizations are almost essential in this direction, as also in filling up the gaps that are inevitably left in purely official mechanisms. This has been shown more particularly in the work of the Mental Deficiency Act of 1913, where the National Association for the Care of the Feeble-minded has done much useful pioneer work and proved of great assistance to the Statutory Committees. This association, however, is concerned only with one form of mental disorder, and we are of the opinion that a more comprehensive organization on the lines of the National Committee for Mental Hygiene in America, and *La Ligue d'Hygiène Mentale*, recently formed in France, would do much to further progress in the prophylaxis and treatment of mental affections.

THE PREVENTION OF DIPHTHERIA.

In the decennium 1870–80 the death rate from scarlet fever per million living at ages under 15 was considerably greater than the death rate from diphtheria and croup; in the year of lowest mortality from scarlet fever (1877) the rate was more than twice that of diphtheria and croup—1,553 against 709. By 1884 the two rates had become almost equal (1,082 and 961). In every year since then the death rate from diphtheria and croup has exceeded that from scarlet fever, and in 1919 was four times as large (101 and 436). The death rate from diphtheria and croup did not, indeed, begin to decline

sharply until, some twenty years ago, the employment of antitoxin became widespread; it fell rapidly between 1901 and 1910; since then there has been very little change. Of the nine years 1911–19, two gave lower rates than 1910, seven higher rates. It is plain that we cannot rest satisfied with the advantages, great as these have been, which the discovery of antitoxin put into our hands.

We recently commented upon the report issued by the Ministry of Health on the subject of the Schick reaction, and print in this issue an account of a further co-operative study of the problems involved, communicated to the Epidemiological Section of the Royal Society of Medicine. This latter investigation is, we think, a very good example of the best kind of team work. The Ministry of Health was represented by Dr. S. Monckton Copeman, F.R.S., whose scientific and administrative qualifications will be universally recognized, while the high quality of the work carried out by Dr. O'Brien and his colleagues in the Wellcome Research Laboratories is familiar to all pathologists. We would add that the foresight of Sir George Buchanan in promoting such an inquiry is what all acquainted with the organization of the Ministry's scientific service had anticipated. It is fitting to mention these points, as, in some noisy but uninstructed circles, there seems to be a tendency to belittle the scientific work of the Ministry of Health. The precise results of the inquiry are set out with sufficient clearness in our abstract, and this is not the place to elaborate details contained in the full reports, but certain general conclusions should be specially noted.

In the first place, can it be said that the performance of the Schick test exposes the subject to an appreciable risk of injury? The answer is "No"; this experiment fully confirms the less exactly controlled but more numerous data of foreign observers testifying to the triviality of the constitutional reaction.

In the second place, can we say that a negative reaction proves that the subject is immune from risk of clinical diphtheria? This question cannot be answered so simply. What is proved is that the antitoxic content of the blood does not fall below a certain assignable limit defined by the toxin used in the test. The test is, in fact, a quantitative one. We may conceive the numbers of persons having different amounts of antitoxin in the blood to be represented by the ordinates of a frequency curve, the abscissae of which scale off a continuous range of antitoxic contents from zero up to some maximal quantity. What the test does is to separate the area of this curve into two portions, consisting of those with less and those with not less than a given antitoxic content. Now we may be certain that the liability to take diphtheria is negatively correlated with the amount of antitoxin in the blood, but we cannot suppose there is an absolute correspondence. No doubt dosage of infection is an important factor. The line must be drawn at some particular point, and the determination of the best point must rest upon experience. We have already enough experience to justify the statement that the risk the negative reactors run is immensely smaller than that of the positive reactors, and this is perhaps as far as we are likely to go. But—and this must never be forgotten—the test answers a definite quantitative question, from which epidemiological inferences may be drawn; it is not itself an epidemiological test.

In the third place, is the active immunization of a positive reactor free from danger and is it efficacious? As we have just seen, the answer to the second question turns upon the precise quantitative value of the toxin used. The answer to the present question is even more intimately bound up with that matter. The opinions expressed at the meeting reported this week, both by the investigators and by other experts, were unanimous that the safety and efficiency of active immunization depend upon the provision of a reliable toxin-antitoxin mixture, and that the process is one which must be controlled by experts. The time has not yet come when active immunization can be advised in the way that vaccination against small-pox can be recommended. The immediate practical conclusions we draw are those set out in Sir George Buchanan's preface to Dr. Copeman's official report—namely, that in the handling of institutional populations the method founded on the Schick test has an immediate sphere of value in this country. The investigation which has been carried out at the Mitcham schools has, so far as this country is concerned, put the subject upon a sound basis. To say this is not to cast any doubt upon the work done abroad—of course, upon a much larger scale than here. But it is obviously desirable to have under our eyes a small-scale carefully controlled investigation which has made plain to all both the advantages and the limitations of the procedure.

PRIZES FOR RESEARCH.

THE proverb tells us not to look a gift horse in the mouth, but when generosity seems to be taking a course that is not the best possible it is not improper to discuss the matter. We mentioned last week that Lord Atholstan has informed Sir Arthur Currie, Principal of McGill University, that in order to stimulate the work of cancer research he offers a prize of 100,000 dollars (£20,000) to the graduate or student of any recognized university who, within five years, is the first to discover a medicinal treatment for the effective cure of cancer. The offer, it is stated, may be renewed. We have only a Reuter's telegram to go upon, and are therefore unacquainted with the conditions Lord Atholstan may have been advised to impose, beyond the fact that the decision is to be left to the Royal Colleges of Physicians and Surgeons in London. We are not aware whether these bodies have accepted the obligation imposed upon them. Whatever else it does, the offer, even though guarded by the condition that the winner of the prize must be a graduate or student of a recognized university, is pretty certain to lead to a great number of claims by persons who believe, or affect to believe, that in some fortuitous manner they have discovered a cure for cancer. There are many such already. Moreover, the adjudicators will have to define what is meant by "cancer" and what is meant by "cure." As is universally recognized by surgeons and radiographers, the removal or apparent disappearance of a cancer may not really amount to a cure; it may come back within the three, or as it now seems to be five, years fixed by surgeons as the test of recovery. Incidentally, it may be observed that the adjudicators will have to decide whether radiotherapy is a medicinal treatment. Meanwhile Sir William Veno has made an offer of £10,000 for the same purpose, and is content that it should be subject to the conditions named by Lord Atholstan. As has been said, we are still in the dark as to these, but an interview in the press gives some insight into the considerations which have moved him to make his offer. He suggests that the progress in pathological, surgical, and medical science in this and other directions might be greatly stimulated by the creation of such direct incentives as that offered by Lord Atholstan in the case of cancer. He thinks it clear that, if for successful work done, say during the next decade, suitable and substantial awards were forthcoming, study and research would be greatly stimulated. This opinion is questionable, and experience does not lend much support to it. Both the chief French academies—that of the Sciences and that of Medicine—have many prizes, some few of them of considerable amount, designed to encourage search for cures of various diseases. So far as we recollect there is no instance in which it can be said that they have had this effect. The fact is that to the possessor of the temperament which makes a man devote himself to research, and of the high intellectual qualities necessary for its successful prosecution, the possibility of a pecuniary prize is

in itself no very great inducement. He knows very well that he is embarking on a piece of work which he cannot well hope to complete by his own unaided efforts, and he knows too that the end may not be attained in his generation. He knows also that the fame and honour which would belong to the man or men who attained the result would transcend any money reward. Even if we put aside such considerations and try to regard the offer of a prize as a matter of business, it becomes evident that a prize is not the best way to attain the desired results. A man who attacks the problem of the cause and cure of cancer—and almost certainly the cause must be ascertained before a cure is found—knows that he is not likely to make much progress in the five, or even in the ten years contemplated. He must maintain himself during the period, he must have assistants, laboratories, and a hospital; he is, in fact, asked to gamble his life with the odds heavily against him. The money the donors are willing to give would, in our judgement, be far better spent not on wild speculation such as this, but on the judicious assistance and encouragement of work already on foot. Even at this late moment we hope that these considerations will have weight with the donors.—Since this note was written we observe that Sir Wilmot Herringham and the authorities of the Middlesex Hospital have expressed opinions very much to the same effect.

THE MEDICAL RESEARCH COUNCIL.

MORE space has been given in the last three issues of the JOURNAL to the annual report of the Medical Research Council than it is usual to assign to a document of the kind. This has been done partly because much of the information it contains is of direct practical interest to medical men engaged in general practice, and partly in the hope that those who have been at the pains to read the report will be prepared to recommend members of Parliament with whom, as constituents, they have influence, to scrutinize very closely any proposal for a further reduction of the vote. In saying this we would desire to apply the same principle to the work of the scientific department of the Ministry of Health, of which the recent investigation of the Schick reaction in diphtheria is a good example. We have no special reason to suppose that the axe is intended to fall upon the Medical Research Council, but it is generally assumed that the Ministry of Health is among those departments in whose budgets cuts may be proposed. The Medical Research Council in its annual report states that its work is brought into close relation with that of the Ministry of Health in schemes of research work. The Council and the Ministry have co-operated in the investigation of tuberculosis, nutritional diseases, food poisoning, and dental decay, and in inquiries as to the treatment of venereal disease, of rheumatism and allied diseases, and of mental disorders; in these and other instances officers of the Ministry have taken an active part in the inquiries, giving great assistance, whether in organization or in scientific work as such. Similarly, the Council has had the advantage of direct co-operation with the Board of Health for Scotland and the Ministry of Health for Ireland. As has been shown in the first notice published of the report, the Medical Research Council—though tasks additional to its schemes of research were laid upon it during the financial year 1920–21—has had its total resources reduced. It has the good fortune to be dependent on the Privy Council, and therefore to have the Lord President, Mr. A. J. Balfour, to champion its cause in Parliament. In the introduction to the report signed by him it is said that the Privy Council is satisfied that, owing to the present financial position of the country, the Medical Research Council must omit the prosecution of researches which would have indubitable scientific value towards the advancement of preventive or curative medicine. On the other hand, the Privy Council recognizes that that very position calls for the very fullest possible development of the sciences by which the health and the productivity of the people may be protected and increased. Mr. Balfour concludes by drawing special attention to the provisions of the Royal Charter incorporating the Medical Research Council, by which that Council is empowered to hold land and money derived from private benefactions in addition to the resources that may be voted by Parliament. The Medical Research Council expends rather less than one-third of its total income on the maintenance of the National Institute for Medical Research; the greater part of the remainder is devoted to encouraging research in specific subjects at universities and other centres, to research in clinical medicine, and to the Industrial Fatigue Research Board. In a medical journal we need not spend space in defending this course, for medical practitioners are well aware that there are some subjects which are ripe for intensive investigation at a single centre where expert workers in all departments are assembled, and others which are best studied in detail at the periphery. Incidentally, the policy gives much-needed assistance and encouragement to the research departments of the universities. We trust that the Parliamentary vote to the Council will not be diminished, and also that the generous benefactor who is not bound by early recollections or local ties to any particular university may bear in mind that the Medical Research Council is in a position to apply to great advantage gifts or bequests it may receive for the advancement of the sciences of medicine and hygiene.

THE EXAMPLE OF THE ROCKEFELLER FOUNDATION.

THE extensive scope of the undertakings of the Rockefeller Foundation are clearly set forth in the annual report for 1920, which contains the reports of the president, the secretary, and the treasurer, and accounts of the work done by its departmental agencies—the International Board of Health, the China Medical Board, and the Division of Medical Education. In his review of the year the president, Mr. George E. Vincent, clearly recognizes the difference, from the preventive point of view, between the control of malaria, small-pox, enteric, and scarlet fever on the one hand, and on the other of influenza, pneumonia, tuberculosis, measles, diphtheria, and many other infections which are either less perfectly understood or do not respond so readily to measures undertaken against them. Valuable as is the work of public authorities, only about 20 per cent. of the menace to life can thus be dealt with, and until whole nations are so thoroughly educated in the necessary principles that prevention becomes a guiding factor in individual lives the ideal of prevention rather than cure is still to seek. Under this new dispensation the task of the medical profession would be to keep people free from disease. Medical education can no longer be maintained on a commercial basis, but its improvement is essential, and accordingly the Rockefeller Foundation has given financial aid to carefully selected medical schools in various parts of the world and has awarded fellowships to 120 persons drawn from thirteen nationalities anxious to prepare themselves for institutional or Government service as teachers, investigators or administrators. Last year rather more than seven million dollars were thus expended. It is a matter for regret that the Medical Research Council, which has done so much in so comparatively short a time in this country, should be handicapped by want of funds from an even wider activity; last year Parliament made a grant in aid of £130,000, and by the practice of rigid economy a great deal has been done, as we have shown in the account given during the last few weeks of its annual report. The Rockefeller Foundation is the outcome of private benevolence; in this country the times are hard and the axe hangs over the head of every Government department; but even so, it must arouse some heart-searchings when it is necessary for the generosity of the Rockefeller Foundation to come to the aid of a medical school in the capital of the British Empire. Although there is no verbal justification in the report for such a suspicion, it may well be that the policy of the Rockefeller Foundation has tactfully in view the hope that its benefactions may be a stimulus to self-help, and possibly the grant of some five million dollars to University College Hospital Medical School may exert such an influence in this

country in the not too distant future. The Foundation's Division of Medical Education was started in December, 1919, to study this subject, and to assist medical education, when important opportunities offer, in parts of the world other than the United States in which the promotion of medical education comes within the province of the General Education Board. In 1915 the Rockefeller Foundation organized the China Medical Board, and continues to maintain and expand a modern medical school and a pre-medical department in Peking—the new Peking Union Medical College—which was described in an illustrated article in our issue of November 5th, 1921, p. 764. Help is also given to unaffiliated institutions for medical and pre-medical education in China. The report of the International Health Board contains a great deal of interesting information on the measures taken to eradicate disease. In July, 1920, yellow fever was banished from Guayaquil, where it had existed since 1842, and it is hoped that the last endemic focus of the disease in Ecuador was then eliminated. But in the same year the disease broke out in Guatemala and Salvador, and a few sporadic cases were reported in Nicaragua. In these countries, as well as in Peru and Brazil, an attack has been made on the breeding places of the *stegomyia* mosquito. A yellow fever vaccine from killed cultures of Noguchi's *Leptospira icteroides* was given to 8,000 non-immune persons; a period of ten days is necessary to bring about immunity, and, except for cases arising within this period, no yellow fever occurred among these individuals; among the non-vaccinated, during the same period and in the same areas, there were about 700 cases. A therapeutic serum prepared by Noguchi for use in the early stage of the disease appeared to reduce the usual mortality of 50 to 60 per cent. to 9 per cent. In 1920 a commission was sent to West Africa to investigate yellow fever there, but it did not see any cases of that disease or of "shaura," which is said to exist among the natives, and in its acute stages to present symptoms suggesting yellow fever. Another commission will be sent to decide definitely whether or not this is yellow fever. There are two fine tributes from the President and Professor W. H. Welch to Surgeon-General Gorgas, who died in London on July 4th, 1920, on his way to West Africa as director of this commission. The war against mosquitos has been vigorously carried on, and it has been found that the use of fish which devour the mosquito eggs has important advantages over oil as regards cost, inasmuch as it is not affected by wind or rain, and is applicable to running water. Hookworm disease (ankylostomiasis) continues to receive extended attention, as is shown in a well-illustrated appendix of seventy-five pages, which really forms an absolutely up-to-date monograph on the prevention of this scourge.

GIDEON HARVEY, M.D.

TIMOTHY BRIGHT, physician to St. Bartholomew's Hospital in the sixteenth century, though memorable as the inventor of modern shorthand, and, before he left medicine for the Church, as the author of a *Treatise of Melancholy*, which is said to have suggested to Burton his famous *Anatomy of Melancholy*, is so forgotten that he is not likely to be confused with Richard Bright of Guy's Hospital and renal disease. Two other physicians with an identical surname otherwise form a remarkable contrast: of William Harvey it may be said that his writings are much less than the man and his works, whereas Gideon Harvey (1640–1700?) is interesting merely in so far as his published books cast sidelights on medical life from the time of the Restoration to the end of the seventeenth century. In an attractive account of Gideon Harvey's writings, Dr. H. A. Colwell[1] describes him as the greatest medical bounder of his time, a great advertiser with a secret cure for venereal diseases, as set forth in *Great Venus Unmasked*, and in its subsequent abstracted form *Little Venus Unmasked*, but as a man of reasonable capacities and considerable humour, who ruined himself in a professional sense by his unlimited conceit and arrogance. He freely caricatured the greater men of his day, designating the living by some nickname usually uncomplimentary, and the dead either by their full name or in some quite transparent manner. Thus, Sir Thomas Browne, of the *Religio Medici*, is referred to as that "famed Doctor of Norw.," and is accused of butterfly hunting on his way to a patient, and spending so much time in entomological demonstrations to his coachman that the unfortunate patient died before his arrival. Gideon Harvey at first addressed pages of fulsome adulation to the College of Physicians, apparently in the hope that he would be elected to the fellowship *honoris causa*, but, being disappointed, he took his revenge in a series of affronts to common decency and professional etiquette. His *Casus Medico-Chirurgicus*, purporting to describe the treatment of Lord Mohun who was wounded in a duel in 1576, is a vivid sketch of contemporary medicine and surgery, and contains virulent attacks on the eminent men called in, such as Lower, Charleton, Daniel Whistler, and Micklethwaite (President of the College of Physicians 1676–1681), called respectively Dr. Timon, the Ephesian doctor, Dr. Nemo, and Mr. Pres. His *Art of Curing Diseases by Expectation* takes as its main thesis that, although recoveries may occur even under the treatment of physicians (of the College) they are due not to their remedies but to the patient's faith in his doctor, aided by "abstinence from flesh and strong liquors." In this work he threw ridicule on the extraordinary concoctions of the mithridate and theriaca, fifty years before Heberden's protest; but perhaps, as Dr. Colwell suggests, his personality was a factor in the survival of these remedies for a hundred years more. The authorship of *A Treatise of the Small-pox and Measles*, published in 1696, is given as "By Gideon Harvey, M.D., His Majesties Physician of the Tower, and not of the College of Physicians," and the preface contains a hint that its printing had been delayed by the "Gang of Physicians." His *Conclave of Physicians, Detecting their Intrigues, Frauds, and Plots against their Patients*, though stated in the introduction to be a satire on the Paris Faculty, was obviously directed against the London College. Harvey attacked his namesake William Harvey and was especially violent against Sydenham; he poured scorn on anatomical investigation and on the use of cinchona and iron, those who prescribed the latter being referred to as "farrier physicians." The excessive bleedings in vogue, more in France than in England, were rightly condemned, and the uselessness of medicines in dissolving vesical calculi was strongly insisted on by him. *The Vanities of Philosophy and Physick*, published in 1699, was his last effort, and is a queer discursive kind of treatise in which some of his old ideas are revised and physicians, previously reviled, are spoken of in more kindly terms.

[1] *Ann. Med. History*, New York, 1921, iii, 205–237.

THE NEW PARLIAMENTARY SESSION.

OUR Parliamentary Correspondent writes: It is the prevalent view that the session which will be opened on Tuesday next, February 7th, will not run the normal length; but that a general election will be determined upon, to take place either immediately after the Irish legislation and a few financial votes have been passed, or after the Irish legislation and the Budget. In the progress of the Irish bill the very interesting and important question will arise as to the status of medical men with Irish Free State citizenship. The whole matter is very clearly and temperately discussed by Dr. Hennessy, the Irish Medical Secretary of the British Medical Association, in a letter quoted in the course of an article on the subject at page (206). Various reasons are assigned why the Government is unlikely to take up the reform of the House of Lords until after a general election. The most potent may be that controversy on the issues threatens to become acute, and that even within the Cabinet it may be more than difficult to reach conclusions in the time available for a bill to be put forward this session. At latest, however, the matter will be one of the first subjects to be dealt with by a new Parliament. Curiously enough the assumption is widely made in talk and in writing that no solution is possible which either does not restrict the

authority of a second Chamber much as at present, or else by giving it full liberty (on a popularly elected plan) enables it to thwart the decisions of the House of Commons. Holders of such views ignore the recommendation of the Bryce report, that differences between the two Houses should be settled by a joint committee of the two Chambers. Whether or not that proposal would be satisfactory, it deserves better treatment than has been given it in the press. A further idea put forward within the last fortnight is that differences on great questions might be settled by a referendum. The Cabinet has not disclosed its attitude towards the scheme of the Bryce Committee, but the compendious letter wherein Lord Bryce conveyed its findings to the Prime Minister in 1918 will stand out as an historic document, in which is clearly and felicitously expressed the opinion of a large and representative body of members of both Houses. There were only three dissentients. The Committee advised that the second Chamber should consist of two sections. One section should number 246 persons, chosen by panels of members of the House of Commons, distributed in geographical groups, and empowered to elect representatives in proportion to the population of the areas. The second section should consist of persons chosen by a joint standing committee of both Houses, the number so elected to be one-fourth of the whole Chamber, and to be exclusive of *ex officio* members. In regard to the members elected under the first section (by members of the House of Commons) it was proposed that the election proceedings should be private, that the voting should be by ballot and by proportional representation, using the method of the single transferable vote. In regard to the second section (that to be chosen by a standing joint committee) it was proposed that in the first instance the persons so chosen should be selected from the holders of hereditary peerages, and from bishops holding diocesan sees (with a minimum of five), and that at the second and third elections not less than half the vacancies should be filled by a similar selection, and that afterwards the selection should be free, except that the number of hereditary peers in the second Chamber should not fall below thirty. The term of office in the second Chamber was to be on a twelve years' basis, qualified in the first twelve years by the requirement of elections of one third every four years; it was recommended also that law lords should hold their peerages during the tenure of their judicial offices. It was laid down that a joint authority of the two Houses should be constituted to deal with financial questions. The most serious criticism the report has so far encountered is that it failed to justify the hope that care would be taken to secure in the second Chamber the presence of the heads of the learned professions other than bishops and lawyers. It was expected that some arrangement for limited nominations would be included, so that a reconstituted House might have the benefit of the presence of a few men with highest knowledge in their own spheres, but who, having no party political interest, would otherwise be unavailable. This applies to the profession of medicine as well as to other domains of scientific thought.

MEDICINE IN SOVIET RUSSIA.

THE Commission sent to Russia by the Health Committee of the League of Nations has issued a report on the situation in that country with reference to health, which will serve to remove some of the general ignorance of medical conditions in Russia. As regards the dangers of epidemics spreading from within the Russian borders, the Commission was able to gather from competent authorities information which may be looked upon as trustworthy. Professor Tarassevitch gave his assurance that to his knowledge there was not a single case of plague within the borders of European Russia, although there was a definite focus of bubonic plague in the Caucasus in 1920. The epidemic of cholera, which at first spread with alarming rapidity, came to an end very suddenly in the middle of what is usually the epidemic season, but satisfactory explanation of the phenomenon has been given. The typhus epidemic was more serious; seven and a half million cases of typhus were notified, in the years 1919–1920, in all the territories of the old Russian Empire, excluding Poland and the Baltic States; in order to approximate to the number of cases which actually occurred it was considered necessary at least to double the number of notified cases, which would bring the probable number to fifteen or twenty million in these years; according to the most recent information, typhus is again spreading all over Russia. Dysentery did not attain epidemic proportions in 1920, except in Petrograd, but malaria was present in certain districts in epidemic form and with a high mortality, particularly in Saratov and the Volga district; it was epidemic also in the Archangel region, a remarkable fact in view of its geographical situation. The Russian authorities appeared to be in no great fear of small-pox, and were confident of being able to check its progress; the maximum number of cases in 1920 was apparently below 100,000. The Commission had no doubt regarding the relation between famine and the spread of the epidemics, cholera being almost entirely limited to the famine districts and typhus mainly restricted to them. The disorganization of the railway traffic had been a blessing in disguise by preventing the spread of epidemics, but there is in Russia a constant and steady migration of refugees, both former war prisoners and civilians. The Soviet Government has created a special organization, the "Centrevac," to deal with the refugees and generally with all mass movements of the population. The Centrevac has established quarantine stations and barracks for refugees, and controls a total of 240 institutions all over Soviet Russia, including hospitals, laboratories, and institutions for the welfare of children. Children are apparently being taken care of in a very comprehensive way; 2,000 child welfare centres have been founded during the last two years. In view, however, of the extremely difficult conditions of life in Russia children are often voluntarily abandoned to the care of the State, being sent to institutions to pose as orphans. The Commission state that the misery of Russian life to-day was evident in every hospital visited; yet a big municipal hospital in Moscow was maintained in exemplary cleanliness, all the plant was in perfect order and working at full pressure, and the purely professional side appeared to be at a very high level. The staff which kept this institution in such a high state of preservation were being paid salaries much below the famine level, and the nurses were given food only every second day. Notwithstanding the conditions of life, scientific activity in Russia has not ceased; in Moscow alone there are, it is said, twelve municipal bacteriological laboratories, and in the Moscow district as many as thirty, but, while the staff is very numerous, the output of the institutions as regards the production of vaccines and serums is meagre. Yet at the same time it is asserted that the scientific researches carried on throughout Russia would do justice to any country. There were practically no scientific periodicals and books published in either English or French to be found in any of the university or other libraries of Russia. The second Russian revolution threw open the doors of the universities to anyone who could read or write, with disastrous results in regard to medical education, particularly as no examinations were being held at the end of the appointed curriculum. The Russian Medical Scientific Council has, however, fought energetically during the past two years for the reform of the medical schools, and succeeded a few months ago in having the "doctors" of the last two years compulsorily re-examined and new regulations approved. The central health administration is apparently in the hands of fully competent medical officers recruited from the municipal and communal public health services of pre-war days, and while administrative posts of decisive importance are reserved for the adherents of the present Russian régime, all the technical appointments are being given to the best candidates who can be procured. The Commission has established direct relations between the health authorities of Russia and the League of Nations, the people's Commissary of Health

having expressed to the Health Committee of the League his readiness to send regularly all information with regard to epidemics. A sanitary convention is being negotiated between the Russian Government and contiguous countries.

THE PATHOLOGICAL MUSEUM AT THE ANNUAL MEETING.

THE committee appointed to organize the Pathological Museum in connexion with the Annual Meeting of the British Medical Association at Glasgow in July next proposes to arrange the material under the following heads: (1) Exhibits bearing on discussions and papers to the various sections; (2) specimens and illustrations relating to any recent research work; (3) instruments relating to clinical diagnosis and pathological investigation; *x*-ray and other photographs; (4) individual specimens of special interest, or a series illustrating some special subject. It is also proposed to make an effort to gather together a series of exhibits relating to diseases of animals and plants of economic importance. The Museum will occupy a convenient position in the same building as that in which the sectional work is carried on, and will be easy of access. The chairman of the Committee is Professor John H. Teacher, M.D., and the honorary secretary Dr. G. Haswell Wilson. Members who are willing to supply interesting specimens illustrating other subjects are invited to communicate with Dr. Haswell Wilson, the University, Glasgow. Every care will be taken of specimens, and the contents of the Museum will be insured. It is hoped that it will be possible for arrangements to be made whereby exhibitors may have an opportunity of demonstrating their specimens.

THE OCTOCENTENARY OF ST. BARTHOLOMEW'S HOSPITAL.

A MEETING was held at the Mansion House last week to make preliminary plans for the celebration of the 800th anniversary of the founding of St. Bartholomew's Hospital, with which the city of London has had direct connexion since the charter granted by Henry VIII. All that is to be known about the foundation of the hospital on its present site by Rahere in 1123, and the granting of its first charter by Henry I, has been told by Sir Norman Moore in his great *History*. The story of Rahere's vision and vow to St. Bartholomew was so well known, that in spite of the formal dedication to the Exaltation of the Holy Cross the hospital was always called St. Bartholomew's during the Middle Ages. At the meeting held on January 26th it was agreed, on the proposal of the treasurer, Lord Stanmore, that the celebration should take place in the spring of next year, and committees were appointed to make arrangements, with a number of subcommittees to consider questions of finance, religious services, receptions, entertainments, and scientific and historical exhibitions. The Minister of Health, who attended, gave the project his hearty approval, and promised the support of his department. The celebration of its eighth centenary will give an opportunity to bring the history and usefulness of this great institution before the public in a worthy manner. The Prince of Wales, president of the hospital, has given his cordial approval to the scheme. The universities will be invited to send representatives, and the Lord Mayor will be permanent chairman of the Grand Committee. The antiquity of Bart's as a centre of healing and instruction, first without and later within the City, is brought to mind by the fact that it is seventy years older than the office of Mayor of London. How the hospital came to be at Smithfield is told in the manuscript called *Liber fundacionis*, of which a very full account, with extracts, has been given by its historian. The ancient cartulary of the hospital, written in the reign of Henry VI by John Cok, contains a copy of every royal or private charter, and of every Papal Bull belonging to St. Bartholomew's Hospital at that period of the fifteenth century. For the first four hundred years of the institution its character as a religious house was preserved, and it was not until Tudor times that it came into prominence as a place for the treatment of sick people. But even in mediaeval times it had its influence on the course of medicine in this country. From the time of Henry VIII's charter its progress as a great force in the history of medicine was unmistakable. On the ruins of the old order was then raised the great hospital as we know it to-day.

CONGRESS OF THE OPHTHALMOLOGICAL SOCIETY.

THE annual congress of the Ophthalmological Society of the United Kingdom will be held in London next spring, beginning on Thursday, May 11th, when the Edward Nettleship Prize will be presented. On the afternoon of the same day a discussion on industrial diseases of the eye, excluding accidents, miners' nystagmus and glass-blowers' cataract, will be opened by Dr. T. M. Legge, C.B.E., H.M. Medical Inspector of Factories, and Mr. Bernard Cridland. Papers will be read on the mornings of the three days for which the congress lasts. On the afternoon of May 12th a clinical meeting will be held at St. Bartholomew's Hospital, and in the evening specimens and sections illustrating tuberculosis of the eye will be exhibited and discussed. The congress will terminate after the meeting on Saturday, May 13th. Further information can be obtained on application to the Hon. Secretary, 14, Portland Place, London, W.1.

SIR WILMOT HERRINGHAM, K.C.M.G., C.B., consulting physician to St. Bartholomew's Hospital, and formerly Vice-Chancellor of the University of London, has been appointed by the Minister of Health to be Chairman of the General Nursing Council of England and Wales, in succession to Mr. J. C. Priestley, K.C., who has resigned.

THE International Health Board of the Rockefeller Foundation has in preparation and nearing completion a bibliography on hookworm disease. It will be issued in a volume, but only a comparatively small edition will be printed. Copies will be sent gratis to those who are specially interested. Applications should be made to the Director of Information Service, Rockefeller Foundation, 61, Broadway, New York.

DR. MAJOR GREENWOOD, Milroy Lecturer before the Royal College of Physicians of London, has chosen for the subject of his lectures on March 9th, 14th, and 16th, the influence of industrial employment on general health. The Goulstonian lectures to be given by Dr. Anthony Feiling on March 21st, 23rd, and 28th, will deal with the interpretation of symptoms in disease of the central nervous system. Dr. Hector Mackenzie's Lumleian lectures on diseases of the thyroid gland will be delivered on March 30th and April 4th and 6th. All the lectures will be given at 5 p.m.

DR. F. FOORD CAIGER, F.R.C.P., D.P.H., Chief Medical Officer, Infectious Hospitals Service of the Metropolitan Asylums Board, and Medical Superintendent of the South Western Hospital, Stockwell, has been appointed Emeritus Physician to St. Thomas's Hospital.

THE Carnegie Heroes' Fund trustees have awarded a medallion and an annuity of £100 to Dr. J. Hall Edwards of Birmingham. It will be remembered that Dr. Hall Edwards acquired an intractable affection of the skin in the course of his researches in radiography, and that this necessitated the amputation of his left hand and forearm and four fingers of the right hand.

DR. HENRI HARTMAN of Paris, Hon. F.R.C.S.Eng., professor of clinical surgery and surgeon to the Hôtel-Dieu Hospital, will deliver a lecture at the Medical Society of London, 11, Chandos Street, on inflammatory strictures of the rectum, on Monday evening, February 13th, at 8.30. Professor Hartman will deliver the lecture in English, but the discussion will be in French. The subject is one on which he is a recognized authority, and the lecture will be looked forward to with great interest by his many friends in London.

England and Wales.

The Welsh National Medical School.

At a public meeting held last week in Cardiff the following resolution was adopted:

> That this meeting, convened from all parts of Wales and Monmouthshire, welcomes the establishment of a National Welsh School of Medicine, and pledges itself to endeavour to secure for it adequate financial support, and requests the Lord Mayor to take such steps as he may deem advisable for this purpose.

The sum required is £100,000, which, it is calculated, would yield an annual income of £5,000. Mr. Herbert Lewis, the member for the University, and Parliamentary Secretary of the Board of Education, in a letter read at the meeting stated that if a sum yielding this income were raised the University Grants Committee would make a grant of another £5,000.

It is strange that in a city like Cardiff, the capital of one of the richest districts in the world, it should be necessary to beat the big drum in order to raise so small a sum as £100,000 for a national purpose of such great magnitude and importance as the consolidation of the National Medical School on a sound financial basis. Granted the necessity, the drum was well beaten by the President of the Royal Society and by Sir George Newman.

Sir Charles Sherrington in his address traced the history of medical education and explained the advantages of the clinical unit system. The appeal, he said, was for a national cause—on behalf of a school that should enable the Welsh student to complete his course in Wales, and attract others from beyond the borders of the Principality.

Sir George Newman, chief medical officer to the Ministry of Health, also made a telling speech. After pointing out that the school already had two of the essentials—a general hospital at Cardiff, which, though too small, would temporarily serve as a teaching hospital, and able directors of the clinical units in Professors Kennedy, Sheen, and Ewen Maclean—he said: "The nation has called upon the university and its professors to build a worthy national medical school, but the nation has not provided the wherewithal. The university budgeted in 1921–22 for £16,000, to provide for its medical school, and £12,000 of this came from Government grants to the university. It was estimated, however, some months ago that the irreducible sum for which a national school could be furnished was approximately £25,000. You are therefore some £16,000 behind, and that is why you have an insufficient number of beds, no assistant professors, and inadequate laboratory provision and apparatus." In conclusion Sir George Newman observed that the reputation of Wales in regard to national health was not good; infectious diseases, tuberculosis, cancer, and a great mass of physical impairment, invalidity and incapacity were evils still undefeated. The hope of conquest, he continued, lay in the progress of medicine and medical education. Wales could, if it would, give every child born a fair chance, could equip and train children, and could increase the health and capacity as well as prolong the life of the adult population.

Lord Kenyon, Pro-Chancellor of the University of Wales, read a letter from Sir Wilmot Herringham, medical member of the University Grants Committee, in which he said that if Wales wished to have a medical school at all it would wish it to be a school of which it might feel proud.

Liverpool Medical Institution.

Rutter Memorial Tablet.

The annual meeting took place on January 26th. Dr. John E. Gemmell presided. The Rutter memorial tablet, which was erected by his sister and nephews, and to the existence of which Mr. Thomas H. Bickerton had drawn attention some years previously, had recently been secured for the institution of which John Rutter was the founder. The tablet of marble, with Latin inscription, occupied a prominent place in the Parish Church of St. Peter. This building is now being demolished, and the Ecclesiastical Commissioners willingly assented to the request of the council of the Institution. Mr. W. Thelwall Thomas undertook to defray the expense of placing the tablet in a conspicuous place in the hall of the building, where it will remain as a striking testimony to the wisdom and foresight of the founder. The President moved a warm expression of thanks to Mr. Thelwall Thomas for the trouble he had taken to have the tablet placed in its present position. Mr. Thomas related briefly the steps that had been taken, and expressed his gratification on the successful accomplishment of the task, which had given him so much pleasure. Mr. Bickerton, unable to be present, sent a letter, which was read by the President; in it he gave some interesting details about the life of the founder and the objects of the Institution when it was established. Mr. F. C. Larkin, treasurer, added remarks of a topical nature: he described the neighbourhood and the site which is occupied by the building, and mentioned the street names, which were of historic interest. The site of the building was formerly that of the house in which Roscoe, one of Liverpool's noted townsmen in those days, was born. The vote of thanks was unanimously accorded to Mr. Thelwall Thomas, and all present regarded the epitaph with its graceful inscription as a distinct addition to the attraction of the entrance hall. The following officers were elected: Dr. John Hill Abram was elected president, Drs. W. Murray Cairns and Ernest E. Glynn as vice-presidents, and Messrs. F. Charles Larkin and George C. E. Simpson were re-elected as treasurer and librarian respectively. The financial statement shows the Institution to be on a thoroughly sound basis. The meeting also resolved that the laws of the Institution should be revised.

Manchester University Roll of Honour.

The *Manchester University Roll of Service*,* which has just been published in a handsome volume, includes the names of those past and present members of the University who served with the British or allied forces during the great war. In the general list 3,765 names are printed, while 500 names appear upon the list of those who were killed; with the latter are included short but adequate summaries of their academic and military careers. The distinctions gained were many, and included two Victoria Crosses. The intention of Manchester University in issuing this volume is to erect a memorial to the sacrifice of her sons, and, in particular, of those who fell on the battlefields of three continents. The University looks to the future no less than to the past, for with the memory of their predecessors before them, generations of students yet to come may be animated by the same devotion and self-sacrifice to overcome the inevitable difficulties in the progress of humanity. The names of many medical men appear on the roll of the fallen, while among the fallen student members of the University appear the well known names of Delépine and Donald. The following are, so far as could be ascertained, the names of the medical practitioners who were old Manchester students and fell in the war: K. Atkin, E. N. Cunliffe, R. D. B. Frew, P. S. Green, A. Hilton, G. R. Hitchin, E. Howe, R. J. Jones, E. P. Leahy, S. E. McClatchey, J. B. Mann, C. B. Marshall, T. W. Martin, G. L. Maule, R. N. Porter, W. B. Pritchard, H. H. Proudfoot, K. Robinson, D. Rodger, W. A. Sneath, A. M. Thomson, C. G. Todd, J. T. Waite, W. B. Warrington, and H. D. Willis.

Scotland.

Influenza in Scotland.

According to the latest reports the influenza epidemic continues unabated in Glasgow, and the death rate from it appears to be increasing. The number of deaths from all causes for the week ending January 21st, was 1,116, which is stated to be the highest ever recorded in the city for one week, and represents 54.4 per 1,000 of the estimated population. The number of deaths from respiratory diseases was 611, compared with 326 the preceding week, 189 deaths being attributed to influenza, 272 to pneumonia, and 140 to bronchitis. Influenza is similarly prevalent, according to the *Glasgow Herald*, in Paisley, where for the week ending January 21st the total death rate rose to 36.3 per 1,000, a height which it has not attained since the epidemic of 1918–19. In Edinburgh, on the other hand, it is stated that the epidemic is certainly no worse, and the authorities do not intend to close the schools there; but elsewhere in the east of Scotland, at Cowdenbeath and Bathgate, for instance, the schools have been closed on account of influenza.

* *Manchester University Roll of Service.* Manchester: The University Press; London: Longmans, Green and Co. 1922. (Demy 8vo, pp. xiv + 274. 10s. net.)

Ireland.

IRISH DOCTORS IN THE FREE STATE.

A COMMUNICATION appeared recently in a very prominent position in the *Freeman's Journal* advocating the establishment of an Irish Medical Council under the Irish Free State that would take over in their entirety the functions of the General Medical Council so far as they concerned the medical profession in Ireland. The correspondent of this newspaper seemed, however, to think that the General Medical Council and the Council of the British Medical Association were identical bodies and discharged the same functions. Arising out of the communication in the *Freeman's Journal* there appeared interviews with Surgeon McArdle, Dr. Edward Magennis, President of the Irish Medical Association, and Dr. T. Hennessy, Irish Medical Secretary of the British Medical Association and Medical Secretary of the Irish Medical Committee. The following are extracts from the communications referred to, and are given in their order of publication. Surgeon McArdle, amongst other things, stated:

"The first thing to be done is to secure that medical registration in Ireland should entitle those registered here to have the right of being placed on the English *Register*, and that the Irish Free State should give a reciprocal convenience to men qualified in England who wish to practise in Ireland.

"The high standard of medical education here has been acknowledged by the inspectors from the British Medical Council, and they are satisfied that the examinations are a fair test and well organized. Under these circumstances there should be no difficulty in arranging matters at once.

"It is in the interest of the public, as well as to the advantage of the profession, that these affairs should be arranged without delay, so that, working in harmony with the Executive of the Irish Free State, the profession could aid in settling the location of county hospitals, the system of promotion of medical officers, and the remuneration of those who take service under the new régime.

"There can be no doubt but that new-found liberty will cause a rejuvenescence all round, and our profession should be foremost in taking advantage of the heartening conditions that are sure to prevail."

The Irish Medical Secretary in his letter stated:

"There is amongst all classes of Irish medical practitioners considerable speculations with regard to the changes that may be necessary regarding the government and the regulation of the qualifications of the medical profession in Ireland under the Irish Free State. It is believed the establishment of a statutory medical body for Ireland possessing all the penal powers—and some more—of the present General Medical Council will receive the general support of the Irish medical profession.

"It will be different, however, when it becomes a question of setting up a distinctively Irish body with power to prescribe the curriculum and regulate the qualifications of medical practitioners in Ireland. In these respects the Irish medical schools will be keenly interested. For many years 80 per cent. of newly qualified doctors have been for export—mainly to England. This market, however, is becoming narrower owing to the great increase in recent years of medical students and newly qualified doctors in England. Nevertheless, so far the Irish doctor has had, on the whole, a fair chance in England. It is difficult to say how much, if any, of this was due to the fact that England had a very considerable voice, through the existing General Medical Council, in prescribing the professional attainments of the Irish doctor. The question arises: Will he command the same demand when England has no voice in prescribing his professional qualifications as will happen if an Irish Medical Council is set up with independent powers over medical education in this country?

"It may be said any difficulties in the way of the acceptance of the Irish doctors in England could be got over by agreeing to reciprocity. But Ireland cannot reciprocate, because whilst she exports 80 per cent. of her medical men to England, it is the exception to have an English doctor to set up practice in Ireland.

"I believe what will really happen, if we prefer to have an intensive Irish nationality in medical affairs, is that the Irish medical students intending to practise in England will go to that country to study for their medical diplomas, and thus run no risks. It is in this way the Irish medical schools will be hit, as one small medical school in Ireland would be more than sufficient to train enough of doctors for our Irish requirements. Dominion medical diplomas, though of a very high standard, and equal to those granted, in most respects, in England, are not looked upon in Great Britain with the same favour as the home degrees, and their holders do not as readily find medical employment.

"These are some of the pros and cons that must be thought over when considering the question of establishing an Irish Medical Council. In discussing the matter, however, there is no question of compromising our nationality, as medical science, like all sciences, acknowledges no territorial or national limitations."

Dr. Magennis, President of the Irish Medical Association and a member of the General Medical Council, gave an outline of the functions of the General Medical Council.

In reply to his interviewer, he said that under the new régime he would like to be assured that all these requirements (under the General Medical Council) should still be observed and Irish practitioners abroad suffer no unfair discrimination, and also that the rules enjoined under the head of conduct should still be adhered to, and that in the trial of all penal cases the same procedure be followed. "The big question," Dr. Magennis said, "for all Irish medical men under the new Irish Free State is—Will they be represented in the same way on the General Medical Council, or will they have a statutory body, say, an Irish Medical Council, which will have control of education, registration, and conduct, and be an entirely separate body and independent altogether of the General Medical Council? If we remain as now, an Irish doctor may object in penal cases to be tried by a body mostly composed of Englishmen and Scotchmen. If we have a separate council we must also have a separate Register, and unless some reciprocity be established, a doctor on the Irish Register cannot practise in Great Britain or the Colonies unless he is on the English *Register*, for which he has to pass the necessary qualifying examinations. There are about 2,500 medical men in Ireland, and on that average about 130 register annually in Ireland. Roughly, about 200 qualify in Ireland each year, and about two-thirds of these go to England, Scotland, or the Dominions.

"There is the possibility that a change from present conditions might affect the number of students who qualify in Ireland, and so act detrimentally on the Irish teaching bodies. Some people hold that just now the influx of male and female students in Ireland is abnormal.

"The whole question is a complicated and difficult one, but in so vital a question the Irish Free State may feel assured of the whole-hearted support of the Irish medical profession."

Correspondence.

CERTAIN ASPECTS OF PAIN.

SIR,—While neurologists all over the world, with eyes turned towards St. Andrews, are eagerly awaiting one of the greatest advances in diagnosis that Medicine has witnessed, may they not still be allowed to cherish the belief that Dr. Henry Head has not missed all the elementary facts concerning visceral sensibility? Before reading Sir James Mackenzie's letter some of us had failed to appreciate the complete dearth of accurate observations south of the Tweed, and had credited Dr. Head with recognizing at any rate the need for them. In our ignorance we had come to regard his work as an example of what accurate and painstaking clinical observation can achieve, an example which appeared, moreover, to have been followed by others with not altogether undistinguished results.

Is the cause of science advanced by a dogmatic statement that "pain when it arises in the viscera is due, not to mechanical stimuli, but to a vital process," even when the last five words are printed in italics? When I am informed that "stone in the bladder does not cause pain until the contraction of the emptying bladder is stimulated to severe contraction by the presence of the stone," I am tempted to inquire: When does contraction become severe contraction? and to presume that the answer is: When it becomes painful.

It is a matter for general congratulation that Sir James Mackenzie recognizes the need for further investigations, and that the whole subject is being reviewed at St. Andrews Institute; it is a pity that this review should have been anticipated by a letter so ungenerous to the work of others, and particularly to that of Dr. Head, to whom British Neurology owes so much.—I am, etc.,

E. FARQUHAR BUZZARD.

London, W., Jan. 30th.

PROBLEMS INVOLVED IN THE CONGRESS OF THE SEXES.

SIR,—I hope that nothing in my address to the Oxford Medical Society can be regarded as implying "that gynaecological anatomy and physiology are vague and mediaeval," as is the interpretation likely to be placed upon my remarks, according to the view expressed by Dr. W. Blair Bell in his letter of January 12th.

Dr. Bell's own work is the best refutation of any such suggestion. I did not give his name in my article, since in his volume entitled *The Sex Complex* he does not touch on that particular aspect of the subject with which I was most immediately concerned—namely, the possible influence of the male secretions on the female.

As set forth in his *Principles of Gynaecology*, Dr. Bell thus describes the function of the uterine glands: "The body of the uterus normally secretes a clear, thin, mucinous fluid, which is very slight in quantity, except just before and after menstruation." He then proceeds to deal in detail with the changes involved in the epithelium of the glands during the different stages of the menstrual cycle. These do not differ

in any material respect from the accounts already published by various observers, except in so far as Dr. Bell considers that he has demonstrated the presence of mucin in the gland cells and lumina by the use of a muci-carmine stain. Unfortunately, the use of carmine and cochineal stains in this particular instance is open to serious objection, for consisting, as they do, essentially of carminic acid in combination, it is a hitherto undisputed opinion that they exercise a strong selective staining reaction on tissues containing calcium salts (Bolles Lee, *The Microtomist's Vade Mecum*, eighth edition, pp. 135–6). As Dr. Bell himself points out, the menstrual discharge is exceptionally rich in calcium salts. May it not be that this constituent of the cell content is that responsible for the selective stain, and not the presence of mucin, as Dr. Bell believes? Beiling, by the use of thionin, another stain regarded as having a selective affinity for mucin, failed to record its presence. Clearly, therefore, the matter is still in doubt, and can only be settled by further investigation.

May I add that in connexion with the wider aspect of the subject we want more detailed information in regard to the changes exhibited in the uterine mucosa of the virgin as contrasted with that of the sexually active female, for if there be any foundation for the suggestion that some proportion of the male ejaculate seems to disappear (by absorption?) within the uterus of the sexually active woman, comparison with the uterus of the virgin would serve as a control. I am anxious, too, to know if any description of the uterine mucosa during the lactating period has been published. So far I have failed to find one. I would value any specimens removed at that period.—I am, etc.,

Oxford, Jan. 30th. ARTHUR THOMSON.

MENTAL HOSPITALS.

SIR,—With your permission I desire to say that Dr. Octavia Lewin's letter with the above heading in your last issue does not, in my judgement, present the subject dealt with at all fairly.

The Mental Hospitals Association's suggestion is that certain mental hospitals near general hospitals with medical schools attached thereto should be set aside and used in conjunction with and as part of such hospitals for the treatment of mental ailments, free from any connexion with the lunacy laws. These taken-over mental hospitals would be such as, by reason of their construction and existing medical equipment, could be utilized quickly, and at a minimum of expense from the point of view of conversion. They would be, as the pamphlet of the association says, "additions to the General Hospital"; in fact, psychiatric clinics, part and parcel of the hospital system. Patients would be received with some such safeguards as are set out in Clause 10 of the Ministry of Health (Miscellaneous Provisions) Bill of 1920. They would be discharged, after due notice, on expressing in writing a desire for discharge. It must be obvious that some of these cases will become certifiable during residence, and there will also be those concerning whom, even on admission, a certificate of insanity *could* be written. That, however, is not to say that they will be, or should be, certified after admission and sent to an asylum. To do this would be to defeat the object we have in view. Certification for the asylum need only be adopted in particular instances—for example, where seclusion and restraint become necessary owing to unmanageability, or where a patient, obviously irresponsible, and liable to be dangerous to himself or others, insists on leaving.

The proposition of the association, as is obvious to anyone who has read their pamphlet, is to recommend a means whereby psychiatric clinics can be provided expeditiously and at a minimum of cost. If Dr. Lewin objects to it, her objection logically extends to the principle of the psychiatric clinic, so that such clinic, however established, would be included in her condemnation as providing "stepping-stones to certification"; and the statement that "the treatment will be similar to that given to lunatics"—whatever that means—will equally apply to the psychiatric clinics of the future.

Dr. Lewin shows confusion of thought when she writes of "calling the group of buildings a mental hospital," and of the patient being "still held in the meshes of the lunacy administration." It is proposed to take buildings to be used as clinics (now called mental hospitals) *out of* the lunacy administration. She goes on to say that "the real crying need is for hostels—free from all stigma, from all association with lunacy administration." Substitute "psychiatric clinics" for "hostels," and the sentence describes the proposition of those now seeking a reform. There is no special virtue in the term "hostel"; it does not connote anything definite, or better than what is aimed at. What we require is to secure indoor clinics for early treatment of those cases of the psychoses and psychoneuroses which we see in private practice and at out-patient clinics in psychiatry at those general hospitals where such are already established. These cases are on, or just over, or liable at any time to go over, the borderline.

The clinics would be maintained either by the local authority (in co-operation with the authority of the voluntary hospital) or privately. It is certain that the State will insist—and properly insist, in the judgement of those with experience in these matters—on adequate control and supervision of these places, and such should, I think, be more stringent in respect of places under private auspices. The actualities and potentialities of the cases dealt with will always demand discrimination between them and other cases of illness, as far as protection by the law is concerned. Even the "hostels" that Dr. Lewin lauds would be controlled and supervised if they are to deal with the cases concerned.

Dr. Lewin says: "The pamphlet asks for legislation. None is necessary for hostels without detention." If she means that cases of the kind specified above, which are the ones we wish to benefit, can be dealt with as indoor cases in hostels without legislation, she is wrong. The framing of Clause 10 in the Ministry of Health Bill shows it, and any future legislation in this direction will also show it. In practice any hostel or clinic seeking to deal with the cases in question without legislation will in due course find itself in trouble.—I am, etc.,

Cardiff City Mental Hospital, Cardiff, Jan. 30th. EDWIN GOODALL.

INFLUENZA.

SIR,—May I draw attention to some facts which, taken together, seem significant?

1. Some form of influenza is epidemic every year.
2. The same type rarely persists for more than three or four seasons, and usually disappears in a single season.
3. Sometimes epidemics of unlike types occur in a single year, when the beginning of one may overlap the end of the other. For example, in the summer of 1918 what was known as the "Spanish sickness" appeared. I was at the time in medical charge of troops, of whom 400 went sick in a week, with temperatures up to 104°, rigors, and severe back and head aches, but with no nasal or pulmonary symptoms. Not a man died, and within a few days all had returned to duty. In the autumn of the same year began a tremendous and a more persistent epidemic of a totally different and much graver type. Again there were no marked nasal symptoms, but now the main seat of mischief was the lungs, the deaths from pneumonia being very numerous. This type almost vanished during the depth of the ensuing winter, but broke out in epidemic form, though with lessened prevalence, the following February. Since then sporadic cases have occurred, and now we are witnessing another epidemic, though much less severe, of the same type. It is estimated that since its appearance this, the classic type of influenza—the kind described in the textbooks — has cost the world some 10,000,000 human lives.
4. Epidemics of influenza may be traced back for many centuries, though the accounts grow vague with the lapse of time.
5. Every very lethal epidemic seems to have been of the pulmonary type.
6. Pandemics of this type appear to recur at intervals of about a generation. There was one in the early forties of the last century, and another in 1890, the epidemic of 1890 thus being separated from its predecessor and successor by intervals of nearly fifty and of twenty-eight years respectively.
7. Many of the soldiers and civilians in my care suffered in 1918 from both the Spanish sickness and the pulmonary type which followed; but I have yet to meet a person who has experienced the same type more than once.
8. The 1890 epidemic fell with special severity on elderly people. The young also were affected, but the deaths were numerous among the former.
9. In the 1918 epidemic the young were especially affected, nearly all the elderly exhibiting immunity.
10. It will be found on inquiry that the people who suffered in 1890 escaped infection in 1918. Doubtless there are exceptions, but they are certainly rare. Personally I have met none.
11. It would seem, therefore, that illness and recovery from

each type of influenza confers immunity against subsequent attacks of the same type. In 1890 even elderly people had not antecedently suffered.

12. If the foregoing be correct, it is evident that there are not many different types of influenza, but many distinct diseases which have all been grouped under that one name.

13. Again, if that surmise be correct, we are now witnessing the last, or almost the last, of the present epidemic. It is licking up the last of its victims, and should not reappear for about a generation. Doubtless in the interval it will wander among remote and comparatively inaccessible people, to return as a pandemic when a new generation has arisen and the harvest of the non-immune is ripe and ready for the reaping.—I am, etc.,

Southsea, Jan. 23th. G. ARCHDALL REID.

TREATMENT OF CARCINOMA OF THE CERVIX.

SIR,—It appears that in my paper on the radical abdominal operation for carcinoma of the cervix the figures I gave dealing with the operative mortality rate of my colleague and myself of recent years are not sufficiently clear, although I tried to make them so.

Since the completion of the 100 operations, the ultimate results of which formed the basis of my paper, I have performed a further 120 operations, the same standard of operability being maintained as in the first 100. I have therefore performed Wertheim's operation 220 times. I had 20 operative deaths in the first 100 operations, a mortality rate of 20 per cent., and 16 operative deaths in the subsequent 120 operations, a mortality rate of 13.3 per cent.; or, taking the whole 220 operations, 36 deaths, with a mortality rate of 16.3 per cent. I trust these figures cannot be mistaken. The ultimate results of the last 120 operations I cannot give, since at least five years must elapse after the performance of the last operation of a series before figures dealing with the ultimate results become available. I may add that the figures I gave in the same connexion dealing with the mortality rate of my colleague and myself jointly and of my colleague individually refer to operations performed subsequent to those of our first joint series or of the series with which my paper was principally concerned.

The principle on which I have worked in deciding what cases to operate on is fully set out in the third paragraph of my paper, and I have never deviated from it, although it has involved undertaking many cases in which the chances of ultimate success were poor and the chances of increasing my operative mortality rate great. I have done so because I believe that one success in these desperate cases is worth many failures. Whether I am right in believing that the course I follow is that by which the operation can be made to yield the maximum of good can only be proved by the publication of the figures of other operators, and especially those whose principle of operability and standard of completeness of operation are different from mine.

We gynaecological surgeons are up against the problem of how to treat carcinoma of the cervix so as to bring the greatest good to the greatest number of sufferers, and a consensus of opinion will never be reached until we all lay our cards on the table. I have laid my cards, and I beg those other surgeons who by now must have a large experience of the operation, to lay theirs also in a manner comparable with mine. We shall then be able to talk in real earnest, and I can assure Dr. Spencer and all other gynaecological surgeons that if their results are better than mine I shall have no false shame but shall be round to them within a week to find out how they do it.—I am, etc.,

London, W., Jan. 30th. VICTOR BONNEY.

SIR.—The object of my letter, published in your issue of January 21st, was to point out that the average operative mortality of the radical operation, as practised by experts at the present day, was not 20 per cent., as Dr. Spencer and Mr. McCann state, but a figure much lower. In his last letter Dr. Spencer attempts to check me by dragging the red herring of "operability rate" across the scent, but this won't do.

Dr. Spencer asserts that "if Mr. Bonney has personally performed a second hundred cases and will give his results" he will be happy to quote them. But this is exactly what, up till now, he does not do—hence these tears. If he will only re-read Mr. Bonney's paper carefully he will discover that he, Mr. Bonney, *has* personally performed a second hundred cases on the same standard of operability as his first hundred, and that the mortality of this second hundred was 13 per cent.

We have now arrived at an impasse. Dr. Spencer, founding his belief on German statistics, maintains that the present-day average mortality is 20 per cent. I, from my knowledge of the results of English operators, not only those of "Smith and Jones," know that, when the operation is performed by expert gynaecologists, this mortality is very much lower.

At the risk of yet again irritating Mr. McCann by laughing "at the wrong time," I trust he will not begrudge me just one little sniggle at his *obiter dictum* that "if the disease be found to be irremovable the operation should be abandoned." An expectant world breathlessly awaits the announcement of Mr. McCann's alternative.—I am, etc.,

London, W., Jan. 30th. COMYNS BERKELEY.

DEEP X-RAY THERAPY IN MALIGNANT DISEASE.

SIR,—Dr. Curtis Webb's very interesting and instructive paper upon the above subject should stimulate others to give their views, especially upon the technical and practical side of the question. It is too early in the day for British workers to go further than to say that the results of treatment nowadays are more favourable than those obtained in the past by the older methods. I have only treated twelve cases with the new deep therapy apparatus, and, owing to inability to obtain a gas relay or iontoquantimeter, have been unable to follow out the Erlangen methods in all their details. In most cases the deep therapy treatment has been assisted where possible by the use of radium—for example, in uterine cases radium needles and tubes were used, suitably protected, in doses equal to 150 mg. of radium element for periods of twenty-four hours.

To take the place of the automatic gas relay for regulating the vacuum of the boiling water tube, I have experimented with a mechanical form which is worked by a lever behind the protecting screen, and have finally succeeded in adjusting the mechanism to work regularly for several minutes without interfering with the osmo regulator. By suitable adjustment of the lever a small flame is always kept burning, and since the milliampèremeter is only 2 feet from the operator any hardening of the tube can be corrected almost instantly. As the boiling water tube works erratically unless the water is boiling, the burner has been arranged so that it can be swivelled into a position in which it will raise the water to the required temperature before starting treatment. When this has been done the burner can be turned back again to its normal position, so as to heat the regulator. The tube will sometimes run as long as thirteen minutes without any sign of hardening, a 15-inch spark gap being used. The method of gauging the unit skin dose will no doubt in time be improved upon; the 100 per cent. dose is the amount which will produce erythema of the skin in from five to eight days, and a distinct tanning of the skin in three to four weeks. Errors will always arise with this method of measuring the unit skin dose, as there is the personal factor of the operator and also the idiosyncrasies of the skin of the patient to be allowed for.

Experience over many years has taught me that no two operators obtain exactly the same unit, and as this unit is the foundation from which are calculated the doses given to the parts under treatment, no two results can be the same.

Not being in possession of an iontoquantimeter I had to devise other methods to ensure accuracy in depth dosage. In uterine cases I fix a piece of lead on the seat of the mischief, usually the cervix, and take a pair of plates, thus finding the exact depth and position of the parts to be treated. In the same way I have found it necessary to gauge the dosage given to the areas, and where possible this has been done by fixing Kienbock's strips and pastilles suitably protected in contact with the parts under treatment (for example, the apex of the vagina). Difficulties may sometimes occur where the patient can only be treated in a prone position, and as the boiling water tube can only be used above the couch I have got over this by using a 16-inch Coolidge tube under a canvas stretcher raised to a suitable height, having first marked out the areas for treatment by screening. This arrangement although somewhat awkward tends to greater accuracy, especially with the cross-fire method, and in suitable cases the use of a lead-glass vaginal speculum working at a great distance further increases the efficiency. The great advantage of the Coolidge tube is that if it is worked at 2.5 milliampères with a fan blast for cooling purposes the tube can be entirely enclosed and is constant in action. My best cooling device is an old electric vacuum cleaner connected to the shield by a

long length of large hosepipe. The harmonious hum of this device tends to lull the patient to sleep!

The two long arms of the Coolidge tube are enclosed in thick lead-glass sleeves; these act as a protection to the patient and also prevent the accumulation of dust particles, which endanger the life of the tube by sparking. A further safety device for the tube would be to have the protecting sleeves full of oil. The majority of the work is done at a distance of 50 to 60 cm.; it may be necessary for the treatment to last as long as fifteen hours, which may be spread over two or three days. Damage done so far includes the loss of two 16-inch Coolidge tubes.

The protecting screen is made up of 8 lb. of lead and is fitted with shelves and electric light so that the operator may read and smoke, yet at the same time be alert so as to be able to regulate the working of the apparatus.—I am, etc.,

Newcastle-on-Tyne, Jan. 25th. H. E. GAMLEN.

MALARIAL GLYCOSURIA.

SIR,—Two cases of malarial glycosuria were published by Drs. Castellani and Willmore in the BRITISH MEDICAL JOURNAL for August 20th, 1921, p. 286, and another case was published in the issue of October 22nd, 1921, p. 629, by Dr. Harrison, where it is stated that Castronuovo mentions the condition, but it is not in the textbooks. Dr. Castellani's first case, J. F. S., has been under my care at the Tropical Disease Clinic at Brighton since October, 1920; I sent him to Orpington Hospital, where he remained two months (April 4th to June 3rd, 1921), and where he was seen by Dr. Castellani, who there made the diagnosis.

Before admission the man had symptoms which pointed to a mild degree of Graves's disease—namely, tachycardia, slight exophthalmos, some enlargement of the thyroid, and tremors; this is not brought out in the published notes of the case, though it is stated that the pulse was 120 and he was tremulous. A temporary glycosuria is fairly common in Graves's disease, probably from inhibition of the internal secretion of the pancreas by the thyroid. It would appear possible that the rest, quiet, and freedom from worry whilst in hospital improved his hyperthyroidic condition, and so caused a disappearance of the glycosuria. Dr. Castellani attributes the disappearance of his glycosuria to quinine, yet the man had had plenty of quinine before going to hospital; he has had it since, but continues to have malarial attacks.

Seen after leaving hospital, his pulse was 80, the exophthalmos was very slight, the enlargement of the thyroid had diminished, and the tremor was less marked; since then there has been no definite relapse in this respect. There has been no return of the glycosuria, though the malarial condition shows little improvement.

The condition is so rare that it appears desirable to exclude all other possible diagnoses before making this one, even by such an authority.—I am, etc.,

Hove, Jan. 27th. ALEXANDER ORLEBAR.

TREATMENT OF SQUINT.

SIR,—The case which gave rise to Colonel Henry Smith's novel suggestion (January 7th, p. 13) for the treatment of squint was apparently an ordinary case of severe seventh nerve paralysis. We have all seen such cases.

For the first few months after a severe paralysis of the right seventh the right side of the face is expressionless and slablike, and the mouth droops to the right. After six months or so, if there is some improvement, a tonic overaction of the affected muscles takes place. The right naso-labial furrow is more marked than that on the left, so at the first glance it is not obvious which is the affected side; the distinction is readily made when the patient endeavours to raise the upper lip strongly; in this case the elevation would be greater on the left side.

Colonel Smith tells us that under the electric treatment "after a couple of months he came back with the mouth pulled to the opposite side—that is to say, towards the nerve originally paralysed," and that two years afterwards, "the shortening he had produced had remained permanent."

This late overaction or contracture of the paralysed side, when it occurs, usually does remain permanent, and several explanations have been given of its occurrence, into which it is needless to enter here, but as overaction develops to as marked a degree in those who have not had electrical treatment as in those who have, it is now known that neither faradism nor galvanism have anything to do with it.

Colonel Smith confidently states a sort of constructive hypothetical syllogism in these terms:

The muscle balance of the eye is exactly analogous to the muscle balance of the mouth. If we can alter the Indian banker's mouth permanently by a course of electrical stimulation of the muscle on one side we can similarly alter the muscle balance of the eye. There is no means of getting away from the issue.

I submit that owing to material fallacies no reliable conclusion can be drawn. No English ophthalmologist who has studied the relation of convergence to accommodation and the action of the fusion centre would admit the first categorical statement; and no neurologist would admit that electrical stimulation had any effect on producing overaction of a paralysed muscle.

Fortunately, in his opening statement Colonel Smith says that under the term "squint" he includes "all non-paralytic errors of muscle balance of the eye." It is just for these non-paralytic cases that I think it may be of use, but not for the reasons that he alleges.

I am very grateful to him for his suggestion, and I shall certainly try it in slight heterotropia, but I am doubtful about the permanence of the effect. Probably the make and break of a galvanic current would be less painful and more efficient than faradization.—I am, etc.,

Newcastle-upon-Tyne, Jan. 30th. A. S. PERCIVAL.

THE THYROID AND THE ENDOCRINE SYSTEM.

SIR,—In my lecture on "The position of the thyroid gland in the endocrine system," published in your issue of January 21st, I stated: "Mellanby has suggested treating Graves's disease by cutting off the fat-soluble vitamin from the diet." Professor Mellanby informs me that the suggestion did not emanate from him and that he has not seen any reason for recommending such a line of treatment.

I regret very much making this mistake, for I quite realize that it is annoying to have an ineffective line of treatment attributed to one whose work has always been characterized by thoroughness and care.—I am, etc.,

London, W., Jan. 30th. W. LANGDON BROWN.

CLAYDEN *v.* WOOD-HILL.

SIR,—I am sending you the fifth list of subscriptions to the Wood-Hill Fund, and should be much obliged if you would publish it in your next issue.—I am, etc.,

HAMILTON A. BALLANCE,
Honorary Treasurer.

All Saints Green, Norwich, January 28th.

Fifth List of Subscriptions.

Amount previously acknowledged, £818 16s. 6d.

£15 8s.
Reigate Division of the British Medical Association, per Dr. T. Anstey-Chave, Hon. Sec.

£6 6s.
Executive Committee of the Nottingham Division of the British Medical Association, per Mr. A. M. Webber, Hon. Sec., on behalf of the following members of the Committee. £1 1s. each from—
Dr. J. H. Thompson
Dr. C. S. Miller
Mr. A. M. Webber
Dr. R. M. Rendall
Dr. J. H. Cox
Dr. O. H. Isard

£5 5s.
Dr. F. N. G. Starr, Toronto
Dr. S. Johnson Taylor, Norwich
Dr. E. Farquhar Buzzard, London
Mr. W. H. Bowen, Cambridge
The Birkenhead Medical Society, per Mr. W. Arthur Pierce, President
Mr. Harold D. Gillies, C.B.E., London

£5.
Mr. Edward S. Crispin, C.B.E., Khartoum
The Cheshire Panel Committee, per Dr. Alfred Cox, O.B.E.

£4 4s.
The Medical Staff of the Royal West Sussex Hospital, Chichester, per Dr. Arthur M. Barford

£3 3s.
Mr. E. B. Waggett, D.S.O., London

£2 2s.
Mr. Cecil J. Muriel, Norwich
Mr. V. Zachary Cope, London
Dr. K. Pretty, Ipswich
Mr. T. W. Hancock, O.B.E., Norwich
Sir Charles Ballance, K.C.M.G., C.B., London
Dr. F. C. James, Fressingfield
Dr. D. W. Collings, Southwold
Mr. G. Stevens Pope, Norwich
Mr. J. Cordy Keer and Mr. K. J. T. Keer, Wickham Market
Dr. Margaret L. A. Boileau, Ketteringham
Dr. R. Stopford Taylor, D.S.O., Liverpool

£2.
The Salisbury Division of the British Medical Association, per Mr. John Armitage, Hon. Sec.

£1 1s.
Dr. John Stewart, Plaistow
Dr. C. H. Symons, Aylsham
Mr. Richard Slocock, Sheringham
Mr. J. B. Naden, Warrington
Surgeon Commander D. D. Turner, R.N., H.M.S. *Concord*
Dr. Ian D. Dickson, M.C., Norwich
Mr. Marcus M. Bowlan, London
Dr. C. G. Brentnall, M.C., Padgate
Mr. Harrison Cripps, London
Dr. J. A. Oswald Briggs, Nottingham
Mr. R. W. Payne, Lavenham
Dr. G. F. Bradley, Halstead
Mr. S. Price Hosegood, Llanwrtyd Wells
Mr. W. Arthur Pierce, Birkenhead
Dr. N. McConnell Boyce, Romford
Dr. E. Rowland Fothergill, Hove
Dr. E. C. Hardwicke, Woolpit
Dr. E. P. Satchell, Fulham

£1.
Mr. S. R. H. Matthews, Bickley
Mr. A. A. Osman, D.S.C., London
Dr. J. J. Conybeare, London
Dr. F. J. Allen, Cambridge

10s. 6d.
Miss Grace G. Griffiths, Bures
Dr. Jessie Hunter, Bracebridge

REGISTERED DENTISTS.

SIR,—I write to say that the regulations of the Dental Board have now been approved by the General Medical Council and the Privy Council, and that applications for registration under the Dentists Act, 1921, can be considered, if addressed to "The Registrar of the Dental Board," at this office, on and after January 27th.

My object in writing is to point out that no person should be considered to be a dentist unless he possesses a certificate of registration, and that medical practitioners should be careful to satisfy themselves, before they enter into professional relations with any persons practising dentistry, that such persons have in fact been registered.—I am, etc.,

NORMAN C. KING,
Registrar.

General Medical Council,
44, Hallam Street, London, W.1,
Jan. 25th.

*** An account of the regulations was given in the SUPPLEMENT last week, p. 19.

Medico-Legal.

PARENTAL RIGHTS AND THE MEDICAL EXAMINATION OF SCHOOL CHILDREN.

A DECISION presenting features of both medical and social interest was given in the King's Bench Division on January 26th. A case was stated by the Hove justices and related to the medical examination of school children under Section 122 of the Children Act, 1908, which provides for the medical inspection of the clothing and persons of children attending elementary schools, gives power to cleanse children who are found to be verminous, and imposes a penalty on parents who allow a child to become verminous a second time.

The appellant was the father of a girl aged 12, who was attending an elementary school at Hove. In April, 1921, the girl, presumably at her father's direction, declined to submit to medical examination. In July, 1921, she again refused to be medically examined, and in September when a further medical examination was held she indicated her intention to offer resistance, and the medical examination was not proceeded with. The child was reported to the local education authority for persistent insubordination and they expelled her from the school. The father continued to send his daughter to the school, but she was refused admission. The attendance officer (the respondent) then took out a summons for non-compliance with an attendance order and the magistrates convicted the father, but stated the case for decision by the High Court.

Counsel for appellant argued that this was a method of compulsion which reminded him of the saying, "We shall never have conscription, but we shall all be compelled to become volunteers." The education authority in effect said, "We will not admit your child until she submits to a medical examination; but if you don't send her we will summon you, so the sooner you make her submit the better for you." He submitted that there was nothing in the Education Acts to make medical examination compulsory. There was no suggestion that the child was verminous, and she was not excluded on that ground. There were certain cases which showed that the exclusion of a child might be proper in some circumstances, but there was no statement in the Acts of the grounds on which children might be excluded. He submitted that this child's conduct was not persistent insubordination; if the child committed one or two acts of disobedience, the remedy lay in the ordinary methods of discipline. No attempt here had been made to punish the child or make her obey. The proper course, he submitted, was to carry out the examination, using such force as was reasonably necessary.

Counsel for the respondent said that he placed great reliance on the finding of fact that the father declined to allow the child to submit to examination. He did not suggest that if the child's disobedience was in defiance of her father's wishes, the local education authority could expel her and then summon the father, who sent the child to the school gates every day. Here they had a lawful order and the disobedience was incited by the parent. The father knew when he sent his child to the school gates that he was not sending her in circumstances which would make an effective attendance. It was true that the Act contained no specific penalty for refusing medical examination, but submission to medical examination must be regarded as on a par with any other lawful commands which the school authorities might give. If a father persisted in ordering a child to disobey a particular master, the position might be such that they could only exclude the child. This was a reasonable and proper course. A father could not hold up the whole course of school routine sanctioned by Act of Parliament by saying, "I send my child on my own conditions."

Mr. Justice Avory, in giving judgement, said that it had been held in numerous cases that a parent who sent his child to a particular school in circumstances in which he knew the child would be refused admittance, had not caused the child to attend school. Here appellant knew quite well that the child had been excluded on the ground of persistent insubordination. Counsel had suggested that the remedy was for the school authority to exercise disciplinary power, but his lordship thought that that was putting on the authorities a responsibility never intended. It would lead to scenes of violence and disorder in the school, and probably to summonses in the police court for assault. He thought that Section 122 did impose an obligation on the child to submit to examination. If the child refused under her father's direction, the fault of her insubordination was his and he was responsible for her non-attendance. He must send her in such a condition that she could be received by removing his own and her objection to submitting to examination. The appeal accordingly must be dismissed.

Mr. Justice Salter agreed. He thought that Section 122 imposed a duty on children to submit, and on their parents to co-operate. Mr. Justice Roche also agreed.

Experience has shown that the medical examination of school children has been of great benefit to the children, and education authorities have everywhere taken pains to secure that the examinations are conducted with regard for the comfort and susceptibilities of the children. To have admitted that a foolish or faddy parent can be allowed to override the procedure which has received the assent of all classes of the community would have been a step tending to nullify the essential principles of the Act.

Universities and Colleges.

UNIVERSITY OF OXFORD.

Rolleston Memorial Prize, 1922.—The next award of this prize for original research in any subject comprised in the following list—physiology and pathology, animal and vegetable morphology, and anthropology—will be made in Trinity Term, 1922. The value of the prize is now about £100.

No candidate will be eligible (1) who has not either passed the examinations for the B.A. degree or the B.M. degree at Oxford, or for the B.A. degree or the M.B. degree at Cambridge, or been admitted as a candidate for the degree of B.Sc. at Oxford, or as an advanced student for the degree of B.A. at Cambridge; (2) who has exceeded a period of six years from attaining any of these qualifications; (3) who has exceeded ten years from his matriculation. Candidates wishing to compete must forward their names, before March 31st, 1922, to the Registrar, from whom any further particulars may be obtained.

Christopher Welch Scholarship in Biology, 1922.—An examination for the above scholarship will be held at the University Museum, beginning on Monday, July 3rd, 1922, at 9 a.m. Candidates must be undergraduate members of the University, who have not exceeded the twelfth term from their matriculation. They may offer any one of the subjects—animal physiology, botany, zoology—and they must give notice of the subject selected by them to the Registrar of the University not later than March 1st, 1922. They must, further, enter their names, in person, or by letter, at the University Registry, not later than Monday, April 3rd, and must at the same time produce or send to the Registrar of the University evidence of their capacity for original observation and research. A candidate may also submit to the examiners any original work previously done by him.

At a congregation held on January 26th, the degree of Bachelor of Medicine was conferred on G. Cranstoun.

UNIVERSITY OF CAMBRIDGE.

AT a congregation held on January 27th the following medical degrees were conferred:

M.B., B.CH.—K H. Tallerman.
B.CH.—H. L. Willey.

UNIVERSITY OF GLASGOW.

THE Bellahouston gold medals have been awarded to the following, all of whom gained honours for the excellence of their theses for the degree of M.D.: D. K. Adams, T. J. Mackie, N. Morris.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN ordinary Comitia of the Royal College of Physicians of London was held on Thursday, January 26th, at 5 p.m., the President, Sir Norman Moore, being in the chair. The following were admitted to the Membership:

Marjorie Ada Blandy, M.B.Lond., Thomas Knowles Boney, M.D.Lond., Hugh Reginald Dutton, I.M.S., Charles Frederick Terence East, M.B.Oxon., Guy Melville Kendall, M.B.Camb., Guy Austin Lendon, M.B.Adel., James Purdon Martin, M.B., Q.U.Belfast, Thomas Sidney Nelson, M.B.Oxon., Wm. Jenkins Oliver, M.B.Oxon., Noel Olivier Richards, M.D.Lond., Leon Judah Solway, M.B.Toronto.

Licences to practise Physic were granted to the following ninety candidates who had passed the required examinations and conformed to the by-laws and regulations:

A. R. Abdel Rezik, *Charlotte K. J. Almond, J. L. Armour, *Marjorie H. S. Auden, *Margarita S Barfield, F. W. Bekker, P. C. Bhandari, M. Bienenstock, J. T. Blackburn, *Mary H. Y. Blakeston, S. Bloom, M. W. B. Bulman, W. R. Carling, T. H. Cathrall, D. Chamberlain, *Anaple F. M. Christie, *Dorothy J. Collier, M. Critchley, A. M. Deif, J. G. Drew, A. C. D'Souza, M. A. El-Biblawi, A. Epstein, R. A. Fanous, *Betty Fletcher, *Dora J. Fox, N. Gallant, *Laura P. Gibbon, T. J. E. Gittins, *Kate Glyn-Jones, L. D. Gorton, *Doris M Hammond, B. J. Hancock, R. V. Hudson, B. D. Hughes, J. W. Hulme, F. C. Hunt, *Winifred M. Jenkins, E. M. Jones, R. G. Karn, A. H. Kassim, J. N. Kerr, *Lorna S. King, A. T. L. Kingdon, A. H. Kretchmar, B. L. Laver, H. D. Llewellyn, A. Q. Logan,

*Caroline G. L. McHardy, O. E. J. McOustra, *Frances M. Margerison, F. H. Mather, *Cecily M. E. Maude, G. G. Michell, *Merell P. Middlemore, R. Mikhail, *Iva C. M. Molony, *Rose Moss, W. H. Nettelfield, G. B. Oliva, R. E. Overton, G. E. Peacock, *Ruth E. Pilgrim, *Evelyn V. Pilley, F. L. Rayner, T. R. Rees, *Hilda E. Reynolds, E. H. Richards, H. R. Rishworth, *Dorothy S. Russell, *Olive M. Salmon, *Effie F. A. Samter, S. Sandler, C. D. Shapland, *Vera E. Shaw, K. E. Shellshear, *Creina Shepherd, C. J. Slim, L. J. Soutter, *Eleanor C. E. Stone, L. W. Studdy, S. Suvansa, R. S. Swindell, W. Thomas, D. D. C. Thomson, H. Tothill, B. G. Watson, E. H. Weatherall, A. D. Wright, W. A. Young.

* Under the Medical Act, 1876.

Diplomas in the subjects indicated were granted jointly with the Royal College of Surgeons to the following candidates:

PUBLIC HEALTH.—J. Ashforth, C. F. Chenoy, Elsie E. Cowperthwaite, A. Dasgupta, H. E lis. R. Govan, W. A. Hawes, T. F. Kennedy, Evelyn C. McD. McGregor, J. R. Mitchell, M.C., C. W. Narbeth, A. K. H. Pollock, J. L. Priston, G. V. S. Rodriguez, G. W. R. Rudkin, G. R. A. de M. Rudolf, Elizabeth D Russell, C. Ryles, P. N. Seth, C. R. Smith, J. A. B. Snell, A. T. Stanton, W. Tarr, N. L. Varma.

OPHTHALMIC MEDICINE AND SURGERY.—T. Ahmed, R. N. Ajinkya, H. W. Beedham, C. F. Eminson, P. J. Kolapore, A. L. North, C. H. St. John, F. R. B. Skrimshire, S. P. Sykes, T. H. Vickers, H. S. Vivian.

PSYCHOLOGICAL MEDICINE.—J. S. Annandale, M. A. Cholmeley, V. L. Connolly, G. de H. Dawson, Marjorie E. Franklin, J. K. C. Laing, J. MacInnes, J. E. Martin, H. F. Maudsley, J. F. Penson, J. F. Powell, E. S. Rose, G. T. Walker, Marguerite Wilson, H. Yellowlees.

Dr. R. Hutchison, Dr. A. Whitfield, Dr. E. Goodall, and Dr. E. F. Buzzard were elected councillors in place of Dr. H. Head, Dr. J. W. Carr, Dr. G. F. Still, and Sir Maurice Craig.

Communications were received from, among others: (1) The Secretary of the Royal College of Surgeons, reporting proceedings of the Council of that College. (2) Dr. Philip D. Turner, dated August 8th, 1921, asking for restoration of the Membership, which he resigned in 1899. This was agreed. (3) Dr. Philip H. Wells, asking leave to resign the Membership, which he took in October last. This was accorded. (4) The Chairman of a Committee for the formation of a Canadian College of Physicians and Surgeons, asking the opinion of the College on the question of affiliating such a college with the Royal Colleges of Physicians and Surgeons in England.

The President announced that he had appointed Dr. Arnold Chaplin to deliver the Harveian oration this year, Sir Maurice Craig to deliver the Bradshaw lecture this year, Dr. J. B. Christopherson as representative of the College on a section devoted to tropical diseases in connexion with the British Empire Exhibition, 1923, and that the Council had appointed Dr. W. G. Savage to deliver the Milroy lectures in 1925. On the nomination of the Council Sir Francis Champneys was appointed a representative of the College on the Central Midwives Board. The President and Dr. Henry Head were reappointed representatives on the Conjoint Board of Scientific Societies. The licence of the College, withdrawn in January, 1918, was restored to Bertie Cecil Eskell. A report was received from the Committee of Management of the Conjoint Examining Board in England, and adopted.

After some formal business relating to College matters the President dissolved the comitia.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MR. A. G. TIMBRELL FISHER, M.B., F.R.C.S., surgeon to the Seamen's Hospital, Greenwich, and a member of the research staff of the Medical Research Council, will give a Hunterian Lecture on Wednesday, February 8th, at 5 p.m. The lecture will describe a research into the pathology and etiology of osteo-arthritis, with observations upon the principles underlying its treatment. It will be illustrated by lantern slides and drawings. On Friday, February 10th, at 5 p.m., Mr. C. A. Pannett, M.D., F.R.C.S., assistant director of the Surgical Unit, St. Mary's Hospital, will give a Hunterian Lecture on hydronephrosis. Mr. Zachary Cope, M.S., F.R.C.S., will give an Arris and Gale Lecture on the nerve supply of the parietal peritoneum and the supra-peritoneal tissues, with remarks on its clinical significance, on Monday, February 13th, at 5 p.m. On Wednesday, February 15th, at 5 p.m., Dr. F. W. Edridge-Green, C.B.E., F.R.C.S., will deliver an Arris and Gale Lecture on new researches in colour vision, which will be illustrated by lantern slides showing pictures painted by colour-blind people. Professor Swale Vincent, M.D., will give an Arris and Gale Lecture on Friday, February 17th, at 5 p.m., on a critical examination of current views of internal secretion.

CONJOINT BOARD IN SCOTLAND.

THE following candidates have been approved at the examination indicated:

FINAL EXAMINATION.—*Medicine:* C. W. de Villiers-Pritchard, M. G. L. Lucas, W. M. Reid, F. P. Lisboa-Pinto, H. G. F. Cubitt. *Surgery:* M. G. L. Lucas, W. M. Reid, C. T. Williams, Isobel Reid, S. Ho Asjoe. *Midwifery:* W. O. Rodrigo, C. W. de Villiers-Pritchard, M. G. L. Lucas, C. T. Williams, Isobel Reid, J. R. Colvin, H. G. F. Cubitt, S. Ho Asjoe, Agnes T. Martin, D. R. Nicol. *Medical Jurisprudence:* H. G. Triay, P. S. H. Masters, W. Paris, R. L. A. Kitchen, C. Siung, T. K. Maclachlan, Annie F. Perry, C. W. de Villiers-Pritchard.

The following candidates, having passed the final examination, were admitted L.R.C.P.E., L.R.C.S.E., L.R.F.P. and S.G.:

J. B. Hendry, I. F. McAsh, Enid A. Williams, D. Ciantar, R. Levey, E. J. Allan, S. Sieff, N. Kretzmar, L. E. Murray, S. Sack, W. T. Davie, G. McCoull, Alexandra M. Limont, G. H. Dobbin, J. Readdie, J. A. Nel, A. MacPherson, J. H. Dobbin, A. M. Samarasinghe, A. S. Wickremesinghe, Jemima M. McK. Calder, J. R. Williams, A. R. Zambie, P. Madan, J. R. McCubbing, M. S. Hassen, E. Spence, J. L. L. Jones.

Medical News.

SIR JOHN BLAND-SUTTON will deliver an Emeritus lecture at the Middlesex Hospital Medical School on Tuesday, February 7th, at 3 p.m. The subject of the lecture will be "The choroid plexuses of the brain and psammomas."

SIR D'ARCY POWER will give a lecture on "The Evolution of Surgery" before the Royal British Nurses' Association to-day (Saturday, February 4th), at 3 p.m., at 194, Queen's Gate, S.W.7. The chair will be taken by Dr. A. J. Rice-Oxley, C.B.E., Mayor of Kensington.

SIR ROBERT JONES has accepted an invitation to become President of the Association of Certificated Blind Masseurs, which has its office at 224, Great Portland Street, London, W.1.

A POST-GRADUATE lecture will be given at the St. James's Hospital, Ouseley Road, Balham, on Tuesday, February 7th, at 4.30 p.m., on the subject of "Some aspects of infant feeding."

CAPTAIN SIR ARTHUR CLARKE, an Elder Brother of the Trinity House, formerly deputy-chairman of the Seamen's Hospital Society, has been elected chairman of that corporation in succession to the late Sir Percival Alleyn Nairne. Captain H. B. Hooper, R.I.M., has been appointed deputy-chairman.

DR. WILLIAM SHAW has been elected chairman of the Larne Urban Council for the year 1922; he has been a member of the council for thirteen years, and twice its vice-chairman.

THE fifth Silvanus Thompson Memorial Lecture will be delivered by Sir Oliver J. Lodge, F.R.S., at a special meeting of the Röntgen Society to be held at the Institution of Electrical Engineers on Tuesday, March 21st.

AT a sessional meeting of the Royal Sanitary Institute to be held at 90, Buckingham Palace Road, S.W.1, on February 14th, a discussion will be opened by Dr. W. M. Willoughby, M.O.H. Port of London, on the administrative measures necessary in regard to the slaughtering of animals and the storage and transport of meat in connexion with the report issued by the Ministry of Health. A sessional meeting of the Institute will be held in the Guildhall, Norwich, on February 17th, when Dr. G. L. Leggat will open a discussion on the carrier problem in disease.

A SERIES of eight lectures under the auspices of the People's League of Health will be delivered at the Royal Society of Arts, John Street, Adelphi, on the subject of "The mind and what we ought to know about it." Four lectures will be given in February and four in March, the first lecture being on Monday, February 6th, at 6 p.m., when Dr. Bernard Hart will discuss "Primitive instinct." Subsequent lecturers include Dr. R. G. Cole, Dr. R. S. Rows, Sir Maurice Craig, Sir Robert Armstrong Jones, and Sir Frederick Mott.

THE late Lord Mount Stephen, who died in November last, has by his will bequeathed £2,000 to the Victoria Hospital, Montreal, which he founded, and £5,000 to his friend Sir James Reid, M.D. As already announced, the residue of his property, after paying other bequests and annuities, has been left to King Edward's Hospital Fund; it is estimated that the residue will amount to about £750,000.

DR. R. J. SMITH, Dr. M. F. CAHILL, and Dr. H. DUGUID, all of Gray's Inn, have been called to the Bar.

THE executors of the late Mr. Hermann Woolley, for many years treasurer of Manchester University, have given a donation of £1,000 towards the endowment of a lectureship in pharmaceutics in the University.

IN the week ending January 28th there was a decrease of 123 in the number of deaths in London from influenza, the numbers being 320 as against 443 in the previous week. In the 105 great towns of England and Wales there was a small increase, 1,450 as against 1,433. In the case of the ninety-six great towns the figures were 1,419, as against 1,404 in the week ending January 21st. In several of the great towns, mainly in the north, there were increases. In Birmingham the deaths from influenza were 57 against 42, Bristol 53 against 37, Liverpool 25 against 14, Reading 20 against 7, Brighton 34 against 29, Southampton 9 against 6, Cambridge 9 against 4, Norwich 15 against 9, Chester 9 against 1, Wallasey 7 against 3, Rochdale 21 against 6, Hull 60 against 45, Sunderland 78 against 40, South Shields 19 against 10, Gateshead 52 against 42, Cardiff 13 against 7. In Newcastle-on-Tyne there was a decrease, 74 against 82, as was also the case in Glasgow, where the figures were 183 as against 202. In Edinburgh the figures showed a substantial increase, being 116 as against 72 in the week ending January 21st. It seems probable that this last week records the maximum mortality of this wave, and that in the present week a decline will be found to have occurred.

Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.*

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2630, Gerrard.

2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.

3. MEDICAL SECRETARY, *Mediocra, Westrand, London;* telephone, 2630, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin;* telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

DR. J. L. RENTOUL (Belfast) writes in reply to "Paroxysm" (January 21st): Some cases of asthma do well on tuberculin, but it should not be used in all cases. Cases that have resisted other forms of treatment, more especially autogenous vaccines of *M. catarrhalis* and streptococci mixed, emaciated cases, those with a personal or family history of tubercle, should be tried with tuberculin. The best preparation, in my judgement, is P.T.O. Begin with 1/1000 of a cubic centimetre—that is, 0.001. The easiest way to get at this is: To 9 c.cm. saline add 1 c.cm. P.T.O. Of this inject 0.01 c.cm. Allen and Hanburys or the Medical Supply Association supply all-glass 1 c.cm. syringes graduated to 1/100 c.cm. for 6s. The dose should be given once a week and gradually increased—that is, 0.01, 0.02, 0.03, etc. I have never seen any untoward effects. If at any time there is a reaction the dose causing the reaction should be repeated. Needless to say, any case showing active tuberculosis should be treated with caution. Should "Paroxysm" wish to ask any other questions, if he writes to me I will be very pleased to help if I can.

INCOME TAX.

"M. A. H.," a medical woman, was appointed Assistant M.O.H. in May, 1921. Can she average her income received during her training at college, and is she entitled to an allowance for dependant relatives?

*** No; her present employment is a different source of income, and cannot be averaged with her former income. As the father has an income of £97 10s., he is excluded from the allowance; if, in fact, the mother is dependent on "M. A. H.," the allowance of £25 seems to apply. The amount of any loans or interest thereon cannot, by express prohibition, be allowed. We consider she can claim as necessary expenses such sums as are laid out (in whatever form) to obtain literature necessary to maintain her standard of medical knowledge.

LETTERS, NOTES, ETC.

"NEMO" offers to medical society or library (if willing to pay carriage) a series of about fifty volumes of the New Sydenham Society's publications in good condition—valuable for reference; also thirty volumes of *Transactions* of the Obstetrical Society. Apply by letter only to 82, Wimpole Street, W.1.

THE Librarian has received a copy of Dr. Batty Shaw's *Organotherapy*, asked for last week, from Dr. H. Downes of Ilminster, to whom the Association is much indebted.

AN EMERGENCY METHOD IN PRESBYOPIA AND HYPERMETROPIA.

DR. AGNES ESTCOURT-OSWALD writes: May I say that in my memorandum on this subject, printed in your last issue (p. 140), the words "an excellent emergency substitute for a convex lens" were not meant to suggest that any magnification was produced.

UNCONSCIOUS HUMOUR.

"C. K." writes: You commented recently on unconscious humour as displayed in *Punch's Almanack*. I have come across a similar display which seems really too good to keep to one's self. It occurs in a transatlantic medical journal, in an article by a dentist commenting on one of the papers published in the journal. It is the language used which somehow tickles one's sense of humour. It recalls the effusions of Jeff Peters, Andy Tucker, and their friends, of whom we have all, I hope, been reading in the pages of O. Henry. Jeff Peters, it may be remembered, was "all aflame and crammed inside with an assortment of words and phrases that have got to have an exodus."

Let me give a sample first. Mr. Sanderson Pratt is defending his friend, Idaho Green, from the aspersions of a lady:

"Cut him out," says she. "He's no gentleman." "Why ma'am," says I, "he's a plain incumbent of the mountains, with asperities and the usual failings of a spendthrift and liar, but I never on the most momentous occasion had the heart to deny that he was a gent'eman. It may be that in haberdashery, and the sense of arrogance and display, Idaho offends the eye, but inside, ma'am, I've found him impervious to the lower grades of crime and obesity. After nine years of Idaho's society, Mrs. Sampson," I winds up, "I should hate to impute him, and I should hate to see him imputed."

"It's right plausible of you, Mr. Pratt," says Mrs. Sampson, "to take up the curmudgeons in your friend's behalf, but it don't alter the fact that he has made proposals to me sufficiently obnoxious to ruffle the ignominy of any lady."

Or this, where Mack and Andy are discussing the fair sex:

"One evening Mack spoke up and asked me if I was much apprised in the habits and policies of women folks. 'Why, yes,' says I, in a tone of voice. 'I know 'em from Alfred to Omaha. The feminine nature and similitude,' says I, 'is as plain to my sight as the Rocky Mountains. I'm on to all their little side-steps and discrepancies.' 'I tell you, Andy,' says Mack, with a kind of sigh, 'I never had the least amount of intersection with their predispositions. Maybe I might have had a proneness in respect to their vicinity, but I never took the time. I never seemed to get my ratiocinations equipped with the sentiments usually depicted towards the sect.'"

"'They're an adverse study,' says I, 'and adapted to points of view. Although they vary in rationale, I have found 'em quite often obviously differing from each other in divergencies of contrast.'"

This, of course, is burlesque, but now hear our dentist:

"This is an excellent monograph upon a vast and live subject. . . . One cannot but admire the versatility of the writer upon the various phases which constitute the present status of the teeth and their function. While there is little to be added in the way of general information on this subject, I feel, however, that the question of 'pulpless teeth' may, without redundancy, be more fully elaborated upon.

"It should be pointed out that carious pulps in teeth and teeth the pulps of which have been removed with various degrees of follow-up root filling are potentially infectious is a substantially established fact, while on the other hand no scientific proof of the innocuousness of such teeth under any circumstances has yet been demonstrated.

"The hysteria that followed the revelations of dento-apical pathology in the form of indiscriminate extractions has been vitiated, and I daresay offset by equally radical and more dangerous claims. . . .

"It is generally conceded by conservative well-informed practitioners that none but properly and completely filled root canals *that are free from peri-apical pathology* and, under favourable conditions of general health, are acceptable. . . . Bearing these facts in mind is it not far more radical to stay the hand that would remove a known focus of disease even though only a moderate percentage may yield results, than to wait until we may demonstrate the septic endocarditis to admit the pathogenesis of devital teeth?

"The importance of teeth in digestion should be a watchword, *always remembering, however, provided that* their usefulness is not offset by the damage that they may cause the possessor whom they would benefit."

This runs Jeff Peters very close, and I heartily wish that writers in the medical journals on this side of the Atlantic would all study and adopt this style; it would brighten things for the readers enormously.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 28, 29, 32, and 33 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 30 and 31.

THE following vacant appointments of certifying factory surgeons are announced: Cardiff (Glamorgan), Keighley (Yorks, West Riding), Market Bosworth (Leicester), Wadebridge (Cornwall).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£ s. d.
Six lines and under	0 9 0
Each additional line	0 1 6
Whole single column (three columns to page) ...	7 10 0
Half single column	3 15 0
Half page	10 0 0
Whole page	20 0 0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

THE CHOROID PLEXUS AND PSAMMOMAS.

AN EMERITUS LECTURE DELIVERED AT THE MIDDLESEX HOSPITAL, FEBRUARY 7TH, 1922.

BY

SIR JOHN BLAND-SUTTON, F.R.C.S.,

CONSULTING SURGEON TO THE HOSPITAL.

THE ruffle-like structures, called choroid plexuses, which float in the ventricular fluid of man's brain, have aroused the curiosity of anatomists for centuries, yet they took little more interest in them than gardeners take in weeds. Of late these plexuses have acquired importance for pathologists and clinicians.

THE CHOROID PLEXUS.

In the living brain a choroid plexus is red, for it is well supplied with blood, and the fringes floating in pools of



FIG. 1.—Diagram of a mammalian brain showing the distribution of the choroid plexuses.

cerebro-spinal fluid resemble the beautiful long red gills of the larva of the Alpine salamander.

In order to understand the relations of the various plexuses it is worth while to review their distribution. The velum interpositum with which they are so intimately connected, indeed it is the supporting structure of the plexuses, is a fold of pia mater, and arachnoid, buried in the brain when the primary cerebral vesicles turn backward to envelop the primary encephalic vesicles which ultimately become the third and fourth ventricles; the middle vesicle persists as the aqueduct of Sylvius. All parts of the velum which come in close relations with the ventricles are richly furnished with vascular epithelial tufts. These tufts reach their highest development along the fringes of the velum, which extend into the lateral ventricles, and its cornua. The fourth ventricle has a rich choroid plexus, and the villi are big in the lateral recesses; at the orifices of these infundibula the plexus floats in the fluid of the pool called the cisterna magna. There is a mystery surrounding the lateral recesses of the fourth ventricle. The orifice of each recess is in close relation with the slight depression in the petrosal marking the centre of the circle formed by the posterior semicircular canal; this spot marks the osseous grave of the bulbus endolymphaticus. In some fishes the duct of the swim-bladder is in communication with the ductus endolymphaticus; the communication may be direct, or through the intervention of a chain of ossicles to which classical and picturesque names have been applied—tripus, scaphium, and claustrum. Is this the remains of an old communication between the canal system of the internal ear and the intracerebral collection of fluid?



FIG. 2.—Lateral view of the cerebellum and medulla of a horse showing a cluster of the choroid plexus around the orifice of the lateral recess of the fourth ventricle.

In the fourth ventricle of the horse's brain the choroid plexus forms a conspicuous ring around the orifice of each lateral recess. When the brain is removed from the skull the plexus forms a bunch and conceals the opening, but if the brain be immersed in water the orifice of the recess is easily seen. The plexus at each lateral recess rests upon the roots of origin of the glosso-pharyngeal and vagal nerves.

The orifices of the lateral recesses of the fourth ventricle establish communication between the ventricular cavities of the brain and the general subarachnoid spaces of the brain and spinal cord. The foramen of Magendie, described as existing at the apex of the calamus scriptorius, is, I believe, an artefact. It does not exist in the horse.

Choroid plexuses are highly developed arachnoid tufts and often contain cholesterin. They are glandular organs and secrete cerebro-spinal fluid. The plexus differs from other secreting glands in having its secreting cells on its outer surface. There is convincing experimental proof that most of the cerebro-spinal fluid is secreted above the aqueduct of Sylvius.

My interest in the clinical importance of the choroid plexuses was aroused especially in relation with the plexus of the fourth ventricle. In 1886 J. H. Douty, at that time medical officer at the asylum, Powick, sent me the cerebellum and bulb, obtained from a lad aged 17, who died there after manifesting violent symptoms indicating a tumour of the brain. On examining the parts I found the fourth ventricle crammed with a tangled overgrown choroid plexus, forming a mass as big as a bantam's egg. The lateral recesses were tightly stuffed with villous tufts. The interventricular communications were completely obstructed and the aqueduct of Sylvius much dilated.



FIG. 3.—Microscopic characters of a choroid plexus (Morowoka).

The boy died from an overgrowth of the choroid plexus of the fourth ventricle. In the terms of pathology it was a crowd of papillomas. This is by no means an isolated case, and I have collected several similar examples, and each had a tragic ending. Papillomatous masses in the fourth ventricle illustrate the baneful effects environment imposes even on simple tumours. Parallel conditions occur in the larynx, in the conduits of the urinary organs, and in the bladder. In the brain the danger lies not only in the interruption of the interventricular waterway, but also from the pressure the clumps at the orifices of the lateral recesses exert on the roots of the vagi. It also teaches that complete stoppage of the interventricular communications may be as inimical to life as complete obstruction of both ureters.

PSAMMOMAS.

In 1867 Virchow coined the term "psammoma" (sand tumour) for a tumour peculiar to the meninges of the brain and spinal cord. Pathologists subsequently confirmed this observation, and the energy of surgeons has made them familiar objects in museums. Such tumours resemble in shape and size walnuts, and are occasionally bilateral. They are frequent in relation with the lateral recesses of the fourth ventricle, and set up serious symptoms by pressing on the medulla and the roots of the vagus and other important cranial nerves. As a rule, they have slender connexions with the brain. In a remarkable case described by Strahan in 1883, a soldier had bilateral recess tumours. Savage examined the specimen and reported that the tumours had no attachment to the cerebellum, or pons, or medulla, and were loosely connected with the membranes about them.

The microscopic structure of psammomas supports the idea that they arise from choroid plexuses and arachnoid tufts. The tissue is arranged in whorls, and in the centre of each vortex there is a blood vessel. The idea of a cluster of villi

surrounded by fibrous tissue, and the whole encapsuled by a laminated capsule, is irresistible. When the mass of choroid plexus, or arachnoid tuft, is completely invested and growth arrested, the sequestered epithelium becomes impregnated with cholesterin sand. Hence the picturesque names—psammoma, cholesteatoma, and pearl tumour; some gleam like mother-of-pearl.

The infiltration of these tumours with cholesterin resembles the deposition of lime salts in dead uterine fibroids.

A psammoma infiltrated with cholesterin is a dead tumour, but it rarely dies before it has wrecked the life of the man or woman by damaging brain or spinal cord.

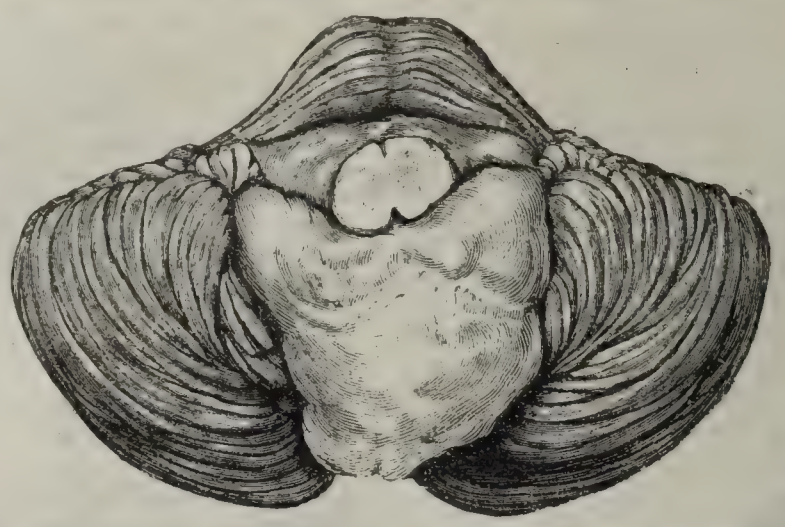


FIG. 4.—Psammoma of the fourth ventricle. From a woman, aged 32. (Museum, Royal College of Surgeons.)

The clinical symptoms produced by these extraordinary tumours sometimes permit of exact localization; often they are complicated tangles, difficult to unravel even with the help, separately or combined, of a neurologist, otologist, ophthalmologist, radiologist, and a physician. In this lecture I am mainly concerned with pathologists.

VILLI IN GENERAL.

Villi of various kinds play a large part in our lives, mainly for good, sometimes for evil. Soon after conception the chorion of the embryo becomes shaggy with exquisite villi, and although the villi are extremely delicate structures they are able to erode the maternal structures with which, in the normal course of events, they come in contact, embed themselves and develop a placenta.

It occasionally happens that they fail to form a placenta, change into peculiar grape-like bodies and transform into what is commonly known as a "hydatid mole." Some years ago obstetricians were startled by the discovery that such erratic changes in the villi sometimes lead to disastrous consequences in fertile women, for these altered villi behave like malignant tumours. They erode blood vessels, colonize the blood, disseminate and quickly cause death. This particular change is now known as chorionic cancer.

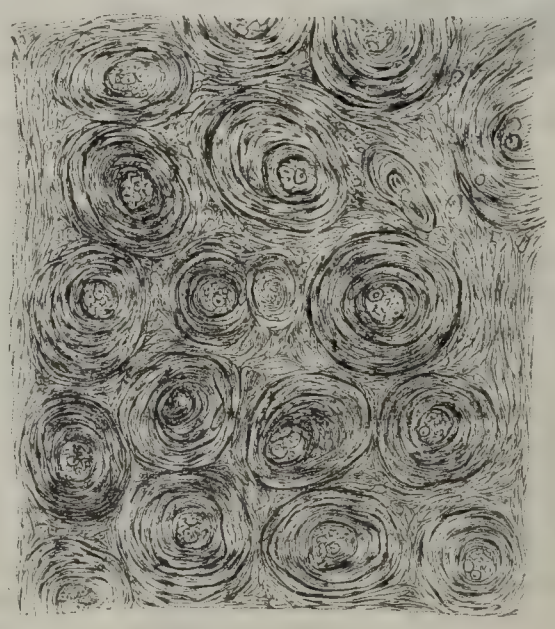


FIG. 5.—Structure of a psammoma.

There is another variety of villus which occurs only under pathological conditions. Occasionally the ovary is occupied by a cyst, usually unilocular, and its walls are covered by crops of papillomas closely resembling, in structure and appearance, the grape-like bodies of hydatid moles. The papillomas are able to erode the cyst wall and project on its outer surface.

There are two varieties of ovarian papillomatous cysts. One is clinically innocent. The other exhibits malignant properties, for it is not only erosive but it recurs locally and disseminates. I have published an account of one which set up secondary deposits in the mediastinum, and the papillomatous buds eroded the sternum and appeared as papillomatous cysts under the skin. When the papillomas erode the walls of the cyst the minute collections of shed epithelium become engrafted on the peritoneum, and warts, sometimes in thousands, arise from them. When examined microscopically such implanted warts are often found to be encapsuled by peritoneal exudation, and thus recall in miniature the encapsuled psammomas of the meninges.

CONCLUSION.

The study of these conditions, I venture to think, helps us to understand the nature of the psammoma. This tumour begins in an overgrown clump of choroid plexus, or arachnoid tufts. The epithelium capping the clumps is bathed in cerebro-spinal fluid, and becomes enclosed in a capsule of plastic exudate which stratifies and organizes. It is known that peritoneal exudation will encapsule sterile foreign bodies, ovarian papillomas, calcified epiploic appendices, intestinal and subserous uterine fibroids, and even a coagulated collection of sterile fluid or blood clot.

The villi of the arachnoid erode bone, as the Pacchionian foramina prove; chorionic villi, normal and abnormal, can penetrate the walls of the uterus, and ovarian papillomas in a favouring environment erode bone.

Surely this is sufficient evidence to justify the removal of psammomas from the miscellaneous group at present labelled endotheliomas.

THE TREATMENT OF GASTRIC ULCER.*

BY

SIR WILLIAM HALE-WHITE, K.B.E., M.D.,

CONSULTING PHYSICIAN TO GUY'S HOSPITAL.

THE treatment of gastric ulcer labours under two great preliminary difficulties. The first is that it is often diagnosed as present when it is not. That this bears on treatment is shown by the very many gastro-enterostomies that have been performed for a supposed ulcer when none has existed; sometimes the gastro-enterostomy has had to be undone later.

Among the conditions the symptoms of which have often been erroneously ascribed to gastric ulcer is disease of the teeth and gums; cure of this may lead to the disappearance of symptoms thought to be due to a gastric ulcer. In the middle of the last century it was believed that young women suffered from haematemesis due to vicarious menstruation, and in one large textbook this was stated less than thirty years ago. When this belief was discarded, young women with dyspepsia and haematemesis were said to have a gastric ulcer, but gradually doubt was thrown on this view. Then, although these young women rarely died of their disease, a few deaths occurred, and no ulcer was discovered. Some surgeons opened the stomach for this bleeding and observed that the blood did not proceed from an ulcer but from a general oozing over a considerable area. To this condition the name "gastrostaxis"[1] has been given. It is commonest in young females, is occasionally seen in young men, and rarely kills. The opinion has been expressed that this condition is one of minute multiple ulcers, but there is evidence of its being a distinct clinical entity. Many cases of gastrostaxis are diagnosed as ulcer, and, as they almost always recover, the treatment of gastric ulcer may be thought to be more successful than it is.

There is no doubt that disease of the appendix, of the gall bladder, and even a stone in the kidney may cause symptoms that are set down erroneously to gastric ulcer. Duodenal ulcer, carcinoma of the stomach, and various functional dyspepsias may be mistaken for it. All these conditions lead to errors of diagnosis sufficiently often to make most opinions expressed as to the results of treatment of no value. Other diseases are occasionally confounded with gastric ulcer, but not frequently enough to invalidate our views as to treatment.

When we consider the individual symptoms of gastric ulcer we also find ourselves in difficulties. Haematemesis may be completely absent, even when the ulcer is large, and is frequently seen in other diseases. The same is true of occult

* Being the introductory remarks at a debate on the treatment of gastric ulcer at the Royal Society of Medicine, February 2nd, 1922.

blood. Some sufferers from ulcer never have pain, many only complain of it at long intervals. It is common enough in various other conditions. Vomiting is an inconstant symptom, indeed very frequent sickness is strongly against the presence of an ulcer. Neither deep nor superficial tenderness are reliable symptoms, and it is generally allowed that an examination of the gastric contents may be of no help. My object is not to imply that the diagnosis of gastric ulcer is impossible—indeed, a skilful clinician can often infer its presence pretty confidently—but to show that the conditions which may be mistaken for it are so numerous and common, and that its own symptoms are so variable, that most statistics as to the success or failure of medical treatment are quite untrustworthy.

Examination by the *x* rays will often reveal an ulcer itself, it will also show the spasm of the gastric muscle (incisura) opposite to it. By this means we may obtain also further indications of the presence of an ulcer, such as hour-glass spasm, diffuse spastic distortion and delay in emptying from pyloric spasm, organic hour-glass stomach from cicatrization of an ulcer, and increased peristalsis from organic pyloric stenosis. Many radiologists supply us with beautiful pictures that are invaluable, but those produced by some are of little use. It may be that an ulcer although present is not demonstrated by the *x* rays, but that does not alter the fact that the only way in which we can be so sure of the existence of an ulcer that the case should be used in statistics employed to estimate the efficacy of medical treatment, is to see the ulcer with the *x* rays. It must be actually seen, for although the various manifestations of spasm are often highly suggestive of its presence, yet each of them may be evident when no ulcer exists. What is sorely needed is a series of cases showing on an *x* ray plate an ulcer, and examined again with the *x* rays six months later to see if the ulcer is healed.

Our second difficulty is concerned with causation. We knew how to treat a few diseases—for example, malaria and syphilis—before the cause was discovered, but generally treatment is imperfect until the cause is apparent. Clinical observations and experimental work indicate that a gastric ulcer is due to the local effect on the stomach of bacteria or toxins produced in another part of the body, and that when the gastric patch damaged by them has been formed the excavation of the ulcer is promoted and its healing retarded by the acidity of the gastric juice. It is probable that the incriminating factor is not always the same and that there are different varieties of ulcer due to different causes. Whether ulcers in human beings are formed by endogenous gastrotoxins is not known, but judging by Bolton's experiments it is possible. Still we do not yet know the cause of a gastric ulcer with anything like the certainty with which we are able to say that a diphtherial ulcer is caused by the diphtheria bacillus or a syphilitic ulcer by the *Spirochaeta pallida*. Putting aside traumatic ulcers and those due to irritant poisons, only twice have I been able to say, even after death, that I really knew the cause of an ulcer; once there were definite tubercles on its peritoneal covering and I saw the beautiful specimen exhibited here by Dr. McNee showing syphilitic spirochaetes in the wall of an ulcer. Nevertheless there is sufficient evidence for the view above mentioned for it to be strongly advisable, in every case of gastric ulcer, to remove any distant possible source of infection, be it in the teeth, appendix, or gall bladder, disease of any of these being commonly associated with gastric ulcer. More rarely such a source may be elsewhere—for example, tonsils or nose.

We are much encouraged in the treatment of ulcers of the stomach by the undoubted fact that they show a natural tendency to spontaneous cure. Those inadvertently caused by operations get well, those produced by experiments on animals heal under appropriate conditions, many seen in the *post-mortem* room show signs of healing, indeed they may be found quite healed; the fact that an ulcer by its cicatrization causes an hour-glass stomach or pyloric stenosis indicates that the attempt at cure has been made.

Perforation from an ulcer is much more common in women than in men; *post-mortem* evidence shows us that in women ulcers are more frequently multiple than in men. Therefore, it appears that we know of two distinct varieties, one multiple in many cases, a frequent cause of perforation and found chiefly in women, usually between the ages of 20 and 30; the other usually presenting itself clinically as a chronic ulcer, but not so often seen to perforate nor so frequently multiple, and found chiefly in men between the ages of 30 and 40. It is very likely that there are subdivisions of each variety depending upon the infective agent. The first is usually spoken of as an acute ulcer, the second as a chronic. This terminology is unfortunate and confusing; the words "acute" and "chronic" merely refer to time. It is believed that some in the group named chronic may begin as acute, but if there are two distinct groups with different characteristics, should the disease be of the first variety it cannot be changed to the second because it has lasted a long while.

Faber of Copenhagen [2] also describes two distinct diseases under the term ulcer of the stomach. The first, corresponding to acute ulcer, is ulcer of the corpus or "woman's ulcer"; it is commonest in young women, is usually situated on or near the lesser curvature; apart from perforation the symptoms are not severe and in many cases unrecognized, the ulcer getting well spontaneously. The second, corresponding to chronic, he calls juxtapyloric ulcer; it is commonest in men, its symptoms are frequently severe and often need surgical interference. But these names, although better than acute and chronic, are far from perfect, for the first variety is not confined to women nor the second to men, nor is the ulcer invariable in its situation in either. It would tend to clear thinking to abolish all these names, which are attempts at sharp cut descriptive distinctions which do not exist, and to call the first commonly spoken of as acute, ulcer A, and the second, ulcer B.

The first usually does not reveal itself on *x*-ray examination, and generally gives only slight symptoms; indeed, there may be none until perforation or severe haemorrhage takes place. Therefore it is often very difficult to diagnose, and especially so because, as we have already seen, the diagnosis of gastric ulcer has many pitfalls. Consequently it is impossible to gather accurate statistics as to the result of treatment. All we can say is that there are a number of patients, especially young women, who would a few years ago have been said to be suffering from a gastric ulcer, but some of whom we now believe owe their symptoms to other conditions already mentioned at the beginning of these remarks; others may have what is called an acute ulcer, a woman's ulcer, or ulcer A.

What shall we do with them? First search for a source of infection and, if possible, remove it; this may lead to the disappearance of the symptoms. If it does not, the outlook is still good, for the natural tendency of this class of ulcer is to heal completely. Put the patient to bed; rest in itself is good, and our diet will not contain enough calories for much work. The food must not be such—for example, meat or meat extractives—as will lead to the secretion of much acid; it must not be mechanically or chemically irritating; it must be capable of passing quickly and easily through the stomach; it must not stimulate this organ to excessive contraction, and must be sufficiently nutritious. I am accustomed to employ milk and raw egg, beaten up in it, in the proportion of two eggs to each pint of milk, giving 7½ fluid ounces of this every two hours during the sixteen hours the patient is awake, and an extra feed if she happens to wake in the night. It is almost always unnecessary to peptonize the milk, but this may be done if the patient does not mind the taste. This gives 1,600 calories a day. Unless she has a distaste for it, she should take some olive oil; she is much more likely to be able to do this if the very best quality is given, that, namely, which comes from the first expression; if necessary, it may be flavoured with a little black coffee; the patient may have it as often as she cares for it in the day, provided it is not nauseating. Its advantages are that it is a food, bland and unirritating. It restrains the secretion of acid and it is a mild aperient. One fluid ounce contains 560 calories. The total daily caloric value of our diet is now about 1,700 calories, which is enough for a patient lying in bed; she does not lose weight on it. Ulcers cannot be expected to heal if the body is under-nourished. Any dietary which leads to considerable loss of weight is wrong. In former days, when rectal feeding was common for gastric ulcer, many patients failed to get well because they were starved severely; it is impossible to prevent this on rectal feeding.

The chief drug should be an alkali to counteract the gastric acidity; sodium bicarbonate is frequently chosen with excellent results, but if it leads to distension lime water or magnesia may be substituted. Not less than 25 grains of bicarbonate three times a day should be given. Tincture of belladonna checks the secretion of acid and excess of gastric movement. A good mixture is sodium bicarbonate gr. 25, tincture of belladonna ♏ 10, bismuth subcarbonate gr. 15, tragacanth powder q.s., with chloroform water to make

one fluid ounce; this may be given thrice daily. If an aperient is required, magnesia is the best. This treatment can generally be easily borne for six weeks; it is very simple. I have used it for many years, and patients do well on it. Several authors change the diet as the case progresses. There is no need for this; we cannot see how the cure is proceeding, and we are more likely to cure and prevent relapses in proportion as we are thorough in treatment. Many diets published are complicated; the simpler they are, the more likely are directions to be obeyed.

Cases are much too often treated in a half-hearted manner. If the doctor decides that the patient ought to be treated as though she had a gastric ulcer, let her be so treated, and not just sent away with a bottle of medicine. We have no means of estimating, in the class we are now considering, how much the stomach was ulcerated when the patient was first seen, nor how the cure is progressing, therefore I would suggest certainly not less than four weeks on the treatment—I always try to get six. Perhaps some of the mildest cases are thus treated too long, but it is better to do this than to treat some for too short a time, so that they fail to get well or relapse. The time spent in bed must vary with the case: four weeks may be desirable, but often it is well, earlier than this, to get the patient up in a chair for part of the day, out of doors if possible, provided she is warm. A little massage to the limbs helps to keep her in good condition. When the period on this diet has come to an end she may by degrees return to normal food, but this should always be plain, without much meat, and she should always masticate thoroughly. Unless perforation takes place these patients do not require the aid of a surgeon.

Although, thanks to *x* rays, chronic ulcer, or ulcer B, is much more easy of diagnosis, the treatment is more difficult and uncertain. We badly want, as I have already said, a series of cases with *x*-ray pictures before and after medical treatment. Should it be decided to try this we employ the same as that just given, but it will have to be more prolonged; it must last for many weeks.

This class of ulcer is more common in hospital than in private practice. Hospital patients cannot afford to be away from work long; surgery is easier in hospital than in private practice, a cure from surgery is quicker and probably more certain than that from medical treatment, and nowadays the risk to life from surgical treatment is slight; therefore surgical treatment, whilst often desirable anyhow, is especially so for hospital patients. Medical treatment should only be undertaken for those in whom the *x* rays do not indicate an ulcer—for they certainly fail to reveal it sometimes—or show that it is small. Its progress should be watched by *x*-ray examinations, say every six weeks; if it is not getting less the surgeon should be consulted, as he should if relapse has occurred after medical treatment, or this fails to benefit the symptoms.

In trying to decide when to adopt surgical treatment we must remember that even if the ulcer heals, pyloric stenosis, hour-glass stomach, or perigastric adhesions may follow, and all require surgery. Perforation, subphrenic abscess, fatal haemorrhage, or transition from a simple to a carcinomatous ulcer may occur at any time before complete healing, and when this has taken place dyspepsia may remain.

We shall hear from surgeons the best way of dealing with these ulcers. Gastro-enterostomy is by no means a universal panacea; it often fails to do any good. On the other hand, in suitable cases—for example, pyloric obstruction—the benefit is so great that if the patient is one for whom this operation is indicated it had better be done at once without waiting for medical treatment.

Perforation requires instant surgery. Every hour's delay greatly increases the risk of death. However severe the haemorrhage in the class of acute ulcer or ulcer A, no attempt should be made to stop it by surgery. Experience has shown that this increases very considerably the risk of death, for patients blanched by bleeding bear operations badly, and further, as the bleeding is often from many points, the surgeon cannot stop it; it can almost always be controlled by nature, aided by medical help. If in the second class haemorrhage is severe, operation should not be undertaken until the patient has recovered from its effects; then the question should be discussed whether it would be wiser for the surgeon to interfere with a view of preventing a second bleeding; certainly after the second he should operate to prevent a third. Even the rare event of death during a profuse haemorrhage should not make the physician blame himself for failing to ask surgical aid; had the patient been operated upon during the bleeding the chances of recovery would have been lessened.

The medical treatment for bleeding from a gastric ulcer of any sort is absolute rest in bed in a quiet room without visitors and enough morphine subcutaneously to keep the sufferer gently under its influence. If the symptoms show that the bleeding has been excessive, 2 grains of calcium chloride dissolved in water should be injected intramuscularly night and morning; this dose definitely increases the coagulability of the blood. No food or drink should be given by the mouth or otherwise for twenty-four hours. At the end of this time, dextrose in solution in tap water, 525 grains to the pint, may be given by the rectum, half a pint two or three times a day. But it is unlikely that all this can be retained and absorbed, so that the patient hardly gets more than 800 calories a day this way. Although this is by far the best rectal feed it is a starvation diet on which it is improbable that ulcers will heal; therefore, in two or three days at latest some milk in hourly or half-hourly feeds should be given by the mouth, and, as rapidly as possible, the patient should be got upon the diet already mentioned as suitable for ulcer of the stomach. I strongly suspect that, in the past, very many cases have been lost from too prolonged rectal feeding and consequent starvation; it must be remembered that these patients are often already under-nourished from severe dyspepsia at the time the bleeding occurs. Transfusion may be of great help, but, in the nature of things, it is unfortunately often impossible to carry it out at short notice.

Drugs given by the mouth are of very little value in arresting gastric bleeding; sometimes it has appeared that a drachm of liquor ferri perchloridi, with an equal amount of glycerin to facilitate swallowing, has stopped the haemorrhage, but as it is so nasty and may cause vomiting I have given up ordering it. During recovery iron is useful, but it should not be given as an acid preparation, nor in a form likely to cause indigestion. Reduced iron, the old-fashioned dialysed iron, or the saccharated carbonate may be prescribed. Levico water in doses of two fluid ounces suits some and the minute quantity of arsenic in it may be helpful.

The treatment of other results of gastric ulcer, such as organic hour-glass stomach, pyloric obstruction, subphrenic abscess, and perigastric adhesions, is entirely surgical. Of these, the treatment of the last is likely to be disappointing, for, although in some cases surgery is brilliantly successful, in others either the adhesions are such that the surgeon cannot give much relief or the patient, usually a woman, has become from long painful suffering such an introspective invalid that her symptoms continue after operation, and she wanders from operation to operation, each of which she welcomes. We should, before opening the abdomen of a woman for chronic disease, remember that a certain number drift into this very unsatisfactory class. I remember one in whom operation led to complete relief of her pain due to adhesions so long as she was in the hospital; when she returned to sympathetic friends the pain came back; we readmitted her to hospital and it soon disappeared. It is not a bad aphorism to say that we should think twice as long before opening the abdomen of a woman for chronic disease as we should before opening that of a man.

Opinions differ widely as to the frequency of syphilitic gastric ulcer; in this country it is regarded as very rare. If in a case of gastric ulcer there is evidence of syphilis, anti-syphilitic treatment should be given, but surgery may be required for some of the results of the ulcer, such as hour-glass contraction. Whether the treatment by intramuscular injection of calcium salts combined with giving parathyroid by the mouth, as suggested by Vines, will prove of benefit time will show. Here also it will be well to watch the progress by occasional *x*-ray examination of the ulcer.

To sum up. Statistics as to the result of medical treatment are at present valueless. Unless it perforates, the acute ulcer or ulcer A requires only medical treatment. Very many of the other class will derive most benefit from surgery, but ulcers should not be operated on when bleeding.

REFERENCES.
[1] *Lancet*, November 3rd, 1906. [2] Ibid., January 14th, 1922.

THE Academy of Military Medicine at Vienna has been converted into a museum for the history of medicine under the direction of Professor Max Neuburger.

THE fourth Italian Congress of Radiology will take place in Bologna on May 9th, 10th, 11th, 1922, at the Orthopaedical Institute Rizzoli, under the presidency of Professor Aristide Busi. In connexion with the Congress an exhibition of radiological apparatus, both Italian and foreign, will be held. Further information may be obtained from the Secretary of the Congress, Dr. Alberto Possati, Villa Verde, Bologna.

GASTRIC SYPHILIS.*

BY

DAVID J. GALLOWAY, M.D., F.R.C.P.EDIN.,

LECTURER ON THE PRACTICE OF MEDICINE, KING EDWARD VII SCHOOL OF MEDICINE, SINGAPORE.

GASTRIC SYPHILIS was described twenty-five years ago by Lancereaux in his *Traité de Syphilis*, and references to it in Continental medical periodicals and textbooks are not infrequent. In medical literature in the English language mention of such a condition has been rare, one very excellent textbook dismissing it in exactly seven words. Recently, however, reports of cases are becoming more frequent, especially from America, and we are driven to one of two conclusions—either that this manifestation of syphilis is becoming more common, or that we are awaking to the fact of the existence of such a pathological entity. My belief is that, while by no means common, it is not the excessive rarity it is commonly assumed to be. There may be reasons for this belief: first, there is the ethnic one, my experience having been wholly among Asiatics; in them syphilis, especially untreated syphilis, is not only more common, but presents other pathological pictures than in Europeans; and, secondly, because my introduction to the disease was of such a nature as to leave in my mind no trace of doubt as to its existence, and to induce an attitude of mind favourable to its discovery when present.

My first case occurred thirty years ago, when I was asked by the medical attendant of a patient to see him in consultation; a diagnosis of pyloric cancer had been made.

CASE I.

The patient was a Straits-born Chinaman, 45 years of age, in easy circumstances. I had frequently met him, and recollected him as a well-built man inclined to stoutness although of active habits. When I saw him I had difficulty in recognizing him. He was emaciated to a degree, with dry wrinkled skin of that lemon tint which we associate with cachexia in Chinese. His features were sharpened, and he had the "facies" of serious illness. His complaint was all of his stomach. About five months previously he entirely lost his appetite, and had vague uneasiness in the region of the stomach. If he forced himself to eat his discomfort was often so great that he had to excite vomiting to obtain relief. Soon the vomiting became spontaneous; lately he had vomited only once or twice in the twenty-four hours, bringing up a large quantity. He complained also greatly of thirst.

Examination in a good light showed a considerable bulging of the abdomen, and in its upper part waves of peristalsis were visible through the parchment-like abdominal walls, but in what direction these were travelling I have no note. By palpation and percussion a much dilated stomach was mapped out, the greater curvature being well below the umbilicus when in the horizontal position and sinking into the pelvis when he sat up. An attempt to elicit a "splash" was too much for the patient, and he was sick, bringing up a large quantity of greyish sour-smelling liquid. After he had rallied a little it was possible to make a much better examination, and a firm mass was felt lying mostly under though somewhat to the outer edge of the right rectus, about the level of the umbilicus. This mass had a considerable degree of movement. The liver and spleen were both palpable. I concurred in the diagnosis already made.

With a view to lessening his discomfort, the stomach was washed out and half a grain of calomel was given every hour for six hours, the idea being to lessen fermentation. He was allowed clear soups only, with sips of hot water, and the calomel was to be continued in doses of one-sixth of a grain every two hours. Ten days later I was asked to see him again, as such changes had taken place as to require a revision of our diagnosis. Since the washing out and dosage with calomel the vomiting had stopped; he seemed to digest what was given him, his appetite was coming back, and there was difficulty in keeping him on the diet prescribed. All this may occur in a case of pyloric cancer, as the result of local treatment at first, but the surprising factor in this case was that the tumour was rapidly disappearing.

On my second visit I found the patient a much altered man. Although still very emaciated, he looked much better, had lost the "facies," there was no bulging in the abdomen, it was, in fact, scaphoid, and it was easy to feel a well-defined thickening, slightly higher and a little more to the right than the position previously occupied by the tumour. The liver and spleen were still enlarged; there was some mercurial stomatitis, but not excessive. To put it briefly, the antisyphilitic treatment was continued, the diet gradually increased, and in a little over four months he had regained his lost weight and was in robust health. He lived for twenty-five years after that, a life saved by a mere accident, and a standing reminder of our limitations. There was no history of syphilis obtainable.

The patient I now show is peculiar in that he is the only European in my series. He came into my hands eighteen months ago, his case having been diagnosed by one medical man as cancer of the stomach, and by another as cancer of the head of the pancreas.

CASE II.

He is not very robust now, but at the time of which I speak he was little more than a skeleton. A peaked swelling stood up in the centre of an area bounded above by the ensiform cartilage, below by the umbilicus, and laterally by the costal margins—an inch below the centre of the epigastrium. His hollow abdomen tended to exaggerate the prominence of the swelling, but viewed horizontally it stood higher than the level of the sternum. It moved with deep inspiration, could be freely palpated without pain, and it lacked the stony hardness which we associate with malignancy. He had been living on soups and milk for months. There was no dilatation of the stomach, no jaundice, and no spinal symptoms, but there was enlargement of both the liver and spleen, which his emaciated state rendered easily palpable. He had a history of syphilis, acquired in South Africa twelve years before and practically untreated, and stigmata of the disease were many. He was given 1 gr. doses of the yellow iodide of mercury three times daily until signs of saturation appeared, and then an intravenous injection of 0.6 gram novarsenobenzol. I left for Australia soon after, enjoining him to have a thorough treatment, but that is all he has had. The improvement worked by even such limited dosage is very great.

There are other than tumour manifestations caused by syphilis, and the case I have chosen to represent a second class is that of a Japanese woman from Taipeng.

CASE III.

Her history was that three months before she lost her appetite, but could still digest soft foods. That ability was early lost and she began to vomit. Gradually a new symptom was added—pain, which was nearly constant, not much aggravated by eating, but very much so by vomiting. From dread of vomiting, and on medical advice, her diet had been restricted to milk, and even that had latterly been returned. In the vomited matter she had lately noticed small clots of blood, and, if the effort had been severe, bright red blood was brought up towards the end of vomiting.

Signs of syphilis were many, and the only objective local sign was a thickening in the epigastrium, a little to the left of the middle line, very tender on manipulation, and there was enlargement of the liver. She was not pregnant. She was much exhausted, and there was a strong acetone smell in the breath. The treatment had been very careful, and much resource had been shown in it.

For twenty-four hours she had nothing but full doses of sodium bicarbonate in hot water, most of which she retained, and then an intravenous injection of "914." The vomiting ceased at once, and after her dread of vomiting had gone she began to take food in quantity. After a course of combined mercury and "914" she returned home cured.

As typical of a third, and by far the most numerous, class of case I have taken that of a Chinese merchant, 53 years of age, a man much above the average both physically and mentally.

CASE IV.

He had contracted syphilis twenty-two years previously, for which he had had no treatment. I had seen him frequently, his usual complaint being a sore mouth, caused by mucous patches, irritated by excessive cigar smoking. A few weeks on iodide and mercury perchloride and the application to the patches of a chromic acid paint cleared this up, and he stopped treatment as soon as comfort was attained. On this occasion, however, it was not the tongue, all his complaint was of his stomach. For over a month he had been losing all desire for food and had trouble in digesting what little he took. His troubles were worst at night so that he had been taking no food after 2 p.m., but even then he had sometimes to induce vomiting before he could sleep, and the vomit was the food he had taken early in the day, little changed.

Examination of the abdomen was not satisfactory as he was rather stout with a thick abdominal wall, but enlargement of both liver and spleen could be made out. Deep pressure in the epigastrium elicited only slight tenderness. The tongue was remarkably clean though still showing thin mucous patches, and the mouth was, generally, in good condition. The urine was free from albumin and sugar, but there was a pronounced indican reaction. He was treated for dyspepsia and both medicines and diet frequently changed because of the entire lack of success with any.

After three weeks of this he was decidedly worse, had lost much weight, and had developed a slight temperature. Anorexia was absolute, but his thirst was great. A trace of sugar was found in the urine and malarial parasites were found in the blood, probably accounting for the temperature. A better examination of the abdomen could now be made, but it resulted in nothing more than the previous one, but the skin had assumed the dry inelastic feel and lemon tint of cachexia. It was while making this examination that it flashed into my mind that I was dealing with a case of syphilis of the stomach, and acting on this, I discarded all other treatment and gave an intravenous injection of novarsenobenzol. The result was almost theatrical, and in a day or two he was able to eat with relish. A course of treatment soon restored him to his normal condition, minus the sore tongue.

You will probably agree with the statement that in its power of mimesis of other diseases syphilis runs hysteria a close second, for however much my description of the cases

* Read before the Malaya Branch, British Medical Association.

may have fallen short, I can assure you that clinically they were very presentable pictures of three distinct gastric conditions—malignant tumour, gastric ulcer, and a subacute gastritis. I was fortunate in getting histories of infection in the majority of my cases—I say fortunate, as you all know the difficulty of obtaining a medical history of any kind from a native, to whom the acquisition of a venereal disease is a mere incident. From the histories and from a consideration of all the collateral circumstances in those from whom no history could be obtained, I was led to the conclusion that all of them were the result of the acquired disease. The youngest, and also the earliest after the date of infection, was a female, 28 years of age, with a clear history of infection six years previously.

The comparative rarity of the definite tumour formation may be judged when I say that in thirty-five years I have encountered it only seven times; all were males, and only one European. In three the symptoms of obstruction with dilatation of the stomach were very definite; in one, the European, there were signs of a partial obstruction, and in the remaining three there were no signs of obstruction whatever. In the European the swelling lay in the middle line, and yet it produced some obstruction as only fluids could pass. This can be explained only on the hypothesis that, by its size, it caused a distortion of the gastric planes and thus obstruction. In the other non-dilated cases the site of the tumour was to the right of the middle line, so that, of the seven cases, six were in the pyloric region.

I am unable to add anything to our knowledge of the pathology of these conditions as I have had no fatal case, but writers on this subject are fairly well agreed as to the changes to be found. These are two—syphilitic endarteritis and gummatous formations. Of the latter three forms are described—small discrete gummata scattered all over the mucous membrane, flat diffuse gummata, and gummatous tumour. I do not think there is much room for doubt that these tumour cases were of the latter variety. Although I have had no death I believe myself justified in stating that the course of these cases would differ little from that of the most acute type of malignant disease. In none, excepting the European, did the history of gastric trouble extend beyond six months. The condition of the dilated cases was grave enough to warrant a belief that they were within measurable distance of their end, and, what with the absolute anorexia, the abeyance of gastric function and the cachexia, I do not think that the course of the non-dilated cases would have been much longer than the dilated. The European dated the beginning of his symptoms back twelve months. Early diagnosis is therefore a desideratum, and to that end it would be a prudent measure, having diagnosed an organic lesion of the stomach, either to confirm or eliminate syphilis by a Wassermann or Noguchi test.

The only symptom which might give a pointer is the nature of the pain. While there do occur cases of malignant disease of the stomach which throughout their course are "silent," they are the exception. Pain in malignant disease is usually a prominent symptom, occurring erratically, radiating widely, always severe, often indeed agonizing, disappearing completely for a time. Pain in gastric syphilis is never at any time pronounced, but it is always there, dull and constant, sometimes better, sometimes worse, especially at night, and limited to a zone extending right round the body a little below the level of the diaphragm. There is of course always the possibility of such cases merging into malignancy, as old syphilitic lesions do in other parts of the body, and it would not surprise me if the case shown to-night should, in its half-treated condition, follow that course.

The second group of cases, those mimetic of gastric ulcer, are not as a rule difficult of diagnosis. Though vomiting is a symptom, the excessive vomiting in the illustrative case is unusual, and unless of spinal origin not easily explained. The symptoms common to all were thickening, sometimes almost amounting to tumour formation, in the epigastrium, tenderness on palpation, vomiting, and the presence of blood in the vomited matter. Taking the three cardinal symptoms of gastric ulcer, pain, vomiting, and haemorrhage, and discussing them seriatim, it is possible to go some distance towards establishing a diagnosis. Pain in gastric ulcer is brought on, or much aggravated by, eating, and is relieved to a corresponding extent by vomiting. It is usually located in one spot, a "point of pain," is intense, and there is generally a point of referred pain, usually in the back. In ulcerated gumma of the stomach, which I take to be the pathological condition, there is a constant substratum of pain, not much aggravated by eating, but greatly so by the effort of vomiting, radiating laterally, and forming a girdle of pain which, as usual, is worse at night. Vomiting is common to both conditions.

Haemorrhage in gastric ulcer is usually copious, coffee-ground, or bright red, according to its time of retention. In gummatous ulcer the blood comes up only with food, is in small clots, and bright red only at the end of a severe effort of vomiting. There is a possibility of a true peptic ulcer developing in a stomach which is the site of syphilitic endarteritis.

The third class—those resembling subacute gastric catarrh—are more common than is generally assumed, at least among Asiatics, and they range from those having only subjective symptoms to these in whom the local condition verges on tumour formation.

Some assistance in diagnosis may be had from test meals, as all the cases in which it was given had a pronounced hypochlorhydria. They are too few to generalize upon, but it is significant that the condition was the same in all.

To summarize briefly, there are two symptoms and three signs. The symptoms are, first, anorexia—I know of no condition in which it is so absolute, excepting in some early cases of malignant disease—and second, the nature of the pain. The signs are, first, enlargement of the liver (and occasionally also of the spleen), with smooth outline, present in three-fourths of all cases; secondly, rapid development of cachexia; and thirdly, stigmata of syphilis.

The real test is the empiric, the therapeutic, and that may be applied both from its negative and positive aspects. It seems to be immaterial what care is expended or with what ingenuity drugs and diets are tried and changed, the result is *nil*. On the other hand, when specific treatment is begun, the change is immediate, often dramatic. In the pre-salvarsan days, from which period the most of my cases are taken, the prescription of choice was calomel ½ grain, with sodium bicarbonate 10 grains, and heavy magnesium carbonate 10 grains, given thrice daily with hot water on an empty stomach, and continued until signs of mercurial saturation appeared. After the first day or two, as soon as mercury began to be absorbed, improvement began and was generally very rapid. There was always the possibility that local action shared in bringing about the improvement, but now that is eliminated and negatived, as intravenous injection of novarsenobenzol acts on the stomach condition immediately.

SOME PRINCIPLES OF AFTER-TREATMENT IN ACUTE ABDOMINAL DISEASE.*

BY

H. W. L. MOLESWORTH, F.R.C.S. ENG.,

FOLKESTONE; LATE SURGICAL REGISTRAR, LONDON HOSPITAL.

THIS paper is founded on the results of trying the more modern methods of after-treatment in a series of just under 300 cases of acute abdominal disorders, on which I have operated in the last two years. During the same period I had the opportunity of observing many cases operated on by others, and, since they were seen, it is impossible to avoid taking them into consideration.

An attempt has been made to follow the results of *post-mortem* examinations and the appearances observed at second operations, and to bring these findings to bear on technique and on after-treatment.

In surgery some older methods are being abandoned for those we believe to be better; but in nearly all conditions it is being increasingly recognized that the operation is but a part of the treatment. It is also becoming manifest that, apart from the particular manipulation called the operation, the great therapeutic agent is rest. It is astounding to realize how little we have advanced in basic principles of treatment since the time of Hilton. With all our elaboration of technique, the almost universal objective of surgery is to provide the patient with an easier task in overcoming the damaging agent.

At the conclusion of an emergency laparotomy the patient is left with a double task. He has to repair the ravages of his disease, and to overcome those portions of the damaging agent which the surgeon has left behind. He has also to repair the injuries inflicted by the surgeon, who, unlike the

* Paper read before the Kent Branch, British Medical Association, at Bromley, December 8th, 1921.

cells and fluids of the body, cannot accomplish his task without inflicting damage.

The dual repair involves many processes—excretion of toxic substances, manufacture of antibodies, multiplication and migration of cells, besides the patient's essential metabolism. Practically the only way in which we can hope to influence any of these processes is by securing for the patient physiological rest. The medical attendant, therefore, when all goes well, holds a purely watching brief. He must be prepared to act solely as a trained observer. He must be familiar with the living pathology of acute abdominal disorders, and must have a constant mental picture of what is going on in "this abdomen at this time." He must be able to diagnose at the earliest possible moment any variation from the normal convalescence. His is the responsible—and often thankless—task of deciding when a surgeon is to be called in again. He has the difficult task of doing nothing amidst the sometimes silent opposition of nurses and relatives. The treatment after operation for an acute abdominal condition is, therefore, rest; but there are certain indications for a departure from this waiting attitude.

Shock and Toxaemia.

Without discussing the genesis of shock in detail, it may safely be said that it is produced by one or more of the following factors, and that, little as we knew about it seven years ago, further knowledge makes its explanation more difficult:

1. Trauma and exposure, especially of abdominal viscera.
2. Mental and emotional impressions; pain or unfelt painful stimuli.
3. Loss of fluid from the body by haemorrhage, vomiting, or diarrhoea.
4. Loss of heat.
5. The absorption of certain poisonous substances, toxins—bacterial and non-bacterial—for example, histamine.

Its salient features are mental torpor, "pinched" facies, cold extremities, usually, but not invariably, a rapid pulse rate, and quite late a falling blood pressure. Shock is usually most severe some hours after the damage is accomplished. A slow pulse is not unusual in a patient otherwise in a state of shock. It is usual to find a patient whose peptic ulcer has perforated with a slow, full pulse, 60 to 70, yet he is cold, clammy, and evidently suffering from severe shock. One would feel more confidence in making the diagnosis from the feel and appearance than from a consideration of the chart. Patients whose blood pressure falls steadily during an operation seem to have but small chance of surviving.

Treatment.

In the absence of exact knowledge of its pathology we are compelled to treat symptoms. Thanks to Crile, we know how we may prevent severe shock. These methods are based on the elimination of nocuous stimuli, maintenance of body heat, and replacement of lost fluid. These, too, are our sheet anchors after shock has been produced. What the patient requires is: *Rest*, mental, physical, and physiological. We can give him this with an adequate dose of morphine. Do not let us withhold this drug, and if it is to be of any use it must be given in full dose. Let the patient's rest and the state of his pupils be the guide to dosage. *Warmth.* The best way is by means of the electric hot-air bath; where this is not available, hot blankets and bottles. The supply of heat should be continued up to but not quite as far as the sweating point. *Fluid.* This serves three purposes: (1) It maintains the volume of the blood; (2) it can supply heat; (3) it diminishes thirst and provides a vehicle for the excretion of toxins. We can give whole blood if a suitable donor is available; it must be given intravenously, and the citrate method or that by means of Kimpton's tube are the most convenient methods. We may give gum solutions (Bayliss), which should be given intravenously. The effect of these is more sustained than the next. We can give various isotonic solutions, of which I think glucose (1 oz. to a pint) is the most satisfactory. Intravenous, subcutaneous, rectal and oral methods are available. If the patient can take fluid by the mouth—and here lies the great virtue of gas and oxygen anaesthesia—it seems infinitely more pleasant and just as satisfactory to give fluid in that way.

The Question of Stimulation.

Drugs such as strychnine, digitalin, ergot, adrenaline, and pituitary extract may all have a pressor effect on the vasomotor system. All available evidence goes to show that this effect is transitory, and is succeeded by a fall to a lower blood pressure than existed before the administration. It is therefore inadvisable to use them in the treatment of shock.

Posture.

Raising the foot of the bed and bandaging the extremities should aid the circulation of blood in the vital centres. Practically the position may do good in severe shock and can do no harm. It is, however, very rare for a patient to need more than rest as supplied by morphine, and warmth as supplied by hot bottles.

Toxaemia.

In the absence of exact knowledge of the chemistry of the circulating toxins we know of no drug or combination of drugs which can deal with the complex chemical poisons we know toxins to be. It is the patient who must elaborate the drugs which are required. We think that it is the spleen, the liver, and the endocrine system which are concerned with antitoxin formation; but we cannot give any orders to these viscera. What we can do is purely passive. We can supply rest. We can, by reducing protein intake, reduce the exogenous urea formation—again giving rest. We can reduce the work thrown on the excretory organs. We can supply a vehicle for excretion. The indications are therefore to abolish protein intake, to allow rest and sleep, and to give fluid.

General Management of the Case.

All the indications we have so far examined demand rest. Rest and sleep are essentials, and for their attainment comfort is necessary. In many cases we cannot secure comfort without giving morphine, and the indications and contraindications for its use must be discussed. Morphine adds a burden to the excretory organs and lowers their efficiency, it masks symptoms and signs which should be apparent, it makes for diminished intestinal movement, and is said to increase intestinal distension. On the other hand, morphine is very often the only drug which will secure rest and sleep, and the patient who does not rest will very likely die.

The first objection is real and must be faced. It is a disadvantage which I believe is outweighed by its advantages. It is a disadvantage that might be equally urged against the use of anaesthetics. The second objection is also true, and offers the sole contraindication. We must not give morphine while trying to decide for or against a second operation, but the decision should be made quickly. The third objection contains a truth and also a fallacy; morphine diminishes intestinal movements, but I hope to show that this is desirable. It is in cases which present complications, such as obstruction, adhesions, peritonitis, and the like, that the repeated administration of morphine is called for. These conditions will produce distension without morphine. In a straightforward case morphine is not required after the first twenty-four hours. In the first hours a night's sleep works a startling change. Morphine is, nevertheless, indicated if the patient be restless and in pain after twenty-four hours so long as we are confident that further operation is not indicated.

The next thing that makes for comfort is the unrestricted intake of fluid by the mouth. Quantity need never be restricted, but it is wise to let each drink be small until we are sure that vomiting is not being induced by it.

The avoidance of all unnecessary interference with the patient makes for comfort. Enemas, feeding, and injections are particularly disturbing if repeated. Sometimes patients are almost treated to death. As soon as possible let the patient be nursed in the position of greatest comfort. There should be as few dressings as possible, tubes should be removed early, and syringing and all fiddling with the wound avoided. After an operation for appendicitis patients do best in Fowler's position, and on the right side, but they can safely be got out of this somewhat uncomfortable position after forty-eight hours. Good nursing as regards washing, oral cleanliness, and arrangement of bedding and bed rests, adds enormously to comfort. When there is vomiting after the first twenty-four hours the stomach tube is the best way of stopping it; it is uncomfortable, and, if the patient will not co operate, painful; but once a patient has experienced the extraordinary relief of having an empty stomach he will desire its repetition. It is quite frequently a life-saving measure.

Dressings.

A clean case wants dressing when the stitches come out or when for any reason it is desirable to inspect the abdomen.

A suppurating case wants dressing only as often as pus soaks through to the outside of the dressing. Fomentations should be avoided as far as possible. They are apt not to be sterile, and are indicated only where there is a spreading cellulitis of the abdominal wall which we desire to localize as an abscess which can be drained.

Drainage.

In this connexion facts oppose much that is traditional. It is possible to drain the whole peritoneum for but a short time —about twenty-four hours. Experimental work and numerous necropsies show that any foreign body, such as a drainage tube, is isolated by plastic lymph adhesions within a very few hours. This statement is true for a dying individual; it is likely to be even more true for one who is going to survive his infection.

The foreign body, having been shut off by the above-mentioned layer of lymph, continues to drain the sinus it has produced for itself, and to drain this sinus only (Fig. 1). The discharge soon ceases once the offending tube is removed. Sometimes in removing the tube a portion of the barrier is torn; a gush of pus is the result (Fig. 1). The drainage tube is therefore useless after the first twenty-four hours (approximately). It is also dangerous; I refer only to that portion which projects into the peritoneum: the barrier of lymph is invaded by cells which convert it into granulation tissue. The granulation tissue becomes young fibrous tissue; eventually it contracts and becomes mature fibrous tissue. I have thus traced the genealogy of a fibrous band of adhesions. The longer the tube is left, the more complete is the evolution towards fibrous tissue and the denser the resulting band. In peritonitis the evolution towards true fibrous tissue (permanent) seems to have three common sites where it progresses to completion. These are: the vicinity of drainage tubes, of a residual abscess, or of traumatism or blood clot—for example, scar of uterine stump. I will quote three illustrative cases.

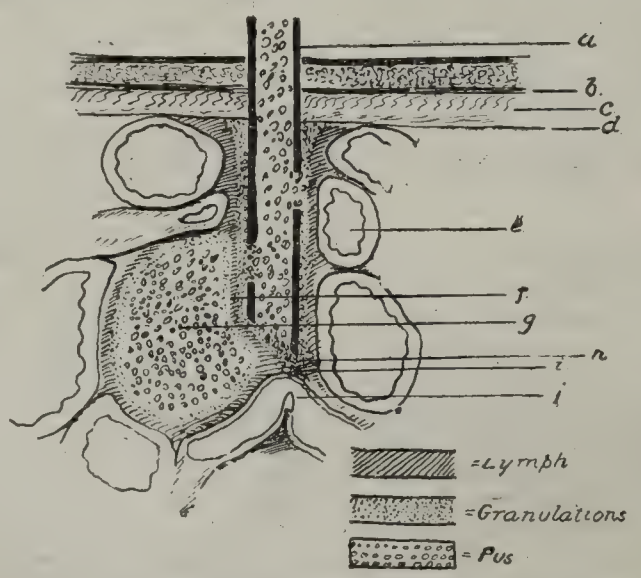


FIG. 1.—*a*, Tube; *b*, aponeurosis; *c*, muscle; *d*, peritoneum; *e*, gut in section; *f*, barrier of lymph separating abscess from tube; *g*, abscess; *h*, granulations adherent to *i*, damaged gut liable to be obstructed as *h* contracts.

CASE I: *Perforated Duodenal Ulcer.*—S. K., male, 31. Operation twelve hours after perforation. Peritoneum flooded with bile-stained glairy fluid. Perforation closed, and a posterior no-loop gastro-enterostomy was done. Drainage tube through a stab wound above the pubes. The operation took thirty-five minutes, and he left the theatre in good condition. The tube was left in five days. Ten days after operation he developed obstruction. At his second laparotomy the peritoneum was clear of adhesions except in the track of the drainage tube. Here there was a dense, well defined band adherent to and obstructing the small gut. This was divided, and the wound closed. He died twenty-four hours later, and necropsy was refused.

CASE II: *Perforated Duodenal Ulcer.*—F. W. B., male, 40. Operation four days after perforation, which was minute "leaking." There was marked lymph formation over the whole of the right flank. Perforation closed, and a posterior gastro-enterostomy done. Drained, two tubes. He made a good recovery, and was discharged from hospital. Three months later he was readmitted with intestinal obstruction of four days' standing. At operation there were dense adhesions both where the tubes had been and to the abdominal scar, none elsewhere. He died the same night. None of my other cases of perforated peptic ulcers (16) have shown evidence of the formation of adhesions. They have either been closed without drainage or the tubes have been removed within forty-eight hours.

CASE III: *Acute Appendicitis, Diffuse Peritonitis; Operation, Appendicectomy.*—N. B. S., female, 5. Drainage through a suprapubic stab. Tube out in forty-eight hours. Tenth day a second laparotomy on account of intestinal obstruction. Small gut greatly distended and adherent to a small residual abscess on the upper surface of the sigmoid mesentery—remote from the situation of the drainage tube. The rest of the peritoneum was clear of adhesions as far as was seen. Gut was freed and oversewn and the abscess drained for forty-eight hours. She made an uninterrupted recovery.

These three cases illustrate what I have found to be the common sites at which dense adhesions are liable to form. They point strongly to the danger of prolonged drainage.

The essential difference between an abscess cavity in the peritoneal cavity and a generalized peritonitis is that the latter has the power of isolating a foreign body by adhesions. An abscess cavity is lined by granulation tissue which has not got this power. The whole peritoneum, or a really large part of it, cannot become an abscess cavity; the patient dies long before this point is reached.

The whole matter of length of drainage comes therefore to the question how long an inflamed peritoneum can delay its power of isolating a foreign body. The healthy peritoneum isolates the least irritating of foreign bodies in about twelve hours or less. I have never seen a diseased peritoneum which had not done so in twenty-four hours, and I find it very hard to believe that it can be delayed beyond about forty-eight hours. If you believe that this power can be delayed three or four days or longer, then for just so long is prolonged drainage defensible. We really want a pathologist with vast experience to tell us, first, what is the longest time he has seen a tube left in a living patient without its having been shut off, and secondly, what is the average time in cases of diffuse peritonitis. The latter figure should form our routine, the former our maximum, only to be used in desperate cases. To drain longer would be unjustifiable. When there is a localized abscess lined by granulation tissue the case is different; here the tube should be shortened gradually as the abscess collapses. In diffuse peritonitis it should be cut to a length, which is that of the thickness of the abdominal wall, after forty-eight hours.

The next point to be considered turns on the frequency of residual abscesses where drainage is curtailed as to time. It is difficult to determine from so small a number of cases. My own impression from my own and from reading the notes of and seeing other cases treated by more prolonged drainage, is that they are not more frequent; drainage, however prolonged, does not eliminate the risk of residual abscess. The residual abscess is so often remote from where the tube has been that it is difficult to see how any drainage short of "kippering" the patient could eliminate it. The usual fate of a residual abscess is to resolve without interference by the surgeon. The history of appendix abscess as well as recent experience and present doctrine all combine to prove this. It was formerly the fashion to wait until an appendix abscess resolved. Quite 60 per cent. did resolve. After a period of operating on everything it is now recognized almost universally as good practice to wait under certain defined conditions—namely, a history of longer than four days, an improving patient, a palpable decreasing tumour, and when immediate operation can be performed should the improvement not be maintained. This is most emphatically not a doctrine of waiting in the early stages of an attack of appendicitis. Most of the residual abscesses which occur after operation will disappear if the patient is watched under conditions of semi-starvation and rigid non-interference by purges, etc.; but if increasing or if reasonable suspicion exists that it is causing the formation of obstructing bands, it should be appropriately drained.

The foregoing remarks apply with equal force to the maintenance of the Fowler position, except that here it is only a comfortless position and not a dangerous complication which is at stake. Any peritoneal exudate which has not gravitated to the pelvis in forty-eight hours must be dealt with *in situ* by the peritoneum. Fortunately for the surgeon, in the majority of cases the peritoneum is capable of dealing effectively with what he leaves behind.

Acute Dilatation of Stomach.

The frequency of this condition is difficult to determine. Cases which reach the stage of exhibiting a complete clinical picture usually die whatever is done for them. On the other hand, we are hardly justified in claiming that every case whose vomiting is cured by gastric lavage is a case of acute dilatation. One is almost justified in saying that the surgeon who never sees a case treats it most efficiently. Pathologically it is a paralytic dilatation of the stomach most commonly occurring after abdominal operations, but sometimes when there is no other disease in the abdomen. Whether a mechanical factor exists after the dilatation has commenced

is a matter of little but academic interest. Clinically, there are repeated large vomits and belchings of wind, relieved temporarily by the passage of a stomach tube, marked distension of the upper abdomen, chiefly to the left of the mid line, and great prostration.

Treatment.—The important thing is that further operation on the stomach is almost uniformly fatal. Repeated gastric lavage, combined with the prone position over a pillow with the head low, saves a few cases. If anaesthetic vomiting persists for more than twenty-four hours, there is a grave suspicion that this condition is commencing, and if there is distension, eructations, and a rapid pulse, no time should be wasted in conjecture. If a stomach tube be passed it will often be found that a patient who is apparently emptying his own stomach every few minutes still has a reserve of 30 to 40 oz. of filthy fluid in it. The stomach should be gently washed out again and again with sodium bicarbonate (60 grains to the pint) through a large funnel, until the wash is clear. If the patient is greatly relieved this should be repeated every four or six hours, until the stomach contents fall to less than 4 oz. on passing the tube. All feeding by the mouth should be stopped and rectal or subcutaneous salines given. The passage of a stomach tube sounds and looks a brutal procedure; but the relief is so great that patients will often demand its repetition. Provided that the tube is soft its passage is safe where a gastro-enterostomy has been done—far safer, in fact, than leaving a dilated stomach.

Ileus Paralyticus.

This is a paralysis of the motor mechanism of the gut which may be due to (*a*) toxaemia, (*b*) over distension, (*c*) trauma and exposure. Most textbook descriptions advise calomel, eserine, pituitrin and saline purges, etc.; croton oil is not often advocated. Ileostomy and caecostomy are also advised.

First, ileus, apart from peritonitis, is rarely found either at second operations or *post mortem*. This means either that it is a rare condition, or that cases of it usually recover; both statements are probably true. The common finding, both at operation and *post mortem*, is a widespread plastic peritonitis, which is a mechanical bar to peristalsis; not that there is localized obstruction complete at any one point and to be relieved by operation, but, as it were, a brake applied over a considerable length of intestine. Cases diagnosed as ileus are therefore more truly described as post-operative peritonitis. All the cases of paralytic distension I have had the opportunity of accurately observing have been in association with peritonitis, usually primary, sometimes secondary to obstruction. When the condition of the small gut is observed during operations for appendicitis, it is in the immediate vicinity of the iliac fossa that the gut is most distended. From a consideration of the usual lie of the gut in the abdomen this means the lower third of the small intestine (Fig. 2). It is justifiable to assume that the gut dilates because it is inflamed, and that the dilated condition is the resting condition in response to inflammation. The pathological picture with which we have to deal in an ordinary case of appendicitis is therefore that the lowest coils of the ileum are inflamed and distended, and the gut progressively approaches the normal as the stomach is approached (Fig. 3). It is rational to attempt to empty this, but normally, and in fact nearly always, it empties itself. The precise action of the various methods we have at our disposal shows that the difficulties are greater than in dilatedstomach.

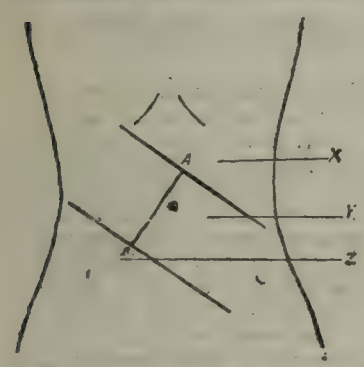


FIG. 2.—A, B, Line of mesentery; X, portion of abdomen in which upper third of small intestine usually lies; Y, portion where middle third usually lies; Z, portion where lower third usually lies.

1. *Direct Emptying of the Dilated Gut by means of a Tube.*—This may be done at the primary operation, but patients recover without this drastic measure too often to make it part of the routine in operations for severe appendicitis. A drainage operation may be performed after the condition has been diagnosed; caecostomy, ileostomy, entero-anastomosis, all have their advocates. My own small experience of these operations is not satisfactory (two cases with two deaths after ileostomy). Theoretically, caecostomy drains the gut below an obstruction. Ileostomy is in theory sound; perhaps I have been unfortunate, but I have never seen it save a life, and I have seen absolute rest save several lives.

2. *Measures which Depend on Stimulating the Gut.*—It must be remembered (Fig. 3) that the paralysed gut is already receiving its normal stimulus—distension—in excess and is not responding. All the measures which stimulate the gut—calomel, salines, castor oil, eserine, pituitary—are bound to act most effectively on the normal upper coils of small intestine. Whether they have any effect on the paralysed gut below is very questionable. Their effect will be to force more fluid into the distended cesspool near the ileo-caecal valve. Those who have used Moynihan's tube will know how impossible it is for force from above to empty coils of distended gut. I therefore believe that any stimulation can only add to the difficulties near the ileo-caecal valve, and until the passage of flatus indicates that the tone of the small intestine is recovering all purgation is absolutely contraindicated. The best way of restoring the tone of the gut is to give it rest by administering morphine and withholding food—the great initiator of peristalsis—until flatus is passed.

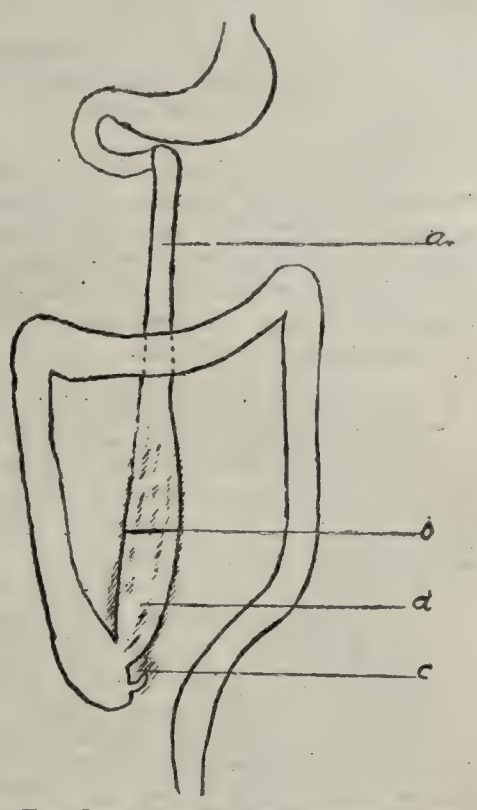


FIG. 3.—*a*, Empty, healthy small gut, readily excitable by food or purgatives; *b*, distended, inflamed, kinked and inexcitable gut; *c*, appendix—commonest primary cause; *d*, fluid faeces—highly toxic if under pressure; left alone, usually no evidence of toxaemia.

Enemas.—An enema can reach the lowest coils of the small gut, and a single effective enema may do good. If it be retained, a second or third can only add to the patient's discomfort. The bowels act because the patient is getting well. He does not get well because his bowels act. If his bowels do not act for a week and he is comfortable there is no occasion to worry. What generally happens when a patient is left alone is that he passes flatus spontaneously about the second or third day. On the fourth or fifth he has a natural call to stool and passes a profuse liquid stool; after that he can have food and a purgative. If he is distended, the effect of a single small turpentine enema may be tried; it may aid him to pass flatus or a motion. Should it be retained or returned unchanged, this must be accepted as an indication that the muscle of the small gut is not yet ready to pass on its contents; he should be left entirely alone except to give morphine if he be restless. The experiment may be repeated after twenty-four hours. Lockhart-Mummery has shown that the so-called high rectal tube, unless passed with the aid of a sigmoidoscope, coils itself up in the rectal ampulla. The cautious use of pituitary extract seems to help a little, but it should never be given in repeated doses, and it acts probably only in the cases that would have recovered without it. The important part of the treatment is to leave the patient alone, give morphine when it is called for, and restrict food without cutting down fluid.

Intestinal Obstruction.

Sometimes it is difficult to decide whether a patient is suffering from paralytic distension due to peritonitis, or from intestinal obstruction due to a band. Organization and contraction of adherent bands of lymph must take place before they can distort the intestine sufficiently to produce obstruction, and this takes six to ten days. This time is an important factor in making a diagnosis.

The cases which show evidence of ileus paralyticus are particularly prone to develop obstruction about this time. The reasons are, I think, that the cause, peritonitis, is present, that it is easy to leave an acute kink in gut which is distended, and there is no peristalsis to straighten out any such kink. It is well to be on the watch in such cases, and to waste no time in exploring again where the slightest confirmatory physical sign exists.

Patients who have a mechanical obstruction nearing completion suffer from attacks of spasmodic colicky pain with short intervals of relief. If this fits in with the time factor the presence of obstruction should be suspected. Visible coils of gut are almost diagnostic of obstruction, and if peristalsis is either visible or audible the diagnosis is no longer in doubt. Vomiting is a late sign of obstruction. It means that the distension has reached the upper coils of gut, It is matter for congratulation if the diagnosis is made and the second operation performed before the patient has vomited.

Lastly, though the results of an enema and the passage of flatus are strong negative evidence that obstruction is not complete, they are not absolutely so. The worst post-appendix obstruction I ever operated on had had a "good result" that morning. In this case the small gut was so distended that it blew out and burst like a bicycle tyre when the abdomen was opened.

Post-operative Peritoneal Infection.

Repeated dark vomits, distension, hiccough, and marked toxaemia, are evidence that the patient, as a whole, and his peritoneum in particular, are failing to cope with the virulence or numbers of the organism. Further operation holds out little prospect of doing any good. There is no one collection of pus that can be effectively drained. The gut is friable and will not bear the gentlest handling, and stitches will not hold if it is torn. The only chance for such patients, and it is a slender one, lies in absolute rest, morphine, and rectal or subcutaneous salines with glucose.

Remittent pyrexia should lead to examination of the abdomen, digital examination of the rectum, and examination of the bases of the lungs. If a residual abscess is diagnosed it is well to wait a little and watch progress unless the patient is going downhill. The majority get smaller and finally resolve. If the abscess gets bigger or the patient deteriorates it must be drained in the appropriate manner. It is best not to await rupture into the rectum or vagina. Such cases do better if deliberately and adequately drained.

A CASE OF PRIMARY CARCINOMA OF THE LUNG.

BY

G. S. HAYNES, M.D., M.R.C.P., AND J. F. GASKELL, M.D., F.R.C.P.,

ADDENBROOKE'S HOSPITAL, CAMBRIDGE.

THIS case was under continuous observation by one of us in the wards of Addenbrooke's Hospital for four months before death, and in the earlier stages simulated tuberculosis with somewhat interesting and rapid alterations in the physical signs. The correct diagnosis was only reached when definite enlargement of glands above the left clavicle was found to have taken place. Owing to the length of time the case was under observation it seemed to us to be worth putting on record.

Primary carcinoma of the lung is an uncommon disease. Hamman[1] states that 105 cases occurred in 46,169 autopsies, a percentage of 0.2; figures given by Ewing[2] show that 1.0 per cent. of primary cancers occur in the lung.

Primary growths are classified in three groups according to their origin: (1) From the bronchial epithelium; (2) from the bronchial mucous glands; (3) from the lung substance. The type of tumour found in group (1) seems to be localized to the larger bronchi and not to spread diffusely, to break down easily and form bronchiectatic cavities, being histologically essentially columnar-celled. Tumours of type (2) are characterized by abundant mucous secretion derived from the special type of cell of which the growth is composed. They also tend to be localized round the larger bronchi. The third group comprises the diffuse cancers with widespread destruction of lung tissue by rapidly spreading infiltration. The type of cell found in these varies, even in different parts of the same tumour, from columnar to flattened epithelium-like cells. The greater mass of cells are usually cubical in shape. The point of origin of tumours in the third group is difficult to determine, as their growth is rapid and diffuse. The cubical type of cell points to an origin either from the bronchioles or from the lining cells of the alveoli, whose shape often becomes cubical in collapsed lung. The matter is, however, of academic importance. Our case falls within the third group, the tumour being diffuse and the preponderating cells being cubical in type.

Clinically, carcinoma of the lung presents itself as a chronic pulmonary inflammatory disease, as a chronic pleurisy with effusion, or as a local patch of permanent consolidation; the usual diagnosis is pulmonary tuberculosis, fibroid phthisis, or unresolved pneumonia. The symptoms which suggest growth are rapid loss of weight and strength, pain, dyspnoea, and peculiarities in the physical signs, which are frequently unilateral. Pain is by no means always present, but severe continuous pain in the absence of pleurisy, or a constant boring pain with indefinite or unusual physical signs, should arouse suspicion. Fever, though always present in some degree, is usually much less than is found in tuberculosis rapidly advancing; the temperature may not rise above normal for days or even weeks. Sputum may be absent for some time, but in the later stages is frequently abundant; it is usually mixed with blood, and has been likened to currant jelly. Persistence of bloody sputum for weeks and months is very suggestive. The pleura is so commonly involved that pleural effusion is one of the chief signs of the condition; it is often smaller in amount than the physical signs would lead one to anticipate, and it is frequently tinged with blood; but the commonest cause of blood-stained pleural effusion is not malignant disease, it is tuberculosis (Horder[3]). Pneumothorax is a not uncommon occurrence in the course of the disease. Most of these points are illustrated in our case.

A. T. R., aged 27, a french polisher, was admitted to Addenbrooke's Hospital, Cambridge, on December 11th, 1920. He complained that for the past three weeks he had been troubled by shortness of breath, cough, and blood-spitting. He had previously had good health; he had, however, been discharged from the army in March, 1918, for deafness following shell concussion; for this disability he was pensioned. At the time of his discharge he had a cough, which disappeared after treatment for a few weeks in hospital.

He was a poorly nourished man, weight 7 st. 9 lb., a little dyspnoeic, not cyanosed. The physical signs were those of pleurisy, with a little effusion and patchy consolidation of the lower lobe of the right lung; the condition was thought to be tuberculous. During the first fortnight in hospital there was some loss in weight, a daily evening rise of temperature to just under 100°, and an increasing pulse rate. He had a little cough, with the daily expectoration of thin blood-stained sputum in which tubercle bacilli could not be found. Towards the end of December the patient had lost 6 lb. in weight, the evening temperature was rising to just over 100°, the pulse rate still increasing and the physical signs extending.

He was now placed on a balcony under open-air conditions, and at the end of three weeks had improved; he had regained 6 lb. in weight, there was little cough or sputum, though this was still blood-tinged; the evening temperature was not over 99° F. for fourteen days. The physical signs were much the same in the right lung; there were only occasional rhonchi in the left.

On January 25th, 1921, well marked signs of pneumothorax were observed; there was no pain or distress and the onset had evidently been insidious. A skiagram showed a right hydro-pneumothorax, and that the heart and aorta were displaced towards the right. A few days later blood-stained fluid to the amount of 4 c.cm. was withdrawn from the right thorax; the fluid was sterile and contained polymorphonuclear and mononuclear cells in equal quantity. In the middle of February the patient, who had become much emaciated, complained of constant gnawing pain in the right hip and thigh; in spite of treatment this continued almost without remission to the end.

The pneumothorax slowly disappeared, leaving the whole of the right side of the chest flat and immobile, dull to percussion, with very feeble breath sounds; the heart was displaced towards the right. Early in March enlargement of the left cervical glands was noted; they were soft, painless, and not tender; they rapidly increased in size, and those on the right side became palpable and visible. Towards the end of the month hoarseness, stridor and oedema of the face commenced and the superficial veins of the upper thorax became engorged. These signs of obstruction increased, and the patient died on April 15th, 1921. During the last eight weeks the temperature was normal or subnormal,

At the necropsy the whole of the right lung was found to be tightly adherent to the thoracic wall; the lobes were indistinguishable, almost the whole lung being involved in a hard white fibrous growth, from the cut surface of which thin white material could be easily scraped. The growth was most dense at the hilum and was found to involve the wall of the bronchus almost up to the bifurcation. The only portion of the lung comparatively normal was the extreme lateral part, which was collapsed. The left lung was entirely free from growth, and was emphysematous and congested. The left pleural cavity contained about a p nt of milky fluid, chylous in nature and probably due to involvement of the thoracic duct; the pleural walls were in a condition of gelatinous oedema. Bronchial and tracheal glands were involved on both sides, forming a continuous mass with the greatly enlarged glands in the neck. The lumen of the superior vena cava was much narrowed by constriction. On the upper surface of the liver were four small nodules of growth; two of these were half an inch across and two less. The posterior abdominal glands were enlarged, but none were more than half an inch in diameter; on section they showed a similar appearance to that of the main growth.

Microscopically the lung substance is replaced by a mass of cubical cells which, though in most places irregularly arranged,

here and there show attempts at a palisade-like arrangement; they contain very little protoplasm. The original structure of the lung is only indicated by still surviving bronchial cartilage belonging to the larger bronchi, and an occasional small group of glands belonging to the bronchial wall. Fairly numerous blood vessels with well-formed walls are present which may be still surviving vessels of the lung. In many regions marked degeneration is taking place with disintegration of nuclei and general loss of staining power. In these areas accumulations of fat are present. Fat is also present in considerable quantities in tissue which appears to be fibrous in nature, rapidly degenerating and undergoing invasion by columns of cells. The nature of the tumour is carcinoma of the cubical-cell type which has probably grown from the terminations of the bronchioles. The secondary nodules in the liver are very similar except that much more fibrous tissue stroma is present, the cells tend to more regular palisade arrangement, and are in places more of a columnar type. The tumour is not sharply marked off from the liver, which is being rapidly invaded at the growing edge. Isolated batches of liver cells can still be identified here in the fibrous stroma; further in the nodule they have become reduced to little masses of bile only.

The chief points of interest in this case are: the age of the patient, 27 years; the duration of symptoms, five months; the similarity to tuberculosis of the lungs—for example, wasting, fever, cough, haemoptysis, pleural effusion, and pneumothorax; the temporary improvement under open-air treatment, due to the elimination of secondary infection; the total absence of pain; the involvement of one lung only, and, finally, the rapid enlargement of the mediastinal and cervical glands. The right lung was extensively involved while the left lung was unaffected, but yet the left cervical glands were considerably more affected than the right, the path of spread being probably along the course of the thoracic duct.

REFERENCES.

[1] *Oxford Medicine*, vol. ii, p. 82, 1921. [2] *Neoplastic Diseases*, Philadelphia, 1920. [3] *Medical Notes*, p. 55; Oxford Medical Publications, 1921.

BLINDNESS AS AN IMMEDIATE SEQUELA OF INFLUENZA: RECOVERY.

BY

STANLEY E. DENYER, C.M.G., M.D.CANTAB., F.R.C.S.ENG., D.P.H.,

ACTING PHYSICIAN, HULL ROYAL INFIRMARY.

THE following case well exemplifies the conditions described by Jeliffe and White as quoted below. The patient, a young woman aged 17, was, during convalescence from influenza, attacked with papillitis, which was accompanied by blindness of rapid onset and frontal and temporal pain. The sight was gradually recovered in the course of three or four weeks. There was no evidence of cerebral tumour or abscess, or of syphilis, and the Wassermann reaction of the cerebro-spinal fluid was negative.

In view of the large number of cases of influenza at present occurring, the case may be of interest, and useful in that it shows that the prognosis of the blindness is good.

A girl, aged 17, was admitted into the Hull Royal Infirmary on January 4th, 1922, under my care, from the ophthalmic surgeon's out-patient department, by Dr. Bainbridge, who sent the patient in for medical treatment with a diagnosis of "papillitis." He reported the eye condition as follows: Pupils widely dilated, but active; no pain on moving eyes by palpation; consensual reaction present; periphery of fundus not much affected; discs swollen; edge blurred, veins dilated.

The history was that three weeks before admission she was taken ill with influenza, and was in bed for one week. There was no cough. A week later her eyes and eyelids hurt her, and "a dark mist came over her eyes." She could not see to read in bad light or good. In the ward we found that she was blind in the right eye, with no perception of light. With the left eye she could see fingers at one foot. On ophthalmoscopic examination there was marked optic neuritis (papillitis) of both eyes. She had a headache (frontal and left temporal region) which had lasted fourteen days. There was no discharge from the ears, and the right and left drums were normal; in the right ear a whisper was heard at seven feet, with the left conversational voice at five feet only. Bone conduction was slightly diminished in the left ear. There was no tenderness over either mastoid, and no discharge from the nose.

Dr. Ritchie Rodger reported that he could not find anything to suggest ear, nose, or throat origin. The heart was not enlarged; the first and second sounds were loud, and there was no bruit. Lungs and abdomen showed nothing abnormal. The urine, specific gravity 1020, was acid, and contained a trace of albumin; the daily amount was thirty-six ounces; urea, eight grains per ounce. Blood pressure, 95 mm. Hg.

Central Nervous System.—No Kernig's sign, but slight tension on hamstrings of both legs; knee-jerks normal; Babinski's sign not present; no ankle clonus; no inco-ordination. Mentally decidedly dull, answers questions slowly.

A swab taken from the nasopharynx, from which there was a slight discharge, on culture showed pneumococci, staphylococci, and *Micrococcus catarrhalis*.

Treatment.

The patient was given a farinaceous diet, and milk and fish. The following mixture was prescribed: Potassium citrate gr. 5, liq. ammon. acet. ♏ 15, hexamine gr. 5, aq. ad 1 oz.; to be taken four times a day and followed by barley water 2 oz. One hot pack to be given.

On January 7th lumbar puncture yielded 15 c.cm. clear cerebro-spinal fluid; it contained a few lymphocytes but no organisms on culture.

January 9th. No headache; can see hand with right eye.

January 10th. Sees fingers with right eye at 2 feet; with left eye at 7 feet. No headache; is taking food well. There was now no tension on hamstrings; no ankle clonus; no anaesthesia; no inco-ordination; knee-jerks normal; optic neuritis was still present (oedema of discs).

January 11th. No headache; vision the same; 10 c.cm. clear cerebro-spinal fluid withdrawn by lumbar puncture was negative to Wassermann test.

January 13th. Blood pressure 95 mm. Hg; optic discs slightly improved. Pneumococcic vaccine 1 million given.

January 20th. Ophthalmic surgeon's report: She can now read ordinary print; optic discs nearly normal. Right fundus, veins dilated, otherwise nearly normal. Left fundus, disc normal. There was no albumin in the urine. Blood pressure, 102 mm. Hg.

January 23rd. Can read without pain or headache; she feels quite well; oedema of legs and albumin have disappeared.

January 27th: She feels quite well, and is getting up. The ophthalmic surgeon reported: Slight swelling of right optic disc and veins moderately dilated. R.V. 6/24; with −1 cyl. axis 90 vision equals 6/18. Left eye: Fundus normal, vision 6/12; emmetropic. In the ward she was found to be able to read ordinary small print quite well, in not too good a light. She stated that she felt nothing wrong with her head.

De Schweinitz, in his *Diseases of the Eye* (ninth edition), says: "In addition to the intracranial causes of papillitis this phenomenon may arise from a general infection." To this form Uhthoff gives the name "infectious optic neuritis." According to this observer it should be differentiated from those cases which are caused by orbital, intra-ocular, or intracranial lesions, and may be caused by any of the following diseases, placed in order of their frequency: Influenza, syphilis, rheumatism, malaria, typhus fever, measles, whooping-cough, diphtheria, polyneuritis, small-pox, beri-beri, erysipelas, scarlet fever, tuberculosis, typhoid fever, gonorrhoea, relapsing fever.

The neuritis may manifest itself as a papillitis or as a retrobulbar neuritis, and Uhthoff thinks that the optic nerve conditions are most apt to arise during the stage of convalescence and are probably due to the action of toxins and not directly due to micro-organisms.

Again, Jeliffe and White, in *Diseases of the Nervous System* (third edition), say: "Acute axial neuritis occurs usually in young adults, 12 to 24 years of age, more particularly women; frontal or temporal headache, or deep pain in orbit, made worse by pressure or by movements of the eyeballs; loss of sight is rapid, reaching a maximum in five days, and often is so severe that the patient can just count fingers at fifteen feet or is blind."

After the acute stage is over there is gradual recovery of sight. For a more detailed account see article by Jeliffe, "Nervous and mental involvements of influenza," *New York Medical Journal*, November, 1918.

I should like to draw attention to the condition of "slight tension on the hamstrings of both legs." I have noticed it several times in cases where I was of the opinion that an infection had become generalized. It is not Kernig's sign, but approaching it. It is probably due to an excess of toxin in the blood; possibly it may be due to organisms in the blood, but this is, I think, unlikely, as cases in which I have noticed it have in some instances cleared up too rapidly. There is no head retraction or even stiffness or pain on twisting the head or neck in any direction. Also if in a case showing it the test be made daily it will be found gradually to get less in cases that are improving.

A patient showing this sign I was asked to see some months ago was a child, aged 6 years, with acute abdominal pain and vomiting, accompanied by diarrhoea and fever. I decided against any operative interference, chiefly on this sign. The abdomen was tender all over and slightly rigid. The fact that there was slight tension on the hamstrings pointed, in my opinion, to a generalized infection. In appendicitis the same condition is sometimes seen, but only in one leg, or it is much more marked in one leg—namely, the right. In the case of this child I thought that there was a slight early

peritonitis, or a condition which is a prelude to that, possibly pneumococcal. The condition cleared up in twenty-four hours on a powder of calomel gr. 1/8, sodium salicylate gr. 2, bismuth carbonate gr. 3. The implication of the nervous system is probably more intense in such infections.

The Lettsomian Lectures

ON

AMOEBIC LIVER ABSCESS.

DELIVERED BEFORE THE MEDICAL SOCIETY OF LONDON

BY

SIR LEONARD ROGERS, C.I.E., M.D., F.R.S.

[*Abstract.*]

LECTURE I.—ETIOLOGY AND PATHOLOGY.

SIR LEONARD ROGERS began by saying that when he received the invitation to deliver the Lettsomian Lectures he cast about in his mind for a subject from among the many diseases which he had been investigating during his twenty-seven years of research in India. In view of the fact that he had been awarded the Fothergillian medal of the society for his work on amoebic diseases, he came to the conclusion that he might suitably deal with amoebic hepatitis, more especially as the late Dr. Sandwith had ably dealt with dysentery in the Lettsomian Lectures of 1914. The present course, therefore, would be complementary to that given by Dr. Sandwith, and would deal with that phase of amoebic disease investigated at Calcutta during a period when the knowledge of hepatitis generally had made great advances. The work on the liver had been one of the most significant episodes in recent tropical medicine, although perhaps less dramatic than some discoveries, because more gradual.

A Review of Progress.

At the beginning of the present century there was a good deal of confusion with regard to the relationship between dysentery and large single tropical liver abscess. The confusion was due to ignorance of the fact that there were two great classes of dysentery which, until recently, had been regarded as one definite disease. Those whose experience was in countries where the bacillary form prevailed denied its relation to liver abscess, while in Egypt and India, where amoebic dysentery was known to be common, observers had noted a relation. It was now understood that the prevailing type of dysentery in temperate climates was bacillary. In John Hunter's account of dysentery in the army in Jamaica in 1788 he did not mention liver abscess, and considered the dysentery to be the same as that described by Sydenham as so prevalent in London in 1779–80. Recent investigation showed that to this day the bacillary type prevailed in Indian gaols, where the amoebic form was comparatively rare. In the *Researches into the Causes, Nature, and Treatment of the More Prevalent Diseases of India and of Warm Climates Generally*, by James Annesley, of the Madras Medical Establishment, published in two volumes by the India Office in 1828, it was clearly stated that liver abscess was secondary to dysentery. It was quite certain from these finely produced and illustrated volumes that amoebic dysentery was common in Madras early in the nineteenth century.

In the first three editions of his classical work on tropical diseases Manson described dysentery as a single entity; he pointed out that the term probably included a group of diseases, but that up to then the claims for different causative agents, whether bacterial or protozoan, were far from having been established. The confusion at the beginning of the present century was well illustrated in the contradictory nature of articles on the subject in the first edition of Allbutt's *System of Medicine*. Altogether, it was not surprising that the amoeba was not accepted as the cause of the disease. Manson, in his early edition, stated that amoebae were present in more than half his cases, but this did not convince him of their causative powers. At the annual meeting of the British Medical Association in 1902 Andrew Duncan, who had then recently retired from the Indian Medical Service, opened a discussion on dysentery, and advanced the view that the amoeba had nothing to do with dysentery in any country as a causative agent.[1] In Duncan's view, large tropical liver abscess did not bear any specific relation to antecedent dysenteries, although small multiple abscesses did. Very similar views were also expressed at this time in a short editorial note in the *Indian Medical Gazette*. In spite of the valuable work of several observers, especially Councilman and Kartulis, medical opinion at this time was against the theory of amoebic causation.

[1] BRITISH MEDICAL JOURNAL, 1902, vol. ii.

Constant Presence of Amoebae.

Sir Leonard Rogers went on to say that he had published his first paper on dysentery in 1902. It was based on two years' research he had conducted in Calcutta between April, 1900, and the end of 1902, making use of all the clinical and *post-mortem* material he could obtain. The first point he had set out to determine was the frequency with which living amoebae might be found in large tropical liver abscess. It was easy to detect the amoebae *post mortem* in the walls by examining scrapings under the microscope, but much more difficult to detect them in the thick pus of such abscesses. In order to get a larger range of cases than was afforded by *post-mortem* examinations he arranged with his surgical colleagues, when they opened a liver abscess, to place some of the thick pus in one sterile test tube, and in another the light scrapings from the wall of the cavity. Out of some 18 cases examined in this way, he found the amoeba in the pus in four, but in the scrapings of the wall he found it in every case except one. In 20 cases examined *post mortem* he again found the amoeba in the wall in every case except one, the exception being an instance in which the abscess had been opened and drained for fourteen days before the patient died. From this he concluded that amoebae were practically invariably present, a fact which he had verified in scores of later cases, the only exceptions being small and encysted abscesses in which the amoebae seemed to have died out.

Usual Sterility as regards Bacteria.

He turned next to the question of the frequency of pus-forming bacteria in large tropical abscess. Out of 24 cases in which cultures were made from the pus taken in sterile test tubes at the time of operation, 15, or 62 per cent., were sterile. The *post-mortem* examinations told the same story. In three out of five unopened abscesses found *post mortem* there were no bacteria. In a later series of observations, out of a large number of consecutive cases he found 86 per cent. sterile when first opened. It was clear that the great majority of such abscesses were free from bacteria that could be cultivated, although few such abscesses remained sterile in a tropical climate after opening and drainage. His conclusion was that not only were amoebae constantly present, but other causal bacterial organisms were constantly absent. This indicated that *Entamoeba histolytica* was the causative organism in these cases of liver abscess.

The Antecedent Dysentery.

The striking fact had not been explained that the proportion of cases of liver abscess to cases of dysentery in the British Army in India was 1 to 5 or 1 to 7, while in Indian gaols it was one to several hundred. But if the prevailing type of dysentery was amoebic in the army, and bacillary in the gaols, the problem was solved; this was now known to be the case.

It had next to be determined what was the frequency of association between any form of dysentery and liver abscess. Among the cases of liver abscess which he had tabulated for the purpose of the lecture, in four there was no history of dysentery, but even in these, dysenteric ulcers were found *post mortem*, proving that the absence of clinical signs of previous dysentery did not exclude the presence of amoebic ulcers in the large bowel. In three other cases there had been a history of dysentery and no ulcers or scars were found *post mortem*, but only slight congestion; thus it was possible for antecedent dysentery to clear up without necessarily involving any ulceration before the patient died of liver abscess. In order to get accurate data it was essential to obtain both clinical and *post-mortem* records, and even then it was possible that a mild attack of bowel trouble might be overlooked clinically and leave no *post-mortem* evidences. The cases shown in his tables in which the clinical and *post-mortem* records were complete numbered 24, and in 23 (or over 95 per cent.) there were either clinical or *post-mortem* evidences of dysentery, while in 14 (or 58 per cent.) there were *both* clinical and *post-mortem* evidences. On adding certain older records which clinically were less complete, only

9 per cent. failed to give a positive result either clinically or *post mortem*. He concluded that amoebic dysenteric ulceration of the large bowel, often of a latent nature, always preceded the formation of large tropical liver abscess.

It was clear that the conclusions he had reached at the end of the first two years of his investigation were diametrically opposed to those of the distinguished tropical physician who opened the debate on dysentery at the annual meeting of the British Medical Association in 1902. In the following year, while at home on leave, he met Andrew Duncan, who with the utmost candour volunteered the statement that the paper recording these new investigations had completely upset almost everything he had said in that opening address. The paper, however, contained one error, corrected the following year, in its assumption that small multiple abscesses belonged to another category in respect to causation. Whatever the explanation might be, he was now certain that the majority of small multiple liver abscesses seen in Calcutta were amoebic in origin.

In 1913 he was able to supplement the data recorded in 1902 by an analysis of the results of forty-five necropsies which he had performed during the previous ten years; there was evidence of active amoebic dysentery in 78 per cent., and scars of former dysenteric lesions in 20 per cent. more, leaving only one case with no *post-mortem* evidence of dysentery. He recorded at the same time an analysis of careful clinical records of fifty cases of liver abscess during nine years, with a history of dysentery in 72 per cent., and of diarrhoea in 14 per cent., leaving only 14 per cent. with no history of lesions of the bowels.

Lesions of the Bowel in Relation to Type of Liver Abscess.

A close examination of the distribution and extent of the bowel lesions in various conditions threw much light upon this matter. The positions and extent of the lesions, from the lower ileum down to the rectum, as found in 96 consecutive *post-mortem* examinations, had been examined. In a number of cases of acute bacillary dysentery of less than one month's duration the whole length of the bowel was affected, including generally the lower part of the ileum. In a group of chronic bacillary dysenteries of a month or more in duration all except one showed the lesions limited to the lower half or two-thirds of the bowel. In acute amoebic dysentery, instead of continuous lesions, scattered lesions were found; they were very extensive, the large patches being met with throughout the greater length of the bowel. In chronic cases the lesions were less extensive. In five cases liver abscesses were present—in four of the five multiple small abscesses, and in the other a single small abscess; in all these cases the bowel lesions were extensive. In only one case—a case unusual in its clinical features—was there an exception to the rule that in multiple small liver abscesses there were very extensive lesions through nearly the whole length of the bowel. In cases of large liver abscess the lesions were less extensive; in some cases they were limited to the caecum, but in others they extended down to the ascending colon. In 13 out of 36 cases the lesions were absolutely limited to the caecum, and in 23 they were within narrow limits or there were only scars of old lesions which would not have given rise to any clinical symptoms of dysentery. In all these cases the dysentery was absolutely latent. Thus there was forthcoming an explanation of the former great stumbling-block to the recognition of tropical liver abscess as always secondary to dysentery—namely, the absence of clinical signs of that disease in a large number of patients suffering from the liver affection.

The black sloughs passed in the stools were absolutely diagnostic of amoebic dysentery, but beyond the ulcers the bowel in these cases was healthy. The appearance was very different in bacillary dysentery where, in the whole length of the bowel, there was no healthy part left.

Large Single Liver Abscess.

He dealt next with the method of formation of large single liver abscess. It was generally agreed that amoebae passed from the bowel wall to the liver through the portal vein. The earliest stage of small multiple abscesses of the liver was inflammation with clotting in the branches of the portal vein, which was followed by softening of the thin walls of the blood vessels and extension of the inflammatory process to the liver parenchyma. He believed the addition of a bacillary infection greatly assisted the breaking down of the vein walls. When multiple small abscesses arose in the liver as the result of a pure amoebic infection secondary to sloughing dysentery, the protozoan organisms had reached the liver in enormous numbers. The question of how one or more large abscesses developed as a result of portal infection raised other considerations. In the early stage of his work he was inclined to think that the frequency with which large abscesses occurred in the upper part of the liver, and the fact that in acute amoebic dysentery the protozoan organism frequently penetrated the whole thickness of the bowel wall, suggested the possibility that it passed in the lymph flow. It was, however, possible for liver abscess to be formed by direct extension from the bowel to the liver. Examination of microscopical sections of the walls convinced him that the abscesses were really formed within the liver, and not between it and the diaphragm. It appeared that the abscess, having once originated, developed within the organ. The single liver abscesses were seldom found in sloughing dysentery. It was evident that the development of large single abscesses as a class could not be explained save as due to infection from the bowel through the portal vein. It was necessary, however, to look to another and intermediate stage to explain the ultimate development of the fibrous-walled large abscess, which, however, was not very commonly met with. In the case of large ragged cavities without well-defined walls there was no definite limiting membrane, but the tissues around the irregular cavity were infiltrated by pus. Examination of microscopical sections demonstrated that the process was extending from the central cavity along the veins in which softening and clotting were taking place; in such cases numerous amoebae were present, but in the great majority of cases no bacteria. It was clear that amoebae might reach the liver in large numbers without suppuration in the organ necessarily taking place.

Taking all these facts into consideration, he supposed that in slight or latent amoebic colitis, from which large amoebic abscesses usually resulted, comparatively few amoebae reached the liver, the vast majority undergoing degeneration in the vessels without being able to escape unless there was damage to the walls. In that case only a presuppurative amoebic hepatitis occurred. When the amoebae happened to reach some part of the liver in such numbers as to cause clotting of several contiguous small veins so as to interfere with the blood supply, and produce simple necrosis, allowing the escape of the amoebae into the soft tissues, an abscess resulted. The abscess continued to develop in concentric circles until, if the patient survived long enough, a fibrous capsule made its appearance, and the process then only went on by expansion of the cavity, without further destruction of tissue. Almost all forms of liver abscess were due to pure amoebic infections from the bowel, through the portal vein; the number of amoebae varied. Whether or not an amoebic hepatitis went on to suppuration must often be in the balance, so that such causes as chills and alcoholism might easily precipitate the formation of an abscess, and early treatment avert it. Amoebic liver abscess was now much more easily preventable and curable than it was a few years ago, and future investigators would have little chance of obtaining such material as he had had in past years.

"My conclusions, which are now in agreement with those of more recent observers too numerous to mention, may be briefly summarized. The affection formerly known as tropical liver abscess, both in the acute multiple small form and the chronic large single form, is produced by infection through the portal vein with the *Entamoeba histolytica*, only occasionally assisted by bacteria, and is always secondary to antecedent amoebic ulceration of the large bowel, which is clinically active and acute in the multiple variety, but usually completely latent clinically in the more chronic single form, while such abscesses never occur in relation to bacillary dysentery. These conclusions are a great advance on the view generally accepted two decades ago."

THE fifth Cuban National Medical Congress, held at Havana, was attended by more than 1,500 medical practitioners. It was divided into eight sections, of which five were devoted to medical and surgical subjects, one to pharmacy, one to odontology, and one to veterinary medicine.

IT is announced that the sum of 1,320,000 dollars is to be available from the Sterling funds for the erection of a new building for the Yale medical school, to be known as the Sterling Hall of Medicine. This building will contain a library, a lecture hall, administrative offices, rooms for the teaching staff, and laboratories, with an animal house and a power house adjoining.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

DIAGNOSIS OF INCIPIENT ACUTE APPENDICITIS.

APART from the general desirability of making an early and accurate diagnosis, it became a matter of military necessity in 1917 and 1918 to avoid operation in non-urgent conditions other than wound casualties. The problem had become more acute in the summer and autumn of 1918, owing to the influx of cases of epidemic influenza of the abdominal type, which, in the early stages, presented signs simulating appendicitis. In the course of many observations in a general hospital of the British Expeditionary Force, I came to rely on a sign which I believe to be unequivocal; if present, operation is unavoidable.

This sign is observed, of course, only in the earliest stage: the patient complains of abdominal pain, particularly referred to the epigastrium; he looks ill and is generally vomiting; the decubitus is dorsal. Examination of the abdomen reveals, in the upper left epigastric region, skin hyperaesthesia and intense tenderness, with tonicity of the left half of the uppermost segment of the left rectus abdominis muscle. On the contrary, there is no tenderness nor muscle rigidity over the right iliac fossa. Three or four hours later, there is a commencement of slight pain, tenderness and rigidity in the region usually described, if one elects to wait so long.

On opening the abdomen one finds a process of great omentum approaching, applied to, or actually wrapped around, an acutely inflamed appendix, according to the time which has elapsed since the appearance of the epigastric distress. On account of this phenomenon I have been accustomed to speak of the epigastric syndrome as the "collision-mat sign"—a naval analogy, the omentum being applied to the threatened perforation much as a collision mat is placed over a leak in a warship's hull.

Whether or not this sign occurs in every case of acute appendicitis I cannot say, but I am persuaded that it does become manifest in every case calling for early operation, which, after all, is the practical point. Furthermore, in cases where operation for one reason or another had been delayed until gangrene of the appendix had set in, a history of nausea and vomiting, together with epigastric pain, was generally elicited.

As to the etiology, I formed at first a rough working hypothesis that sickness and pain were due to the drag on the stomach produced by the rapid migration of the great omentum into the right iliac fossa, but it is much more probable that these symptoms are to be explained by pain referred along the great omentum to the stomach in virtue of the development of the great omentum from the primitive mesogaster.

This sign is seldom, if ever, to be noted in patients admitted to a civil hospital, since admission is rarely sought in the earliest stage; its utility, therefore, is that it assists the usual medical attendant to recognize, at the very beginning, a case of acute appendicitis which will certainly call for operative measures, and that as speedily as possible.

ROBERT M. ROWE, M.A., M.D., F.R.C.S.Eng.,
Surgeon, Out patient Department, French Hospital, London.

EARLY SYPHILIS OF THE PROSTATE.

ACCORDING to Loyd Thompson[1] only 24 cases supposed to be syphilis of the prostate have been recorded in the literature, and of these only 12 are accepted as authentic. Of the 12 cases only two relate to an implication in the early stage—one was due to a direct extension from a primary sore which had become phagedaenic (Ricord), and the other was possibly a genuine metastatic infection, though the description of the case is meagre (Portillo).

The case here recorded is unique because the patient has never had gonorrhoea or even sexual connexion. In most of the cases of a gummatous prostatitis it is extremely difficult to rule out a possible gonococcal lesion. The patient, a man aged 28, presented himself with a hypertrophic chancre over the right parietal bone. The infection was conveyed, in my opinion, from wearing a hired wig. The body was covered with a diffuse lenticular syphilide, and the patient complained of bad headaches and pains in the bones and joints, and he was much troubled with acute indigestion. I timed the infection to have occurred fourteen weeks before I first saw him.

On asking him to pass water I found that a bead or two of pus appeared with the last few drops, a condition the patient had noticed for the previous fortnight. There was never any blood or meatal discharge, but the urine contained threads and the patient always had the desire to micturate again when he had just finished. On examining the urethra I found acute inflammation of the prostatic portion, which was most marked around the open prostatic ducts. The mucous membrane bled easily. Rectal examination revealed the right lobe of the prostate swollen to the size of a hen's egg. The outline was uneven, the consistency was irregular, being soft in some places and hard in others; in fact a hard band seemed to cut the lobe longitudinally into two soft masses.

Under four intravenous injections of arseno-benzene both the urethra and prostate were restored to their normal condition.

London, W. J. E. R. MCDONAGH, F.R.C.S.

[1] *Amer. Journ. of Syphilis*, 1920, iv, 323.

INFLUENZA (?) ACCOMPANIED BY CONVULSION.

AT 3 a.m. on January 26th, 1922, I was called to see F. T., a man aged 38, and found him propped up in bed, unconscious. The history was that he had never had any serious illness, but that for the last three days he had suffered from a cold, for which he did not go to bed or give up at all as his wife was expecting to be confined. He had gone to sleep as usual the previous evening; on waking at 2 a.m. his wife found his face and chest wet with cold sweat, and he did not answer when she spoke to him. He seemed to be choking; with the help of friends he was raised to a sitting position in bed, which eased the breathing. When I saw him his limbs were rigid, the arms were flexed at the elbow, and the fingers bent into the palms of the hands. The pupils were equal and slightly dilated, the eyeballs rolling upwards on raising the upper eyelid. There was slight gritting of the teeth, but the tongue was not bitten; respirations were slow but not stertorous, and the face was cyanosed; the temperature was normal. He remained in this condition for four hours, when the rigidity gradually passed off and consciousness returned. At 10 a.m. the only sign of meningeal irritation—supposing that to be the pathological factor—was a certain amount of slowness in speech and perception. There was no paralysis, and recovery was rapid and complete.

Incidentally the shock caused his wife to be so deaf for a time that she did not hear unless spoken to very loudly, but this condition passed off in six hours. After the shock she received at 2 a.m. she found no more signs of life in the foetus *in utero*, and on January 29th was delivered of a full-grown child which had every appearance of having been dead for a few days.

Cinderford, Glos. J. N. BEADLES, M.B., B.S.Lond.

MALLET FINGER.

DR. LAIRD'S excellent radiographs of a case of "mallet finger" in the BRITISH MEDICAL JOURNAL of January 21st, illustrates a fairly common if not usual condition in this injury. I have only seen one case in which the small fragment of bone was not present. I have shown several similar radiographs at the Reading Pathological Society during the last ten years. I think Dr. Laird will find the characteristic detachment of a fragment of bone, where the insertion of the exterior tendon is torn off the phalanx, is well known to radiologists and surgeons.

Some years ago I gave Mr. Warren Low a similar radiograph; the injury at that time was well known to him, and he wanted a radiograph of it. The way this injury was produced in Dr. Laird's case was unusual and interesting.

Commonly a blow at the end of the finger, as from striking a door in the dark with the fingers extended, is the cause of the trouble. When not recognized and treated it produces a characteristic deformity.

Reading. W. J. FOSTER, F.R.C.S.

THE Cox-Cavendish Electrical Company has issued a new edition of its catalogue of x-ray and electro-medical apparatus. It fills 340 pages, is freely illustrated, and divided into sections. Special attention is directed to the "Plurostat" earth-free universal apparatus. Inspection of the volume affords a good indication of the many activities of the company. A copy will, we are informed, be forwarded to readers of this JOURNAL on application to the company, which has show-rooms at 105, Great Portland Street, London, W.1, and 15, Hanover Street, Edinburgh.

Reports of Societies.

THE TREATMENT OF GASTRIC ULCER.

AT a meeting of the Royal Society of Medicine on February 2nd a discussion took place on the treatment of gastric ulcer, following upon the discussion on diagnosis held a week previously and reported in the last issue. The chair was taken by Dr. G. NEWTON PITT, and the discussion was opened by Sir W. HALE-WHITE, whose paper is printed at page 214.

Sir BERKELEY MOYNIHAN, who followed, said that with almost everything which had been advanced by Sir William Hale-White he found himself in complete agreement. He would say frankly that there was no clinician in the world who, basing his opinion upon clinical evidences alone, could say with confidence that a gastric ulcer was present. By only two methods could a certain diagnosis of gastric ulcer be made: one by the radiographer inspecting the stomach after a bismuth meal, the other by the surgeon on removing the curtain of the anterior abdominal wall. By taking such a standpoint all statistics relating to gastric ulcer were vitiated, because so many other conditions had been called gastric ulcer and had been treated medically or surgically for that condition. Records of hundreds of cases were published by physicians in favour of a certain line of medical treatment, but unless there was correct diagnosis to start with, no reliance could be placed upon their conclusions. Mistakes in diagnosis upset considerably the work of the surgeon. He was sorry to say that there were still surgeons who operated upon the diagnosis of a physician. Unless the diagnosis was confirmed at the time the operation was done no operation dealing directly with the stomach was permissible. The disasters which occurred were attributed to the inefficiency of the surgical technique for dealing with gastric ulcer; this was quite true if the "gastric ulcer" was situated in the colon or the gall bladder, or in the uterus where a foetus was developing! It should be clear that when gastric ulcer was spoken of what was meant was a definite structural lesion having its origin and location in the stomach. Such a gastric ulcer ought to be cured by medical treatment. It was because medical treatment was so disastrously inefficient in this and every country that the surgeon was called in; partly also because the rich would not bother to spend the time required for the treatment, and the poor did not have accommodation, so that out-patients were given bottles of medicine and then went home and ate pickled herrings. If serious and protracted medical treatment were carried out and given its fair chance gastric ulcers should be healed.

When reluctantly the surgeon came to operate—reluctantly because every surgeon was a physician engaged in surgical practice, and would rather heal his patients without surgery if he could—he had a considerable choice of procedures. When there were many alternative procedures in surgery it meant that none of them reached the standard of immediate success and protracted relief of symptoms. The history of the surgical treatment of gastric ulcer was a little bewildering. It began with the performance of gastro-enterostomy in cases of obstructive lesion. The operation acted like a charm. Everybody had seen veritable resurrections. This acted as a decoy for some other dyspeptic. If this other dyspeptic was operated on in the absence of gastric ulcer he—he used the masculine pronoun because gastric ulcer was twice as frequent in men as in women—became one of the disastrous cases of which he had just spoken. If operation were performed in cases in which the lesion did not form an obstruction the immediate results were sometimes good, sometimes indifferent, sometimes bad. They were good in those cases in which there was a pyloric spasm, causing six-hour retention of food. Gastro-enterostomy was really a mechanical operation, relieving the retention from which the patient was suffering. The after-history of patients on whom gastro-enterostomy was done showed that a certain number got well, others complained of this, that, and the other, or came back for a second operation. He had seen new gastric ulcers develop and perforate in two patients on whom gastro-enterostomy had previously been performed. When these various unfavourable factors were assessed—when it was remembered that gastro-enterostomy frequently did not give permanent relief, that a gastric ulcer could develop subsequently and perforate, that gastric ulcer might develop into carcinoma, and that gastro-jejunal ulcer followed in a certain percentage of cases—it would be seen that the mortality of gastro-enterostomy for gastric ulcer made the operation four or five times as dangerous as gastrectomy. Dr. Mayo's son-in-law, Dr. Balfour, of Rochester, Minnesota, U.S.A., had introduced a method of cauterization of the ulcer and gastro enterostomy. It was an excellent operation, but the mortality was as great as that of gastrectomy.

To cut a long story short, he himself came to the conclusion that the only operation which was worth while in the great majority of cases was partial gastrectomy. Even if the ulcer was small and away from the pylorus, he still practised that method. In only one case out of 118 had he been required to do a secondary operation, and that was when he had left a long loop between the stomach and jejunum. Now he swept the jejunum straight across, just below the duodeno-jejunal flexure, leaving no loop, and put the proximal part of the jejunum up against the greater curvature of the stomach. The only case which could be called unsuccessful was that of a girl, with an ulcer on the lesser curvature of the stomach, and from whose right iliac fossa he had removed a mass of tuberculous glands. That girl had attacks of diarrhoea, which might be due to the operation, but on the other hand might be due to tuberculous disease of the intestine. When gastrectomy was performed, there was an end of the matter; the surgeon never saw his patient again, except when he came to express his gratitude. He had come most confidently to the conclusion that in the vast majority of cases, whenever possible, a gastrectomy should be done, but it should be done only after the most careful preparation, and with infinite care and gentleness and with the most painstaking attention to detail. There was no need to hurry over it, and when it was finished the surgeon had the pleasant feeling that it was impossible for anything to go wrong. He gave to the Cambridge Meeting of the British Medical Association in July, 1920, his statistics up to that time. He had then done 80 gastrectomies for gastric ulcer and had had 2 deaths; he had now done 118, and the deaths still only numbered 2. At Cambridge he reported 563 operations for duodenal ulcer, with 3 deaths; he had now done 651, with no more deaths. He was beginning to get rather anxious about every patient who came in, wondering when the average mortality would assert itself. He repeated that no pre-operative diagnosis could be held valid. If the ulcer was really there it must be dealt with radically. The immediate recovery after this operation was extremely satisfactory; the ultimate recovery was secured in a way which no other surgical procedure could guarantee.

Mr. JAMES SHERREN thought that while it was difficult to draw a line between acute and chronic ulcer, it was convenient to retain those terms. The acute gastric ulcer, unless it went on to perforation, never required direct operative treatment of the stomach. Chronic ulcer—by which he meant an ulcer more often met with in men than in women, which recurred from time to time, leaving the patient perfectly well in the intervals—in a large proportion of cases at any rate in hospital practice, did require treatment by operation. That acute ulcers, which were usually multiple, resulted from infection he believed to be proved, and if the cause could be removed and suitable medical treatment adopted, the ulcer healed, and the patient remained well without surgical interference. If relapses occurred after efficient medical treatment, including rest in bed, the case should be considered surgically, and, of course, on perforation, immediate surgical measures were called for, but the procedure was simple, the opening should be closed; gastro-jejunostomy had no place in the treatment of acute ulcer of the stomach. An ulcer which perforated, however, was as a rule chronic. Among 300 cases of perforated gastric ulcer at the London Hospital treated by operation, only 87 were of the acute variety; the large majority were chronic ulcers which spread rapidly. When an ulcer reached its chronic stage he was not convinced of its curability apart from operation. The fact that a chronic ulcer was undoubtedly a precancerous condition should be borne in mind, and operation should include removal of the ulcer in some way, in view of its possible malignancy. He appreciated Balfour's method of destruction with the cautery and gastro-enterostomy in the case of small free ulcers; the majority of others, he thought, were best treated by partial gastrectomy. The occurrence of stricture in the stomach or pylorus did not call for any difference in procedure; the condition of the ulcer, and not its mechanical results, should be the determining factor in treatment. After an operation it was always necessary to impress upon the patient the fact that the

physiological state of affairs was not what it was before operation, and that for three months at least he must take food which would not irritate the jejunum. With the earlier recognition of the cause of the trouble they all hoped that the need for operation would be avoided, for although the operation restored the patient to health, it altered very materially his physiology of digestion.

Sir W. H. WILLCOX stated that it was difficult to formulate rules for the treatment of gastric ulcer cases, because every case presented individual features with regard to its history and clinical symptoms. Except in those very acute cases involving perforation or almost complete pyloric obstruction, where immediate surgical measures were imperative, it might be accepted that a careful course of treatment on medical lines should be carried out. This might in some cases result in the healing of the ulcer and the cure of the patient, but it would at any rate place the patient in a more suitable condition for undergoing operation subsequently should this be necessary. In a case in which diagnosis had been established, if the history showed only a duration of a few weeks, there was strong reason for the postponement of operative measures. His recommendations were complete rest in bed and regular feeding every two hours with 6 oz. of citrated milk, to which was added 20 grains of sodium bicarbonate. Over-citration of the milk was to be avoided, since it predisposed to haemorrhage. The first important part of the treatment was the removal of the source of infection from the mouth. A careful examination of the teeth should be made. In his experience oral sepsis was the most important cause of gastric ulcer. Sir William Willcox continued:

In my experience oral sepsis is the most important cause of gastric ulcer, and in cases where the gums and teeth are to external appearances healthy there is frequently found by a careful *x*-ray examination evidence of apical dental infection in the shape of apical dental granulomata or even abscesses. In all cases an *x*-ray examination of the teeth should be made, and teeth showing evidence of being sources of infection should be removed. It is well for such teeth to be submitted to a bacteriological examination, care being taken to prevent external contamination as far as possible. Almost always in these teeth evidence is obtained of the presence of streptococci other than those which are the inhabitants of the healthy mouth. Since oral sepsis as a causative factor in gastric ulcer is generally accompanied by a like infection of the intestinal tract it is advisable for daily Plombières colon irrigations to be carried out for a few days and a bacteriological examination made of the intestinal washings. In many cases an abnormal preponderance of pathogenic streptococci will be found. A combined vaccine of the streptococci from the mouth and intestines may with advantage be made and reserved for use if required. When the mouth has been set in order and the colon irrigations carried out for a few days treatment on the following lines is advisable.

Diet on the lines laid down by Lenhartz has been found most satisfactory, and coupled with this a mixture containing bismuth carbonate 20 grains, magnesium carbonate 10 grains, with 40 grains of sodium bicarbonate, given an hour after food.

To the mixture glycerin of carbolic acid 5 to 10 minims may be added with advantage for its antiseptic properties, and in cases of hypersecretion tincture of belladonna in 5-minim doses should be added. Large doses of alkalis must be given to be effective, and they should be repeated at four-hourly intervals.

In this connexion may be mentioned a case of pyloric ulcer in a medical man whom I saw twelve years ago. He had had three severe attacks of haematemesis and melaena at intervals of a few months from a pyloric ulcer, and in consequence of this I advised operation, but in the interim he was to take a mixture of bismuth carbonate and sodium bicarbonate in large doses three times a day. The patient was very averse to operation, and said to himself, "If the medicine is really effective, surely it should be taken at night as well as by day," so he took the medicine every four hours day and night for three weeks. He made a complete recovery without operation, and has been well ever since.

In my experience medicinal treatment on the lines laid down above usually results in apparent cure in early cases.

Recurrent Cases.—It is very common to meet with cases where several attacks of gastric symptoms have occurred, each lasting several weeks or months. In such cases a course of treatment on the lines laid down should be carried out, but if when the patient has reached the full dietary on Lenhartz lines symptoms should still recur surgical treatment is advisable.

Haemorrhage.—In cases of gastric ulcer where the diagnosis has been established (I am not referring to cases of gastrostaxis or haematemesis from other causes than gastric ulcer) the usual remedies for the arrest of haemorrhage should be given including serum injections. It is advisable, in my experience, to withhold all food by the mouth except occasional teaspoonful sips of hot water or a little ice. Normal saline should be given per rectum every four to six hours, as much as can be retained, to which may be added 2 per cent. of glucose. Five days after the haemorrhage has ceased Lenhartz diet should be given. It is extremely rare in my experience for a patient to die from haemorrhage from gastric ulcer, and I do not favour surgical treatment in the acute stage of this condition. When, in spite of treatment, the haemorrhage recurs, operation may be necessary.

In one case recently under my care the patient had four recurrent attacks of haematemesis at intervals of about six days. Since a fatal result seemed probable without surgical treatment, my colleague, Mr. Maynard Smith, operated upon the patient, who was given immediately before the operation a blood transfusion. This procedure was most satisfactory, and the patient made a good recovery, putting on 2 st. in weight after the operation.

Gastric lavage, with solution of sodium bicarbonate 1 drachm to the pint, has been found useful in cases of pyloric ulcer associated with spasm of the pylorus, and this followed by medicinal treatment may be successful.

Occurrence of growth in gastric ulcer is so rare, in my experience, that the possibility of its occurrence should not deter one from carrying out careful treatment on medicinal lines in cases of gastric ulcer. The very interesting observation of Dr. Spilsbury in the previous discussion supports this line of action. In cases of hour-glass contractions of the stomach symptoms persist usually in spite of medical treatment, and surgical treatment is necessary. In cases of pyloric obstruction, which does not disappear under medical treatment, surgical treatment is necessary and gives brilliant results. In cases with recurrent attacks with haemorrhage surgical treatment is indicated. In cases of chronic ulcer in which medical treatment fails to give permanent relief surgical treatment is advisable. It need hardly be said that immediate surgical treatment is imperative where signs of perforation are present. The physicians will look forward with interest to the methods of surgical treatment advocated by their surgical colleagues. It may be added that after surgical treatment in some cases a recurrence of symptoms may occur after, perhaps, a long period. In such cases careful search should be made for any possible source of toxic infection. It will often be found in the mouth or intestine, and if removed an amelioration or cessation of the recurring symptoms is to be expected.

Dr. A. B. SOLTAU said that all speakers had suggested an infective origin of gastric ulcer, or at any rate the possibility that it need not originate from a local cause in the stomach, and this, he thought, was an extremely important point to remember and to inculcate in the teaching of medicine. It was generally agreed that repeated haemorrhage threatening life required surgery, and that probably cases constantly relapsing were subjects for operation. The acute peptic ulcer was essentially a medical problem, and one which should invariably be cured and remain cured by treatment on medical lines. Whether or not chronic ulcer was the same type of lesion was very difficult to determine. Personally he had not often found, on examining cases with chronic ulcer which were in the fourth decade of life, any history of ulcer during the previous decades. The so-called chronic ulcer was the difficult part of the problem. At what point should medical treatment be despaired of? How many relapses should there be before the physician confessed that the case was beyond him? As a partial answer one would suggest that it depended upon the economic condition of the patient, because undoubtedly one could, if not cure, at any rate render more comfortable those who were in easy circumstances and who were not exposed to the daily toil of wage-earning. Such cases needed at least twelve months of careful watching, dieting, and treating if a satisfactory recovery was to be made. He pleaded for team work in the profession in order to arrive at a more satisfactory position with regard to gastric ulcer. While the literature and the statistics suggested considerable success, he knew in practice that there were a lamentable number of cases following operation which were in no way bettered, but continued to have pain, vomiting, and wasting, largely because efficient after-treatment had not been maintained, and also because the psychological side of the treatment had been neglected.

Mr. A. J. WALTON spoke chiefly of perforated ulcers. That an operation should be undertaken in so grave a complication was beyond question. The only doubt was whether gastric perforation could occur with an acute ulceration. A careful investigation in the *post-mortem* department had shown 79 cases of perforation, 78 of which were chronic ulcer, and

of the other no note was made as to whether it was acute or chronic. He believed that an ulcer which perforated was always chronic; therefore suture alone was insufficient and gastro-enterostomy should be done. His own figures showed 32 gastric perforations with 13 deaths, and 19 duodenal perforations with 5 deaths. The mortality of 35.2 per cent. was high, but he had never refused operation even in the most severe cases. Pyloric and duodenal ulcers were satisfactorily treated by posterior gastro-enterostomy. There were two possible objections—one that carcinoma might arise at the seat of the ulcer and the other that the operation might be followed by gastro-jejunal ulceration. A careful attention to the clinical history would often reveal the presence of very early carcinoma, and if the history left any doubt as to the nature of the lesion, partial gastrectomy should always be performed. The danger of gastro-jejunal ulcer appearing was real; the frequency about 2 per cent. He did not believe that occlusion of the pylorus increased the frequency. The doubt was whether the danger of onset of gastro-jejunal ulcer was sufficient to demand partial gastrectomy as a routine. The mortality of this operation was bound to be high, and in this respect would outweigh the risk of gastro-jejunal ulcer. The speaker also discussed ulcers on the lesser curvature. Gastro-enterostomy, while it would not always cure a lesser curvature ulcer, often led to considerable improvement; with a very large ulcer it was his custom not to perform a jejunostomy, but a gastro-enterostomy with occlusion of the pylorus; in several cases there were recurrences after a year or so, but a second operation then would reveal an ulcer so decreased in size that excision was easily possible. If gastro-enterostomy was unsatisfactory, operation would have to consist either of gastrectomy or of local treatment, such as excision or cauterization, which must be combined with gastro-enterostomy to prevent recurrence.

Mr. H. W. CARSON said that his surgical methods had undergone a certain transition. He began by doing gastro-enterostomy in practically all cases of gastric ulcer, but the proportion of perfect cures was not high enough to satisfy him. About four years ago he adopted some form of partial gastrectomy, at first sleeve resection in selected cases, and was well satisfied with the results, but the scope of this treatment was limited to ulcers in the lesser curvature and the simpler forms of hour-glass. His next step was to do Billroth II for lesser curvature ulcers, and, as a natural consequence, the Pólya operation modified as recommended by Sir Berkeley Moynihan. As a result, he now restricted gastro-enterostomy entirely to a proportion of prepyloric and pyloric ulcers, and instead of some 60 per cent. of perfect results he had 83 per cent. (His figures were very accurately determined because it was his custom at stated intervals to review the result of his gastric operations by getting in touch with his patients, and his last period of review embraced 118 cases of gastric or duodenal ulcer.) The really difficult ulcer was the chronic lesser curvature ulcer which had progressed to the saddle-ulcer stage or had become adherent to the pancreas. For saddle and adherent ulcers he adopted the Lardennois-Pauchet approach through the posterior attachment of the great omentum to the transverse colon, opening the lesser sac and stripping the colon away at the same time; this seemed to give the clearest view of the adhesion and make separation fairly easy, safeguarding also the middle colic vessels. In perforation he was in favour of the least possible operation: he did not excise the ulcer, nor did he perform a gastro-enterostomy, nor wash out the peritoneal cavity. He was content to sew up the perforation, infold it, and drain the pelvis through the suprapubic wound, using no drain in the upper abdomen. There was no doubt that if cancer was excluded gastric operations were attended by very low mortality. In 54 consecutive operations for gastric ulcer, in 29 of which some form of partial gastrectomy was done, he had had only one death, and that in a case almost hopeless from the first.

Mr. J. E. ADAMS said that the reason why surgeons favoured excision was that, whatever might have been said by Dr. Spilsbury in the previous discussion, there was in the back of their minds the thought that in excising cases of chronic ulcer they were preventing the patient from getting carcinoma of the stomach. He had looked up his hospital records of cases of carcinoma of the stomach in which a gastro-enterostomy had previously been done, and he found one, or sometimes two, of these cases in a year out of between thirty and forty cases of carcinoma. That was not a large proportion, but he had come to the conclusion that gastro-enterostomy was a very poor preventive of carcinoma if the conditions were such as to favour carcinoma eventuating from chronic ulcer.

Mr. GORDON TAYLOR favoured partial gastrectomy, because he had found it give extremely good results. He followed this procedure in ulcers on the lesser curvature and near the pylorus, and particularly in ulcers which had given rise to severe haemorrhage, and reserved gastro-enterostomy for the smaller ulcers, with or without excision. Out of 42 partial gastrectomies, the mortality amounted to 7 per cent.—too high, but still, having regard to the nature of the cases, not unsatisfactory.

Dr. E. P. POULTON raised the question why some ulcers became chronic. There were certain mechanical conditions about which little was known, but which very often could be relieved by gastro-enterostomy; it might, for example, be retention of wind, coupled with the movements of the stomach, which kept the ulcer from healing. With regard to medical treatment, the main point was rest in bed, and of course very light diet, with frequent meals and the administration of alkalis. He believed that the important part of alkaline treatment was the liberation of CO_2, affecting the distension of the stomach and altering the motility.

Dr. NEWTON PITT, in summing up the discussion, remarked that there was more to be said for medical treatment now than was the case some years ago. As yet it was not possible to say what was the cause of the ulcer nor the factors which made it persist (for the symptoms did not run co-ordinately with the keeping up of the hyperacidity). The majority of ulcers, however, did respond to medical treatment; if they did not so respond within a reasonable time there must be some definite cause, such as adhesions or spasm of the pylorus. In cases whose symptoms were not cleared up within a few weeks no medical treatment was going to do any good at all. Such cases must have operative treatment, either by gastro-enterostomy or gastrectomy. A great deal had still to be learned with regard to the after-results of gastro-enterostomy. On the South Coast, he believed, some practitioners saw quite a number of cases in which gastro-enterostomy had been done, with unsatisfactory results and persistence of symptoms. As time went on, the tendency would be for hypertonic stomachs to be treated by gastrectomy rather than by gastro-enterostomy.

ENLARGED PROSTATE.

THE fifth meeting of the Ulster Medical Society was held in the Medical Institute, Belfast, on January 26th, with the President, Dr. ROBERT HALL, in the chair.

Mr. A. FULLERTON read a paper entitled "Hints on the diagnosis and treatment of cases of enlarged prostate." The paper was illustrated by a number of very fine lantern slides. The lecturer pointed out that enlarged prostate was by no means a condition peculiar to old age; he had had a case where the symptoms began at 36; in another patient, aged 45, he had removed the prostate for non-malignant enlargement. The nature of the obstruction varied, and the types were described. The symptoms were classical and well known. Many had an enlarged prostate, but did not suffer from it; and, on the other hand, the symptoms might be due to other causes—calculus, papilloma, etc.; the cystoscope might be dangerous, and its use demanded the greatest caution; the catheter and *x*-ray examination were of great service in making a diagnosis. With regard to treatment, the patient must be instructed in the necessity of immediately satisfying the desire to micturate; he must relax and not press, and, of course, avoid chill, prolonged motor drives, alcohol, etc. He had used the *x* rays, and found improvement in some, not in others. He had not tried massage. He emphasized the warning not to empty a very distended bladder at once; it was remarkable how such distensions occurred without pain; sudden emptying might cause sudden congestion of the urinary tract from relief of pressure, and so suppression and death; a clip on an india-rubber catheter left in the bladder could be used and avoid the danger by letting away a little urine at a time; for the same reason operation should not be undertaken during retention. His plan was to tie in a catheter, irrigate daily for sepsis, and operate at the favourable moment; the treatment of haemorrhage and cystitis was on the same lines.

Mr. Fullerton then gave his experience of renal inefficiency, and referred to Dr. W. W. D. Thomson for the methods of testing the functioning of the kidney. He said he had had

the greatest improvement in doubtful cases, due to rest, attention to diet, and either tying in a catheter or doing a preliminary cystotomy; the prostate was removed ten days later. He referred to the urethral and perineal operations and their success in the hands of the originators. He always carefully explored the bladder through the suprapubic wound.

Dr. W. W. D. THOMSON said he relied most on the phenol red colour test and on the estimation of the blood urea; he divided these prostate cases into three groups. The first contained those who had 30 per cent. of the phenol red and below 0.7 per litre of blood urea; these admitted operation any time. The second contained those who had 20 per cent. of phenol red and from 1 to 7 urea per litre of blood; these were borderland cases and required rest, free evacuation of urine by retained catheter. The third group were still less satisfactory and were mostly inoperable. He thought the question of anaesthetics was very important, owing to the large number of these patients who had acidosis.

Mr. S. T. IRWIN rather objected to tying in a catheter; he had favoured lately the preliminary cystotomy.

Dr. MORRISON referred to the huge distension of bladders without pain and to the difficulty of diagnosis between simple and malignant enlargement of the prostate.

Mr. CRYMBLE raised the question of introducing the hand into the bladder.

Mr. FULLERTON, in replying, said he favoured gas and oxygen as an anaesthetic. Spinal anaesthesia had not been satisfactory; the first stage, of course, was done under a local anaesthetic; 15 per cent. of cases turned out to be malignant; the most difficult was the small fibrous prostate. He enlarged on the advisability, where the patient could stand it, of the Thomson Walker operation, making the prostatic and cystic cavity into one.

HYPERTHYROIDISM IN PREGNANCY.

THE annual meeting of the North of England Obstetrical and Gynaecological Society was held at Manchester on January 20th, when Mr. Harold Clifford, Manchester, was elected president for the ensuing year. The retiring president, Mr. CARLTON OLDFIELD, delivered a valedictory address on the treatment of pernicious vomiting of pregnancy. He said that he had met with 29 cases during the last fifteen years; there had been no deaths, and he had emptied the uterus only in one instance. His treatment consisted in removal of the patient to a hospital or nursing home, prescribing ordinary diet, and not allowing her to have any bowl in which to vomit.

Mr. LEYLAND ROBINSON (Liverpool) read a paper on hyperthyroidism during pregnancy. The thyroid and parathyroids, he said, formed one glandular unit intimately concerned with the growth of cells, the full development of the normal functions of the sexual organs, and the regulation of calcium metabolism. Special activity was seen at puberty, during menstruation, and especially during pregnancy, when the extraordinary foetal demands for calcium led to a physiological hyperthyroidism.

Three clinical groups were described: (1) Physiological hyperthyroidism, characterized by symptomless enlargement of the thyroid gland, and occurring in 50 per cent. of pregnant women. (2) Graves's disease, a condition not due to simple thyroid excess, but the result of toxaemic changes involving the whole endocrine system. Such changes favoured sterility, and therefore pronounced Graves's disease was rarely found associated with pregnancy. (3) Minor degrees of hyperthyroidism were relatively common, and the speaker described fifteen cases in which the symptoms of hyperthyroidism were combined with others suggestive of tetany.

Calcium depletion, the result of prolonged lactation, rapid child-bearing, and insufficient nourishment, appeared to be an important etiological factor, and called in such cases for the exhibition of calcium salts. In addition, parathyroid had been given in order to meet a possible deficiency, suggested by the clinical resemblance to tetany, and also because this gland appeared to have a definite action in fixing calcium in the tissues or preventing undue elimination by the blood. His results had been encouraging, and in many cases all troublesome symptoms had disappeared.

AT a meeting of the Newcastle-upon-Tyne and Northern Counties Medical Society, held on February 2nd in the library of the Royal Victoria Infirmary, an address was delivered by Dr. S. A. KINNIER WILSON on "Common nervous symptoms and their diagnostic significance." The lecture was illustrated by lantern slides, and will be published in full in the *Journal* of the Society.

Reviews.

THE AUTONOMIC NERVOUS SYSTEM.

PROFESSOR J. N. LANGLEY of Cambridge has begun the publication of a book on *The Autonomic Nervous System*.[1] The leading part in the elucidation of the functions of this system has been taken and is being taken by British physiologists, and Professor Langley, would he put his modesty aside for a moment, might well say *quorum pars magna fui et*, we will add, *sum*. The book, it may be assumed, will, when complete, be a full presentation of the present state of knowledge, and already we find physicians and surgeons applying that which has been acquired to the diagnosis and treatment of disease.

In the section now published (Part I) Professor Langley begins by discussing the varied nomenclature of the system of nerves to which, in 1898, he applied the name autonomic, having in mind a local autonomy. It is admitted that the adjective autonomic may suggest a much greater degree of independence of the central nervous system than in fact exists, except perhaps in the part of the system situated in the walls of the alimentary canal, but it is considered to be more important that new words should be used for new ideas than that the words should be accurately descriptive. The superiority of the title autonomic over the terms already employed, such as vegetative, involuntary, and ganglionic, is vindicated, and the autonomic nervous system is defined as consisting of the nerve cells and nerve fibres by means of which efferent impulses pass to tissues other than multinuclear striated muscle.

Professor Langley supplies a table in which the peripheral nerves, with the exclusion of the olfactory, optic, and auditory, are classified into the somatic, afferent (dromic and antidromic action) and efferent to striated muscle; the autonomic system is divided into the sympathetic (thoracico-lumbar), the enteric (plexuses of Auerbach and Meissner), and the parasympathetic, including the bulbo-sacral and the tectal divisions supplying special parts—for example, in the case of the tectal division, the sphincter iridis and the ciliary muscle. The sympathetic, on the other hand, is distributed to the whole of the body. But it does not follow that either system of nerves has an appreciable effect on all the structures in the region to which it runs; thus, although both the sympathetic and the parasympathetic nerves run to the eye, it is an open question whether any part of the eye is innervated by both nerves. In the chapter dealing with the nerve fibres of the autonomic system W. H. Gaskell's epoch-making work, dating from 1886, is critically considered.

In the section devoted to the specific action of drugs on the sympathetic and parasympathetic systems it is shown that, although adrenaline and some related substances produce effects nearly always like those caused by stimulating sympathetic nerves, and pilocarpine and muscarine produce effects usually resembling those produced by stimulating parasympathetic nerves, yet the correspondence between the action of drugs and nerve stimulation is not absolutely exact. The problem of the cause of the correlation between adrenaline and sympathetic nerve action on the one hand, and that of pilocarpine and parasympathetic nerve action on the other is fully discussed.

The last chapter deals with the tissues innervated by the autonomic nervous system; cardiac muscle, nearly all unstriated muscle, most glands, and some pigment cells have been proved to be affected by efferent autonomic nerves; the details of innervation are for the most part reserved for consideration under the separate nervous systems, but the question whether the cutaneous pigment cells, capillaries, and striated muscles are innervated by any part of the autonomic nervous system is exhaustively discussed.

In conclusion, it may be said that this volume sets forth a closely reasoned argument based on many years of research and a complete knowledge of the labours of others on the subject.

SURGICAL DIAGNOSIS.

IN reviewing books on clinical diagnosis for English students there is necessarily some reserve. Our tradition has been, until lately, to teach students clinical surgery and medicine over the bed and not from books. It is to be hoped that the

[1] *The Autonomic Nervous System.* Part I. By J. N. Langley Sc.D., LL.D., Hon. M.D., F.R.S., Professor of Physiology in the University of Cambridge. Cambridge: W. Heffer and Sons, Ltd. 1921. (Demy 8vo, pp. 80; 1 figure. 5s. net.)

system currently fashionable will not lead to the sacrifice of that invaluable practice, with the necessity for lavishly illustrated books on diagnosis to which in Berne the issue of a seventh edition of DE QUERVAIN'S already well-known work is witness. That a third edition in English should be called for is the best evidence that here too—and in America—such books are needed. It may be that "practitioners" do find help from an up-to-date textbook in supplying what they can no longer see daily, as the student does, in hospital beds. It is well, therefore, that so excellent a book, so thoroughly illustrated, so competently translated as Professor de Quervain's *Clinical Surgical Diagnosis for Students and Practitioners*[2] should be at their command. The author has always pursued the plan—in principle universal, but in this country recently associated with the name of Mackenzie—of starting from the symptoms of which the patient complains, and of keeping them in view whilst narrowing down the problem by suitable questions until positive observations permit diagnosis.

It is perhaps impossible to write a book of general guidance for problems thus essentially individual, but the author has attacked his task in the spirit of one who habitually assumes this attitude to his patients, and the result is a successful manual.

NARROW JAWS AND ARCHED PALATES.

DEFORMITIES of the jaws and palate are extremely common among members of the civilized European races; the narrow pointed dental arch, the Gothic highly-arched palate, and the under-developed lower jaw, appear to be so particularly associated with adenoids that it is natural to suppose that the nasal obstruction is a direct cause of the deformity. It is easy to build up a theory of how the alteration of stresses set up by an habitually open mouth produces the alteration of shape, of how, when the mouth is closed, the tongue exerts a suction on the palate and an outward pressure on the sides of the dental arch, and of how, when the mouth hangs open, the cheeks press inwards on the molar teeth. It is, too, a simple matter to assume that the highly arched palate allows insufficient room for the growth of the nasal septum, which accordingly becomes bent.

In a monumental work on growth and deformity of the jaws and nasal septum Dr. GUSTAV FRANKE[3] has published the results of a most thorough and elaborate series of measurements of jaws and palate, and his observations go far to destroy these fascinating theories. For instance, he finds that highly arched palates are very little narrower than normal ones; at various ages the height is increased by 3 to 3.9 mm., but the width only diminished by 0.4 to 1.1 mm.; he concludes, therefore, that this deformity cannot be caused by lateral pressure on the jaws. As to deviations of the nasal septum, Franke finds that these are often visible even in foetal life; he believes that the majority are not due to traumatism, because in his examination of a large number of skulls he has often found healed fractures without deformity, and because he has found severe deflections without trace of injury; and he points out that fractures of the cartilage can only unite by fibrous tissue, and are therefore permanently recognizable. Also, although septal deviations are common in skulls with narrow jaws and high palates, he gives reasons for believing that they do not stand in a direct causal relationship; in his opinion deformities of the septum are caused by lack of space for its growth due to a general underdevelopment of the upper jaw and flatness, or "pugging," of the face. All these deformities are the result of a lack of stimulus to growth which results from insufficient use of the jaws in mastication, because the civilized races eat only soft food, and the reason that these deformities are especially related to mouth-breathing is simply that the subjects of nasal obstruction chew their food even less than the normal civilized man.

Dr. Franke has perhaps paid too little attention to a possible racial tendency to "pugging"; but this is a factor which cannot be measured, unless the entire race would revert to the diet of our primitive ancestors, so that it might be seen whether the new generation would arise free from these deformities. Dr. Franke's work is suggestive and painstaking; almost too painstaking indeed, for his main arguments are overlaid by a mass of detail and of references to other workers.

ANATOMICAL NEUROLOGY.

A THOROUGHLY satisfactory work on the *Anatomy of the Nervous System*[4] would be a book on the one hand accurate enough in detail to satisfy the most exacting neurologist, and on the other sufficiently clear and simple "to be understanded of the people." Such a book has been written by Professor RANSON of Chicago. This work, we feel sure, will be accorded a warm welcome by both student and teacher. The author demonstrates the old truth that he who is most master of his subject can, if he avoids elliptical argument and allusion, write of difficult things in the simplest manner.

The author's conception of the teaching of neurological anatomy is that, in order to make the subject sufficiently alive, it is essential that the study of structure should walk hand in hand with the study of function. So well have the two been interwoven here that the book might well have been given a physiological title. The study of the tracts of the cord, of the structure of the mid- and hind-brains, is thus made a living thing. Moreover, where knowledge is as yet imperfect, the facts are clearly and judicially stated. The account of the cranial nerves is singularly well done, a profusion of simple diagrams making the crooked ways of the nuclei of origin and terminations clear and understandable. The most difficult section of all, the anatomy of the cerebellum in relation to function, is something of a test chapter. The work of Elliot Smith, Ingvar, and Bolk is related, the author maintaining a neutral attitude towards the question of localization of function within the cerebellum. The chapter on the sympathetic nervous system is too short, and might be improved by more reference to pathological physiology. Presumably the question of the liaison between this system and the endocrine glands was deemed too purely physiological for inclusion.

The book is admirably produced, and the simple drawings are most commendable. There is a good index.

BOWEL DISEASES IN THE TROPICS.

SIR LEONARD ROGERS'S *Bowel Diseases in the Tropics*[5] represents two of his previous works, revised and rewritten—namely, that on cholera and its treatment and that on dysenteries. The new volume is a companion to his well known work on *Fevers in the Tropics*, and bears the same impress of authority and wide experience. The first two hundred pages are given to cholera, and contain amply documented accounts of its history, epidemiology, etiology, morbid anatomy, clinical aspects, and treatment. The author's own methods of treatment, evolved in the course of treating over two thousand carefully observed and recorded cases during twelve years' work at Calcutta, are fully detailed. They consist, as is well known, primarily in the use of hypertonic saline injections at the critical moments, and have resulted in a reduction of the death rate to one-third of what it was before their employment. He is convinced that opium in all its forms is injurious in cholera, once the typical colourless motions have set in.

The second part of the volume deals with dysenteries and liver abscess on similarly broad lines and with equal fullness; in particular the employment of emetine in amoebic dysentery and the often associated amoebic hepatitis or liver abscess, first advocated by the author in 1912, is set out in all detail.

The book gives a singularly complete account of the diseases with which it deals, is clearly written, and abounding in the practical hints and directions that are so important to the practitioner who has to treat patients. The illustrations are excellent and the volume is adequately indexed. It should be in the hands of all medical men resident abroad, and be studied by all interested in tropical diseases.

---

[2] *Clinical Surgical Diagnosis for Students and Practitioners.* By F. de Quervain. Third English edition, translated from the seventh German edition by J. Snowman, M.D. London: J. Bale, Sons and Danielsson, Ltd. 1921. (Roy. 8vo, pp. 930; 731 figures, 7 plates. 50s. net.)

[3] *Über Wachstum und Verbildung des Kiefers und der Nasenscheidewände, auf Grund vergleichender Kiefermessungen und experimentelles Untersuchungen über Knochenwachstum.* Von Sanitätsrat Dr. Gustav Franke. Leipzig: Curt Kabitzsch. 1921. (Sup. roy. 8vo, pp. 205; 20 plates; 4 figures. M.120; bound, M.150.)

[4] *The Anatomy of the Nervous System from the Standpoint of Development and Function.* By S. W. Ranson, M.D., Ph.D. Philadelphia and London: W. B. Saunders Company. (Double cr. 8vo, pp. 395; 260 figures. 32s. 6d. net.)

[5] *Bowel Diseases in the Tropics: Cholera, Dysentery, Liver Abscess, and Sprue.* By Sir Leonard Rogers, C.I.E., M.D., F.R.C.P., F.R.C.S., F.R.S., I.M.S. (retired). Oxford Medical Publications. London: H. Frowde, and Hodder and Stoughton. 1921. (Demy 8vo, pp. xvi+475; 10 plates, 50 tables, 3 diagrams, 2 charts. 30s. net.)

ORGANIC CHEMISTRY.

MR. HAMMICK'S *Introduction to Organic Chemistry*[6] is a well-written little laboratory book for use by junior students of chemistry who already have a knowledge of the simpler methods of organic laboratory practice. It is not designed to meet the claims of any particular examination syllabus, but its fourteen chapters and round gross of experiments seem enough to furnish the student with a sound working knowledge of organic chemical structure, notation, and technique. The word "*affinas*" on page 116 should read "*affinis*." The book contains a great deal of information useful to the student of chemistry, and may be recommended to him.

The second edition of Professor STEEL'S *Laboratory Manual of Organic Chemistry for Medical Students*[7] is an unusually good type of practical handbook, for the author has kept in mind the particular variety of organic chemistry that is likely to be of service to medical students in the later stages of their curriculum. He has added to this edition an excellent chapter of experiments in colloid chemistry that should be of great help in clarifying the ideas of the student; for colloid chemistry, by this time a well-explored kingdom, is a subject with which he is usually but little acquainted. The text in this volume is confined to the left-hand pages; the right-hand pages are left blank for notes and records of experiments.

Mr. MACBETH'S short handbook of *Organic Chemistry*[8] is based on his course of lectures to his pupils, and is designed to fill the wants of medical, pharmaceutical, and intermediate science students. It is clearly written and practical in its treatment, and examination questions are set at the ends of the chapters. The book may be recommended to those for whom it is designed.

THERAPEUTIC NOVELTIES.

MERCK'S annual reports,[9] which have appeared regularly since 1887, give short abstracts of the experimental and clinical papers, published during the year under review, which deal with the more important therapeutic novelties. These reports are a boon to anyone who wishes to investigate the action of a new drug, for they provide an up-to-date account of the work which has been done upon the subject; information can be obtained from them in a minute to find which, without their help, would require hours of tedious work.

The present issue deals with two years: about 500 drugs are reported upon, and 1,300 references are given to articles in 200 different journals published in 17 different countries in about 10 different languages. These figures indicate the industry and care with which the medical literature of the world has been searched. They are, however, rather appalling, when we reflect that they only represent a fraction of the output of therapeutic literature in two years. A special article is devoted to the therapeutic use of the benzyl derivatives (80 references); these substances were introduced by Macht, who is credited with having written twenty-one papers on them in four years; benzyl-benzoate, the best known of these substances, is recommended for all forms of spasmodic contraction of plain muscle. Silver-salvarsan (about 60 references), and protein therapy (about 50 references), are two other subjects of particular importance which are dealt with very fully.

The report consists of highly condensed summaries of an enormous mass of literature, and it is natually impossible to give any general account of the book, except to say that it contains an account of all the well-known therapeutic novelties, and that the references appear to be very complete. The exact value of the bulk of the literature so carefully collected in these reports appears, however, to be a little doubtful, for in the case of every drug every observer appears to have got uniformly successful results. The various remedies reported upon cover practically every known disease, and they all appear to be infallible remedies, yet vital statistics assure us that people continue to die from causes other than old age.

[6] *An Introduction to Organic Chemistry.* By D. Ll. Hammick, M.A. London: G. Bell and Sons, Ltd. (Cr. 8vo, pp. viii+258. 6s. net.)

[7] *A Laboratory Manual of Organic Chemistry for Medical Students.* By M. Steel, Ph.D. Second edition, revised and enlarged. New York: J. Wiley and Sons, Inc. London: Chapman and Hall. (Demy 8vo, pp. 295; 2 figures. 9s. 6d. net.)

[8] *Organic Chemistry for Medical, Intermediate Science, and Pharmaceutical Students.* By A. Killen Macbeth, M.A., D.Sc., F.I.C., etc. London: Longmans, Green and Co. (Cr. 8vo, pp. 246. 6s. 6d. net.)

[9] *E. Merck's Jahresberichte ueber Neuerungen auf den Gebieten der Pharmakotherapie und Pharmazie.* 1919–1920. XXXIII und XXXIV Jahrgang. E. Merck, Chemische Fabrik, Darmstadt. (Small 8vo, 366 pages. M. 18.)

NOTES ON BOOKS.

THE eighth edition of Professor HARE'S *Symptoms in the Diagnosis of Disease*[10] is an excellent book for the medical student who wishes to learn how to employ his eyes, ears, and hands to the best advantage in examining patients. The author omits laboratory methods, and has endeavoured to write a book that will enable the recognition of symptoms and physical signs to lead to a diagnosis. The first six chapters are given to the face, arms, legs, hemiplegia, speech, and the skin; then follow chapters on the mouth and tongue, abdomen, bowels, thorax, pulse, urine, and eye. The rest of the book is given to various important symptoms. The text is dogmatically written, and is helped out by a number of excellent illustrations; in many ways old-fashioned, the book yet contains a great deal of sound practical teaching.

Professor BIRK'S guide to the diseases of children[11] is a companion volume to his book on the diseases of infants, and is addressed to students and practitioners of medicine. The author describes spasmodic asthma as rare in children, does not mention its connexion with food poisoning, and remarks that it will disappear as the child grows older. Other examples of the author's failure to do justice to his subject might be quoted; the book is not one that we feel able to recommend.

Golden Rules for Dental Mechanics,[12] a small volume prepared by Mr. HAROLD OSBORN, a member of the Society of Chemical Industry, is an excellent little book, containing many valuable and accurate notes for dental mechanics; it will be of interest also to dental students. We have noted some inconsistencies: on the first page the author gives in ounces the proportion of plaster-of-Paris and water that should be used in order to obtain the greatest strength in a plaster cast, but on page 20 he modifies this by saying that the plaster should be mixed as stiff as it can properly be worked. He would have done better to adhere to his original statement. In another place he says that sticky wax should always be removed with a spatula, and that heat or boiling water should not be used. We doubt whether it is always possible to remove wax with a spatula, and know no reason why heat should not be used.

A new edition has appeared of Dr. ERICH WOSSIDLO'S *Kystoskopischer Atlas*,[13] first published about a year ago. Advantage has been taken of the publication of this new edition to make certain slight additions. The most important of these is the inclusion of some new coloured plates which have thereby been increased in number from thirty-four to forty-two. They illustrate not so much new types of disease as variations of bladder conditions that have already been represented. Alterations have also been made in the text, and new diagrams added to illustrate the section on the optics of cystoscopy.

MR. JOBLING'S *Catalysis and its Industrial Applications*[14] is a well-written little book. Catalytic agents are of importance in a great many industrial processes, and of late years their modes of action have been studied with no less profit than care. The volume may be recommended to all who are interested in the scientific side of industrial manufacture.

Dr. JOLTRAIN'S little book on plague[15] gives an account of the epidemiology of the disease, its connexion with the rat, and of its symptoms, treatment, and prophylaxis. It is written for the use of medical practitioners, and contains all that is necessary in an elementary handbook.

[10] *Symptoms in the Diagnosis of Disease.* By H. A. Hare, M.D., B.Sc. Eighth edition, thoroughly revised. London: H. Kimpton. (Roy. 8vo, pp. 574; 195 figures. 36s. net.)

[11] *Leitfaden der Kinderkrankheiten, für Studierende und Ärzte.* Von Professor Dr. W. Birk. Bonn: A. Marcus and E. Webers. (Roy. 8vo, pp. 346; 10 figures. M.25; bound, M.31.)

[12] *Golden Rules of Dental Mechanics.* By H. Osborn. Bristol: J. Wright and Sons, Ltd.; London: Simpkin, Marshall, Hamilton, Kent, and Co. 1921. ($3\frac{1}{2} \times 5\frac{1}{4}$, pp. 95. 5s. net.)

[13] *Kystoskopischer Atlas.* By Dr. med. E. Wossidlo. Second edition. Leipzig: W. Engelmann. 1921. (Demy 4to, pp. viii + 98; 41 figures, 42 plates. M.160; bound, M.195.)

[14] *Catalysis and its Industrial Applications.* By E. Jobling, M.C., A.R.C.Sc., B.Sc., A.I.C. Second edition. London: J. and A. Churchill. (Cr. 8vo, pp. 151; 12 figures. 7s. 6d. net.)

[15] *La Peste: Etiologie, Formes Cliniques, Prophylaxie et Traitement.* By E. Joltrain. Paris: A. Maloine et Fils. 1921. (Cr. 8vo, pp. 184; 15 figures. Fr. 8.)

A full account of the diagnosis and treatment of gastric and intestinal disorders is given in the third edition of Professor AARON'S *Diseases of the Digestive Organs*,[16] a book that may be recommended to medical practitioners and specialists alike. The author writes in a practical spirit, and the book is not overloaded with scientific detail; the highly important subject of diet receives adequate treatment throughout, although it is described from the American rather than the European point of view. The volume is well printed and many of the illustrations and coloured plates are excellent.

Dr. MCCAW'S *Aids to the Diagnosis and Treatment of Diseases of Children*[17] has reached a fifth edition. It is a well-written and fairly complete little volume that may be recommended to medical students in search of a small volume on the subject with which it deals.

The Boy in Industry and Leisure[18] is the second volume in "The Social Service Library," and is intended primarily for the guidance of the social worker whose sphere of activity lies amongst those boys whose home influences, school life, circumstances or environment leave a gap that can be filled only by the social worker. The book describes how such boys can best be helped through a critical period of their development, and ends with an appendix containing much information as to the various schemes and agencies designed for their assistance. The author is particularly well fitted for the composition of such a volume as this, and it should be of great service to all interested in the welfare of the potential hooligan.

X RAYS, LIGHT, AND ELECTRICITY.

Dr. VOLTZ'S volume on the physical and technical bases of *x* ray measurement and dosage[19] gives a general account of the subject, written for the information and instruction of medical men who make use of *x*-ray therapy. The treatment is theoretical rather than practical; the reader feels that somewhere within the bundle of hay there is a needle, or possibly more than one. For ourselves, we confess that we have not found it.

A pamphlet by the same author on dosage tables for *x*-ray therapy[20] is an exposition of a theory of quantitative *x*-ray dosage he has based on Seitz-Wintz's system of biological measurement. It is meant for the use of experts in *x*-ray therapy.

The seventh edition of BACH'S book on treatment by the quartz lamp[21] is divided into two parts. The first deals with the use of the apparatus described, the second gives an account of the indications for its employment in disease. The book is practical, and gives perhaps an optimistic account of what may be expected from light treatment. It will be consulted by specialists.

Dr. GASSUL'S pamphlet on the significance of different rays for the diagnosis and treatment of tuberculosis[22] gives a summary of the literature dealing with the use of Roentgen rays in tuberculosis, and the success with which sunlight, various forms of artificial light, radium and the like, have been employed in its treatment. Details of these forms of treatment are not given; the author calls for further research in this promising therapeutic field.

The sixth edition of COHN'S outlines of electrodiagnosis and electrotherapy[23] is a book written for students and practitioners of medicine, and contains a full and practical account of the subjects with which it deals, adequately illustrated. It appears entirely suitable for the use of medical men resident in Germany.

[16] *Diseases of the Digestive Organs, with Special Reference to their Diagnosis and Treatment.* By C. D. Aaron, Sc.D., M.D., F.A.C.P. Third edition, thoroughly revised. London: H. K. Lewis and Co., Ltd. 1921. (Roy. 8vo, pp. 904; 13 plates, 164 figures. £2 10s. net.)

[17] *Aids to the Diagnosis and Treatment of Diseases of Children.* By J. McCaw, M.D., R.U.I., L.R.C.P.Edin. Fifth edition. London: Baillière, Tindall and Cox. 1921. (Fcap. 8vo, pp. xii + 404. 6s. net.)

[18] *The Boy in Industry and Leisure.* By the Rev. R. R. Hyde, Director of the Industrial Welfare Society. London: G. Bell and Sons, Ltd. 1921. (Cr. 8vo, pp. 309. 6s. net.)

[19] *Die physikalischen und technischen Grundlagen der Messung und Dosierung der Röntgenstrahlen.* Von Dr. rer. nat. et phil. F. Voltz. VI. Sonderband zu "Strahlentherapie." Berlin and Vienna: Urban and Schwarzenberg. 1921. (Sup. roy. 8vo, pp. 307; 173 figures. M. 96.)

[20] *Dosierungstafeln für die Röntgentherapie.* Von F. Voltz. Munich: J. F. Lehmann. 1921. (Cr. 8vo, pp. 94; 16 figures. 5s.)

[21] *Anleitung und Indikationen für Bestrahlungen mit der Quarzlampe.* By Dr. H. Bach and others. Seventh edition. Leipzig: C. Kabitzsch. 1921. (Roy. 8vo, pp. 166; 16 figures. M.40; bound, M.48.)

[22] *Die Bedeutung der verschiedenartigen Strahlen für die Diagnose und Behandlung der Tuberkulose.* Dr. R. Gassul. Leipzig: G. Thieme. 1921. (Roy. 8vo, pp. 80; 2 charts. M.30.)

[23] *Leitfaden der Elektrodiagnostik und Elektrotherapie.* Von Professor Dr. T. Cohn. Berlin: S. Karger. (Sup. roy. 8vo, pp. 232; 72 figures, 5 Tafeln. M.30.)

MEDICINAL AND DIETETIC PREPARATIONS.

Salicylosol.

SALICYLOSOL is a solution of salicylic acid in a partly-oxygenated mineral oil. It is stated to contain 10 per cent. salicylic acid. Analysis in the laboratory showed 10.5 grams salicylic acid per 100 grams of solution. The oil has little taste when given by mouth. The manufacturers claim that it produces no nausea or other symptoms of gastric irritation such as follow the employment of sodium salicylate. This point has not been tested by us, but Hanzlik[1] tested the toxicity of various salicylate compounds on 400 patients and found that none possessed any advantage in this respect over sodium salicylate. Hanzlik found that toxic symptoms appeared on an average after a total of 200 grains (13 grams) of sodium salicylate had been given; this would correspond to about 4 oz. (115 c.cm.) of salicylosol.

Salicylosol is specially recommended for administration by the skin, and it is stated that when exhibited in this manner the physiological effects of the drug can be obtained without the undesirable effects which may attend administration of salicylates by the mouth. Impens[2] found that from 10 to 16 per cent. of the salicylic acid rubbed into the skin appeared in the urine. When 10 c.cm. of salicylosol (= 1 gram salicylic acid) was massaged into the skin we found that 0.137 gram appeared in the urine in 24 hours. Hanzlik[3] found that a normal person excreted 40 per cent. of a dose of salicylate given by mouth in twenty-four hours. The absorption of salicylic acid from inunction is therefore only about one-third of the absorption of salicylic acid given by mouth.

From these data it follows that to produce a full therapeutic effect in a case of rheumatic fever by inunction of salicylosol it would be necessary to rub in about 12 oz. of salicylosol in forty-eight hours; it seems doubtful whether this is practicable. The therapeutic use of salicylosol appears therefore to have certain limitations which are not fully realized by the manufacturers. Salicylosol would seem, however, to be an excellent preparation for inunction, as it contains five times as much salicylic acid as the official salicylic ointment (*B.P.*), and when administered by inunction does not irritate the skin. The penetrative power of salicylosol compares very favourably with that of other salicylic preparations whose power of penetration has been recorded.

The agents are Messrs. E. T. Pearson and Co., London Road, Mitcham, Surrey,

Iodinosol.

This is a non-irritant non-staining preparation of iodine in a base similar to that used in salicylosol. It is prepared in two strengths, 6 per cent. and 10 per cent. On analysis the 6 per cent. preparation was found to contain 6.5 gram iodine per 100 gram solution.

Iodinosol is an excellent preparation for inunction, as it is non-irritant, and when completely massaged into the skin produces no staining of the skin or of the clothes. When administered by the mouth it produces slightly irritant effects like other preparations containing free iodine.

The proprietors state that "a small quantity of iodinosol 6 per cent. may be rubbed into the region of the median vein, and fifteen to thirty minutes afterwards the presence of iodine in the urine can be shown by the usual test methods"; and that "in a word, it can be administered in every instance where potassium iodide, internally or externally, is indicated." We are not able to confirm these statements from our own observations. We found that thorough inunction of 10 c.cm. of iodinosol in man produced no excretion of iodine in the urine in the succeeding twenty-four hours. On the other hand, the administration of 0.01 gram KI by mouth or of 0.5 c.cm. iodinosol by mouth produced demonstrable quantities of iodine in the urine. These results agree with the observations of Wetzel and Sollmann[4] and of Kniepf,[5] who found that inunction of a large variety of iodine preparations produced no excretion of iodine in the urine.

A large number of workers have studied the absorption of iodine by the skin, and their results are curiously discrepant, but in general it appears that inunction of non-irritant iodine ointments produces little or no absorption of iodine in man,

[1] Hanzlik: *Journ. Amer. Med. Assoc.*, 1913, lx, p. 957.
[2] Impens: *Pflüger's Archiv.*, 1907, 120, p. 1.
[3] Hanzlik: *Journ. Pharm. and Exp. Ther.*, 1916, 9, p. 217.
[4] Wetzel and Sollmann: *Journ. Pharm. and Exp. Ther.*, 1920, 15, p. 169.
[5] Kniepf: *Therap. Halbmonats.*, 1220, 34, p. 382.

although a considerable absorption may occur if strong iodine ointments are left in contact with the skin for long periods. It seems certain, however, that it is unsafe to rely upon sufficient iodine being absorbed by the skin to produce the general therapeutic effects of iodides.

The claim by the manufacturers that "Iodinosol is all absorbed promptly, thus ensuring prompt action and enabling the prescriber to regulate the dose of iodine to a decimal point of a grain," does not accord with our observations.

The agents are Messrs. E. T. Pearson and Co., London Road, Mitcham, Surrey.

A Simple Aspirator.

WITH reference to the description by Dr. H. O. Gunewardene of an aspirator, published in the BRITISH MEDICAL JOURNAL of January 21st, p. 109, Dr. J. Ashforth (Woodlands, near Doncaster), writes that he has used a similar combined aspirating syringe and trocar, supplied by Messrs. Pettie and Whitelaw, of Aberdeen and Dundee, which he considers possesses advantages over that mentioned by Dr. Gunewardene, since no rubber tubing is required, and the whole apparatus is of metal, easily detachable and convenient to sterilize.

MOTOR NOTES FOR MEDICAL MEN.

BY H. MASSAC BUIST.

THE CARE OF THE CAR IN WINTER.

IN view of the large number of medical men who nowadays look after their cars, in whole or in part, and of the apparent change from an unprecedented spell of mild weather to the normal temperatures of winter, a few hints may be helpful. This is a season in which it behoves the owner to note the degree to which the motor-house is exposed. If it is facing due north, or east, and there is no warm compartment near it, because of the rapid changes of temperature likely to be experienced at this period, it is well to consider methods of artificial heating, or, alternatively, to make a practice of draining the water out of the radiator and cylinder jackets every night. The latter is a laborious course that occupies a considerable amount of time, particularly as the water has to be replenished in the morning. It is therefore in the nature of a last resort. Should the motor-house be sheltered from the coldest quarters, or built beneath a dwelling-place, such as a coachman's quarters, it will generally be unnecessary either to heat the garage artificially or to drain the water out of the cooler. In the case of the owner-driver I should always advise putting the car backwards into the garage in the summer months, then it stands conveniently for starting by hand. In any case, the minimum time is lost in getting away. By contrast, in cold weather the vehicle should be driven straight in and left so standing that it has to be backed out. Thus the vital parts will be farthest from the draught that can sweep in under the doors. But if there are no dwellings near the motor-house the question of artificial heating may require consideration.

A Simple Scheme for Occasional Heating.

Sometimes the simplest arrangements will suffice. It is not always necessary to install elaborate heating apparatus, particularly in face of the fact that such procedure may occasion trouble of the red-tape sort with the local authorities; also it may affect the fire insurance of the car. Some years ago, for two or three winters, I found the occasional use of an untipable paraffin lamp, costing 1s., sufficient for the purpose, even in a garage at a relatively high altitude in a very cold county. Once filled, one of these lamps will burn for the best part of twelve hours. If it is put on the ground it will introduce considerable extra warmth into the ordinary coachhouse, even when the door is ill constructed and admits a draught at ground level.

When, however, there is no course but to drain the water system, one point should be had in mind in particular: after all the liquid has come away from the taps at the base of the cylinder casting and the cooler, the engine should be run a few moments to enable the water circulating pump to expel any liquid in its neighbourhood. Many a case has occurred in which the owner has imagined he has expelled all the water from an engine system but has found subsequently that the mechanism has burst in the neighbourhood of the pump through the freezing of water that had accumulated and not been drained away. This can be obviated by the simple method of running the engine for a few moments after the water circulation system has apparently drained itself empty by mere gravity. Usually the amount of petrol remaining in the pipe from the tank to the carburetter after the tap has been turned off will suffice to run the engine long enough for the purpose. Nor let anybody fear that running the engine in such circumstances in cold weather will cause difficulties. There is no such danger provided the lubrication system is adequately supplied with undiluted oil of the right grade. Whenever the water has been drained off, on preparing the car for use again hot filtered water should be used in preference to ordinary cold water. For one thing, that will vastly facilitate starting-up the engine.

Aids to Starting.

Much remains to be done in the way of making cars easier to start in cold weather. When hand cranking was the rule more attention used to be given to this matter, despite the fact that, the further back we go, proportionately the easier engines were to start. On the one hand, in the pre-war period the quality of the fuel was better than the average available to-day, and, on the other, the compressions used for standardized car engines were lower, therefore it was not necessary to crank them as fast to get a start as is essential with post-war designs. Since the coming of the mechanical engine-starter, however, the need for easy starting has been largely overlooked, with the result that great burden is placed on the battery, and often much trouble results. By letting the mechanical engine starter turn the crankshaft for many seconds at a time without the mixture being fired, fuel may pass the pistons and, falling into the base-chamber, dilute the lubricating oil. Experiments recently carried out by an American manufacturer who had frequent troubles of this kind are reported to me privately to have shown that thirty seconds of cranking with a mechanical engine-starter, and with the throttle closed, resulted in half a pint of fuel flowing by the pistons into the crank case. Four cranking periods of this duration each day would thus result not only in wasting a quart of fuel, but a serious dilution of the lubricating oil, with all its grave risks. Such a case, however, must be regarded as altogether exceptional. But it is useful to have it in mind as an indication of a very prevalent source of trouble which may be experienced, in less degree, by any motorist. The better the construction the more important it is that no foreign matter should get mixed with the lubricant. A quarter of a pint of foreign liquid in the base chamber of some engines would be sufficient to render the best lubricant quite incapable of doing its work.

When and How to Use Aviation Spirit by the Cupful.

A large percentage of cars are kept in unheated motor-houses, or are allowed to stand in front of doors for long spells during which the engine becomes cold. The higher the compression of the power plant the more rapidly the crankshaft has to be turned to have a chance of starting. Moreover, as there is every prospect that the fuels which will be supplied for service in cars will not tend to improve in quality, the importance of obtaining a quicker average start, as well as of controlling the cooling system whereby the engine temperature can be warmed up promptly to the degree required for correct operation, is worthy of study. While these problems largely concern the motor engineer and car builder, the medical man can do much to assist and protect himself in this connexion. For example, the use of radiator masks is now well understood in this country, particularly by doctors. Quilted masks are probably the best sort for medical men. It is not necessary, however, that the covering should extend over the whole of the bonnet; the important part is the radiator.

In regard to starting the engine from cold, a great many cars are equipped with carburetters a feature of which is that the undoing of two nuts, or even the sliding of a finger sideways, exposes the float chamber. All carburetters ought to have a drain tap at the base. All users ought to turn off the petrol tap when the vehicle is needed no longer. A good practice to ensure the best possible start in cold weather is to turn off the tap at the end of the day, and run the engine until the fuel in the carburetter is exhausted. On going to start the car up next day the fuel tap should still be left turned off. A tin of aviation spirit should be kept in stock. When needed a small bottle is filled with this spirit, and a little is poured into the float chamber, the top of which should then be put on promptly and the throttle left in the usual position for starting. By means of this best grade spirit it should be possible to get a very ready start by hand, or by means of the electric gear, in

the worst of weather, for this fuel is equal to the best pre-war motor car petrol. As soon as the engine gets going, the fuel tap can be turned on. Thus there will be a gradual mixture of this spirit with the other, and, by the time the blend is used, the engine will be sufficiently warm for the ordinary fuel to serve the purpose. When the carburetter is inaccessible, it may pay to fit a quarter-gallon supplementary tank under the bonnet and a short pipe with a two-way cock connected with the main fuel pipe, whereby, for starting, aviation spirit can be used. No car should be started on benzol in cold weather.

How to Set Out.

The radiator hood should be kept on until the engine is at its full working temperature. Sometimes this will mean a quarter of an hour's going in really cold weather. It will make for petrol economy, as well as give a much better pick up. The habit of putting the accelerator full down when the engine begins running is not to be recommended. It leads to unnecessary waste of fuel through imperfect combustion and involves the grave risk of unburnt fuel getting past the pistons into the lubrication system. A tin of aviation spirit used in the way I indicate, even if some of its contents be employed twice a day—as, for example, to start the car after it has been idle for several hours in the middle of the day—will, nevertheless, last one through the best part of a winter. Indeed, as in this way a quicker start is achieved, it is an actual net saving, because less fuel is passed wastefully through the engine system before the gas begins to fire. Therefore the method is both satisfactory and cheaper. Once a modern engine is running it is easier to warm than older types, because the carburetter intake pipe of most latter day constructions is water-jacketed, or a "hot spot" system is used, consequently as soon as the water begins to increase in temperature the vaporization of the fuel is achieved more perfectly and more readily. The degree of heat necessary for vaporization may be obtained by the use of an electrical heating element, as in the system pioneered by Cadillac, or by burning a small amount of fuel. Primers using fuel which is easily vaporized even at quite low temperatures have also been employed with satisfaction in some instances, but are scarcely general on the home market. Moreover, one scarcely advises the introduction of apparatus of this sort by individuals. Rather should such developments be looked for in the direction of devices standardized by manufacturers on cars as a result of their own necessarily extensive and prolonged experiments. Probably all devices, or systems, used to aid in starting an engine have certain drawbacks as well as points of advantage. The need for a simple, dependable, and inexpensive device for this purpose, such as can be standardized by all makers, is becoming increasingly evident, particularly as fuel is made less and less volatile. Meantime, most car users will find they can get on well enough by the use of one or other of the foregoing hints.

THE SCHOOL MEDICAL SERVICE.

ADDRESS BY SIR GEORGE NEWMAN.

THE special course of instruction for the school medical service which has been arranged at the London Hospital [1] was opened on February 1st with an introductory address by Sir GEORGE NEWMAN, Chief Medical Officer to the Ministry of Health and the Board of Education. The chair was taken by Lord DAWSON, who explained that the course was not only for school medical officers but for those who intended to combine general practice with work at the school clinics on a part-time basis.

Sir GEORGE NEWMAN said that the course was an experiment. Its first purpose was to draw the attention of school medical officers and assistant officers to the clinical aspects of their work. There were now 300 whole-time school medical officers and 500 whole-time assistant officers, and the difficulty always in such administrative posts was to retain the clinical spirit. The second purpose of the course was to help general practitioners to understand a little more fully what the school medical service was and involved. When school medical inspection started many general practitioners misunderstood the situation. Some thought that child patients were being taken from them, which was not the case; others that they themselves ought to do the inspection, and they were invited to do it but found it impracticable. Under this service over two million children were medically inspected annually in the 22,000 public elementary schools, so that the entire population of school age was covered every three years. Children found to be defective were referred in the first instance to general practitioners, and tens of thousands of children were now receiving treatment from such practitioners. There were certain conditions, however, which the private practitioner did not want to treat because treatment was too tedious or for other reasons could not well be integrated into ordinary practice. These were eye cases, ear, nose and throat cases, skin complaints, minor ailments, and dental cases, which five branches of treatment had therefore been referred to hospitals and special clinics. Sir George Newman hoped that the course would be a means of drawing attention to the importance of studying disease in the child. From the medical aspect children's diseases were important because they were the beginnings of all disease; from the social aspect, because if the problem of the child's health were solved, the problem of the national health would adjust itself. The great body of infections, for instance, which began in childhood laid the basis for future constitutional weakness. Another line of study concerned those infant diseases which were carried on into school age. Of the children who came to school at 5, approximately 37 per cent. were suffering from some physical or mental defect. A task before the school medical service was so to differentiate the conditions found in children between the ages of 5 and 14 as to determine what it was below the age of 5 which prepared the child's body for subsequent disease. Then it was necessary to study the causes of infant mortality, which was the most sensitive index to the health of the community, more so than the general death rate. Finally, the school medical service, which was the logical outcome of compulsory education, must be closely co-ordinated with the public health service. It had been too long assumed that the public health service was mainly concerned with environment. The essential element in preventive medicine was the person, and it was from environment to the person that the centre of gravity in the public health service must gradually but steadily shift. The relation of morbidity returns to environment was indirect; their relation to the habits and practices of the individual was direct.

Sir George Newman went on to emphasize the fact that the school medical service was an instance of local autonomy. It was the responsibility of the 318 local education authorities, and the function of the central government was to supervise and to secure a measure of uniformity. The service started with inspection. Originally they were pressed to make the inspection of an elaborate anthropometric character, preparatory to a complete physical survey of the English people; but this was turned down because the examination of each child would have taken from thirty to sixty minutes, and might have irritated the child and have been misunderstood by the parents. The present inspection could be carried out in from four to seven minutes. The parent still had the right to refuse to have his child inspected, but the percentage of objections, never high, was now at vanishing point. Next came medical treatment, rendered necessary not only in the case of the five classes of ailments and defects just mentioned, but in the case of families who had no medical attendant to whom the children could be referred. The clinics now numbered 900.

He thought it an advantage to have whole-time officers to undertake inspection, but he was equally persuaded that for medical treatment there were great advantages in having part-time doctors who were practising clinical medicine and surgery in the district. The Government had done its best to encourage local authorities to staff their clinics on this principle; long before it became statutory for the local authority, in making provision for medical treatment, to consider how far that treatment could be provided by the private practitioners of the area before setting up any distinct machinery, that had been the policy of the Board of Education. There were at present under local authorities 730 general private practitioners at work in the school service, not to mention others in institutions. In conclusion Sir George Newman sketched briefly some of the other elements in the school service: the provision of special schools for defectives and of sanatorium schools, school meals for the ill-nourished, physical training, and the teaching of personal and school hygiene.

[1] See BRITISH MEDICAL JOURNAL, January 7th, 1922, p. 27.

British Medical Journal.

SATURDAY, FEBRUARY 11TH, 1922.

THE DESTRUCTION OF VITAMINS.

THE two facts of greatest practical importance about vitamins are, first, that a certain minute supply of these substances is essential for animal life, and secondly, that they are very easily destroyed. It is most necessary to bear this second characteristic in mind, for the actual existence of vitamins can only be demonstrated by the disastrous effects produced by their absence from the diet or their presence in it in insufficient quantities; indeed, since vitamins occur naturally in nearly all fresh foodstuffs, it is probable that their existence would never have been suspected had they not been such unstable bodies.

As we have indicated in a recent article,[1] an abundant supply of vitamins exists in all fresh vegetable foods, and considerable quantities occur in milk and in meat, provided that the latter are obtained from animals fed on fresh foods. A normal adult living on an ordinary diet containing a reasonable proportion of fresh vegetables is, therefore, certain of obtaining a plentiful supply of vitamins. Unfortunately, these indispensable food constituents are, as has been said, very readily destroyed. All three vitamins are rapidly destroyed by heating in the presence of air or oxygen. Hopkins showed that the fat-soluble vitamin A in butter was completely destroyed by heating the butter to 120° C. for four hours if oxygen was bubbled through the butter, although practically no destruction occurred if the butter was heated without aeration. The experiment established the important fact that this vitamin, though fairly resistant to heat, is readily destroyed by oxidation. Zilva found that the antiscorbutic vitamin C was completely destroyed by boiling for an hour in the presence of oxygen, but that no destruction occurred when it was boiled for two hours in an atmosphere of carbon dioxide. The destruction of vitamins depends largely upon the length of time for which they are heated in the presence of air. Hess, for instance, showed that little destruction of vitamin C occurred when tomatoes were heated to 100° C. for fifteen minutes, but that four-fifths of the vitamin was destroyed when the tomatoes were heated to 100°C. for an hour. Similarly, it has been shown that a greater destruction of the vitamin C present in fresh milk occurs when it is heated to 60° C. for half an hour than when it is boiled for a minute. The reaction of the fluid containing the vitamin is also of importance, for vitamins are much more readily destroyed in an alkaline than in an acid fluid. The fluid need only be feebly acid. The antineuritic, water-soluble vitamin B is more resistant than vitamin C, but it also is readily destroyed by boiling in an alkaline fluid in presence of air.

A fair proportion of all three vitamins in fresh vegetables appears to survive ordinary cooking, but prolonged boiling, such as occurs in making stews, destroys nearly the whole of vitamin C, and probably most of vitamin A and B. The vitamins in milk are unfortunately very unstable; ordinary pasteurization destroys practically the whole of vitamin C, and a considerable amount of vitamin A.

The extraordinary difficulty of retaining vitamins in preserved foods is in large measure due to the fact that vitamins slowly oxidize on keeping. Vitamin A is the easiest to preserve, for it appears to be fairly stable when dissolved in oil, and it can be kept in cod-liver oil for months and probably for years; it also survives for many months in tinned meat. Vitamin B can be preserved in the dry state, and wholemeal flour and unpolished rice retain their content of this vitamin for long periods. The preservation of vitamin C, the antiscorbutic vitamin, is by far the most difficult problem. This is well known; efforts have been made for the last hundred and fifty years to find some satisfactory way of obtaining a concentrated, portable, and stable preparation of the antiscorbutic element in fresh fruits or vegetables. The problem is of the greatest importance to the navy, and to explorers; in special circumstances it may be of first-rate importance to the army also. A stable preparation of vitamin C is essential for the prevention of scurvy when fresh vegetables and fruits are not obtainable. Lemon-juice was introduced as an antiscorbutic in the eighteenth century, and its use reduced the mortality in the navy enormously; lemon-juice is very rich in vitamin C, and the acids present help to preserve the vitamin. Unfortunately, in the nineteenth century lemon-juice was discarded for lime-juice, which has only one-quarter the vitamin content of the former. Lemon-juice, however, is not a really satisfactory vehicle for the preservation of vitamin C; Bassett-Smith found that commercial lemon-juice lost all its vitamin content rapidly; he showed, on the other hand, that dried lemon-juice tablets retained their vitamin for at least a year. Harden and Robison found that dried lemon-juice kept in a desiccator for fifteen months at room temperature only lost 50 per cent. of its activity. Hess ascertained that tinned tomatoes retained their vitamin C content with little loss for three years. He also found that if perfectly fresh milk was dried by a suitable process, and stored in sealed tins, its vitamin C content was preserved for many months. The simplest way of transporting vitamin C is by the use of dried peas; they contain little of the vitamin when dry, but produce large quantities when allowed to germinate; by the use of germinating peas an abundant supply of vitamins can be obtained by explorers or troops in sterile countries. It is important to realize that although dozens of different methods of food preservation are known, yet the few examples mentioned above are practically the only methods by which vitamin C can be preserved for any length of time.

Individuals living under normal conditions may suffer from vitamin lack, owing to an improper diet from which all vitamin-containing foods have been eliminated. All that is needed in such cases is the addition of such foods to the diet. The following foods are particularly rich in vitamins: Cod-liver oil contains about 240 times as much vitamin A as butter, yeast is the richest source of vitamin B, and fruit juices contain a large amount of vitamin C. Germinating seeds contain large amounts of both vitamin B and C, while green vegetables and tomatoes contain large quantities of all three vitamins. An abundant supply of all the vitamins can therefore be obtained simply by the addition to the diet of cod-liver oil and the fresh vegetables mentioned.

Certain workers claim to have produced concentrated preparations of vitamin B, but no methods are known by which either vitamin A or vitamin C can be obtained in concentrated form. Any attempt at chemical treatment produces a rapid destruction of the vitamins. As already pointed out, it is a matter of great difficulty to devise any means by which vitamin C can even be preserved, and its concentration is at present impossible. It is extremely easy to obtain an abundant supply of vitamin C by the use of fresh foods, but it is very difficult to retain more than a fraction of this vitamin in any form of preserved food. No substance is known

[1] The Sources of Vitamins, BRITISH MEDICAL JOURNAL, January 21st, 1922, p. 113

which contains more vitamin A than cod-liver oil, and, as has been said, it is only in the case of vitamin B that any success has attended the repeated efforts that have been made to purify or to concentrate vitamins.

In spite of the fact that ordinary fresh foods are the simplest, cheapest, and richest sources of vitamins, the public apparently demands to be supplied with vitamins in the form of medicinal products. A large number of preparations are on the market which claim to contain vitamins. Some of these preparations are so far satisfactory that the prepared article has been proved to contain vitamins, although even in these cases a few ounces of green vegetables would probably contain more vitamins than large quantities of the preparation. In the case of certain manufactured products, however, it is simply stated that the preparation is made from substances very rich in vitamins. This statement means nothing, for, from the facts mentioned in this article, it is obvious that even if a preparation is made from a raw material rich in vitamins, it does not follow that the finished article will contain any vitamin at all when it reaches the patient.

We have endeavoured to state the known facts as plainly and directly as possible, and invite manufacturers to take note of them. They may be unwelcome, but they are, we believe, incontrovertible.

LUNACY REFORM.

THE Departmental Committee appointed by the Minister of Health to inquire into and report upon charges made against asylum administration by Dr. Montagu Lomax in his book, *The Experiences of an Asylum Doctor*, has been the subject of a good deal of criticism, and the position of the Committee has now been made very difficult by the refusal of Dr. Lomax, after at first consenting, to give evidence before it. He has taken this course, he states, because he considers that the Minister of Health had prejudiced the case by his speech at the recent Conference on Lunacy Administration, because the Mental Hospitals Association had extolled the system at present existing in its pamphlet (referred to in this JOURNAL of January 21st), and had thereby forestalled the Committee's verdict; and because the National Asylum Workers' Union had instructed its members not to give evidence owing to the one-sided and unrepresentative character of the Committee. Dr. Lomax stated further that he was acting on the advice of the National Council for Lunacy Reform, and criticized the constitution of the Departmental Committee on the ground that its members were all associated with the administration of mental hospitals. As an alternative he urged the appointment of a Royal Commission. In a reply to this letter Sir Alfred Mond pointed out that, pending such an extended inquiry as might be necessary at a later date, the appointment of a Departmental Committee was the most expeditious method of discovering the amount of truth there might be in Dr. Lomax's allegations. He regretted the action of the Asylum Workers' Union since the conduct of the members of the union had been criticized by Dr. Lomax in the gravest terms, and he pointed out that Dr. Lomax did not assist in the formation of a true verdict by publishing a large number of allegations and then declining to substantiate them.

As to the aims of the National Council for Lunacy Reform, its secretary, Mrs. Barbara Gould, states that its immediate object is "to secure for the mentally afflicted, both those who are certifiable under the present law and those who are not, treatment which shall be purely medical and curative—hospital treatment as opposed to asylum treatment. In pursuance of this purpose we shall resist the Board of Control's policy of putting those in the early stages of mental instability into the atmosphere and conditions of the lunatic asylum." To this Sir F. J. Willis, Chairman of the Board of Control, has replied that the object of the Board is the same as that of the Council, and that to assert the contrary was untrue. He stated, furthermore, that, while recognizing that many of our institutions fall short of the ideal, nothing is more likely to check the spirit of progress than to cast obloquy on the work of those many men and women who are earnestly striving to do their utmost for the care and treatment of the mentally afflicted.

This brief survey will serve to indicate the present state of things. It must be recognized that the position of the Departmental Committee has now become one of considerable difficulty, and it is doubtful whether any conclusions at which it might arrive will have much weight with the public. In view of the fact that Dr. Lomax has refused to give evidence, and that the members of the Asylum Workers' Union have been instructed to adopt a similar attitude, it is difficult to see how the evidence on which the report should be based can be obtained. The situation is undoubtedly unfortunate, and there would appear to be some danger of the whole question assuming a political rather than a social aspect. The *Daily Herald* of February 4th publishes an account of an interview with Mrs. Barbara Gould, in which she states that the whole question is a matter for the Labour party to take up. It is, of course, a question for the Labour party, and every other party, to take up, and, as was pointed out in our leading article of last week, it is most desirable that the public as a whole should themselves take an intelligent interest in the problem of mental disorder.

Unfortunately, an impartial and careful survey of the correspondence to which reference has been made gives rise to the general impression that the National Council for Lunacy Reform is tending to assume an attitude of uncompromising opposition to any suggestion for reform emanating from the Ministry of Health, the Board of Control, the Mental Hospitals Association, or, indeed, anyone actually connected with the administration of asylums and the treatment of the insane. It is difficult to understand how such a policy can be effective in bringing about those reforms which may be desirable. The whole subject is extremely intricate; it is bound up with legal considerations and technical problems which can only be solved by those with an adequate appreciation of their difficulties. There appears to be an almost wilful tendency to misunderstand the aims, aspirations and suggestions of those actually concerned in the treatment of the insane, and a complete forgetfulness of the fact that the reforms which are now advocated have been the subject of discussion in the asylum world for several years. The contention of Sir F. J. Willis that the policy of the Board of Control is the same as that of the National Council for Lunacy Reform would seem to be perfectly just, and the letter published in our last issue, from Dr. Edwin Goodall, indicates an extremely enlightened policy, which has been adopted as part of the programme of the Mental Hospitals Association.

It is extremely important that the general public should support proposals for improvement in the conditions under which the insane are treated, but we feel that reforms will be achieved much more readily if those who are responsible for carrying them out receive the co-operation and support of the public than by an attitude of hostility and misunderstanding. As it is, there would seem to be a tendency by exaggerated statements to create a wrong impression of the atmosphere, treatment, and general conditions which exist in the asylums of this country.

EPIDEMIOLOGICAL STATISTICS OF EASTERN EUROPE.

THE assembly of the League of Nations decided last September that one of the functions of the Health Committee should be the organization of an epidemiological intelligence service. The Health Committee entrusted the work to the Health Section, which issued on January 14th its first report.[1] This report contains twenty-two pages of tabular matter, displaying the reported monthly incidence of typhus fever, relapsing fever, and dysentery in Eastern Europe for 1920 and 1921, and of cholera, enteric fever, and scurvy in Russia. Then follow several spot maps, statistical charts, and two notes, one on the incidence of disease upon the Red Army and the other on the Russian census. To judge from the diagrams relating to Poland of the Congress, the maxima of the successive epidemics of typhus in 1919–21 have declined. That of 1919 occurred in May, with over 31,000 cases; the maximum of 1920 was in January, with between 29,000 and 30,000. The diagram for 1921 shows a maximum in March, with about 10,000 cases. In Russia, on the other hand, the 1920 maximum greatly exceeded that of 1919. Cholera is widely disseminated through European Russia; mentioning only those governments which by October 29th, 1921, had notified at least 5,000 cases, we note the Ukraine, Voronej, Saratov, Samara, the Republics of the Bachkirs and Kirghiz, and Siberia. The Russian census commenced on August 28th, 1920, and the note on it is interesting. Comparative figures are only obtainable for the great cities and show large diminutions. Petrograd had fallen from 2,319,000 inhabitants in 1913 to 706,000, Moscow from 1,817,000 to 1,028,000, Saratov from 235,000 to 183,000. In the introductory note it is said that the "form in which this report is produced is by no means final. The most convenient method of producing charts and maps will be determined by the nature of the data that may be at the disposal of the Health Section in the future." For our part, we have some doubt whether the value of the data justifies the amount of typographical labour which has been expended upon them. Even in settled countries, statistics of incidence of infectious diseases are open to criticism and must be handled with great caution. Nobody, of course, would expect that statistics of notifications from Eastern Europe could do more than indicate the trend of events. The remarks on p. 39 of the report, where it is pointed out that no less than 43 per cent. of all scurvy cases and 46 per cent. of the relapsing fever cases were those returned by the military authorities, make us doubt whether even this limited value attaches to the Russian data. Yet an entire page of ten columns and forty-five rows is devoted to the notifications of scurvy in Russia. It also seems unnecessary to print the letterpress in both French and English. Few who consult these reports will be unable to read simple French. These comments are not intended to be depreciatory of the new venture, but one has to recollect that "official" statistics enjoy a certain prestige, and that they are often quoted by those who do not trouble to read the letterpress. Statistics cannot be made fool-proof, but when unreliable data are displayed in great detail there is some risk of avoidable error.

CANCER RESEARCH.

THE generous offers intended to stimulate cancer research made by Lord Atholstan and Sir William Veno have been directed into better channels since they were discussed in our columns on February 4th (p. 200). In response to the opinions publicly expressed by those in touch with scientific affairs, Sir William Veno immediately amended his offer, and has agreed to devote £10,000 to the direct and immediate assistance of cancer research during the next ten years in annual payments of £1,000. Lord Atholstan, in his turn, has stated that his first offer of a prize of 100,000 dollars (£20,000) for an "approved medicinal cure" for cancer still stands, but that he will give a second 100,000 dollars to help in the work of research. The authorities of any particular institution are always apt to consider their own as that which is doing the most important work, but we think the head of one of the metropolitan hospitals has been a little precipitate in assuming that the funds thus unexpectedly accruing to the support of research work in cancer are meant exclusively for one institution. There is more than one laboratory for cancer research in this country. The Imperial Cancer Research Fund has an honourable history of some twenty years, and its record of achievement is not less than that of other similar bodies engaged in the same work. The London Cancer Hospital in the Fulham Road has a research institute, where much excellent work has been done, as has also the Royal Cancer Hospital, Glasgow. There are special cancer hospitals too at Liverpool, Manchester, Bradford, Dublin and Cork, all of them seeking a cure for the disease. There are also the radium institutes; that which has been established for a dozen years in London has done a great deal of valuable clinical work which has thrown light on the pathology and treatment of cancer, and it possesses also a research department; the Radium Institute at Manchester, established largely through the efforts of Sir William Milligan, has well-equipped research laboratories and a highly competent staff. All this is said not by way of disparagement of the cancer research laboratories of the Middlesex Hospital, which are probably the oldest in this country, and from which much first-rate work has emanated. We can quite understand that the authorities of the Middlesex Hospital should greatly desire additional funds to enable them to extend the scope of the researches there conducted, but what is wanted seems to be some impartial tribunal which will decide how the gifts now made can most advantageously be administered. It may well be that the Medical Research Council might most properly be entrusted with this duty; it is a committee of the Privy Council and receives a substantial grant from Parliament. This grant has recently been cut down; we gather, however, that the Council is continuing the assistance it gives to cancer research, and it would no doubt be in a position to advise as to the distribution of new money. It will be remembered that the Council is empowered under its charter to hold money derived from private benefactions.

THE LEAGUE OF NATIONS AND THE OPIUM TRAFFIC.

THE records of police and coroners' courts continue to bear witness to the extent of the abuse of drugs of addiction such as morphine, heroin, and cocaine, and remind us of the need for effective enforcement of the Dangerous Drugs Act, 1920. Some progress, though slow, has been made by the League of Nations towards putting into operation the International Opium Convention of 1912 since we last called attention to the matter.[1] Arising out of recommendations of the Advisory Committee and resolutions of the second assembly of the League last September the Council has directed certain important steps to be taken. Thus the Provisional Health Committee of the League has been moved to conduct an inquiry as to the actual amount of morphine, heroin, cocaine, and allied drugs which are deemed to be required for medical and legitimate purposes in different countries. Then, again, communications have been addressed to China, and to governments having treaty relations with China, with a view to stopping the illicit importation of dangerous drugs into that distracted country. Replies are, we understand, slowly coming in to the questionnaire addressed by the secretariat of the League to the various Powers parties to the Convention, as to the steps they have taken to put its Articles into operation, and also as to the illicit manufacture of dangerous drugs within their territories. It appears that there are several Powers which are now members of the League but which have not as yet signed the Convention, and several others which have signed it but not yet ratified it. The secretariat of the League has transmitted to all member States the recommendation urging that they should prohibit the export of any of the dangerous drugs in question to any country

[1] *Epidemiological Intelligence: Eastern Europe in 1921.* No. 1. League of Nations, Health Section. Geneva, January 14th, 1922; pp. 53.

[1] BRITISH MEDICAL JOURNAL, August 27th, 1921, p. 329.

unless its Government shall have intimated its approval thereof and certified that such drugs are to be used for medical or legitimate purposes only. Questions dealing with the limitation of the world-production of raw opium to meet legitimate needs only, and as to the desirabilityof summoning a further international conference to consider the suppression of the abuse of all dangerous drugs, have been referred to the Advisory Committee, which is to hold its second meeting this spring; we are informed that April 25th has been provisionally fixed for its assembly. It is evident that much remains to be done in order to put into effective operation the provisions of the Convention of 1912 in regard to raw opium, opium prepared for smoking, morphine, heroin, and cocaine, and their salts and preparations, without at present embarking on a wider field. We have yet to learn that licences are required in this country for the manufacture of these drugs, or that any limitation is placed upon their production, as would appear to have been contemplated by the Dangerous Drugs Act of 1920. From a recent reply in the House of Commons it would seem that some 156,435 acres are under the poppy in British India, showing a more extensive cultivation than before the war. Nearly 1,000 chests of opium were exported from British India in 1919–20 to the Straits Settlements, Dutch East Indies, Siam, French Indo-China, Japan, Hong Kong and adjacent parts, and the Secretary of State is unable to say how much of this raw opium exported from India is converted into prepared opium for smoking. It would be interesting to know whether it is officially maintained that all the opium raised in India under Government control is required and utilized for medical and legitimate purposes only.

PHYSIOLOGY AND THE WAR.

IT must be recognized that physiology is an independent science, and not merely a branch of medical science, and that all exact knowledge of the activities of life—human or animal—is founded upon it; without this exact knowledge medicine and surgery and preventive medicine would have remained in their mediaeval stage of development. In the January number of *The Fight Against Disease*, the quarterly journal of the Research Defence Society, appears an article on "Physiology during the War," based upon the presidential address by Sir Walter Fletcher in the Section of Physiology at the Edinburgh meeting of the British Association last year. Modern physiology in this country may be said to have begun in 1836, with Sharpey's appointment to University College, London. To the influence of this great teacher may be traced directly the development of all the chief British schools of physiology. During the past half-century British physiologists laid the whole world under a heavy debt, and this period included the revolutionary work of Pasteur and Lister, which made a stronger appeal to the national conscience. During the war bacteriological work had its prominent place in the detection and prevention of disease, but in a sense the more complete the prevention of infective disease the more apparent became the stresses of war. The violences offered in modern warfare to the human body—whether by physical damage through exertion and exposure, by terror or excitement, or by the stresses of flying and fighting in the air—brought many new and urgent calls for precise physiological knowledge. The results of pain and fear, of haemorrhage, of shock by wound or operation, all required further analyses before effective treatment could be devised. Our forces being engaged in every climate, from the Equator to the Arctic regions, were faced with numerous local or accidental variations of diet, and it was necessary to apply physiological studies of heat-loss and of heat-production to the practical problems of clothing and diet. At home men and women alike were exposed to arduous toil and to poisons of many kinds needed for munitions, and in all these dangers the guidance of the physiologist was needed to avoid industrial fatigue and loss of output, and to devise methods of protection against industrial poisons. The menace of starvation threatened the whole nation, and our escape from that was due to a system of rationing, based upon accurate physiological knowledge gained by experimental methods. Sir Walter Fletcher said that it would be a truism and a commonplace to affirm that no bravery and no fortitude could have avoided defeat without the help of scientific men and of the fruits of experimental science, though that commonplace had never been enshrined in the addresses or thanks of Parliament, or in the prayers and thanksgivings of the churches. The Research Defence Society exists to promote national health and efficiency, to bring about a better understanding of the value of medical and surgical studies, and to expose the false and frequently absurd statements often made against them. That this work is necessary may be seen from the crude prejudices and sentimental appeals of such antivivisection publications as the *Abolitionist*, a British antivivisection magazine, the scientific value of which may be gauged from such an editorial comment as the following: "The only disease to which cow-pox bears analogy is that of syphilis. It is urged that cow-pox is not now taken from child to child, but is passed through a calf, and that the introduction of *human* diseases is therefore impossible; but the origin of the matter inoculated into the calf is unknown and its history is a very shady one" (*Abolitionist*, January 2nd, 1922, p. 7). The Research Defence Society, which defends medical studies and exposes the false statements that are made against them to the public, deserves to be supported by the medical profession. The annual subscription is 10s., and applications for the society's publications should be sent to the secretary, 11, Chandos Street, London, W.1.

A PHYSICIAN ON THE SURGICAL TREATMENT OF EMPYEMA.

IN a refreshingly frank paper, largely based on the application of knowledge gained during the war, about wounds of the chest, to the routine treatment of thoracic empyema, Dr. J. A. Nixon, of Bristol,[1] has pointed out that it is the physician's duty to improve the commonly practised treatment of empyema, which consists in opening and drainage by a tube. The procedure, comparable to opening an appendix abscess and insertion of a drainage tube, should, whenever possible, be avoided, for secondary infection readily supervenes, thus increasing the danger to life, causing increased interference with re-expansion of the lung, and retarding convalescence more than do most single infections. It has long been known that pneumococcic empyemas sometimes clear up entirely after aspiration alone, and this satisfactory result would probably be much more frequent if aspiration was performed earlier and for smaller collections of fluid than is the usual practice. The experience gained in the later part of the war from the influenzal cases, both in Europe and America, was that early resection for streptococcic empyema was disastrous, and that repeated aspirations either led to cure or tided the patients over until an operation could be safely undertaken. The operation, it is urged, should consist of a wide incision so as to allow good access to, and inspection of, the pleural cavity and its exploration with the hand for the removal of lymph. In order to favour expansion of the lung, the chest should be completely closed at the operation and resection of ribs should be avoided; if necessary, repeated aspiration can be performed subsequently. Dr. Nixon looks forward to the time when open drainage of the chest will be regarded in the light of "a surgical abomination," and points out how rapidly a collapsed lung will expand; in one case the lung was found to have expanded completely two hours after complete thoracotomy with hermetic closure of the wound. When the pleural cavity is properly cleaned the lung readily expands and is not prevented from doing so by the presence of air; for this reason breathing exercises, such as blowing into bottles, are unnecessary; in the presence of adhesions they are useless. Decortication of the lung should, if it is to be performed, be carried out at the time of the primary operation and not be regarded as essentially a late

[1] J. A. Nixon: *Bristol Med.-Chir. Journ.*, 1921, xxxviii, part 143, p. 82.

procedure. The lung can be handled without producing shock if care be taken to prevent displacement of the mediastinum and its contents; but if the heart is allowed to swing out of position very grave shock may result. In this connexion it is interesting to note how very little distress is caused by sudden pneumothorax when the heart is retained in position by old adhesions. The procedure designated by Tuffier as "Estlander's ill-advised operation" is defined by Dr. Nixon as "a belated confession of a series of therapeutic failures"; it appears to be based on the assumption that since the lung has collapsed the best that can be done is to accept the situation and make the chest wall also collapse. Collapse of the lung should be prevented by thorough exploration of the pleural cavity at the time of operation or as early as possible when it appears probable that the lung is not expanding. If this becomes the practice, Estlander's thoracoplasty, which merely sets a seal on an embarrassing deformity, will fall into the complete oblivion it deserves.

MEDICINE IN THE "ENCYCLOPAEDIA OF RELIGION AND ETHICS."[1]

As each volume of this great work has appeared it has been the practice to note here some[2] of the articles which have had medical matters as their subject, or which have been more or less directly related to medicine. The work is now crowned by the issue of the twelfth and last volume, and the highest compliment which can be paid to the editor (James Hastings, M.A., D.D.Aberd.) and his assistants and his publishers (T. and T. Clark, Edinburgh) is that the high level reached by the earlier instalments has been maintained fully. On an average each volume has contained over 900 two-columned pages, and the type, never large and often rather small, has conspired with the editor to crowd many more words into each page than a mere glance at the work would suggest. Thus there are here over 10,800 pages, or 21,600 columns, with at least 600 words in each column, or a grand total of more than 12,960,000 words; and there is no padding. It is a stupendous work; it is nothing less than a national achievement comparable to the *Dictionary of National Biography* or the *New English Dictionary;* it has been accomplished within fourteen years. To the medical man the concluding volume, like all its predecessors, offers many articles of interest. Even the first of them on Suffering, although not strictly medical, cannot but draw his attention, for it deals particularly with the problem of "meaningless pain," the riddle which is mutely or articulately asked of many doctors every day. There is something, too, of medicine in the articles on the Todas and the Veddas, both of them written by Fellows of the Royal College of Physicians of London (W. H. R. Rivers and Charles G. Seligman); but there is much more in several of the articles from the pens of non-medical authors. In the latter category comes the article on Sweat and Sweat House; a fact which may account for the slip with which it begins—namely, "sweat is a secretion of the sebaceous glands," sudoriparous, of course, being intended. Dr. Edwin Sidney Hartland's articles on Totemism and on Twins are most attractive; indeed, in that on twins the President of the Folklore Society has brought together and made a readable article of a great mass of extraordinary facts bearing upon the notions and superstitions that are to be found in every part of the world on the subject of plural births. To dip into it at random, one finds this: "In Mexico the Tlaxcalans call twins snakes; and they are believed able to cure the bites of serpents and other animals, as well as pain or inflammation of the tendons, especially of the feet and ankles; triplets will be kings." But in too many places twins are held to be unlucky and are destroyed. In India the birth of twins of different sex is a serious matter; their close association in the uterus has been sinful. "In the north-east of Scotland twins are so far regarded as unlucky that one of them, even though married, will be childless." Other articles touching on medicine are those on vegetarianism and on vivisection. The summing-up of the latter (which is by Geikie-Cobb, D.D.) is, "the method of regulation, not suppression, adopted in this country does justice at once to the unquestioned claims of the lower animals to kindly treatment and to the duty of man to his fellows—the duty of using his reason in the age-long task of diminishing and finally extinguishing that particular form of evil which goes by the name of disease." There is something, too, of medicine in the articles on suggestion, suicide, sun, moon, and stars, Swedenborg, tabu, the Tati bushmen, tatuing, teeth, temperament, temperance, the Tlingit, the Tongans, Tonking, transmigration, the Tungus, unction, vampire, Vancouver Island Indians, water, will, the Yakut, yawning, and the Yogis (and their hypnotic devices). Wherever the volume is opened something of interest is found. An index volume is in preparation, and will add greatly to the value of the whole work.

[1] *Encyclopaedia of Religion and Ethics.* Edited by James Hastings, with the assistance of John A. Selbie, M.A., D.D., and Louis H. Gray, M.A., Ph.D. Vol. xii. Suffering-Zwingli. Edinburgh: T. and T. Clark; New York: Charles Scribner's Sons. 1921. (Pp. xxiv + 876. 35s. net.)

[2] See JOURNAL, February 7th, 1914 (p. 335), January 9th, 1915 (p. 81), June 17th, 1916 (p. 862), and December 11th, 1920 (p. 910).

THE COLLEGE OF SURGEONS IN 1822.

FEBRUARY 13TH, 1822, is one of the landmarks in the history of the Royal College of Surgeons of England, for that was the date on which George IV granted it a supplemental Charter, changing the titles of the principal Master and Governors to President and Vice-Presidents, and providing that the Court of Assistants should in future be styled the Council of the College. The last Master and first President was Sir Everard Home, the pupil and assistant of John Hunter, whose sister he married. The "indelible blot" on Home's fame is his destruction of Hunter's manuscripts. The Charter of 100 years ago further empowered the College "at all times hereafter, and upon all such occasions as they shall think proper and expedient, to exercise and enjoy the Right and Privilege of having a Mace, and of causing the same to be borne by such Officer as they shall appoint for that purpose." Those who are familiar with the historical summary printed each year in the College *Calendar*, will remember that in 1800 George III had granted a Charter re-estabilshing the dissolved Company of Surgeons by the name of the Royal College of Surgeons in London, with perpetual succession and a Common Seal, and severing its connexion with the Corporation of the City of London. The centenary of the Royal Charter of Incorporation was celebrated formally in July, 1900, when the President, Sir William MacCormac, gave an address on the progress of surgery from early times, and the rapid advance made in the century that had just closed. On this occasion a large number of honorary fellowships were conferred. Among the lesser provisions of the Charter of 1822 was one permitting the College to provide a proper room, house, or building with suitable conveniences, for the dissection of the bodies of murderers, within half a mile of the usual place of execution, instead of within 400 yards, as formerly. The object of this was perhaps to meet the difficulty caused by the removal from Surgeons' Hall in the Old Bailey (hard by Newgate Prison) to the present site in Lincoln's Inn Fields, at the close of the eighteenth century. The dissection of murderers was abolished by the Anatomy Act of 1832. In 1843 the name of the College was changed by a further Charter to the Royal College of Surgeons of England, and a new class of members, to be called "Fellows," was instituted. The first 300 Fellows were elected in a general body under one diploma on December 11th, and a further election of 242 took place eight months later.

TREATMENT OF LEPROSY IN THE PHILIPPINES.

IN a note on leprosy in the island possessions of the United States (November 12th, 1921, p. 808) mention was made of the information on this subject given in the Director's report of the Philippine Health Service in 1919. We have now received the report for 1920. From this we learn that in May of that year a Committee on Leprosy Investigation

was appointed to make a thorough study of leprosy in the Philippine Islands, with a view to ascertaining by experiment the most efficacious treatment for the cure of the disease. A group of seventy-six patients was selected from the cases then at San Lazaro Hospital. Patients with active lesions of various types were chosen, but any with evidence of pulmonary, renal, or cardiac disease were rejected; the majority had nodular lesions. The patients were subdivided into five groups, and these were treated respectively with sodium gynocardate "A," sodium gynocardate "S," sodium morrhuate, chaulmoogra emulsion, and Mercado's mixture. The experiments were designed primarily to compare the Rogers treatment (or treatments) with the Mercado method. As a rule, the first three preparations were given intravenously twice a week; the last two were injected intramuscularly once a week. In some cases the subdermal route was employed, and in others two modes of administration were combined. Details of the treatment are given in the Committee's preliminary report. The Mercado mixture is noted as being by far the most painful of all the drugs used, and as giving marked immediate and remote reactions. At the time the work was begun not enough was known of the value of the Holman-Dean chaulmoogra esters to justify their use, but in the light of further information the Committee decided subsequently to select a new group of cases for this treatment. Of the treatments employed up to the time of reporting, sodium gynocardate "A" had given the best results, 86 per cent. of the cases showing some degree of improvement; the figures for sodium morrhuate were 75 per cent. improvement, for Mercado's formula 64 per cent., gynocardate "S" 60 per cent., and chaulmoogra emulsion 38 per cent. The sodium morrhuate and the Mercado mixture seemed to have the most bacteriolytic effect. These results inspired the hope that the new methods of treatment, if used systematically over longer periods, would produce permanent cures in a higher proportion of cases treated than was possible by any previous methods. The Committee accordingly advised that one or more of the chaulmoogra methods be made available for all the segregated lepers in the islands, and that the present investigation be continued on a larger scale, with a view to improving further the methods of treatment. It recommended an appropriation of 600,000 pesos for this purpose, but in view of the depleted state of the insular treasury this was cut down by the Legislature to one-sixth. An account of recent knowledge of the chaulmoogra oil derivatives was given in an article on the treatment of leprosy printed in the BRITISH MEDICAL JOURNAL of November 19th, 1921, p. 851.

PEKING UNION MEDICAL COLLEGE.

ON November 5th last we published an illustrated description of the new Medical College provided in Peking by the China Medical Board of the Rockefeller Foundation, and gave a brief account of the opening ceremonies, which were attended by representatives of many countries, including Japan, Great Britain, Canada, and France, as well as the United States. We have had the opportunity of reading a report made by the secretary of the foundation, Mr. R. Embree, from which we gather that the medical conference was a more serious meeting than we had supposed. On the morning of each of the seven days which the conference lasted two hours were spent in witnessing demonstrations in medicine, surgery, obstetrics, pathology, and various specialties given in six or seven clinics by visiting professors and members of the college faculty alternately. For the next hour one of the visiting scientists gave an address. The members took their revenge in the afternoons, which they spent in sightseeing and junketings. Chinese societies gave luncheons, the foreign legations gave dinners and teas, and "the Peking Chamber of Commerce bundled us all off in a flock of automobiles late one afternoon to the summer palace of the late Empress Dowager for a picnic supper and a magic view, by the yellow September moon, of the royal pleasure grounds among the Western hills." A dinner to faculty, trustees, and delegates "closed Saturday evening in a riot of speech making," but usually the members of the conference were expected to assemble each evening in the auditorium to hear an address on some medical topic of general interest. During all this time the trustees, eschewing pleasure, lived laborious days in the council room of the college, reviewing each item of the budget proposed for the next two years. These discussions were serious, for the expenditure on the buildings, their equipment and supply, has been larger than was originally planned and the costs for the annual maintenance threaten "to become intolerably great." The budgets finally agreed to for the college and hospital for the next three years are slightly below those of similar well-established institutions of high standing in the United States. The classes in Peking are still small and not more than 175 hospital beds are to be used at present. The Foundation recognizes that the college can never hope to train the very large number of medical practitioners needed by the Chinese, but it is intended to set a standard, to train leaders, and to demonstrate what an adequate medical college in China might be. The faculty as it exists to-day falls into three groups—first a nucleus of medical men who have served in mission hospitals and schools who were selected from the six or seven hundred medical missionaries in China and further trained with the help of fellowships in England or America before being given positions on the staff; secondly, a group of men who have been brought directly from teaching or research institutions in the West to continue their scientific careers in the new college; and thirdly, Chinese practitioners, who already form a fair proportion of the whole faculty. It is hoped that their number will steadily increase and that their academic and administrative responsibilities will be rapidly extended.

PROSPECTS OF THE PARLIAMENTARY SESSION.

NEITHER the King's Speech at the State opening of Parliament for the new session on February 7th nor the initial debate gave any indication if and when a dissolution is contemplated. But there was no expectation that any hint would be afforded in any case. Finance, Irish legislation, and House of Lords reform were the principal subjects touched upon, but it was noticed that there was no committal to the introduction of a bill to deal with the reconstitution of the Second Chamber. The word used in the Speech from the Throne was that "proposals" for House of Lords reform would be submitted, thus leaving the course of the Government in this regard undefined. It might conceivably be that only the policy of the Cabinet would be announced. The term might be equally consistent with a resolve to press forward the solution of the problem within the session. A significant declaration in reference to economy was that the retrenchment deemed necessary "must involve hardship to individuals and the postponement of public hopes." A good deal of interest will be aroused in two minor bills which are included in the small programme. The first of these, which is to be introduced immediately by the Minister of Health, Sir Alfred Mond, is to increase the contribution rate and benefit under the National Insurance Act. According to rumour, employers and employed are each to be required to give an extra halfpenny a week in respect of each insured person. The second announcement was that the Government will bring in a Criminal Law Amendment Bill; expectation is that this will be more or less based on the Bishop of London's Bill of last year, which had been modified to meet the recommendations of a Joint Committee. This was shipwrecked in the Commons late in the session. It had the sympathetic support of the Home Secretary on behalf of the Government, but a measure brought forward by a Minister will, of course, be in a much more hopeful position from its very start for getting passed into law.



Photograph by] THE BROMIELAW, GLASGOW. [*Annan, Glasgow.*

NINETIETH ANNUAL MEETING

of the

British Medical Association,

GLASGOW, 1922.

GLASGOW TO-DAY.*



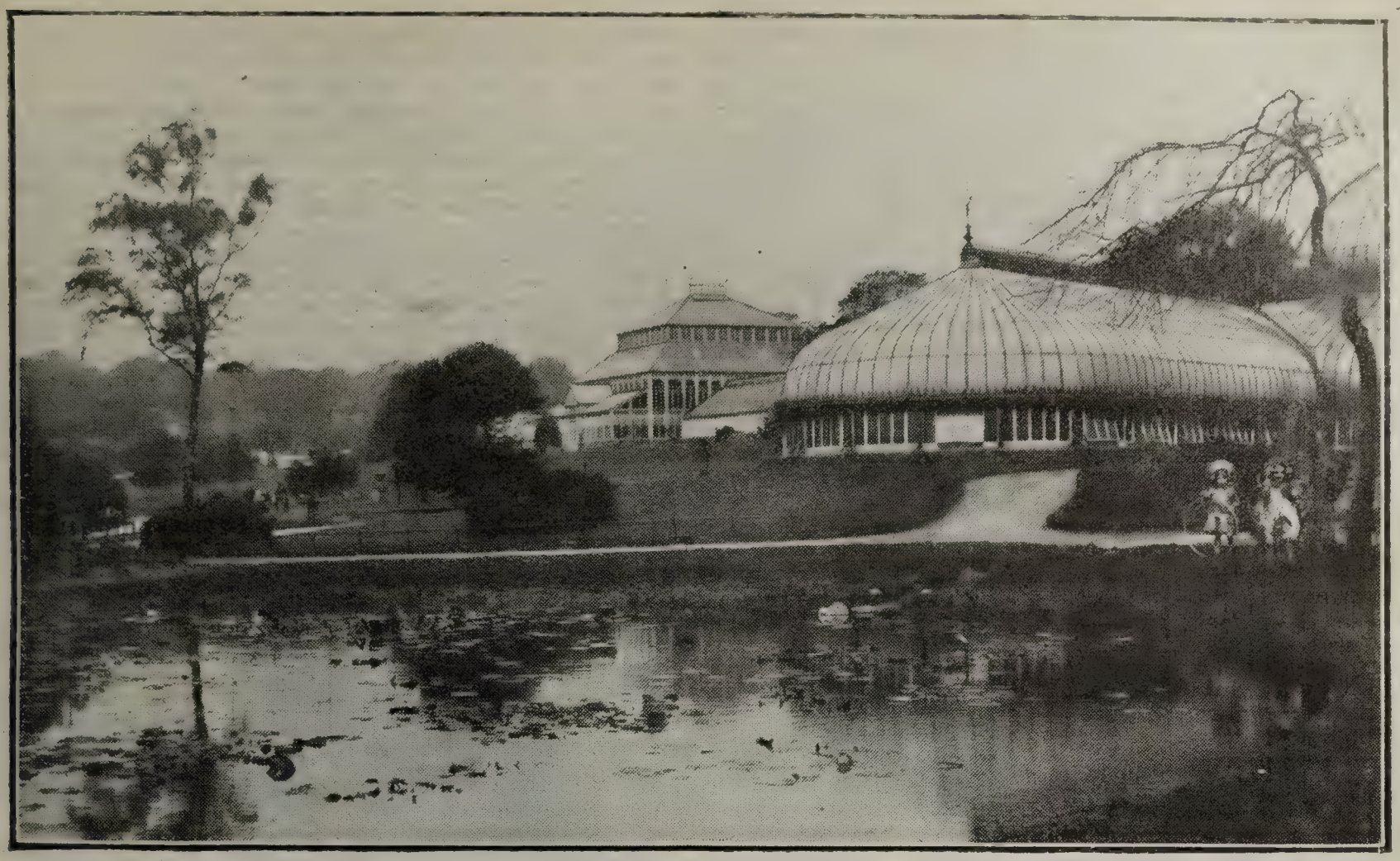
TOLBOOTH STEEPLE.
(*Photo. by Annan, Glasgow.*)

FROM the curiously diverse impressions of Glasgow in the minds of Englishmen one thing at least can be deduced with fair certainty. The favourable impressions were those of people who had stayed with friends and been taken about; the unfavourable, of people who had been stranded in hotels. Glasgow does not cater well for strangers. To arrive in Glasgow on a wet Saturday by way of Cowlairs or St. Rollox, and spend a lonely week-end in an hotel, is an experience which the native cannot contemplate without a shudder. It would have been more tolerable fifty years ago, when the city was about half its present size and there were charming rural nooks within half an hour's walk from George Square. To-day, with the country smudged or suburbanized for miles around, Glasgow is driven in upon itself for solace. Hence the prodigious outcropping of gorgeous teashops, picture-houses, and dancing palaces. These, however, are mere escapes, of decidedly limited appeal. Their existence may point the need for open spaces and gardens within the city; for an attractive lay-out of the banks of the Clyde above the harbour; for the dissipation of the smoke-cloud that robs the city's life of light and colour; for the conversion of the depressing and furtive "pub." into a cheerful café; for the removal of ugly posters; and for the building of an opera-house and a repertory theatre. Glasgow's main defect is that she has not yet thoroughly realized her metropolitanism.

The greatness of Glasgow and her glaring defects are explained by her history. Under the shadow of the Cathedral she rose in Celtic times from an obscure village to a market town, which straggled downhill and linked up with a fishing hamlet on the Clyde; with the founding of the University in 1450 she became a social and cultural centre, and the traditions of this period were continued into the mercantile era—commemorated by the Tron Steeples and St. Andrew's Church—when, under the aegis of the "tobacco lords" and the University professors, Glasgow became perhaps the most beautiful city in Britain. Then came the industrial era the deepening of the Clyde, the working of the coal and iron measures, and the flooding-in of semi-barbarous "labour" from starving Ireland; Glasgow burst her mould, and added to her traditional functions those of a greater Birmingham and a smaller Liverpool. The result was disharmony, a strange mixture of handsomeness and ugliness, of wealth and squalor. Glasgow is still struggling to sort out the mess that culminated about the middle of last century. The struggle is not so much material as psychological. It is the effort of the constructive, intellectual, and civically-minded elements to counter the sordid and illiberal influences that got the upper hand during the height of the manufacturing era.

In the Middle Ages the centre of Glasgow was at the south-west corner of what is now Cathedral Square. By the sixteenth century it had shifted to Glasgow Cross, where the Tolbooth Steeple now stands. A century ago it was some-

* Previous articles, on the City and University of Glasgow, have appeared in the BRITISH MEDICAL JOURNAL of December 3rd, 1921, p. 961, and January 7th, 1922, p. 29.



Photograph by] THE BOTANIC GARDENS, GLASGOW. [*Annan, Glasgow.*

where towards the eastern end of Ingram Street, and forty years ago the municipal government found a permanent seat in George Square. To-day the vital centre of the city is at the corner of St. Vincent Street and Renfield Street. The comparative nearness of all these points to one another indicates that the expansion of the city has been in all directions. But the greatest spread has been westward. From the St. Vincent Street corner open, or at least "smudged," country can be reached in less than an hour's walk north or south, and in slightly over an hour's walk due east; westward the tenements, docks, factories, and shipyards extend for about nine miles. A hundred years ago offices, dwelling-houses, and factories were jumbled together; the first real prevision of the future growth of the city was the laying out of the terraces at the west end of Sauchiehall Street about 1825, and since that time there has been a leap-frog process which has resulted in a city as definitely sorted out as London. The "heavy" industries have retreated to the outskirts of the city, mostly to east or west. Springburn, in the north, has become the centre of a huge locomotive-building enterprise. The miscellaneous or small-scale manufactures fill the interspaces of all save the most exclusive of the residential districts; their chief concentration is in Bridgeton and Mile-End, contiguous regions vieing in concentrated unpleasantness with anything in London's East End.

Within the city proper the most notable feature during the last fifty years has been the conversion of "genteel" tenements or terrace houses into working-class dwellings, workrooms, or offices. Monteith Row, owing to its fine frontage to Glasgow Green, has been spared this degradation. But the old villas on Garngad Hill have been submerged in squalor; Gorbals, once an eminently "select" quarter, has become Glasgow's Ghetto, paraded after nightfall by patriarchs in bowler hats and long surtouts, buxom Miriams and Rebeccas, and keen-eyed swains who have spent the day auctioning jewellery and drapery in Trongate booths. Garnethill, on the north of Sauchiehall Street, has a synagogue at one end and a fine new Roman Catholic church at the other, with every conceivable kind of "institution" between; it is also the hill of the fairies, who may be seen at midday tripping down to rehearsals. Sauchiehall Street is the western part of Glasgow's shopping region, which extends down the chief thoroughfares to Trongate, with its fashionable centre at Buchanan Street, where the motors of the "County" occasionally grace the scene. "Sauchie," as some of its pseudo-oriental features may indicate, is also Glasgow's pleasure street, and in this capacity has probably a big future before it, for Glasgow has made a vigorous awakening from the puritanical slumber of the senses.

The City Chambers, the Royal and Stock Exchanges, and the braw banks are all noted in the guide book. But the guide book omits to note that between Queen Street and Hutcheson Street lies the "werrus" (warehouse) region—possibly the "essential" Glasgow—which is so admirably described in Frederick Niven's novel, *Justice of the Peace*. To the rather "wersh" odour of piece goods succeed the very definite aromas of cheese, ham, and vegetables. East again of the provision quarter one enters the fragrant precincts of the slaughter-house and the cattle and meat markets—not a delectable district, but abounding in quaint human character and thumping big cheques. Here acquaintance may be made with a "benefit shop," a "fent merchant," and the thing actually connoted by the term "noxious trade."

To a Glasgow man the name of his city mentioned at random would probably conjure up Gordon Street at five on a week-day afternoon. Short, straight, and closed in by buildings at both ends, the street is like a huge tank or trench. At one minute to five the stream, though full, is normal. At five there is a deep murmur from all the streets around, and in an instant the vehicular traffic is blotted out by a silent, hurrying throng, overflowing the roadway; with a fixed unseeing stare each shuffles or trots along, obtaining his paper from the newsboy by a two-handed process like that of an engine-driver exchanging discs with a signalman. At Hope Street you find yourself struggling against the main inflow. It is pouring down from Blythswood Hill, in Madeline Smith's day a genteel residential quarter, now the legal, accounting, ship-owning, and general "business" quarter of Glasgow—its City, in fact—with St. Vincent Street as its main artery. The chief outflow of this flood is the Central Station; the "Cathcart Circle"—an interesting survival—collaborates with the "cars" in transporting the majority of Glasgow's white-collared or shirt-waisted brigade to the pleasaunces of Govanhill, Mount Florida, Shawlands, Strathbungo—in short, to that vast borderland of tenements and terraces and cottages known as the "South Side," which, at its western end, bourgeons into the gorgeous villadom of Pollokshields, with lakes, parks, feudal battlements, and an outlook over ancestral policies to the wooded slopes of Renfrewshire.

A smaller outflow finds its way to Dennistoun, a smoke-scourged suburb hemmed in by cemeteries, breweries, chemical works, and slums. Then there is a large but more leisurely percolation to the West End, the region encircling Kelvingrove Park (Glasgow's finest achievement in town-planning) and the Botanic Gardens. On the South Side one enjoys fresh air, modern improvements, and adjacency to open country, but one is cut off from the life of the city—south of Jamaica Bridge there is not even a passable restaurant—and the majority of the people are "incomers" who have never seen Glasgow Cathedral or read "Senex" or MacGeorge. In the West End one is in close touch with the main life of the city and, through the University and Art Gallery and the orchestral concerts, with the wider world of art and letters; Woodsidehill was the creation of Glasgow's consuls and barons, and Hillhead and Dowanhill have a mellowness that makes up for smokiness. In Great Western Terrace Kelvinside possesses the finest domestic work of Glasgow's greatest architect, Alexander Thomson ("Greek" Thomson), whose buildings—including St. Vincent Street United Free Church and Queen's Park East United Free Church—the visitor should not miss.



Photograph by GREAT WESTERN ROAD AND KELVIN BRIDGE. *[Annan, Glasgow.*

One has accounted only for the bourgeoisie, *grande et petite*. What of the working classes, who form the vast majority of the population, and on whose skill and physical endurance the prosperity of Glasgow is based? Drink, bad housewifery, and recklessly large families have depressed their conditions, and they are probably the worst housed people west of Moscow. The dingy frowsiness of the huge barracks in which they are crowded makes the magnificent stone of which Glasgow is built as depressing a medium as English brick. The canyons of Hutchesontown, Camlachie, and Govan are unresponsive even to the crepuscular glamour that poetizes the massive buildings of the city and the West End. That grace of body or mind should be rare in such conditions is little wonder, or that such intellect as manifests itself should run to an arid and resentful doctrinairism. Yet in the fundamental human virtues the Glasgow working classes are rich, and in character and humour second to none among the world's peoples. Their recent intellectual awakening, though it took a crude and even dangerous form, was an earnest of strength and purpose, and of a determination to make the world a little better than they had found it. In this determination, strengthened and guided by school teachers, and by the more humble-minded of the "intellectuals," lies the chief hope of our race. It is probably in those streets which the visitor cannot pass without a sinking of the spirits that the germ of the greater Glasgow of the future could be found.

Glasgow is pre-eminently a "business" city, a fact which is unduly insisted upon by those of its inhabitants who make it an excuse for neglecting its civic and social interests, or for not devoting their leisure to anything more strenuous than golf or musical comedy. But in the view of those who love their city, industry and business are only means to the great end of making the very most of the rich human material contained in a city where the racial elements of Scotland, mainly Celtic, are uniquely blended.

In a historical perspective the University, even more than the Town House, is the real centre of Glasgow. Glasgow has a great tradition to maintain in philosophy, theology, economics, and, above all, in applied science and in medicine. Her record in art goes back to the days of the Foulis Academy in the middle of the eighteenth century, and the Celtic element manifested itself in the taste and enterprise of buyers like McLellan, in her early appreciation of genuine impressionists like Monticelli, Boudin, and the Marises, and in the rise of her own Glasgow School, which affected the whole current of British art. In literature she has been less notable, owing to the failure of her publishers and her reading public to realize her new position as the vital centre of Scottish life. A like failure has accounted for her poor record in drama as compared with Dublin, but the defunct Repertory Theatre left an impulse which has been directed into national channels by the Scottish National Theatre Society, recently founded in Glasgow.

With huge stone quarries and much money at her disposal, Glasgow was bound to take a high place architecturally among British cities, and at certain periods her building was directed by a Roman taste for symmetry and magnificence. The wealth of splendid architecture that she has hidden away in her blanket of smoke, to be blackened by soot and eaten by nitric acid, will only be fully revealed when the citizens of this proud and ancient city have at last made up their minds to follow the example of Pittsburg and consume their smoke in furnaces instead of breathing and swallowing it. Our abiding vision is of a Glasgow familiar with sunshine, a Glasgow in which trees can flourish and white collars last for two days, and in which the standard of public tidiness shall be equal to that of a respectable middle-class home; a Glasgow fit for commercial travellers to live in, and evoking from strangers such praises as were showered by Defoe upon the Glasgow of two centuries ago.

THE arrangements for the special post-graduate courses in surgery under the auspices of the Fellowship of Medicine and Post-Graduate Medical Association, which were noted in our issue of January 21st (p. 110), have now been completed. The course will be held from February 20th to April 1st, 1922, and the syllabus of the course may be had on application to the secretary of the Fellowship of Medicine, 1, Wimpole Street, W.1. The fee for the course is twelve guineas.

England and Wales.

UNIVERSITY GRANTS.

THE Vice-Chancellor of the University of London has addressed to the Prime Minister a letter on the same lines as the memorandum presented by the Universities of Leeds, Liverpool, Manchester, Sheffield, Birmingham, and Durham, protesting against the proposal, understood to be seriously entertained, to reduce the grants made through the University Grants Committee to the universities. The general argument is the same as that set out in the note published in our issue of January 14th, p. 71. As in the memorandum of the Northern and Midland universities, it is pointed out, on behalf of the University of London, that through the grants they received the universities were enabled during the war to render to the nation services of vital importance, and that the restoration of the country to full material and intellectual efficiency demands a continued supply by the universities of well equipped men and women able to devote their abilities to the work of education and research, free from the crippling anxieties of inadequate means and uncertain prospects. The Treasury grant helped to make it possible to improve the salaries of teachers, but there is the danger that London will not be able to attract or retain the type of man most suited for university work. Fees for tuition and examination have been raised to a point as high as, perhaps higher than, can be justified if the University of London is to fulfil the primary obligations of its first charter. The Senate of the University therefore urges the Government that it should continue, and at the earliest possible moment increase, the sum spent on activities so vital to the well-being of the country, to the empire, and to mankind, as those carried on by the universities.

GENERAL NURSING COUNCIL FOR ENGLAND AND WALES.

A communication from the Ministry of Health, dated February 4th, 1922, states: A meeting of the General Nursing Council was held on February 3rd, at which Sir Wilmot Herringham presided for the first time since his appointment to succeed Mr. Priestley. All the members who resigned with the late chairman have now withdrawn their resignations, and the Council has resumed its normal activities. In view of various unauthorized and unfounded statements which have been made, Sir Alfred Mond thinks it desirable to state that these resignations had nothing to do either with the question of the syllabus of training or the question of the entry of certificates in the Register. There is, further, no foundation for the suggestion that there has been any controversy between the Council and the Minister. On the contrary the relations between the Council and the Ministry have been uniformly cordial.

MANCHESTER MEDICAL SCHOOL.

The medical school of Manchester is about to celebrate the jubilee of the amalgamation of the Manchester Royal School of Medicine with Owens College, and, at the same time, the 101st anniversary of the recognition of Mr. Jordan's classes in anatomy and surgery at Manchester, as qualifying for the examinations of the Royal College of Surgeons of England. Previous to the recognition of Mr. Jordan's classes no teaching given outside London had been recognized as qualifying for examination purposes by the college.

It is announced that Professor H. B. Dixon, C.B.E., F.R.S., will shortly resign the Sir Samuel Hall Chair of Chemistry at Manchester University; the high standing of the department of chemistry at Manchester has been steadily built up by the long and devoted labours of Professor Dixon, and his impending retirement will break a lengthy association.

LONDON NEUROLOGICAL CLINIC.

The fourth annual dinner of the London Neurological Clinic, established by the Ministry of Pensions, was held at the Imperial Café on January 28th, some fifty to sixty members of the clinic and their friends being present. Sir Maurice Craig and Dr. Henry Head were the guests of the evening, and among others present were Sir John Atkins, Sir Charlton Briscoe, Dr. David Forsyth, and Dr. C. R. A. Thacker. The toast of the Clinic was given by Dr. Danvers-Atkinson and acknowledged by the chairman, Dr. H. E. Davison, the medical superintendent of the clinic. Dr. Davison described the great increase in the activities of the institution during the past year; the total number of cases examined had been over 14,000 and of cases treated over 4,000. Clinics on similar lines had been, or were being, established throughout the country. Dr. W. A. Brend proposed the health of the guests. In reply, Sir Maurice Craig referred to the great development of psychotherapy during and since the war. There had never been a period in the history of psychological medicine when so much advance had been made in the views and theories on this subject. He congratulated the clinic on the excellent work it had been performing, and hoped that it might eventually work on a more comprehensive basis. Dr. Henry Head spoke of his association with the Clinic during the years 1917 and 1918, and expressed his appreciation of the good work that had been done. He referred to the difficulty which arose from the demand of the laity that the physician should be "pontifical," while the present state of our knowledge of psychotherapy often rendered that impossible. The clinic was collecting observations and investigating the causes of neurotic disorders, and it might be accepted that from its efforts good results had accrued and would continue to accrue. A musical entertainment concluded a very enjoyable evening.

Scotland.

LISTER MEMORIAL IN GLASGOW.

THE usual weekly meeting of the Glasgow Medical Lunch Club was held on February 2nd in Ferguson and Forrester's Restaurant, when Dr. F. W. Martin presided, and Professor Robert Kennedy was present as the guest of the club. His address took the form of an appeal for the retention of the Lister Ward in the Glasgow Royal Infirmary as a permanent memorial to Lister and the great work he accomplished for surgery and for mankind. It is a matter of common knowledge that it was in the Glasgow Royal Infirmary that Lister first introduced and practised his antiseptic system of surgery. The ward in which he worked still stands, forming the ground floor of the old surgical block not yet demolished, though out of use. In 1912 the infirmary managers decided to retain this original ward as a memorial to Lord Lister, to be utilized as a museum, and following this decision the Lister Memorial Committee proceeded to make a special appeal for funds and for objects of Listerian interest. However, in 1914 the managers rescinded the decision for retention and decided to complete the demolition of the old buildings. During the war the question remained in abeyance, but recently it was raised again at a meeting of the Lister Memorial Committee, when it was determined to approach the board of managers to reconsider its decision to remove the ward. They, however, adhered to their decision for demolition. On December 31st last Mr. A. Ernest Maylard published a letter in the *Glasgow Herald*, in which he reviewed the position and the managers' decision and made a strong protest against the proposed action of the board. This letter was replied to at the New Year's Day meeting in the infirmary by the treasurer, Mr. Timothy Warren, who discussed the question at some length, giving the reasons for the managers' decision. Professor Kennedy proceeded to deal with these reasons seriatim, setting forth strong arguments in favour of the retention of the ward, and hoped that wiser counsels might yet prevail so that such a valuable asset as the original Lister Ward should not be lost, but should remain as a permanent memorial to the man and his epoch-making work. Meantime, it should be noted that, following the rejection by the board of managers of the proposal of the Memorial Committee regarding the ward, it has been decided to use the money already raised to erect a seated statue of Lister adjoining the statue of his colleague Lord Kelvin, in the Kelvingrove Park, in front of the university of which he was so distinguished an ornament. Professor Kennedy made a strong appeal to the members for their support in this important matter. It was unanimously decided, on the motion of the Chairman, to forward to the managers of the Glasgow Royal Infirmary a letter of protest against the proposed demolition of the Lister Ward.

EFFECTS OF THE RELIGIOUS REVIVAL IN N.E. SCOTLAND.

In the annual report of the physician superintendent of Aberdeen Royal Asylum allusion is made to the recent religious revival in the north-east of Scotland, and the allegation is controverted that the revival was responsible for the mental illness of a number of patients admitted to the

asylum. He states that the revival was confined almost entirely to those engaged in the fishing industry, who are a religious people, but because of the nature of their calling and their consanguinity their emotions are easily aroused. Many reports of a sensational character concerning the effects of the recent revival have been made, but it had been found from personal observation and inquiry that they had been much exaggerated. Since the end of September there had been nine patients admitted from the parishes in which the revival movement had taken place, but this number had frequently been exceeded for a similar period within the last five years. In no case admitted could it be said that the revival was responsible for the mental illness.

Ireland.

ROBERT CAMPBELL MEMORIAL.

SUBSCRIPTIONS to this fund amounting to £859 17s. have already been acknowledged in the JOURNAL (January 15th, 1921). The following additional subscriptions have now been received:—

	£	s.	d.
*H. T. Hardy Green	2	2	0
The late John Simpson	3	3	0
R. M. Fraser	4	0	0
R. C. Crawford (Monaghan)	3	3	0
R. Maitland Beath	2	2	0
H. E. Rutherford (Larne)	1	1	0
J. Cathcart (Eccles)	2	2	0
J. Campbell Hall (Monaghan)	5	5	0
J. T. Creery (Coleraine)	2	2	0
Robert Reid	5	5	0
Total subscriptions received ...	889	1	0

* £1 1s. of this subscription was already acknowledged (January 15th, 1921).

The Robert Campbell Oration.

The committee appointed by the subscribers to the Robert Campbell Memorial Fund have invited Colonel Thomas Sinclair, C.B., in recognition of his eminence as a surgeon, and his long and valued services to the Belfast Medical School, to deliver the first Memorial Oration. The oration will be delivered in the Medical Institute, College Square North, on Thursday, February 16th, at 8 o'clock. The orator will give an account of the life and work of the late Mr. Robert Campbell, followed by an address on the surgery of the blood. The chair will be taken by Sir John Walton Browne, M.D. Members of the profession are cordially invited. Tea will be provided after the meeting by the kindness of the trustees.

Correspondence.

THE RECOGNITION OF AORTIC INCOMPETENCE.

SIR,—In his useful paper on the frequency with which an aortic regurgitant murmur is missed, Dr. Brockbank does not mention the cause which seems to me the most important, a cause to which I drew attention at the meeting of the Association of Physicians in 1920.[1] It is that many aortic regurgitant murmurs are inaudible to the double stethoscope, although distinct to the single wooden stethoscope. I also pointed out that some slight aortic regurgitant murmurs, whilst inaudible to both stethoscopes, are easily heard by the unaided ear laid directly on the chest. I have now in hospital a lad whose diastolic murmur is heard with difficulty with the double stethoscope, a little better with the wooden one, and quite easily by the ear on the chest. In looking for an aortic regurgitant murmur, therefore, all three methods of auscultation should be used. It is unfortunate that the relative merits of different modes of auscultation are still generally unknown. The exclusive use of the double stethoscope at present in vogue is a misfortune for cardiology.—I am, etc.,

Exeter, Feb. 4th. W. GORDON.

SIR,—Reading Dr. Brockbank's interesting article on this important disability suggests the question, Was it not Dr. Graham Steele who said that in aortic regurgitation a stethoscope should only be used to clinch the diagnosis?

Stand the patient so that the light falls obliquely on his neck and casts a slight shadow on the inner side of the sterno-mastoid. Get him to stand still with his chin slightly raised, and note the excessive pulsation of his "swinging carotids." Then slightly abduct the arm of the same side, and slightly flexing and supinating it at the elbow, note the backward and forward writhing of the "locomotor brachial." Then grasping his wrist with your hand of the same side—that is, right with right—so that your palm is in contact with the flexor surface of his wrist, lift his hand above his head so as to accentuate the effects of the rise and fall of blood pressure, and note the distinct tapping against your palm characteristic of the "Corrigan pulse." Then seat the patient facing the light, slightly evert his lower lip, and press a microscope slide against the mucous membrane so as to get a central blanched area, and whilst keeping up a steady pressure, notice how this blanched island waxes and wanes with the ebb and flow of "capillary pulsation."

If these signs are present they suffice to establish the diagnosis of aortic regurgitation, even if at the moment no diastolic murmur can with certainty be heard.

Failure to hear a diastolic murmur may be due to the distraction of extraneous noises, from which handicap even members of medical boards are not immune. It may be due to the presence of numerous râles and rhonchi in the adjacent lungs and the inability of the patient to hold his breath long enough.

It may be due, as Dr. Brockbank points out, to the examiner contenting himself with a casual application of his stethoscope to the so-called aortic area in the second right costal interspace instead of also listening carefully at various points down the left side of the sternum.

And it may also be due to the elusive character of the murmur itself, which in the early stages of this disability may be perfectly obvious one day and impossible to elicit on a subsequent occasion, in either case tempting one to doubt the competence of a previous observer.

Sometimes, unlike a presystolic murmur, it may be heard more easily whilst the patient is standing than when lying on his left side, and the hardest variety of all, in my opinion, is where the semilunar valves close with a clean snap, followed by a short hiss, which is very easily missed. The importance of the early diagnosis of this disability, of course, lies in the fact that in the early stages the exercise tolerance may be so good as apparently to justify the man continuing an occupation which will inevitably accelerate the development of irremediable heart failure.

Although not exhausting the possibilities of this way of examining aortic cases I think I have sufficiently indicated the value of making full use of the unaided senses before having recourse to instrumental aid.

As regards the position of the apex beat, the advice to search outwards well in all heart cases where it cannot be at once definitely located in the normal position is most important. I remember one case where a diffused impulse outside the nipple line resolved itself finally into displacement of the heart due to old lung trouble, the apex beat being finally located near the angle of the left scapula. But as regards the position of the apex beat in aortic cases, as its outward displacement depends on the consequent heart failure, and this again on the degree and duration of the disability, it follows that the object of the examiner should be to establish the existence of incompetence before the displacement outwards has occurred.—I am, etc.,

Manchester, Feb. 6th. FRANCIS HEATHERLEY.

INFLUENZA.

SIR,—Sir G. Archdall Reid's remarks on past influenza epidemics are interesting and instructive. Having had ample opportunity of seeing many cases in the course of the intensive work of an extensive panel and mining practice, and having observed four cases in my own home, may I supplement them by a brief reference to the present epidemic? Several outstanding types have been noticeable in this area.

First, the ordinary type with pain in head, back, and limbs, and moderate pyrexia. Laryngitis and bronchial catarrh were common accompaniments; epistaxis was not so prominent a symptom as in the last epidemics, but "pink eye" was, I think, as prevalent. On the other hand, cerebral symptoms were very infrequent. Pneumonia supervened in several instances, as many as nine being notified in one day, more particularly among the very young and the old—10 months to 84 years in my practice. A few of these proved fatal, but treatment by means of mustard and flour poultices, stimulants, strychnine, the open window, large quantities of

[1] *Practitioner*, July, 1920.

cold water internally, and cold water sponging, appeared to favour recovery in many instances, one child, aged 14 months, recovering from influenzal bronchopneumonia after an illness of three weeks' duration. In the case of adults the compound powder of phenacetin and aspirin, mentioned in the BRITISH MEDICAL JOURNAL, yielded good results.

Secondly, there was a gastric form, with, in several instances, what might be termed a pseudo-appendicitis, which quickly resolved, and a few followed by catarrhal jaundice.

Thirdly, there was a type in which there was pharyngitis, usually accompanied by a high temperature, and followed by implication of the middle ear. In the case of my three daughters, one of whom contracted the disease outside this district, it took this form, the temperature at the acme being 104.1°, 104°, 103.8° F. respectively. One had epistaxis, and in all there followed an irregular temperature and pain in one ear, relieved when perforation and a purulent discharge occurred in two of them; in the case of the third, where the condition was evidently serous, resolution took place. Under treatment by means of cautious syringing with weak lysol, instillation of hydrogen peroxide and absolute alcohol, and nasal irrigation, all made a good recovery. My assistant contracted it locally, and was affected by the gastric type without sequelae.

I had only time to make a hurried examination in my private laboratory of swabs from the throat of one of my daughters, and found no sign of the pneumococcus, but chiefly the *Micrococcus catarrhalis*, many dead cocci being found within the phagocytes after a lapse of a few days, and there was no tendency to chest complications. I learn from an Edinburgh bacteriologist that the pneumococcus appeared to be the prevailing organism in that city.

Whether or not such epidemics will remit for a considerable period is on the knees of the gods, and meanwhile it behoves us to be prepared. As regards prevention, notification is out of the question, otherwise an economy axe of leviathan proportions would at once be requisitioned, but possibly an appeal could be made to practitioners to report voluntarily to the medical officer of health early cases of what appears to be the beginning of an epidemic. The Christmas and New Year holidays probably contributed their quota to the rapid spread of the malady, a plentiful supply of carriers and ambulatory cases being quite sufficient to propagate it. Vital statistics regarding the, as it is termed, recent milder epidemic will be found to be disquieting, and it is obviously in the interests of public health to forestall the loss in wages, impairment of health and heavy mortality that ensues.

The closing of schools after the organisms have taken their toll seems to me to be an ineffectual method of dealing with such outbreaks. To prevent recurrence, might not first cases and contacts of all ages be quarantined, for is the disease not more devastating in its effects in this country than plague, cholera, or even small-pox, and is it not of more vital importance to the community than the spread of foot and mouth disease?—I am, etc.,

J. BOYD PRIMMER, M.B., Ch.B., D.P.H.

Cowdenbeath, Fife, Feb. 5th.

SIR,—About three weeks ago I was called to a patient who had a temperature of 101° and some of the initial symptoms of scarlet fever, including redness of the face, excepting round the mouth. The following day the latter had disappeared, and I pronounced the case to be one of influenza. Eight days later a rise of temperature to 100° occurred, and coincidently the same redness of the face reappeared, again to disappear by the following day. After another eight days' desquamation of both hands, and, to a lesser extent, of the feet, supervened and lasted about five days. A few weeks previously I saw a case, which had been diagnosed as scarlet fever after the preliminary question had been mooted whether it might not be scarlet fever, in which desquamation of the hands had also taken place; it was very difficult to give a verdict as to which of the two it had been. In view of the first case mentioned above, it being obvious that it could not have been scarlet fever with two rashes at an interval of a week, it appears that some of the present cases of influenza very closely resemble scarlet fever. A colleague of mine to whom I spoke about the matter informs me that he has seen exactly the same thing occur in cases which were undoubtedly influenza.—I am, etc.,

London, W., Feb. 6th. EDGAR F. CYRIAX.

PREVENTION OF VENEREAL DISEASE.

SIR,—An address on the failure of self-disinfection, which was delivered on November 14th last by Lord Gorell in his capacity as President of the National Council for Combating Venereal Diseases, is now on sale. Venereal disease has spread so vastly in recent years, and is now so great an evil, and Lord Gorell's address contains so many misstatements and misinterpretations of fact, that his essay ought not to pass without protest. All the statements we are about to make have long been known to Lord Gorell and his colleagues. None of them have been disputed, or are likely to be disputed. They are founded on evidence, all of which is accessible, and much of which may be found in official publications.

In 1906 Metchnikoff discovered a method of aborting syphilis which was quickly adopted by most of the armies of the Continent and the British navy. In 1913 a Royal Commission was appointed to consider the means by which the effects of venereal disease "can be alleviated or *prevented*." Some of the medical members wished to cite Metchnikoff, but were told that the feeling among the clerical and female members was such that any attempt to discuss prevention would wreck the Commission. Ultimately it advised the Government to increase the facilities for treating the infected, and for exhorting the community to chastity. But never yet in the history of medicine has the prevalence of any infectious disease been reduced by mere treatment. In addition the Commission warmly commended to the Government for its future guidance the newly formed National Council for Combating Venereal Diseases. In other words, it warmly commended itself, for the Chairman of the Commission became the President of the Council, and was accompanied to the directorate of the latter by about half his colleagues. The advice was accepted by the Government. The N.C.C.V.D. became very influential and ultimately was entrusted with considerable sums of public money, which it expends mainly in advertisements and on lecturers who expound the horrors of disease but are forbidden to mention prevention—that is, sanitation.

In 1916, when the nation was in peril, when trained soldiers were flowing by tens of thousands into the venereal hospitals, when the Colonial authorities were threatening to withdraw their forces unless better protected from sex diseases, when in every Dominion a disloyal faction clamoured against sending "our clean lads to the British cesspool," the authorities proposed to introduce self-disinfection into the army by means of "packets," somewhat after the navy fashion. But "influential people," members and supporters of the Council, intervened, and ultimately the authorities, fearing agitation, established instead "venereal ablution rooms" for what was described as "early treatment"—an inaccurate and stupid description, for the authorities and the influential people knew quite well that the attempt was to prevent disease, and the soldiers, as long as they escaped the consequences, cared not a jot whether it was by way of prevention or cure. But prevention suggests quick, and treatment slow, action; and it seems that a certain number of soldiers, deceived by the description, did actually use the disinfectants stored in the ablution rooms—permanganate of potash in pails and calomel cream in pots—for treatment after disease had declared itself. Moreover, the scheme was defective in that the first principle of efficient disinfection, timely action, was ignored, and in that men in isolated posts and on leave received no protection. Again, since the authorities feared that they might be charged with encouraging vice even such instruction as was given to the men was extremely vague and scrappy. At this time the infections among leave men in London alone were calculated at 1,000 a week. However, even delayed disinfection, no matter how inefficient, partial, and vilely taught, is better than none, and the army war rate of infection in the United Kingdom fell in *war* time from the lowest *peace* rate of 59 to 38.

But some medical officers, more concerned with the health of their charges than of possible censure, disregarded the official instructions—in the navy and in the army; before, during and after the war; in India, Egypt, England, France, the Cape, and the West Indies; and advised their men—merely advised, for they had no disciplinary power and were themselves offenders—to carry disinfectants if likely to get into danger. In every such case the men were told that the disinfectants were *merely* disinfectants, useless for cure, and that they must be used with all possible speed after danger had been incurred. Among the soldiers so instructed disease invariably fell to the vanishing point; none used disinfectants for treatment; and very few, if any, returned

infected from leave. As Lord Gorell notes: "A disinfectant does not disinfect in the hands of an unintelligent person any more than a typewriter types in the paws of a baboon." But it does disinfect, as massive evidence indicates, in the hands of an intelligent person, and the question is, Who made the British soldier unintelligent in this matter? Lord Gorell quotes figures from "a prominent venereal disease clinic" about men who used the "particular disinfectants" recommended by the Society for the Prevention of Venereal Disease. But did these men use the disinfectants as the society recommends? Lord Gorell is merely describing the results of "early treatment" as taught during the war. His statement that "if we examine the figures and experiences with which they deal we find in practically every case they come down to the success achieved by Sir Archdall Reid . . . dealing with army units on a small scale and carrying on personal and individual instruction," is merely nonsensical. Reid gave personal, but not individual, instruction; he had 2,000 men in charge; 20,000 passed through his hands; he was not the first, nor the last, to prevent disease; he did not work on the most extensive scale, nor under the most difficult conditions, nor was he the most successful worker. His experiences are well known partly because, being a civilian, careless of official censure, he published an account of them, and partly because it has been the policy of the National Council to represent his success as the only one. If Lord Gorell cares to challenge us we shall be happy to supply details; but he may find them set out with some fullness in Reid's own book, with which, doubtless, he is familiar.

Early in 1918, when the German offensive was impending and the British army depleted, the authorities became aware of the success which had attended the teaching of quick disinfection and ordered its extension throughout the army. It was earnestly impressed on them that since disinfectants were already present in abundance with every unit, not a shilling's expense nor a moment's delay was necessary. All that was necessary was *an order to medical officers to instruct their men in unequivocal language*. Nevertheless, delay occurred, and it was discovered that, following the advice of an "expert," the authorities were awaiting the manufacture and delivery of 4,000,000 bottles and 1,500,000 tubes. Protests proved unavailing, and the suggestive packet system was thus introduced, against the advice of those who are now accused of advocating it, by the very people who make that accusation. The delay gave "influential people" their opportunity, and the minor officials to whom the matter had been entrusted proved obliging. The packets, when at last delivered to medical officers, were accompanied by instructions that they were to be used for early treatment. When a medical officer stated that he intended to teach quick disinfection he was told that such a procedure would arouse the wrath of the Church. Conceive the imbecility of the whole procedure. At vast delay and expense disinfectants were transferred from pails and pots to bottles and tubes—nothing more. *Vehement protests and prophecies of certain failure were again made, and again proved unavailing.* Probably the protests never passed beyond the hands of the minor officials. The predictions were fully realized. The failure was complete.

Nevertheless, as is the way of successful procedures, the practice of quick disinfection continued to spread. In 1919 it was quietly adopted for the whole of the Portsmouth area—almost all Hampshire and Dorsetshire. Throughout this great area, in which were many camps and barracks, disease, as usual, fell to the vanishing point. But in it were large bodies of Americans, Colonials, and R.A.F. who did not belong to the British army, were not instructed, and were highly infected. Into it also came infected drafts from other areas, and on demobilization vast numbers of highly infected troops from overseas. The military authorities, therefore, kept a careful count, which differentiated locally acquired from imported disease. These figures are still available.

In 1919 an Interdepartmental Committee, composed of governmental servants and denounced from its inception as liable to be dominated by influential people, was appointed by the Ministry of Health to consider, among other problems of demobilization, that of venereal disease. Suitable statistics were furnished to it by the obliging officials. Obviously, the business of this Committee should have been to ascertain how it happened that while, in *many* countries, on *many* occasions, under *many* conditions, disease had been reduced to the vanishing point by *many* medical officers, it had continued to rage among neighbouring bodies of men, and how it happened that in these fortunate areas men did not return infected from leave, or use disinfectants for *treatment*. The evidence was experimental: for each attempt to prevent disease by careful teaching was an experiment: and the peculiarity of experiment is that a single success outweighs a thousand failures. In the face of success, failure indicates only faulty technique. But these considerations do not seem to have influenced the Committee. Instead it took the statistics of disease as a whole, lumped them together, assumed in spite of abundant evidence easily accessible in official records, that *quick* disinfection had been universally taught, announced that *self*-disinfection had failed, and, of all things in the world, called attention to the "neglected moral factor." Heaven knows what happened in the privacy of the Committee, but only the Chairman, Lord Astor, signed the report. He has since declared that the Committee was quite impartial and published the statistics as received. But did it publish all the tatistics? Did it even ask for them? Why, for instance was Sir James Barrett's magnificent success, achieved on a grand scale under the most difficult conditions in Egypt among the Australians, not so much as hinted at?

The scandal created by this report led immediately to the foundation of the Society for the Prevention of Venereal Disease. On December 10th, 1919, the president, Lord Willoughby de Broke, asked in the House of Lords for information about the Portsmouth area. He was informed by the late Lord Sandhurst, the then representative of the Ministry of Health, that venereal disease, which formerly had been twice as prevalent in the Portsmouth *area* than in the rest of the country, was in 1919 two and a half times more prevalent. This statement was immediately stigmatized in the public press by one of us as "monstrously inaccurate." Thereupon the Ministry of Health, in February, 1920, published a White Paper in which it was admitted that a great mistake had been made. It seems that the ingenious statistician of the Ministry had taken the diseases in the whole *area*—in the British army and out of it, imported and locally acquired—and attributed it to the relatively small garrison of Portsmouth *town*. Actually while disease in the rest of the country had *risen* from 38 to 64, that in the Portsmouth town had fallen from 92 to 54, and in the area to 47. The ingenious statistician, who is the same person as furnished the Inter-Departmental Committee and Lord Sandhurst with their figures, who to this day supplies the N.C.C.V.D. with its statistics, and who we understand will presently publish a characteristic statement, does not attempt to explain the *fall* of the disease rate in Portsmouth town and area; but he does try to explain why their rates did not rise in 1919 in correspondence with that in the rest of the country. This is his explanation: that the Portsmouth town and area had not a port of entry for overseas troops. But, as was certainly known to the statistician, Southampton, the largest port of all, in peace a part of the area, in war detached merely for administrative purposes, is a mere enclave in the area. Not a man passed out of it by land except into the area; and in 1919 the whole of the latter, including Portsmouth town, was flooded with overseas troops and its hospitals swamped with their diseases. Almost the whole of the 54 and 47 was due to imported disease, the infections acquired by the instructed troops being almost negligible. But the real facts about venereal disease in 1919 have not been made public. There is reason to believe that the figure 64 is quite inadequate. It was stated in Parliament that it was impossible to be precise. But, as we see, a regard for precision has not hitherto characterized the authorities directly concerned. Doubtless many thousands of men were demobilized while still infected, but this has always happened. Previously the authorities had relied on a comparison between the troops with the colours with those in hospital, and there was nothing to prevent the employment of the same method in 1919. But it is probable that the results were too horrifying, and, therefore, damning.

Lord Gorell insists that it would be impossible to instruct civilians. Examine, then, a series of undisputed facts. In 1885 the venereal rate of the army in the United Kingdom was 275. It decreased steadily and in 1913 was 50. Presumably, since soldiers infect and are infected by civilians, the latter shared in the decline, which must have had some effective cause. The Interdepartmental Committee attributed it to improved facilities for recreation, and the like. But can anyone in his senses believe that the young men of to-day are five times more moral than their fathers because of such things as football and light literature? The only alternative is that the decline was consequent on improved

sanitation. As far back as the eighties a knowledge of antiseptics had reached the public; disinfectants were present in many homes; men used them after dangerous intercourse, and some prostitutes offered them to their customers. The truth of this explanation (that disinfectants disinfected) was strikingly confirmed during the war. In 1916 ablution rooms for self-disinfection were established, and the N.C.C.V.D., assisted by public money, began an intensive campaign of exhortation and exposition of the horrors of disease—the former an appeal to morality, the latter to expediency. The military rate fell at once to 38; but both disease and immorality spread enormously among civilians, the increase being especially marked among women; for three out of four soldiers were now infected by amateurs. What explanation of all this is conceivable except (1) that self-disinfection succeeded (in a measure) among soldiers, (2) that exhortation failed among civilians, and (3) that the appeal to expediency made men, not chaste, but merely cautious, causing them to avoid the dangerous prostitute for the pursuit and seduction of the wretched amateur?

To sum up: Two methods of preventing venereal disease by self-disinfection have been practised in the army—unequivocal teaching of immediate disinfection, and equivocal teaching of delayed disinfection (that is, "early treatment"). Whenever and wherever the former has been employed disease has been reduced to the vanishing point; whenever and wherever the latter has been practised there has been relative failure; whenever and wherever this failure has occurred it has always been attributed to quick disinfection. Notwithstanding all its protests the N.C.C.V.D., except perhaps in the earliest months of its career, has never opposed *self*-disinfection in the army. It has opposed only the teaching of efficient disinfection. In 1916, when some form of prevention became imperative, it caused the substitution of venereal rooms for packets which, though suggestive, and therefore objectionable, could be used for quick disinfection. But in 1918, when it was proposed to discard the rooms in favour of simple teaching, people who are to-day prominent members of the Council first forced packets on the army; next, at the direct instigation of the Council, gave instructions for them to be used for early treatment; and lastly proclaimed the unhappy results of the latter as those of quick disinfection. This astonishingly fallacious reasoning has been exposed on many occasions and never been defended or denied. Nevertheless to this day the Council exploits it, and Lord Gorell is plaintive because his association is called a "fake society." The N.C.C.V.D. can easily prove its *bona fides* by meeting the charges made against it, or, better still, by joining the S.P.V.D. in a demand for a public inquiry, conducted not by officials but by men of independent standing.—We are, etc.,

H. BRYAN DONKIN,
G. ARCHDALL REID.

February 6th.

CERTAIN ASPECTS OF PAIN.

SIR,—At the Edinburgh meeting of the British Association for the Advancement of Science we brought forward experimental evidence that pain in the upper abdomen was associated with contractions of the viscera. We were informed at the time that the workers at the St. Andrews Institute for Clinical Research had reached a similar conclusion, and we have read with interest the fuller statement which has appeared in Sir James Mackenzie's letter (January 28th, p. 161.) It cannot be said that such a result is very unexpected, as it is now some ten years since Cannon and Washburn's observations on the painful hunger contractions of the empty stomach were published, and these have been confirmed.

The subject is, however, less straightforward than would appear at first sight, because we have found that contractions do not invariably cause pain, and they may abolish it when it is present. We are at the present time investigating the matter by the experimental method, combined with clinical observation. Without the former we do not think that the question will be satisfactorily elucidated.—We are, etc.,

W. W. PAYNE.
E. P. POULTON.

Guy's Hospital, S.E., Feb. 2nd.

ALPINE TREATMENT OF TUBERCULOSIS.

SIR,—The seven years' reign of the passport tyrants in all Foreign Offices and Consulates and other interferences with free international travel resulting from the war have had a disastrous effect upon the treatment of tuberculosis.

The English fled from Davos and Arosa before the invasion of German lung cases during the war. The British Davos Sanatorium, built under the patronage and name of Queen Alexandra, after vain appeals in your columns by the late Lord Balfour of Burleigh and others, has recently been sold by its committee to the Cantons of Schaffhausse and Thurgau. In spite of the efforts of Lord Balfour, Dr. Mitchell Bruce, Sir William Willcox, and several others who tried in vain to save it for the nation, this institution, which the Queen Mother had fostered and which had been a great blessing to so many English patients of moderate means, has been disposed of at a very low figure to the Swiss authorities.

During the war consumptive sanatoriums sprang up in England in all directions to meet urgent military necessities, and the treatment of tuberculosis in this damp and sunless climate grew rapidly.

I believe that I was the first English writer to call attention to the remarkable plateau of Montana. This place with Villars sur Ollon and Leysin on the north side of the Rhone Valley furnish unique conditions for the treatment of this terrible disease. Some very influential representatives of the medical profession, including Dr. Mitchell Bruce, Sir Humphry Rolleston, Sir William Willcox, Sir John Broadbent, Sir Charlton Briscoe, and others whose names are known throughout the medical world, visited Switzerland last summer as guests of the Swiss Government, to inspect the Swiss health resorts. As a result of these visits several articles appeared in the *Lancet*, *British Medical Journal*, and the *Journal of Tuberculosis*, in which the writers testified that the climate and other conditions of the north side of the Rhone Valley are of great value in dealing with the disease.

From time immemorial the dryness of the climate in the Valais on the north side of the Rhone has been so great that former generations have constructed what would be called in India huge "tanks" or small lakes for the irrigation of the vineyards which stretch along the whole of that side of the Valais. The long duration of sun produces wines almost as strong as the Italian wines. On the shortest day in winter these alpine slopes enjoy two hours more sunshine than the alpine lung resorts in German Switzerland.

I venture to suggest in your columns that the funds from the sale of the Queen Alexandra Sanatorium now in the hands of the committee might well be supplemented by some generous donor or donors for the purpose of re-establishing in French Switzerland the work carried on in Queen Alexandra's name with such benefit to our countrymen.

I am supported by the best medical opinion in saying that recoveries are more probable and more rapid in an institution situated in such a district as I have described than can be hoped for, under any circumstances, within the range of the British Isles.—I am, etc.,

House of Commons, Feb. 6th. MARTIN CONWAY.

MENTAL HOSPITALS.

SIR,—I am much interested in Dr. Edwin Goodall's letter of February 4th, and cordially agree with him in his desire that early mental treatment should be available in "conjunction with, and as part of, general hospitals" with medical schools attached.

I presume that when Dr. Goodall uses the expression "free from any connexion with lunacy laws" he means free from certification. Yet if he wishes the indoor clinics to be under the Board of Control, surely it is the same thing as being under lunacy administration. There can be no more reason for placing uncertifiable cases under the board than for submitting general hospitals to the same control.

Surely Dr. Goodall is in error in implying that any penalty is incurred in treating uncertifiable cases on hospital lines where there is no detention. I looked, but in vain, for an explanation of the surprising fact that, in view of repeated extension in asylum accommodation by building new asylums, there should be at the present time 18,000 vacancies.

The whole atmosphere must be cleared and daylight let into the dark corners of the whole asylum system. As so admirably expressed in your leader to-day, "it now remains to arouse the interest of the public, to whom the whole question of mental disorder is one of vital concern."

The problem of mental disorder is not a simple one. It cannot be dealt with solely from a medical or from a legal aspect. It is a human problem. Every branch of the community is involved, and therefore ought to have a voice in the matter. All kinds of social questions need handling before there can be any hope of arriving at a satisfactory solution.—I am, etc.,

London, W., Feb. 4th. OCTAVIA LEWIN.

HOSPITALS IN THE TERRITORIAL FORCE.

SIR,—"Late Captain *à la Suite*" and I agree on the main point, that the present system of the Territorial Force hospitals needs amendment, and it appears that the War Office thinks so too. But whether they will reform the organization on "Late Captain's" suggestions remains to be seen.

I see no reason for detailing in public the shortcomings of the Territorial Force hospitals. "Late Captain" and I agree that the system did not work satisfactorily. There has been too much newspaper criticism on both persons and military matters already, and I will not be a party to add more dirty linen for public washing.

I regret "Late Captain" thinks I wrote in anger. There was nothing to be angry about. I intended to say that I thought the views expressed by your correspondent were founded on a want of knowledge and that his remedies were unworkable.—I am, etc.,

Bristol, Feb. 2nd. BERTRAM M. H. ROGERS.

RUBBER DENTURES.

SIR,—In the BRITISH MEDICAL JOURNAL of January 28th Mr. Spencer draws attention to the fact that some patients who wear rubber dentures suffer from persistent irritation of the tongue in consequence; whereas, removal of the dentures, or their replacement by metal ones, causes its disappearance.

In the early seventies there was, among dentists, considerable controversy about this matter, and in 1876 the late Professor Attfield, F.R.S., at that time Professor of Chemistry to the Pharmaceutical Society of Great Britain, at the request of Messrs. Ash and Son, the well known dental manufacturers, undertook exhaustive chemical tests, which led him to the opinion that rubber was quite suitable for prosthetic work in the mouth, in that it was a perfectly innocuous substance.

A committee of the Odontological Society, who at that time were making their own investigations, received Professor Attfield's report from Messrs. Ash, who were largely responsible for the manufacture of dental rubbers. To this report they had little to add. They came to the unanimous conclusion that rubber (red or black) may exercise some irritating effects upon the tissues with which it is in immediate contact, but that there is not the smallest evidence that these are due to its chemical composition.

As far as I am aware, no other scientific report on this question has been published, as the findings of that committee have never seriously been disputed by the dental profession.

The fact that rubber is now so extensively used in prosthetic dentistry, I think, supports Professor Attfield's views. For his report see page 203, *Transactions Odontological Society*, 1876–77.—I am, etc.,

Watford, Feb. 3rd. SIDNEY FISK.

SARCOMA OF BONE.

SIR,—I beg leave to correct the brief summary in the JOURNAL of February 4th, p. 188, of a paper read by me at a recent meeting of the Leeds Division of the British Medical Association.

The paper dealt with pathological aspects of sarcoma of bone, and included a comparison of the highly malignant osteosarcoma with the lowly malignant myeloid sarcoma. Evidence was adduced to show that the latter was, however, undoubtedly neoplastic in nature, and not a haemorrhagic osteomyelitis, as suggested by some recent American writers. It was pointed out that, unless local removal was done thoroughly, there was considerable risk of recurrence *in situ*, and that curettage especially must be done in a very careful and thorough manner.—I am, etc.,

University of Leeds, Feb. 4th. M. J. STEWART.

MULTIPLE TOOTH EXTRACTION.

SIR,—Mr. Denison Pedley (January 14th, p. 80) makes a very interesting statement, its very simplicity adding value to its truth. He says: "It is rarely necessary to remove all teeth when affected by pyorrhoea alveolaris, and any inflammatory condition of the gums may be, and often is, mistaken for this somewhat intractable, but by no means incurable, disorder." "That greater care should be exercised by medical practitioners before pronouncing definite decisions is easily proved."

The frequency with which patients are advised to sacrifice the whole of their teeth without positive proof of the necessity of so doing is really astounding. During the past few years I have had a very large number of cases of septic conditions of the gums referred to me for radiographic examination, and it is surprising how large a percentage of these patients are found not to be suffering from pyorrhoea alveolaris at all. In the larger number the trouble has arisen from peri-apical sepsis, the pus from which has found its way to the gingival margin and burrowed along in either direction and oozed from between the teeth.

The identification of the foci of sepsis will indicate a local operation involving probably the loss of one or two teeth only. The medical practitioner is undoubtedly awakening to the wisdom of ascertaining the true condition before operation, but he is not yet fully awake.—I am, etc.,

London, W., Jan. 27th. CHRISTOPHER KEMPSTER.

BIOLOGICAL EFFECTS OF *X* RAYS.

SIR,—It appears to me to be a great pity that Dr. Mottram (p. 164) should have been so hasty in his criticisms of Dr. W. J. Turrell's theory of the action of *x* rays. He speaks scathingly of a "mythical toxin." It is evident that Dr. Mottram has not had the advantages that I have enjoyed of having many talks with Dr. Turrell on the subject, and of reading that part of his MS. in which he deals at length with his theory and its basis. As I understand that Dr. Turrell's book will be published this week, Dr. Mottram will have an opportunity of a closer study of this very interesting problem, after which he may, or may not, feel inclined to enter into a controversy with Dr. Turrell himself. It would be presumption on my part to take up the cudgels on Dr. Turrell's behalf.—I am, etc.,

J. CURTIS WEBB,
Honorary Radiologist, Gloucester Royal Infirmary.

Cheltenham, Jan. 31st.

Obituary.

WILLIAM CRAIG, M.D., F.R.C.S., F.R.S.EDIN.,

Lecturer on Materia Medica, Surgeons' Hall, Edinburgh.

THE death, on February 3rd, of Dr. William Craig, in his 90th year, has divided another of the comparatively few remaining links uniting the medical Edinburgh of the twentieth century with that of the sixties and seventies of the nineteenth. The son of a farmer of Lanarkshire, he was born on March 28th, 1832, received his school education in Ayrshire, and took out arts classes in Glasgow University. He graduated at Edinburgh in 1863 as M.B., C.M., and L.M.; he passed on to the M.D. degree in 1870, and soon thereafter began his life-work of teaching materia medica and therapeutics in Surgeons' Hall School of Medicine, a task which he did not relinquish till two or three years ago. During these many years he never lacked students, and he taught a rather uninteresting subject with such practical good sense and so clear an understanding of the undergraduate's needs that he retained marked popularity, and was held in kindly reverence as the father of the extramural school. He was also one of the small group of teachers who formed the board of studies of the Medical College for Women at its inception in 1890, and he remained lecturer to the women students till their entrance within the walls of the University in 1916. He had become L.R.C.S.Edin. in 1868, and proceeded to the Fellowship in 1874; he was also a Fellow of the Royal Society of Edinburgh and of several medical societies, with two or three of which his connexion was long and most active. For instance, he joined the Obstetrical Society in 1870, and from 1875 to 1910 he was its treasurer; he edited the *Transactions* of the Medico-Chirurgical Society from 1882 to 1909; and he was president of the Botanical Society.

For many years Dr. Craig was an examiner in materia medica for the College of Surgeons, and for a time he performed the same duty for his Alma Mater. He was on the medical staff of the New Town Dispensary; and, last but not least, he conducted a large private practice in the Bruntsfield district of Edinburgh, where his home was situated. He leaves two sons, one of whom is a medical practitioner in Edinburgh. All his life long he enjoyed the best of health, and until within two or three days of his death he had scarcely ever had to keep his bed. He was, as may be expected, fond of an outdoor life, and was a capital shot. He was an elder, first in the United Presbyterian and then in the United Free Church of Scotland. His pen was not inactive; for many years he contributed the Monthly Periscope of Materia Medica and Therapeutics to the *Edinburgh Medical Journal*

and to the *Scottish Medical and Surgical Journal;* he edited the third edition of Milne's *Materia Medica* and of Milne's *Posological Tables;* he was the author of a *Manual of Materia Medica* and of *Posological Tables*, and he made contributions to various journals on "Changed Aloin," on "Jaborandi," on the "External Uses of Hydrate of Chloral," and other matters.

We have received the following appreciation, signed "F. M. C.":

In his 90th year, after a short illness, Dr. William Craig, the oldest medical practitioner in Edinburgh, has passed away, leaving behind him kindly memories of pleasant associations and the record of a helpful, active life. He was indeed a practical example of what loyalty and devotion to a profession can accomplish, for, while busily engaged in practice, he yet found time to support the leading medical and scientific societies, and considered it a duty to do his utmost by laying his capable business-like methods at their service in most unsparing fashion. A regular attendant at their meetings, he contributed interesting articles on various subjects, chiefly pharmacological, and exhibited pathological specimens. He occupied for many years the position of treasurer to the Edinburgh Medico-Chirurgical Society, and also signalized his duties as editor of its *Transactions* by compiling, in conjunction with his son, Dr. Peter Craig, a valuable analytic index of the first twenty volumes (new series). His services were also greatly in request in the Royal College of Surgeons and in the Obstetrical Society of Edinburgh, in addition to finding outlet elsewhere. Dr. Craig was an ardent botanist, and in his student days won the gold medal for his herbarium. A prominent member of the Botanical Society, he was also associated with the Botanical Club and the Scottish Alpine Club, where he was equally zealous and foremost. He spent many a happy day in mountain and glen, always welcome and in no small measure enhancing the enjoyment of every excursion. Upright, earnest, and genial, his interests in the old activities never waned, nor will his personality and kindly smile fade from the recollections of his numerous circle of friends.

We regret to record the death of Dr. JOHN FRANCIS PRIDIE, which took place suddenly at Southport, on January 27th. Born in Edinburgh, Dr. Pridie received his medical education at the university there, graduating M.B., C.M. in 1887. He afterwards studied at Göttingen, and held resident appointments at Glasgow Royal Infirmary, Edinburgh Royal Asylum, and Southport Infirmary. He went into practice at Chingford, near London, where he remained for thirteen years, but he returned to Southport seventeen years ago, entering into partnership with Dr. Barwise. In 1911 he became a member of the Town Council, on which he did much useful work, particularly in connexion with public health, and for the past year or two he had been vice-chairman of the health committee. He was much interested in medical affairs, and was president of the Southport Division of the British Medical Association, chairman of the Local Medical and Panel Committee, and vice chairman of Southport Medical Society. Dr. Pridie led a strenuous life, for, in addition to the claims of a large general practice, he devoted much attention to his municipal work. He leaves a widow and two sons, the elder of whom won the D.S.O. in the war, and has just passed his final examination in medicine.

Universities and Colleges.

UNIVERSITY OF OXFORD.

IN a congregation held on Thursday, January 26th, the following degree was conferred:

BACHELOR OF MEDICINE (B.M., B.CH.).—Gordon Cranstoun, Oriel College.

Science Departments.—In a congregation held on Tuesday, January 31st, a statute was introduced to modify the present method of administration of the natural science departments. The statute, which it is understood did not meet with the approval of the staffs of the natural science departments, was opposed. On a division, the preamble of the proposed statute was lost by 65 votes to 62. It is understood that a new statute will be brought in at an early date.

Radcliffe Travelling Fellowship.—An examination for a Fellowship of the annual value of £200, and tenable for three years, will be held during the present term at the University Museum, commencing on Tuesday, February 21st, at 10 a.m. Candidates must have passed all the examinations required by the University for the degree of Bachelor of Arts and for the degree of Bachelor of Medicine. They must not have exceeded four years from the time of passing the last examination required for the degree of Bachelor of Medicine. The successful candidate must before election declare that he intends to devote himself during the period of his tenure of the Fellowship to the study of medical science and to travel abroad with a view to that study. The Regius Professor of Medicine and the Examiners, two months before the expiration of the second year after the election of each Fellow, present a report on the work done by him to the Electors, who may, if they think the report unsatisfactory, declare the Fellowship forfeited. The examination will occupy four days. Papers will be set in physiology, pathology, and preventive medicine, and a subject will be proposed for an essay. There will also be a practical examination in pathology.

The Services.

REVIVAL OF THE MILITIA.

IN April, 1908, a Special Reserve of Officers was created by Royal Warrant and officers of the Militia were given commissions therein. A new Royal Warrant, dated January 27th, 1922, revives the "honourable designation of Militia for this branch of Our Service." Accordingly, this branch of the Reserve of Officers (with one exception in the case of Household troops) becomes part of the Militia, and officers who were serving therein on October 1st, 1921, are deemed officers of the Militia as from that date. An Army Council's instruction on the new Warrant states that the conditions of service and of remuneration of the Militia are under consideration. When they are published officers of the Special Reserve of Officers will be given the option of continuing to serve under those conditions or of resigning their commissions. In the meantime they will be subject to the existing regulations.

Medical News.

MR. PERCY SARGENT, C.M.G., D.S.O., has been appointed honorary consultant surgeon to the Ministry of Pensions.

A COURSE of eleven clinical lectures on the diagnosis and treatment of cancer will be given at the Cancer Hospital, Fulham Road, S.W., on Tuesdays and Fridays, at 4 p.m., commencing February 21st, when Sir Charles Ryall will speak on cancer of the tongue. The lecture on Friday, February 24th, will be given by Mr. W. E. Miles and will deal with cancer of the rectum. Medical practitioners are cordially invited to attend.

THE anniversary dinner of the Medical Society of London will be held at the Wharncliffe Rooms, Hotel Great Central, on Wednesday, March 8th, at 7.30 o'clock.

MR. E. B. TURNER, F.R.C.S., will lecture on "Sex relationships," as discussed at the recent Church Congress, on Thursday, February 16th, at 8 p.m., at the Essex Hall, Essex Street, Strand. The meeting has been arranged by the Society for Constructive Birth Control and Racial Progress.

THE estate of the late Sir G. Sims Woodhead, who died on December 29th, has been sworn of the gross value of £6,579.

IN connexion with Professor Henri Hartmann's lecture before the Medical Society of London on Monday next, February 13th, at 8.30 p.m., an exhibition of specimens illustrating inflammatory strictures of the rectum is being arranged, and will be on view in the Society's rooms on Monday afternoon and evening and on Tuesday morning.

A COURSE of five lectures on recent researches on the accessory food factors (vitamins) will be given by Dr. S. S. Zilva at the Battersea Polytechnic on Thursdays at 5.45 p.m., beginning on March 2nd.

A MEETING of the Medical Officers of Schools Association will be held at the house of the Medical Society of London, Chandos Street, W.1., on Wednesday, February 22nd, when Mr. George H. Widdows, F.R.I.B.A., architect and surveyor to the Derbyshire Education Committee, will open a discussion on the ideal class room.

AT the meeting of the West Kent Medico-Chirurgical Society to be held in the Board-room of the Miller General Hospital, Greenwich, to-day (Friday), at 8.45 p.m., Dr. C. O. Hawthorne will deliver an address, entitled "Some Pulse Tracings and their Meanings."

THE number of deaths from influenza during the week ending February 4th shows, as was expected, an appreciable decrease. In the 105 great towns of England and Wales the figures were 1,144 against 1,450 in the previous week; in the 96 great towns there were 1,121 deaths from the disease as against 1,420; in London the figures were 191 against 320. In certain South Wales towns there were considerable increases, and also in certain northern towns, including Liverpool, Wallasey, Leeds, York, and West Hartlepool, whilst in other places the numbers declined. The figures for Edinburgh and Glasgow were also below those for the previous week.

AT the annual dinner of the Incorporated Vermin Repression Society, with Dr. Nathan Raw, M.P., in the chair, Colonel S. J. M. Auld suggested that the administration of the Rats and Mice Destruction Act (1919) should be taken out of the hands of the Ministry of Agriculture and handed over to the Ministry of Health. They did not ask for the prosecution of the small householder, who was really a sufferer from the overflow of vermin from congested centres, but they wanted to get at the headquarters of the rat, which was in wharves, warehouses, ships, and agricultural buildings, and they called for more prosecutions of the chief offenders. Mr. Alfred E. Moore (honorary director of the society) said that there had been few statutes so badly administered as the Rats Act; the Ministry of Agriculture was no friend of the Act, and the four men responsible for enforcing it upon the local authorities had been dismissed. "Rat weeks" in London were useless, because the rat simply used the sewers as highways to seek temporary sanctuary where they were not being persecuted. Mr. Mark Hovell, Dr. A. Balfour, and Professor F. Hobday were among others who spoke at the dinner.

THE Umberto I Prize of the Rizzoli Orthopaedic Institute, Bologna, has been awarded to Dr. Murk Jansen of Leyden in recognition of the high quality of the work submitted by him to the adjudicators.

Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.*

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2630, Gerrard.

2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.

3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2630, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin;* telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

"W. H. B." asks for advice in the treatment of an obstinate case of pityriasis rubra.

INCOME TAX.

"CUSTOMS" is in the service of a borough council. For 1919-20 he was first assessed on the salary payable for that year; later an additional assessment was made on a bonus which was in force for a portion of 1919–20, and now a further charge is raised to cancel certain allowances which ceased to apply at the higher amount of income.

*** Our correspondent not unnaturally resents such repeated applications, but unfortunately he has no remedy. The Revenue authorities are entitled to correct an assessment within three years, and if his total income for 1919–20 exceeded £800 the cancellation of the allowances is legally justified. If that total exceeded £800 but not £1,000 he is entitled to an allowance for each child—in excess of two—who is a proper subject of claim—for example, if the allowance for three children has been cancelled £40 for one child should be restored.

LETTERS, NOTES, ETC.

HERPES AND VARICELLA.

DR. H. B. WILLOUGHBY SMITH (Gainsborough) writes: I have recently had an interesting instance of the association or possible connexion between herpes zoster and varicella. Early in January this year I was called to see a boy, aged 7 years, who had a very well-marked eruption of herpes zoster, covering practically the whole of the area supplied by the third dorsal on the left side. Exactly twenty-one days later this boy's young sister developed a typical varicella eruption over the whole body. There are no cases of varicella in the vicinity, and neither child had been exposed to any possible outside infection. The connexion appears too close to be mere coincidence.

DR. ST. GEORGE B. DELISLE GRAY (Medical Officer, British Hospital, Oporto) writes: It may be of interest to add the following two cases to the many already published of the association of herpes with varicella. There was an epidemic of chicken-pox last year in Oporto. Towards the beginning of this epidemic I was called in to see a little girl who had typical varicella. On making enquiries as to contacts and other members of the family the mother volunteered the statement that about a fortnight before she had had similar spots "on one side of the body which I thought was shingles." I have no doubt that she was right in her diagnosis. The other two child members of the family had chicken-pox in due course. About the same time I was consulted by the head of a school, who had a severe attack of herpes. A fortnight later there was an outbreak of chicken-pox at the school among the boarders at his house.

TUBERCULIN IN ASTHMA.

DR. F. E. GUNTER, D.S.O. (London, W.) writes: I was much interested in Dr. J. L. Rentoul's letter of February 4th, p. 212, on the use of tuberculin in asthma. He states that some cases do well but not all. The reason for this probably is that by no means all cases of asthma are of tuberculous origin. I test my cases with T.A.F. after the method advocated by Dr. Camac Wilkinson. If they react then I treat them either with P.T.O., which is excellent, or some other tuberculin preparation. If there is no reaction it is wiser to look for another cause of the asthma, such as some food idiosyncracy.

DEPILATORIES.

A CORRESPONDENT, who has a lady patient with marked growth of hair on the chin, writes to inquire about an efficient depilatory. We published in 1920 (August 7th, August 21st, and September 11th) some notes upon this subject, which may be summarized as follows: The most satisfactory method of removal from the upper lip and chin is apparently by electrolysis; this, however, has the drawback that a slight degree of scarring is probable, while a certain percentage of hairs usually return at a later date. A depilatory powder which has been recommended consists of equal parts of barium sulphide and zinc oxide; this is made into a thick paste with water immediately before using. The directions are to rub the paste upon the lip or chin, and leave it on until it causes a slight smarting (one or two minutes); it is then washed off with water and some soothing ointment applied; the hair can be rubbed off in about ten minutes. A second, or even a third, application may be necessary, and it is better to go slowly than to risk wounding the skin by leaving the paste on too long the first time. Another correspondent wrote asking if there was any real objection to shaving with a safety razor. He had recommended this to two lady patients, with complete satisfaction to them as regards the result; of course it had to be done at fairly frequent intervals.

Our correspondent, therefore, can have his choice of treatments, but, as depilatory powders are really only a form of shaving, it is difficult to see any objection to the use of a safety razor, and even the best depilatories are apt to cause some irritation of the skin.

PELIOSIS RHEUMATICA.

A Correction.

DR. F. G. CLEMOW, C.M.G. (Constantinople), writes: A small but unfortunate misprint occurs in my letter on this subject, which you were good enough to publish in your issue of January 28th (p. 168), and I shall be much obliged if you will allow me to make the following correction. The penultimate sentence should read: "Unfortunately, neither the patient nor his friends had realized the gravity of the condition and sent for me during the twenty-six or twenty-seven hours. . . ." My object was to state that patient and friends did *not* realize the gravity of the condition, and did *not* send for me, whereas the letter as printed exactly reverses the latter statement.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 32, 33, 36, 37, 38, and 39 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 34 and 35.

THE Home Secretary proposes to appoint a physician as medical referee under the Workmen's Compensation Act, 1906, for County Court Circuit No. 32 (Norfolk). Applications to the Private Secretary, Home Office, by February 21st.

THE following vacant appointments of certifying factory surgeons are announced: Cheltenham (Gloucester), Pollokshaws (Lanark), Topsham (Devon), Wool (Dorset).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Six lines and under	0	9	0
Each additional line	0	1	6
Whole single column (three columns to page) ...	7	10	0
Half single column	3	15	0
Half page	10	0	0
Whole page	20	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

Remarks
ON
OBSCURE INTESTINAL COLIC.*

BY
H. TYRRELL GRAY, M.A., M.CH.CANTAB.,
F.R.C.S.ENG.,
SURGEON TO THE WEST LONDON HOSPITAL, TO THE HOSPITAL FOR SICK CHILDREN, GREAT ORMOND STREET, AND TO THE ITALIAN HOSPITAL.

"INTESTINAL COLIC" may be defined as pain which occurs only during peristaltic contractions, and is absent during the quieter continuous rhythmic movements.

The gastro-intestinal tract is a series of organs whose secretory and motor properties are controlled by a complex system of mutually antagonistic nerve impulses; which are influenced simultaneously by mutually antagonistic hormones; and which nevertheless possess inherent automatic rhythmic properties independent of such influences. Such a complex system of control of an automatic propelling, secretory and digestive apparatus is clearly designed to maintain a normal equilibrium in the presence of variable mechanical vascular or chemical conditions; and evidence is abundant that the normal gastro-intestinal tract adequately performs its allotted functions, not in obedience to, but independent (and often in defiance) of, mechanical laws.

Of the truth of this I need only give one illustration—namely, the well known law that any increase of mechanical opposition to the passage of contents (that is, any degree of obstruction) is invariably followed by overaction and hypertrophy on the proximal side; while, conversely, it is a sound deduction that the final test of any mechanical obstruction is the presence of proximal hypertrophy. The clinical value of this law is that abnormal delay in the passage of contents through the intestinal tract must never be attributed primarily to mechanical opposition unless evidence of such overaction or hypertrophy is present.

The complexity of the subject is enhanced by the fact that, as in the species the alimentary tract is modified to suit the character of the food, so in the individual are the different regions modified to meet the varying digestive requirements of the food in the successive stages of its transit.

Thus we should not expect identical or analogous mechanisms to prevail in different regions; and, indeed, we find a constant gradual alteration of every mechanism as we pass almost insensibly from the voluntary or controlled act (mastication and swallowing) to the involuntary (digestion and absorption) and return again to the voluntary (defaecation). It is interesting that in these transitions the changes of mechanism are always gradual and ill defined.

Thus, for example, it is significant that glandular secretion originally controlled by nervous mechanism, subsequently comes (in the stomach, pancreas, etc.) under the dual influence of nerve impulse and hormone, both of which seem capable of exerting a similar function; while later still—for example, the small intestine—nervous influence is at a minimum, and secretions are mainly excited by chemical and mechanical agencies (Langdon Brown).[1]

As a parallel it is noteworthy that similar changes are observed in the motor mechanism. For the voluntary control of the passage of food is effected through the medium of a single nerve supply to the muscles concerned, while those of the gastro-intestinal tract are controlled by a dual antagonistic innervation and by hormones also. Finally, as the voluntary control of the motor functions is again gradually resumed (defaecation) a return to the single nerve supply of at least the chief muscles is to be noted.

When we come to consider the sensibility of the alimentary tract we should expect to find an analogous reversal of mechanism, and this expectation is again justified. Thus the highly developed special senses rapidly give way to a mere sensibility which, though present at the lower end of the oesophagus as shown by Hurst,[2] nevertheless progressively diminishes up to this point. Beyond this point (that is, in the stomach and intestines) sensibility is completely absent under normal conditions, as indeed is only to be expected of organs clearly designed for a vegetative function alone. I am well aware of the contentious character of the ground I am treading on; but this statement is made deliberately. For, so far as I am aware, no conclusive evidence, whether clinical or experimental, has hitherto been brought forward to prove the sensibility of the gastro-intestinal tract until we approach once more the area of voluntary control—the desire for defaecation. The complete insensibility of the gastro-intestinal tract is further supported by the reflection that if the contrary were true, since normally sensation is (or should be) absent, under pathological conditions the sensation of pain would assume the existence of a mechanism designed for abnormal conditions only.

We all know how exceedingly difficult it may be—particularly in the child, but also in the adult—to appreciate the gravity or otherwise of obscure recurring colic; while, on the other hand, the catastrophe following on repeated warnings is painfully familiar. Is not much of this general uncertainty due to the fact that the structures concerned are themselves insensitive, and that consequently clinical examination is less instructive than in the case of structures where sensibility is acute?

But if the intestine is insensitive, its blood supply and nerve supply are conveyed by a structure which is exceedingly sensitive to every kind of stimulus, mechanical, chemical, thermal, etc.—namely, the mesentery. Not only does clinical and experimental experience afford ample evidence of this, but histological evidence is to be found also in the presence of Pacinian corpuscles in this structure. Indeed, it is clear that this highly important structure is thus protected by adequate reflexes from any variations from the normal, particularly as regards pressure, tension, etc.

For many years I have believed and taught that all true visceral pain and discomfort arise from, and are primarily referred to, the mesentery, and that from this source it may or may not also be referred to the associated somatic nerves.

Thus, in the Arris and Gale Lectures, 1912, Dr. Parsons and I[3] showed that mechanical stretching of the mesentery, the invariable result of intestinal distension, was responsible for the afferent impulses causing typical blood pressure changes; while in other studies[4] I have often adduced evidence that the mesentery is the sensitive structure.

In February, 1920,[5] my Hunterian Lecture was devoted to showing that chemical and mechanical stimulation of the mesentery inhibits the normal motor functions of the gastro-intestinal tract, and is responsible for many of the disorders met with in clinical practice. In that lecture I attempted to show that surgery directed to the mesentery was every bit as important as that directed to the intestine itself, and that operations designed for the relief of abnormal mesenteric tension (that is, caecopexy, colopexy both "partial" and "complete," plastic lengthening of the mesentery, etc.) could so far abolish these pathological direct and reflex nerve impulses as to check or cure permanently the resulting intestinal disability, even after a considerable number of years. The contrast in severity between acute *obstruction* of the bowel itself and *strangulation* of the intestine and its mesentery, as well as the striking collapse attending the sudden escape of distended intestine during operations for acute obstruction, were emphasized as evidence that the mesentery (and *not* the intestine) is the sensitive structure.

Incidentally such observations hold good also in the case of the stomach, insensitive itself, but acutely sensitive in its mesentery (the gastro-hepatic omentum); and I hope shortly to produce evidence to show that not only is the pain or discomfort arising from gastric distension due to the stretching of this mesentery, but that such tension, by interfering with the venous return from the lesser curvature, is a most important factor in the etiology of gastric ulcer (for venous stasis is a common feature of chronic ulceration in any situation). But so wide is the application of this principle to the study of abdominal disease that we must this evening restrict our study to the mesenteric stimulation initiated by the peristaltic wave, which constitutes intestinal colic.

As a preliminary example, let us consider the pain caused by a simple stricture of the small intestine.

The characteristic feature in such cases is that the pain at first occurs at intervals, interrupted by periods of complete comfort. The normal intestinal functions are not interfered with so far as can be ascertained clinically, while *x*-ray examination is negative; the pain is accentuated by hunger or the tasting of food, and is due to the exaggeration of the rhythmic waves (by reflex vagus stimulation); these are responsible for exciting the peristaltic wave.[6] Tenderness and continuous pain are absent, since the bowel is insensitive; but such a stricture, involving the circumference of the bowel, renders inactive a small segment of intestine which cannot take part in the co-ordinated sequence of contraction and inhibition, a sequence which constitutes the

* A paper read before the Hunterian Society.

essential feature of the peristaltic wave. Therefore, the contracting segment of the peristaltic wave immediately proximal to the stricture is not associated with the normal inhibition of the segment immediately below; so that the inert segment is forced into the lumen of the inhibited area below it. (Figs. 1 and 2.)

Such a tendency of the peristaltic wave to produce inversion or intussusception is prevented by the anchorage of the bowel to its mesentery; but the resulting tension on the sensitive mesentery induces pain by mechanical stimulation during the passage of the peristaltic wave.

This is the mechanism of intestinal colic, a pain associated with peristalsis; and it is not difficult to realize the potential gravity of such lesions, undetected by physical examination, not demonstrated by *x* rays, unassociated by gross disturbance of function, yet often steadily progressive, and culminating in an acute crisis due to the neglect of repeated warnings.

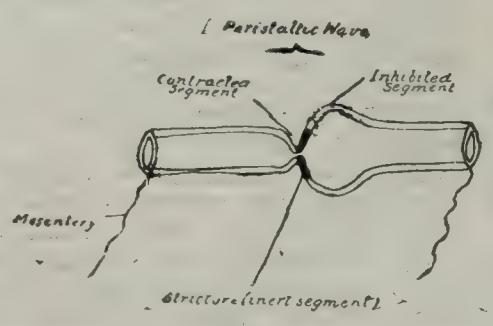


FIG. 1.

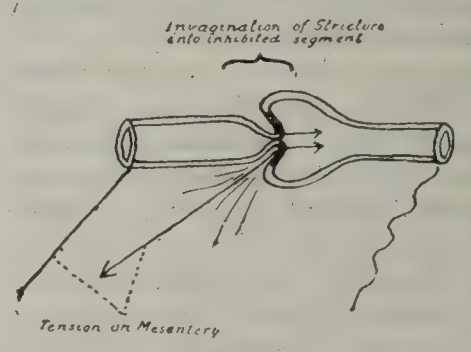


FIG. 2.

When is intestinal colic to be regarded as a grave warning, and when is it attributable to transitory causes? This decision must rest on our ability (as yet very imperfect) to appreciate the various factors responsible for disorganizing the co-ordinated sequence of contraction and inhibition in intestinal peristalsis, and to identify the primary causes of such disorganization.

These may be classified under four headings:

(*a*) Abnormal contents within the lumen of the bowel.
(*b*) Intramural lesions, or lesions of the wall of the bowel.
(*c*) Lesions of the mesentery and peritoneum.
(*d*) Alteration in the relative excitability of the sympathetic and parasympathetic nerve supply and the equilibrium normally influenced by their corresponding hormones.

The difference in mechanism between the small and large intestine makes it advisable to consider these separately.

SMALL INTESTINE.

(*a*) *Abnormal Contents in the Lumen.*

Normally the contents are fluid, and at intervals these attain sufficient bulk to excite by local pressure a peristaltic wave. When, however, any mass is present within the intestines of sufficient bulk to render its passage a matter of increased mechanical difficulty the vigorous peristaltic waves endeavour to drive the foreign body, together with the closely applied intestinal wall, downwards. Typical examples are: Impacted gall stones, hair balls, etc. Tumours projecting into the lumen, but attached to the bowel wall, induce colic by the same mechanism, invagination being only prevented by the anchorage of the mesentery, the resulting tension on which produces colicky pain with each similar effort. One of the best illustrations of this is the inversion of Meckel's diverticulum. Some years ago[7] I showed that not only was this the mechanism of inversion of Meckel's diverticulum, but that intussusception was initiated in a similar manner by the inverted diverticulum itself.

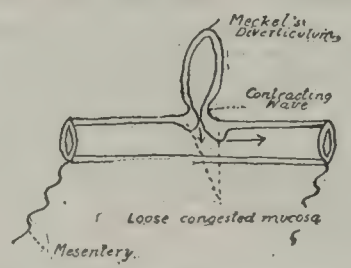


FIG. 3.—Shows first stage of inversion.

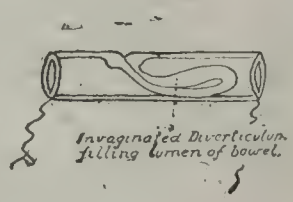


FIG. 4.—Shows inversion completed.

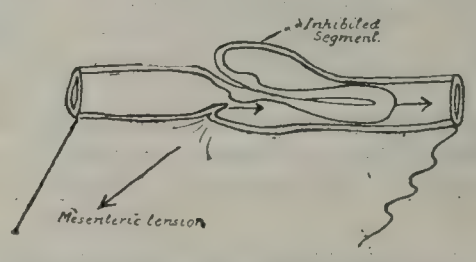


FIG. 5.—Shows mesenteric drag due to inverted diverticulum producing intussusception.

If an attached tumour can so far project into the lumen as to constitute part of the intestinal contents, and be so dealt with by the motor mechanism, then any swelling which projects in a like manner will be liable to the same treatment and cause the same symptoms. The loosely attached and redundant intestinal mucosa is peculiarly liable to hyperaemia, congestion, and swelling under the influence of any irritant—a fact well illustrated by the oedema, swelling, and tenesmus in inflammation of the rectal mucous membrane. Such swelling of the mucous membrane not only projects into, but may even almost close, the lumen of the gut, particularly during the passage of a rhythmic wave; and the resulting effort to drive the swollen mucosa down the lumen, together with the consequent mesenteric traction, produces colicky pain in the same manner.

Such a mechanism is responsible for the colic in enteritis due to irritants, worms, violent purgatives, etc., but their character is indicated by diarrhoea or even the passage of blood with mucus. The general, slight, abdominal tenderness and discomfort are due to the hyperaemia of the sensitive mesentery, in whose associated vessels any vascular changes in the intestine are closely followed.

Congestion and swelling of the lymphoid tissue of the intestine is similarly one of the causes of colic, particularly in the lower ileum. It is sometimes accompanied by an acute or subacute enlargement of the associated mesenteric lymphatic glands.

Marked swelling of Peyer's patches may encroach on, or even nearly obliterate, the lumen of the lower ileum, and the peristaltic waves attempt to drive the swelling into and down the intestinal lumen. The length, rigidity, or elasticity of the attached mesentery is the determining factor in the result; the short, rigid mesentery will prevent inversion or intussusception, but colicky pain is excited with each peristaltic wave; the long, elastic mesentery (common to many infants and young children) provides insufficient anchorage and intussusception results. The extent of the intussusception varies with the degree of persistence or fusion of the caecal and colic mesentery (that is, the degree of mobility of the colon).

Thus, if dietary indiscretion is associated with lymphatic hypertrophy, engorgement, etc., we should expect that the origin of an intussusception, arising from this cause, would be commonest where lymphoid tissue is most abundant and where there is the greatest delay in the passage of chyme—that is, in the lower ileum. Fitzwilliam[8] showed by statistics that errors of diet were responsible for a large proportion of cases of intussusception, while it is notorious that the commonest variety is that starting in the lower ileum (where the greatest delay normally occurs). Further, it can be verified by clinical observations that in most ileo-colic intussusceptions there is a very marked and rather massive glandular enlargement in the ileo-colic angle. It is logical to infer that intussusceptions of dietary origin are usually ileo-colic, are due to lymphatic hypertrophy and congestion, are rarely recurrent, and are naturally the commonest variety encountered. Finally, if this deduction is sound, it must be conceded that the mechanisms of intestinal colic and intussusception from this cause are identical, the difference being only a question of degree and anatomical variation.

(*b*) *Intramural Lesions.*

Small primary growths of the small intestine, undetected by palpation, are exceedingly rare (though I have on one occasion encountered a typical ring carcinoma of the lower ileum), so that lesions we are now considering are nearly always inflammatory, and may occur in three ways:

1. Extension from within (for example, tuberculous and typhoid ulceration).

2. Extension from without (for example, from the peritoneum, mesenteric glands, etc.). The character of such lesions is, however, seldom obscure; I only mention them to pass on to the consideration of the third type.

3. Invasion from the blood stream. I am particularly anxious to emphasize the mechanism and character of this type of intestinal colic because, though I have frequently called attention to it during the last seven years,[9] I am convinced that insufficient consideration is given to it at the bedside. The infective agent (I am using this term in the broadest sense), arriving by the arteries, will be arrested at the narrowest terminal portion of the vessels or in the capillaries—that is, at the antimesenteric border of the bowel—

swelling, congestion, thrombosis, and exudation (and, in severe degrees, haemorrhage) invade the coats of the bowel and prevent muscle and nerve tissue from performing their function. The effect of such a lesion is to render inactive a definite area or definite areas of the intestinal wall. I have termed these "inert areas," and Figs. 6 and 7 show how, insensitive in themselves, these "inert areas" are responsible for the production of intestinal colic.

The inhibition of function by inflammation or exudation (a feature common to inflammation in any region) renders the inert area of the intestine incapable of responding to the ordinary mechanism of contraction and inhibition characteristic of peristalsis. On the arrival of a peristaltic contraction at the inert area the latter fails to respond to the inhibitory stimulus, and is therefore forced with the intestinal contents into the lumen of the normally inhibited (and therefore dilated) segment below. (Figs. 6, 7, and 8.) A resulting invagination is prevented by the anchorage of the mesentery (Fig. 8), but the traction exerted on the latter induces pain whose characteristic feature is a complete absence except during peristalsis.

It is not difficult to conceive that small localized lesions (either single or multiple) of this character can and do so interfere with normal peristalsis as to give rise to colic in the manner described. Clinical evidence is not lacking that this is true.

Such an effusion progressing unchecked may not only become palpable but may rupture the mucosa and cause haemorrhage with intestinal colic; it is recognized as "Henoch's purpura," a sequel of rheumatism. If this is so, we must also concede the possibility that, in a lesser degree, inert areas (either single or multiple), which cannot so be palpated, can similarly produce intestinal colic without any other indication of their presence.

Acute Rheumatism Associated with Intestinal Colic.—The ubiquity and varied character of the lesions associated with acute rheumatism are well known. Thus we find the varieties of peliosis rheumatica; localized lesions, such as erythema nodosum, and the more chronic rheumatic nodules; irido-cyclitis, endocarditis, pericarditis, etc., all manifestations of this ubiquitous general infection. That analogous lesions may occur in the intestine is recognized in the association of rheumatism with Henoch's purpura; but it is not sufficiently realized that similar lesions of less degree may, though not detected, give rise to intestinal colic.

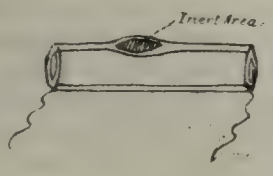


FIG. 6.

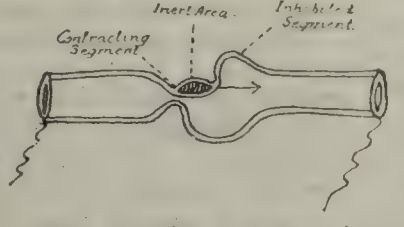


FIG. 7.—Shows contracting segment of peristaltic wave forcing inert area into lumen of inhibited segment.

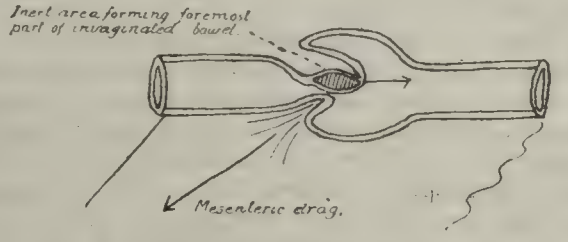


FIG. 8.—Shows invaginated inert area producing mesenteric drag and colic or intussusception.

Intussusception Associated with Acute Rheumatism.—It would be expected that inert areas (whether microscopic or macroscopic) would occasionally be invaginated and intussusception result in the cases where the length and elasticity of the mesentery provided insufficient anchorage to prevent it. Such cases are, in fact, occasionally encountered.

A significant feature in intussusception is that the "dimple" or the first portion to be invaginated is never on the mesenteric border of the gut, but is always antimesenteric, or nearly so. The coincidence of this with the probable situation of an "inert area" still further accentuates the relationship between general infections and intussusceptions. Another feature of this class of intussusception is its ubiquity. Thus, while those of dietary origin are nearly always ileo-colic, those of infective origin are equally likely to be enteric, caecal, or even colic in origin. Of these latter the caecal is, in my experience, the commonest; but I have encountered two colic intussusceptions existing at the same time in one patient, the first starting in the ascending, and the secondary one in the transverse colon. Finally, in the absence of an anatomical reason, an infective origin accounts for the occurrence in more than one member of a family, and for the unexplained instances of recurrent intussusception,[10] of which I have already published an instance where I operated for the third time on the same patient at long intervals.[11]

Insensibility of Intussusception.—In intussusception, as in simple colic, pain and (before the onset of distension) discomfort are conspicuously absent except during peristalsis, and children often sleep quietly in the intervals. This feature is not so evident when intestinal distension has supervened; but if, as is believed by some, the intestinal wall itself is sensitive to distension, it is curious that such gross distension of the bowel wall as obtains in the intussuscipiens should so far be innocent of any afferent impulses as to permit of peaceful sleep! This, together with the absence of tenderness and cutaneous hyperaesthesia, constitutes strong evidence of the insensibility of the intestinal wall to every form of stimulus.

Other examples of general infections which may similarly cause intestinal colic[12] (and even intussusception) are diphtheria, acute tonsillitis, etc. Instances of colic associated with these infections I have elsewhere published, and they are constantly encountered in the course of clinical work. The clinical feature of importance is the abdominal pain, often with a complete absence of other local signs and symptoms. Amongst *urticarias* must be mentioned the abdominal pain arising in the course of "serum rheumatism." It is attributable to inert areas caused by patches of serous effusion into the intestinal wall akin to those seen under the skin. In one instance a caeco-colic intussusception occurred during an attack of acute tonsillitis (supposed "influenza") with catarrh and cervical adenitis.[12]

Localization of Pain in Small Intestine Colic.—Since the mesentery of the viscera is their sense organ, pain is referred primarily to this structure. As, in the case of the stomach, pain is referred to the gastro-hepatic omentum—that is, the epigastrium—so in the small intestine colicky pain is referred vaguely to the middle line—that is, the situation of the small intestine mesentery—and is not associated with cutaneous hyperaesthesia. Inaccuracy of localization is thus a prominent feature of small intestine colic.

LARGE INTESTINE.

Before considering colic in relation to the large intestine, the appendix may with advantage be referred to separately.

Appendix Colic.—The appendix, insensitive itself, is sensitive through its own and the adjacent ileal mesentery; and that the same principles apply is shown by the rare cases of intussusception of the appendix. This rare condition I have twice encountered. In one instance the intussusception started at the tip and involved the distal third; in another the base was invaginated into the caecum and, dragging with it the proximal third, started a caeco-colic intussusception. The rarity of true colic is accounted for by (*a*) the narrowness of the lumen in proportion to thickness of the wall, and (*b*) the poor blood supply. Thus, an intramural lesion is more likely to lead to thrombosis in the mesentery and gangrene of the appendix than to invagination or colic.

Appendicitis in relation to General Infections.—Intramural infection of the appendix via the blood stream, proved experimentally by Poynton, is a very common event in clinical practice. The resulting lesion (corresponding to the "inert areas" described) tends to produce mesenteric oedema and thrombosis, and pain is localized in the mesentery (the meso-appendix). Every degree of inflammation, from local or general congestion and swelling to gangrene, is met with, the characteristic feature being that the mesentery is always oedematous, friable and thrombosed, and the lumen often shows no abnormality.

In blood infections of the appendix, then, the same "inert areas" lead to a different pathological sequel, and acute or recurrent rheumatism, tonsillitis, and diphtheria, may be mentioned as examples. To these must be added, again, the administration of serum. In some cases treatment of the primary infection suffices to secure permanent immunity from further trouble; in other severer cases appendicectomy is urgently demanded.

Thus, in one case of diphtheria, typical pain and tenderness in the right iliac fossa, associated with vomiting and constipation, made their appearance in the first twenty-four hours, but disappeared completely on the administration of antitoxin; and up to the present time (ten years later) there has been no recurrence. On another occasion I operated on the twelfth day of diphtheria, with cardiac complications, and removed a gangrenous appendix with diffuse spreading peritonitis.

I wish to emphasize the frequency with which recurrent abdominal pain disappears without laparotomy on the removal of a remote source of infection—that is, teeth, tonsils and adenoids, etc.—such treatment removing the origin of recurrent inert areas.

The Colon.

Here the principles are identical, but symptoms differ in detail with the different mechanism. Thus the continuous rhythmic waves are less evident and feebler, except when accentuated by reflex parasympathetic stimulation in three ways:[13]

1. By hunger, smelling or taking food, both of which reflexly excite the vagus over its entire distribution; or

2. By their reflex stimulation from the anus through the lumbar centre (that is, in defaecation); or
3. By the arrival of a fresh load from the ileum, which normally occurs in association with (1).

Either of these three factors so increases the local pressure on the contents of the colon as to excite the pressure stimulus responsible for peristalsis—represented in the large bowel by a "mass movement." Mass movement consists in the vigorous contraction of a whole length or segment of intestine, which forces its contents (along the line of least resistance) into the inhibited segment immediately beyond, when the process is repeated. A whole column of faeces is thus moved from one segment to the next.

I have on one occasion observed a mass movement during laparotomy, and I was profoundly impressed by the extraordinary power exerted by such a thin-walled structure. Not only did the bowel contract into a hard rigid crenated tube about one-third of its former diameter, but by a striking contraction of its longitudinal bands the length of the contracted segment appeared to be so diminished that the long looped transverse colon lay across the transpyloric plane—a hard, firm, crenated tube, clearly capable of obliterating kinks and bends which might be observed during quiescence. The whole process gave one an impression of great power.

Now, except in the presence of obstruction, mesenteric or peritoneal involvement, colicky pain or discomfort arising from lesions of the colon occurs mainly in association with the powerful mass movement; it is therefore definitely related to (or accentuated by) taking food and the act of defaecation. The character of the pain is identical with that occurring in the small intestine, since it occurs by reason of the drag on the mesentery (or on the attached peritoneum when mesenteric fusion is complete) produced by the attempted invagination of the inert area.

Localization of Pain.—One of the characteristic features of lesions of the colon is the ability of the sufferer to localize the site of the lesion; this is especially noticeable in such definite lesions as carcinoma, in itself a painless disease affecting an insensitive structure. I would emphasize once more that the rectum is excluded from this statement, since in this neighbourhood the gradual resumption of voluntary control over the passage of contents (that is, evacuation) is accompanied by the gradual return of sensibility. The wide area of mesenteric attachment of the large bowel (or of the bowel to the sensitive peritoneum) is responsible for this power of definite localization; for the mesenteric drag induced by the attempted inversion is clearly referred to the mesenteric attachment in the neighbourhood of the lesion. Finally, it is this power of localization which is often responsible for colic, associated with lesions of the colon, being attributed to a gastric origin. This is particularly true of the left transverse colon. For the onset of pain is initiated by mass movement coincident with the taking of food; the reference of the pain to the mesocolon may resemble fairly closely that referred to the gastro-hepatic omentum; and thirdly, the mechanical stimulation of mesenteric nerves in the immediate neighbourhood of the solar plexus evokes a reflex persistence of pyloric closure leading to flatulence and gastric distension.[14] Thus, for example, it is not uncommon for carcinoma of the transverse colon to be mistaken for a gastric lesion.

Lesions of the Colon Associated with Colic.—These are infinitely more numerous than in the case of the small bowel; for not only is the large intestine the home of a variety of organisms (through which a lowered immunity may at any time establish an infective colitis), but the normally slow and interrupted motor mechanism predisposes to delay, and may lead to the formation of solid, scybalous masses which cause colic in the same manner as the gall stone or other foreign body in the small intestine. It is unnecessary to summarize again the types of lesions (whether in the lumen or intramural) once the differences between the small and large bowel have been accentuated, since it is the principle I am anxious to establish—namely, that in both instances the bowel is insensitive, and induces colicky pain through its mesentery or peritoneal attachments.

(c) *Inflammation of the Peritoneum.*

In the acute stage peritonitis never causes colicky pain, except in those very rare instances where it is coincident with intestinal obstruction. I have on two occasions seen obstruction, with visible peristalsis, associated with acute appendicitis and abscess formation. But this is exceedingly rare, since an inflammatory lesion of the peritoneum stimulates the sympathetic, both efferent and afferent, and ensures thereby an absolute immobility of the intestine by active inhibition.[15] Peritoneal adhesions may cause colic, but the main clinical feature to be remembered is that inflammation of the mesentery is usually associated with inhibition and intestinal immobility; and that in those cases where colic also occurs there exists also a fairly constant pain or discomfort of smaller degree associated with local tenderness. In other words, a constant pain is aggravated by intestinal movement, in definite contrast to the complete immunity in lesions of the bowel except during peristalsis.

Lesions of the Mesentery.—For practical purposes inflammatory lesions only need be considered, and these may affect the peritoneal surface or be contained within the folds of the mesentery; they may be acute, subacute or chronic. Briefly these may be considered in two groups:

1. Inflammation of the lymphatic glands.
2. Inflammation of the peritoneal surface.

1. Inflammation of mesenteric glands, whether acute or chronic, may be associated with colic which nearly always arises in the small intestine, or the ileo-colic angle. The primary focus in the intestine may itself be responsible for the pain as already described; but the glands themselves may also be responsible. For the inhibitory segment of the peristaltic wave normally exerts a physiological degree of tension on the mesentery during its passage, and, in the presence of inflamed glands, drags on these and causes pain.
2. It has been shown that an irritative lesion of the mesentery provides a constant, if small, stimulus to the contained efferent and afferent nerves; the stimulus to the former results in an active inhibition ("paralysis") of the segment of intestine supplied. The resulting effort to invaginate such an inhibited segment may cause mesenteric traction and pain.

(d) *Alteration in Relative Sympathetic and Parasympathetic Activity, and in their Hormone Equilibrium.*

The automatic rhythmic contractions of the intestine are accentuated by parasympathetic stimulation, which thus excites the peristaltic wave; the antagonistic nerve supply is the sympathetic, stimulation of which inhibits intestinal movement. Interference with this controlled motor mechanism may arise in two ways:

1. A relative increase of parasympathetic stimulation.
2. A relative increase of sympathetic stimulation.

1. *A relative increase of parasympathetic stimulation* may again be effected pathologically in two ways—by sympathetic paralysis and by excessive parasympathetic stimulation. The results of both these conditions are the same—namely, irregular and excessive contraction of the intestine, a condition known as enterospasm.

Enterospasm is characterized by the firm contraction or closure of irregular segments of intestine, and the failure of such contracted segments to respond to the inhibitory stimulus of the peristaltic wave. Peristaltic waves arriving at such a "closed" segment endeavour to invaginate it into the lumen of the intestine (as in the case of an organic stricture), and colicky pain results from the mesenteric drag. Enterospasm may be met with in almost any degree, from mild recurring discomfort to acute colic associated with distension, vomiting, and constipation, so severe as to simulate closely intestinal obstruction. In clinical practice the commonest cause of enterospasm is sympathetic paralysis by nicotine (tobacco poisoning); but, though the practical knowledge of hormones is in its infancy, we should be alive to the possibility that these may be important factors in deranging the equilibrium of sympathetic and parasympathetic control. Thus, for example, adrenaline (the hormone of the suprarenal medulla) not only in itself behaves identically with sympathetic nerve stimulation, but lowers the threshold to such stimulation; cholin (and the problematical peristaltic hormone[16]), on the other hand, possibly exercises a similar function on the parasympathetic, and would thus be a physiological antagonist.

Though a consideration of the practical aspect of the different hormones would carry us into speculative fields far outside the scope of this paper, I think we ought to remember that, like the vegetative nervous system, the internal secretions of the various endocrine glands, either mutually synergic or antagonistic in function, normally maintain a condition of equilibrium. When these hormones exert a control on the neuro-muscular mechanism of the intestine, any derangement of their normal equilibrium may result in unbalanced stimulation of the intestinal nervous system and be responsible for obscure colic. This is one respect in which sex possibly plays an important part.

That excessive parasympathetic stimulation (or an oversecretion of its respective hormone or hormones) may also be responsible for enterospasm must also be conceded, for in some instances colicky pain may be temporarily relieved by counter-irritation of the skin.

2. *Relative Increase of Sympathetic Stimulation (and of the Suprarenal Hormone).*—Since the function of the sympathetic and its hormone is mainly inhibitory, any relative increase of activity leads to delay or stasis from imperfect intestinal contraction and cannot directly cause colic. But the resulting constipation may lead to the formation of scybalous masses, and the passage of these may be attended with severe colic in the manner described. Retention colitis from the same cause may similarly be attended with colic. Such a relative increase may be effected in two ways:

(a) By Over-stimulation of the Sympathetic.—This subject has elsewhere been dealt with at length in its surgical aspect.[17] I need here only say that, in all probability, sexual functions exert their most important influence on stasis in the colon through the sympathetic and the corresponding hormone; and that into this group should also be classified visceral disorders arising from peritoneal lesions, psychical abnormalities, visceroptosis, dyschezia, etc.

(b) By Relative Decrease of Parasympathetic Control.—Into this group may be placed the intestinal distension and constipation associated with paraplegia, where paralysis of the parasympathetic yields unchecked domination to sympathetic or inhibitory impulses. Into this group also I am inclined to place Hirschsprung's disease, in the belief that, as in a large number of congenital deformities, there is a central nervous system defect or lesion. This, I believe, leads to unbalanced inhibition and a local motor failure, which automatically excites progressive overaction and hypertrophy of the proximal bowel. Some years ago I operated on a man twenty years after the radical cure of a low spina bifida. Here I found a typical Hirschsprung's giant sigmoid, and the close resemblance impressed me with the possibility of a similar origin. But if this is so, it is curious that the one was associated with a similar hypertrophy of the bladder; while, so far as I am aware, this is not a feature of Hirschsprung's disease.

In conclusion, obscure intestinal colic may arise from temporary causes and be of no real significance; its treatment may be medical, or it may constitute a grave warning of an impending surgical crisis.

A full understanding of its significance depends, I am convinced, on an appreciation of the fact that the bowel itself is insensitive; that colicky pain arises from, and is referred to, the mesentery; and that the mechanism of colic consists in the natural attempt of the bowel to drive onwards a diseased or inert area, thereby inducing an abnormal tension on the associated mesentery.

REFERENCES.

[1] Langdon Brown, *The Sympathetic Nervous System in Diseases.* Oxford Medical Publications. [2] A. F. Hurst, *The Sensibility of the Alimentary Canal.* Oxford Medical Publications. [3] Mechanism and Treatment of Shock. BRITISH MEDICAL JOURNAL. April 24th, May 4th, 11th, 18th, 1912. [4] Blood Pressure Variations associated with Lumbar Puncture and the Induction of Spinal Anaesthesia, *Quarterly Journal of Medicine*, April, 1921, vol. v, No. 19. [5] The Influence of Nerve Impulses on Visceral Disorders, *Lancet*, 1920, vol. i, pp. 1299 and 1345. [6] Ibid. [7] Invagination of Meckel's Diverticulum, *Annals of Surgery*, December, 1908. [8] *Lancet*, 1908, vol. i, p. 628. [9] *Practitioner*, January, 1914. [10] *Lancet*, 1914, vol. i, p. 716. [11] *Practitioner*, January, 1914. [12] *Lancet*, 1914, vol. i, p. 746. [13] *Lancet*, 1920, vol. i. pp. 1299 and 1345. [14] Ibid. [15] Acute Peritoneal Infections. *WestLondon Medical Journal*, January, 1913. [16] Higier, *The Vegetative Nervous System.* [17] *Lancet*, 1920, vol. i, pp. 1299 and 1345.

THREE CASES ILLUSTRATING THE VALUE OF PYELOGRAPHY.

[With Special Plate.]

BY

CLIFFORD MORSON, O.B.E., F.R.C.S., AND H. P. WINSBURY WHITE, F.R.C.S.Edin.,

ST. PETER'S HOSPITAL FOR URINARY DISEASES.

DURING the last thirty years considerable progress has been made in the accurate diagnosis of diseases of the urinary organs. With the advent of the cystoscope in 1885 obscure signs and symptoms due to pathological changes in the kidneys and bladder came to be recognized, and, after further experience, were satisfactorily interpreted.

Following the introduction of this instrument, ureteral catheterization was successfully undertaken, and the segregator consequently fell into disuse. The ability to draw off urine from each kidney by means of a catheter passed up the ureter led investigators to inject fluids, opaque to the *x* rays, into the renal pelvis, and in 1906 Voelcker and Lichtenberg presented the first paper on pyelography. Since then the literature on this subject has swelled to enormous proportions, and includes profitable dissertations on the evolution of this method of diagnosis, and upon the advantages and disadvantages of different opaque media.

The essential value of pyelography is the reliability with which it determines the presence or absence of disease of the kidneys when the evidence drawn from other sources is insufficient or obscure. Illustrative of this are the details of three cases of hydronephrosis in each of which the diagnosis remained doubtful until the patient had been submitted to pyelography.

CASE I.

J. B., a professional singer, aged 25, had complained of constant dull aching pain in the left loin for three years. His symptoms commenced while in China, and were there diagnosed as a left-sided pleurisy. He gave no history of symptoms which could be referred to the bladder until careful questioning led him to acknowledge occasional nocturnal frequency of micturition. Deep palpation of the abdomen in the region of the left loin caused the patient to complain of discomfort, but there was no muscular rigidity.

A skiagram taken of the whole urinary tract showed no shadow of a calculus; cystoscopy demonstrated a normal bladder wall with slight infection of the mucous membrane around the left ureteric orifice.

A specimen of urine was obtained from each kidney by means of ureteral catheterization, 15 grams of urea having been given previously by the mouth. The result of the chemical and bacteriological examinations of the fluid, shown in the following table, is instructive:

Right Kidney.	*Left Kidney.*
No pus cells.	A few pus cells.
No organisms.	An occasional coliform bacillus, but no growth occurred on culture media.
2 per cent. of urea.	0.65 per cent. urea.

At the same time that urine was drawn off from each kidney to obtain a sufficient quantity for the foregoing examination, pyelography was performed by the injection of a 30 per cent. solution of sodium bromide. The pyelograms showed a normal right kidney and disintegration of the secreting tissue of the left kidney.

At operation a large hydronephrotic kidney was removed through an oblique incision in the left lumbar region. The disease was due to an aberrant artery crossing in front of the ureter at its junction with the pelvis and entering the lower pole of the kidney. (See Special Plate, Fig. 1.)

Recovery was uninterrupted, the wound healing by first intention. The patient on discharge looked remarkably well.

CASE II.

A. C., a clerk aged 29, gave a history of three months' pain in the left loin which was constant and dull in character. A diagnosis of lumbago had been made. At the onset of his illness the patient had noticed slight frequency of micturition, but, apart from this, bladder symptoms had been absent. His appetite was poor and he had lost weight.

An abdominal examination did not elucidate the cause of the pain, as neither kidney could be felt enlarged or tender on palpation. *X*-ray examination of the urinary tract was negative to the presence of calculus. Cystoscopy revealed a normal bladder with oedema of mucous membrane around the left ureteric orifice.

The bacteriological and chemical reports of the urine from each kidney after the administration of 15 grams of urea by the mouth were as follows:

Right Kidney.	*Left Kidney.*
No pus cells.	No pus cells
No organisms.	Plentiful growth of coliform bacilli.
3.4 per cent. urea.	0.6 per cent. urea.

Pyelography of each kidney was carried out by injecting a 30 per cent. solution of sodium bromide through a ureteric catheter. The pyelogram on the right side showed a normal kidney and that on the left side complete destruction of the calyces and distension of the pelvis. (See Figs. 2 and 3, by Dr. Reynolds.)

Operation consisted in left nephrectomy for hydronephrosis due to constriction of the ureter at the uretero-pelvic junction. (See Fig. 4.)

The patient made an uninterrupted recovery and was discharged three weeks after the operation, looking and feeling well and having gained weight.

CASE III.

On the recommendation of Dr. Wyndham Gittens, Captain F. P. C., aged 23, consulted one of us for pain in the left loin. He stated that while on active service in Egypt during 1919 and 1920 he had felt slight discomfort in the left loin, and that during his passage home on board ship in July, 1920, he was seized with severe pain in the left loin, referred to the left half of the abdomen. A repetition of the attack took place in August, 1920, about which time he was admitted to a military hospital.

The examination consisted of cystoscopy, investigation of the urine, and skiagraphy. Apparently he was discharged from this hospital without special treatment. He understood, at a later date, that he was suffering from gout. Since leaving hospital the attacks of pain had become more severe and at shorter intervals, and in

recent months he had been carried off the Rugby football field owing to an attack of pain in the left loin when collared, and even when dancing he was sometimes obliged to retire with similar symptoms.

At examination the right kidney was palpable and enlarged, the left kidney tender on palpation. Micturition was not quite normal, the patient being obliged to pass urine once during the night. The urine was clear and contained no pus, but a streptococcus was grown on culture. Temperature 99°.

Cystoscopy showed the bladder wall to be healthy, with slight injection of the mucous membrane around the left ureteric orifice. Pyelography demonstrated hypertrophy of the right kidney and disorganization of the left kidney. (See Figs. 5 and 6.) In this case the injection fluid used was a 30 per cent. solution of sodium iodide.

A rise of temperature and increase of pain in the left loin followed this examination, which indicated immediate operation. The left kidney was therefore exposed by a lumbar incision; it was found to be so large and tense that an incision had to be made in the capsule to draw off the retained urine and solution of sodium iodide before it could be delivered out of the wound. Nephrectomy was then readily performed. Examination of the specimen after operation revealed an enormously distended pelvis and complete obliteration of the calyces.

Recovery was uneventful, the feeling of fitness so soon after a major operation being again noticeable.

Commentary.

It is a matter of considerable interest that the disease in each of these cases was on the left side. The obstruction in Cases I and II was congenital, an aberrant vessel kinking the ureter in the one and a stricture at the uretero-pelvic junction blocking the other. In the third no cause could be found for the destruction of renal tissue. There was no dilatation of the ureters in any of these cases.

A comparison of the condition of the urine shows how little such an examination, by itself, must be relied on to determine the presence or absence of a gross lesion of the kidney.

Bacilluria was present in all three cases but without pus formation. The urea concentration test was of some assistance in determining the efficiency of the kidneys, but more reliance was placed in the appearance of the pyelograms to assist in estimating their function.

The chronic ill health produced by hydronephrosis in which there is no pus formation, and where the opposite kidney is functioning satisfactorily, is noteworthy. Equally remarkable was the sense of well-being that each patient demonstrated within fourteen days of removal of the diseased organ. This characteristic was not due to an improvement in the metabolism of nitrogenous products, for previous to operation the sound kidney had been proved to be excreting the normal amount of urea consistent with good health, but rather to the removal of an organ which, by virtue of the process of degeneration, is circulating toxins of an unknown chemical nature in the blood.

The pyelograms reproduced on the accompanying plate faithfully represent the normal as well as the abnormal anatomy of the kidneys. Those of the healthy organs show the calyces with their cup-shaped extremities, while those of the hydronephrotic kidneys reveal stunting, or even entire absence.

A further study of pyelography in cases in which the renal cortex is being destroyed will aid in determining the extent of the damage. Thus, in the early stages there is distortion of the calyces, but later the pyelogram shows shadows of globular shape, three to six in number, situated immediately beneath the capsule, and which are adjacent to the large shadow representing the overdistended pelvis. It will be noted in all cases that the shadow of a normal kidney is always more dense than that of a hydronephrosis owing to the dilution of the opaque media by retained urine.

Finally, we give it as our considered opinion that, as a result of the introduction of cystoscopy, ureteral catheterization, and pyelography, no surgeon is justified in performing an exploratory operation upon the kidney. Science has placed in our hands the means of making an accurate diagnosis without recourse to cutting down upon the kidney and inspecting it with the naked eye.

Our thanks are due to Dr. Reynolds and Dr. Salmond for the pyelograms, and to Mr. Shiells for the drawings.

BARBED wire entanglements guarded by armed men have been set up to isolate the towns of Poleau, Heavener, and Wister, Oklahoma, U.S.A., where an epidemic of small-pox is prevailing. According to the *New York Medical Record*, compulsory vaccination is also in force.

A BONE CLIP FOR THE OPERATIVE TREATMENT OF FRACTURES:

END RESULTS IN THE CASE OF GROWING FEMURS.

[With Special Plate.]

BY

JOSEPH E. ADAMS, M.S., F.R.C.S.,

SURGEON, ST. THOMAS'S HOSPITAL, AND EAST LONDON HOSPITAL FOR CHILDREN.

FASHION plays an important part in surgical technique, and surgical fashions come and go; but they go with greater reason than they come. The principle that nearly every simple fracture requires operation because perfect function depends on perfect anatomy, was preached by Sir Arbuthnot Lane. In course of time it came very near to being one of those accepted surgical generalizations which Sir Arbuthnot himself now says are always wrong. To establish a true generalization is harder, far harder, than to devise, and even to popularize, a new surgical procedure. That perfect function is compatible with imperfect anatomy is now accepted in the treatment of fractures. Our object as surgeons is to recover the function of a broken limb, not necessarily to restore its radiographic symmetry. Experience of war injuries, together with the influence of orthopaedic surgeons, has been largely responsible for the revulsion against converting simple into compound fractures by operating on them. But as long as there are house-surgeons not yet fit to be called surgeons, and surgeons whose waking thought is the knife, operations on simple fractures will continue to be done. All this by way of apology, since I may be accused of unnecessary operations.

Of all bones liable to fracture probably the femur gives the greatest trouble to the setter. One of the chief reasons is the strength and bulk of the muscles which surround and are attached to it. Uncontrolled action and spasm of these muscles, even in young children, may prevent reduction under anaesthesia, and the difficulty is directly proportional to the time which elapses between the receipt of the injury and the attempt to secure replacement of the fragments. House-surgeons do not fully recognize that all fractures, simple as well as compound, are acute cases, and that the best results can only be obtained by immediate treatment. Within four hours of the injury a direct pull under anaesthesia will effect reduction in nearly all fractures of the femur, even including those of the upper and lower thirds. The use of an extension table and the direct application of a plaster-of-Paris case to the limb will usually suffice to maintain good position, and in due course a perfect functional result may be looked for. Flexion of the hip or knee may be required in the difficult cases of fracture in the upper and lower ends respectively; but time is of the essence of the contract, and the earlier the house-surgeon gets to work the easier is his task. If his chief prefers it equally good results can be obtained by the present-day modifications of Thomas's splint. That he should fail in certain cases is no discredit unless it is due to unnecessary postponement. That the surgeon should succeed where his house-surgeon fails is not to be expected except in those cases where a correct interpretation of the skiagram shows the way to successful reduction, and experience alone can teach these points. Inevitably, therefore, the question of operative treatment of some fractures will arise, and the bone most frequently calling for open reduction will be the femur, since alignment of the fragments is of such importance. Spiral fractures of the lower third of the tibia also present especial difficulty. Personally I do not operate on any of the common fractures unless two attempts at reduction without open incision have failed.

If there will always be cases needing operation it is surely desirable that the technique should be as simple as possible, and my conception of an internal splint is the simplest appliance which will hold the bony fragments in accurate apposition whilst the limb is immobilized in an external splint. Even if open operation is necessary to effect reduction a splint for the bone may not be required, and this is well exemplified by the common type of supracondylar fracture of the humerus. Open reduction is often necessary, but satisfactory apposition can usually be secured by complete flexion at the elbow-joint.

In May, 1917,[1] I first described a clip made of spring steel, which was made for me by Henry Lewis, of Westmoreland Street, W. 1, for the treatment of fractures of long bones.



FIG. 1.—Case I. Hydronephrosis due to aberrant artery.



FIG. 2.—Pyelogram of hypertrophied right kidney, Case II (Reynolds).



FIG 3.—Pyelogram of left hydronephrosis, showing distended pelvis and globular-shaped shadows under renal capsule. Case II (Reynolds).

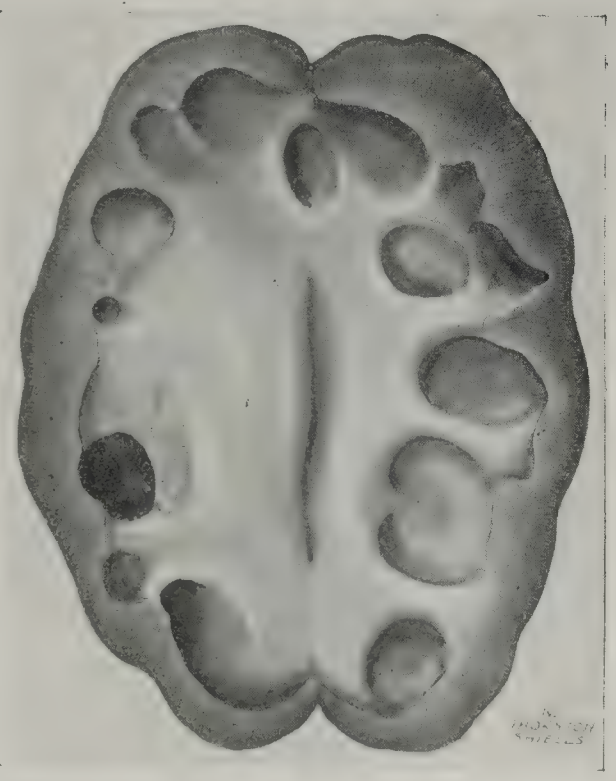


FIG. 4.—Case II. Hydronephrosis due to constriction of ureter at uretero-pelvic junction.

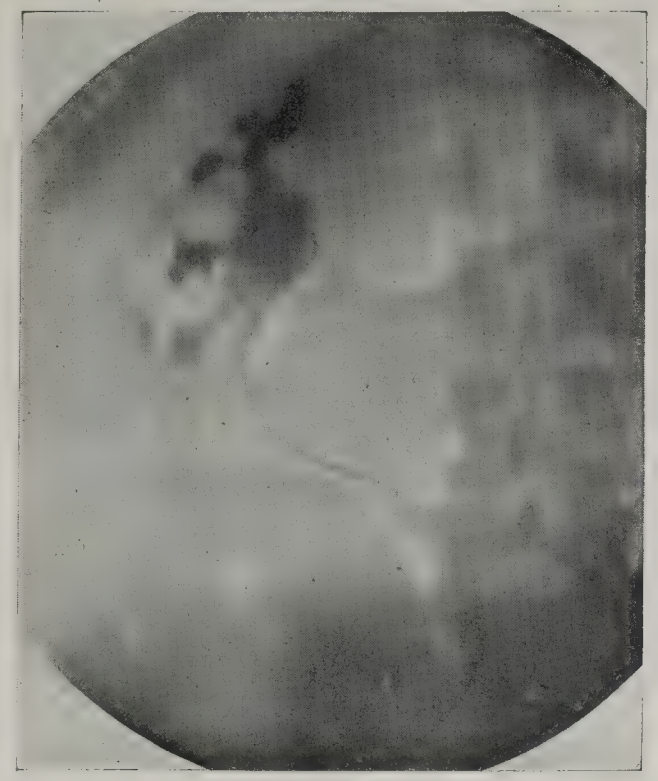


FIG. 5.—Case III. Pyelogram of right kidney, showing hypertrophy (Salmond).

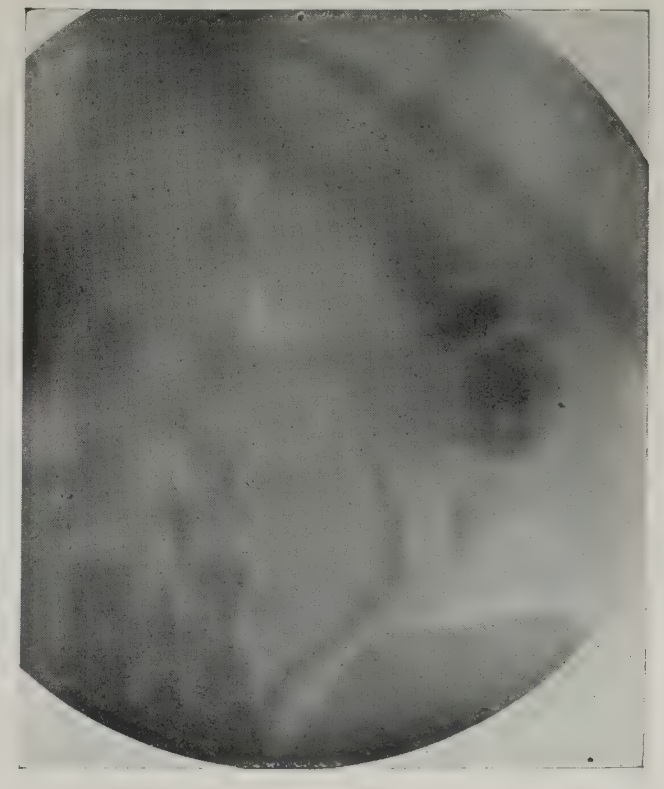


FIG. 6.—Case III. Pyelogram of left kidney, showing destruction of calyces and 5 globular-shaped shadows beneath capsule (Salmond).

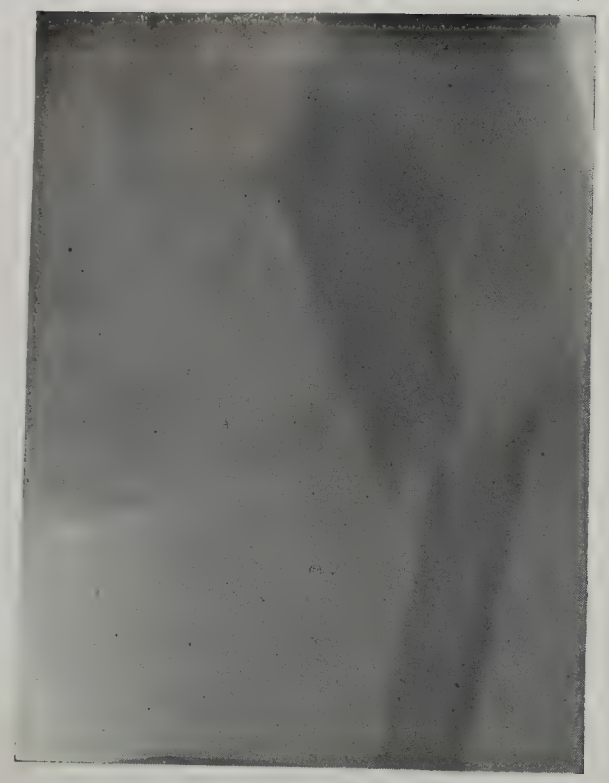


FIG. 1.—C. H. Fracture of femur, September 4th, 1917. *X* ray taken on September 10th.

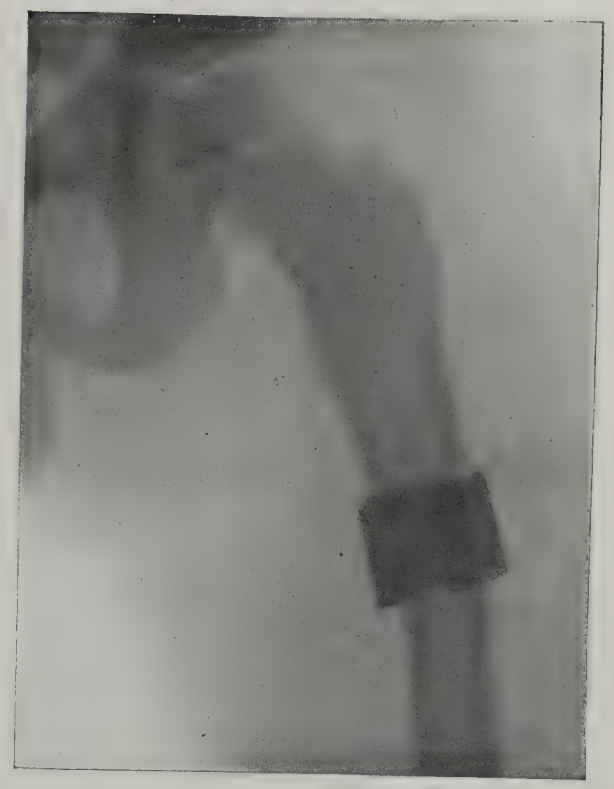


FIG. 2.—C. H. Clip applied September 14th, 1917. *X* ray taken on September 18th.

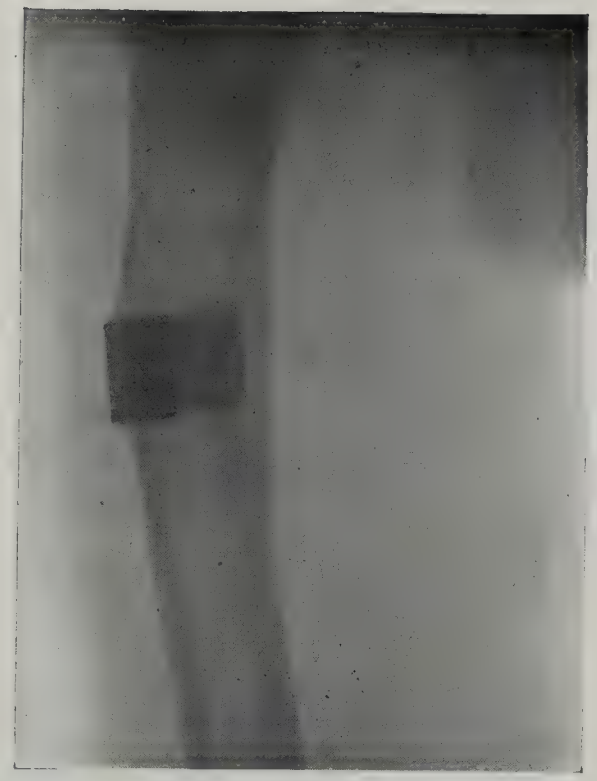


FIG. 3.—C. H. *X* ray taken December, 1920.



FIG. 4.—L. N. Fractured right femur September 22nd, 1917. *X* ray September 25th Lateral view.



FIG. 5.—L. N. Clip applied October 1st, 1917. *X* ray taken October 4th.

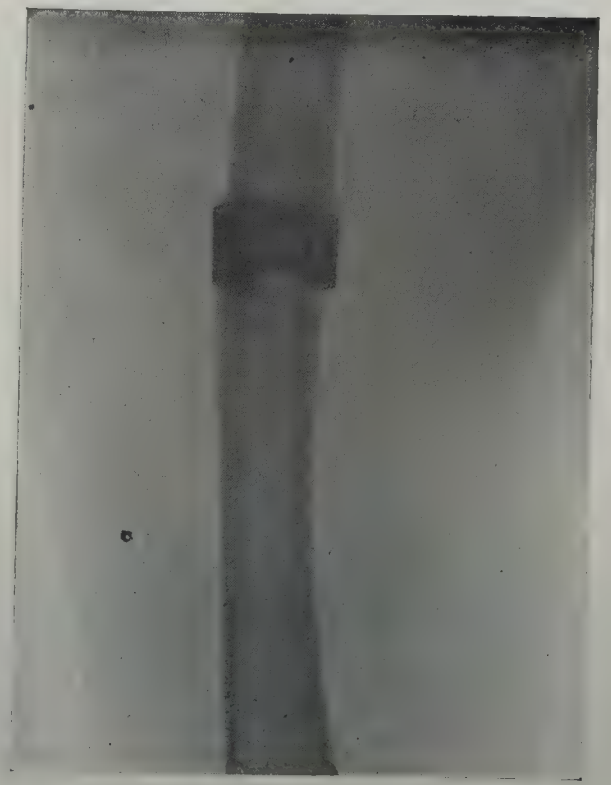


FIG. 6.—L. N. Skiagram taken three years later.

My object now is to show the late results of this method of treatment, with especial reference to its influence on growth of the bone. The technique of my operation was described in this JOURNAL four years ago.[2] It has been urged against circular constriction of a bone that it leads to atrophy, and that if such an appliance as the Parham and Martin band is used refracture is liable to occur. There is much truth in

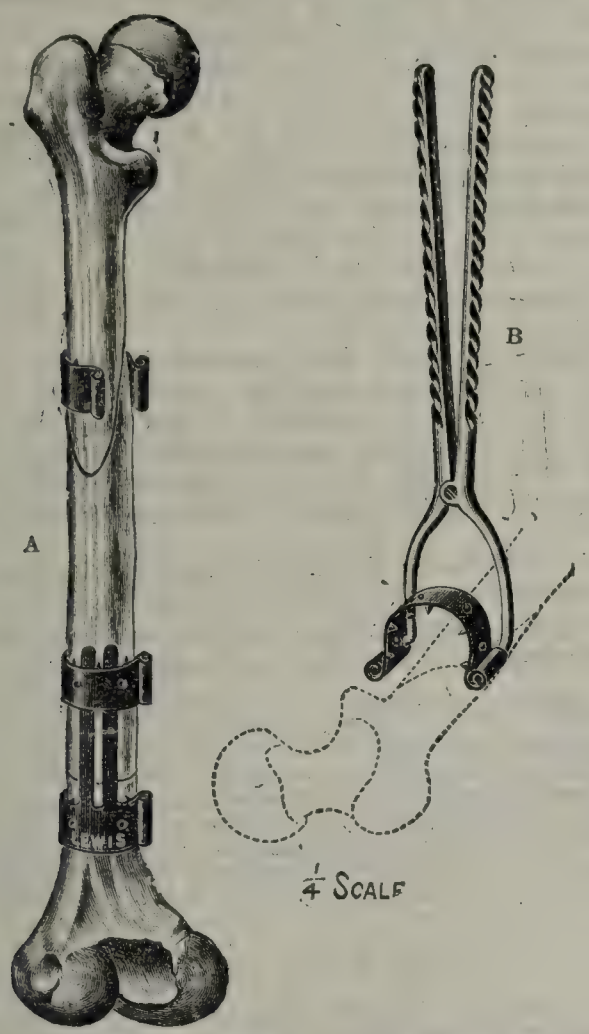


FIG. I.—A shows a transverse and an oblique fracture of femur, produced by saw cuts, held in position by clips, drawn from an actual specimen. The upper oblique fracture was easily secured by one clip. The lower transverse fracture is held in good position by two clips, one of which is provided with a supporting flange. The second flange embraces both flange and proximal fragment. B shows the introducer, the prongs of which pass through small loops at the end of the clip. This instrument is made with a screw-joint so that the two halves can be taken apart.

this, but the danger can be avoided by the use of a clip which does not encircle more than two-thirds of the circumference of the bone. It may be seen in the accompanying skiagrams (see Special Plate) that subsequent growth of the bone lessens this proportion so that the danger of pressure atrophy is a decreasing one.

The femur cases which I illustrate were selected for operation only after two unsuccessful attempts at reduction had been made in each case, and all the operations were done over three years ago. If I apologize for finding it necessary to operate on them I see no reason to apologize for the operations themselves. The functional results are perfect and the skiagrams show the anatomical results.

Only a brief description of the necessary instruments is required since the accompanying block (Fig. I) shows the method of application and two types of clip devised for oblique and transverse fractures. For the latter I have devised two clips, one of which has a long flange attached to it, so that it may support both fragments and be grasped by a second clip. In practice, however, I have found that one clip will nearly always suffice, even for a transverse fracture, and absolutely transverse fractures are not very common. The transverse type which most often resists manipulative reduction is that in which the upper fragment overrides the lower one, and here operation may be called for. A single clip will support the lower fragment whilst the external limb splint is applied.

As to the clips themselves, they are made in several sizes, ranging from half an inch to an inch and a half in diameter, the width of the metal band being proportionate to the diameter. Very careful tempering is required to secure the clip against fracture when it is opened for introduction, and this point has received particular attention from the maker. The tension of the spring is also important, since pressure atrophy must be avoided. This is further guaranteed by the presence of sharp teeth turned in at intervals from the edges of the clip so that there is a small clear space between the bone and the metal. These teeth obviate the need for screws and secure a firm grip on the surface of the bone. The avoidance of screws is important, for thus the medulla of the bone remains untouched, and it is well known that screws do actually become loose by atrophy of the bone in which they are embedded. In the absence of sepsis this atrophy has been denied; but any surgeon who has had to remove screws on account of pain, and not for sinus formation, knows that the screw often rotates in its socket under the action of a screwdriver, and the simplest method of removal is to seize the head of the screw and pull it straight out, proving that its bite has ceased to be effective.

The instruments required for my operation are few in number, and the technique followed is the same as that of other methods of internal splintage of bones except that the clip replaces the bone clamp, and, when once the clip is applied, the operation, except for closure of the wound, is at an end. Thus the length of the operation is reduced by one-half. For clearing the periosteal space I know of no better instruments than Lane's curved elevators, and four of these, two at each end of the wound, will expose the bone, and hold the muscles temporarily out of the way. The size of the clip to be selected is important, and for this purpose the diameter of the bone as shown in the skiagram is an accurate guide. To ensure adequate tension the clips are made on the small side, and, in children, a three-quarter inch clip is most frequently used. The clips are stamped with their diameter. In adults the diameter of the bone is usually more than an inch, and an inch and a quarter clip may be required. In subtrochanteric fractures I have used a clip with a diameter of an inch and a half, but always the diameter of the clip should be rather less than that of the bone which is to be secured.

It is obvious that there is an optimum position for the clip so that it may exert pressure along the lines of force which tend to separate the fractured ends. The tension of the spring results in a closing pressure roughly at right angles to the direction of its opening. This must be borne in mind when applying the clip, and it is important to secure this position before the introducer is removed. It is easy to ascertain by trial how far round the bone the instrument should be passed, and then the introducer can be disengaged by a tap on its lateral aspect to free the prongs from the rings of the clip. The clips boiled for the operation should not be touched by the hand, and they can easily be picked up by the prongs of the introducer passed through the rings of the clip. The introducer is made of such a size as to comply with the requirements of aseptic surgery, and not even the gloved hand should go nearer to the wound than the handle of the instruments.

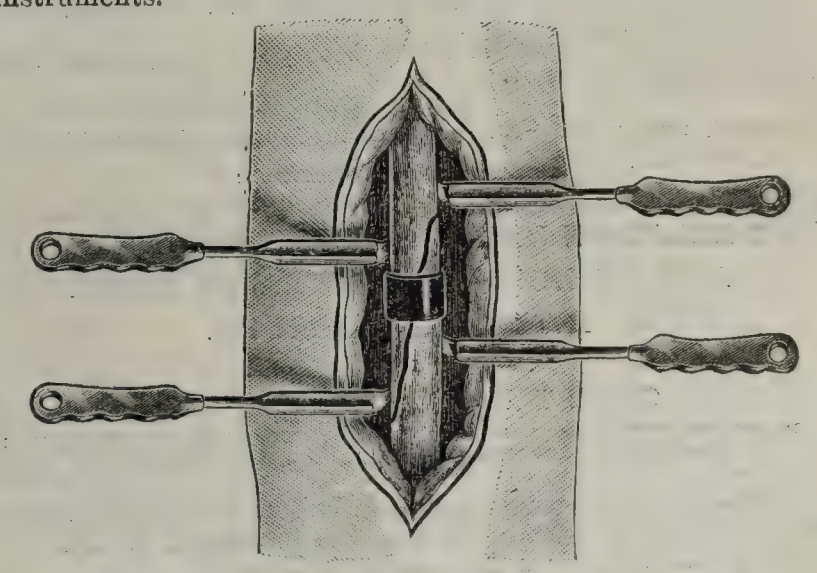


FIG. II.—Showing the operation completed so far as the bone is concerned. Lane's bone elevators are still in position.

The skiagrams, of which I publish a selection (see Special Plate), are all from cases operated upon over three years ago, and the fractures involved the upper third in the case of C. H. and the middle third in the case of L. N. L. N.'s fracture was a very long one and somewhat spiral. The pictures taken shortly after the operation show very good apposition of the fragments, and, what is more interesting still, the late skiagrams show considerable strengthening of the bone in the neighbourhood of the clips. This demonstrates the fact that these clips do not interfere with the growth of the bone, and doubtless as time passes they will lose much of their grip upon the enlarging shaft.

I have also used this method of fixation in fractures of the tibia, where the reduction of the fracture is oftentimes particularly troublesome. Perfect alignment here is essential to avoid permanent lameness, and such injuries are resistant to manipulation owing to the lack of control over the lower fragment. The lower end of the tibia is certainly not an ideal site for a bone clip, since the bone is largely subcutaneous and the clip cannot be buried as it can in other situations. Nevertheless, if the clip occupies a position above the level of the boot it is not likely to cause trouble, and only occasionally have I had to remove one on account of discomfort. If for any reason it is necessary to remove the clip after its duty has been performed the wound must be re-opened and the clip prised from the bone. No surgical instrument that I know of will cut through this spring steel, and to find the loops of the clip and insert the introducer is extremely difficult. This instrument, however, has been made so that it can be taken apart and introduced, one blade at a time, like midwifery forceps.

With regard to compound fractures, it is generally recognized that the use of internal splints should be avoided until sepsis is banished. There are, however, cases where the position obtained by external splintage is so unsatisfactory that some fixation of the bone becomes justifiable, and an apparatus which secures the position of the fragments without penetrating their substance is surely better than wire or plates.

As a matter of fact, I have used this clip in several compound fractures, mildly infected, as is common in civil practice, with the happiest results. In these cases the clip should be removed as soon as there is evidence that a reasonable amount of consolidation has taken place and there is no risk of recurrent deformity.

Description of Skiagrams on Special Plate.

FIG. 1.—C. H., male, aged 5 years. Fracture of femur on September 4th, 1917. Skiagram taken on September 10th, antero-posterior view. Traction failed to reduce the deformity; 3/4 in. shortening.

FIG. 2.—C. H. Clip applied September 14th, 1917. Skiagram taken on September 18th, antero-posterior view. October 8th: Firm union, no shortening; massage started. October 29th: Patient could raise leg in bed and flex knee through 30 degrees; began to walk on crutches and swing leg. November 5th: Walking on leg and bending knee freely.

FIG. 3.—C. H. Skiagram taken December, 1920, antero-posterior view. Both legs 24½ inches in length. Perfect movement of all joints. Small area of thickening to be felt in upper third of thigh.

FIG. 4.—L. N., female, aged 4 years. Oblique fracture of right femur on September 22nd, 1917. Skiagram taken on September 25th, lateral view. Traction failed to reduce the deformity; 1 in. shortening.

FIG. 5.—L. N. Clip applied October 1st, 1917. Skiagram taken on October 4th, lateral view.

FIG. 6.—L. N. Skiagram taken three years later, lateral view. Perfect functional result.

REFERENCES.
[1] *Lancet*, cxcii, p. 726. [2] BRITISH MEDICAL JOURNAL, January 5th, 1918.

THE RELATION OF THE CURVATURE OF VESSELS AND OF HOLLOW VISCERA TO THEIR INTERNAL PRESSURE.

BY

CRANSTON WALKER, M.D., B.Sc.,

HONORARY PHYSICIAN TO THE GUEST HOSPITAL, DUDLEY, AND TO THE BIRMINGHAM AND MIDLAND SKIN AND URINARY HOSPITAL.

IN considering the pressure within hollow viscera and vessels it is constantly overlooked that the curvature of the containing wall influences the pressure within it.

Historic.

The general problem of the equilibrium of a stretched flexible membrane with the pressures on each side of it was solved by Lagrange[1] in his *Mécanique Analytique*, 1788. The subject was developed chiefly by Poisson[2] in memoirs dated 1812 and 1829. For surfaces of simple curvature the equations connecting pressure, curvature, and tension can be reduced to very simple forms, such as those given below, and their truth can be demonstrated without the use of higher mathematics. Such demonstrations are easily available in mathematical textbooks—for instance, Besant and Ramsey[4] and Lamb.[5] The formulae are also discussed in many textbooks of physics, such as Poynting and J. J. Thomson,[6] or the more elementary books of Edser[7] and of Wagstaff.[8] They are usually quoted in connexion with the surface tension of liquids, since the surface films constitute, almost without complications, material illustrations of mathematical statements. Some further applications have been made in the domain of physical chemistry.

The physical principles are well known to engineers; in estimating the bursting pressures of boilers and steam-pipes the curvature of their surfaces has to be taken into account,[9] and the formulae are embodied in the British Board of Trade regulations. The principles are still recognizable, though horribly disguised by the British units of measurements, in formulae used by artisans and to be found in "Mechanics' Pocket-books."[10] When sheets, strings, or wires in tension are wound upon cores, or when a turn of rope is tightened round a bollard, the same principles are involved. Allied formulae are used by architects in estimating the stability of arches and domes.

Although they are thus familiar in many branches of science, the formulae and the physical facts which they express appear to be unknown to the majority of medical writers. An exception was the Rev. Samuel Haughton, M.D.,[11] who, in his *Animal Mechanics*, 1847, referred to Lagrange's work and applied it to the parturient uterus.

Formulae expressing the Relation between the Curvature of a Stretched Membrane and the Pressure which it Exerts.

For the derivation of these formulae works on mathematics may be consulted: here they are accepted as data.

In a stretched membrane let t (tension) represent the pull on either side of a line of unit length drawn on the surface, in a homogeneous membrane t will be everywhere the same; let p represent the excess of pressure on the concave side of the membrane over that on the convex; and let r and r' represent radii of curvature such that they lie in two planes at right angles to each other whose intersection is normal to the surface. If the C.G.S. system of units is used t will be dynes per centimetre, p will be dynes per square centimetre, and r and r' will be centimetres. Then—

$$p = t\left(\frac{1}{r} + \frac{1}{r}\right). \qquad 1.$$

If the content of the membrane is fluid, p will be everywhere the same.

As the sum $\frac{1}{r} + \frac{1}{r'}$ is independent of the aspect of the planes in which the radii lie (Euler), it is convenient to choose r and r' as radii of the principal curvatures—that is, the curvatures which are maximal or minimal. For the sphere $r = r'$, therefore, the pressure inside a spherical stretched membrane is given by the equation—

$$p = 2\frac{t}{r}. \qquad 2.$$

For the cylinder with straight axis, r' of the curvature parallel to the axis is infinite, and $\frac{1}{r'}$ is zero; therefore the pressure inside a cylindrical stretched membrane is given by the equation—

$$p = \frac{t}{r}. \qquad 3.$$

The length of the cylinder does not affect the pressure.

The reciprocal of the radius is a direct measure of the amount of curvature, and the two terms are used synonymously in mathematical works; the equations can therefore be expressed in words simply—*the pressure inside a stretched membrane is proportional to its tension and to its curvature*, and the influence of curvature as such is emphasized.

Here a protest must be made against the practice, still common among medical people, of using the word tension to designate what is properly termed pressure. For exact definitions of these words reference must be made to the philosophical literature of mechanics; broadly a tension is an internal force which increases with expansion of the material bearing it, and a pressure is one which decreases. To speak of the "tension" of gases, of dissolved bodies, or of pulses is confusion of language and leads to confusion of thought. In the case of the pulse the arterial wall is in tension, the contained blood is under pressure; the pressure is a force directed outwards, the tension is a force directed along the surface of the wall; since the wall is curved there is a resultant force directed inwards; this force balances the pressure of the blood outwards. The wall may be said to "exert" pressure as a result of its tension and curvature. Another common source of confusion must be indicated. The word pressure as used by mathematicians and physicists designates the ratio of a force to an area, real or imaginary. The total force acting on a surface is not a measure of pressure, but the magnitude of the force divided by the

area of the surface is. In such matters we should adhere strictly to the usage of the more basal sciences.

Using these terms in the physical sense, a simple demonstration of the truth of the equations can be given. Consider a stretched spherical membrane hemisected by an imaginary plane, the total force on either side of this circular plane tending to separate the hemispheres is the pressure on the plane multiplied by its area; the total force pulling the hemispheres together is the tension of the membrane on the circumference cut by the plane, and its total amount is the tension per unit length multiplied by the length of the circumference. These opposed forces are in equilibrium.

$$\therefore p.\pi r^2 = t.2\pi r$$

$$\text{and } p = \frac{2t}{r}.$$

Similar reasoning can be applied to the cylinder.

Static.

Static deductions from the principle are simple.

(*a*) If in different membranes the tension is the same, the smaller the radii of curvature the greater is the pressure inside the membrane. The pressure inside a spherical membrane is twice that inside a cylindrical of the same radius. For the purpose of medicine it is important to emphasize that the pressure will be different inside viscera whose walls are of the same thickness and at the same tension if they are different in size or shape.

(*b*) Supposing the pressure to be the same within a number of membranes, the less the curvature of each membrane the greater must be its tension. A cylindrical membrane will have twice the tension of a spherical of the same radius, and a spherical membrane with twice the radius of curvature of another must also have twice the tension.

For instance, the tension of the cornea must be less than that of the sclerotic; where two blood vessels are in immediate communication, so that the blood in them is at the same pressure, the wall of the larger vessel must be in greater tension than that of the smaller.

Where the thickness of the wall is related to its tension the same statements apply to the thickness. For instance, the intercostal arteries as they leave the aorta have the merest fraction of its thickness of wall, although they withstand the same pressure. The same is true of all small branches of large arteries, the thinness of their walls is related to the sharpness of their curvature, by virtue of which small tension can exert large pressure. This feature of the build of vessels is justified, though not accounted for, by physical principles. With this in mind the tenuity of the minute lenticulo-striate arteries becomes less alarming, and the reproach commonly made that they are small branches of a big artery loses significance;[12] the smaller the stouter, to put it paradoxically. Their tragic failure occasionally must be otherwise explained. The comparatively frail glass gauge tube of a boiler is enabled by the sharpness of its curvature to withstand full steam pressure.

The hemispherical end-caps of cylindrical boilers are made only half the thickness of the sides. One end of the arterial system is capped, during rather more than half of each cardiac cycle, by the aortic valves; owing to the three-lobed arrangement this end-cap is more curved than if it were simply hemispherical. This curvature goes some way towards justifying the thinness of the aortic valves to which Dr. Harry Campbell[13] has drawn attention.

Dynamic.

The dynamics of the subject are less simple. Two purely physical examples will be discussed briefly as introductions to the complex problems which biology presents.

(*a*) Where the tension of the membranes is not altered by stretching or contraction. This is the case in liquid surface films, whose tension remains constant whatever changes in size or shape the films may undergo. Soap bubbles afford very convenient and almost uncomplicated experimental examples. The pressure within such membranes varies only with their curvature. Of two spherical bubbles, the pressure is greater within the smaller in inverse proportion to its diameter. If the cavities of the bubbles are connected, the smaller will empty itself into and distend the larger. It also follows that the more a bubble is blown up the smaller becomes the pressure inside it, a fact which may be surprising; but anyone who has blown a bulb on a glass tube has experienced the diminution of effort needed as the bulb increases in size. The pressures exerted by curved liquid surfaces are probably not negligible in the minute mechanics of the living body.

The amount of external work done by the contraction of the membrane when a portion of its contents is discharged is of great theoretical importance. It is measured by the volume discharged multiplied by the pressure; as the pressure varies during the process it is not easy to estimate the work done without recourse to the calculus.

Let V_1 and V_2 be the volumes respectively before and after the discharge of a definite volume of contents, and let the energy lost or work done be W, then

$$W = \int_{V_1}^{V_2} p.dv.$$

For the sphere $p = \frac{2t}{\sqrt[3]{\frac{3}{4}\pi V}}$

$$\therefore W = \int_{V_1}^{V_2} \frac{2t}{\sqrt[3]{\frac{3}{4}\pi}}.V^{-3}.dv$$

$$= \frac{4t}{3\sqrt[3]{\frac{3}{4}\pi}}\left(V_2^{\frac{2}{3}} - V_1^{\frac{2}{3}}\right)$$

t being constant here.

(*b*) The case of extensible membranes which obey Hooke's law, that is, equal linear stretchings produce equal additions to the tension; or, tension is proportional to stretch.

Indiarubber may be taken as an example; although it does not follow Hooke's law exactly, its great extensibility is convenient.

Consider a cylindrical membrane which at radius R_o has no tension and therefore exerts no pressure. Suppose that the membrane is then distended so that the radius R is increased by the addition of a variable amount n, then the circumference is increased by $2\pi n$, and this represents a linear stretch of the membrane at right angles to the axis. According to Hooke's law the tension is increased in proportion to the stretch; let $2\pi n\mathrm{K}$ represent the tension, where K is a constant; (K multiplied by the original circumference of the cylinder and divided by the area of cross section of the membrane at right angles to the circumference is Young's Modulus of Elasticity). Then the pressure within the cylinder is

$$p = \frac{2\pi n\,\mathrm{K}}{R_o + n}.$$

Similarly it can be shown that the pressure within a spherical membrane is

$$p = \frac{4\pi n\,\mathrm{K}}{R_o + n}$$

Rewriting these equations—

$$\frac{p}{2\pi\,\mathrm{K}} = \frac{n}{R_o + n} \quad \text{and} \quad \frac{p}{4\pi\,\mathrm{K}} = \frac{n}{R_o + n} \quad \text{respectively,}$$

it is obvious that while n is small compared with R_o, the pressure will rise rapidly as n increases, but that when n becomes large the less does further increase of n augment the pressure,

$$\left(\frac{dp}{dn} = \frac{R_o}{(R_o + n)^2}\right)$$

and that the pressure approaches a limit as the fraction $\frac{n}{R_o + n}$ approaches unity in value. The two apparently contradictory statements—that the rise in pressure is very nearly proportional to the increase in radius, and that the pressure remains very nearly constant in spite of variation in the radius—are both true. The first statement is true of a membrane slightly stretched, the second of one greatly stretched.

The work done during a discharge of contents can be calculated in the same way as for a surface film, but the resulting expression is rather cumbrous. The relation of the pressure to the varying thickness of the wall also can be expressed, but no advantage is gained.

It is easily deducible from the equations that a cylindrical membrane with fluid contents tends to become the same diameter throughout its length, and that if the cavities of two similar spherical membranes are connected they will become the same size. This is in contrast with liquid films, where the smaller sphere dilates the larger, and the cylinder is unstable when its length exceeds its circumference. The force directed towards uniformity of size becomes smaller with greater dilatation, so that when a membrane is greatly distended small interfering factors can produce marked irregularities in size and shape.

Experimenting with rubber it is not difficult to record rough agreement with theory, but precisely regular results are difficult to obtain. This is due to several disturbing agents, such as departure from Hooke's law, and the fact that in stretched rubber, as in many other materials, the tension diminishes with time, and at a rate which bears no simple relation to other conditions.

Application to Physiology.

The complex problems presented by the dynamics of curved muscular sheets will not be attempted here; it is intended to leave unobscured certain physical principles which must be included, explicitly or implicitly, in any exact consideration of the subject. A few notes only are added further to clear the ground.

It is frequently assumed that all solids follow Hooke's law sufficiently nearly for any practical purpose. I have made a long series of experiments on animal tissues and have found that they all deviate sensibly from Hooke's law, and that many deviate widely. Nor would a definition of "solids" which excluded animal tissues set the matter right. Hooke's law can only be assumed in physiology as a means to a first approximation.

The heart is the most interesting field for the application of these principles, but the bladder is more suitable. The left ventricle is usually said to contain about 100 c.cm. of blood at the beginning of systole, and to discharge about 60 c.cm. during its contraction; if it were spherical its internal radius would be roughly 2.9 cm. at the beginning of systole, and 2.1 cm. at the end. The radius of the bladder is subject to immensely greater variations. The bladder is also thin-walled, nearly spherical, and its pressure is more easily determined than that of the heart.

Everyday experience provides data of considerable interest. Other things being equal, the trajectory of a stream of liquid projected into free air varies with the velocity of outflow, and the velocity is proportional to the square root of the pressure at the opening of the reservoir. After the beginning of micturition, and independently of the abdominal musculature, the trajectory remains nearly constant for some time, and then shortens towards the end, showing that for the first half or so of micturition the pressure in the bladder is nearly constant. Tension and radius must decrease together, although the muscular wall is thickening as the bladder contracts, and it might therefore be expected to exert greater pressure.

Summary.

1. The pressure exerted by any structure comparable to a stretched membrane is dependent on its curvature.
2. The pressure within a cylindrical and a spherical membrane is $\frac{t}{r}$ and $\frac{2t}{r}$ respectively, where r is the radius of curvature and t is the tension.
3. With rubber-like materials, as a curved membrane is progressively distended, the pressure rises rapidly at first, then more and more slowly as it approaches a limiting value.
4. Such materials are only a rough guide to the behaviour of membranes made of muscle and other animal materials.
5. In any exact consideration of the mechanics of vessels and of hollow viscera the curvature of the wall must be taken into account.
6. When such allowance is made, purely physiological effects will be more clearly visible.

Note.—Since the above was written Dr. J. R. Gillespie of Belfast has pointed out the application of these principles in the study of the capillary circulation (BRITISH MEDICAL JOURNAL, 1921, vol. i, p. 873).

REFERENCES.

[1] Lagrange, *Mécanique Analytique*, 1788, tome i, chap. iii. [2] Poisson, *Mémoires de l'Institut*, 1812, p. 167 et seq.; *Mémoires de l'Académie*, 1829, tome viii, p. 357 et seq. [3] Todhunter and Pearson, *History of Theory of Elasticity*, 1886, vol. i. [4] Besant and Ramsey, *Treatise on Hydromechanics*, vol. i. [5] Lamb, *Statics*, 1912. [6] Poynting and Thomson, *Properties of Matter*, 1903, chaps. xiv and xv. [7] Edser, *General Physics*, 1913, chaps. ix and x. [8] Wagstaff, *Properties of Matter*, 1909, chap. xv. [9] Hutton, *Boiler Construction*, 1891. [10] Fowler, *Mechanical Engineers' Pocket-book; Mechanics' Pocket-book*, annually. [11] Haughton, *Animal Mechanics*, 1847, pp. 152 and 209. [12] Gowers, *Diseases of the Brain*, 1887, chap. xv. [13] Campbell, BRITISH MEDICAL JOURNAL, April 9th, 1921, p. 542.

ACCORDING to the *Castilla Médica* a State regulation is now in force in Spain by which vaccination against typhoid fever is compulsory, when typhoid or paratyphoid fever are prevailing in epidemic form, for all persons attending cases or in relation with the sick, directly or indirectly.

FOCAL INFECTION IN RELATION TO THE ETIOLOGY OF SKIN DISEASES.*

BY

H. LESLIE-ROBERTS, M.D.,

LECTURER IN DERMATOLOGY, UNIVERSITY OF LIVERPOOL; CONSULTING DERMATOLOGIST TO THE LIVERPOOL ROYAL INFIRMARY.

THE term "focal infection" may be understood in three senses: First, it may imply that living and virulent bacteria are carried by the blood stream to near or remote organs, there to set up active infection; secondly, that foci such as the tonsils or dental alveoli may act as carriers of bacteria which, harmless to the person who carries them, may by contact affect other persons; thirdly, we may understand by focal infection a collection of bacteria in a crypt, pocket, tube, or fold of tissue, which, while not actively growing or multiplying, may infect the body by their cell substance which is liberated by the action of ferments or enzymes, either by self-digestion (autolysis) or by the enzymes of the cells of the invaded tissue (heterolysis).

With the first two of these aspects of focal infection I am not at present concerned. The third aspect may be conveniently designated by the term introduced by Adami—namely, *subinfection*. Now, since the chief ingredient in the bacterial cell substance is some protein body, we might more accurately name the subject of this present discussion protein poisoning in relation to cutaneous diseases.

It will help to throw some light on this obscure subject if we start with the statement of a fundamental biological fact—namely, that terrestrial vertebrates and bacteria have entered into a symbiosis, in which for the return of food maintenance the enzymes of the bacteria are thrown into line with the enzymes of the body in the scheme of defence against foreign proteins. Our food consists of foreign proteins, carbohydrates, and fats, and it is essential for the welfare of the body that these should not be allowed to pass through the wall of the intestines into the interior without first being deprived of their toxicity. There exists in the body an organized system of defence against foreign proteins. The first line is taken by the cells of the mucosa of the stomach and the higher intestines, the second line by the bacteria of the colon, and the third line by the free moving cells of the lymphoid tissues. As regards the distribution of bacteria throughout the body we find the major portion of them in lymphoid tissue in parts to which food has access. But they are not wholly confined to the surfaces of the body, for it has been demonstrated that no organ is absolutely sterile, but only potentially so.

The flora of the mouth and tonsils is restricted; it consists chiefly of the haemolytic and non-haemolytic streptococci and the staphylococci. The pneumococcus, which is closely related to *Streptococcus viridans*, is a fairly constant inhabitant of the mouth and tonsils. Occasionally more virulent organisms are found, such as the *Streptococcus mucosa* and the meningococcus. Special pathogenic organisms such as the diphtheria bacillus do not form a part of the normal colonies of the mouth and tonsils. Nor does the colon bacillus, for this bacterium is not adapted to growth in the tonsils or mouth; if implanted experimentally in the tonsil it apparently dies out. In addition to the bacterial flora the endamoeba appears to be a constant denizen of the tonsils and alveoli. All human tonsils from a few hours after birth to the end of life are infected with these bacteria; they are not distributed through the lymphoid tissue, but are confined to the crypts and follicles.

The benign physiological action of the tonsillar and alveolar bacteria is digestive and, probably, in no way essentially differs from bacterial digestion in the colon. This will become more apparent if we study the normal relation of the tonsils. After partaking of food, some undigested food particles, often in a state of fine division owing to the soft nature of the modern human diet, find access to the dental troughs and the tonsillar crypts. Milk, cheese, vegetable débris mingled with saliva, salivary corpuscles and mucus collect in the follicles, forming the so-called "cheesy" matter familiar to all laryngologists. In this way tubercle bacilli are introduced; indeed milk may be considered the customary vehicle for this organism. These are attacked by the oral and tonsillar bacteria, and their complex proteins are reduced by

* Paper read at the first meeting of the British Association of Dermatology and Syphilology.

enzyme action to smaller molecular groups, one being poisonous and the others non-poisonous. In short, the follicles of the tonsil may be regarded as accessory organs to the colon by which food-remains are digested and disintegrated. The net result of this is the liberation of the protein contents of the cells, both of the food and of the bacteria. But in this digestive process the lymph cells play a major part; they are attracted to the follicles in search of food and thereby their enzymes split up the proteins both of the bacteria and the food cells.

If we examine microscopically the tonsils which the laryngologist usually terms "septic" we find that they do not show the clinical or microscopical picture associated with active infection. The crypts are distended with the so-called cheesy material, and in some cases "pus," or what is commonly called pus, is seen to exude on pressure. But these signs are not accompanied by any subjective or inflammatory symptoms. The patient is quite unaware that anything is wrong with his tonsils.

Microscopical sections of "septic tonsils," taken from a case of chronic alopecia areata, were submitted. In the section of the one tonsil the familiar appearance of the crypts lined by stratified epithelium and surrounded by the lymphoid tissue was to be observed. In the crypt itself was a collection of lymph cells, which could be seen as if passing from the lymph nodes through the epithelium into the crypt. Between the cells were diplococcoid bacteria, but nothing resembling the chain form of the streptococci. The diplococcoid form has been shown by Adami and others to be a resting form of the colon bacillus and of the streptococci. From this actual tonsil streptococci were cultured. In a section taken from the opposite tonsil of the same case the very remarkable fact was to be noted that the stratified epithelium lining the crypts had been replaced by columnar epithelium.

What is the meaning of this appearance? We are all familiar with epithelial metaplasia, as, for example, when the normal ciliated epithelium of the trachea is replaced by stratified epithelium in the position of the cartilage rings, but I am unaware of any record of squamous epithelium being converted into this columnar form. The structure of this particular tonsil, as represented in this section, is identical in all essential points with the structure of the vermiform appendix. In the latter organ, starting from the cavity, we have the columnar epithelium, the mucosa with the lymphoid follicles, the submucosa, the two muscular coats, longitudinal and transverse, and the fibrous capsule outside. The muscular tissue is absent from the tonsil, but its place is taken by the muscles of deglutition, which compress the tonsils in the act of swallowing. As in the tonsil, lymph cells pass from the lymph nodes through the epithelium into the cavity of the appendix.

Another point of similarity between the tonsils and the caecal appendix is found in their rich vascular and lymphatic supply, apparently out of all proportion to the size of the organ. This rich vascular supply may be taken as evidence of the high rate of metabolism in the tonsils and appendix and of the free interchange of material between the blood plasma and the lymph cells. Regarded in this light the appendix may be said to be the tonsil of the great bowel; nor is there anything far-fetched in this comparison. Kelly of Baltimore, in his classical treatise on the vermiform appendix, expresses the belief that there is a near relation between the tonsils and appendix as regards function, and his view is supported by other observers.

The first section shows the existence of fibrosis, and I specially desire to draw your attention to this pathological change as evidence of protein poisoning. Fibrosis as a result of subinfection has been demonstrated by Adami and Opie in gin-drinkers' liver, or chronic hepatic cirrhosis. The cirrhosis is not the result of the action of the alcohol on the liver cells, but depends on the presence in the hepatic tissues of the colon bacillus. As in the tonsil, there is no evidence of active inflammation or of active growth and multiplication of bacteria. The process of fibrosis, both in the liver and in the tonsil, is a local reaction to protein poisoning in which the physiologically active cells is slowly replaced by fibrous tissue. I would submit to the consideration of laryngologists that fibrosis in the tonsil is a more reliable indication for tonsillectomy than the presence of cheesy matter in the crypt. I have placed under the microscope a section of the appendix taken from a case suffering from erythema nodosum. It will be seen to show all the signs of chronic subinfection with advanced fibrosis. The lumen of the appendix is almost entirely obliterated by the growth of fibrous tissue and fat cells, while the mucosa has almost entirely disappeared. The tonsils in this case showed marked signs of stasis, with cheesy material in the crypts. They were regarded by Mr. Guthrie, who examined them, as probable sources of focal poisoning, and their enucleation was advised. The general clinical symptoms of the case pointed to chronic protein poisoning, but owing to the long history of appendix trouble it was thought desirable that the appendix should be first removed.

Clinical evidence shows that in the great majority of persons bacterial digestion in the tonsils and mouth promotes only local reactions, and is not accompanied by general and remote consequences, but in not a few individuals symptoms arise which we must attribute to protein poisoning. The experimental parenteral introduction of foreign proteins into animals has shown that the complete protein molecule is a violent poison. Its first introduction into a perfectly normal animal may be followed, if the dose be sublethal, by no very remarkable symptoms, but the second injection of the same protein after an interval of some eight days provokes violent symptoms which may end fatally in a few minutes.

It is not necessary that we should follow the biochemists in their efforts to explain the chemical reactions which follow the entrance of the complete protein molecule into the blood stream and tissues. It will suffice to state the general underlying principle as given by Vaughan, that the foreign protein in the blood evokes the development of an unusual digestive ferment in the cells of the body, and when the mechanism of this heterotopic digestion is once formed, the cell henceforth is sensitized to the particular foreign protein which evoked the proteolytic function. All foreign proteins, whether they be animal, plant, or bacterial, are sensitizers. Bacterial vaccines are protein sensitizers.

To this state of protein sensitization Richet gave the name of Anaphylaxis; von Pirquet proposed the name "Allergy," which etymologically means "altered reactivity." Pathological symptoms accompany this sensitization; the blood-forming organs are specially affected, and anaemia, leucopenia, and eosinophilia appear. The non-striped involuntary muscles are highly sensitive to the protein infection; this is indicated by spasm of the venules and vaso-dilatation, accompanied by the clinical picture of urticaria, flushing of the face, oedema, and erythrodermia. In other cases the sensitization may affect the fibrous tissues, the aponeuroses, the synovial membrane of the joints, producing various forms of arthropathy. When the skin cells are sensitized in cases of chronic allergy various symptoms arise—loss of hair, either diffuse or in area, forms one of the commonest; also increased pigmentation and increased fat formation; in short, we have evident signs of stasis in the cutaneous tissues. Other clinical forms of disease are lupus erythematosus, lichen planus, and prurigo. These we may regard as different clinical pictures, varying according to the particular group of cells which are sensitized. All these cutaneous diseases have been shown by Barber, Whitfield, and Leslie-Roberts to disappear spontaneously after tonsillectomy. A very remarkable case, which has only recently come under my observation, is that of a married woman, aged 34, with a pale, sallow complexion, who had suffered from lichen of the planus type for five months; the eruption was scattered over the wrist, the forearm, and the abdomen in the region of the waist. I found the alveoli in a state of advanced pyorrhoea, and sent her to a leading dental surgeon, who advised the extraction of all her teeth. This was done, and twenty days after the operation the eruption had entirely disappeared, with the exception of a minute trace on the right wrist. No external treatment had been used, except a soothing lotion, and no vaccines had been given.

In respect of the erythematous group of reactions I think there can be no doubt that erythema multiforme and erythema nodosum are connected with protein sensitization, but the fleeting character of these reactions, as contrasted with the chronic persistent character of the four dermatoses mentioned above, points to some difference in the mechanism.

With regard to diseases belonging to the dermatitis herpetiformis group I think they can be, provisionally at least, included under the head of protein poisoning. I can recall the case of a lady I saw in consultation with a doctor, suffering from severe dermatitis herpetiformis, who recovered under the use of autogenous streptococcal vaccines.

Attempts are being made to include the eczematous reactions under the head of protein sensitization. There are some eczematoid vesicular reactions which I believe are

connected with the state of allergy, but what we may describe as the normal eczematous reactions are essentially related to physical conditions in the external environment. These cases—and they make up the vast majority of eczematous patients—are sensitized to friction owing to a defect in the physical conditions of the rete and cuticle with inherited or acquired increased permeability of the capillary walls. Such cases can be cured by simply raising the pressure of the rete and cuticle over the capillaries.

Exact knowledge is needed, and when this comes we shall be better placed for classifying the protein sensitization diseases. I am not yet prepared to say what value is to be attached to local signs of cell irritability provoked by the intra-epidermic applications of various proteins. There are many conditions which affect cell irritability besides protein sensitization, and for myself I prefer to wait for further evidence.

BILE SALT AS A VEHICLE FOR A PEDICULICIDE.

BY

B. A. PETERS, M.D., B.CH., D.P.H.CANTAB.,

SENIOR MEDICAL OFFICER, HAM GREEN HOSPITAL AND SANATORIUM, BRISTOL; LECTURER IN FEVERS, UNIVERSITY OF BRISTOL.

FOR several years we have been experimenting with various substances for the destruction of head lice, but nothing was found which prevented the hatching out of the nits. It was considered that as bile salts are stated to assist the passage of emulsions of fats through the mucous membranes by their property of reducing surface tension, they might have the same effect in assisting oily emulsions to penetrate the shell of the louse's egg. Experiments were made with various strengths of sodium taurocholate in watery solution with eucalyptus and sassafras oils. The best compound was found to be

Sodium taurocholate ...	...	...	...	10 grams.
Ol. eucalypti ...	...	...	...	50 c.cm.
Water ...	...	...	to	1,000 c.cm.

Dissolve the bile salt completely in water, add the eucalyptus oil, and shake well.

A higher concentration of bile salt rendered the hair very sticky, whilst a lower did not form so good an emulsion. More than 5 per cent. eucalyptus rapidly separated out. The formula yields an emulsion like milk in appearance, and but little of the oil separates out after several days.

Most lice, if immersed in the liquid, cease movements in a few seconds, but a few individuals did not die for three minutes. In no case did any of those tested recover when dried on blotting paper and incubated. Larger insects, such as wasps, house-flies, and fleas, when dropped in the emulsion became wetted all over immediately, and died in less than a minute.

During the past eighteen months the emulsion has been tried on over 500 patients on whose heads living lice were seen. It is well rubbed into the head until all the hair is wetted. The head is then wrapped in a bathing cap or towel and the application left on all night. The head is washed with soap and water next morning, and a fine-toothed comb used daily for a fortnight, notes being kept of any lice found. In 23 per cent. of the cases no lice were found after one application. In the remainder a few recently hatched very small forms were discovered, in no case before four days after the first application, in most cases not until after a week, and in a few not until the tenth day. A second application on this reappearance sterilized 63 per cent., while 14 per cent. required a third application.

It appeared that the embryos on the point of emergence were killed, whilst the most recently deposited eggs were more resistant.

Some of the worst infested heads, in which the towel swathing the head was nearly black with dead lice on the morning after the first application, were sterilized with one application, while some of the lightly infected required three applications, so that it would seem that there must be different powers of resistance in certain strains of lice.

This preparation is not toxic, is not irritating to the skin, is not inflammable, and is elegant to use as it is easily washed out of the hair. The cost of the ingredients works out at 6½d. a pint.

Possibly the property of bile salt solutions to wet the lice and their eggs can be combined with some substance more poisonous than eucalyptus oil to the louse's egg, so that one application would always be sufficient.

The Lettsomian Lectures

ON

AMOEBIC LIVER ABSCESS.*

DELIVERED BEFORE THE MEDICAL SOCIETY OF LONDON

BY

SIR LEONARD ROGERS, C.I.E., M.D., F.R.S.

[*Abstract.*]

LECTURE II.—VARIETIES AND TREATMENT.

THE lecturer continued his remarks on pathology by referring to suppurative cholangitis, a rare disease in which he had been greatly interested ever since he met with three cases at St. Mary's Hospital in his third year studentship. Fourteen years later he recorded a case which he had diagnosed and operated on at Calcutta European General Hospital, in which a mass of gall stones was removed from the hepatic ducts. Unfortunately, this case was taken in hand too late, and the suppuration tracked out and opened into a bronchus, with a fatal result. The rarity of this complication in India was explained by the fact that, although gall stones were nearly as common in India as in Europe, in the eastern country most of them were of the soft pigmented variety, and the hard, disease-producing cholesterin form was comparatively infrequent, at least in Calcutta. Suppurative cholangitis would, therefore, seldom give rise to difficulties in differentiation from liver abscess in the tropics. He also spoke of diffuse suppurative hepatitis produced by *B. coli communis*. He had seen this condition in a Calcutta hospital, the patient having leucocytosis with over 90 per cent. of polynuclear leucocytes. He showed a colour drawing to illustrate the condition found *post mortem*, indicating a large diffuse suppuration throughout that half of the liver which was supplied by the right branch of the portal vein, in which an extensive clotting was present, while the remaining half of the organ was healthy.

Frequency of Large Single Abscess.

In his previous lecture he had shown that multiple small amoebic abscesses were nearly always overshadowed by the acute sloughing dysentery to which they were secondary, so that they could not easily be recognized during life, still less easily treated surgically. This variety might therefore be put on one side, and they could turn with more hopefulness to the comparatively chronic, large, fibrous-walled form, and see what lessons the *post-mortem* room and the laboratory could teach them in dealing with this formerly very common and very fatal tropical liver disease.

He gave some statistics which appeared to indicate—it was not a matter for precision—that in about 70 per cent. of cases of large liver abscess the abscess was single. Among 38 cases in which there was found to be more than one abscess there were two abscesses in 44.7 per cent., three in 26.3 per cent., four in 18.4 per cent., and over four in 10.6 per cent. In this connexion he drew attention to the practical importance of the fibrous limiting wall in large amoebic abscess which he had described on the previous occasion. In friendly discussions with surgical colleagues he had often been told that the high mortality of the open operation was due to the amount of destruction of the liver tissue. This he was convinced was not the case. He showed a coloured drawing of a liver with three medium-sized amoebic abscesses side by side, with only about one-third of an inch separating one from another, and said that it might be a matter for wonder that in such a delicate organ as the liver they did not coalesce into one; but on cutting sections it was found that each abscess was limited by a dense fibrous wall, and that the liver tissue in between was perfectly healthy. Once the fibrous wall was formed there was no further destruction of liver tissue, at least as long as the cavity remained free from bacterial infection. He had twice seen six pints of pus aspirated from the liver at a single drainage, and yet a complete recovery took place. If such amounts of pus did not destroy enough liver tissue to cause death he would like to know what basis the surgeons had for attributing the mortality in open operation to destruction of tissue.

Secondary Bacterial Infection after Open Operation.

The lecturer went on to speak of the importance of secondary bacterial infection after open operation on large

* An abstract of the first lecture appeared in the BRITISH MEDICAL JOURNAL of February 11th, 1922, at p 224.

amoebic abscesses. Tropical liver abscesses were often sterile as regards bacteria, although this important fact had not until recently influenced treatment. After the opening, however, a secondary bacterial infection was almost inevitable. During the daily dressings air was sucked in and out, so that secondary infection might readily be expected in such a climate as India, quite apart from the dangers of copious discharges soaking through the dressings. It was necessary to lay stress upon these unfortunate secondary infections because he had met with surgeons in India who denied their importance, although, on the other hand, many surgeons had readily acknowledged it, and here he quoted Major G. C. Spencer, when Professor of Military Medicine at the Royal Army Medical College, who wrote:

The chief cause of this high mortality, apart from the presence of more than one abscess, or extreme debility of the patient before operation, is undoubtedly infection of the abscess cavity by pyogenic organisms through the open wound. This is extremely difficult to prevent, no matter how much care is taken; the large amount of viscid discharge necessitates frequent changes of dressings, air and pus are sucked in and out of the cavity by respiratory movements, and it is very difficult to keep the skin around the wound aseptic, especially in a hot, moist climate. The great majority of amoebic abscesses are sterile when first opened, and every surgeon with Indian experience is familiar with the usual course of fatal cases—the patient does well for the first few days after operation, then infection occurs, the temperature goes up again, and death from septic poisoning slowly but surely follows.

If such was the experience of a distinguished army surgeon who had had to do with cases under the most favourable conditions, and early cases at that, what was likely to happen in hospitals and dispensaries where advanced cases were dealt with, and the patients came in already greatly debilitated? Enough had been said to prove that any simple method of preventing these deplorable results would be worthy of serious consideration. Such facts furnished a complete scientific basis for a much simpler and more promising method, which, together with appropriate medicinal measures, solved the problem of treatment.

Treatment by Repeated Aspiration and Injections.

Many years ago, before the present views of the etiology of tropical liver abscess were established, all abscesses were naturally looked upon as ordinary collections of pus which should be opened and drained as early as possible. There was, however, one exception: tuberculous abscesses had been treated by aspiration through sound tissues, with or without the injection of some antiseptic substance, because it was recognized that the opening of large tuberculous abscesses connected with bone diseases was often followed by secondary infections. As soon as he was able to establish that amoebae were constantly present in the walls of tropical liver abscesses, and that such abscesses were usually sterile as regards bacteria, he realized that they did not require necessarily the same treatment as abscesses due to pyogenic organisms. Accordingly he began to look for some chemical agent which might be injected into such abscesses. As early as 1902 he reported on the effects of solutions of quinine in destroying amoebae in the wall of an abscess *in vitro*. Clinically, he found that to wash out the cavities of recently opened liver abscesses with a 1 in 500 quinine solution did in fact cause a decrease in the active amoebae present, and that eventually the pus changed almost into a serous fluid. In his advocacy of repeated aspirations and injections of quinine solutions, however, he met with difficulties, because hospital surgeons were unwilling to try the method. The objection generally raised was that aspiration was not a surgical procedure, and his reply that he had never met with a patient who complained of being cured by what was not a surgical procedure was not very cordially received. But, as a matter of fact, before the days of antiseptic surgery in India, the method of repeated aspiration was commonly employed. It was only the progress of antisepsis which led to more frequent resort to open operation.

The first attempt to use his method was made in 1902 by a private medical practitioner, whose repeated punctures, however, failed to strike the abscess, which was evidently on the under surface of the liver, as was proved subsequently when it burst into the stomach. Not until 1906 was he able to record two successful cases. The first case was an acute one, diagnosed by leucocytosis with low polynuclear count, and by *x*-ray examination; 10 oz. of typical pus were aspirated through an intercostal space, and the temperature reached normal in two days, the leucocytosis disappeared in six days, the patient got up on the seventh day, and left hospital after twelve days. The second case was of a more chronic type, and was equally successful. After this he had less difficulty in getting his method tested, and in 1910 he recorded 19 cases with only three deaths, or 15.8 per cent., only about one-fourth of the mortality of open operation, and this although many of these 19 cases were of the most serious type. In a series of cases treated by Lieut.-Colonel Thurston by this plan of repeated aspirations and injection of amoeba-destroying drugs, the mortality was only 23 per cent. The number of aspirations which Thurston found necessary was one only in 26 cases, two in 16 cases, three in 10 cases, and four, seven, and eight in three other cases. Two patients recovered after 182 and 211 oz. had been withdrawn by three and by eight aspirations respectively, while in one fatal case 343 oz. were evacuated in seven punctures, including 92½ oz. at one sitting.

The reason why aspiration in earlier years—before antiseptic surgery came in—was tried and abandoned was because it was relied upon alone. It was the combined treatment which accounted for success: repeated aspirations, destruction of the amoebae in the abscess wall by appropriate drugs, and the clearing up of the bowel by suitable after-treatment. He gave up quinine after discovering the greater value of emetine hydrochloride in amoebic disease, but before making this change he had many cases of remarkable success.

One case was a European patient who had been operated on by the open method four times in as many months, and was still suffering from high fever and pain after the last operation, so that he had given up hope for himself, and, fortunately for him, the surgeon had given up hope also. Accordingly another line of treatment was tried; large doses of ipecacuanha were given, and the extensive wounds were washed out with quinine solution through the drainage tubes with which his side fairly bristled. Within three days the temperature fell to normal, the amount of discharge rapidly diminished, and the wounds soundly healed. He remained in good health, and resumed his work as a mining engineer in the tropics.

Sterile Siphon Drainage.

While the lecturer submitted that his method of repeated aspiration, combined with specific medical treatment, was the method of election, he agreed that in exceptional cases another procedure might be desirable. Even in those exceptional cases in which drainage was found necessary, however, after one or two preliminary aspirations, both the size of the cavity and the amount of discharge would be less than if the abscess had been opened immediately, so that nothing was lost and much might be gained by evacuation of the pus.

In one case at the first aspiration 86 oz. of typical pus were removed, quinine solution was injected, and ipecacuanha given orally. Within a week this patient died unexpectedly, and the *post-mortem* examination revealed apical pneumonia, quite unconnected with the liver trouble. On examining the liver abscess cavity it was found to have so contracted as to contain only 2½ oz. of thin fluid, and its fibrous wall measured almost half an inch in thickness.

He had records of complete recovery after 120 oz. had been aspirated at a single sitting. One case was that of an emaciated Indian, who had been ill for a year, and who made a perfect recovery after a single aspiration and injection of quinine solution into the cavity, and the administration of ipecacuanha orally.

The lecturer then described a method of drainage which he had worked out so that when this measure was necessary no air could enter the abscess cavity and secondary infection might be prevented. He exhibited a trocar with a flexible sheath (made for him by Down Brothers) which was left in the abscess as a drainage tube, and could be connected by a long tube to a vessel containing an antiseptic lotion. With increasing success with the aspiration and emetine treatment, however, this method of sterile siphon drainage was of comparatively less importance. At the same time it had advantages, especially in bringing about rapid healing.

He instanced a case of liver abscess treated by siphon drainage in which a preliminary aspiration of about ten ounces of pus was made through an intercostal space, and siphon drainage applied by means of a tube, the distal end of which was carried into a bottle containing antiseptic. The pus obtained at the operation proved to be sterile. At the end of the first day a few ounces of pus had drained into the bottle, the discharge was much less on the second day, and on the third morning only a little shreddy pus had drained away, and the cavity had contracted so much that the quinine injection could hardly be got in. Within a week the sinuses were soundly healed and the patient left the hospital. A year later the liver was still quite normal. The stay of this patient in hospital was less than half the shortest time of any liver abscess case in which operation had been carried out by incision through the thoracic wall.

Nature's Methods of Healing.

Nature's methods of cure of amoebic liver abscess were twofold: bursting of the abscess and encystment. The abscess might increase in size until it burst in one or other

direction. In some cases this resulted in recovery without surgical interference, as when it burst into the stomach or colon; the common extension through the diaphragm into the bronchus showed a recovery rate of over 50 per cent. Cases of rupture into the peritoneal cavity were commonly fatal. The other method of Nature's healing was by encystment, with dying out of the amoebic infection. This was less uncommon than might be expected. There were seven instances among the Calcutta *post-mortem* records of cases dying with other diseases in which this state of affairs had been found. In one instance he found an abscess which had been opened and drained during life containing both amoebae and bacteria, a second containing amoebae only, and a third encysted, without either organism. The liver abscess became encysted with emetine treatment, and he claimed that his method of repeated aspiration and injection aided this effort at encystment of the abscess by destroying the protozoal parasite in the walls and by removing the detritus. The method was, therefore, as sound in principle as it had proved to be successful in practice. The danger of haemorrhage after exploratory puncture had often been remarked, but it appeared that the greatest tendency to fatal haemorrhage was in the acute hepatic congestion of the pre-suppurative stage of the disease, and therefore such a puncture should not be done in any case in which liver abscess was suspected without first treating the patient by medicinal means to which the hepatitis at this stage was very amenable.

Summary of Results.

The lecturer projected on the screen a table comparing the mortality of liver abscess treatment by open operation with that of treatment by repeated aspiration and injection. The great majority of the cases in the first group were from British army records, extending over fourteen years up to 1907, in India. Of 2,661 cases treated by open operation the deaths numbered 1,311, or 56.7 per cent. The other group consisted of 111 cases:

	Cases.	Deaths.
Rogers at Calcutta (first series) ...	19 ...	3
Thurston in Bengal ...	48 ...	11
Chatterji in Calcutta ...	33 ...	2
Talbot in Mesopotamia ...	11 ...	0

This gave a mortality of 14.4 per cent., or one-fourth of the mortality by the other method. At the London School of Tropical Medicine 12 cases had been treated without a death, but these cases were less acute than those commonly met with in India.

In conclusion, the lecturer touched upon amoebic abscess of the spleen, a rare complication of amoebic dysentery, of which, however, he had met with several cases in Calcutta, which had yielded to repeated aspiration and injection as in the case of liver abscess. If the abscess was close to the skin the punctures could be made a little to one side. Of amoebic abscess of the brain secondary to abscess of the liver a number of cases had been reported, especially from Egypt. He had not met with it in Calcutta, probably because the brain was not usually examined in *post-mortem* cases. He suggested that the fatal effects of amoebic cerebral abscess must be mainly due to pressure symptoms, and that an early decompression operation, followed by emetine injected subcutaneously morning and evening in the hope of bringing about the destruction of the causative amoebae, as well as repeated aspiration as necessary, might be tried. There would, however, almost inevitably be some loss of brain function, even if a fatal result was averted.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

THE RECOGNITION OF AORTIC INCOMPETENCE.

ON reading Dr. Brockbank's article on aortic incompetence I was struck with the following remark: "I also met with it from time to time in insurance work in supposed healthy persons, men and women, and in people with *known aortic stenosis but unsuspected incompetence.*" Is it not an established fact that in order to make a diagnosis of aortic stenosis three essentials are necessary: (1) a thrill over the aortic area, (2) enlargement of the left ventricle, (3) definite signs of aortic regurgitation?

Surely the mere presence of a systolic bruit at the base can in no way justify a diagnosis of aortic stenosis.

In regard to Dr. Brockbank's remarks on syphilis in aortic regurgitation the following figures may be of interest:

Comparison of the Incidence of Rheumatism and Syphilis in Aortic Regurgitation and Mitral Stenosis.

	Cases.	Per cent.	
Aortic regurgitation, 121 cases:			
Admit syphilis	24	= 19.84	
Wassermann reaction strongly positive ...	30	= 24.79	58.68
Wassermann reaction positive	17	= 14.05	
Rheumatic fever, Chorea, Rheumatism	28	= 23.14	
No history of syphilis, Wassermann negative, No history of rheumatism	22	= 18.18	
Mitral stenosis, 97 cases:			
Admit syphilis	9	= 9.28	
Wassermann strongly positive	9	= 9.28	26.81
Wassermann positive	8	= 8.25	
Rheumatic fever, Chorea, Rheumatism	59	= 60.82	
No history of syphilis, Wassermann negative, No history of rheumatism	12	= 12.37	

Liverpool. C. H. BROOMHEAD.

ANTIMONY IN SYPHILIS.

IN the Medical Section of the Medical Congress at Cape Town in October, 1921, I referred to the beneficial effect of antimony treatment in some cases of syphilis I had treated at Durban. The injections had been given daily or on alternate days until all signs of active disease had disappeared, and in each case the salt was dissolved in boiling water just before the injection was given. It was not found necessary to use more than 1¾ grains of tartar emetic for an intravenous injection, and as a rule this was dissolved in 3 c.cm. of boiling saline. Similar success was obtained when antimonium sodium tartrate was used; but after the usual tolerance had been acquired 2 grains of this salt was injected on alternate days. The toxic effects of the treatment were not severe enough to interrupt the continuous series of injections.

CASE I.

A native had extensive anal condyloma, right-sided keratitis, and syphilides over the face, all of four months' duration, following a primary sore in November, 1920. Treatment with antimonium sodium tartrate intravenously was begun on August 30th. Though he received no other form of treatment, the rash and keratitis had disappeared in six days (after 4¾ grains), and the anal condyloma was dry. The injections were continued for another week, but the case could not be followed up further, as the Department for Public Health objected to my gratuitous visits to the Durban gaol even at the request of the district surgeon. At the commencement of treatment this case gave a strong positive reaction to the Wassermann test.

CASE II.

On September 23rd I commenced to treat an Indian with strong positive reaction and multiple scrotal syphilides which were covered with a highly offensive discharge. He received 9½ grains of the potassium salt in twelve days. The initial dose was 1/2 grain, but he was soon able to tolerate 1½ grains dissolved in 3 c.cm. of saline. On the third day the sores were dry and the offensive smell had gone. He received no other treatment during the course of injections, but commenced to take iodides and mercury by the mouth on October 4th.

CASE III.

On October 25th I commenced a series of injections of tartar emetic in an Indian who also received potassium iodide 7 grains and liquor hydrargyri perchloridi 1 drachm by the mouth thrice daily. He gave a strong positive reaction to the Wassermann test, and the skin was covered with syphilides of four months' duration. He received an initial dose of 1/2 grain, which was gradually increased to 1⅝ in 3 c.cm. saline. On the third day the rash was seen to be fading. At the end of three weeks, or after a total of 15 grains had been given, the rash was decidedly better, but still desquamating. Progress was not so evident during the fourth week. He received a total of 23⅝ grains in thirty-two days, and was given 3 c.cm. of colloidal sulphur during the fifth week. He then absconded, as he said he was fit to return to work, but the Wassermann reaction was still strongly positive.

CASE IV.

On September 17th I began treatment of an Indian employed at the "bakery." He had extensive leucoderma syphilitica of both forearms, paronychia (associated with discharge) of fingers and toes, ulceration of the right nostril and the corner of the mouth, and a badly furred tongue. I commenced with an intravenous injection of 1/4 grain and worked up to 1½ grains of the potassium

salt dissolved in 3 c.cm. of saline. He received 13½ grains in eighteen days without other treatment, then potassium iodide 7 grains and liquor hydrargyri perchloridi 1 drachm three times daily for a fortnight, and then no treatment for six weeks. On November 29th he was clinically free from syphilis and the blood gave a negative reaction to the Wassermann test, which was strongly positive when the treatment began. In this case the tongue was the last to clean, the ulcers were all dry after the fourth injection, and the leucoderma cleared up very rapidly.

Where tartar emetic is used in freshly dissolved solution and the patient kept under the influence of the drug for a continuous period of three weeks to a month, I do not think that the results obtained are any inferior to those due to arsenic.

Durban. F. G. CAWSTON, M.D.Cantab.

ETHYL IODIDE TREATMENT OF RINGWORM.

THE treatment of ringworm of the scalp in school children by the "ethyl iodide" method was described in the BRITISH MEDICAL JOURNAL by Dr. W. P. Elford (June 26th, 1920, p. 867), and as some treatment of this complaint other than *x* rays was required in Bradford I introduced the method into one of the school clinics, and modified it somewhat in accordance with my own experience. We have here an *x*-ray installation for treating these cases, and the need for another efficient means of treatment arose from the fact that the specialist and staff of the *x*-ray department, in spite of all their efforts, were getting more cases than they could keep up with, so that children often waited from one to three months before their turns for *x* rays arrived. Despite palliative treatments these children sometimes became considerably worse, and formed a serious focus of infection before they were cured.

The course adopted here was to refer all the worst cases—those with several patches of ringworm—for *x*-ray treatment. Those with one, two, or sometimes three, patches were treated at the clinic. The hair is cropped closely, or shaved, over the affected areas and for at least half an inch around the areas, and then tincture of iodine (*B.P.*) is rubbed in with cotton-wool swabs or thick soft camel-hair brushes. The affected areas are then sprayed with ethyl chloride (as used for local anaesthesia), the head covered with a clean cotton cap, and the parent instructed to shampoo the child's head at night, but not to use any greasy or other medicament to supplement the treatment. I have found it necessary for the child to attend six mornings a week for at least two weeks for repetitions of this treatment, and thereafter according to the apparent progress of each individual case. It has been difficult to secure this regular attendance, as parents are frequently very indifferent to this complaint and to the resultant loss of school time. A recent calculation showed that in three months, of all the cases seen at this clinic, 4.25 per cent. were attending for scalp ringworm, and their treatment amounted to about three times as much per cent. of the total treatments given.

Records were kept of 50 cases treated by me in this way, and the results were as follows:

Twenty-seven cases were cured in three weeks or less, without signs of subsequent relapse in one month. Twelve cases were allowed by the parents to attend irregularly, and utimately to lapse; some of these are yet uncured. Six children attended irregularly, and took nearly five weeks to cure in some instances. Four children attending extremely irregularly are still uncured after two to four months from the first treatment. The other case of the 50 was a child who attended regularly, and appeared cured, but twice relapsed within a month, and is now attending again. Her parents refuse *x*-ray treatment. I believe she is a case of reinfection from some constant source near home. Subsequent observation of all cases has been a routine, and in many cases these results were checked by microscopic examination.

These figures are very few to base opinions upon, but it may be noticed that of the 28 who attended quite regularly for three weeks (or sometimes only two weeks) only one relapsed, all the others being yet quite free from the complaint. So far, when *x* rays are not available or are refused, I have found the above method the most useful and reliable in treating children. The drawbacks are the length of time involved, and the necessity for regular daily attendance on the part of the patient. It is therefore still to be hoped that an efficient and quicker method of treatment will soon be established.

M. W. GEFFEN, M.R.C.S., L.R.C.P.,
Bradford. Assistant School Medical Officer.

Reports of Societies.

ENDOTHELIOMA OF THE LARYNX.

A MEETING of the Section of Laryngology of the Royal Society of Medicine was held on February 3rd, with Sir WILLIAM MILLIGAN, president of the Section, in the chair. Mr. WALTER HOWARTH showed a patient, a married woman, aged 40, who had been operated upon for the rare condition of endothelioma of the larynx. She was seen in May, 1921, and had a history of hoarseness for two years previously. Laryngological examination showed a smooth red swelling occupying the anterior two-thirds of the left ventricular band, and completely hiding the left vocal cord. It was thought that the condition might be a lipoma. When examined by the direct method it was found to be more extensive than was at first thought, and the cord was found to be fixed. Laryngo-fissure was performed in June, 1921, and the tumour, including the whole of the left ventricular band and vocal cord and one-third of the ventricular band and vocal cord on the right side, was removed. Bleeding was very violent and rendered the operation most difficult, but the patient made an uninterrupted recovery. Sections of the tumour had been prepared and examined by Professor S. G. Shattock, who pronounced the tumour to be endothelioma of the larynx. Slides and a drawing of two typical portions were shown. Sir WILLIAM MILLIGAN suggested that the condition was a unique one, and Dr. IRWIN MOORE said that there was no record of a case of endothelioma of the larynx in the literature. Mr. F. H. DIGGLE, however, stated that a condition described as a mixed tumour, partly endothelioma, was recorded in the 1920 volume of the Mayo Clinic records.

Mr. HOWARTH also showed a case of sarcoma of the ethmoid and antrum in a child, aged 9, with three months' history of swelling of the nose and difficulty in breathing at night. There was a diffuse, firm swelling on the left side of the nose, and intranasally a large ragged polypoid growth which bled easily. There were stony-hard lumps at the angles of the jaw and on the right side of the neck. Mr. Howarth said that he proposed to treat the case by employing radium both inside and out. Mr. HERBERT TILLEY said that he thought the growth arose from the left ethmoidal region and eroded through the septum to appear at the right side. He suggested deep penetration *x* rays as the best method of treatment in such a case, and mentioned a similar case which he had seen cured by this method. Mr. MUSGRAVE WOODMAN and Dr. WILLIAM HILL, however, preferred the use of radium. Sir WILLIAM MILLIGAN mentioned that in one of three such cases which had come under his notice Coley's fluid had apparently caused the growth to disappear. He suggested that in inoperable cases a combination of the different methods in use should be employed.

Ulceration of Malignant Oesophagus into the Tracheal Bifurcation.

Mr. H. V. FORSTER exhibited a specimen showing ulceration of a malignant growth of the oesophagus into the tracheal bifurcation, resulting fatally. The patient was a man, aged 45, who, when taking tea, was seized with a violent fit of coughing. The doctor called in found pyrexia, with physical signs suggestive of pneumonia. Some improvement took place, which permitted him to come for examination in September, 1921. He was much wasted and could not take nourishment. Although his sister said he had complained of vague pains in the chest for several months, yet the patient himself only related the history of a week's illness. Laryngeal examination did not give any positive information. Water, when taken, was almost immediately coughed up. *X*-ray examination by Mr. R. E. Roberts revealed complete arrest of food at the ninth dorsal vertebra, and a photograph demonstrated the trachea lined by coughed-up bismuth food. The oesophageal appearances were typical of malignant stricture. The patient was admitted to Liverpool Royal Infirmary and died within a few days of exhaustion and septic pneumonia. The *post-mortem* specimen (which was exhibited) showed perforation just below the bifurcation of the trachea by malignant disease originating in the oesophagus. Dr. WILLIAM HILL said that such perforations were more usual into the left bronchus; Sir WILLIAM MILLIGAN, however, mentioned two other cases of perforation into the trachea.

Suction Apparatus for Nose and Throat Operations.

Mr. C. K. MOSELEY demonstrated a suction apparatus for nose and throat operations, which was intended to keep the operating area free from all blood and discharges, and which, in his opinion, did away with any need for swabs. He said that it had proved particularly useful in bronchoscopy and in operations on the nasal passages. Dr. F. E. SHIPWAY said that he used a similar suction apparatus made by the American Sorensen Company, and testified to the great comfort to both operator and anaesthetist that such a suction apparatus could give.

Other interesting cases were shown by Sir JAMES DUNDAS-GRANT, Mr. T. B. LAYTON, Mr. LESLIE POWELL, and Dr. DAN MCKENZIE.

ANAPHYLAXIS AND ANAPHYLATOXINS.

AT a meeting of the Section of Pathology of the Royal Society of Medicine, held at the National Institute for Medical Research, Mount Vernon, on February 7th, Dr. H. H. DALE, who presided, gave an account of some work which he and Dr. C. H. Kellaway had been doing on anaphylaxis and anaphylatoxins. He said that there were two main conceptions, with many variants, of the process which occurred in the so-called anaphylactic shock. The first, which he might call the cellular theory, attributed the anaphylactic condition, particularly in the guinea-pig, to a fixation or predominant location of the antibody in the actual living cells of the animal; the second supposed the production of a toxin, as the result of the formation of an antigen-antibody complex in the body fluids. The basis of the anaphylatoxin theory was the discovery that normal guinea-pig serum, treated with various substances, including certain colloids, had an abnormal toxicity conferred upon it, so that when injected intravenously into a normal guinea-pig it produced symptoms—or even death—similar to what was seen when an animal had anaphylactic shock. But the symptoms, although similar, were, according to the investigations of himself and his colleague, not identical.

Their first experiments gave what he regarded as direct evidence in favour of the conception that the cause of the anaphylactic shock in the guinea-pig was the union of antigen and antibody in the living cells, causing the intense contraction of the plain muscle surrounding the bronchioles, and that the presence of the antibody circulating in the blood was not sensitizing but protective. How, then, were the anaphylatoxin phenomena to be explained? Here he described a new series of "diffuse investigations" on the formation of the anaphylatoxins, in which Dr. Kellaway and he had employed mixtures of serum with agar and with starch. Their first experiments were directed to determining the earliest signs of any protein cleavage. They injected into a guinea-pig 5 c.cm. of a serum and agar mixture before incubation, and it produced no symptoms whatever, but after a two hours' incubation of the mixture, on injecting 2 c.cm. the animal nearly died, and there was a fatal result with 2.5 c.cm. Whatever else happened during the intoxication of the serum by the digestion of the agar or the starch, it was certainly nothing in the nature of protein cleavage, and this opinion was confirmed by taking the refractive index and by examination for other crude physical changes. No change in viscosity could be detected during the time the mixture was becoming toxic; the only thing that could be detected was that the incubated mixture, although perfectly clear by transmitted light, showed under the ultra-microscope an excess of larger aggregates, and these could be filtered by a sufficiently fine filter and the toxicity reduced. On the other hand, the suggestion made in some quarters that the starch mixture was not really anaphylatoxic at all, and that if it were only centrifuged hard enough the toxicity could be got rid of, was proved not to be the case. Filtration through paper, which it had been claimed would destroy toxicity, did not do so, though the Berkefeld filter would under certain conditions cause a reduction in toxicity.

Dr. Dale went on to compare the symptoms produced by these anaphylatoxic preparations with those seen in acute anaphylactic shock. In all cases with the anaphylatoxins there was a greater element of collapse; the suffocating closure of the bronchioles, which formed the centre of the picture in true anaphylactic death, although something of the kind was seen, was not so conspicuous. In most cases when the anaphylatoxins were used the first symptom was collapse of the animal, as distinguished from the first symptom—coughing and rigidity during attempted inspiration—which was seen in anaphylactic shock. There were also certain *post-mortem* differences: with the anaphylatoxins there was more evidence of injury to the capillary endothelium than in the case of anaphylactic shock, and there was evidence that the anaphylatoxins did not produce such a predominant effect on the plain muscle as the antigen did in the specific anaphylactic reaction.

All these experiments reinforced the previous impression, that the action which the anaphylatoxins produced, although superficially somewhat of the same type, was not really the same as that which occurred in anaphylaxis; there was certainly a blocking of the bronchioles, perhaps caused partly by the contraction of the muscles, but there was something else, probably swelling of the membrane. On the theory that the anaphylatoxin represented a directly toxic agent in anaphylactic shock, there ought to be a powerful direct stimulant action on plain muscle; as a fact there was little or no excessive action on plain muscle. The anaphylatoxins did not produce their characteristic action in the absence of the blood, whereas antigen did. On the anaphylatoxic theory the case ought to be the converse—the antigen should act only when the blood was there, and the effect of the anaphylatoxin should be direct. Facts were awkward things, and they were the very opposite to expectation in this case. The anaphylatoxins would act and produce their effects when the blood was there, but they would not act on the plain muscle when isolated from the blood and suspended in an artificial saline solution. The antigen produced all its effects on the plain muscle removed from the body and suspended in saline. With regard to desensitization, one dose of anaphylatoxin desensitized to another. An anaphylactic animal could be so treated, and, being tolerant of anaphylatoxin, should now resist antigen, but it did not. It seemed evident to him that the anaphylatoxins were not direct toxins; their action resembled that produced by sudden exposure of the blood to a large extent of mildly injuricus foreign surface. In some way, during the incubation of the serum, the non-nitrogenous colloid, presumably by absorption on the aggregates of protein in the serum, acquired a very great extent of surface. The probable effect of incubating the serum-starch and serum-agar mixtures was to produce the optimum dispersion of the foreign colloid so as to present the maximal extent of such surface to the blood.

In the course of a conversational discussion Dr. Dale said that he would not like to make any statement as to the mechanism of the reaction in man.

Culture Medium for B. diphtheriae.

At the same meeting Captain S. R. DOUGLAS brought forward a new culture medium for *B. diphtheriae*. Loeffler's media had two disadvantages: first, their great opacity, so that when the colonies had fully developed the individual colony was not easily seen; and, secondly, the amount of serum required. In most of the substitutes it was a question of adding alkali, but this changed the albumin, so that it became a very unsuitable food for the organism. He had worked on serums to which a certain amount of trypsin had been added, the treated serum being then added to agar, and this medium grew colossal colonies, but at the same time it grew many other organisms extremely well, so that it was difficult to see the colonies of diphtheria. Ultimately he found the best results obtained by the use of a 1 per cent. solution of potassium tellurite, added to melted agar, and used with trypsinized serum. With a medium so treated, he had got the diphtheria colonies with an almost black centre, while the contaminating organisms were almost colourless. He gave full details of the preparation of the medium.

ADDISON'S DISEASE TREATED BY SUPRARENAL GRAFTING.

AT the meeting of the Clinical Section of the Royal Society of Medicine on February 10th Dr. A. F. HURST brought forward a case of Addison's disease with severe anaemia which had been treated successfully by suprarenal grafting.

The patient, a man aged 41, was admitted under his care in November, 1920, with great muscular weakness and pigmentation of the skin. There was a family history of consumption, but the patient had had no previous illnesses. For a year past he had suffered from increasing weakness; he was soon exhausted after walking, and recently he had begun to vomit after meals. He also suffered from frequent

headaches, and it was noticed that his skin was gradually becoming darker. In certain areas, such as around the nipples and genitals, it was almost black, and elsewhere there were dark brown patches and minute black spots. There was some pigmentation in the mouth, especially on the lower alveolar margin, where his denture had pressed. All his teeth had been removed some months before on account of severe sepsis. The general muscular development was good; there were no signs of active or healed tuberculosis in the chest, and the Wassermann reaction was negative. Gastric analysis by the fractional method showed complete achlorhydria, which was confirmed later. The spleen was slightly enlarged and appeared to be abnormally hard; the liver was also slightly enlarged and hard. The systolic blood pressure on admission was 120 mm. Hg, and at the end of four months it had fallen to 75 mm. Hg. The percentage of haemoglobin was 60. The red cells numbered 5,120,000 per cubic millimetre, and the white cells 4,101. Treatment with hydrochloric acid by the mouth, suprarenal extract in large doses, and injections of 1 in 1,000 adrenaline hydrochloride caused no obvious improvement.

In March, 1921, a suprarenal gland removed from a man who had just died as the result of an accident was grafted into the subcutaneous tissue of the inguinal region. The blood pressure remained as before. Some experiments a good many years ago in America showed that in animals better results had attended the transplantation of a suprarenal gland to an organ than merely grafting under the skin, and therefore it was determined to try the effect of grafting into an organ in this case. The easiest organ for this purpose was the testicle. After looking for some time for a suitable opportunity, the suprarenal from a foetus removed just before death was grafted by Mr. Tanner into the capsule of the left testicle of the patient. At first there was no obvious improvement, but gradually after an interval of two or three months the patient began to improve, and it could now be said that he was infinitely better than when the operation was performed. A month after the second operation the haemoglobin percentage was 43, the red cell count 2,070,000, colour index 1.0, and the leucocytes 7,400. The haemoglobin continued to fall, and a blood transfusion was performed, and the patient was again given hydrochloric acid and iron by the mouth. He then began slowly to improve, and presently was discharged from the hospital and returned to his home to attend to his private affairs. He was now feeling very much better; he had not vomited at all, but the pigmentation appeared to be unaltered. The systolic blood pressure had risen to 115 mm. Hg, and the haemoglobin percentage was 80. The spleen was still palpable. The suprarenal graft could be made out as a nodule on carefully palpating the testicle.

Sir WILLIAM HALE-WHITE, who was in the chair, said that this was the first time that this subject had been brought before the profession in London, and he thought that Dr. Hurst and his colleagues in this case (Mr. W. E. Tanner and Mr. A. A. Osman) were to be congratulated. It seemed beyond doubt that the man had Addison's disease, and that there had been improvement since this operation was done.

Mr. W. E. TANNER referred to the importance of having young suprarenals for the purpose of grafting before there was any great increase in the amount of connective tissue in the organs. In the full-time foetus the suprarenal was not a definite capsule at all; it was merely a mass of tissue among other masses, and it was almost impossible to dissect it out without doing a great amount of damage. He raised the question of possible advantage in putting these grafts where there was quite a considerable amount of sympathetic ganglia. If it was practicable to put them in the region of the pre aortic sympathetic ganglia such a course might prove very successful.

Advantages of Cholecystectomy over Cholecystotomy.

Mr. R. P. ROWLANDS brought forward a case to illustrate the advantages of cholecystectomy over cholecystotomy. It was a case in which, on operation, he found a ruptured gall bladder, which he removed with difficulty, and when it was out discovered that there was a stone in the cystic duct, which would have been overlooked had the gall bladder not been removed, and would have rendered the operation unsuccessful. It appeared that the patient had been the subject of a previous operation, when gall stones were removed; his recovery had been very tardy, and soon after getting back to work he fell ill again with a violent pain in the right hypochondrium. Indeed, his condition after the first operation was so bad that he was unwilling to face a second without an assurance that it would not condemn him again to continuing invalidism. It seemed to the speaker that whenever possible, when the disease was limited to the gall bladder, and if the common bile duct was clear, the gall bladder should be removed. It was not always possible to do this as a primary operation because the gall bladder was so convoluted and involved that often it was physically very difficult to separate, and therefore primary cholecystotomy might be right and proper. But the disease which caused gall stones was really in the wall of the gall bladder, and therefore it seemed logical to remove the cause. Another reason was the real risk of cancer; he had removed five gall bladders for lesions which he thought were merely inflammatory, and yet under the microscope they exhibited primary carcinoma.

Sir W. HALE-WHITE said that his experience was that the draining of the gall bladder had generally been a very good operation, and most cases remained perfectly well afterwards for a long term of years. Only twice in his life had he seen an unsuccessfully drained gall bladder. He thought that his experience was to the point because patients upon whom an operation had been unsuccessful very commonly went to a physician.

Mr. ROWLANDS said that his own experience was contrary to that of Sir W. Hale-White, but he repeated that there were manifest precautions to be observed before the gall bladder was removed, and in particular no one ought to remove the gall bladder unless he knew that the common bile duct was clear.

INFLAMMATORY STRICTURE OF THE RECTUM.

AT the Medical Society of London, on February 13th, an address on inflammatory stricture of the rectum was delivered by Professor HENRI HARTMANN, Hon. F.R.C.S.Eng., of Paris, who was formally admitted to the honorary fellowship of the Society on the same occasion. Mr. JAMES BERRY presided over a very large and distinguished audience.

PROFESSOR HARTMANN'S ADDRESS.

Professor HARTMANN, after expressing his pleasure at speaking in the home of the oldest medical society in the kingdom, said that he intended to limit his address to the strictures which he had himself observed, as one surgeon's experience was more useful than many scattered observations gathered from literature. Inflammatory stricture of the rectum was somewhat rare; he had observed only 86 cases. It was supposed that women were disproportionately affected, but many of the published statistics which supported this view had been gathered largely from institutions for women suffering from venereal disease. His own statistics were collected from a clinic of general surgery, and these showed that out of 86 cases only 50 were those of women. As for age incidence, the greater number of the patients (58) were between 30 and 50; only one was over 60 and only two under 20. There was undoubted syphilis in 30. In 10 patients—putting aside the cases of purely tuberculous stricture—pulmonary tuberculosis existed before the first symptoms of stricture. Chronic inflammation of the uterus appeared only exceptionally to play a part. Dysentery was to be detected in only one case. One of his patients was suffering from leprosy, and it seemed possible that leprosy, like syphilis and tuberculosis, was a starting-point of stricture. He did not think that chronic constipation had any influence on the etiology.

In inflammatory strictures the lesion occupied a fairly large space in the rectum. Generally it was in the lower region, from 2 to 6 cm. above the anus. In three cases the stricture extended along the entire rectum; usually it was cylindrical in shape. The stricture itself was composed of sclerous tissue, but, as he showed by photomicrographs, there were in many cases evidences of neighbouring syphilitic or tuberculous lesions. The first symptoms, before the stricture developed, were nearly always a feeling of rectal fullness, with frequent desire to evacuate and painful discharge; the faeces were tape-like, and the patients suffered from more or less permanent distension. He had never seen any case of complete obstruction, though a few examples had been published. In 28 of his 86 cases he had observed fistulae, often numerous, communicating with one another, and presenting the peculiarity of nearly always opening into the rectum, just below the stricture.

Treatment by dilatation was useful, but must be carried out gently. A bougie must be selected which passed through the stricture without force and without pain. He used woven bougies covered with gum; two or three of these were introduced each time, and the procedure was repeated every other

day, commencing with the bougie which had been last used on the previous occasion, and then introducing one or two of larger size. Each bougie should be left in position a few seconds only. When a sufficient size had been reached, the treatment should be continued once a week. This treatment never cured the disease, and in some cases when the symptoms of proctitis were predominant, it would aggravate them. By a complete extirpation of the diseased region he had obtained permanent cures when the lesions were limited to the termination of the rectum. These cases were rare, for the wall was often inflamed above the stricture, and at the beginning of the trouble, when the lesion was limited, the patients who were scarcely suffering at all would refuse operation. He preferred the intra-sphincter amputation, very much like Woodhead's operation for haemorrhoids. The dissection of the region surrounding the anal canal was rather difficult, and must be performed with a bistoury behind the sphincter. It was generally possible to isolate the rectum with the finger, to strip it up, to lower its superior end, and to stitch it to the skin. The dissection must be carried very high, and the perineal pre-rectal cul-de-sac opened when this was necessary. First of all he put some small drainage tubes beneath the sutures, and in his latest operations he had a counter-opening in the posterior part of the ischio-rectal fossa. He had operated by excision of the rectum in 34 cases, with good results in 32; two patients died of pelvic cellulitis, these two deaths occurring in the earlier part of his practice. Twice he had performed an abdominal-peritoneal excision on account of stricture reaching the inferior half of the pelvic colon, with one recovery and one death. It was necessary to incise and curette the fistulae when these existed. In some cases he had been obliged to combine the excision of the rectum and the curetting and incision of the fistulae. Generally he had simply prolonged the incision of the rectal wall just above the stricture to perform an external proctotomy with plugging, but when it was possible he had brought down the superior angle of the rectal incision to stitch it to the skin, thus doing an autoplastic proctotomy. When the case was beyond the reach of local treatment, and extensive suppuration had developed around the rectum, iliac colostomy was indicated. The patients almost immediately gained in health and strength. He had performed 17 colostomies, with 16 recoveries and one death from bronchopneumonia. He never did internal proctotomy, as he believed it to be dangerous on account of haemorrhage and sepsis. Altogether, only a few radical cures could be obtained in stricture of the rectum, but by combining different methods of treatment and by performing oftener perineal excision of the rectum and colostomy, life might be prolonged and the patients greatly relieved.

Mr. J. P. LOCKHART-MUMMERY said that he had practised internal proctotomy for the last fifteen years, and found it a very satisfactory operation. He must have done forty or fifty cases, and had had no disaster of any kind. He was always very careful with regard to asepsis. The operation was not a cure, because there was a large proportion of recurrences; but there would not be recurrences if the patients were careful to keep the rectum dilated sufficiently long, and those who did take this trouble were cured permanently. He had dealt by this method with very big strictures, up to $1\frac{1}{2}$ in. in length. He raised the question of whether many of these cases of stricture were not due to difficult or mismanaged labour. At St. Mark's many histories of stricture seemed to date from such labour. He believed syphilitic strictures to be very rare; the vast majority were streptococcic infections of the rectum.

Dr. HERBERT SPENCER did not think that difficult labour could be the starting point of stricture. He had seen very few of these strictures of the rectum during twenty-five years as a gynaecologist, not as many, indeed, as he saw during six months as surgical dresser.

Mr. ERNEST MILES said that chronic infective ulceration of the rectum was at one time prevalent in this country, but since the adoption of strong antiseptics it had, comparatively speaking, disappeared. At St. Mark's very few such cases were now seen. It certainly seemed as though strong antiseptics had been the means of eradicating it.

Sir CHARLES GORDON-WATSON had not seen many cases associated with syphilis. The tuberculous cases must be set apart and considered as a different class. Stricture associated with chronic proctitis could be cured for the time being by gradual dilatation, followed by periodic dilatation and by irrigation, and after the acute stage was over these cases healed very rapidly, as a rule, with the treatment of the ulcers by zinc ionization. Severe infective ano-rectal ulceration of post-operative cause was seen occasionally. Quite recently in St. Mark's there was a case where the entire lumen of the rectum had disappeared. Very shallow strictures occurring at the ano-rectal junction and not associated with ulceration, but frequently with fistulae, were usually dealt with by treating the fistulae and dilating the stricture at the same time on ordinary rational lines. Many of these cases had a history of gonorrhoea.

Mr. GORDON TAYLOR mentioned a case of a girl, now under his care at Middlesex Hospital, with a stricture of the rectum $3\frac{1}{2}$ inches long and numerous fistulae. A streptothrix had been isolated, not once but several times, and he believed the case might be definitely labelled actinomycotic stricture of the rectum. Mr. NORBURY asked whether multiple strictures of the rectum were at all common. One patient at St. Mark's had two well marked strictures with an interval of about one inch of more or less normal canal between them.

Sir ARBUTHNOT LANE said that most of the strictures he had seen had been produced by the surgeon. A few had been produced by gonorrhoea, almost all in the female, and a number, which had caused him a certain amount of trouble, had been due to ulcerative colitis. It was a great disappointment to have removed the large bowel, apparently successfully, the patient getting strong and well, and then within three years to have him turning up again with ulcer in the rectum. Mr. A. J. WALTON referred to the relationship of stricture of the rectum to ulcerative colitis. He had come across a number of cases of ulcerative colitis in which the condition had spread down to the rectum.

Professor HARTMANN, who replied in French, could not accept the theory that the stricture often followed difficult labour. The great majority of his women patients had never had children. He himself had not seen a stricture formed in that way. He thought that multiple strictures were extremely rare; he had seen only one case. He considered extirpation the ideal treatment, although he thought the cases which could be treated ideally were only the early cases, and consequently the rectal surgeon did not very often see them.

Sir ANTHONY BOWLBY proposed a vote of thanks to the distinguished visitor, who, he said, was known throughout the world as the author of very valuable papers, chiefly on abdominal subjects, and especially on the genito-urinary tracts. It was a matter of congratulation to have a French surgeon in their midst. Nowhere did the *Entente* find readier expression than in the medical profession, for the profession, both in France and England, had the same ideals, and in war and peace worked for the same end. In speaking of Pasteur and Lister he mentioned that the former worked at Strasbourg in Alsace, and he congratulated their colleague upon the fact that Strasbourg was again in French possession, and that there was a French professor in Pasteur's chair.

The vote of thanks, which was seconded by Mr. W. E. MILES, was carried by acclamation.

An exhibition of specimens of rectal stricture had been arranged by the society, and Mr. JAMES BERRY expressed the society's indebtedness to the various museums which had contributed. The exhibition illustrated the great variety in the nature of the stricture, and included some examples of perforation, both by spontaneous ulceration and by the injudicious use of the bougie.

SCARLET FEVER AND SCARLATINIFORM RASHES.

AN ordinary meeting of the Manchester Medical Society was held on February 1st, with Sir WILLIAM MILLIGAN, the new president, in the chair, when Dr. R. W. MARSDEN opened a discussion on scarlet fever and scarlatiniform rashes. He spoke of the advisability of more careful selection of patients for removal to hospital when suffering from scarlet fever, and the necessity for having good evidence that the patient is suffering from the disease before sending to hospital, and not removing on suspicion. He emphasized the advisability of nursing and isolating at home all cases which can be so dealt with. He then pointed out the impossibility in many cases of making a differential diagnosis between scarlet fever and a scarlatiniform eruption from some other form of toxaemia by inspection of the rash alone, and urged the necessity of not only fully inspecting the rash in all parts of the body, but of taking all the other points into consideration before coming to a conclusion. He thought it better not to send mild cases of scarlet fever to hospital, and wondered if many cases so sent were really not scarlet fever at all.

Dr. ST.CLAIR MCCLURE, who followed, spoke of the relative infectivity of severe and mild cases of scarlet fever and other diseases, and came to the conclusion that the infectivity of mild cases of scarlet fever was very high. The point was an important one, and he depended upon its acceptance to explain, in some part, the prolongation of the wave of scarlet fever prevalence in 1921. He discussed the change of type of the disease during recent years, rendering the problem of diagnosis in many cases very difficult at the present time, and though he believed that the great mass of cases notified were truly scarlet fever yet there were a number in which differential diagnosis between mild scarlet fever and mild influenza was not clear. No doubt with two epidemics prevalent at the same time there would inevitably occur many cases of mixed infection. As regards removal of patients to hospital, he thought medical officers of health would agree that if isolation accommodation was practicable in the home and the parents were dependable, it was preferable to keep at home. But figures in Manchester showed that there was a very definite advantage to individual households in the removal of cases to hospital. The greater the promptness in removing the patient the less would infection spread amongst family contacts. This was shown by an investigation carried out over a series of years.

Dr. F. E. TYLECOTE dealt with certain points of importance in the differential diagnosis between scarlet fever and other conditions which cause scarlatiniform rashes. In the first place, the throat in scarlet fever showed a general injection; if there was no injection it was not scarlet fever, if there was an injection it might be scarlet fever, or it might be something else—some other points would have to decide. The larynx was unaffected in the early stages of scarlet fever; to that there was no exception. Cutaneous irritation—though he was interested to hear of the recent experience to the contrary—as a rule, he looked upon as against a diagnosis of scarlatina, though he admitted exceptions. When the rash had all but passed away two features were important to look for: (1) Fine papules remaining on the extensor surface of arms or legs, and (2) the red punctate raising of the deep hair follicles on the calf. He emphasized also the differences in the skin of the patient who had just lost the rash of (1) scarlet fever, (2) measles, and (3) rötheln. In scarlet fever the skin was pale, sallow, and parchment-like; in measles, dirty-looking and pigmented; in rötheln perhaps there were traces of a fine brauny desquamation. Scarlet-fever peeling never occurred at a given spot until the rash had faded from that spot; in food and drug rashes, on the other hand, scaling and an erythema were often present on the same part of the body at the same time. He thought the time of the year in which any given fever had its maximum prevalence was a point often lost sight of when making a diagnosis between one exanthem and another. He had found prevalence and mortality curves well worth bearing in mind. He had not found joint troubles quite as early as Dr. Marsden had said, speaking generally. He was very glad to hear him plump for the typical tongue as being a pathognomonic point at a given date. He was pleased to hear attention drawn to the coincidence of other fevers, and instanced a child who had five fevers overlapping one another. He found the persisting nasal discharge of a thin or possibly sanious character to be a much more fertile source of return cases than was persistent otorrhœa. Prodromal rashes of variola, varicella, and of measles were often scarlatiniform, but were very transient.

DIET IN NEPHRITIS.

A MEETING of the Liverpool Medical Institution was held on February 2nd, with Dr. HILL ABRAM in the chair, when Dr. C. O. STALLYBRASS described a case of exanthem subitum, drawing attention to the clinical picture and epidemiology.

Dr. H. S. PEMBERTON read a short paper on diet in nephritis. In introducing the subject Dr. Pemberton contended that the maintenance of adequate nutrition should always be recognized as one principle in the management of chronic renal disease. The question of diet might be considered from two sides—a receptive and an eliminating. There were certain changes in the receptive side (gastro-intestinal mucosa and portal system) often associated with chronic nephritis, and unless these were recognized the diet might prove inadequate from non-renal causes. Changes on the eliminating side were often directly associated with renal disease, the degree of which might be determined by clinical or biochemical means. The fate of known diets may in part be investigated by means of the renal test meal combined with estimations of blood-urea and total nitrogen content of the urine. Many renal cases, irrespective of type, were still deprived of proteins. Those which needed proteins appeared to be: (1) Cases of albuminuria without retention of nitrogen; (2) cases with or without albuminuria which retained nitrogen, but did not show an elevation of the normal blood-urea content; and (3) certain anomalous cases where the amount of protein which could be tolerated was only determinable by trial. Proteins would seem inadvisable in cases which showed high blood-urea concentrations, and hence one of the most generally useful controls on dietetic management was periodic estimation of the blood-urea content.

The Peptic Ulcer.

Mr. K. W. MONSARRAT read a paper entitled "The peptic ulcer," and reviewed records of the cases on which he had operated during 1921. These were 48 in number, 41 being men and 7 women. In 34 instances the ulceration was gastric, in 8 duodenal, and in 6 jejunal. Twenty-five of these cases had been treated by partial gastrectomy, and to the indications for this operation Mr. Monsarrat particularly directed his attention. There had been no mortality among the cases under his care, and he considered that the operation was well borne. Certain cases were suitable for sleeve resection, but for the greater number of inveterate ulcers the Polya operation was the best procedure. He preferred the posterior Polya operation, and had not met with the stenosis which had led other surgeons to prefer the anterior operation. He discussed the relations between functional disturbances of the pyloric mechanism and the incidence of ulcers. He considered that the basal condition of the etiology of ulcer was the disturbance in the normal correlation between gastric and pancreatic secretion. He exhibited detailed records of the cases to which he had referred.

Reviews.

ESSAYS ON SURGICAL SUBJECTS.

SIR BERKELEY MOYNIHAN has republished in a small volume a number of essays[1] which had previously appeared chiefly in the BRITISH MEDICAL JOURNAL and *British Journal of Surgery*. The book opens and the book ends with the texts of two addresses: the first is the Murphy Memorial Oration given before the American College of Surgeons at Montreal; the second is entitled "The most gentle profession," and was delivered to nurses at Leeds. We have selected these two addresses for mention at once because they present Sir Berkeley Moynihan in his best vein. Well though he writes—and he has sometimes written extremely well—it is as a speaker, as an orator in fact, that he finds his real *métier*. Not all great orators can be reduced to the printed page and yet remain more than shadows of their true selves. We have at one end of the scale, perhaps, Burke, at the other the present Prime Minister. Sir Berkeley Moynihan occupies a middle position. There are passages of great intensity, of an uncommon enthusiasm, which transmit themselves to the reader of his Murphy Oration. The figure of J. B. Murphy emerges passionately alive, with all his peculiarities and spiritual angularities, the greatest clinical teacher of his time. But there are long and comparatively arid parts of the speech where the voice and personality of the speaker are needed to kindle the spark. Yet as a paper, as distinct from an oration, the parts complained of contain a valuable synopsis of the history of surgery. The second address, that to nurses, is characteristic, and contains a passage on the nurse's office reminiscent of Stevenson's: "To be honest, to be kind . . ." The second essay, "The ritual of a surgical operation," may be regarded as Moynihan's *credo*, and, whether surgeons agree on detail or not, undoubtedly represents the highest technical ideal so far set before the profession.

It will be sufficient to enumerate the titles of the remaining essays, all more or less well known, though for the first time collected under one cover: Chronic gastric ulcer; disappointments after gastro-enterostomy; intestinal stasis; gifts of surgery to medicine; acute emergencies of abdominal disease; and the surgery of the chest in relation to retained projectiles.

[1] *Essays on Surgical Subjects*. By Sir Berkeley Moynihan, K.C.M.G., C.B. Philadelphia and London: W. B. Saunders Co. 1921. (Med. 8vo, pp. 253; 17 figures. 25s. net.)

MEDICAL EXAMINATION FOR LIFE INSURANCE.

Medical Examination for Life Insurance[2] is a short handbook for medical men who occasionally make medical examinations for this purpose. Such a book has long been required in England. Dr. T. D. LISTER has admirably filled the gap with his most practical and useful work.

As he has an extensive acquaintance with diseases of the thorax, especially pulmonary tuberculosis, let us first of all see how he deals with the subject of "personal history of respiratory disorders" in Chapter XI. He gives valuable hints as to the significance in various cases from the insurance point of view of a past history of chronic cough, thoracic pain, blood spitting (including cases in which the blood is said to have "come from the throat"), pleurisy with or without effusion, asthma, bronchitis, pneumonia, and empyema. He records two remarkable cases of pulmonary tuberculosis which, he says, illustrate the truth of Dr. Samuel Gee's aphorism that one should never make a prognosis in pulmonary phthisis, for, if one does, there is only one thing certain—that one will be wrong. The first case was that of an athletic man, aged 32, with tubercle bacilli in his sputum and a cavity as large as an orange in the right lung, who fourteen years previously had been living with a friend who was probably consumptive. He was physically very well developed, and, in spite of his pulmonary cavity, served with distinction as an officer during the great war. After the war he was much in the same condition as before, and Dr. Lister remarks that he seems to be a "tubercle carrier." The second case was that of a medical man, aged about 30, with pulmonary cavities in three lobes, albuminuria, a pulse of 130, a pale face, and a blanched palate. Dr. Lister stated that in his opinion such a risk would probably die at the rate of 70 per cent. in the year. The insurance company thereupon granted the applicant an annuity for a purchase price of £700, allowing £230 a year to the annuitant. Dr. Lister adds that the annuitant in question is still living —a "fibroid wreck"—in a good climate, and that the insurance office has already lost over £2,000 on the transaction. As illustrating the occasional development of excessive weight and gouty habit after pulmonary tuberculosis, Dr. Lister instances an energetic and distinguished business man, who was attacked with "consumption" about sixteen years ago, when he weighed 9 st. 10 lb. He was treated in sanatoriums and has since then lived an open-air life; he is now a florid, heavy man of the gouty type, weighing well over 14 st., but is still found to have physical signs of a cavity in the apex of the left lung. Another man, over 50 years of age, applied for insurance, with an ankylosed angular curvature of the spine, from old tuberculous caries. He was of the florid, gouty type, and had a high blood pressure and a trace of albumin in the urine. He died of cerebral haemorrhage a few years later. Dr. Lister remarks that neither of these two last cases was insurable, owing to the "excessive rebound" from tuberculosis to the "gouty" type. Dr. Lister dwells on the great importance, when there is a question of past pulmonary tuberculosis, of taking into consideration, not only the evidence furnished by actual examination of the chest, but also the nature of the family history, the occupation, habits, build, height, weight, blood pressure, and signs and history of disorders such as "indigestion." He regards a low blood pressure as "an adverse feature, when there is any reason whatever to suspect a liability to tuberculosis."

The foregoing may serve to give an idea of the practical hints and useful information and interest with which the whole book is full. It should be in the hands of all general practitioners who occasionally have to furnish life insurance reports, but may with advantage and satisfaction be read by regular examiners for life assurance, and also by senior medical students.

OEDEMA AND NEPHRITIS.

THE large volume by Professor MARTIN H. FISCHER, of Cincinnati, on *Oedema and Nephritis*,[3] which, though now in its third edition, is not so well known as it should be to British medical men, represents the results of thoughtful original research extending over more than ten years, and is quite different from the usual treatises which give a complete review of current knowledge with the author in the background except as the judicial authority. Professor Fischer's own views, based on experiments on the colloid chemistry of water absorption by protoplasm and the physiological and pathological corollaries, form the basis of this work. Oedema is defined as a state in which the hydration capacity of the body colloids is abnormally increased, and the causes of oedema are shown to be any substance or condition which in the circumstances existing in the body can increase the hydration capacity of any of its hydrophilic colloids; thus acids produce oedema, whereas salts, including sodium chloride, reduce existing oedema. Circulatory disturbances, as in cardiac failure, entail oxygen starvation and so the abnormal production and accumulation of carbonic, lactic and other acids; some amines and various poisons act in a similar manner. In some critical remarks on shock, added in connexion with the work done in Europe on this subject during the war, the use of colloid solutions, such as 6 per cent. acacia gum, is instanced as a practical application and acceptance of the author's colloid-chemical notions of water absorption.

The same argument given for the nature and cause of oedema is applied to nephritis: thus all the changes characterizing nephritis are, the author contends, colloid-chemical in nature and due to a common cause—the abnormal production or accumulation of acid, and of substances which in their action upon colloids behave like acid, in the cells of the kidney; to the action of these upon the colloid structures that make up the kidney are due the albuminuria, the structural changes in the kidney, the casts, and other urinary manifestations. The general rule formulated for the prophylaxis and treatment of nephritis is the avoidance and removal, as far as possible, of every condition that favours the abnormal production of acids in the kidney, or of such other substances which in their effects on the colloids behave like acid; thus alkalis, salts, and sugar should be given and the intake of water restricted; sufficient alkali should be given to keep the urine persistently neutral to litmus. A diet on vegetarian lines is better than an ordinary mixed diet, but more harm may be done by underfeeding than by overfeeding.

Professor Martin Fischer's views have met with criticism and opposition, but his book shows that he is an extremely able and energetic worker, and that his conclusions deserve serious consideration.

UROLOGY.

IN the third edition of *The Practice of Urology*,[4] by Dr. CHARLES H. CHETWOOD, no very radical changes have been made, and he has resisted the temptation, to which an author is always exposed when bringing out a later edition, of increasing its size. As he states in his preface, Dr. Chetwood's attitude towards urology is a "progressive-conservative" one. No new methods are included that have not passed beyond the experimental stage. Among the additions is a description of the author's design of universal cystoscope; it is intended to combine the advantage of a cystoscope and a cysto-urethroscope, and includes sheaths for double and single catherization, as well as simple diagnosis. One telescope is used for all the sheaths, but a special telescope with rectangular, ocular, and direct vision is provided for operative purposes. Another instrument that is essentially the author's is a galvano-cautery to be used in partial operations on the prostate. This is used in a manner somewhat similar to the galvano-cautery employed in the now abandoned Bottini operation. As a preliminary to the employment of this instrument external urethrotomy is performed, and through the opening the instrument is passed straight into the bladder. The obstructing mass is then incised by means of a cautery knife, sliding in a groove and controlled by the finger of the right hand, the index finger of the left being inserted into the rectum so as to control the situation of the galvano-cautery. No cooling device is attached to the instrument, but a flow of sterilized solution is kept up through the urethra during the progress of the operation. It is admitted, however, by the author that the operation is of limited application, being of use chiefly in cases of contracture of the neck of the bladder. To those who have not seen perineal galvano-prostatotomy the technique makes no very strong appeal. The operation would seem to have many of the disadvantages

[2] *Medical Examination for Life Insurance.* By T. D. Lister. C.B.E., M.D., F.R.C.S., M.R.C.P. London: Edward Arnold and Co. 1921. (Demy 8vo, pp. 168. 10s. 6d net.)

[3] *Oedema and Nephritis.* A Critical, Experimental, and Clinical Study of the Physiology and Pathology of Water Absorption in the Living Organism. By Martin H. Fischer, M.D., Eichberg Professor of Physiology in the University of Cincinnati. Third and enlarged edition. New York: John Wiley and Sons. London: Chapman and Hall. 1921. (Med. 8vo, pp. xvi + 922; 217 figures. 55s. net.)

[4] *The Practice of Urology.* By C. H. Chetwood, M.D., LL.D., F.A.C.S. Third edition. London: Baillière, Tindall, and Cox. 1921. (Roy. 8vo, pp. 830; 9 plates, 310 figures. 42s. net.)

of Bottini's, and to labour under the additional handicap of requiring a preliminary external urethrotomy. However, it must be admitted that as a result of the perineal wound such complications as post-operative haemorrhage are under better control.

A brief description is also given of perineal prostatectomy both by the intra-urethral and the extra-urethral methods. The reader is thus offered a large choice of methods of dealing with prostatic enlargement, but perhaps is not given sufficient help in arriving at a decision as to which is the method *par excellence* for any particular case.

The work includes also chapters on chancroid and syphilis. Whether it is an advantage to deal with such subjects as syphilitic myocarditis, dacryocystitis, and tabes dorsalis in a work on urology is very doubtful. These lesions are, however, linked up with the genito-urinary surgeon's speciality, and their inclusion in a work of this kind may perhaps be justified by custom if not by logic. For the treatment of chancroids the author still recommends the drastic methods by means of fuming nitric acid that have been abandoned in this country. He maintains that if complete destruction of the ulcers by cauterization is carried out they are transformed into granulating ulcers, which follow an uninterrupted course of repair, but for complete cure each and every sore must be reached and thoroughly destroyed, as one small untreated area may reinfect the whole granulating surface. One of the disadvantages, however, of using strong antiseptics in the treatment of chancroid is the fact that, once an antiseptic has been employed, a search for spirochaetes as a means of differential diagnosis is rendered impossible. Sufficient emphasis has, in our opinion, not been placed on this point by the author.

The book, like most other American publications, is profusely illustrated and generally well turned out.

CEREBRAL TUMOUR.

PROFESSOR CHRISTIANSEN'S book, of which we have received a French translation, consists of a series of twelve lectures dealing at considerable length with the more strictly clinical aspects of cerebral tumours.[5] Three lectures are devoted to the tumours of the motor area of the brain, where the principles of localization and diagnosis are well illustrated by detailed reports of particular cases. Perhaps the most valuable of these is the third, where convulsive symptoms and Jacksonian epilepsy are considered, and where there is also a discussion on muscular atrophies of cerebral origin, a subject of great interest hardly mentioned in many textbooks. The fourth lecture deals with tumours of the occipital lobes; here a fuller reference to the knowledge gained by the experience of war wounds of this region of the brain, and, in particular, the work of Holmes, might have been expected. In the fifth lecture the differential diagnosis of lesions at the base of the brain is discussed; tumours and syphilitic lesions are considered, and remarks on ophthalmoplegic migraine and myasthenia gravis are added. The various clinical aspects of syphilitic meningitis are described in a separate lecture.

In the lecture on tumours of the pituitary body a good account of the symptomatology is illustrated by reports of cases both of acromegaly and of Fröhlich's type of dystrophia adiposo genitalis. Tumours of the cerebello-pontine angle afford material for two lectures, which are perhaps the best in the book, though we are surprised to find no mention of Cushing's notable contribution to this subject. Tumours of the cerebellum and midbrain are described in another lecture, which contains a very detailed consideration of a few cases only, and might perhaps have gained in value by a broader treatment of the whole subject. A useful and frank chapter on doubtful diagnosis follows, and the volume is concluded by a lengthy lecture on surgical treatment.

Undoubtedly the best features of the book are the careful clinical descriptions of the cases quoted and the detailed diagnostic arguments set forth. Consisting essentially, therefore, of clinical lectures it will appeal to the neurologist rather than to the student, who will perhaps find the author's method a trifle discursive. As the fruits of an extensive experience and careful and discriminating observation it may be heartily commended.

The translator, we feel sure, has done full justice to the original text, for the reading is easy and pleasant, so that a wider circle will doubtless be able to enjoy this original contribution to the literature of cerebral tumours.

[5] *Les Tumeurs du Cerveau.* Par Prof. V. Christiansen, avec une préface du Prof. P. Marie. Traduction française par M. Polack. Publiée avec le concours du Dr. H. Bouttier. Paris: Masson et Cie. 1921. (Roy. 8vo, pp. 353; 105 figures. Fr. 25 net.)

DIETETICS.

THE fifth edition of Dr. ROBERT HUTCHISON'S work on *Food and the Principles of Dietetics*[6] does not differ substantially from the fourth, reviewed in the BRITISH MEDICAL JOURNAL of February 10th, 1917. The author has revised the sections on energy requirements and rationing, incorporating results derived from war-time experience and research, and has inserted a *précis* of knowledge respecting "vitamins." He has, however, wisely resisted the temptation to change the character of the book by greatly expanding the chapters concerned with general metabolism and energetics.

Of the great merits of the book as a whole it is unnecessary to speak. One minor criticism may be passed. Dr. Hutchison cites the Report of the Advisory Committee to the Central Control Board on Alcohol, its action on the human organism, and remarks that "none of its conclusions conflicts materially with what is set out in the text of this book." Although this statement can be defended, it might have been well to add that the Advisory Committee did not endorse the favourable opinion of moderate doses of alcohol as adjuvants to digestion which Dr. Hutchison inclines to hold. The Committee concluded that the increased flow of gastric juice "is of little or no value in the process of digestion, although there is no reason to suppose that it is in any way injurious."

RADIO-THERAPY.

THE textbook entitled *X Rays and Radium in the Treatment of Diseases of the Skin*,[7] by Dr. G. M. MACKEE, is more elaborate and comprehensive than the title would suggest, inasmuch as in addition to the actual treatment of disease its first two hundred pages contain, amongst other things, an excellent historical survey, a treatise on the physics of the subject, and a summary of instrumentation. It is stated in the preface that x rays and radium together constitute the most important single remedies in the armamentarium of pure dermatology; but the author also points out their dangers in unskilled hands, and expresses the view that every physician who employs these remedies should have a thorough training. The chapters on x-ray and radium dermatitis place on record all that is at present known concerning this condition, and the possibility of idiosyncrasy to radiations is discussed. In considering the action of radiations on pathological tissues it is suggested that too much prominence has been given to the supposed stimulating effect of irradiation on malignant neoplasms. The main portion of the book deals successively with the various skin conditions in which either x rays or radium, or both, can be effectively used. Each disease is considered by itself, and the numerous illustrations, which are exceedingly good, well chosen, and well reproduced, add considerably to the value of the letterpress. Following each chapter is a very complete bibliography, and there is a well printed and complete index. The exact dose of either x rays or radium, the exact method of application found to be the most suitable, filtration, and all the little details of technique are fully and plainly described. The author claims that the book is only written for the beginner, but expresses the hope that others will find it useful. It would be fair to say that this is a very modest statement. The book goes much further than this. It is one which every skin specialist should thoroughly digest, whether he has personal knowledge of the manner of application of rays or not; in addition, the radiologist who has to carry out the actual treatment of many skin conditions will find in it valuable information, useful illustrations, and many hints on technique. As a book of reference its construction is such that it should be of much value.

A book entitled x-ray diagnosis for physicians and students, was published by Dr. FRITZ MUNK of the Berlin University in 1914; a second edition[8] has now appeared.

[6] *Food and the Principles of Dietetics.* By Robert Hutchison, M.D.Edin., F.R.C.P. Fifth edition. London: E. Arnold. 1922. (Demy 8vo, pp. xx + 610; 33 figures, 3 plates. 21s. net.)

[7] *X Rays and Radium in the Treatment of Diseases of the Skin.* By G. M. MacKee, M.D. London: Henry Kimpton. 1922. (Med. 8vo, pp. xi + 602; 250 figures. 45s. net.)

[8] *Grundriss der gesamten Röntgendiagnostik innerer Krankheiten für Ärtze und Studierende.* By Dr. Fritz Munk. Second edition. Leipzig: Georg Thieme. 1922. (Demy 8vo, pp. viii + 237; 193 figures. M 180.)

Following a short introductory chapter on physics and technique the main portion deals successively with the heart, the lungs, the gastro-intestinal tract, including the liver and gall bladder, the pancreas, and the kidneys; it concludes with a somewhat incomplete chapter on pathological processes affecting bones. The illustrations, which are numerous, vary considerably in merit; some are quite good, others—and this especially applies to those of the stomach—are very poor, and many are badly reproduced. The literature, which is referred to in a few pages at the end, is entirely German and Austrian, and there is no reference to any work done elsewhere. As a whole the book is merely a compilation; it contains nothing original, and there are many omissions. It may be of use to the German student or physician who wishes to get some idea of the scope and possibilities of *x*-ray diagnosis, but it hardly appears likely to appeal to British readers from this point of view, or as a book of reference.

In the book on *x*-ray diagnosis of pathological conditions of the stomach, by Drs. FAULHABER and KATZ,[9] the shape, size, situation, tone, and motor functions of the normal organ are first discussed along the usual, more or less stereotyped, lines; the nomenclature suggested by Holzknecht, Grödel, and Forssell is employed. Chapters on gastroptosis and atony are illustrated by diagrams which are intended to represent these conditions, but some do not appear to be correct for either. There is no doubt that considerable confusion exists both amongst physicians and radiologists as to what is in fact gastroptosis, and the boundary line between what is normal and what is definitely gastroptosis still remains to be decided. Pyloric stenosis is discussed in nine pages, and there is a rather more elaborate chapter on ulcer under the headings of simple, callous, and penetrating; a chapter on carcinoma brings the book to a conclusion. The illustrations throughout are diagrammatic, but at the end are a dozen reproductions of somewhat indifferent radiographs. There is no index and no bibliography.

MR. CHADWICK'S little book on *Radioactivity and Radioactive Substances*[10] is a short and clearly written account of a highly important branch of chemical study. It is meant for the general reader, and is as free as possible from mathematical formulae and terms unintelligible to the average person. It contains chapters on such subjects as the nature and measurement of radio-activity, ionizations, the various radiations emitted by radio-active substances, radium itself, and some of the general conclusions to which these studies have led. The book may be recommended to all in search of a short and lucid account of radioactivity.

EXERCISES FOR THE MAIMED.

The Handbook for the Limbless, recently reviewed in our columns, describes exercises practised at St. Thomas's Hospital and Roehampton by those who have lost lower limbs. In the north of England, Dr. F. A. HORT, the Administrator of the Ministry of Pensions Hospital, Chester Road, Sunderland, has published a pamphlet entitled *New Legs for Old*, which is intended, as is stated in the foreword, to be useful to those ex-service men who have lost one or both legs. It consists essentially of a description of a series of eight exercises, illustrated by the author with spirited sketches, which although they do not profess to be technically perfect, are at least illuminating, and in most cases may be taken as showing the cheerful enthusiasm with which the maimed man should undertake his tasks. Unfortunately the first of the series is rather discouraging. The pensioner who is being made to do knee bending appears to be filled with horror by the prospect. The lower jaw is protruded, the risus sardonicus is well developed, and his hair stands on end. Probably he is meant for an awful warning, which has obviously been successful, for his seven successors appear to be quite pleased with life. All these exercises are intended to be performed by pensioners wearing their artificial limbs. The eight exercises are described as "Eltringham's Exercises," and are those recommended by Mr. T. Eltringham, Physical Instructor at the Ministry of Pensions Hospital, Sunderland. They appear to us to be well adapted to their purposes.

Dr. Hort writes in Chapter I of the restoration of muscular capacity as one of the objects of the exercises. It is much to be regretted that so many who had to undergo amputation were allowed to use crutches long after they should have been wearing temporary peg legs with gypsum or fibre sockets; such pegs should in most cases be used as soon as the flaps are firmly united. Not only would muscular wasting thereby be avoided, but the tendency to put on weight, which has been a serious handicap to many men, would be diminished.

We learn from the *Sunderland Echo* of January 19th that artificial limb-making is carried on by the pensioners in the occupational treatment workshops of the hospital where an exhibition and sale of work took place and athletic sports were held for men wearing artificial limbs; some of these artificial limbs had been made by patients in the hospital from the designs of Dr. F. A. Hort, "the originals having been exhibited in the war collection of the Royal College of Surgeons in London in 1917."

NOTES ON BOOKS.

WE have received the seventh edition of the book on *Practical Physiological Chemistry*,[11] by Professor HAWK, of Philadelphia. It contains a vast amount of information of all sorts bearing on practical physiological work. Beginning with the subject of enzymes, it contains chapters on carbohydrates, proteins, nucleic acids and fats; the processes of salivary, gastric, pancreatic, and intestinal digestion; bile, putrefactive products and faeces; the blood, milk, and various tissues; and the urine, which receives particularly full treatment. In addition there are chapters on acidosis and metabolism that should be particularly useful as up-to-date summaries of our knowledge upon subjects that are engaging a great deal of attention at the present time. The book is well written, and contains a number of excellent coloured plates and illustrations, an appendix on the reagents and solutions used in the physiological laboratory, and a good index. It may be warmly commended to the attention of teachers and students of both physiology and medicine.

The second edition of Professor DENNETT'S *Simplified Infant Feeding*[12] is a book for general practitioners of medicine who wish for a textbook dealing with the recurrent problems presented by mothers and nurses. It gives a full account of the subject in all its practical aspects, with particular reference to infantile indigestion. The author incorporates in the text notes of eighty cases illustrating various points he wishes to emphasize, and these form a most admirable aid for the reader. The book is full of practical directions, and may be recommended to all in search of a useful handbook on the subject of infant feeding.

The fourth edition of Mr. BENNETT'S *Materia Medica and Pharmacy*[13] provides medical students with a carefully written and condensed account of the drugs, chemicals and compound preparations of the *British Pharmacopoeia*, together with the diagnostic characters important for the recognition of the official drugs. Information as to the actions and uses of the drugs is given briefly, and various useful tables are incorporated in the volume. It may be recommended to those in search of a short handbook on the subject with which it deals.

Professor FISCHER, of Cincinnati, is known to pathologists in this country as a keen and original worker on the vexed question of the cause or causes of oedema. His recent book, entitled *Soaps and Proteins*,[14] is mainly an interesting study in colloid chemistry as applied to substances of these two classes, together with an account of the manufacture of soap considered from what may be called a colloid point of view. He remarks that oedema should be treated by giving salt but withholding water, Widal and his theory of *déchlorinisation* to the contrary notwithstanding. The book is well written, and should be of interest to chemists and to chemically-minded medical men.

---

[9] *Die Röntgendiagnostik der Magenkrankheiten.* By Drs. M. Faulhaber and L. Katz. Halle a. S.: Carl Marhold. 1922. (Med. 8vo, pp. 112; 51 figures, 2 plates. M. 17.)

[10] *Radioactivity and Radioactive Substances.* By J. Chadwick, M.Sc., Ph.D. With Foreword by Sir E. Rutherford, D.Sc., LL.D., F.R.S. London: Sir I. Pitman and Sons, Ltd. 1921. (Pott 8vo, pp. viii + 111; 32 figures. 2s. 6d. net.)

[11] *Practical Physiological Chemistry.* By P. B. Hawk. M.S., Ph.D. Seventh edition, revised. London: J. and A. Churchill. 1921. (Med. 8vo, pp. xiv + 675; 192 figures, 6 plates. 24s. net.)

[12] *Simplified Infant Feeding, with Eighty Illustrative Cases.* By R. H. Dennett, B.S., M.D. Second edition, revised and enlarged. Philadelphia and London: J. B. Lippincott Co. (Med. 8vo, pp. 391; 14 figures. 21s. net.)

[13] *Materia Medica and Pharmacy for Medical Students, with an Appendix on Incompatibility.* By R. R. Bennett, B.Sc.Lond., F.I.C. London: H. K. Lewis and Co., Ltd. 1921. (Fcap. 8vo, pp. 287. 7s. 6d. net.)

[14] *Soaps and Proteins: Their Colloid Chemistry in Theory and Practice.* By M. H. Fischer, M.D., with the collaboration of G. D. McLaughlin and Marion O. Hooker, M.D. New York: J. Wiley and Sons, Inc. London: Chapman and Hall, Ltd. 1921. (Med. 8vo, pp. 481; 114 figures. 4 dollars.)

British Medical Journal.

SATURDAY, FEBRUARY 18TH, 1922.

THE GEDDES REPORTS.

TAXPAYERS will probably have read with a certain sense of disappointment the interim reports* of the Geddes Committee appointed "to make recommendations to the Chancellor of the Exchequer for effecting forthwith all possible reductions in the national expenditure on supply services, having regard especially to the present and prospective position of the revenue." They will observe that the total reductions recommended amount to less than a fifth of the amount raised by the income tax alone, an amount greater than the whole revenue before the war, and that as to over two-thirds of the reductions, they are to be made in respect of two services only—defence and education, if, following the advice of the Committee, the Navy, Army, and Air be reckoned as one service. They will reflect that these services, probably the most influential, will fight tooth and nail in defence of their estimates, and they will note that on the very day the reports were published the Admiralty did in fact put out a memorandum the aggressive tone of which would appear to be approved by Mr. Churchill. In justice to the Committee it must be recollected that the instruction it subsequently received greatly limited the very wide terms of its original reference. It was told that national expenditure must be diminished by 175 millions, that in response to the Treasury circular of last May the departments had made reductions amounting together to 75 millions, and that it remained for the Committee to find ways of cutting down expenditure by another 100 millions. The reductions proposed by the departments themselves, it is pointed out, were not for the most part due to more economical administration or to curtailment of activities, but were, in fact, automatic and attributable to the fall of prices and wages, to windfalls, or to the cessation of special expenditure on services arising out of the war. The task of the Committee, coming in after full advantage had been taken of these circumstances, was therefore the more difficult. Taxpayers may find further justification for pessimism in a remark made about the Army and Air Force, but of general application; should the departments, it is said, act with energy the savings noted can be made or even exceeded, but "if delay occurs in giving effect to such of our major suggestions as the Government may approve, the saving cannot be realized in the coming year."

Another point which should be noted, since it throws light on the attitude of mind in which the Commissioners have approached their task, is the reluctance expressed in several places, chiefly in relation to scientific research, with which recommendations for reductions are made and the reasons given for making them. It is shown first with reference to the scientific services of the navy, where it is said: "We feel that if the country could afford it, probably the whole of the expenditure would be justified, but we are of opinion that in present circumstances some reduction must be made." Something of the same kind, but in even more sympathetic terms, is said with regard to certain public health services — tuberculosis, maternity, and child welfare are specified. "There can be no question," the Committee reports, "as to the merits of the objects to be attained; there has, however, been a very large increase in this form of public expenditure since 1918–19, and, while we do not recommend reductions in this expenditure, we do feel that, having regard to the present financial position, the State's contribution, next year at any rate, should not be above the figure provided for the current year." The hope is indeed expressed that with falling prices and the greatly increased incentive to economy the local authorities "will be able still further to increase their beneficial work." The incentive to economy is the substitution for the percentage grant of a lump sum. The Committee condemns the system of the percentage grant even more strongly in its application to education than to public health. Under it the contribution of the State is a percentage of the total expenditure of the local authority. The vice of the system is declared to be that the local authority "which alone can really practise economy . . . loses much of its incentive to reduce expenditure, especially when the larger proportion is paid by the taxpayer through the Exchequer." There is no doubt much to be said for this, although the difficulty of fixing the lump sum is admitted. A capitation system is suggested. We could have wished the Committee had applied the principle to the University Grants; here a lump reduction from £1,500,000 to £1,200,000 is suggested, and the second report seems to imply a still greater reduction. It is to be feared that the appeals of the universities to which we have recently given publicity will be of little effect.

The recommendation which the Committee itself considers the most important of all it makes is that the Army, Navy, and Air Force should be brought together under one Minister of Defence, responsible for seeing that each force plays its part and is allotted appropriate responsibility for carrying out various functions. The Committee is of opinion that complete co-ordination in supply, transport, education, medical and other services would then be possible, and is sanguine enough to believe that no additional expense or extra Ministerial appointment need be involved, as the Minister and his staff could all be drawn from existing organizations.

With regard to the medical services it expresses the opinion that very heavy avoidable expenditure is involved in the maintenance of separate medical services of the Navy, Army, and Air Force, but seems to rest the case for unification—a favourite remedy of some reformers—mainly on what it regards as the need for a reduction in the number of army hospitals and their concentration. It recommends the mutual use of army or naval hospitals, whichever be the more economical in any particular area, and also that disabled war pensioners should be admitted into the military and naval hospitals indiscriminately, hoping in this way to effect a saving in the hospital charges of the Ministry of Pensions. We have no doubt that economy would result from the mutual use of hospitals where naval and military forces are stationed together—as, for example, Portsmouth and Devonport in England, and Malta and Gibraltar overseas. It would be difficult, however, to establish an organization by which the hospitals in the large military centres, such as those at Aldershot and Salisbury Plain, could be made available for naval sick; or, on the other hand, by which the sick from these military centres could be treated in naval hospitals at Gosport or Devonport. In the large centres of military and naval activity, therefore, it seems certain that little, if any, advantage could be gained by the mutual use of military and naval hospitals. It is otherwise with the smaller centres, and in seaport towns such mutual use has for long been practised. Economy in this direction,

* First and Second Interim Reports of Committee on National Expenditure [Cmd. 1581 and 1582, pp. 172 and 113]. To be obtained through any bookseller: H.M. Stationery Office. (Price 4s. and 3s. net respectively.)

however, is likely to be most effective at the naval and military stations of the Crown Colonies, such as Gibraltar, Malta, Singapore, Colombo, and Hong Kong, and not in the United Kingdom. We are afraid that when the matter comes to be looked into the recommendation for a drastic reduction of army hospitals will not prove as easy or effective as it may seem at first sight. It is true that the number of beds in time of peace is about 7,000, and that only 2,000 of these are constantly occupied, but the total is made up of numerous small local hospitals at regimental dépôts, which are more of the nature of detention wards; trivial cases are treated in barracks under what is called barrack hospital treatment. When this change was made the policy was adopted of concentrating in central hospitals, if necessary at some distance from the barracks, those cases which required serious hospital treatment. Under the advice of the Army Medical Advisory Board this policy of concentration of army hospitals had before the war become the recognized policy of the Army Council.

The chief questions, however, that arise in considering a unified medical service for the Forces are those which concern unity of command, autonomy of the medical services, and their training; closely allied to these are the preparation of the medical services in peace for their duties in time of war. There is still a tendency in the lay mind to regard medical services as concerned with the treatment of diseases and injuries only, whereas it has only been by long and careful preparation, organization, and training that the medical services in war have been able to cope with the varied and manifold duties thrown upon them. The question arises how in a unified medical service the preparation, training, and organization for duties with the navy and for duties with the army are to be distinguished. The requirements are different, and, if in this respect alone, it is to be expected that a cleavage into naval and military medical services would be experienced soon after the creation of a unified service.

But, while it is not quite clear to what extent a unified medical service and the mutual use of naval and military hospitals would result in a real economy or would be free from the danger of inadequate preparation of the two services for war, there can be no doubt that the vacant accommodation in the larger military hospitals might be made available for patients at present admitted to hospitals of the Ministry of Pensions. The admission, however, of disabled war pensioners indiscriminately to military hospitals opens up the question whether, for example, treatment in any but specialized and organized hospitals for the orthopaedic class or the neurological class of pensioner would be for the benefit of the men. From the financial aspect alone it will be asked whether the policy proposed might not lead to such a prolongation of invalidism as to minimize to a great extent the economy effected by closing down hospitals of the Ministry of Pensions. The answer to this is that sections of existing military hospitals could be organized in the same way under specialists; but it would have to be shown that there is accommodation constantly vacant in the larger military hospitals. The smaller military hospitals of 10, 20, or 30 beds would be useless for the purpose, and there are only some ten army hospitals which on a peace basis of equipment have 200 or more beds each, and only seven with less than 200 but over 100 beds. By far the greater number of military hospitals are small garrison or dépôt hospitals. With the present number of patients under treatment by the Ministry of Pensions, therefore, the Committee's proposal does not seem feasible from the point of view of accommodation alone, irrespective of specialist treatment.

There is one point which must not be overlooked; it is probably the most important of all. A unified medical service for the Forces cannot be worked unless there is unity of control. The mutual use of hospitals will not achieve such a purpose; and there is nothing more liable to lead to friction, incompetency, and disaster than dual control in the same sphere of activity. It is needless to recount examples of this. They are written large throughout the pages of history; and unless all the services are united under one Ministry, with one head of its medical department, dual control will be the inevitable and disastrous result.

The section of the report dealing with National Health Insurance begins by pointing out that the estimate for 1922–23, though over a million less than that for 1921–22, is more than twice the expenditure for 1914. Of the million saved nearly the whole is attributed to the reduction in the capitation fee accepted by the members of the medical profession working under the insurance scheme. The Committee, after noting this patriotic act, goes on to point out that the State has progressively accepted additional burdens and additional costs and has not reaped any benefit from the windfalls which accrued to the funds of approved societies as a consequence of the war. It recommends that such burdens should be transferred to the insurance organizations, where they might be compensated for by improvement in the actuarial position; it also advises an increase in contributions to meet the additional costs of medical and other benefits now borne by the State in excess of its proper share of two-ninths. It advises an increase in the weekly contributions of employer and insured person by ½d. in each case, and the Ministry of Health is understood to have in hand a bill to authorize this. The general effect of putting into force the suggestions enumerated would be to relieve the taxpayer and saddle the insured person and employer with the cost of any additions to the original scheme. The tendency has been, whenever any extension or improvement was introduced, to meet the cost by an additional grant from the Exchequer. This apparently must now cease. The probability is that if the approved societies undertake increased monetary responsibilities they will be less amenable to those State restrictions which they accepted more or less meekly when accompanied by financial help. The position is one which the medical profession will have to watch.

Two other specific economies are discussed in this section of the report. In a passage dealing with the medical referee consultants they are spoken of "as to some extent a luxury," costing, on a reduced estimate, £85,000 a year, though it is hoped to recover £7,500 from the societies by way of fees. No doubt it is true that the insurance system could get on without the referee consultants, but if by speaking of them as a luxury it intended to convey that they are unnecessary, or that in the long run their abolition would be a saving, the dictum is open to serious question. The suggestion that the societies might revert to the old plan of employing their own referees will not be well received by insurance practitioners, who found the old plan very unsatisfactory and a source of continual friction. Almost from the commencement of the insurance system the profession, through the British Medical Association and later through the Panel Conference, urged that independent referees were needed, and since the appointment of the regional officers the referee system has worked very smoothly. It will, we believe, be a mistake to revert to the old system. The Committee also proposes that the index clearance branch, costing £30,000 a year, should be abolished. At the commencement of the system the duty of furnishing to doctors correct lists of the insured persons for whom they were responsible was placed on the Insurance Committees. These were supposed to get their information from the approved societies, but they proved totally incompetent to provide it. After experience

of several years, during which there was exasperation on the part of Insurance Committees and doctors who found themselves credited with a smaller portion of the Central Pool than their inflated lists seemed to justify, the Index Clearing Branch was set up, and has done good service. It has reduced the inflation considerably, but has not nearly finished its work, and if it is dropped much of the inflation that has been cleared up will return. The Branch may not be absolutely indispensable, but its loss will be a doubtful economy, as the old complaints will be bound to recur, and no business man could be in favour of the exceedingly inaccurate lists which have formed the basis of the grants from the Central Pool to the insurance areas. In fact, if it were not for a belief that the inflation was pretty generally and equally distributed the position would have been intolerable.

The paragraphs of the report dealing with the medical side of the Ministry of Pensions are inconclusive. At present the Ministry has 14,000 beds, which is much less than the demand originally made. The number of beds occupied on June 30th, 1921, was 11,600, but the Committee thinks that though the accommodation is being steadily decreased more rapid progress in this direction is desirable. It reverts to its proposals to make use of the naval and military hospitals, and suggests that the fullest possible use is not being made of civil hospitals.

In the SUPPLEMENT for this week will be found a detailed analysis of the report, which contains an immense amount of information with regard to national expenditure not easily to be obtained elsewhere.

CAESAREAN SECTION.

IT is satisfactory to find that the *Journal of Obstetrics and Gynaecology of the British Empire*, which passed into a state of suspended animation during the war, has been resuscitated. That its second lease of life promises to be at least as vigorous as its first is evidenced by the fine double number recently published, and we are glad to take this opportunity of congratulating the editors. Practically the whole of this double number is devoted to the subject of Caesarean section, and the collected papers and reports form a highly valuable contribution to the obstetric literature of the period. The papers which were read by Professor Munro Kerr and Mr. Eardley Holland at the Newcastle meeting of the British Medical Association are reprinted here in full from our columns;* and as the editorial staff of the BRITISH MEDICAL JOURNAL gave the editors of the sister journal special facilities, we may well feel that we have some little share in the success of this new number of the latter.

No subject in obstetrics or gynaecology is being more written about and discussed at present than Caesarean section. This is partly a direct outcome of the "boom" in popularity from which, we think we may quite legitimately say, the operation is "suffering." In part it is a manifestation of the beginning of a reaction against certain excessive tendencies which have been showing themselves. The psychology of the collective mind of the profession is too complicated for us to try to determine precisely why this rush of popularity should have occurred exactly now. Doubtless the publication of Amand Routh's collective statistics in 1911 drew widespread attention to the amazing character of the progressive improvement in the prognosis for both mother and infant that was being achieved in connexion with the operation; and since then the widening of the relative indications for the operation has assuredly added vastly to the interest surrounding the subject. No longer is it a desperate remedy in certain cases of contracted pelvis or of labour obstructed by tumours; Professor Munro Kerr discussed more or less fully a round dozen of indications at Newcastle, ranging from those mentioned above, through eclampsia and *ante-partum* haemorrhage, to prolapse of the cord. The indications were derived from an analysis of 4,197 cases of Caesarean section by British and Irish obstetricians between the years 1911 and 1920 inclusive. This analysis has been very carefully and profitably carried out by Mr. Eardley Holland and the statistical data are of the greatest value, providing as they do a means of studying the place which the operation holds at the moment in this country.

The double number we are considering affords the reader an almost complete survey of the present position. Indeed, it is, in many respects, like reading the report of a full-dress debate on the subject. In Mr. Eardley Holland's collective statistics, and in the numerous reports of individual cases by different operators, we have a large mass of valuable material provided for discussion. Again, we have the argument in favour of the progressive widening of the indications for Caesarean section ably stated by Professor Munro Kerr, while the negative is equally ably argued by Dr. Blacker. We would not be misunderstood in expressing matters thus, because while Professor Munro Kerr is avowedly anxious to see the technique of the operation so improved, and the mortality so diminished, that the indications for the operation may indeed be widened, he is, at the same time, clearly cognizant of its limitations. Similarly, Dr. Blacker, while making a very urgent plea for the better recognition of these limitations, is very wide awake to the unrivalled value of the operation within certain limits. The burden of Dr. Blacker's argument is what we believe all obstetricians of mature judgement have been feeling for some time—namely, that the very ease and safety of Caesarean section under modern conditions is leading to its abuse. It is an easier operation to perform than almost any other operative method of delivery save low forceps; it is rapid; and, lastly, it is showy. Hence the danger of its coming to be regarded as a sort of panacea for all obstetric ills. That this tendency is not confined to this country is obvious from the best American literature on the subject. In his recent monograph on Caesarean section Dr. Franklin Newell, Professor of Clinical Obstetrics at Harvard, writes: "The increased success which has attended the performance of Caesarean section as an operation of election instead of as an operation of last resort has led to its employment in many cases, to the exclusion of methods of delivery better suited to the needs of the given patient, until at the present time it is the most abused obstetric operation, being performed by comparatively untrained surgeons on patients who present no real indication for it, under conditions which render it an exceedingly dangerous procedure. It is not at all unusual at the present time to see patients who have been subjected to Caesarean section for no apparent reason, as far as physical examination shows; and the only logical conclusion seems to be that the operative indication has been a slow, though normal, labour, which the attendant has hastened to end in the manner easiest for himself though often not best for the patient. The increasing safety of abdominal surgery, combined with the fact that the operation is much easier to perform than any but the easiest obstetric operation, has caused a loss of perspective, and to-day there is no question but that Caesarean section is one of the most abused operations in surgery. . . . I am convinced that Caesarean section as performed by local operators in small communities for the indications furnished by the local practitioner of obstetrics is one of the most fatal of surgical operations."

This is a sweeping indictment, and we are glad to think that it is probably not, or at least not so widely,

* BRITISH MEDICAL JOURNAL, October 1st, 1921, p. 516.

applicable to conditions of practice in this country; but that the temptation to perform an easy, quick, and dramatic operation, instead of following the safer and better, but more difficult and more tedious path of ordinary obstetric methods, is being yielded to by men in this country, and amongst them "experts," is evident to anyone who cares to read this double number. Uterine inertia, abdominal pain, epilepsy, hydramnios, hydrocephalus, varicose veins, neglected transverse presentations!—the mere mention of these conditions as indications for Caesarean section is enough to show that the operation is indeed being abused here and now, and that there has already developed that lack of perspective to which Professor Newell refers. It suggests, to quote the words of an eminent and experienced obstetrician in this country, that "the art and science of midwifery have either been lost by the younger generation in this country or will certainly be lost if this mad rage for Caesarean section is continued." The next quinquennium, before another collective analysis of statistics is made, might very profitably be devoted rather to consolidating the ground already won than to trying to gain more ground—to an endeavour to demarcate clearly the precise limitations of the operation in connexion with the various indications rather than to widening these indications.

This is not the place to discuss seriatim the points at issue between Dr. Blacker and those who are pursuing the "mad rage" for Caesarean section, but his main contention stands unchallenged—namely, that up to the present in connexion with a number of possible indications the Caesarean operation does not show an improved mortality as compared with the older and more tried methods of treatment. In many cases Caesarean section affords a better outlook for the child, and this is all to the good; but we must never lose our sense of the proportionate value of maternal life as compared with foetal life, and only in the most exceptional circumstances is it justifiable to expose the mother to an increased risk in the interests of the unborn child.

One of the most important points brought out in Mr. Holland's statistics, and in a paper which he read before the Royal Society of Medicine and now reproduces, is the very real nature of the risk of rupture of a Caesarean section scar during a subsequent pregnancy or labour. Mr. Holland's investigations lead him to put this as a 4 per cent. risk, and that is a figure which calls for very serious consideration. Some individual operators can, of course, show a clean sheet so far as this risk is concerned, but their records are of less value than a collective record such as Mr. Holland has made, where the individual element can be excluded. After all, wisdom and asepsis do not dwell exclusively with individual operators, and the personal element in a one-man series is apt to be misleading to all others except the individual operator himself. We know of one great hospital in this country where 4 cases of ruptured Caesarean scars have been seen since the collection of Mr. Holland's statistics. Many women have been operated upon repeatedly by Caesarean section, some as often as six or seven times without disaster, but that only serves to emphasize the truth of the general statement—"Once a Caesarean, always a Caesarean." This, again, is a point of the utmost weight in considering the place of the operation in regard to such relative indications as placenta praevia, eclampsia, and so forth.

The main causes of rupture of the Caesarean scar appear to be infection of the uterine wound during healing, imperfect methods of suture, and improper suture material. Professor Munro Kerr has some hope that the use of the lower segment incision will abolish, or greatly diminish, this risk. Certainly, that area presents anatomical and physiological features which, theoretically at least, should make for better healing than the upper segment. So far only one case of rupture of an old Caesarean scar in this site has been reported. The operation is rather more difficult to perform than the classical method, and in only a very limited number of cases has the operation been done by this route in this country. It is too soon, therefore, to draw any conclusions as to the safety of this method of operating from the point of view of subsequent rupture.

In regard to the question of indications, there appears to be a general consensus of opinion against eclampsia as being a good indication. Emphasis is being more and more placed where it ought to lie—namely, on the importance of prophylaxis. It rests with the women of this country, as well as with the medical profession, to make eclampsia all but an extinct disease. It is wholly a matter of education as to simple routine measures, but where eclampsia has occurred the pendulum seems to be swinging in favour of non-interference, and this must be regarded as a particularly interesting phenomenon when we bear in mind both the modern placental theories as to its etiology and this modern enthusiasm for Caesarean section. Placenta praevia provides grounds for more divergence of opinion. There is an apparent disregard of the child's chances in the employment of internal version—more apparent than real, it is true, when regard is had to the probable prematurity of the child and the risks of its death from placental separation. From the point of view of the child, Caesarean section is incomparably the best method of treating a placenta praevia, but where there is any balance between the child's life and its mother's, opinion in this country will never hesitate to favour the mother. In this connexion Dr. Blacker's paper calls for careful study. We are in complete agreement with him that Caesarean section must not only hold out a better chance for the child, but it must offer at least an equally good chance for the mother before it can claim superiority over old and tried methods of treatment.

EPIDEMIOLOGICAL INTELLIGENCE WORK.

WHEN the mortality, or prevalence, of an epidemic disease has passed definitely above the endemic level, but before the whole extent of its ravages has been made manifest, it is natural to attempt some forecast of its effects. The question may therefore be put, whether in the present state of knowledge any forecasts better than mere guesses can be made in the case of influenza. As we have had occasion recently to recall, Dr. Farr attempted more than once to place epidemiological forecasting on a sound theoretical basis. Farr used two methods, each of which postulated a certain functional relation between the logarithms of the numbers of cases, or deaths, recorded in successive intervals of time. The first of these methods (that alluded to in the article published on January 28th) imposed a symmetry upon the evolution of an epidemic, and, as Dr. Brownlee has pointed out, must be regarded as at least a first approximation to the "law" of various epidemic diseases. The second method, used by Farr in the case of the cattle plague of 1866, did not involve a symmetrical evolution but led to a curve for which a biological foundation would be hard to find. Merely as instruments of practical forecasting, neither method is of much service in the study of influenza. Thus, to take the case of London, we pointed out that if the four weeks beginning with that ending on December 24th were taken as a basis, Farr's first method would require 678 deaths in the week ending January 21st and 616 in the following week, figures very wide of the truth.* The second method is no more successful. It does, indeed, predict the next figure (that for the week ending January 21st) very closely, requiring 451 deaths, where 443 were actually

* Owing to an arithmetical slip, we gave the "calculated" figures for the weeks used as 54, 238, 342, and 557: these should have been 53, 156, 342, 557; the observed values were 54, 151, 354, 551.

recorded. But it forecasts 154 for the week ending January 28th, when the real figure was 320. The explanation is, of course, that the postulated "laws" are only two of myriads of arithmetical relations which might be tried and that there is no particular reason why they should succeed in this case. The touch of genius in this work of Farr's is not the particular formula but the scientific imagination which recognized that we do have to deal with an orderly phenomenon and may hope to describe it. Since Farr's time we have learnt a good deal about the types of function which describe epidemiological statistics—Professor Karl Pearson, Sir Ronald Ross, and Dr. John Brownlee have taught us much. But it is still true that to adapt the constructs of any of these investigators to the immediate purposes of the forecaster—that is, to "fit" the curves when only a portion of the frequency is known—is not yet practicable. We have therefore to fall back upon the legal method of searching out a precedent, the course taken by the Ministry of Health in their statement to the press where it was remarked that the current epidemic had affinities with that of the spring of 1895 in London. Let us now see how far this precedent is of service. That epidemic began in February, 1895; in successive weeks from the second week of February the numbers of deaths registered under the heading influenza were 13, 24, 111, 296, 473, 349, 225, 116, 63, 46. Returning now to our basis of 54, 151, 354, 551, is there any affinity between the two cases in the matter of rate of increase? We note at once that 111 bears nearly the same proportion to 296 that 54 bears to 151, and a somewhat higher proportion than 151 to 354, while 296 is in almost the same proportion to 473 as 354 to 551—namely, as 1 to 1.6. A first suggestion, then, is to multiply all the weekly totals of the 1895 epidemic by the ratio of 551 to 473, and to take these products as the prediction. This will give us, comparing the "calculated" with the known figures, 28, 129, 345, and, of course, 551, against the observed values of 54, 151, 354, and 551. Excepting the figures which must agree, these values are uniformly too small, so that a correction of the order of 10 per cent. suggests itself. Making this addition, one has for the forecast approximately 450, 290, 150 for the weeks ending January 21st, January 28th, and February 4th. In these weeks the deaths actually recorded were 443, 320, and 191. The agreement is not very close; it appears that the tailing off of the present epidemic is more gradual than that of 1895, but it will be admitted that for practical purposes the result is not unsatisfactory, and it has the merit of being a genuine prediction, not, like so many prophecies, made after the event. It is, we think, quite obvious that epidemiological prediction must be guided by local precedents; that, so far at least as influenza is concerned, no universal arithmetical formula will be of service. Thus, to take only one example, the evolution of the epidemic in Newcastle-on-Tyne, where the successive weekly deaths from the week ending January 7th have been 5, 23, 82, 74, 42, has been quite different from that of London. A striking feature of the present epidemic has been its relatively greater intensity in the north-east of England and in Scotland. The maximum of the wave has also been reached later in the north, but we can hardly attribute the extra severity to the delay, because in the third wave of the 1918–19 pandemic northern England was much more severely visited than the south, but reached its maximum no later.

INFLUENZA.

THE Registrar-General's returns and such information as we have received from our correspondents suggest that, unless some abrupt change occurs, the epidemic will follow very much the course we indicated as being probable some weeks ago. So far as London is concerned, the epidemic has in fact been on similar lines to the outbreak of 1895. In Scotland, however, and the north-east of England (as noted above), the outbreak has been more serious and of the same order of severity as the third wave of the great pandemic. The world distribution of influenza cannot yet be accurately reported, but so far as present indications go, this recrudescence seems to be mainly confined to Europe. In Scandinavia influenza became epidemic in the cities early in January. At Copenhagen there was an increase of notifications from 63 to 129 in the last week of 1921, then 845, 5,845, 8,896, and 7,955 were recorded in successive weeks. Stockholm reported 42, 259, 410 in the first three weeks of January. Notifications in Switzerland amounted to 136 in the week ending December 24th, to 872 in the next week, and then to 2,668, 4,106, and 6,343 in the following weeks. Of course notifications have no value as exact records of epidemic prevalence, but they serve to indicate the trend of events. We have no German statistics, but the epidemic is said to have been widespread and severe in the south of the country. We referred to the newspaper reports of influenza in Berlin some weeks ago, and have received no later information. In France the worst period is said to have been the ten days before January 20th. There is also evidence of epidemic influenza in Holland and Belgium; it is said to be of a mild type. An extremely interesting point is the epidemic position in the United States. It will be remembered that early in 1920 influenza appeared in the great American cities, and a considerable epidemic was experienced. The Ministry of Health issued a warning here, but, although there was a quite appreciable increase of deaths attributed to influenza and of notified cases of pneumonia, the increase reaching a maximum at the end of March, and although in certain institutions definite epidemics occurred, the population as a whole was hardly affected. The statistics of the same cities between the beginning of November, 1921, and the last week of January, 1922—that is, during the period of maximum prevalence in western Europe—show no trace of epidemic influenza, but we understand from a press telegram that in the first week of February there has been a large increase of reported cases in New York. It remains to be seen whether on this occasion America will enjoy the relative immunity which Europe experienced in the winter of 1919–20, or whether there has merely been a delay in the passage of the wave. We have seen no reports from India upon which any conclusions can be based, and influenza is not said to be epidemic anywhere in China.

VOCATIONAL SELECTION IN INDUSTRY.

THE importance of the principle of vocational selection in industry has long been realized in America, and we are gradually awaking to it in this country, but so far any practical application of the principle has been very haphazard and fragmentary. We therefore welcome the publication of Report No. 16 of the Industrial Fatigue Research Board, which is entitled "Three Studies in Vocational Selection," as it gives us an insight into the kind of observations which ought to be made in the selection of candidates for an industry, and some measure of the probable value of the tests employed. The first study, by Mr. B. Muscio, concerns the psycho-physiological capacities required by the hand compositor. At present the choice of an apprentice to the printing trade is usually made on the strength of a few inadequate tests as to his powers of reading, writing, spelling and grammar, and it is generally admitted that the procedure is unsatisfactory. It is said that many boys become apprenticed who are totally unfit for the trade, and that as their period of apprenticeship is extremely long (seven years), it is specially important that, so far as possible, only boys with a natural aptitude for the occupation should be selected. In order to ascertain what qualities make for a successful printer, Mr. Muscio applied a series of carefully-thought-out tests to groups of twenty-five compositors and determined the correlation between the skill they showed in performing these tests with their skill in composing. The grading of the compositors in order of merit was undertaken by the overseers, and the correlation coefficient between this grading and the ability of the men in the three most suitable tests tried by Mr. Muscio came to 0.71 in one instance and 0.80 in another (perfect correspondence yielding a coefficient of 1.00 and total lack of correspondence one of 0). There can be little doubt that if candidates for apprenticeship were

made to perform these tests a considerable insight into their natural aptitude would be obtained, and the poor performers could at once be weeded out. Selected apprentices, it is suggested, should be made to perform these and other tests at yearly intervals, as further insight into their abilities would thereby be yielded; we are not clear what action it is thought might be taken after this later information has been obtained. The second study deals with the measurement of physical strength in 2,300 youths ranging in age from 13 to 20. They were tested by Martin's method, which has obtained a considerable vogue in America. Its aim is to determine the strength exerted by the subject in resisting a pull on certain groups of muscles, such as the pectorals, the forearm flexors, and the abductors and adductors of the thighs; the combined pull of these muscles was considered to afford a reliable index of muscular strength. About half of all the observations were made by one investigator, and half by another, and it was found that at each age group the test showed a 10 to 20 per cent. larger value at the hands of one investigator than at those of the other, though both of them tried to apply the test in exactly the same way. It follows, therefore, that the test is unsatisfactory for general use, and Mr. Muscio is of opinion that a much simpler and more reliable indication of general strength is afforded by the determination of the strength of grip (by means of a Smedley dynamometer), and combining it with the weight measurement. The third study, by Mr. Eric Farmer, describes the correlation in the proficiency with which girls could pack sweets, and certain physical measurements, such as span of hand and length of reach. As might be expected, the correlation was not large, though it did exist. Proficiency for the most part depends on other factors which cannot be obtained by physical measurement.

THE INVENTOR OF DOVER'S POWDER.

AMONG the members of our profession who have had a life of adventure—and there are many of them—few names are more familiar in our mouths than that of Thomas Dover (1660–1742), who, as Dr. J. Venn[1] pointed out in his series of "Academic Sports," took his B.A. at St. Mary's Hall, Oxford, and the M.B. from Caius College, Cambridge, and became a captain in a buccaneering expedition, in which capacity he in 1710 rescued Alexander Selkirk, whom Defoe made immortal as Robinson Crusoe. Eventually Dover began the practice of medicine in London, where he became known as "the quicksilver doctor" on account of his cure for asthma and many other ills—namely, "an ounce of quicksilver daily to be taken at what hour the patient pleases, and a spoonful of the gas of sulphur in a large draught of spring water at 5 o'clock in the afternoon and at bed-time." In his well known collection of biographical essays, *An Alabama Student* (1908), the late Sir William Osler gave an attractive account of this "physician and buccaneer," with many details about his popular work, *The Ancient Physician's Legacy to his Country*, "designed for the use of all private families." To the February number of *The Bookman's Journal and Print Collector*, which we are given to understand is the only periodical in the world devoted exclusively to the collecting of books and prints, Dr. Philip Gosse, the son and grandson of leaders in literature and zoology respectively, contributes a brightly written sketch of Dover's adventures as a pirate, based mainly on a rather rare book, *A Cruising Voyage Round the World*. This book was begun in 1708, and, according to the title-page, contains "Remarkable transactions as the taking of Puna and Guayaquil, of the *Acapulco* ship and other prizes: an account of Alexander Selkirk's living alone four years and four months on one island, etc., etc., 1721," by Captain Woods Rogers, who commanded the expedition of two ships—the *Duke* and the *Duchess*—fitted out by the merchant adventurers of Bristol at the instance of William Dampier, the famous circumnavigator, freebooter, naturalist, and hydrographer. Dampier, then 56 years of age, went as pilot, and Dover, who was practising in Bristol, was chosen as second in command, not because he had any knowledge whatever of the sea or ships, but, strange as it may seem, on account of his bad temper; for it was shrewdly argued by the merchant adventurers, who were financially interested in the expedition, that Dover's vile temper would render him so unpopular that he would not have any followers should he attempt to break away from the main party—a danger that had led to the failure of previous expeditions in which a popular second in command had been persuaded by a discontented party to go off on a separate cruise. As may be imagined, the voyage was not free from quarrels over the distribution of the spoils. After sacking Guayaquil the English sailors stored their plunder in the churches and spent the night there to guard it, but their sleep was much disturbed by the smell of corpses recently buried as the result of an epidemic of "plague." Next day they returned to the ships, but within forty-eight hours 180 of the crew of one ship were down with the plague; here Dover stepped in and ordered the ships' surgeons to bleed every sick man to a hundred ounces, and to give large draughts of dilute sulphuric acid; it is recorded that this drastic treatment was justified by the recovery of all but eight patients. Dr. Philip Gosse concludes his interesting note with the remark that "Harley Street might be searched to-day from end to end and not such another found." This no doubt is true.

[1] J. Venn, *The Caian*, 1907, xvii, 32–42.

THE BEGINNINGS OF A CULT.

DISCIPLES of Sir J. G. Frazer and readers of the chapter on the cult of Asklepios in Dr. Farnell's Gifford Lectures of 1919 (recently published) may like to be referred to an account in George Calderon's fascinating book on Tahiti of a visit to a Tahitian village doctor. Calderon's native friend, Amaru, who had a sore throat his wife could not cure, arranged that he and Calderon should go together to get a remedy from a famous native doctor or Tiurai (Tahu'a Ra'au, literally priest) who lived in a village at some distance. As they approached the village at dusk they met a tall thin man walking rapidly in the opposite direction; this was the Tiurai, who had been giving consultations since early morning and had left his remaining patients in order to have a talk with a friend and rest himself. Amaru and Calderon sat down on the grass under some trees, where others who were waiting joined them. Presently the Tiurai returned, and, going into a yard at the back of his house, sat down cross-legged on a coco-nut leaf; he wore a hat with a kerchief over his head like the camail of a helmet. The company sat round on tree trunks in a big ring, and the scene was lighted by a lantern on the ground. The first case was a baby, whose mother, a girl of 17, had, it was suggested, been guilty of some imprudence of diet. The father and grandfather told the tale of the illness, the Tiurai listening, exclaiming from time to time E pa'i (yes, yes). His manner was gay and debonair, and he made comments from time to time; others offered explanations, and all were in good spirits, amused by Tiurai's witticisms. He did not look at the patient, but told the father, who must himself make the medicine, to get some nono fruit and the midriff of a particular leaf, and boil them in water from a coco-nut no longer young; the father was made to repeat the instructions, and the family started off on its long journey home. Then Amaru described his sore throat and how he got it; without looking at it the Tiurai told him to mix a little wine with brown sugar and hot water in a bowl, to inhale the vapour and throw the liquor on the earth. All this Amaru did when he got home, and his sore throat was cured by the first inhalation. The Tiurai received no fees, rarely even presents; he was supported by his relatives. He is described as a lean, active man of sixty, but having the look of thirty, with a keen clever face. He was remarkable also as the only celibate among the Tahitians. One native doctor does not teach another; most villages have someone who advises the sick; and now and again a man of strong character earns general respect and becomes known far and wide as a healer. The Tahitians are an indolent people and

seem to have little recollection of their ancestors. It is easy to conceive that with a quicker-witted people disposed to ancestor worship such a life as that of the Tiurai described might easily become the basis of a cult. Dr. Farnell's view is that Asklepios was a man who, after his death, was remembered as a great healer, who then had a place among the heroes, was next worshipped as a god, and finally looked on as one of the chief of the gods. It is interesting, at any rate, to hear of the practice of a kind of incubation in Tahiti. Patients who went to the shrines of Asklepios were directed to sleep with an ear to the ground, when the earth god would tell them what to do to be cured. The term "incubation" is derived from incubare, to lie upon anything, and in classical times was used in the particular sense of lying on the ground in or near the temple of the god, in the expectation of receiving a message from him. Calderon tells of an old woman of another Tahitian village who was regarded more or less as a witch, but had a certain reputation as a healer. She did not see the patient, but divined who it was and from what he suffered; she cast herself down on the ground and had communion with the spirit of her own dead child. Calderon was only a few months on the island, and though he made a special study of the language his acquaintance with it was necessarily limited; moreover, he explains in several places how difficult he found it, owing in part to the frequency of adoption, to get a clear idea of the relationships recognized by the Tahitians. Possibly, therefore, the old woman was listening for an earth spirit, as did the Greek and Latin of old.

AN HISTORICAL DOCUMENT.

WHATEVER be the fate of the recommendations of the report of the Geddes Committee—and it must be admitted that from the taxpayer's point of view the omens, for the reasons given elsewhere, are not at present good—it will be recognized that, taken together, the first two parts now issued form a document of immense interest to readers to-day, and one to which the historian will turn to learn how Great Britain faced the aftermath of the great European war, provoked by the German Emperor and his advisers. Into less than 300 octavo pages the Committee has compressed a mass of financial statistics which could only have been brought together with the ready assistance of the Treasury. Moreover, before making its recommendations the Committee had consultations with all the departments so far dealt with. These departments are responsible for over 400,000 millions out of the huge total of 500,000 millions the ordinary supply services have asked for next year. Readers will find a careful analysis of the recommendations with regard to medical matters made by the Committee, and its reasons, in the SUPPLEMENT for this week, but the taxpayer who really wants to understand the whole situation will procure the volumes themselves.* The Committee laments the loss of Treasury control over all departments, and perhaps its most immediately practical recommendation with regard to public health and education is that the percentage grant system—a system under which the State repays a proportion, usually a large proportion, of the expenditure of local authorities on certain services—should be abolished. The Committee rejects the argument that the system stimulates the authorities to improve the efficiency of their services, and declares it to be "a money-spending device." The suggestion is that percentage grants should be replaced by fixed grants or grants based on some definite unit. The analysis, in the SUPPLEMENT, will be sufficient to convince the impartial student that the medical profession has no need to fear the verdict of the historian, who will observe the ready consent of the profession to a reduction in the capitation fees paid to it under the Insurance Act, amounting altogether, in round figures, to one million a year. He will note also the tenderness and evident regret with which the Committee advises that there should be no increase during the coming year in the cost of such medical activities as are concerned with maternity and child welfare, the prevention of tuberculosis, and of venereal diseases, and with the welfare of the blind. Incidentally our imaginary historian will note the curious fact that of the five members of the Committee, three, including the chairman, are or have been concerned with railway management, and two with shipping. He will note further that two of the members are Peers and only one (the chairman) a member of the House of Commons.

* First and Second Interim Reports of Committee on National Expenditure [Cmd. 1581 and 1582, pp. 172 and 113]. To be obtained through any bookseller; H.M. Stationery Office. Price 4s. and 3s. net respectively.

"BIRTH CONTROL" IN AUSTRIA.

THE laws of Austria have hitherto declared abortion, attempted or performed by any person, whether medical or non-medical, a crime, unless proof was produced that the prospective mother was suffering from a condition which, according to the recognized rules of medical science, would be seriously aggravated by completion of pregnancy. The issue of the *Journal of the American Medical Association* of January 21st contains a note from its Vienna correspondent, who states that the socialistic parties have now obtained great influence and that one of their doctrines—that a control of births is very necessary—has been embodied in a bill introduced by female and male members of the National Assembly. The main feature of this bill, he says, "is the proposition that abortion before the completion of the third month should be free from law restriction if performed by a duly qualified medical person, and if the mother consents to the operation." Persons who attempt to induce abortion without the consent of the mother are to be punished, as is a woman who tries to induce abortion after the third month; it is to be a criminal act also to induce abortion with the consent of the mother before the completion of the third month, without the aid of a medical practitioner. The whole bill is framed in a way to enable any prospective mother to get rid of the foetus at an early stage of development, and casts upon the medical profession what looks very like an obligation to procure abortion at the mere request of the mother. It is therefore rather surprising to find our contemporary's correspondent commenting favourably on the proposal. He goes on to say: "It must be admitted that the adoption of this bill would mean a real relief for numerous hard-working, ill-fed women who at present, under the most unsocial conditions of housing, or rather overcrowding and semi-starvation existing here, must regard their eventual pregnancy as a serious danger and severe accident, for which the above law would be the only remedy. Of course, the old moral principles do not yet find their way to consent to this novel departure of the law; still it emanates from a real feeling of responsibility on the part of the politicians who have drawn up the report recommending the adoption of this bill as an advance in social development." It is curious to find that in Austria methods for the control of conception, about which there has been so much publicity in this country, should seem to be entirely disregarded in favour of abortion.

THE HALF-YEARLY INDEXES.

THE usual half-yearly indexes to the JOURNAL and to the SUPPLEMENT and EPITOME have been prepared and are now ready for issue. They will, however, not be circulated with all copies of the JOURNAL, but will only be sent to those readers who ask for them. Any reader or subscriber who wishes to have one or all of the indexes can obtain what he wants, post free, by sending a postcard notifying his desire to the Financial Secretary and Business Manager, British Medical Association, 429, Strand, London, W.C.2. Readers wishing to receive the indexes regularly, as published, should intimate this desire.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

Asylum Administration.—Mr. T. Thomson asked, on February 9th, whether, in view of difficulties in securing some of the evidence necessary to enable the Departmental Committee of the Ministry of Health to investigate completely charges made as to the treatment of asylum patients, Sir Alfred Mond would reconsider the desirability of recommending the appointment of a Royal Commission with full powers both of investigation into the present system and a recommendation as to the future treatment of all types of mental disorder. Captain Loseby asked a question on the same subject. Sir A. Mond, in a written answer, said that the question of the appointment of a Royal Commission was under due consideration. It would, however, necessarily involve a long delay before any practicable steps could be taken, and would postpone reforms which by general agreement he hoped might be introduced at an early date. In view of the necessity for an expeditious investigation into the allegations made by Dr. Lomax he had appointed a Departmental Committee. He was informed that neither of the medical members was, nor had been, associated with any asylum maintained out of public funds, nor was it correct to say that the chairman was in any sense a representative of the system criticized. He feared that it was impossible for him to obtain the services of any expert who had not already shown interest in Dr. Lomax's criticisms. He regretted that Dr. Lomax was not prepared to substantiate before the Committee the charges he had publicly made, and that the National Asylum Workers' Union had refused to defend their members against Dr. Lomax's charges; but he could not admit that either Dr. Lomax or they were entitled to dictate the composition of any tribunal or inquiry on the issues raised, for the appointment of which the Minister was solely responsible.

Medical Service at Willesden.—Mr. Gillis asked, on February 9th, whether Sir Alfred Mond was aware that the private medical practitioners of the Willesden district were attempting to bring professional pressure to bear upon the medical staff of the Urban District Council of Willesden, with a view to causing the cessation of the medical service that had been provided for the public by the district council; and whether he proposed to take any steps to protect the interests of the medical staff and to secure the continuation of those necessary public medical services which were so popular with the public. Sir A. Mond, in a written reply, said he had been in communication with the Willesden Urban District Council and the British Medical Association in regard to the medical services provided by the council, but he was not aware of any professional pressure being brought to bear on the council's medical staff by private practitioners in Willesden.

Disabled Ex-Service Men.—Mr. G. Barker, on February 9th, asked a question as to the large proportion of disabled ex-service men who came upon the local rates owing to their pensions being insufficient to maintain them. The Minister of Pensions replied that disablement pension was granted as compensation for disablement by injury or disease sustained in war service, and the amount of the pension was regulated solely by the extent of the disablement as assessed from time to time by a medical board with regard to medical considerations alone. Such factors as wages, earning capacity, employment, or unemployment were expressly excluded, with the approval of Parliament, from consideration for pension purposes under the Warrants and Regulations. Provision for the relief of distress caused by unemployment was made through other departments. Captain Loseby suggested that full disability pension might be given to men whose disability was 50 per cent. or more, and whose unemployment was obviously partly contributed to by that fact. Mr. Macpherson said he thought that would work in the long run adversely to the pensioner, because at present if a man had a disablement of 100 per cent. the department did not interfere, even though he were drawing £5 per week.

Housing Statistics.—Sir Alfred Mond, in answer to Mr. T. Thomson, on February 9th, said that the total number of houses completed by local authorities and private builders under schemes of financial assistance up to January 1st was 102,480. In addition 3,150 other dwellings had been provided by the conversion of houses into flats or by the conversion of huts or hostels. The number of houses in course of erection was 85,892, and the number not yet started was 29,778. The lowest prices approved for houses recently had been £433 for a non-parlour house with two bedrooms, £450 for a non-parlour house with three bedrooms, and £500 for a parlour house. The Government could not extend financial assistance to housing schemes beyond the limits announced last session.

Coroners and Juries Acts.—At the instance of Mr. Percy, on February 9th, Mr. Shortt said he hoped shortly to bring in a bill to continue the Coroners Acts, 1917, and so much of the Juries Acts, 1918, as related to coroners.—On inquiry by Mr. Walter Smith, on February 14th, whether the experience of coroners in holding inquests without juries had proved efficient and satisfactory, and whether steps would be taken to continue this method, Mr. Shortt said it was intended to introduce a bill on the subject at once.

Criminal Law Amendment Bill.—The text of the Criminal Law Amendment Bill, introduced by the Home Secretary last week, has not yet been printed. It is based on the Bishop of London's bill, which in the final stage near the close of last session had to be abandoned on account of differences between Lords and Commons on amendments, there not being time to consider the subject further.

Paris.

(From our Correspondent.)

INAUGURAL ADDRESS BY PROFESSOR E. SERGENT.

NEVER has the "Grand Amphi" of the Paris Faculty of Medicine, which, notwithstanding, has had a long experience, seen such a crowd as on January 12th. It came to hear the inaugural lecture of Professor Emile Sergent. The dean, Professor Roger, and the new teacher had to fight their way to their places, and the official procession had to submit to breaking the rules as to the compression of bodies. The enthusiasm of the audience for a long time prevented the holder of the new chair of clinical propaedeutics[1] from beginning his address. The plaudits could be heard a long way off. It was not only that the students acclaimed a sympathetic teacher, it marked the beginning of the break up of the archaic system which has hitherto governed the selection of our professors.

M. Sergent, physician to the Hôpital de la Charité, is well-known by his work on syphilis and tuberculosis, on calcium metabolism, and in particular on adrenal insufficiency in infectious diseases. But, as he reminded us in this opening lecture, he had been an unsuccessful candidate at the examination for the position of associate professor (*professeur agrégé*). Professors have hitherto always been elected, by the Council of the Faculty, from among the *papabiles*, the sacrosanct body of *professeurs agrégés*. Now to the very same hall, in which he had suffered a check which had seemed to shut against him the gateway to a teaching appointment, M. Sergent returned clothed in the professor's red robe. The Faculty had broken with tradition, and had appointed him by a vote for which there was no precedent. What do the present *professeurs agrégés* think of it? If the possessor of that title is no longer to be a member of a close corporation the desire to obtain the title will quickly disappear. It is indeed to be hoped that in future the barrier between the Faculty and the men whom circumstances have kept away from the competition should not be insurmountable. It is to be hoped that in France, as in England, a man who has done good work may be able to obtain a teaching post.

The Académie de Médecine.

M. Sergent has, therefore, broken a record. It is not his first achievement of the kind, for in 1919 he was elected a member of the Academy of Medicine by a unanimous vote. Similar unanimity may be found to exist in the same assembly when Madame Curie comes up for election. I have already explained the position about this, and it appears that after a short discussion at a meeting of the Academy of Medicine, the principle that she might be elected was established by a sufficient majority, and the assurance is given that in face of this vote on the matter of principle, the other candidates will retire, leaving the field free to Madame Curie. An unforeseen and happy action of the salts of radium, that of opening the door of the Academies of France to women.[2]

PATHOLOGY OF INFLUENZA.

Professor Letulle has just communicated to the Academy the results of his investigation of the pathological anatomy of recent epidemics of influenza. The interesting point is the confirmation of the fact that the fatal pulmonary complications are not due to lesions of the nature of pneumonia. M. Letulle states that little foci of pulmonary necrosis occur around the bronchioles, and produce small abscesses; this observation is held to explain the rapid evolution of the disease to a fatal termination. Professor Besançon states that in the present epidemic patients have passed through the three usual stages—coryza, bronchitis, and pleuro-pulmonary manifestations—but adds that the latter seem to be less serious than on previous occasions. Nevertheless the number of cases is still large, although the hospitals which had made special arrangements to receive influenza patients have not had to put them in force. No relation can be traced between the hospital statistics and those of the big administrations, such as the postal services and the banks, the normal working of which has occasionally been affected. On the other hand, a parallelism is now, as always, to be traced between the

[1] Propaedeutics is "the body of principles or rules introductory to any art, science, or subject of special study; preliminary learning."—*The New English Dictionary.*

[2] On February 7th Madame Curie was elected *membre associée libre* de l'Académie de Médecine by 64 votes and 15 "bulletins blancs." There was no other candidate.

importance of the paragraphs that the daily newspapers devote to an epidemic and the wish of the workman to give himself a little additional holiday. It would be interesting to compare the percentage of cases of influenza among employers and employees.

ANGLO-FRENCH RELATIONS.

We have been much interested by the formation in London of an International Society of Hydrology. Many members on our side of the Channel have joined it, for we joyfully take every chance of creating new ties between the nations. This week we have had the privilege of receiving Sir Almroth Wright at the meeting organized on the occasion of Dr. Netter's retirement from the Hôpital Trousseau. Sir Almroth Wright made a speech in French which went to our hearts. We have had also the pleasant surprise of meeting in Dr. Babinski's clinic that great friend of the whole Parisian medical profession, Sir StClair Thomson.

New South Wales.

OUTBREAK OF PLAGUE IN SYDNEY.

SOME weeks ago a number of plague-infected rats were taken from a steamer which had arrived from Brisbane, where plague had been known to be in existence for some weeks previously. Strenuous efforts were put forth by the Sydney Board of Health to secure the destruction of the rats on the wharves and foreshores. A few infected rats were subsequently found in a warehouse in Sussex Street, but for some time past no infected rats have been found. However, last week a case of suspicious illness was reported in a man who had been at work in the neighbourhood of the premises on which the infected rats had been found. This was subsequently proved to be plague, and the patient died at the Coast Hospital. Two days ago another case was reported, and this, too, has been proved to be one of plague. The Federal Health Authorities have declared Sydney an infected port; they are fumigating ships on their entry, and are supervising the loading of all cargo, excluding any that is rat-infested or is considered likely to contain rats. There is also a medical inspection of all people on board immediately before a vessel leaves port. The last outbreak of plague in Sydney was in 1900.

REGISTRATION OF MIDWIVES.

Several deputations waited on the Minister of Health recently offering certain suggestions with regard to the registration of nurses. The Council of the New South Wales Branch of the British Medical Association urged the registration and Government control of midwives. Dr. Fourness Barrington, the President of the Branch, contended that the maternal mortality was higher in New South Wales than in any other State of the Commonwealth. The statistician's reports showed that the mortality from puerperal fever and accidents of childbirth was 5.7 per 1,000 registered births, and in the metropolitan area it reached as high as 7 per 1,000 registered births. The registration and supervision of midwives was also necessary because a considerable number of confinements in New South Wales were in the hands of untrained midwives, and a proper registration and supervision of these midwives would result in a greatly reduced mortality rate. In reply, the Minister promised that in the Nurses' Registration Bill, which he still hoped to introduce in Parliament this session, he would endeavour to incorporate as far as possible the suggestions of the deputation.

A NEW HOSPITAL BILL.

The Minister of Health informed a deputation which waited on him recently that the Hospital Bill which was being drafted would provide that each worker could be called upon to pay 3d., each employer 3d., and the Government 6d. per month, and that each local district would have the power to impose this tax. He thought that such a measure as this would ensure that no one could escape paying his fair share towards the running expenses of the hospitals. Public charity could still be exercised in the direction of donations or bequests for extensions and improvements.

THE USE OF WHITE LEAD FOR PAINT.

A lengthy inquiry was recently held by the New South Wales Board of Trade into the question whether white lead as used in the painting industry is so injurious to painters or other workmen engaged in this industry that it is expedient or necessary to regulate, restrict, or prohibit its use in paints. The Board concludes that white lead is a substantial cause of injury and death in painters and others engaged in the painting industry. Although the number of actual deaths from lead poisoning is not large, yet the amount of illness attributed to it is considerable. The attack rate among painters is not known, but among the miners at Broken Hill it has been found that in 9 per cent. of those exposed to dust containing lead sulphide and oxide the effects of lead poisoning have been marked. While the Board considers that determined action is demanded in the public interest, it does not feel justified in determining the details of the regulations on which the prevention of lead poisoning should be based. It, however, suggests that the regulations under the Factory and Workshop Act of Great Britain should be followed, such as the control of dust, the institution of periodical examination of workers, the suspension from the trade of susceptible persons and of those manifesting any of the early signs of lead poisoning, etc. While these and other similar measures must be applied to reduce the injurious effect of lead in the painting industries, the Board maintains that the damage caused must be measured and all the victims be adequately compensated.

England and Wales.

THE INFLUENZA EPIDEMIC AT MANCHESTER.

THOUGH influenza is still very prevalent in Manchester and the surrounding districts it is hoped that the crest of the wave has passed. The type has not been unusually virulent, but it has been serious on account of the large number of persons affected. In many cases whole families have been attacked, and business houses have been seriously depleted in numbers, whilst in some places work has been completely dislocated.

The present epidemic, when compared with the last serious visitation in 1918, shows a marked difference in mortality. This is due chiefly to the less fatal nature of the disease rather than a lower attack rate. Most of the deaths appear to have been due to pulmonary complications. The deaths in Manchester from influenza during the ten weeks ending February 11th were as follows:

For the week ending—	
December 10th, 1921	7
,, 17th, 1921	7
,, 24th, 1921	10
,, 31st, 1921	13
January 7th, 1922	27
,, 14th, 1922	34
,, 21st, 1922	52
,, 28th, 1922	37
February 4th, 1922	35
,, 11th, 1922	33

The ordinary uncomplicated case has shown the following features. The onset is usually sudden with an attack of shivering; with this is commonly associated headache, pains in the limbs or lumbar region, nasal catarrh and a sore throat. Sickness was fairly frequent and sometimes ushered in the attack, and a troublesome cough was often present; other cases started with giddiness or faintness, occasionally actual fainting. A second type was associated with diaphragmatic pleurisy, but effusion was rarely seen. A more serious variety was marked by generalized bronchitis with frothy or purulent sputum and high irregular temperature. In these cases the duration of the attack was about two to four weeks, and resolution was by lysis. A fourth and still severer type presented pleuro-pneumonia of lobar distribution, nearly always involving the lower lobe. Here again there was frothy or purulent sputum and the attack was of longer duration. The cyanosis, seen so commonly in a previous epidemic, was rarely observed in the present visitation. Cases of a puzzling type have been seen where the patient exhibited congestion of the throat, enlarged submaxillary glands, desquamation of the tongue with enlarged papillae, and a rash of the scarlet fever type on the chest and abdomen. This, associated with running from the eyes and nose, has led to extreme difficulty in diagnosis, and many cases have been sent to the Fever Hospital as scarlet fever.

Dr. Niven, the medical officer of health, has had to set aside a special isolation ward at the Fever Hospital for these cases of "scarlatinal influenza." The diagnosis can only be made by an expert, and then perhaps with difficulty. In

these cases the puncta of the rash are larger than in scarlet fever, their colour is dull, and the rash does not appear in the usual areas attacked by scarlet fever. The fact that desquamation occurs adds to the difficulty. These rashes are not usually seen in the severe cases of influenza.

The onset has generally been sudden, but the sensational accounts of individuals collapsing in the streets have been greatly exaggerated. Gastro-intestinal symptoms have not been common, and pneumonia appears to have been less frequent and less fatal than in previous epidemics, though bronchitis has been commonly found. If the individual has been able to go to bed on the first onset of the attack the results have usually been satisfactory and the temperature dropped to normal within the week. It is in patients who persist in working that fatal complications are to be feared. Many cases of the apparently mild type have been followed by severe constitutional weakness and marked depression lasting a week or two. In these cases convalescence is slow, and a slight cough often persists for some considerable time.

INFLUENZA IN LIVERPOOL.

Our Liverpool correspondent writes: The present epidemic of influenza, although widespread, is fortunately not so severe as was the case in November and December, 1918. Pneumonia of the septic type is not seen, and the majority of cases soon return to health. The onset is insidious, heralded by headache, suffusion of the eyes, and some photophobia. Faucial symptoms are characteristic and accompanied by cough, but there is no tonsillitis. Pains in the limbs are always present, and the sufferers express themselves feeling dead-beat, as if they had overtaxed their walking powers. Gastric symptoms have occurred, but are distinctly uncommon. The temperature varies from 101° to 103°, generally lasting three to four days, bronchial catarrh is present, and loss of appetite is quite a feature. Lysis terminates the majority of the cases, and convalescence is soon established. Skin rashes must be uncommon, for they have not been noticed by medical men who have had a considerable number of cases in their practice. It would appear that bronchitis and bronchopneumonia accounted for the deaths, many occurring in young adults and children of school age. The medical officer of health, Dr. Hope, had issued some time ago a memorandum on the subject of influenza which gave simple and straightforward instructions how to avoid the risk of infection and what measures should be taken if attacked. There is good reason for concluding that the public have profited by this advice, and have recovered from influenza without any special medical treatment. Nearly ninety of the elementary schools have been closed owing to the prevalence of the scourge. The mortality rate in Liverpool for the week ending February 4th was 38; for January 28th, 25; and for January 21st, 14. In the neighbouring towns of Birkenhead, Bootle, Southport, and Wigan an increase in the death rate from influenza has also been noted. The general impression among practitioners in the locality is that influenza is on the decline.

INFLUENZA IN NEWCASTLE-UPON-TYNE.

On January 4th influenza suddenly appeared in Newcastle and, after lasting till January 21st, it just as suddenly disappeared. As to how the disease reached the city it is impossible to say more than that it seemed to be part of a huge wave which passed northwards, through the Midlands, from the South of England. At any rate, the epidemic was at its height in London before it reached Newcastle and the large Yorkshire towns. Though its defervescence was sudden, it was fully ten days before things returned to the normal. During the period referred to the deaths from influenza and pneumonia were as follows:

Week ending:	Dec. 24.	Dec. 31	Jan. 7.	Jan. 14	Jan. 21	Jan. 28	Feb. 4.
Influenza	0	1	5	26	79	76	39
Pneumonia ...	6	6	21	23	54	57	37

When the epidemic was at its height the death-rate of the city was twice the birth rate. Instead of being one-half of the birth rate at this time of the year it was quadrupled. When the malady announced itself, Dr. Kerr, the medical officer of health, with commendable promptitude got the day and Sunday schools closed. Much good was effected thereby. He decided, and properly, that the schools should be closed at once as a preventive measure before infection spread. Children under 14 years of age, too, were excluded from cinemas. Child welfare centres were not closed, but their activity was diminished by preventing aggregation of mothers and children. Visiting days at the Royal Victoria Infirmary and the hospitals were stopped. In the early days of the epidemic, when there was a mild panic, the cry of the public was for freer ventilation of the tramcars and railway carriages. At first passengers did not object much to the draughts of cold air, but as time went on the call for fresh air and free ventilation became less clamant. The belief, too, had got abroad that it was the men who were engaged in outdoor work, such as policemen, tramcar conductors and postmen who suffered most, but facts did not support the contention.

So far as the influenza epidemic in Newcastle was concerned, it may be said that the germ was less virulent, that the malady affected individuals for a shorter time, that severity of the illness declining on or shortly after the fourth day, and that although attended by considerable physical weakness, yet the debility was much less than in the epidemics of recent years.

THE UNIVERSITY OF LONDON SITE.

The Provost of University College, Sir Gregory Foster, gave a lecture on the University of London, its history, present resources, and future possibilities, last week, in the course of which he touched on the question of the proposed new site at Bloomsbury. At present, he said, the University worked through thirty-six colleges, including twelve medical schools and five theological colleges. Excluding the hospitals, which were really the laboratories of the medical schools, the thirty-six colleges occupied 212 acres. In addition, 7½ acres were occupied by residential halls, and the playing fields extended over 215 acres. Altogether, the University at the present had no fewer than 21,000 students. Nobody made so absurd a proposal as to concentrate all this work on one site. The area the Government proposed to give would provide among other things a site for the central offices of the University and for the removal of King's College. The central offices at South Kensington were neither central nor adequate. With a senate house, central offices, King's College, and University College all established to the north of the British Museum, there would be the beginnings of a university quarter. King's College must at any rate be removed from its present cramped site, which did not allow it to extend in accordance with its needs. The scheme could be justified only on the ground that it would render increased educational efficiency possible; so-called economy was not a justification. At the meeting of the London County Council on February 7th, a motion from the Education Committee, advising the Council to press upon the Board of Education the desirability of carefully considering the large open area at Holland Park as the site of a new university quarter was opposed by Mr. Andrew Taylor, a member of the senate, on the ground that the site at Holland Park, which extended to sixty-eight acres, was too large for the purpose in view, which was merely to provide central administrative buildings, a convocation hall, and examination rooms. He urged further that it was too late to reconsider the Bloomsbury site, since the contract was signed; the Institute of Historical Research was already founded, and the building of another was in contemplation. From subsequent speeches by Sir John Gilbert and the Rev. Dr. Scott Lidgett it appeared that the Education Committee, while putting forward a recommendation in favour of Holland Park, agreed with Mr. Taylor's views, but that inasmuch as, in July last, the Council passed a resolution in favour of Holland Park, and had received only a formal answer from the Board of Education and no answer at all from the University Grants Committee, to which the recommendation had been forwarded by the Board, it was deemed to be the only dignified course again to press upon the Board the desirability of considering the Holland Park site for university purposes. On this understanding the recommendation was agreed to.

A KENSINGTON CLINIC.

We have received the following communication from Dr. Harold H. Sanguinetti, honorary secretary of the Provisional Medical Advisory Committee:

As is generally known, the Kensington and other divisions of the County of London Branch of the British Red Cross Society have developed clinics for the treatment of ex-service men with massage, electricity, radiant heat, and remedial exercises. Although, owing to the closing of the Fulham

Clinic, the Kensington division finds that its work for pensioners must continue for a further indefinite period, yet the executive committee recognize that within a comparatively short time there will not be enough of this work to justify the maintenance of the clinic, and they have, after consultation with some local representative medical practitioners, including the Mayor of Kensington, decided to open a clinic for the general public, members of which, however, will only be able to avail themselves of the services of the clinic on the recommendation of a medical practitioner. A medical expert in physico-therapeutics will be in charge of the medical and surgical side of the work, while the administration will be in the hands of the Kensington Division, B.R.C.S., who in professional matters will be assisted by an advisory committee of medical men. Fees will be charged on a graduated basis up to a maximum of 5s. per treatment, anybody able to pay more than this sum being ineligible for treatment at the clinic. The clinic was opened for civilians on February 3rd, the hours of attendance being from 2.30 to 9 p.m. At a time when the development of municipal clinics has aroused much opposition in the ranks of the medical profession it is to be hoped that credit will be given to the Kensington Division of the British Red Cross Society for its endeavour to further the interests of the general public, the medical profession, and the masseurs and masseuses. Moreover, some at least of the Provisional Medical Advisory Committee hope that this attempt of the B.R.C.S. to develop in conjunction with the medical profession a much-needed physical treatment centre may serve as an example of how clinics may most usefully be developed and suggest the solution of many difficulties now confronting the medical profession.

Orthopaedic Surgery.

The formation of a Section of Orthopaedic Surgery of the Royal Society of Medicine was celebrated by a dinner on February 7th, when Mr. E. Laming Evans, C.B.E., F.R.C.S., President of the Section, was in the chair, and between thirty and forty members and guests were present. Among the guests were Sir John Bland-Sutton (President of the Royal Society of Medicine), Sir Anthony Bowlby (President of the Royal College of Surgeons), Sir George Makins, Sir Arbuthnot Lane, Sir D'Arcy Power, Sir Thomas Horder, Sir Crisp English, Sir Harry Baldwin, Sir John MacAlister, and Colonel Pilcher, R.A.M.C. After the health of the King had been honoured Sir John Bland-Sutton gave the toast of the new Section, coupling with it the name of the President, who responded. The health of the guests, proposed by Mr. E. Muirhead Little, was acknowledged by Sir Anthony Bowlby, and several other guests made brief replies in response to the call of the President.

Local Hospital Committees.

In accordance with Lord Cave's recommendations, the Voluntary Hospitals Commission has taken steps to establish local hospital committees throughout the country. In many counties these committees are already at work and in others they are nearly complete. In only two counties has it definitely been decided not to establish committees. The Hospitals Commission desires to make it known that any applications for emergency grants required before the end of the present financial year (March 31st) should be made as early as possible. All applications must be made through the local committee for the area in which the hospital is situated. Hospital secretaries who are in doubt whether a committee has yet been established in their area should communicate with the clerk to the county council, or in the case of the larger county boroughs with the town clerk. The office of the Voluntary Hospitals Commission is at the Ministry of Health, S.W.1.

Central Midwives Board.

At the last meeting of the Central Midwives Board for England and Wales Sir Francis Champneys presiding, three midwives were removed from the roll, one was censured, and one severely censured. It was announced that Miss Paget and Dr. Jarvis had been re-elected to represent their respective bodies for the ensuing year. It was decided that the Chairman, Dr. Fairbairn, Miss Paget, and Miss Haydon should represent the Board at a conference with the Ministry of Health on the subject of the administration of drugs by midwives. The Board agreed to send copies of its resolution on this question, passed at the meeting of November 17th, 1921, to the Secretary of the Association of County Medical Officers of Health and to the Town Clerks of Hull and Birmingham, from whom resolutions had been received expressing disapproval of midwives having the power to carry and administer drugs containing opium.

Scotland.

Dr. J. P. Sturrock has been appointed a medical commissioner to the General Board of Control for Scotland, in succession to Dr. John Macpherson, C.B. He was appointed a deputy commissioner of the Board in 1914, and had previously acted as assistant medical officer in several district asylums, and as medical officer to H.M. Prison, Perth, and medical superintendent of the Criminal Lunatic Department.

The Influenza Epidemic in Edinburgh and Aberdeen.

Whilst the published statistics and the more or less official pronouncements on the epidemic of influenza would seem to indicate that the type of case is less severe than that met with in the 1918–19 visitation, the opinion of many general practitioners and hospital physicians who have been engaged in civil practice during both is that the present epidemic falls little short of the previous one in gravity, and actually surpasses it in extent. They point to the rise in the number of deaths due to respiratory and cardiac conditions which has accompanied the fatalities due to influenza and influenzal pneumonia, and they emphasize the instances in which whole households have been affected. Be that as it may, Dr. Maxwell Williamson, the medical officer of health, has said of the week ending January 28th:

"During the early part of the week the outbreak of influenza showed no evidence of abatement, and while the type of disease in general remained mild, there were a considerable number of cases accompanied by such complications as to necessitate removal to hospital. The reported complications consisted chiefly in pneumonia and acute bronchitis, and during the first few days there were a considerable number of deaths from these causes. These included 26 due to influenza, 38 to influenzal pneumonia, and 62 to pneumonia, some of which may have been due to influenza as a primary cause. During the latter portion of the week quite a substantial improvement has been manifest. The number of serious and complicated cases has daily showed a tendency to diminution. . . ."

In the following week, that ending February 4th, the improvement was continued. The total number of deaths, which had been 365 (or 45.1 per 1,000) fell to 321 (39.7 per 1,000); and the intimations of influenzal pneumonia, which had been 146, fell to 92. In the week ending February 11th the total number of deaths was 194 (23.9 per 1,000) and the intimations of influenzal pneumonia 41. On February 14th the prohibition regarding visitors at the Royal Infirmary and other hospitals was removed. In Edinburgh several different types were met with, including the classic, with high temperature, pains in bones and joints, and catarrhal states of nose, throat, and lungs; the gastric, with diarrhoea and symptoms suggestive of appendicitis; and the laryngo-pharyngeal, with little or no temperature, but with "pink eye" and middle-ear complications.

In Aberdeen the epidemic would seem to have been about a week later in reaching its height, for the medical officer of health (Dr. Matthew Hay) reported that for the week ending February 4th the notifications of pneumonia of influenzal or other origin had been 86 as compared with 58 in the preceding week and 31 in the third week of the year. The deaths from influenza and inflammatory lung troubles had been 59, 34, and 9 respectively. Young children and old persons had suffered most severely.

The Influenza Epidemic in Glasgow.

The outbreak of influenza in epidemic form commenced in Glasgow during the first week of 1922, and spread with such rapidity that within a fortnight its dimensions were considerable. It is now, however, quickly declining, and few new cases are reported. So much publicity has been given in the lay press to the alarming and devastating character of the epidemic, even to the quotation of figures for Glasgow and neighbourhood which are liable to be misleading, that it may be profitable to record shortly the nature and scope of the outbreak, supported by illustrative figures obtained from the Health Department.

The prevailing type has been mild throughout, with rapid onset of headache, backache, a varying degree of pyrexia, and slight catarrhal signs in the chest. The duration of attack has been short—a two- or three-day fever—but rather more prolonged when the catarrhal signs were more pronounced. There were practically none of the severe and rapidly fatal cases such as were frequent in the 1918–19 outbreak, and no cases were recorded in which the dreaded

"heliotrope" cyanosis appeared. Cases of the abdominal or gastro-intestinal type occurred, but were comparatively infrequent. A few cases have shown rashes which have so closely simulated those of scarlet fever and rose measles in particular as to cause difficulties in diagnosis.

As is usual during epidemic periods many cases of severe chill (with or without pyrexia), tonsillitis, laryngitis, bronchitis, or pneumonia have been erroneously labelled "influenza," sometimes by the doctor, at other times without his aid having been sought. It must be remembered, in considering the question judicially, that the prevailing climatic conditions have been such as would, apart from an epidemic, have caused a decided increase in the incidence of respiratory troubles. For these reasons it is obviously impossible to supply figures which will represent with accuracy the effects of influenza and its complications. It must suffice to quote composite figures which reflect the result of the epidemic on the regular statistics.

On the whole complications have been few, but an interesting occurrence might be noted in passing—namely, the infection in quite a number of cases of the accessory sinuses, or of the middle ear. The prevailing complications of the present outbreak have been respiratory in character, and the epidemic has been associated with a considerable amount of pneumonia, largely of the bronchopneumonic type, especially in the young and in the aged. Indeed, the pneumonia of the past few weeks may be regarded to a large extent as an exaggeration of the normal increase which occurs at this season of the year.

Figures obtained from the health authorities show that the general death rate reached its highest point during the week ending on January 21st, when the rate was 52.4 per 1,000. The following table shows the rapid ascent of the death rate to this exceptional figure and its subsequent more gradual decline. For comparison the rates are given for the corresponding period of the preceding year.

Death Rates—Glasgow.

Week ending	December		January				Feb. 4.
	24.	31.	7.	14.	21.	28.	
1921-22...	14.3	17.5	21.7	32.7	52.4	44.0	39.9
1920-21...	17.7	16 5	18.4	17.0	16.0	15.8	15.4
Total deaths 1921-22	275	350	422	678	1089	886	789

This increase in mortality rate was almost entirely accounted for by an increase in deaths from influenza, pneumonia, bronchitis and other respiratory diseases. A certain proportion also was the result of an outburst of measles, which meantime is prevalent in the city.

Noteworthy features of the epidemic period have been the comparative absence of fatal attacks in young adults, and the relatively high incidence of pneumonia in young children and in old people. This is strikingly illustrated in the accompanying table, which gives the age distribution of the deaths from respiratory affections (influenzal, pneumonia, bronchitis, and other respiratory diseases) during the three weeks when the epidemic was most prevalent:

Age Distribution.

Years:	-1.	-2.	-5.	-10.	-15.	-25.	-45.	-55.	-65.	Total.
Week ending—										
Jan. 21, 1922 ...	131	126	53	8	2	21	59	94	117	611
Jan. 28, 1922 ...	102	105	52	4	0	10	55	72	119	519
Feb. 4, 1922 ...	67	68	33	2	0	4	43	59	96	372

It is of interest to add that pneumonia was often further complicated by empyema, which was almost universally of a streptococcal character.

The figures representing the number of notifications of cases of pneumonia (acute primary and acute influenzal) from week to week reflect very accurately the epidemic wave:

For week ending	
December 31st, 1921	114
January 7th, 1922	138
January 14th, 1922	357
January 21st, 1922	644
January 28th, 1922	602
February 4th, 1922	394

Throughout the epidemic period a considerable strain has been imposed on hospital accommodation for the treatment of pneumonia, etc., and large numbers have been admitted to general hospitals and Poor Law institutions in various parts of the city. The Public Health Department in particular found it necessary to increase rapidly its own accommodation, until, at the height of the outbreak, the number of beds available for the treatment of pneumonia was 330, and we have it on their authority that all cases so severe as to require hospital care and treatment were admitted.

School Medical Work in Glasgow.

At the weekly meeting of the Glasgow Medical Lunch Club held on February 9th, with Dr. F. W. Martin in the chair, Dr. James Grant Andrew attended as the guest of honour. Dr. Grant Andrew has been a member of the Glasgow School Board and the education authority for ten years, and in his address to the club members he dealt with the medical inspection and treatment of school children in Glasgow. He contrasted the work of 1911, the year when medical inspection was first instituted, with that of 1921, showing its gradual development and increased scope during that period. He pointed out that the percentage of abnormal children—about 30 per cent.—was strikingly similar to that of ten years ago, and further that the defects in those children were practically the same as those noted in 1911. Not only so, but the proportions of these defects to the total were practically the same. Dr. Andrew then dealt with the advances in the work among mentally defective children. He stated that about 10 per cent. of Glasgow children required spectacles. With regard to general development he showed from statistics that neither in 1911 nor 1921 did the average of height and weight come up to the Anthropometric Committee's standard, which perhaps was too high. The treatment of necessitous cases had become a very important part of the work. In 1921 the following numbers were treated: Diseases of the ear, 1,858; diseases of the eye, 3,679; diseases of the skin, 9,542. Children were also treated for bronchitis, debility, anaemia, rickets, tuberculous conditions, etc. Further, 7,673 children received dental treatment. In reviewing the results of medical inspection and treatment during these ten years the lecturer stated that improvement in the condition of the school child was slowly but surely taking place. To some extent that improvement had been hindered by the war. The necessity for better housing and a purer air was still clamant, and he wished the corporation all success in their efforts to improve both conditions. The chief difficulty in the way of such improvement of the standard, both physical and moral, was the lack of money, which, in these days of national impoverishment and increased taxation, was proving an obstacle to further progress.

Edinburgh Victoria Hospital Tuberculosis Trust.

The annual meeting of the Edinburgh Royal Victoria Hospital Tuberculosis Trust was held on February 1st, with Sir Robert Philip in the chair. The annual report referred to the new Southfield Sanatorium Colony, the purpose of which was to provide accommodation for the more difficult type of tuberculous patients, who by reason of their special features and needs, did not readily find sufficient treatment elsewhere. Such cases were a source of anxiety and difficulty and needed special treatment or more expert guidance than most sanatoriums and hospitals were prepared to give. Already a number of patients with aggravated and distressing disease had been treated at the Sanatorium Colony, and were now on the way to recovery. The benefits of the Trust were open free to all suitable applicants throughout Scotland, but the management committee looked with special favour upon appeals on behalf of the households of ex-service men and women. It was stated that during the past fifty years there had been a progressive decline in the death rate from tuberculosis, and latterly the rate of decline had been accelerated, especially in Scotland. In the twenty-five years from 1890 to 1915 there was a drop from 193 to 111 per 100,000 for Scotland. Sir Robert Philip said that this was the thirty-fifth year in which the operations which were represented now by the Trust had been going on. Tuberculosis occurred in every class, but there were cases which did not come under the statutory possibilities of treatment, and for such cases the Trust had stepped in.

Aberdeen Medico-Chirurgical Society.

The members of the society met on January 19th, when a discussion was opened by Dr. George Williamson, Dr. J. F. Christie, Professor Marnoch, and Dr. George Rose, on that

part of the Hippocratic oath which reads, "Whatever in connexion with my professional practice, or not in connexion with it, I see or hear, in the life of men, which ought not to be spoken of abroad, I will not divulge, as reckoning that all such should be kept secret." There was a good discussion, in which some of the senior members of the Students' Medical Society, who had been invited to be present, joined. On February 2nd Dr. W. F. Croll gave an address, with lantern illustrations, on "Graphic methods as an aid to the diagnosis, prognosis, and treatment of cardiac affections." The subject was divided into (*a*) how the records are taken, (*b*) the normal records and their interpretation, and (*c*) graphic records of abnormal conditions. The address was followed by discussion.

Correspondence.

FATS AND GOITRE.

SIR,—In his lecture, "Fats in Relation to Goitre" (BRITISH MEDICAL JOURNAL, February 4th, 1922), Lieut.-Colonel McCarrison showed that, by his experiments on pigeons, he had established a relation between "fat-thyroid-iodine" balance and goitre. His well known experiments on himself and others in India indicated that intestinal bacteria are determining factors. Dr. Plummer, alluding to the latter aspect of the question, is quoted by McCarrison thus: "The relation of the bacterial flora to the available iodine would explain the geographical description of goitre." McCarrison apparently accepts this opinion; but notes in modification of his previous views that not the toxic agency of the bacteria, but the possibility that they may interfere with iodine absorption, would be a suitable hypothesis.

In this connexion it is worth remembering that whilst much is known of results of deficiency in diets of vitamins, little has been ascertained of the biochemical conditions favouring or impeding their formation in edible substances in nature, and of factors governing their utilization in the human organism; and that before commerce disturbed crude and long existing transport arrangements for interchange of land products, beri-beri was credited with geographical limits in India and Ceylon. The Agricultural Department of India has shown that plants may reflect in their chemical constituents the scantiness in certain soils of salts of importance to the human system—for example, phosphates; and, further, that plants produced in poorly aerated soils suffer from absorption of "toxic bacterial products."[1] Possibly, therefore, factors connected with vitamins which have yet to be traced will aid a comprehension of reasons underlying the geographical limits of beri-beri, which undoubtedly existed.

Similarly, the reasons for assigning to goitre geographical limits are incomplete. Formerly, soil and water were believed to be the guilty factors. To such possible links in causation or transmission are now added by McCarrison carefully proved data pointing to the necessity of study of the domestic habits, diet and environment of those affected, and the probably difficult task of identifying intestinal bacteria or protozoa peculiar to, or disproportionate in, the endemic localities. If recent work as to "glutathione" and chlorophyll indicates the advance line of thought in biochemistry, there must exist a far-reaching sphere for research in determining why, if excess of fats causes a relative deficiency of iodine, the prevalence of goitre therefrom should have geographical limits. Were it not so, McCarrison would have found Madras "Chetties" were object-lessons of his views.

It is evident if the inhabitants of areas where goitre is endemic are to receive the benefit of the years of persevering research by McCarrison, a stage has now been reached when laboratory experts should undertake field work hand-in-hand with local sanitary officials in the effort to determine the possibly varying factors of causation within endemic goitre areas. An investigation of a whole-hearted character would link up agricultural chemistry and biochemistry with sanitation more closely than hitherto; and, whilst the solution of the goitre problem might well be looked for, there could hardly fail to be accumulated a mass of practical facts of communal if not of national importance, which years of diffuse laboratory work might not attain.

There are several localities in England where such research could be undertaken. Thus, McCarrison states that "simple goitre is common in Oxford." The extent of prevalence in any part of the country is, however, a matter of surmise founded, as far as I can ascertain, upon clinical experience in public institutions and of practitioners, as contrasted with requisite house-to-house inspection. An approximation to results by the latter method is available from statistics compiled from records of a recruiting medical board in the Western Command in 1916. Of 7,404 men over 18 years of age, 27 were rejected solely owing to the bulk of the goitre with pressure symptoms. In the case of 202 others, the existence of goitre formed a contributory cause of unfitness. If, as stated by Osler, women are affected in the proportion of 6 to 8 of men, there should be no lack of material for investigation in certain areas near Chester, whence these men were forwarded for examination.—I am, etc,

W. G. KING,
Colonel I.M.S. (ret.).

Hendon, Feb. 10th.

[1] Report of the Agricultural Research Institute, Pusa, 1915-16, p. 87.

MENTAL HOSPITALS.

SIR,—I beg to assure you that this correspondence will cease, as far as I am concerned, with the following remarks upon one point, which I pray you of your humanity to pass. As far as I gather, the evidence is not yet judged to be conclusive as to the cause of the strange emptiness of beds in public mental hospitals—those 18,000 vacancies referred to by the Mental Hospitals Association and Dr. Octavia Lewin as existing in these sinister places. The conscientious reformers have surely grounds enough for letting an anxious public know that there is reason for fearing the worst. For the dread suggestion begins to take shape that the methods of Sennacherib, Genseric, and Attila, combined and brought up to date, have been employed in this gruesome business. It is lamentable that the parchmented commentaries of these and like great masters of the art of elimination should have been "spurlos verloren." Who can doubt that otherwise precious information as to their methods of creating and maintaining vacancies would have been bequeathed to us, thus furnishing a useful clue to our earnest reformers.

It is true that the documents might also have revealed the system adopted by those great social economists for removing councils for reform and predestined flagellators of the existing order; but "sauce for the goose is sauce for the gander." I would not have the watch-dogs of civilization miss any of the possibilities in this matter; therefore they should know that there is a further suggestion afloat which attributes the shortage in question to the adoption of the more subtle procedure which Bonaparte is (probably falsely) credited with having applied in order to save his plague-stricken troops from falling into the hands of the Turks on the retreat from Sant-Jean-d'Acre; this being brought up to date, of course, and thereby exhibited with more damnable art and deadliness. Lord only knows what those asylum doctors are capable of!

On the whole, this startling deficit in the balance-sheet of the unbalanced is perhaps rationally explained, as is done by the Board of Control in their seventh annual report, for the year 1920. Unfortunately this would appear to be amongst the governmental and public authorities which, together with individuals concerned with mental hospitals and the treatment of the insane, are—as may be gathered from the leading article in your last issue—anathema to the National Council for Lunacy Reform and the voltigeurs who flit around them. Far be it from me to quote a passage from this report bereft of its context, but it is clear that the 18,000 vacancies are present *and prospective*. Far be it from me, likewise, to refer a fellow creature to a Blue Book (to be purchased for 1s. 6d.) whilst Anatole France and other delectable Gauls continue to provide us with yellow books, even should the exchange turn against us.—I am etc.,

EDWIN GOODALL.

Cardiff City Mental Hospital, Cardiff,
February 13th.

SUICIDE IN BORDERLAND CASES.

SIR,—The question of suicide is closely bound up with the whole rationale of detention. The aim is naturally to secure the safety of the patient. But the point is to go a step further back and prevent the suicidal tendency. Far be it from me to encourage the throwing away of life with its myriad opportunities; especially since as we, children of a day, are so little able to estimate the full worth of what we throw away. To subject depressed cases to conditions infinitely more depressing seems to me the reverse of curative. Life

in misery does not appear to the victim worth preserving. It might almost be said that in some cases the severe regimen of mental institutions manufactures suicides.

From my position as medical adviser to patients drawn from quite a number of such institutions I have been impressed with the extreme sensitiveness of these patients to the taint connected with detention—a taint which is likely to cling to them through life, and even to prove a barrier to their returning to their former avocations. This stigma is stressed by the Lunacy Board, when it refuses to accept as evidence the testimony of one who has once been certified as to what befell him while under detention. In the absence of first-hand information secrecy reigns, and with it the encouragement of tyranny.

It is the easiest thing in the world to get a person into an asylum, and most difficult to get him out. The "delusions" alleged are often altogether harmless. The frivolous reasons for which people are in many cases committed are wellnigh incredible. The asylums receive all with open arms. Yet the board professes to be not only the protector of the helpless but the critic also of the grounds upon which they have been committed. When has the board ever invalidated a certificate drawn up on inadequate grounds or illegally obtained? Budgets of letters reach me continually from the friends of patients entreating for enlightenment as to how to get their relatives out or to prevent them going in. Thousands are consigned to asylums for no other reason than that no alternative place exists to which they might go voluntarily as to a harbour of refuge when but slightly unstrung. Professor G. M. Robertson admits that "there is nothing in the world to prevent the treating anywhere of those who do not need to be certified." But homes for such cases must be kept free from any link with the Lunacy Board, so that patients may not be afraid to enter them.

I have never proposed to do away with asylums. Everyone who can be proved to be dangerous or unfit to be at large ought, in my view, to be properly certified; and asylums ought to be kept for those only who are so certified. The section of the Scottish Act recommended by Dr. Robertson and Dr. Luke, which professes to evade certification, does not dispel secrecy, and is a serious menace to liberty. It permits absolute detention for six months on the sole authority of one doctor, without provision for inquiry or appeal.

I have followed the late Dr. Mercier in the conviction that the safest track to pursue in the study of aberration of the mind is to interpret the abnormal by the normal, and to carry out, in the treatment of unbalancement, the common-sense method of giving special attention to its beginnings, and adopting natural and cheering adjuncts to recovery—in lieu of the vacancy, repression and intimidation which are at present distressing features in many mental institutions.—I am, etc.,

February 11th. S. E. WHITE.

PREVENTION OF VENEREAL DISEASE.

SIR,—We are surprised that the letter published last week really contains nothing more than has frequently appeared in various journals and in Sir Archdall Reid's own book. However, there are so many deviations from accuracy that we should like to correct them, and in turn to ask your correspondents some questions which seem pertinent.

1. Your correspondents state that "the Royal Commission, in commending the National Council to the Government, commended itself." The National Council was founded in October, 1914. No member of the Royal Commission had any connexion with it until after the issue of their Report in 1915. Invitations were first extended to the ex-members of the Royal Commission in February, 1916.

2. They say that "lecturers of the National Council are forbidden to mention prevention." The instructions to lecturers on this point issued in 1919 are quite definite:

> "That while this committee does not recommend any change in the policy of the Council with reference to the use of prophylactic packets, they would urge that in the Council's propaganda more stress should be laid on local cleanliness immediately after exposure to the risk of infection." "Such preliminary cleansing could not be confused with treatment, nor does it absolve the person from seeking medical advice at the earliest moment."

The pros and cons of self-disinfection are freely discussed at all men's meetings, and questions invited.

3. Sir James Barrett's "magnificent success" is used in support of the policy of self-disinfection. Reference to Sir James Barrett's own account[1] will show this complete policy in Egypt with the addition, as one among many measures, of prophylactic packets in Cairo. He mentions Lieut.-Colonel Elgood's experiment in Port Said as follows:

> "(i) Rigorous repression of public indecency, unnatural offences, the suppression of pimps, the control of advertisements, and the restriction of the sale of alcohol. (ii) Continuance of the system of medical examination of prostitutes. (iii) Provision of ablution rooms and the supply of prophylactics. (iv) Moral and hygienic lectures, guides to meet trains, and the like."
>
> "With all these activities he gradually realized that venereal disease continued on a large scale, and he then followed the conclusion of the Cairo Committee and authorized the ablution tent plan. The result was that of 9,282 men who passed through the local rest camp 4,580 reported exposure, and there were only 13 infections."

Subject to correction by Sir James Barrett, we interpret the ablution tent plan as a system of disinfection by or under the supervision of trained attendants—a system, that is, which has frequently been decried by your correspondents as impracticable for the civil community.

4. "While the disease in the rest of the country had risen from 36 to 64, that in Portsmouth Town had fallen from 92 to 54, and in the area to 47." Sir Bryan Donkin and Sir Archdall Reid make much of the difference between the venereal diseases rate for the Portsmouth area and that of the United Kingdom in 1919.

Reference to the White Paper[2] from which they quote shows that the rate of 64 for the United Kingdom included Colonials, Royal Air Force, and all officers (even, naturally, those in the Portsmouth area), while the rate quoted for the Portsmouth area excluded these branches of the Service. It is, of course, well known that the Colonial rates were considerably higher than those of the British Army and loaded the United Kingdom rate unfairly. The rise in the rate for troops in the United Kingdom from 43 in 1918 to 64 in 1919 is easily explained by the importation of disease by troops returning from abroad. It is well known that, after the Armistice, the venereal diseases rate rose very greatly in the armies abroad. Further, in response to a request by the National Council for Combating Venereal Diseases, the army authorities made some efforts to retain for treatment men found to be diseased, and such retained cases must have been counted against a rapidly diminishing strength. Clearly the rate of 64 for the United Kingdom cannot be compared with those of 54.4 or 47.3 for Portsmouth and Portsmouth area. As has already been stated in Parliament, it is impossible to base any conclusions on rates in 1919 because of the very rapid movements of troops, into the country from abroad and out of the army on demobilization; the White Paper giving these figures appears to have been published solely in response to a demand by Lord Willoughby de Broke.

5. Your correspondents infer that Southampton was the main port of entry for troops in 1919. Our recollection is that in that year troops were sent home mainly through Folkestone and Dover, even in the case of troops from the East, who were demobilized at Marseilles.

6. They assert that the "ingenious statistician of the Ministry" supplied figures—(*a*) to the Interdepartmental Committee, (*b*) to Lord Sandhurst, and (*c*) continues to supply the National Council for Combating Venereal Diseases with its statistics.

As to (*a*), Lord Astor's report shows that the figures given were from a number of official sources; (*b*) we know, and it is strange if Sir Archdall Reid and Sir Bryan Donkin do not also know, that these figures neither originated nor were calculated by anyone connected with the Ministry of Health; (*c*) any statistics quoted by the National Council, when British, are from official records, but, whenever possible, on this controversial matter, they are taken from countries where the controversy does not exist, or from fresh experiences gained here among the civil population.

We should like to ask your correspondents for answers to the following questions:

1. Will Sir Archdall Reid publish what were the *total* admissions to hospital of venereal cases under his medical charge *before as well as after* he initiated his plan of disinfection at Portsmouth? Alternatively, can he say how many cases of venereal disease originated in his barracks before his method was introduced? Unless these figures are available there is no basis of comparison for those already quoted by him after his campaign commenced in 1917.

2. Will Sir Archdall Reid also indicate how many men from Portsmouth during the period of his experiment were admitted to other hospitals for venereal disease contracted while in Portsmouth, and how many consulted private practitioners, a course we *know* was pursued by some?

[1] Management of Venereal Diseases in Egypt during the War, BRITISH MEDICAL JOURNAL, February 1st, 1919.

[2] "Statement made by the Ministry of Health, with concurrence of the War Office, relative to Incidence of Venereal Disease amongst Soldiers in the Portsmouth Military Area and in the rest of the Country." 1920.

3. On what evidence is the statement based that throughout the Portsmouth area disease fell to "vanishing point"?

4. Can Sir Bryan Donkin and Sir Archdall Reid explain why the authorities of the European armies are still keenly exercised as to how the present high venereal rate can be reduced, when, according to them, methods of self-disinfection which they claim are effective were "quickly adopted" after 1906?

5. Why is it that, after six years of propaganda in Germany on the lines suggested by the Society for the Prevention of Venereal Disease, there is no indication of the disease having reached the "vanishing point" in that country, but there is an undoubted increase among juveniles?

6. Can Sir Bryan Donkin and Sir Archdall Reid explain why several medical members of the Royal Commission received no indication whatever of a desire to bring the question of self-disinfection in men before that body; and why if any medical men wished to do so, and felt it important, they did not carry out their duty and insist on the evidence being taken, when they were examined as witnesses?

7. Can Sir Archdall Reid explain why they ignore salvarsan treatment as a factor in the reduction of the venereal disease rate which is apparent in the army and navy statistics of all countries from 1913 onwards, but is claimed by them as entirely due to self-disinfection?

8. Are your correspondents willing to submit to the analysis and criticism of an independent statistical expert their figures in support of the statement that in India, Egypt, England, France, the Cape and West Indies, where methods of self-disinfection were adopted, "among the soldiers so instructed disease invariably fell to 'vanishing point'"?

9. What form of instruction for civilians does Sir Archdall Reid advocate, when 25 per cent. of the patients attending the clinic at the Lock Hospital have used the methods of disinfection advocated by the Society for the Prevention of Venereal Disease?

10. How do Sir Bryan Donkin and Sir Archdall Reid consider the civil population should be instructed—whether (*a*) by posters, leaflets, and handbills, displayed to the general public; or (*b*) by lectures and intimate personal instruction to all adolescents? If the latter, at what age should the instruction be given?

11. Do your correspondents advocate that every civilian should receive repeated personal instruction on the technique to be observed, and always carry on the person disinfectant outfits for emergency use?

Notwithstanding all Sir Archdall Reid finds to say in depreciation of the work of the National Council, it remains true that in those districts where its educational campaigns have been carried through, and where the treatment clinics are well and efficiently run, there is already evidence of a very definite decline in the incidence of new cases of venereal disease, partly, we believe, a natural fall due to the termination of the war period, to strikes and commercial depression, but partly also to a higher standard of public enlightenment and the abbreviation of the period of infectivity resulting from the modern method of treatment.

While we think it regrettable that Sir Archdall Reid and Sir Bryan Donkin find it necessary always to impugn the *bona fides* of those who have arrived at different opinions from their own, we share with them the desire they express for an inquiry; but we believe that the experience gained during the last five or six years in various parts of the world would enable several fresh methods to be adopted, and we should warmly welcome the appointment of a second Royal Commission to inquire as to what further steps can be taken towards the prevention and treatment of venereal disease. Such an inquiry would *inter alia* terminate this unfortunate controversy, which has, by dividing the forces and confusing the lay mind, certainly retarded in England the campaign against venereal diseases.—We are, etc.,

E. B. TURNER,
Chairman, Medical Committee, National Council for Combating Venereal Diseases.

CHARLES GIBBS,
Surgeon to London Lock Hospital and to Charing Cross Hospital.

London, W., Feb. 13th

SIR,—In your issue of February 11th I notice a letter from Sir Bryan Donkin and Sir Archdall Reid purporting to show that in my speech on November 14th, 1921, to the National Council for Combating Venereal Diseases I made "many misstatements and misinterpretations of facts."

I do not propose to make the same exorbitant demands upon your space. Their very long letter is nothing but a restatement, in their own partial way, of old facts. My speech was devoted to new facts. I gave figures and other evidence from many countries to prove my contention that, broadly speaking, wherever the policy of immediate self-disinfection had been actually tried it had failed. These facts they do not attempt to answer; the latest date I can find mentioned in the three and a half columns is February, 1920, and the great bulk of their remarks applies to their view, well known and often stated, of events in 1916–19.

In the final two lines of their letter they say that the National Council can easily prove its *bona fides* "by joining the Society for the Prevention of Venereal Disease in a demand for a public inquiry conducted, not by officials, but by men of independent standing." No one knows better than Sir Bryan Donkin the efforts which I have made in this direction, for it was with him that I had several interviews upon this very subject.—I am, etc.,

London, S.W., Feb. 11th. GORELL.

SIR,—There are one or two points in the letter by Sir Bryan Donkin and Sir Archdall Reid in your issue of February 11th from which I venture to differ.

In the first place the following sentence embodies a partial misstatement of fact, ". . . large bodies of Americans, Colonials and R.A.F. who did not belong to the British army, were not instructed, and were highly infected." This leaves the impression that no measures were taken to obviate the spread of venereal disease among the overseas troops. The area cited in the letter where these troops were located included practically all the Australians in England, and hence at least half of the "Colonial" troops referred to. Of the Americans I know nothing, but of the Australians I can speak with authority, because I was senior medical officer in different Australian Command Dépôts in that part of England from January, 1918, until August, 1919.

From 1917 until the Australians finally left England, what is probably the most thorough campaign against the spread of venereal disease that has ever been attempted on a large scale was successfully carried out in the Australian camps in this country. The measures included early detection of deliberately hidden cases, *early treatment*, and prophylaxis by the *compulsory* issue of disinfectants, accompanied by both printed and verbal instructions in their use to all men proceeding on leave, and, in addition, there were ablution dépôts in all the camps, and there were frequent lectures by medical officers on prophylaxis. The regulations governing this work were promulgated as orders, and as such were rigidly enforced. The carrying out of these orders was thus not left to the haphazard method of more or less voluntary and unofficial effort, which the writers indicate was in vogue in the British army. These regulations were, in my opinion, far more comprehensive, and therefore correspondingly more effective, than the efforts of Sir James Barrett in Egypt, about which the writers speak in glowing terms. I therefore presume it is through ignorance of the conditions existing among the Australians in England that they have not been quoted.

In the second place, they take exception to the use of the words "early treatment," which they define as "the equivocal teaching of delayed disinfection." No doubt this is a correct definition as regards their use in the British army, and as such I quite agree would certainly do more harm than good; but in the Australian army in England "early treatment" had a literal and very real significance, clearly differentiated from disinfection, whether delayed or immediate, and as such was a measure of proved value in cutting short the duration of an attack of gonorrhoea. The letter referred to below[1] indicates that "early treatment" according to the Australian definition consisted of much more than "permanganate of potash in pails and calomel cream in pots," and that the results obtained were surprisingly good. This early treatment was not left to the men themselves, but was carried out by specially trained orderlies under the constant supervision of a medical officer. In the light of the proof of the value of this form of treatment that we obtained among the Australian troops I cannot subscribe to the statement, "whenever and wherever the latter (early treatment) has been practised there has been relative failure."—I am, etc.,

P. A. MAPLESTONE, M.B.,
(Late) Major Australian Army Medical Corps.

Liverpool, Feb. 13th.

THE CURE OF CANCER.

SIR,—The conditions attached to the offer of rewards—now amounting to £50,000—to be given to anyone discovering a cure for cancer were that the remedy was not to be surgical in its nature, and that the discovery was to be made within

[1] Treatment of Acute Gonorrhoea: Massage-Pack Method. By J. P. Fogarty, M.C., Major A.A.M.C. BRITISH MEDICAL JOURNAL. March, 1919, p. 245.

the ensuing five years, the decision as to the efficacy of the remedy being left to the Royal Colleges of Physicians and Surgeons of London. The medical profession is, I believe, grateful to the generous donors, who have modified the conditions originally imposed, so that now successful cancer research workers may receive rewards so far as these funds go.

The donors made their gifts in the confident hope that the rewards would be earned. The conditions at first attached were such that it is all but morally certain that the donations would have lapsed. It is more than likely that the limitation originally imposed in regard to the method of cure would have militated against the acquisition of the reward. It is possible that in the course of investigation some fortunate worker may discover a method of arresting the development and extension of cancerous growths without actually finding a means of eradicating them; an inquirer whose work led to this would be immortalized, and, although deserving of the highest reward, would have had no claim for any part of the gifts under consideration. The introduction of a time limit to the discovery of a cure was another serious drawback to the proposed reward.

In a morbid process so protean in its nature and so shrouded in mystery as cancer it seems problematical if anything would be achieved by the empirical use of one remedy after another in search of a cure, though it is just within the range of possibility that some such remedy may be found by a stroke of luck.

It would be a more promising investment as regards discovering a remedy to make all such gifts to cancer research institutions with well-founded reputations, such as the laboratories in the Middlesex Hospital and the Cancer Hospital, the funds so allotted being used in any way the directors of these institutions considered best. Those who have devoted a good part of their lives to the investigation of all phases of the cancer problem are more likely to know the most useful way of using such funds. Perhaps an increase in the number of cancer research scholarships is one direction in which further hope lies. It would appear that if ever a cure is found for cancer it will only be by patient and persevering inquiry carried out probably over a long period. Another means of helping in the finding of a cure would be that of giving prizes to persons who had advanced our knowledge of the etiology and pathology of cancer or elucidated any phase of the cancer problem that opens out a hope of discovery of a cure in the future. The adjustment of claims in these directions would be extremely difficult and probably could only be carried out equitably by cancer experts of the highest reputation.

Where the object is to reward individual merit in cancer research work I should be disposed to advise the creation of a special fund from which any Britisher (including workers in the Dominions overseas) who has advanced our knowledge in connexion with cancer in a practical way would receive a reward. This reward might take one or more of several forms—prizes, scholarships for investigation to be renewed in cases in which the work done is promising, and in other ways. I should make this into a specific cancer research reward fund, and keep it quite distinct from other allotments in connexion with cancer work.—I am, etc.,

P. HEHIR,
Major-General I.M.S. (ret).

Westward Ho, N. Devon, Feb. 7th.

GLYCOSURIA OF MALARIAL ORIGIN.

SIR,—When Dr. Harrison (BRITISH MEDICAL JOURNAL, October 22nd, 1921, p. 630) states that he prefers the diagnosis "Glycosuria of malarial origin" to that of "Very mild diabetes mellitus in a malarial subject," one naturally asks, Why not adopt the non-committal diagnosis of "glycosuria in a malarial subject"? In that case there might not be much reason to object, although, by the way, it is hardly proved that the individual in question ever had glycosuria. It is stated that sugar was found in his urine while he was in India, but the tests employed are not indicated. In England "glucose" was apparently found once only in his urine, in very small quantity, and even then the reader is left in doubt as to whether the reducing substance was "glucose," as no gas was produced by the fermentation test and no polariscopic rotation was observed. As to the malarial origin, no proof whatsoever is given. The individual had suffered from malaria, but no connexion between the two conditions is shown. On the other hand, there was a history of diabetes in his family.

The question whether glycosuria may be due to malaria infection is very interesting, but by no means new. It is surprising that Dr. Harrison has not found any reference to this matter in textbooks, as practically all books on malaria or tropical diseases in general deal with it. It has been asserted by some writers that glycosuria is of very common occurrence in malaria, but most recent authors are of opinion that the opposite is the case; in several well-known books it is stated that reducing substances are often found in the urine, and that their presence may have given rise to the erroneous diagnosis of glycosuria.[1] Laveran, Ziemann, and others, are of opinion that no causal connexion has been proved to exist, but a few authors give histories of cases in which it might be suspected. An interesting case is that described by Naunyn[2] in which there is a full clinical observation of the diabetes and a reasonable suspicion that malaria might be the etiological factor. Still more interesting are the two cases published by Castellani[3] in which the diagnosis rests essentially on the fact that a cure was effected by the administration of quinine without any dietetic treatment.

This is scanty material on which to build any theory as to the nature of such a causal connexion. As Naunyn suggests, the frequency of liver affections and the likelihood of pancreas affections in malaria would make one think of malaria as an etiological factor in diabetes, but the rare coincidence of the extremely frequent disease malaria and the not uncommon condition of glycosuria tends to dismiss any idea of its being a factor of importance.

During a fairly long tropical experience in various parts of the world I remember no cases of glycosuria in which I had reason to suspect malaria as the cause. On the other hand, I can fully confirm the observations just mentioned on the frequent occurrence of reducing substances in the urine, other than glucose, with the qualification that I have frequently observed reduction of Fehling's solution in the urine of Europeans in the tropics whether they had suffered from malaria or not. This is not at all surprising considering the frequently increased concentration of the urine, owing to excessive perspiration.—I am, etc.,

HARALD SEIDELIN,
Médecin principal des Huileries du Congo Belge.

Kinshasa, Belgian Congo, Jan. 9th.

TREATMENT OF SQUINT.

SIR,—It may interest Colonel Henry Smith, of whose hospitality and work at Amritsar I have most pleasant recollections, to hear that work on somewhat similar lines is being carried on in my clinic at the Western Ophthalmic Hospital.

I use a faradic coil, kindly lent me by X-Rays, Ltd., which is a modification of the Bergonié apparatus, designed particularly for the treatment of small surfaces. By means of a sliding coil and a switch controlling the voltage, four different voltages may be used; the interrupter is designed to give a fine wave form of current, gradually varying in intensity, and the speed of the impulses can be adjusted as required.

I have been impressed with the fact that success in advancement operations, other things being equal, is proportional to the development of the advanced muscle. If the muscle—for example, the external rectus in convergent strabismus—is thin and badly developed, a poor result may be anticipated, and I was consequently led to try to improve the nutrition of the muscle by regular electrical stimulation before operation. The passage of the impulses is not attended with much pain, but is extremely unpleasant, though I have not seen vomiting or other disagreeable after-effect. My results so far have not been satisfactory, largely perhaps because I have not yet succeeded in finding the most suitable form of electrode.—I am, etc.,

A. RUGG-GUNN.

London, W., Feb. 7th.

SPINAL ANALGESIA AND GENERAL ANAESTHESIA.

SIR,—In the BRITISH MEDICAL JOURNAL of January 28th, p. 165, Dr. Battye refers to "local and spinal analgesics which at one stroke abolish nearly all the dangers and disadvantages of general anaesthetics, whether new or old." As Dr. Battye was referring especially to ethanesal, of which I have had some experience, may I be permitted to suggest that his remarks require some qualification?

[1] See, for instance, Mannaberg-Stephens, "Malaria," in Nothnagel's *Encyclopaedia*.
[2] *Diabetes Mellitus*, 1905.
[3] BRITISH MEDICAL JOURNAL, August 20th, 1921.

In England and America the immediate mortality of spinal analgesias is more than twice that of general anaesthesias. I know of a series of 200 spinal analgesias in which two died on the table, while a third was only saved by immediate direct cardiac massage. The most careful technique was employed in all these cases, and the calculated minimum dose of freshly prepared "light" stovaine was used. None of these cases showed any signs of ascending paralysis, but apparently suffered from primary cardiac failure due to the injected drug. It is true that local and nerve blocking analgesias are much safer, but even so, I know of a child who died from novocain poisoning.

Passing now to the after-effects of these different methods, careful observations were made at a military hospital, where about half the cases were operated upon under general anaesthesia and the other half under local or spinal analgesia. It was found that as regards pulmonary complications there was nothing to choose between these methods, but that vesical atony, persistent headache, and paresis of the legs occurred after some of the spinal cases. It was also found that novocain gave rise to less toxic symptoms than did stovaine, but unfortunately the muscular relaxation was not nearly as good. These comparisons were obtained with the use of ordinary chloroform and ether as supplied to the army, but with the use of better technique much finer results can be obtained. For instance, it is quite common for a patient to have an hour's operation under a gas–oxygen–ethanesal combination, and to enjoy a cup of tea within an hour of its completion, the after-effects being negligible.

In view of these facts I should hesitate to describe an inhalation anaesthesia as "little short of a surgical catastrophe."—I am, etc.,

London, N.W., Feb. 7th. C. LANGTON HEWER.

THE DETERMINATION OF SEX.

SIR,—In your issue of January 28th (p. 157) is an article headed "The Determination of Sex," which discusses a paper by Mr. Huxley read before the Society of Arts. I observe that Seigel's work is referred to, and it is suggested that the control of sex might be achieved if his rule were followed. This deduction might be justifiable if Seigel's conclusions, published in 1919, and an extract of which appeared in the JOURNAL (Epitome of Current Medical Literature), were true in fact. Seigel, however, in 1921, changed his opinions, and an epitome appeared in one of your issues for September. The conclusion he now draws is that the statistical differences of the period of gestation are dependent upon the fact that the boy is five and a quarter days older at birth than the girl.

I suggested this explanation in your correspondence columns in 1919, and I think there can be little doubt that the whole weight of evidence bears out this conclusion. It cannot therefore have any bearing on sex determination. The point is of interest, because it necessarily suggests that the cause of labour must be looked for in the child and not in the mother. It would suggest, in view of the extraordinary influence that pituitary extract has in hastening the birth, that it is in the pituitary gland of the embryo that we must look for the origin of some substance which, passing into the circulation of the mother, causes the uterus to contract. On this hypothesis, extract of pituitary gland from immature offspring previous to full time should be inactive, whilst that prepared after the birth of the animal should be potent.—I am, etc.,

R. J. EWART,
Medical Officer of Health.

Barking, Jan. 31st.

THE WELFARE WORKER IN FACTORIES AND WORKSHOPS.

SIR,—The article entitled "The welfare worker in factories and workshops," in the issue of the BRITISH MEDICAL JOURNAL of January 28th, is both timely and important.

It is timely because at the present stage in the development of welfare work in factories and workshops the evils forecasted in the article are possible if proper advice is not forthcoming from the welfare worker when asked for as a result of collective discussion by workers and managers. As a specialist on employment questions, he is regarded as the official to secure for the workers what they in their committees desire. It would be a disaster if he advised or took part in procuring anything short of the highest medical opinion on questions of the establishment of works surgeries, or suggested that the control be in any other hands than a qualified member of the medical profession. Members of the Welfare Workers' Institute have unfailingly insisted in the view outlined in the article.

It is an important contribution because it emphasizes the need for the closest co-operation through committees with the workers and the managers. Here again the Institute, ever since its inception in 1913, has taken the lead in establishing works committees as a medium for the closest co-operation on matters affecting the well-being of the workers.

May I be permitted to call attention to just one or two wrong impressions the article in question might convey to those who have not had actual experience?

It is suggested by inference that what may be learnt by the students in the university courses about health and hygiene might lead them to suppose they are fitted to carry out the principles in practice. Of course anyone with a knowledge of the courses would not make the error. As a matter of fact, what the student learns is that health is of first importance, and that it is of more importance that the charge of all health questions should be vested in members of the medical profession.

In another place it is suggested, also by inference, that there can be no place for a welfare worker in the scheme, since the experts are the proper people to be in charge of the specialist departments. It will, of course, always be necessary in modern factory administration to have one person whose special function it will be to see that all the regulations issued are being both understood and carried out in the works, and to bring to the notice of the experts those things with which they are specially concerned.

At the close of the article it is suggested similarly that the workers' committee can do what is done by welfare workers. Without a complete knowledge of the facts this statement might possibly be accepted by some readers, but of course, taken in the same spirit as the rest of the article, which insists on experts and specialists on expert and specialized work, it is hardly intended to mean that a member of the committee who might be, say, a bricklayer, should take over effectively the control of the engaging of labour for the rest of the factory or the administration of all the orders of the Government under Education Act, Factory Act, Health Insurance Act, etc., or regulations of trade agreements, when, after all, he is wholly or mainly required to lay bricks.—I am, etc.,

A. S. COLE,
Honorary Secretary, Welfare Workers' Institute.

11, Adam Street, Adelphi, W.C., Feb. 6th.

*** While recognizing the frankness with which Mr. A. S. Cole accepts the necessity for expert medical guidance in some matters connected with welfare work in factories, we do not think that his letter goes very far in allaying our apprehensions. Mr. Cole describes the welfare worker as a "specialist on employment questions," who will advise or take part in the establishment of works surgeries. We hinted a doubt whether the curriculum proposed by the Joint University Council for Social Studies would produce a specialist in anything; and we feel sure that the medical expert should advise the employer, and rather supervise than advise the welfare worker. We suggested that some of the work proposed to be done by the welfare worker could be handled by works committees, and mentioned more particularly thrift and recreation. Other portions of the work, such as the administration of orders under Education, Factory, and Insurance Acts seem to us to be matters for the employer, with such Government inspection as may be necessary. At the same time there can be no doubt of the usefulness of welfare workers, especially in connexion with the employment of women and girls. Our fear is that the proposed course of study of the Joint University Council may emphasize the idea of "specialism on employment questions," in the minds of welfare workers, whose activities, unless exercised with the utmost tact, may irritate both the management and the employed. The position of an official paid by the employer to secure for the workers what they in their committees desire would surely be anomalous.

EXCHANGE OF CLINICAL INFORMATION.

SIR,—May I trespass on your space to draw attention to what appears to me to be a great defect in our hospitals?

It does not seem that hospitals make it an invariable rule to give any information to the general practitioner when a patient goes out of the institution. This is not to the advantage of the patient or calculated to assist in the further

treatment. Yet it is beyond doubt that everyone desires to obtain the best permanent results. Further, it is not courteous to either patient or general practitioner. I would suggest a brief form which could be filled in by the resident or the ward sister. It would simply state name, date of admission and discharge, diagnosis, treatment in brief, and treatment suggested in future. It would impress the patient with the care taken, and would often assist the general practitioner.—I am, etc.,

Market Lavington, Feb. 6th. F. DE COVERLY VEALE.

X-RAY DEPARTMENTS.

SIR,—At a time when our hospitals, sanatoriums, child welfare centres and clinics represent such a substantial effort in the interests of the public health, I think it appropriate to suggest that there is one branch of work which might be developed, with benefit both to doctor and patient, along the lines of the public clinics, and that branch is radiography.

At present, as far as I understand, radiography is practised only in connexion with hospitals, except, of course, where patients can afford a specialist's fee. Thus, should a practitioner desire an *x*-ray photograph for diagnostic purposes, he must pass his patient through a hospital "out-patients" department, where the question of *x* rays is subject to the decision of the medical officer. Were the practitioner to submit his patient with a request for radiographic examination for his personal edification, it would be regarded in the light of presumption, and would probably call forth the comment, "This is not a public *x*-ray department."

That is precisely the difficulty. I submit that there should be public *x*-ray departments, though I do not suggest that the hospitals should be called upon to do the work. The benefits from such departments would be twofold. First, a nearer approach to accuracy in diagnosis outside hospital, which would react directly and favourably upon the patient, and secondly, a new stimulus to a higher standard of work on the part of the general practitioner, which is seen to be an important consideration when it is remembered that the efficiency of the general practitioner is the efficiency of the medical profession.

Since he works at a disadvantage in being debarred from the full clinical study of his cases in hospital, doubtless the practitioner would gladly grasp at the opportunity of having at his command the most modern and precise means of diagnosis.—I am, etc.,

Liverpool, Jan. 22nd. C. H. ROSS CARMICHAEL.

THE NAVAL MEDICAL SERVICE.

SIR,—Ever since I left the navy in 1903 I have from time to time sent you letters which you have been good enough to publish. I am sorry to say that even now there is much well-justified discontent in the medical branch of the navy.

The root of the whole evil is the invidious distinction between the executive and civil departments. The Medical Director-General himself, on the broader questions, is allowed to be nothing but a figurehead—often very ornamental, but nothing more. And what can the best of good fellows do in such a position?

I wonder whether anyone remembers the case of Surgeon Lea (about 1890, before I joined the service), or Fleet Surgeon Charles Geikie Mathew (about 1904, after I had left it)?

This letter is not a criticism on the naval medical service, but it is questioning the attitude of the Admiralty towards their medical officers, and until there is a decided change in the methods of the authorities the medical profession will be well advised to give the Royal Navy a wide berth.

I venture to add a characteristic case. On the occasion of King Edward VII's coronation, medals were slapped about in Portsmouth and elsewhere among soldiers, sailors, and police; a considerable amount of extra and responsible work devolved on the staff of Haslar Hospital, but not a single medal was bestowed in that establishment. The present compulsory age retirement scheme is a very grave injustice to old and tried officers.—I am, etc.,

Sevenoaks, Feb. 2nd. GERALD SICHEL (Surgeon R.N. 1894–1903).

AN OLD MAN'S CHAIR.

SIR,—For some years I have induced many of my old and infirm patients to spend at least twelve hours a day sitting up in easy chairs. I mean such cases as asthmatics and heart cases—even dropsical—with Southey's tubes or nicks in the skin to allow draining. I have tried many chairs, such as Chippendale and Hebblethwaite; all such chairs were too light and allowed slipping on the floor. There are many cases we cannot keep in bed.

We have become obsessed with the idea of a 3 ft. bed away from the wall, with spring mattress. I expect Hezekiah ordered his to be placed against the wall.

I have recently had made a chair at a cost of less than £2 which meets what I wanted. It is made of oak and is heavy; it weighs about 40 lb. The design is Chippendale, but with an upright back. It is roomy, with extended arms for resting; the arms are curved; the seat is flat, not hollowed out. This allows cushion for sitting if needed and the arms and back can have movable cushions according to wishes. There is no foot-piece.—I am, etc.,

Dulverton, Feb. 1st. G. F. SYDENHAM.

EDUCATION AUTHORITIES AND THE SCHOOL MEDICAL SERVICE.

SIR,—The joint action to be taken by the British Medical Association and the Society of Medical Officers of Health in the matter of education authorities and school medical officers, referred to in your issue of January 21st, will be welcome to all doctors who have served directly (that is, who are not also medical officers of health) under education authorities as medical officers. Their position *vis à vis* the education secretary can be, and often is, humiliating. This is especially so when the individual in question, as is often the case with growing industrial towns in the North, is a man of little or no education beyond that acquired in the seventh standard and the secondary municipal school. Yet in all official matters the school medical officer is practically his subordinate. Circulars and communications from Whitehall directly affecting the medical officer and his department are addressed to him and have been known to get no further than his office. The visit of a medical officer of the Board is notified to him alone, and it is he who receives this officer on his arrival. It is within my own experience as school medical officer to have had no intimation of such a visit until the actual arrival of the official, although the visit had been notified to the education secretary a week previously. The annual report of the school medical officer passes to the secretary before being sent to the printer, and correction of (supposed) errors in English and orthography has not been unheard of. Sometimes, too, he may take a hand in the actual medical work in the schools. I can recall receiving a peremptory order through a clerk to visit a certain school regarding an outbreak of scarlet fever, of which as it happened I had already been notified in the usual way through the head teacher.

I sincerely trust that the deputation will be able to make some impression on Sir Alfred Mond, and that the powers of some education secretaries will be suitably curtailed. I enclose my card.—I am, etc.,

February 8th. IRATE S.M.O.

ALPINE TREATMENT OF TUBERCULOSIS.

SIR,—Sir Martin Conway, in his letter published under the above heading in your issue of February 11th, is mistaken in thinking that funds from the sale of the Queen Alexandra Sanatorium "are in the hands of its committee." The sale in question has not yet been carried out, nor has the council yet considered the question of the application of the proceeds. The closing of the sanatorium was not due, as might be inferred from his letter, to "an invasion of German lung cases during the war" at Davos. The sanatorium was closed owing to the difficulty of conveying civilian invalids through France to Switzerland, and of securing proper food and heating. After the war it was not reopened. This was by no means from any loss of confidence in the curative virtues of the Davos climate or in the value of our sanatorial treatment, but solely because the general rise in salaries and wages and in the cost of living, coupled with the adverse Swiss exchange, would have necessitated charging a much higher fee than could have been paid by the patients of small means for whose benefit subscriptions were originally raised and the sanatorium was built and equipped.—We are, etc.,

D. VESEY,
WM. EWART, M.D.,

London, S.W., Feb. 13th. Joint Honorary Secretaries, Q.A.S.

Universities and Colleges.

UNIVERSITY OF OXFORD.

Radcliffe Prize, 1923.—This prize, which is of the value of £50, will be awarded by the Master and Fellows of University College upon the report of the examiners, provided a sufficiently deserving memoir be submitted for adjudication, for a memoir, or papers, embodying research in any branch of medical science comprised under the following heads: Human Anatomy, Physiology, Pharmacology, Pathology, Medicine, Surgery, Obstetrics, Gynaecology, Forensic Medicine, Hygiene. The prize is open to all graduates of the University who have proceeded, or are proceeding, to a medical degree in the University. Candidates, at the date of application, shall not be Radcliffe Fellows; but the provision that candidates shall not have exceeded twelve years from the date of passing the last examination for the degree of B.A. is upon this occasion so far suspended as to enable any graduate, who was eligible during the years of the war (1915, 1917, 1919), to be eligible for the next ensuing award (1923).

Candidates are required to send their memoirs to the Assistant Registrar on or before Friday, December 1st, 1922. No memoir for which any University prize has been already awarded can be admitted to competition, nor may the prize be awarded more than once to the same candidate. Tuesday, March 20th, 1923, is the intended date of the award.

Romanes Lecture.—The Romanes Lecture, 1923, will be delivered by Arthur Stanley Eddington, M.A., Trinity College, Cambridge, F.R.S., Plumian Professor of Astronomy in the University of Cambridge, President of the Royal Astronomical Society, on Wednesday, May 24th, at 6 p.m., on the following subject: The Theory of Relativity and its Influence on Scientific Thought.

Degree Days.—Congregations will be held for the purpose of conferring degrees on the following days at 2.30 p.m.: Saturday, Feb. 18th, Thursday, March 9th, Saturday, April 8th.

UNIVERSITY OF CAMBRIDGE.

PROFESSOR J. T. WILSON, M.B., F.R.S., has been appointed a member of the Managing Committee for the diploma in Psychological Medicine, and Dr. W. E. Dixon, F.R.S., a member of the Committee on Medical Radiology and Electrology, both in the place of the late Professor Sir G. Sims Woodhead.

Mr. Walwyn Thomas, M.B., resident at Capetown, has been approved for the degree of M.D. in absence.

At a congregation held on February 11th the following medical degrees were conferred:

M.B., B.CH.—D. D. Evans, A. T. Hawley.
M.B.—C. F. McLean.*
B.CH.—R. S. Corbett, G. I. F. Tweedie, P. D. H. Chapman.
* Admitted by proxy.

UNIVERSITY OF LONDON.

A MEETING of the Senate was held on January 25th. The Vice-Chancellor announced that he had accepted an invitation from the University Unionist Association to become a candidate for the representation of the University at the next general parliamentary election, and that as the Vice-Chancellor is the returning officer for that constituency it would be necessary for him, should a general election be decided upon before the expiration of his term of office, to resign that office as soon as such decision was announced. It was decided to designate the Principal Officer to act temporarily as returning officer in the event of a vacancy in that office.

Professor A. D. Waller, F.R.S., and Dr. T. D. Lister were re-elected Director and Treasurer respectively of the Physiological Laboratory until the end of the session 1921–22.

The regulations for the intermediate examination in science for internal students were amended whereby students who have passed the second examination for medical degrees (Part II) will be exempted from examination in physiology at the intermediate examination in science.

Sir William Collins was appointed the representative of the University at the Royal Sanitary Institute Congress to be held at Bournemouth in July. The Vice-Chancellor (Sir Sydney Russell-Wells) was appointed one of the University delegates at the Congress of Universities of the British Empire to be held in London in May.

Applications for the chair of physiology tenable at St. Bartholomew's Hospital Medical College with salary of £1,000 a year, and for the chair of surgery (and Directorship of Surgical Clinic) tenable at St. Mary's Hospital Medical School with salary of £2,000 a year, should be sent to the Academic Registrar at the University not later than February 24th.

University medals at the M.D. examination for internal and external students, December, 1921, have been awarded as follows: Branch I (Medicine) to Laurence Ball (University of Birmingham); Branch IV (Midwifery and Diseases of Women) to Janet McAllister McGill (London R.F.H. School of Medicine for Women); Branch VI (Tropical Medicine) to Charles T. Maitland (St. Bartholomew's Hospital and London School of Tropical Medicine).

A Carpenter Medal, together with a money prize of £20 in all, will be awarded for a thesis of exceptional distinction in statistical, genetic, comparative or experimental psychology, including the functions of the central nervous system and special senses for which a doctor's degree has been awarded during the three years ending May 31st, 1922.

Applications for grants from the Dixon Fund for the purpose of assisting scientific investigations should be sent in between April 1st and May 15th.

The Lindley Studentship, value £120, will be awarded to a student qualified to undertake research in physiology in the Physiological Laboratory of the University. A statement of qualifications and mode proposed to carry out research must be forwarded to the Academic Registrar by May 1st, from whom further particulars can be obtained.

A University Studentship in Physiology, value £50 for one year, to undertake research in physiology in the Physiological Laboratory of the University or of a school of the University, will be awarded. Applications to the Principal Officer by May 31st, from whom full particulars can be obtained.

A course of four lectures on some recent developments in pharmacology will be given by Dr. H. H. Dale, F.R.S., at the London (R.F.H.) School of Medicine for Women, on Wednesdays, February 22nd, March 1st, 8th, and 15th, 1922, at 5 p.m.

The Chairman of Convocation announced his intention not to seek re-election at the expiration of his present term of office. On the motion of the Vice-Chancellor, seconded by Dr. Walmsley, a unanimous vote of thanks was accorded to Sir Edward Busk for his great services to the University and Convocation during his long term of office.

UNIVERSITY OF SHEFFIELD.

The following appointments have been made:—Lecturer in Pharmacology: H. W. Southgate, M.B., B.S., B.Sc. Assistant Curators of the Pathological Museum: E. F. Finch, M.D., M.S., F.R.C.S., and V. Townrow, M.B., B.S., F.R.C.S. Demonstrator in Medical Pathology: A. G. Yates, M.D., M.R.C.P.

The following candidates have been approved at the examinations indicated:

FINAL M.B., CH.B.—H. Finklestone, Mary P. Gell.
D.P.H.—Dorothy E. Mathews, J. Rennie.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN Ordinary Council was held on February 9th, when Sir Anthony Bowlby, President, was in the chair.

Diplomas were issued to ninety-one candidates found qualified for the Membership of the College. Diplomas were granted, conjointly with the College of Physicians, to eleven candidates in Ophthalmic Medicine and Surgery.

Mr. W. G. Spencer was appointed Vicary lecturer, and Sir William Thorburn was appointed Bradshaw lecturer.

Mr. Raymond Johnson was re-elected a member of the Court of Examiners. Dr. W. S. A. Griffith was re-elected a representative of the College on the Central Midwives Board. Mr. H. J. Waring was appointed as the College representative on the General Medical Council for five years.

Mr. Clement E. Shattock was appointed Pathological Assistant.

Diploma of Ophthalmic Medicine and Surgery.—The vacancy occasioned by the resignation of Mr. E. Treacher Collins will be advertised on April 8th next, with the other examinerships becoming vacant, and will be filled up at the annual election of examiners on June 8th. Mr. J. H. Fisher and Sir William Thorburn were appointed to conduct the special examination in Ophthalmology for Fellows during the ensuing nine months. [The examinations are held in June and December.]

Council Election.—The President reported that a meeting of the Fellows would be held at the College on Thursday, July 6th, for the election of three Fellows into the Council in the vacancies occasioned by the retirement in rotation of Sir Charles A. Ballance, Sir William Thorburn, and Mr. W. McAdam Eccles; that notice of the meeting would be given to the Fellows by advertisement and by circular on March 10th, that March 20th would be the last day for the nomination of candidates, and that a voting paper would be sent on April 4th to every Fellow of the College whose address is registered at the College.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS, GLASGOW.

THE following have, after examination, been admitted Fellows of Faculty: Matthew White, Purnananda Roy.

Obituary.

WE regret to record the death, in his 74th year, of Dr. EDWARD SERGEANT, who was medical officer of health for Lancashire from 1890 to 1917. Educated at St. Thomas's Hospital, he qualified with the diploma of M.R.C.S.Eng., L.R.C.P.Lond., and L.S.A. in 1871; he further obtained the public health qualification of L.S.Sc.Durham in 1889. In the Franco-Prussian war he served as assistant surgeon at Bingen, on the Rhine, and organized hospitals at Zoorbruck, Metz, and Strasbourg. After holding the post of senior house-surgeon at Bolton Infirmary he was, in 1874, appointed medical officer and public analyst to the borough of Bolton. He was appointed to the post of medical officer of health for Lancashire, with headquarters at Preston, in 1890. Dr. Sergeant contributed a number of articles to the medical journals on public health administration. He was an old member of the British Medical Association, and a former president of the Society of Medical Officers of Health.

WE regret to announce the death of Dr. ANDREW ROSS LAING, which took place at Aberdeen on January 26th. Born in that city just over fifty years ago, Dr. Laing graduated M.B., C.M. at Aberdeen University in 1897, and took the diploma in public health in 1899; he graduated M.D. in 1905. He served as a civil surgeon with the field forces in South Africa in 1899–1900, but for health reasons he had to return home, and in 1901 was appointed assistant in pathology at Aberdeen University. Subsequently he held the posts of city bacteriologist and lecturer on hygiene at Aberdeen Training College, and he was medical officer to Aberdeen Dispensary. He published several articles, chiefly connected with the subject of public health. Dr. Laing had an extensive private practice in Aberdeen, and with his skill as a physician he combined a sympathetic personality which endeared him to his patients. In his university days he was prominent at games, and latterly he was in the front rank of local amateur golfers. He leaves a widow and two young children.

THE death is announced of Dr. JOSEPH MACDONALD of East Orange, New Jersey, who founded in 1905 the *American Journal of Surgery*, of which he was managing editor. He was for many years secretary of the American Medical Editors' Association, and served for one term as its president. During the war he was a major in the United States Army Medical Corps.

PROFESSOR GIACOMO CIAMICIAN, a distinguished Italian chemist and former Nobel prizeman, has recently died.

The Services.

NAVAL MEDICAL COMPASSIONATE FUND.

A MEETING of subscribers of the Naval Medical Compassionate Fund will be held at the Medical Department of the Navy, 68, Victoria Street, S.W., on April 11th, at 11.30 a.m., to elect six directors of the fund.

DEATHS IN THE SERVICES.

MAJOR-GENERAL WILLIAM HENRY BANNER ROBINSON, C.B. Bengal Medical Service, died in Calcutta on February 7th, aged 58. He was the son of Commander Charles Aylmer Robinson, R.N., of Kingstown, and was educated at the Carmichael School and Meath Hospital, Dublin, taking the L.K.C.S.I. in 1883 and the L.K.Q.C.P. in 1884. He took the D.P.H. of the Irish Colleges in 1893. Entering the I.M.S. as surgeon on April 1st, 1886, he attained the rank of colonel on December 1st, 1915, and was promoted to surgeon-general on January 8th, 1918, becoming major-general when this title was granted to the medical services in the same year. He served for four years in the Burma campaign, 1885–89 (mentioned in dispatches, medal with clasp), and in three campaigns on the North-West Frontier of India—Waziristan, 1894–95 (clasp); Chitral, 1895, relief of Chitral (medal with clasp); Tirah, 1897–98; operations in the Bara Valley (clasp). In 1902 he entered political employment as agency surgeon of the State of Bikanir, and in 1910 became residency surgeon, Mount Abu, and principal medical officer of Rajputana. In September, 1914, he returned to military duty, and served for two years in Egypt as principal medical officer of the Indian troops there. He was twice mentioned in dispatches, in the *London Gazette*, and received the medal, 1914–15 star, and victory star, as well as the C.B. On his return to India he was appointed inspector-general of hospitals in the Central Provinces, and in March, 1918, surgeon-general of Bengal and member of the Bengal Legislative Council. Last year he acted for six months as director-general of the I.M.S. during the absence on leave of Sir William Edwards, and at the time of his death was on the eve of retirement, after nearly thirty-six years' service. He received the second class of the Kaisar-i-Hind Order in 1901, the Knight's Cross, first class, of the Order of Philip the Magnanimous of Hesse in 1904, and on April 22nd, 1919, was appointed an honorary surgeon to the King. He married Elsie Marian, daughter of the late Dr. William Deane Butcher, of Ealing, and leaves a family.

BREVET-COLONEL SIR JOHN GODFREY ROGERS, R.A.M.C.(ret.), died at Edenbridge, Kent, on January 10th. He was born on April 11th, 1850, and educated at Trinity College, Dublin, where he graduated B.A., M.B., and M.Ch. in 1871. He entered the army as assistant surgeon on September 30th, 1871, became surgeon-major on April 18th, 1882, getting a special promotion for service in the Egyptian war, and surgeon lieutenant-colonel on April 1st, 1891. He retired on February 3rd, 1892. In the old regimental days he served in the 67th Foot (Hampshire Regiment). On November 1st, 1883, he was seconded for service with the Egyptian army and served as Principal Medical Officer of that force till he retired from the British army in 1892. He still remained in the Egyptian service as Director-General of the Sanitary Department in that country, holding that post for eight years, till 1900. He had a very long list of war service, as follows: Afghanistan, 1878–80, with Kandahar Column and Ghazni Field Force, medal; Egypt, 1882, with the 19th Hussars, actions of Kassassin and Tel-el-Kebir, mentioned in dispatches, medal with clasp, Khedive's bronze star, and special promotion to surgeon-major; Sudan, 1884-5, with Nile Column, as P.M.O. Egyptian troops, mentioned in dispatches, clasp; Sudan, 1885–8, action at Giniss, mentioned in dispatches, D.S.O.; Suakin, action of Gamaizah, mentioned in dispatches, *London Gazette*, January 11th, 1889, clasp, and 2nd Class Medjidie. In the late war he served as British Commissioner of the Red Cross in Cairo in 1915–8, and was mentioned in dispatches in the *London Gazette* of June 21st, 1916, and January 12th, 1918. He received the Osmanieh, 3rd Class, in 1885, and 2nd Class in 1901; the D.S.O. in 1887; the Medjidie, 2nd Class, in 1890, and 1st Class in 1901; the C.M.G. in 1896; the K.C.M.G. in 1898; the 2nd Class of the Order of the Nile in 1918, knighthood of St. John of Jerusalem in 1918; and a brevet colonelcy on January 1st, 1919; and had the title of Pasha in Egypt. In 1912 he published a book called *Sport in Vancouver and Newfoundland*. In 1883 he married the daughter of Major Sykes, Bombay Cavalry; she has received the C.B.E. and is a Lady of Grace of the Order of St. John of Jerusalem.

Medical News.

THE death rate for the city of New York during 1921 was the lowest ever recorded by the Health Department. The death rate in 1921 was 11.17 per 1,000 of the population, as compared with 12.93 in 1920. In Chicago the death rate was even lower than in New York, being just under 11 per 1,000 of the population. These figures are slightly better than those for this country. The crude death rate for London in 1921 was 12.4; in the 96 great towns, with populations exceeding 50,000, it was 12.3; in 148 smaller towns it was 11.3; the rate for the whole of England and Wales was 12.1.

IT is stated that in Berlin the manufacturers of *x*-ray apparatus have offered to finance an institution for training in *x*-ray work, containing laboratories and lecture rooms, but not intended for research. The university authorities protested against the idea of a private institution of this kind, and suggested instead that it should be organized as a university institute, or that the manufacturers should endow the institutes already organized in this department; the Kaiser Wilhelm-Forschungs Institut, for instance, was endowed by the organized manufacturers.

THE 195th dinner of the Edinburgh University Club of London took place at the Connaught Rooms on February 8th, with Sir Henry Craik, K.C.B., M.P., in the chair. Among those present were Lord Aberconway, Sir George Andreas Berry, Dr. A. Blackhall-Morison, Dr. George C. Cathcart, Mr. C. C. Choyce, Sir James Crichton-Browne, Sir Dyce Duckworth, Sir James Dundas-Grant, Dr. J. T. C. Laing, Sir Duncan J. Macpherson, Major-General Sir W. G. Macpherson, Dr. H. Crichton Miller, Dr. Nathan Raw, M.P., Sir Charles Ryall, Sir George A. Touche, Sir John Thomson Walker, and Dr. S. A. Kinnier Wilson. After the loyal toasts had been honoured, Sir Henry Craik proposed the toast of "The Alma Mater and the Edinburgh University Club in London," giving an account of the effects of recent legislation upon education in Scotland, and emphasizing the harm that the so-called democratization of university education would do. He did not believe that evening classes in the Scottish universities, as had actually been proposed, were a suitable form for the extension of university education; he believed rather in the intensive type of university study which at present existed. The health of the Chairman was proposed by Sir George Andreas Berry, in a witty speech, enlivened by characteristic Scottish anecdotes. Membership of the Edinburgh University Club of London, which dines thrice in a year, is open to all members of the university, and further particulars may be had from the honorary secretary, Dr. R. S. Frew, 73, Wimpole Street, W.1.

THE United States board of directors of the Gorgas Memorial Institute has elected Dr. William C. Braisted president, Dr. Arthur P. Robbins executive secretary, and Mr. Edward J. Stellwagen treasurer. The purpose of the organization of an executive committee in the United States is to further the movement to introduce the sanitary methods devised by the late Surgeon-General Gorgas into all the civilized countries of the world. It was announced recently that Dr. Richard P. Strong, dean of the department of tropical medicine at Harvard University, and formerly director of the biological laboratory at Manila, had accepted the post of scientific director of the Gorgas Memorial Institute of Tropical and Preventive Medicine. This institute is to be built at Panama City on a site presented by Dr. Belisario Porras, President of the Republic of Panama, and the Panama Government has also provided a building and modern equipment to the value of half a million dollars, as well as the use of the important Santo Tomas Hospital, which is on the point of completion.

MME. GEORGES DIEULAFOY, the widow of the late Professor Dieulafoy, has presented to the Paris Faculty of Medicine an annual sum of Fr. 26,000, to be distributed as follows: Fr. 8,000 to the medical clinic of the Hôtel-Dieu, of which her husband

and Trousseau were the chiefs; Fr. 8,000 to Professor Widal's clinic at the Hôpital Cochin, Fr. 5,000 to Professor Chauffard's clinic at the Hôpital St. Antoine, and Fr. 5,000 to the chair of pathology occupied by Professor Rénon.

AT a sessional meeting of the Royal Sanitary Institute to be held at the Town Hall, Leeds, on February 24th and 25th, at 7 p.m., a discussion on the limitations of bacteriology in connexion with public health work will be opened by Dr. J. W. McLeod, lecturer in bacteriology in the University of Leeds. Dr. A. E. Pearson, medical superintendent of the Seacroft Infectious Diseases Hospital, will open a discussion on hospital management and treatment of infectious diseases.

THE joint conveners of the Historic Monuments Committee of the St. Andrew Society, Glasgow, have addressed a letter to the *Glasgow Herald* supporting the appeal of Professor Robert Kennedy for the preservation of Lister's ward at the Glasgow Royal Infirmary. They appeal very strongly to the Board of Management of the Infirmary to rescind its decision to abolish the ward, the removal of which, they assert, would be a wanton piece of vandalism.

THE eighty-sixth annual meeting of St. Mark's Hospital for Cancer, Fistula and Other Diseases of the Rectum was held at the Mansion House on February 9th. The Lord Mayor, who presided, commended the good work accomplished by the hospital, and expressed the hope that in spite of the great difficulties of the times the necessary income would be forthcoming. It was stated that the purchase of the adjoining site had been completed, and that the sum of £10,000 was needed to build an extension which was much needed.

DR. JOHN GILMOUR, late of Dalmuir, has been made the recipient of handsome gifts from his friends and admirers in the district in connexion with his appointment by the Scottish Board of Health to be a junior district officer for the south-western district of Scotland, with headquarters in Glasgow.

OWING to the frequency of complaints of the dearth of gynaecological teaching and experience for post-graduates in London, the staff of the Hospital for Women, Soho Square, has organized a definite scheme to meet the demand. Three sessions a year are held in January, March, and October, each of six weeks' duration, where the post-graduates have daily opportunities of gaining experience in this subject. The hospital is well adapted for the purpose, being a modern building with 68 beds and 14,000 out-patients a year. It has a laboratory and museum and an installation of the latest x-ray plant for the treatment of carcinoma of the uterus. Particulars of the next session, which commences on Monday, March 13th, appear in the advertisement columns, or information may be obtained from the Dean at the hospital.

UNDER the auspices of the Blackburn and District Medical Society a dinner was held on February 2nd, at Blackburn, with Dr. F. W. Taylor, president, in the chair. The Mayor of Blackburn proposed the toast of the newly-revived Blackburn and District Medical Society. Speaking as chairman of the Health Committee and of its daughter-committee, the Publicity Committee on Health, he declared that one of the most important factors in determining the success or otherwise of any scheme of preventive medicine was the attitude towards it of the medical profession. The private practitioner was in the van in the fight against disease, and he knew that the Health Committee—six of whose number in Blackburn were members of the medical profession—and their medical officer of health, were most anxious to secure their co-operation. Dr. F. W. Taylor, in reply, said that the Medical Society was an old organization which had showed ready adaptability to the changed conditions which time had brought about. He welcomed the resuscitation of the activities of the society, and hoped it would ultimately furnish some sort of post-graduate instruction for the practitioners in the district. The toast of "The Guests" was proposed by Dr. J. T. T. Ramsay, and responded to by the Town Clerk of Blackburn. The health of the President was proposed by Mr. L. King-Wilkinson, and in responding Dr. Taylor expressed the thanks of the gathering to Dr. Ramsay and Dr. Shaw, who had organized it.

THE number of deaths from influenza in the week ending February 11th shows a very appreciable decrease, being 759 in the 105 great towns, and 749 in the 96 great towns of England and Wales, as against 1,144 and 1,121 in the week ending February 4th, a decrease of 34 and 33 per cent. respectively. The figures are the lowest recorded in the present year. In London the deaths numbered 109 against 191 in the previous week, a decrease of 43 per cent. There were slight increases in Birmingham (52 against 46), Liverpool (43 against 38), and Cardiff (27 against 26). In Edinburgh and Glasgow the deaths from influenza numbered 48 each against 99 and 130 respectively.

AT the next meeting of the Medico-Psychological Association of Great Britain and Ireland, to be held at 11, Chandos Street, Cavendish Square, W., on Thursday, February 23rd, at 2.45 p.m., Dr. T. S. Good will read a paper on "The Use of Analysis in Diagnosis." The chair will be taken by the President, Dr. C. Hubert Bond.

AT the Liverpool Assizes, on February 7th, Dr. H. E. Annett brought an action for damages for wrongful dismissal against Messrs. Evans, Sons, Lescher and Webb, Ltd., wholesale chemists in Liverpool. From the opening statement by counsel for the plaintiff, as reported in the *Liverpool Daily Courier*, it appeared that Dr. Annett, who was formerly Professor of Pathology in the University of Liverpool, became superintendent of a laboratory established by the defendants at Runcorn in 1911 for the manufacture of what is known as the Liverpool virus. In the early days the royalties received by Dr. Annett amounted to about £300 a year; during the last year or two the sales had amounted to from £15,000 to £20,000 a year. Last May a foreman of the laboratory pleaded guilty to malversation of funds and was fined £50. On the following day a member of the defendant firm wrote to Dr. Annett summarily dismissing him. Counsel for the defendants said there was no reflection on Dr. Annett's integrity, but the defendants could not be expected to have further confidence in him after this incident. The judge held that the defendants were not entitled to dismiss Dr. Annett summarily, and gave judgement for six months' salary (£225) with costs.

IN consequence of the number of persons who discontinue treatment while still in an infective condition, the National Council for Combating Venereal Diseases has passed a resolution urging the Government to consider what further steps can be taken to secure the adequate prevention and treatment of venereal diseases, and requesting that efforts should be made to secure the continuous treatment of infective persons.

THE Order of the Nile (fourth class) has been conferred upon Dr. Henry C. Squires, senior medical inspector of the Sudan Government, in recognition of valuable services rendered.

Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2630, Gerrard.

2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.

3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2630, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin;* telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

INCOME TAX.

"S. C." was resident abroad until October 18th, 1920, and commenced practice on January 15th, 1921. He inquires what is his liability.

*** We assume that he has not come to this country for a temporary purpose only. He is liable to assessment in respect of the period to April 5th, 1921, and for the year ending April 5th, 1922. The ordinary method of computing the liability in respect of the earnings would be to prepare, in due course, a statement of receipts and payments for the eleven and a half months to December 31st, 1921. Of the result shown $2\frac{1}{2}/11\frac{1}{2}$ would represent the 1920–21 liability and $12/11\frac{1}{2}$ the 1921–22 liability.

"MIDAS" inquires whether deductions can be claimed in respect of payments of *bank* interest.

*** Yes; in the case to which he refers the loan was a private one. Bank interest is an exception to the statutory rule.

THERAPEUTIC USES OF ANTIMONY.

DR. F. G. CAWSTON (Durban, Natal) writes: I notice that extracts from papers of mine and private communications on the subject of antimony in treatment are being published without my knowledge or consent. I have never intended them to be used in a commercial way and hope that they may still be taken merely as preliminary reports for the benefit of those who are less handicapped than myself and are better able to follow up these investigations on a more extensive scale.

LETTERS, NOTES, ETC.

SCARLATINA-LIKE RASH IN INFLUENZA.

DR. BERNARD E. POTTER (London, W.) writes: The note by Dr. Edgar F. Cyriax of the occurrence of initial symptoms of scarlet fever in what proved later to be a case of influenza reminds me of a similar case in April, 1914, which occasioned more than the usual trouble and anxiety associated with the diagnosis of scarlet fever. The temperature was 102° and the rash over the body resembled that of scarlet fever and mild throat signs. Being in some doubt, as there was history of a similar attack with subsequent desquamation, a fever specialist was called in, who diagnosed scarlet fever, and the medical officer of health was duly notified. Later, however, Dr. W. H. White, who had seen the patient before, was summoned, and he diagnosed influenza without the slightest hesitation, as this condition was well known to him. The notification was cancelled. Peeling followed soon afterwards, but it was clearly evident that influenza was the cause, the more so as the same kind of illness had happened within the year.

ELECTRO-VIBRATION OF THE CEREBULLUM AND PANCREAS IN DIABETES MELLITUS.

DR. ERNEST KINGSCOTE (London, W.) writes: Dr. Baumann ends his instructive article on "The modern dietetic treatment in diabetes mellitus" (BRITISH MEDICAL JOURNAL, December 17th, 1921, p. 1027) in the following words: "Some day we may hope to be able to stimulate or strengthen the pancreatic function in a direct manner, and so to supersede palliative measures by actual cure." I suggest that possibly we have such a means to hand in electro-vibration. This is purely mechanical in its action. The vibrator is driven by the electric current through a wall plug and there is no transmission of the electric fluid to the patient. Such vibration is very far-reaching in its effects and stimulates deep-seated organs and shakes out congestions and accumulations of fluid. Between 1906 and 1910 20 cases of diabetes mellitus were treated centrally by vibration of the fourth ventricles and locally over the pancreas, the tenderness of which was much relieved thereby. The central vibration was not unpleasant to the patients and the frequent headaches were much relieved. In every case the sugar output was diminished without altering the diet. Of these 20 cases 16 are now alive and well and free from saccharosuria; the blood sugar was not estimated. A feature common to all of these cases was fixed upper chest with eversion of the free ribs and abdominal protuberance, thus reducing lung suction and hampering the circulation of the brain and abdominal organs. This condition was treated by the Kingscote Breathing Exercises for the reproduction of chest movement in emphysema, etc. (demonstrated before the Medical Society of London in November, 1921). In 1906 a boy, aged 17, was sent home from Harrow School because it was said that he had been overworking and required rest. He was naturally a brilliant lad, but had become listless and suffered from headaches. The urine was found to contain 5 per cent. of sugar and traces of acetone and diacetic acid. There was tenderness on deep pressure over the pancreas, and the body weight was reduced. The chest excursion was only half an inch. The central vibration was administered through the medium of an air-cushion vibratode daily at first for five minutes a session, but increased to ten minutes on finding that the treatment was well tolerated. After six weeks the sugar output was reduced to 1 per cent. and acetone and diacetic acid were absent. In three months there was no more sugar excreted. The patient now began to put on weight and the polyuria became insignificant. Fifteen years afterwards he tells me that he has had no more trouble, and that he is now on the staff of a leading London journal. This line of treatment was successful with 16 out of 20 of these cases. Why it failed with the other four I do not know.

STARTING A MOTOR IN COLD WEATHER.

"VIATOR" writes: With due respect to your valued contributor, Mr. Buist, I cannot see any reason either to purchase aviation spirit or dismantle one's carburetter to get a quick start in cold weather. A rubber water-bottle filled with very hot water and wrapped round the carburetter and induction pipe for a few minutes before starting up will do the trick. Also in those engines whose cylinders are provided with compression taps a few drops of a mixture of equal parts of ether and petrol run through these taps are almost a specific. My experience, after eighteen years of being my own chauffeur, leads me to the opinion that in 90 per cent. of jibbers the fault is the carburetter and not the petrol. My Overland no matter how cold the weather never fails to start at the first pull when I have turned the cranking handle quietly round four times to get some juice into the engine. My Ford is almost as tractable, and in these cars the proper mixture for starting and running can be obtained in less time than it takes to talk about it—a great treat after years of jibbing carburetters—most of them badly designed and incapable of any but the crudest regulation.

MEDICAL EXAMINATION OF EMPLOYEES.

THE Medical Committee of the Industrial Welfare Society is, at the request of manufacturing firms, engaged in drawing up a form for the use of medical officers when examining employees. The chairman of the committee, Dr. C. A. Coles, desires to enlist the co-operation of managers and medical officers; forms now in use, or suggestions which will be of assistance in compiling a model form, may be sent to him at the Industrial Welfare Society, 51, Palace Street, Westminster, S.W.1.

THE ROTARIAN IDEAL AND THE MEDICAL PROFESSION.

DR. G. NORMAN MEACHEN (Southend-on-Sea) writes: During the past few years a considerable number of medical men have allowed themselves to become enrolled as members of the local Rotary Club, should one happen to exist in their neighbourhood. Apart from the medical instinct which impels the practitioner to cultivate an acquaintance with every new movement established for the social betterment of the race, there is much in common between medicine and rotary. In the first place, both are pledged to the service of humanity and both are agreed that the setting aside of their own interests in favour of those of others constitutes the highest law. The rotarian motto, "Service above Self," has, indeed, been characteristic of medical practice from time immemorial, both consciously and unconsciously, and it embodies the noblest traditions of the healing art. It is not surprising, therefore, that medical men should not only find themselves drawn into rotary, but that they should in the very nature of things play a not unimportant part in its proceedings.

There is nothing new in rotary except its organization, and, as Rotarian James Dalzell of Belfast points out in the current issue of the *Rotary Wheel*, it is doubtful "if Paul Harris and his four friends when they met in turn sixteen years ago, and organized the first Rotary Club, had any clear conception or intention that Rotary should eventually evolve into the peculiar movement it now is."

As a non-political, unsectarian society, existing for the avowed object of fostering the highest business and professional ideals, and of promoting the best moral and social interests of the community, it is bound not only to enlist the sympathy but also to command the active support of every medical practitioner. On the one hand, the club benefits from the doctor's special experience and advice upon various social topics, and on the other, he himself will gain in breadth of outlook and in increased knowledge of other activities than his own purely professional ones. The practitioner's sphere of usefulness must tend, through his association with rotary, to develop, and as there are committees to deal with various activities, there will be ample opportunity for the medical man to make his influence felt in the cause of health and right living. The subject of boy welfare is one which is being warmly taken up by many rotary clubs, and this development, fraught with immense possibilities for good, is closely associated with the whole movement of child welfare and with the physical improvement of the parents of the next generation. The medical man's sympathy and co-operation in this and kindred branches of rotarian activity cannot fail to be of much help at the present time.

The similarity between the aims of Rotary and those of Freemasonry has been pointed out. It is true that the two societies are each founded upon the purest principles of brotherly love and service, but the former is simpler and less restrictive than the latter, and, of course, it possesses neither the antiquity nor the special privileges which are the peculiar property of the latter. Nevertheless, rotary makes a prompt and a widespread appeal to the hearts of men who are and who are not members of the older fraternity, and medical men are bound not only to be influenced themselves by its spirit but also to accord to the "new freemasonry" their active interest and hearty support.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 28, 29, 32, and 33 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 30 and 31.

THE following vacant appointments of certifying factory surgeons are announced: Dalkeith (Edinburgh), Hungerford (Berks), Woking (Surrey).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Six lines and under	0	9	0
Each additional line	0	1	6
Whole single column (three columns to page) ...	7	10	0
Half single column	3	15	0
Half page	10	0	0
Whole page	20	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

Hunterian Lecture

ON THE

NATURE AND CAUSE OF OLD-AGE ENLARGEMENT OF THE PROSTATE.*

BY

PROFESSOR KENNETH M. WALKER, M.A., M.B., F.R.C.S.,

LECTURER IN VENEREAL DISEASES, ST. BARTHOLOMEW'S HOSPITAL; SURGEON TO OUT-PATIENTS, ROYAL NORTHERN HOSPITAL.

THERE are few problems in medicine that have attracted more attention or given rise to a greater diversity of opinion than the problem of the nature and cause of enlargement of the prostate. One has only to glance through medical literature since the first reference to the subject by Nicola Massa, a Venetian physician of the sixteenth century, to realize how much research has already been expended on this subject and how little we really know concerning the genesis and pathology of the condition. In venturing, therefore, to make it the subject of my lecture on this, the second occasion that you have done me the honour of inviting me to address you, I would claim your special indulgence. Far abler investigators than myself have failed to throw any fresh light on this subject. In my humble opinion their failure has not infrequently been due to the fact that they have viewed the problem from too narrow an angle—as a surgeon, as a pathologist, or as an anatomist, as the case might be. For this reason I have tried to stand further back from my subject and to take as wide a view of it as possible, in the hope that where my investigation might fail in depth of vision it would gain in breadth. I have even included in its scope a consideration of enlargement of the prostate occurring in animals other than man, and an investigation of its incidence amongst the various races of the world. I have done this not only because I believed it to be the best method of tackling the subject of prostatic enlargement, but also because I am convinced that it is the manner in which all research should be pursued. The days of working in watertight compartments are over, and if in the future we are to continue making progress there must be a closer liaison not only between medicine, surgery, and pathology, but also between these and the kindred sciences of comparative anatomy, anthropology, and veterinary surgery.

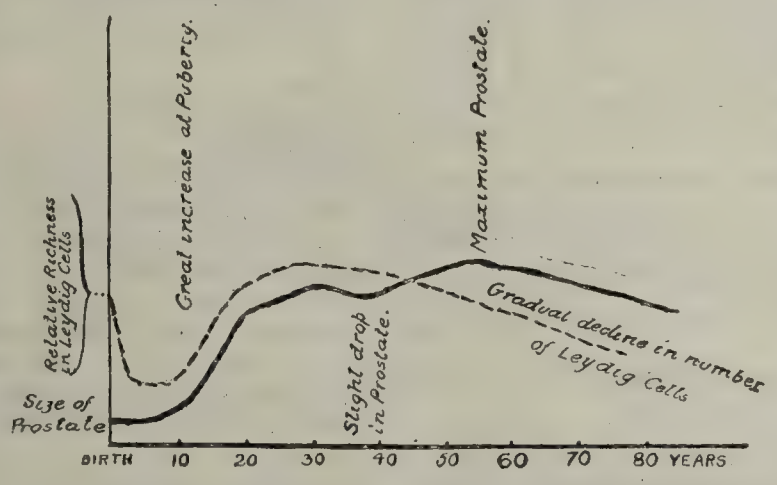


FIG. 1.—Curve showing average size of prostate at various ages (thick continuous line) and prominence of Leydig's interstitial cells (interrupted line).

The Frequency of Prostatic Enlargement.

Before going further into the subject it is advisable to lay down clearly that I propose to limit my inquiries to the investigation of only one type of enlargement of the prostate—the glandular, or what is commonly known as the adenomatous prostate. Of inflammatory enlargements of the fibrous type, and of carcinoma, I shall say little or nothing.

The first point to strike anyone who conscientiously examines prostates, whether his examination be made in the *post-mortem* room or in the out-patients' department, is the frequency with which some degree of enlargement occurs after the age of 50 has been reached. This, of course, is more obvious in the *post-mortem* room than in the out-patients' department, for it is only by means of such special examinations as cystoscopy and posterior urethroscopy that many of the lesser degrees of enlargement can be diagnosed during life. As an indication of the commonness with which this increase in the size of the prostate occurs after the age of 50 I have produced a curve which represents the size of the prostate in the various decades of life. (Fig. 1.) This curve has been constructed mainly from data supplied by Lowsley in his extensive work on the size and form of the prostate from birth to old age. It will be seen from the curve that the maximum size is reached somewhere about the age of 60. After this period there is a slow diminution in size with the advent of senility. It may therefore be accepted that some degree of enlargement after the age of 50 is the rule rather than the exception. This fact has been emphasized by such writers as Sir Astley Cooper, and notably by Sir Benjamin Brodie, who wrote:

"When the hair becomes grey and thin, when atheromatous deposits invade the arterial walls, when there is formed a white zone about the cornea, at the same time ordinarily, I dare say invariably, the prostate increases in volume."

However, although this is so, it must be remembered that only a percentage of those whose prostates show enlargement suffer any disability therefrom. There is no direct relation between the degree of enlargement and the severity of the symptoms. It is indeed by no means rare to find in the *post-mortem* room a prostate weighing as much as 40 grams, which has not produced any symptoms during life.

What is still more interesting is the fact that enlargement of the prostate during the latter part of life is by no means a prerogative of the human race. Of its incidence amongst domestic animals I cannot yet speak with any degree of certainty, owing to the difficulty I have encountered in obtaining specimens of uncastrated animals dying of old age. Amongst dogs, at any rate, it is extremely common, and, as old dogs are easily obtained, much of my work has been done on that animal. However, from the material which has been put at my disposal by the courtesy of the Veterinary College and the Zoological Society, I believe there to be a general tendency throughout the whole animal world towards enlargements of the secondary sexual glands in old age.

The Nature of the Enlargement.

Not only are we in complete ignorance as to the causes underlying enlargement of the prostate, but we are in doubt as to the nature of the enlargement itself. Is it a hyperplasia following previous inflammation, or is it in the nature of a neoplasm? The most convenient method of dealing with the subject will be to pass under review the theories of enlargement which have at various times been put forward, and to see whether they fit in with ascertained facts. These theories may be considered under three headings:

1. The inflammatory theory.
2. Neoplasms.
3. Degeneration theories.

The Inflammatory Theory.

The possibility of prostatic enlargement being due to an inflammatory process was suggested by De Sault as long ago as 1813. Since then the theory has been upheld by a great number of authorities, and especially by Rotschild and Ciechanowsky.

This latter observer maintained that no true increase of gland tissue occurred with enlargement of the prostate. The increase he regarded as only apparent, and due to dilatation of the glands. According to Ciechanowsky, the dilatation was the result of blockage of the prostatic ducts following inflammation in the surrounding stroma. The obstruction of the ducts resulted in the accumulation of secretion in the acini and their gradual dilatation. The chief cause of enlargement of the prostate would (according to this theory) be previous attacks of inflammation, and particularly of inflammation in the stroma surrounding the prostatic ducts.

This inflammatory theory has received so much support that no apologies need be offered for dealing with it at some length. Infection is one of the commonest causes of cell proliferation that we know, and the urethra and the prostate are particularly exposed to infective processes. Yet in spite of the seductive nature of the theory, offering, as it does, a simple and easily acceptable explanation of enlargement, I am convinced that it is insufficient to explain the type of prostate under present consideration. My reasons for refusing to accept the inflammatory theory, as put forward by Ciechanowsky, are as follows:

1. That as a rule signs of inflammatory reaction are absent in sections of enlarged prostate. It is true that occasionally a round cell infiltration is to be found, but I believe this to be a secondary

* Delivered before the Royal College of Surgeons of England on February 3rd, 1922.

condition and one that is dependent on a superimposed sepsis of the urinary tract. When the frequency with which sepsis follows prostatic enlargement is remembered the occasional appearance of a round-cell infiltration in such sections is not surprising.

2. That I have never succeeded in demonstrating organisms in microscopic sections of enlarged prostate. These negative results are in conformity with those obtained by Dudgeon and Cuthbert Wallace. It is true that these observers by means of cultural methods succeeded in obtaining evidence of organisms in enlarged prostates, but the low grade pathogenicity of the organisms obtained was strongly against their being responsible for the condition of enlargement.

3. If enlargement is due to dilatation of existing glands rather than to proliferation, a direct relationship should exist between the size of the prostate and the degree of glandular dilatation that has taken place. "Ex pede Herculem." No such relation exists. In other words, it is impossible for a person who examines a microscopic section to state whether it comes from a very large or only a moderate-sized prostate. Dilatation, moreover, of glands is not infrequently found in old prostates showing no enlargement whatever.

4. No clinical relationship can be established between enlargement of the prostate and previous urinary infections, whether gonococcal or otherwise. As will be subsequently shown, enlargement is particularly rare in the very races that suffer most from venereal disease.

The Adenoma Theory.

The adenoma theory has been supported by Socin, Cohnheim, Rindfleisch, Cuthbert Wallace, Velpeau and the French school of Pathology. It is probably the view that is most commonly held at the present time, but the arguments against it are very strong. While I agree that the type of enlargement we are considering may supply conditions favourable to the formation of definite neoplasms, I am convinced that the enlargement itself is not neoplastic in origin. The arguments against the neoplastic theory are as follows:

1. In order to explain the condition found in enlargement of the prostate we should have to postulate the appearance of multiple adenomata not only in the prostate itself but in the peri-urethral, subcervical, and in certain cases the subtrigonal glands, for, as we shall subsequently see, enlargement of the prostate is not an isolated phenomenon, but is associated with widespread changes in the genital tract.

2. Adenomata are not common at the age at which prostatic enlargement occurs.

3. If we examine a microscopic section we find that the newly formed glandular tissue reproduces the original prostatic tubules with extreme fidelity. They are often indistinguishable from normal prostatic glands, and, as has been shown by Herring, they are provided with well formed ducts. They also secrete a fluid similar to prostatic fluid, but containing more fat. The tissue of a tumour, on the other hand, is almost invariably atypical, and with rare exceptions it does not develop the physiological properties of the organ in which it develops.

Theories of Degeneration.

On *a priori* grounds there is much to be said in favour of a theory that regards enlargement of the prostate as a degenerative process overtaking an organ that has passed its period of full functional activity. Although a man of 55 may be regarded as comparatively young, yet from the point of view of his reproductive system he is old. It is true that active spermatogenesis may be seen in the seminiferous tubules of a nonagenarian and that the sexual life of the male has no abrupt termination. The menopause in his case is so gradual in its onset as to be almost imperceptible. Nevertheless a decline in sexual activity occurs and the genital tract of a man of 55 bears unmistakable signs of involution. Launois was one of the first to suggest that enlargement of the prostate is but a part of a degenerative fibrosis taking place throughout the whole urinary apparatus, kidney, bladder, etc. The cause underlying this degeneration he considered to be arterio-sclerosis. This view was supported by Guyon and many others. However, although Launois was undoubtedly right in drawing attention to the fact that prostatic enlargement is a part of a general change, it cannot be said that subsequent observations, including my own, have shown that this change is necessarily associated with arterio-sclerosis. Ciechanowsky, Casper, and Motz have all failed to find evidence that arterio-sclerosis is the cause underlying prostatic enlargement, and in my own series of cases not more than 10 per cent. showed arterial thickening. When the age of these cases is taken into consideration the occasional existence of arterio-sclerosis is not surprising.

Other observers have suggested that the prostatic condition is secondary to changes in the testes rather than to the presence of an arterial lesion. The relation between the testis and the prostate is a very close one, especially during the first half of life, and the theory is a plausible one. In order to test it I have made a careful examination of the testes associated with enlargement of the prostate, both as regards their relative weights and their histological appearance. I have entirely failed to establish any relation between the weight and naked-eye appearance of the testes and the size of the prostate. Microscopic examination of testes shows, however, the existence of changes that are undoubtedly degenerative in nature. The basement membrane of the tubules is thickened and the interstitial cells of Leydig are scanty, and in some cases obviously degenerating. In sections stained with Scharlach R. the cells of the tubules show the presence of numerous coarse granules. That these granules are due to the formation of fat in cells undergoing degeneration can be shown by suitable methods of staining and by the use of crossed prisms. However, although signs of degeneration of the tubules are undoubtedly present, spermatogenesis is by no means arrested.

In eight out of eleven prostatic cases I found active spermatogenesis to be present. Of the three cases in which it was absent two had suffered from malignant prostates, and, as Mott has shown, spermatogenesis is in any case absent in cases of malignant disease. A point of especial interest in connexion with these sections was the fact that the degenerative processes were distinctly patchy in distribution—that is to say, one tubule would show obvious changes and cessation of spermatogenesis, whilst another would appear to be fairly normal.

As a control the testes of men of equal age, but without enlargement of the prostate, were examined. Similar changes to the above were found in these controls.

It must therefore be concluded that the alteration in the testes that are associated with enlargement of the prostate do not differ in kind (although they may be slightly greater in degree) from the changes that normally take place in the testis at the end of active sexual life.

Having reviewed the theories that have been advanced to explain the condition, it will next be advisable to make a brief survey of some of the distinguishing features of prostatic enlargement, including its macroscopic and microscopic appearance. We shall then be in a position to see whether there is any other theory which offers a more satisfactory explanation of the condition.

The Site of the Enlargement.

The first point to be considered is the precise situation in which the increase in size occurs. What part of the prostate is most commonly affected? The fact that so many of our statistics on the subject have been drawn from surgical sources has led to an exaggerated idea of the rôle played by the middle lobe in this matter. Increase in the size of this lobe is, of course, almost invariably productive of symptoms, and it is on this account rather than because the middle lobe has any monopoly in enlargement that such emphasis has been laid on it. By far the commonest form of enlargement (over 70 per cent. of my cases) is one which involves lateral and middle lobes alike. Indeed, there is only one portion of the prostate which does not take part in enlargement, and that is the posterior lobe. So few are the exceptions to this rule that I have been tempted to believe that the prostate (concerning whose functions we know so little) is in reality a composite gland, the posterior lobe of which differs, not only in histological structure but also in its function, from the rest of the gland. At any rate, there is sufficient ground for the belief that the posterior lobe has an individuality of its own, and one of the points of difference between it and its fellows is the fact that although it is not infrequently the starting point of a carcinoma it scarcely ever takes part in a non-malignant enlargement.

Motz and Perearnau have advanced the view that what has been termed enlargement of the prostate is in reality not an enlargement of the prostate proper but rather of the submucous glands. The situation of the glands to which these authors have accorded so important a rôle is best seen in a section through the posterior urethra and bladder neck somewhere about the fifth foetal month. Fig. 2 is from a diagram of Lowsley's, and shows that the glands are arranged in three groups: (1) The urethral (Albarran's glands); (2) the subcervical; and (3) subtrigonal. The names given to the different groups sufficiently describe their situation. There is one point, however, that is worthy of emphasis, and that is

the fact that the subcervical group of glands is separated from the prostate proper by the interposition of the bladder sphincter. The fact that the subcervical glands lie internal to the sphincter gives support to the view that they rather than the prostate play the chief part in obstructions in the neighbourhood of the vesical neck, and in intra-vesical projections (specimen). However, whilst readily admitting that these glands, rather than the prostate itself, are in many cases the cause of an obstruction, Motz and Perearnau have, in my opinion, gone too far in denying all responsibility to the prostate. The truth, as is so often the case in arguments, scientific or otherwise, would appear to be that both statements are correct. Some cases of enlargement are mainly prostatic, whilst others are mainly submucous. It is difficult, if not impossible, to estimate the percentage of cases in which the obstruction is mainly submucous and that in which it is chiefly prostatic. However, as a rough indication of the frequency with which alterations in the submucous glands are encountered we have Lowsley's statement that in men over 30 Albarran's group of glands are enlarged in 25 per cent. of cases and the subcervical group in 22.8 per cent. Similarly, J. R. Caulk, as the result of the examination of 485 cases of clinical obstruction, found enlargement of Albarran's glands in 97 (20 per cent).

Prostatic Enlargement a Part of a Condition Affecting the Whole Genital Tract.

Already we have accumulated sufficient evidence to justify the statement that enlargement of the prostate is not an isolated phenomenon, but is associated with changes in other portions of the genital tract. These changes (which, at any rate in the case of testis, are definitely degenerative in nature) are found in the testis, the prostate proper, the peri-urethral, subcervical, and subtrigonal glands. There is also evidence that the vesiculae seminales may be implicated. In a great many cases they are found to be enlarged and thickened. According to Lowsley, this occurs in 32 per cent. of men over the age of 30. In certain instances the dilatation and thickening of the vesicles may be indirectly due to pressure on the ejaculatory ducts, but in others the change is a part of the degenerative process affecting the whole genital tract.

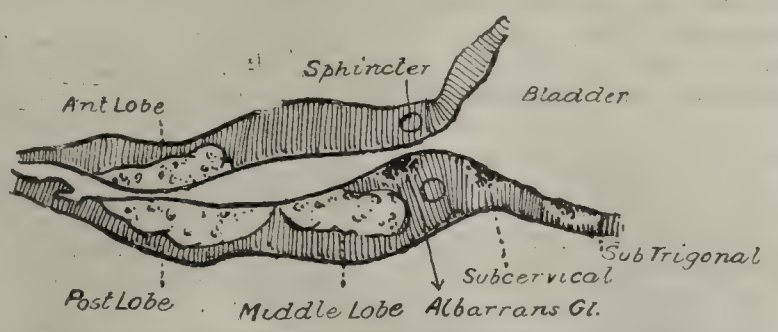


FIG. 2.—Sagittal section through post-urethra and bladder neck; fifth month (after Lowsley), showing developing prostate and submucous glands.

Section of Enlarged Prostate.

The following are the naked eye and microscopical appearances:

Naked Eye Appearance.—A section through an enlarged prostate reveals the presence of a number of small round opaque areas of a colour that varies from white to a pale yellow. These areas are scattered throughout the substance of the gland. By the advocates of the neoplasm theory they have been regarded as adenomata. They are surrounded by a capsule of translucent normal prostatic tissue, from which they can be enucleated with comparative ease. In certain cases these primary areas are subdivided into secondary smaller ones. Similar areas are to be seen in the enlarged prostate of a dog.

Microscopic Appearance.—A microscopic examination shows that the opaque masses or nodules described above are formed of glandular tissue. In a single section may often be seen different phases in their development. This is especially the case if the dog be selected for the purpose of their study.

At an early stage in the formation of one of these masses there is an active proliferation of the endothelial lining of a group of glands. The proliferation is mainly directed to the formation of a large number of intra-acinous growths, which become more and more luxuriant as time goes on. As a result of the enlargement occurring in these central glands the surrounding tissues with their glands become disposed concentrically around the area of proliferation so as to form a capsule. The formation of intra-acinous growths in time becomes so luxuriant that a section through one of these areas of proliferation resembles nothing so much as a section through a papilliferous ovarian cyst. In frozen sections stained with some such dye as Scharlach R. it will be seen that in certain areas these proliferated glands are undergoing marked fatty degeneration. The microscopic appearances in the human prostate are similar to the above, although less striking. There exists the same tendency to the formation of intra-acinous growths, and there are the same patches of fatty degeneration.

Although there might seem to be little in common between the above and the changes that have previously been described as occurring in the testes associated with the enlargement, the similarity is greater than would at first sight appear. In both testis and prostate we have a degenerative process that picks out certain tubules whilst it leaves others more or less intact. In the gland cells of either organ we note the same structural alterations—namely, an enormous increase in the size and number of granules that take on a red stain with Scharlach R. In both instances this fatty degeneration is patchy in its distribution throughout the organ and is associated with an increase in the interstitial fibrous tissue. The chief difference lies in the fact that whereas the tubules of the prostate have undergone a previous proliferation, those of the testis have not.

The Cause of Enlargement.

An enlarged prostate is, therefore, according to this view, to be regarded as a prostate that has undergone a form of degeneration which, for the sake of convenience, we may term fibro-epithelial. The condition may be considered in the light of an accident that has occurred during the period of involution of the genital tract. If we look for an analogy to this in the case of the female we may find one in the somewhat obscure condition known as a sero-cystic disease of the breast. The breast, like the prostate, is one of the secondary sexual glands. It is in intimate association with the ovary, just as the prostate is with the testis. Finally, the breast shares with the prostate the same tendency to develop lesions during the period of sexual decline. When we examine a microscopic section of a breast that has become enlarged as the result of sero-cystic disease, we find that it presents a very close similarity to that of an enlarged prostate. We find the same formation of intra-acinous growths as the result of epithelial proliferation. There is the same tendency to dilatation of the acini, and an equal absence of round-celled infiltration, or of other signs of inflammation. Moreover, the changes in the breast show the same patchy distribution that we have seen to be characteristic of the prostatic condition, one group of glands being markedly affected whilst another remains free. The most obvious difference between the prostatic and the breast lesions is the presence of fatty degeneration in the former case and its absence in the latter.

The difficult question now arises as to what are the causes that determine the onset of fibro-epithelial degeneration. Why should one prostate undergo an enormous enlargement whilst another to all intents and purposes escapes? We have seen that infection alone fails to account for the condition, although it may possibly act as a contributory cause. Is there any reason to suppose that any of the other causes that have been put forward at various times exert any real influence? It has been suggested that congestion may determine the onset of enlargement. We know that chronic engorgement may cause hyperplasia, and there are reasons for believing that the prostate is particularly prone to congestion. The frequency with which a thrombosis of the plexus of Santorini is found in the prostate at necropsy is sufficient evidence of the liability of this organ to venous stasis. But although there exists an antecedent probability that venous congestion may be a contributory cause, it is unlikely that it is of more than secondary importance. Other possible explanations must therefore be examined.

The Relation of the Prostate to the Endocrine System.

The intimate relationship of the prostate to the interstitial cells of Leydig in the testis is well known. Through Leydig cells the prostate becomes linked with the other endocrine glands, and notably with the suprarenals and the pituitary. The relationship between the prostate and the pituitary has indeed been directly demonstrated by Coetsch, who found that, in feeding experiments upon young hypophysectomized rats, anterior lobe stimulated the growth of the prostate whilst posterior did not. But in addition to this well-established connexion between the prostate and the endocrine system, a claim has been advanced by certain observers that the prostate itself is responsible for the elaboration of an internal secretion. The evidence in favour of this, although suggestive, is very far from being conclusive, and is chiefly based on the work of Macht.

Macht fed tadpoles on prostatic fluid and demonstrated that it hastened differentiation and metamorphosis, but to a less extent than did thyroid extract. He also found that injections of the extract provoked contraction of the genito-urinary organs both in the male and female (that is, uterus, bladder, ureters, etc.). Attention has, moreover, frequently been called to the fact that mental symptoms are particularly prone to develop after prostatectomy. Macht, however, as the result of a series of ingenious experiments on prostatectomized rats, showed that in the case of these animals cerebration was unimpaired by prostatectomy. The mental symptoms following prostatectomy should, therefore, in the light of what we have found, be correlated with the degenerative processes that have taken place in the testes, rather than with any removal of prostatic secretion.

My own observations, as far as they go, indicate that injections of extract of prostate in the human being do not produce any response in the way of alteration of blood pressure, pulse, respiration, etc. I have used both an autolysit and a commercial preparation of prostatic extract for this purpose and have never obtained a reaction that could be appreciated clinically. Incidentally I may mention that I have found that prostatic extract, when employed as a therapeutic measure, is occasionally of use during the early phases of enlargement, but of little benefit in the later.

As a final piece of evidence in favour of the prostate furnishing an internal secretion is the case reported by Doré, in which prostatectomy was followed by a marked hypertrophy of the breasts.

Apart from the above considerations the close dependence of the prostate on the ductless glands during its period of development affords sufficient ground for considering carefully the possibility that enlargement may be associated with some change in the endocrine system. The menopause in the female is generally accompanied by a temporary loss of endocrine balance, and it is not improbable that a similar state of affairs may arise during the period of sexual decline in the male. For this reason I have considered it advisable to examine the interstitial cells of the testis, the suprarenal capsules, and the pituitary in cases of prostatic enlargement. The necessity for examining the interstitial cells of Leydig had, indeed, long been apparent, and remembering the tendency of "prostatics" to exhibit exaggerated sexual desire, the possibility had occurred to me that enlargement and sex hyperaesthesia might both depend on an increase in Leydig cells. That this is not the case has already been shown in the section dealing with changes in the testis. I found that Leydig cells were diminished rather than increased in cases of prostatic enlargement. So far I have not been able to demonstrate any alteration in structure in either the suprarenal or the pituitary, but as the histology of the endocrine glands is notoriously difficult on account of early *post-mortem* changes I would prefer at the present to make no further statement on the subject. The condition of the endocrine glands in cases of prostatic enlargement offers a fruitful field for research, not only by means of histological methods, but still more by an investigation of basal metabolism and a determination of the respiratory quotient.

Racial Distribution of Enlargement.

In the hope that thereby some light might be thrown on its etiology, I have obtained what information I could on the incidence of prostatic enlargement amongst the various races of the world. In trying to arrive at an estimate of its frequency it must always be borne in mind that enlargement is a disease of old age, and that where old men are rare enlargement will be rare also. This undoubtedly explains to some extent the rarity with which prostatic obstruction is encountered amongst certain African races. It also makes the interpretation of hospital statistics difficult, and prevents the giving of anything more than a general impression of the frequency of the condition.

The following summary has been prepared from the answers received to my questionnaire inquiring into the incidence of the condition in the various countries of the world.

India.—Prostatic enlargement is fairly common, but less so than in England. In an out-patients' department dealing with approximately 1,000 new male cases per annum, some 30 cases of prostatic enlargement were seen. The condition is definitely commoner amongst Mohammedans than Hindus. It is found more frequently amongst the well-to-do than the hospital class. As in other countries where the individual reaches sexual maturity at an early age the onset of symptoms from enlargement is earlier than in England.

Japan.—Prostatic enlargement is very rare. Dr. Matsumoto reports that in the records of the out-patients' department of the special Hospital for Urinary Diseases at the University of Kyoto there is an average of four cases of enlarged prostate per annum, although the total attendances run into several thousands. Professor Hayami, of the same university, has never encountered the condition on the dissecting table. Japanese literature on the subject is very scanty.

China.—Very rare. Dr. Koch, of the Government Hospital at Hong Kong, states that during the last fourteen years no case of enlargement has been seen, although the yearly average of in-patients is 4,000 and of out-patients 25,000. Similarly, in the Canton Hospital records for the years 1915, 1916, and 1919 there are three entries of prostatic enlargement, although during the same period as many as 156 cases of vesical calculi are recorded. During the ten years 1910–1919, 13,761 operations were performed in this hospital, of which 6 were prostatectomies.

Egypt.—Fairly common, but less common than in England. At the Kasr-el-Ainy Hospital, Cairo, there were 17 cases of prostatic enlargement in 1921 out of a total of 8,472 male in-patients. This appears to constitute an average for the last ten years. All except one of these cases were amongst Egyptians. The actual incidence of the trouble is higher than the above figures indicate, as patients do not usually report until urgent symptoms supervene. It appears to be common amongst the well-to-do classes. In Upper Egypt and the Sudan enlargement is much rarer. It is interesting to note that in the same region hypertrophy of the breast in the male is comparatively common.

South Africa.—An inquiry amongst medical men practising amongst natives has elicited the unanimous opinion that enlargement is extremely rare amongst the natives of South Africa. It must, however, be remembered that few natives live beyond the age of 50.

South America.—Common to those of European stock living in large cities. Incidence amongst aborigines unascertained.

North America.—Incidence in white population apparently as great as in England. The majority of American writers agree that the condition is rare amongst the negroes of the States, the only statement to the contrary being made by Matas. C. H. Day estimates the ratio of incidence amongst whites to that amongst negroes to be as 7 to 3. If this is only approximately correct the incidence amongst the negroes of North America would appear to be greater than that for the original African stock from which they came.

Incomplete as this attempt to discover the incidence of prostatic enlargement may be, it is at any rate sufficient to justify the following deductions:

1. That enlargement of the prostate is a condition having a definite distribution that is anthropological rather than geographical in character. Whereas the condition is common in the Circassian race generally, both in Europe and in the New World, it is somewhat less frequently found amongst those of Semitic and Arab stock, and amongst the inhabitants of India. Amongst Mongols and Negroes it is extremely rare.
2. That enlargement can have nothing to do with the causes that have at various times been suggested as determining its incidence—that is, previous attacks of gonorrhoea, sexual excesses, masturbation, etc.—for the races that are more or less immune from enlargement are the very races in which these supposed causes are most in evidence. Generally speaking, enlargement is commoner amongst meat eaters and those leading the sedentary lives of cities than amongst the vegetarians and frugal livers.

Conclusions.

1. It is impossible to explain enlargement of the prostate by any theory of chronic inflammation alone.
2. Although enlargement may reproduce conditions favourable to the development of a neoplasm, the enlargement itself does not come into the category of true tumours.
3. The condition is in the nature of a fibro-epithelial degeneration which finds its analogy in the female in sero-cystic disease of the breast.
4. This degeneration may be regarded as an accident occurring during the progress of involution of the genital tract.
5. The cause that determines the onset of the condition is unknown, although it is not improbably connected with a loss of endocrine balance occurring during this period.
6. Prostatic enlargement shows a definite distribution that is anthropological rather than geographical in character. It very rarely occurs amongst Mongolians and Negroes.

My thanks are due to so many for their assistance in providing me with material and facilities for the above research that it is impossible to mention them all specifically by name. I wish, however, to express my special obligation to Professor Reynolds,

F.R.C.V.S., and above all to Sir Frederick Mott, F.R.S., and the authorities of the Maudsley Hospital for allowing me to work in their well-equipped laboratories.

BIBLIOGRAPHY.

Lowsley, O. S.: *Surg., Gyn., and Obstet.*, 1915, p. 183; *Annals of Surgery*, 1915, 716; *Med. Record*, 1916, xc, 3-10.
Cooper, Astley: *Lectures on Genito-Urinary Organs*, 1824.
Squier: *Med. News*, 1901, 78.
De Sault: *Oeuvres Clin.*, 1813, 3, p. 238.
Ciechanowsky: *Anatomical Research on Prostatic Hypertrophy* (translated by Green, 1903).
Wallace, Cuthbert: *Prostatic Enlargement*.
Socin: *Handbuch der Chirurgie*, 1871-75, III, 8.
Cohnheim: *Allgemeine Pathologie*, 1877.
Rindfleisch: *Pathologische Gewebelehre*, 1886.
Velpeau: *Leçons Orales de Clinic de Chirurgie*, 1841.
Herring, H. T.: BRITISH MEDICAL JOURNAL, October 29th, 1904.
Launois: *Thèse de Paris*, 1885.
Casper: *Virchow's Archiv*, lxxvi, 139.
Mott, Sir Frederick: BRITISH MEDICAL JOURNAL, 1919.
Motz and Perearnau: *Ann. de Mal. de Org. Génito-Urinaire*, 1905.
Caulk, G. J., and Latimer, M. J.: *American Medicine*, 1919, p. 899.
Serralach and Pares: *Comptes Rendus Soc. Biol.*, 1907, lxiii, 790.
Macht, David: *Journ. of Urology*, April, 1920; January, 1921.
Macht and Matsumoto: *Journ. of Urology*, June, 1920.
Doré: *Journ. d'Urologie*, vol. x.
Matas: *Transactions* Amer. Surgical Association, xiv.
Day, G. H.; *Journ. of Urology*, January, 1921.

METABOLISM OF CHILDREN UNDERGOING OPEN-AIR TREATMENT, HELIOTHERAPY AND BALNEOTHERAPY.

BY

LEONARD HILL, M.B., F.R.S., AND J. ARGYLL CAMPBELL, M.D., D.Sc.

(FROM THE NATIONAL INSTITUTE FOR MEDICAL RESEARCH, HAMPSTEAD.)

With the Co-operation of

SIR HENRY GAUVAIN, M.A., M.D., M.C.

IN consideration of the beneficial effect of heliotherapy in the treatment of tuberculosis attention has been turned almost entirely to the influence of the ultra-violet rays, which do not penetrate more than 0.1 mm. (F. E. Barnard), being absorbed by the surface film of the skin; and (perhaps) more justly to the luminous rays, which, in part, penetrate and are absorbed by the blood and deeper tissues. Other factors of great importance must also be taken into account—namely, the effect of the cooling power of the open air on the exposed body in stimulating muscle tone and body metabolism; the effect of breathing cool air with low vapour tension on promoting evaporation from the respiratory membrane,[1] and so enhancing the outflow of secretion from it and the flow of lymph and arterial blood through it; the effect of cool air in promoting evaporation from and flow of lymph through sores and discharging sinuses; the effect of sunshine in promoting such evaporation and flow, and in warming diseased parts exposed to it. In this paper we propose to consider the effect on body metabolism.

In published results[2] it was shown that body metabolism or heat production of healthy adults was raised by sitting quietly out of doors in the shade for half an hour on an ordinary winter's day, and that shivering was not necessary to raise metabolism. We found that a cooling power between 15 and 20, as measured by Hill's dry kata-thermometer, gave the proper conditions for avoiding shivering for our subjects, who wore the same clothes as indoors.

To continue our observations on the effect of open air, and at the same time to investigate that of heliotherapy on body metabolism, we carried out a number of experiments at Lord Mayor Treloar's Hospital at Alton, and Hayling Island, Hampshire, during the past summer. In the present paper we record these results.

The conditions at this hospital were particularly suitable, our subjects being children with surgical tuberculosis, treated, among other methods, by open air and heliotherapy. After a course of skilful training the children are able to lie naked in the open air for many hours under atmospheric conditions which would soon make an ordinary healthy individual shiver and uncomfortable unless wearing his ordinary clothes. The process by which the children are inured to exposure is a gradual one and takes a longer time in some cases than in others. Sir Henry Gauvain,[3] the medical superintendent, has described the method as employed at Alton.

Methods.

We used the Douglas-Haldane method of indirect calorimetry, following the directions given by Cathcart;[4] in this method, which is recognized to be an accurate one, both O_2 and CO_2 are estimated in the expired air.

The children under observation were of an age—8 to 16 years—of understanding, and met the conditions of experiment willingly. After a few preliminary trials with the mouthpiece, the process of taking a sample of expired air concerned them little. One factor which helped us considerably was that our subjects, being hip or spine cases, were fixed in splints in bed. Movement, except of the head and arms, was practically impossible. We took care to exclude movement of the head and arms for the usual period before taking the sample.

Breakfast was taken at 6 a.m., a glass of milk at 8.30 a.m., dinner at 12 noon, tea at 4 p.m., and supper at 7 p.m. (summer time). In the case of observations made before breakfast, breakfast was taken at 8.30 a.m. Observations after breakfast were made between 10 a.m. and 12 noon; those after dinner between 2 p.m. and 4 p.m.

Records of dry and wet bulb air temperatures, of dry and wet kata-thermometer cooling powers, and of black fur surface temperatures were taken to give indications of the atmospheric conditions under which the observations were made. The last give a measure of the radiant energy of the sun. Records of cheek surface and axillary body temperatures and of pulse rates were also taken. We did not employ subjects who showed an abnormal body temperature. Only one or two of our cases showed a broken skin, and these lesions were sinuses or ulcers of a minor degree.

For comparison, we have used the figures for calories per diem given in Benedict and Talbot's[5] standards for children of the same weight as ours; these are well known basal standards. Strictly speaking, the only figures of our results that may be compared with these basal standards are those we obtained from our subjects in the post-absorptive state—that is, before breakfast. Nevertheless for comparing one set of our figures with another set of our figures obtained under similar conditions in regard to the taking of food, we have taken the liberty of using these standards, and noted what difference each set of our results showed from the standard for children of the same weight as ours. This seemed to be the best method for comparing our results. We have also calculated the heat production per unit of body surface, using both Du Bois's and Benedict and Talbot's formulae for calculating the surface and reaching the same conclusions from the use of each.

Results obtained from Children who had been Treated for many Months with Open Air and Heliotherapy.

Our first experiments were done on children who had been under treatment for many months. Some of them had pigmented very well under the influence of the sun—that is to say, they had not blistered, but bronzed. Others, who did not pigment well, easily blistered, and, not tolerating much exposure to sun, were kept more in the shade. All the children on an ordinary summer's day wore only loin-slips, and paid no attention to the fact that they were so much exposed to the open air; there was no evidence of shivering.

Sir Henry Gauvain states that the children who do not pigment well are slower in progress. We noted that the children who pigmented well were usually of better weight than those who did not pigment well, but the average difference in metabolism at Alton was negligible after due allowance was made for difference in weight. From this we conclude that heliotherapy was not so much responsible for the rise in metabolism observed as was the open air, since those who pigmented well received much more heliotherapy than those who did not pigment well.

We should like to emphasize here that we were not dealing with the cure of the disease but with the metabolism alone. While many clinicians hold the view that heliotherapy is greatly concerned with the arrest of the disease, the different factors at work have not so far been analysed.

To return to our results: Table I shows the figures obtained from those who pigmented well, and Table II shows the figures from those who did not pigment well. The Alton figures may be compared. Taking both Table I and Table II together the average increase of our figures before breakfast above the standard figures for the same weight was about 40 per cent., whereas after breakfast and after dinner the average increase over the standard was about 50 per cent. The out-of-door cooling power and its effect on metabolism vary, but we may conclude that the average effect of the hospital food in our observations was not more than 10 per cent. Du Bois found the basal metabolism increased only

TABLE I.—*Average Figures for Children who Pigmented Well.*

Time and Place.	Age (Years).	Weight in Kilos.		No. of Observations.	Calories per diem†		Percentage Increase of Calories over Standard.
		Found.	Standard*		Found.	Standard‡	
Before breakfast.							
At Alton ...	11.5	32.0	32.0	7	1593	1172	36.3
At Hayling ...	12.0	29.9	35.0	12	1555	1067	45.7
After breakfast.							
At Alton ...	12.0	27.6	35.0	9	1579	1016	50.9
At Hayling ...	11.0	25.4	30.0	19	1464	974	50.3
After dinner.							
At Alton ...	11.3	37.2	31.0	9	1852	1302	42.2
At Hayling ...	11.7	30.9	34.0	21	1670	1108	50.7

* For same age.
† The resting metabolism found during exposure out of doors is calculated per diem. The metabolism is at a lower figure when the child is clothed and in the ward during the night.
‡ For same weight without food.

2 per cent. by a light breakfast (two to three hours after it). We consider that the 40 per cent. increase of our figures above the standard was due to increase of bodily tone by exposure to open air. We have already proved that metabolism of healthy adults wearing ordinary clothes is raised sometimes nearly 40 per cent. by open air apart from heliotherapy.[1]

TABLE II.—*Average Figures for Children who did not Pigment Well.*

Place and Time.	Age (Years).	Weight in Kilos.		No. of Observations.	Calories per diem.		Percentage Increase of Calories over Standard.
		Found.	Standard.		Found.	Standard.	
At Alton.							
Before breakfast	10.3	23.4	27.0	9	1345	948	41.8
After breakfast...	11.7	26.3	33.0	10	1431	1017	40.7
After dinner ...	13.0	29.4	40.0	10	1636	1094	49.5

Some may think that the better conditions of diet, etc., provided in hospital were partly responsible for the increase in the case of these children, but we take it that they were not much better than the conditions for the healthy children from whom Benedict and Talbot obtained their standards. It is not merely a question of provision of food, but of stimulus, by open air exposure, to eat and absorb the food. Other points of argument will be considered in our next experiment.

Results obtained from Children "On Admission" and After the First Three Months of Open Air and Heliotherapy.

Sixteen children, eight boys and eight girls, were employed for observations a few days after admission and again after the first three months of open air and heliotherapy. The girls were above, but the boys were under, normal weight for the same age.

These children were placed in isolation cubicles, which were very well ventilated, the cooling power in these cubicles being much the same as in the shade outside. The children were in bed covered with light bedclothes. As a rule the upper part of the body was covered only by a thin shirt. There seems little doubt that most of them had been much more shut up in their own homes.

As a rule we took four observations on consecutive days from each child whilst in the cubicle a few days after admission, so that they would be accustomed to their new surroundings. After two weeks in the cubicles the children were taken outside in bed and gradually exposed to the open air and sun. Some of them were more able to stand exposure than others at the end of three months' treatment, so that the former were more pigmented than the latter. In any case none of these children were so well adapted to exposure as the children who had been in hospital for some months longer.

Table III shows the average results we obtained "on admission" and "after the first three months of treatment." It will be noted that "on admission" our figures were about 30 per cent. above the standard, and "after three months of treatment" they were about 50 per cent. above the standard, so that there was a 20 per cent. increase in metabolism. These observations were taken after breakfast and after dinner, but we were careful in each case to take the observations "after three months' treatment" at the same time, with regard to meals, as our observations "on admission."

We have already shown that on an average the hospital diet is responsible for an increase in metabolism of 10 per cent., so that our figures become for "on admission" 20 per cent. above the standard, and for "after three months' treatment" 40 per cent. above the standard. We have made full allowance for the children's increase in weight owing to their condition improving, in the hospital, by taking, for comparison, the standards for the different weights of each child observed "on admission" and "after three months' treatment."

TABLE III.—*Average Figures showing Effect on Metabolism of Three Months' Treatment.*

	Eight Boys, aged 10.4 Years.	Eight Girls, aged 9.5 Years.
Weight in kilos:		
On admission	22.3	25.8
After three months' treatment ...	24.3	27.0
Standard for same age	27.0	24.0
Number of observations:		
On admission	29	37
After three months' treatment ...	30	28
Calories per diem:		
On admission, with food	1183	1270
After three months' treatment, with food	1460	1514
Standard, for same weight on admission, without food	916	946
Standard, for same weight after three months' treatment, without food.	973	975
Percentage increase of calories found over standard:		
On admission	29.1	34.2
After three months' treatment ...	50.2	55.3
Percentage increase in metabolism after three months' treatment	21.1	21.1

It seems at first sight a remarkable result that the children examined in the cubicles "on admission" had a metabolism on an average 20 per cent. above the basal standard. The observations numbered 96 for 22 children. Recently Blunt and others,[8] using an indirect method of calorimetry, and therefore not a closed chamber, found that the basal metabolism of under-weight children tends to be higher than that of the normal child. In some of our cases this may be the explanation, but many of our children were not under-weight, and those who were under-weight did not by any means give the highest percentage increments. Wright,[6] using the same method as we did, has published some figures which indicate that the metabolism of healthy British naval youths in bed and in hammocks is much higher than the basal standards for children in closed chambers. The increase is probably due to the different conditions of atmosphere and clothing under which our observations and the basal standards were obtained.

As already stated, our observations "on admission" were taken in especially well ventilated cubicles, whereas Benedict and Talbot's standards were obtained whilst the child was in a closed chamber. Undoubtedly under our conditions more "tone" would be retained than under Benedict and Talbot's conditions. The temperature inside their chamber was not far from 22° C. to 23° C. The authors[7] advise that the subject in this chamber should be dressed, including stockings and shoes; in addition a pair of woollen socks should be drawn over the shoes to prevent cold feet. In the cubicles at Alton we observed an average dry bulb temperature of 19.9° C., the figures ranging from 17.4° C. to 22.6° C. We

have shown[1 2] that body metabolism is not regulated by temperature of the air, but by cooling power—that is, the wind and other factors are concerned as well as the dry bulb temperature.

We must take into account the presence of muscular spasm in some of our cases owing to the disease, but these worst cases did not give the highest figures; and Wright's naval cadets were obviously not ill. We see no reason to assign any great part to psychical influence, since our subjects were isolated and were accustomed to their new surroundings before we made our observations.

It is possible that English children have a somewhat higher basal metabolism. We do not know of any observations that have been done on children of this age in this country in chambers similar to those used by Benedict and Talbot.

Note on Balneotherapy.

In Table I it will be observed that we have given separate figures for Alton and Hayling Island. The Hayling Island percentages are, on the whole, higher than those for Alton. At Hayling Island the children lived in a more exposed position, and had balneotherapy in the sea in addition to open-air treatment and heliotherapy. The period of immersion in the sea varied between half a minute and seven minutes per day during the summer, with a sea temperature of about 60° F.* We took samples of expired air for analysis during the immersion, and found that metabolism was between two and three times that of resting metabolism, and, of course, higher if movement—swimming, etc.—were allowed. Sir Henry Gauvain states that some children do better under the seaside conditions at Hayling Island than inland at Alton; others do better at Alton than at Hayling Island; others, again, do better if given an occasional change from one place to the other.

In conclusion, we wish to state that the excellent muscular tone and condition of the children who had been treated is sufficient evidence of the high value of the methods employed, and is remarkable when one considers that the children had been fixed in splints in bed for so long a time. It seems likely that this carefully graduated treatment could be applied with success in other conditions involving a long period in bed.

We are indebted to the members of the hospital staffs for much help during this work.

Summary.

1. Observations during the past summer on metabolism of children crippled with surgical tuberculosis and lying fixed in splints in bed and more or less nude, at Lord Mayor Treloar's Hospital, Hampshire, are described. Their metabolism on the average was increased 40 per cent. above the standard, for the same weight, of children confined in a closed calorimeter.

2. After three months' treatment, including graduated exposure to open air and heliotherapy, their metabolism out of doors was 20 per cent. above that in well-ventilated cubicles soon after admission.

3. Children who had been treated for many months showed high metabolism in the out-of-door conditions, those who pigmented well in the sun giving about the same figures as those who did not pigment well, after making allowance for weight. The former gave the better figures for weight.

4. It is considered that the rise in metabolism caused by heliotherapy *per se* is insignificant compared with that caused by exposure to open air. At the same time the value of heliotherapy as a factor towards arrest of the disease is not disputed.

5. Children on admission in well-ventilated cubicles gave results about 20 per cent. higher than basal standards for closed calorimeters. It is considered that the open-air conditions in the former were mainly responsible.

6. Balneotherapy increases metabolism much above the resting level.

7. The bodily tone and general condition of the children under the specially graduated treatment is remarkable when the long period of immobilization in splints in bed is considered. The treatment might be applied with advantage in other cases involving long confinement in bed.

* Varying periods of immersion result in corresponding variations in metabolic activity. Balneotherapy thus affords a ready and controllable means of stimulating metabolism to a desired degree. We are not concerned in this paper to discuss the optimum metabolism desirable, though we cannot fail to appreciate the clinical importance of this factor in treatment.

APPENDIX.

A number of experiments were completed during the past few winter months. On suitable days the children were placed out of doors in the sun, even though the temperature of the air was very low. They were covered up with bedclothes, only the face and hands being exposed. The days were few on which the children had to be kept indoors during our observations. The table shows the results obtained, the figures being given as percentage increments over the standard basal figures for the same weight. The observations were made about five hours after breakfast and three hours after a glass of milk, so that no more than 10 per cent. should be deducted throughout for the influence of food.

Table showing Percentages above Basal Figures.

	Subject.					
	H.Z.	J.L.	A.H.	H.N.	E.G.*	J.C.*
In Summer, under ordinary conditions of open-air treatment	37	52	46	60	69	32
In Winter:						
Under ordinary conditions of open-air treatment	58	59	73	96	99	79
In warm room at 70° F.	—	50	51	78	62	27

* E. G. and J. C. were kept in the warm room at 70° F. for four days and four nights, and for some observations were in the post-absorptive state.

It will be observed that the winter results are, on the whole, a good deal higher than those obtained for last summer. Apart from this general statement, the winter results are not comparable with one another, since some were taken on much colder days than others, as indicated by the cooling power of the atmosphere.

We also imitated Benedict and Talbot's conditions by placing the subjects in a warm room at about 70° F. The results in the warm room should be compared with the winter results under ordinary conditions of treatment, as the former were, as a rule, obtained a couple of hours after the latter. The metabolism was decreased—in some cases markedly—by this process, but on the whole it was still much above the basal standard. We do not think that the disease in itself can explain much, if any, of the difference, but think it probable that the children, owing to open-air treatment, had a higher basal metabolism than those from whom the basal standards were obtained in America, and that only prolonged warm room treatment will bring it down. The Britisher going to the tropics has, at any rate for some time, a higher basal metabolism than the native during waking hours.

REFERENCES.

[1] Hill, Leonard: *The Science of Ventilation and Open-air Treatment*, vol. i, Special Report Series No. 32, Medical Research Council.
[2] Campbell, Hargood-Ash, and Hill: *Journ. Physiol.*, 1921, 55, Nos. 3 and 4, 259.
[3] Gauvain, H. J.: *Tubercle*, June, 1920, p. 407.
[4] Cathcart: *Journ. R.A.M.C.*, November, 1918.
[5] Benedict and Talbot: Carnegie Institute, Washington, Publication No. 302, 1921.
[6] Wright, F. C.: *Journ. Royal Naval Medical Service*, 1920, 6, 279. Ibid., 1921, 7, 21.
[7] Benedict and Tompkins: *Boston Med. and Surg. Journ.*, 1916, 174, pp. 904 and 942.
[8] Blunt, Nelson, and Oleson: *Journ. Biol. Chem.*, November, 1921, 49, 247.

THE members of the City Medical Society of Kankakee, Illinois, U.S.A., have been discharging since March, 1921, the duties usually performed by the county and township medical officer with regard to necessitous persons, and recently also those of the medical officer of health for the city. The members of the society are divided into four groups, each of which serves for three months. In each group are practitioners who are competent to do major surgery, as well as specialists in eye, ear, nose, and throat work. The scheme provides that the indigent shall have a choice of medical practitioner, and, according to the *Journal of the American Medical Association*, the service is more competent than could be rendered by an individual medical man; the expense to the community is no greater. The fee the society receives for this work is devoted to maintaining headquarters for the organization and a library, and any surplus which may accrue will be used to provide greater facilities and equipment for all medical practitioners who are members of the organization.

STREPTOCOCCAL INFECTION BY THE NASAL AND BUCCAL PATHS.*

BY

DANIEL C. EDINGTON, M.D.,

PENRITH.

IT is interesting to trace the recognition of the nasal and buccal areas as points of incidence of infection. From 1885 to 1890, in the early days of bacteriology, many varieties of unclassed and unnamed bacteria were demonstrated in sections of decayed teeth and by needle culture from teeth cavities. Later came Hunter, with his researches on pernicious anaemia, which he attributed to absorption from drain infection, septic teeth, or septic mucous membranes connected with teeth, producing a subacute or chronic systemic bacterial infection. Later it was accepted that frequently after an attack of acute tonsillitis there followed in about fourteen days a more or less subacute rheumatism. This pointed to the tonsillar pharyngeal mucous membrane as an area of infective incidence. Then came the recognition of pyorrhoea with its strepto-bacillus and its importance as a possible cause of many diseases, prominently rheumatic diseases. We know of cases of acute streptococcal poisoning from Ludovic angina types, also from septic tonsillar abscesses, sometimes associated with infectious diseases, frequently not; also of cases of septicaemia following tonsillar or turbinal manipulations. We have accessory sinus suppurations due to streptococcal infection, and cases of rheumatic fever sometimes following excision or enucleation of the tonsils too soon after rheumatic tonsillitis. Again, in association with influenza epidemics, at odd times and places we meet with cases of streptococcal pneumonia, primary and secondary, with a high mortality; and, most important of all, a definite recognition and classification has been given within the last few years to the infective endocardial conditions.

The question I wish first to discuss is the path of infection of these various systemic conditions and the prominent part played by the nose, nasopharynx and throat, and the lymphatics and veins associated with these organs.

Paths of Infective Distribution from Nasal, Nasopharyngeal and Buccal Membranes.

Lorrain Smith has strongly emphasized the question of the incidence and distribution of any and all infections; what determines the selective distribution of organisms to any particular organ or organs? We do not know why streptococci from the mouth or nose should select the fibrous thickened cardiac valve-cusps for attack, as in subacute infective endocarditis, or why tuberculous infection in some cases should select the suprarenal glands, ignoring the nearer and larger organs. Rosenow and others in America have recently demonstrated the possibility of duodenal and gastric ulcers, appendicitis and colitis, being due to streptococcal infection from the mouth and teeth. Many of these diseases are possibly merely local craters in a general blood infection.

Venous and Lymphatic Drainage.

The mouth venous drainage is mainly by the pterygoid plexus and facial veins to the internal jugular vein and so into the circulation, and from the tongue directly by lingual veins into the internal jugular vein. There are also connexions with the pharyngeal venous plexus. The teeth venous drainage passes from the inferior and superior alveolar veins into the pterygoid plexus and facial veins and thence to the internal jugular vein. The mouth lymphatics drain to the submaxillary, submental and parotid lymph glands, whose efferents pass to cervical lymph glands. The tongue lymph glands drain from the sides and middle of the dorsum to glands at the carotid bifurcation. The teeth lymph drains to the submaxillary, submental and parotid lymph glands.

The nasal venous drainage is mainly to the pterygoid plexus from the spheno-palatines in the spheno-palatine foramen, also importantly connected with ethmoidal tributaries of the superior ophthalmic veins and tributaries of the angular vein at the bridge of the nose. Infection might pass this way into the orbit or to venous sinuses as the ophthalmic veins enter the cavernous sinus and the angular veins are connected with the anterior end of the superior sagittal sinus. The nasal external lymph vessels pass to parotid and submaxillary lymph glands, and some few to the superficial cervical lymph glands. The muco-periosteum anteriorly drains externally to the submaxillary glands and posteriorly to the superior deep cervical glands and the lateral retropharyngeal glands. The nasopharyngeal venous drainage is mainly spheno-palatine, etc., into the pharyngeal plexus and thence to the internal jugular vein. The nasal lymphatic drainage is to superior deep cervical lymph glands, and some to the retropharyngeal lymph glands—hence arise retropharyngeal abscesses.

The palatine tonsil lymph vessels pierce the pharyngeal wall laterally and end in glands on the internal jugular vein below the posterior belly of the digastric at the level of the angle of the jaw. The venous connexion of these regions with the meninges is brought about by the drainage into the venous pterygoid plexus, which receives (1) emissary veins through the foramen ovale from the cavernous sinus, and (2) connexions from the inferior ophthalmic vein through the inferior orbital fissure. A circle is thus formed by the pterygoid plexus, nasal veins and other connexions, with ophthalmic veins and the superior longitudinal sinus, the ophthalmic veins entering the cavernous sinus and emissary veins passing to the pterygoid plexus.

Bacteriology of the Nasal, Nasopharyngeal and Buccal Mucous Membranes.

Broadly speaking, the nasal healthy secretion is non-bacterial. The sinuses if healthy are sterile, the vestibule is usually bacterial and sometimes pathogenic, containing varieties of staphylococci and micrococci and streptococci. In 26 cases of healthy mucous membrane, Lewis and Turner found streptococci in 6, staphylococci in 13, and pneumococci in 4. In an unhealthy nose and nasopharynx the three prominent bacteria are streptococci, staphylococci and pneumococci in varying strains, together with at times the influenza bacillus and certain putrefactions and coryzal bacilli, etc. All nasal inflammations are due to pathogenic organisms, either virulent, or capable, if avirulent, of being stimulated to virulence by chills, traumatism or debility; hence the onset of acute sinus abscesses after coryzal colds and sore nose conditions in extreme asthenia during pulmonary tuberculosis, typhoid fever, etc.

The nasopharyngeal and mouth varieties of organisms are much the same as the nasal, and are derived from food, water, and air. Teeth show organisms on the surface of dentine, and also in the deeper tissues. Mouth acids are always a result of bacterial action; they decalcify teeth, and so start caries; thus in deep dental caries we find streptococcal varieties along with the *Bacillus necrodentalis*, etc. There are many varieties of bacteria in the mouth—fermentative, pathogenic, etc. Accessory sinuses are sterile if healthy. If unhealthy, they usually show streptococci, staphylococci, and pneumococci, with catarrhal bacteria, and sometimes the *Bacillus coli communis;* in other words, the same varieties of bacteria as are found in the buccal and nasal cavities. In a hundred cases investigated (Lewis and Turner) 75 per cent. showed streptococci, 74 per cent. showed pneumococci, and 70 per cent. staphylococci, with occasional *Bacillus diphtheriae* and *Bacillus influenzae*, etc. These details are from the research works of Lewis and Turner, Reynolds, Fraser, Ritchie, etc.

Antral suppurations are 58 per cent. nasal in origin, 30 per cent. of these beginning by influenza attacks; 14 per cent. only are coryzal in origin, 37 per cent. are due to infection from teeth, and 2 per cent. are traumatic (Lewis and Turner). Streptococci are more numerous in chronic than in acute sinus suppurations, in the proportion of 80 per cent. to 60 per cent. Thus from nasal, nasopharyngeal and buccal cavities the above pyogenic organisms, together with Pfeiffer's bacillus, pneumococci, meningococci, and tubercle bacilli, are capable of passing to the brain, probably by venous channels, and producing such diseases as suppurative, influenzal, pneumococcal, and epidemic cerebro-spinal meningitis, also probably acute poliomyelitis and tuberculous meningitis, tuberculous and septic cervical glands; and, by way of the Eustachian tube, middle-ear disease and mastoid infection; while in the general system by absorption through the lymphatic channels of mouth and nose and nasopharynx, pneumonia, pernicious and septic anaemias, infective endocardial conditions, rheumatoid arthritis, etc., may be established. The main paths of infection are the lymphatic channels, but probably venous to the meninges. Broadly speaking, the same infective chief organisms—namely, the streptococci, staphylococci and pneumococci—are found in the nasal, pharyngeal and mouth mucous membranes, and by way of the Eustachian tube the

* Presidential address, Border Counties Branch, British Medical Association, September 23rd, 1921.

same organisms may infect the middle ear and the mastoid cells. They may infect the brain cavity, as previously described, but probably only by venous routes, as only efferent lymphatics from the brain have been demonstrated.

It is not necessary to describe cases such as suppurative meningitis, middle-ear disease, mastoid abscess, Ludovic angina types, acute septic tonsillitis, or acute accessory sinus suppurations. These are all direct and acute and call for direct surgical treatment chiefly. Let me now rather briefly describe the course of streptococcal pneumonia, subacute infective endocarditis, pernicious (Addisonian) anaemia, and rheumatoid arthritis, which are more indirect, subacute and purely medical conditions giving very unsatisfactory results by all known treatment up to date.

Streptococcal Pneumonia.

In what may be called primary acute streptococcal pneumonia there is usually severe deep central pulmonary pain referred to the deep subclavicular region. Distress is severe, with a general early toxic appearance, a rapid pulse of 120 or more which remains high though the temperature may be remittent, while delirium is frequently early. Respiration from the first day runs to 30 and upwards, sputum is not typically rusty and viscid, and dullness is only comparative, with marked diminished breath sounds and much confused moist crepitations. If these cases survive the first five days they often fail to complete hepatization with its dry tubular breathing, but they continue more bronchopneumonic with increasing myocardial weakness, with frequently progressive infection to other parts of the lung, such as centre to apex to base, which in a week or ten days later may pass to the other lung.

The usual termination in this migratory form of pneumonia is death. This was the type of pneumonia I first saw in 1893, in an epidemic of influenza which broke out in the *Caledonia* training ship at Queensferry. The first symptoms in most cases were followed in twelve hours by delirium, and often death inside of two days. The same type of pneumonia characterized the devastating influenza epidemic of 1918–19. In the *post-mortem* examinations of the 1893 cases we usually found numerous areas of what would be best described as bronchopneumonia, but sometimes both lobar and lobular, with liquid purulent centres from which we cultivated streptococci and other unclassed organisms. Secondary streptococcal pneumonia is well known in regard to septic surgical and puerperal cases. The Johns Hopkins reports on epidemic pneumonia in the American army in 1918 state that it was of the above type, all cases showing streptococci and some also the influenza bacillus (30 per cent. only).

Let me now describe a few cases showing the unexplainable selective distribution of the streptococcus in the general system.

Subacute Infective Endocarditis.

This is found developing in endocardial lesions of long standing, especially in incompetency of the aortic or pulmonary valves. The disease, first described by Osler in 1908 and Horder in 1909, was thoroughly detailed by Cotton in the BRITISH MEDICAL JOURNAL of December 4th, 1920, and again described and discussed, chiefly by Horder and Libman, at the British Medical Association meeting of 1920. It is a remarkable fact that rheumatism and syphilis attack healthy heart valves, whereas subacute infective endocarditis only attacks primarily diseased valves of rheumatic causation; hence it is suggested that we should endeavour to prevent this dread ailment by specially immunizing rheumatic valvular diseased patients against the *Streptococcus anhaemolyticus*, the main cause of the disease. This is advised by Horder and Libman. It affects patients from 15 to 50 years of age. It grafts on the fibrous lesions in the cusps, sometimes on the lesions on septum or edges of a patent ductus, and thus sometimes you have little or no murmur to guide you. It is well marked but subacute and insidious in its early advance, so much so that many cases carry on their ordinary work as before for several months of an illness ranging from about six to eighteen months.

A man aged 49 at the age of 7 had an obscure rheumatic attack of seven weeks' duration; I sent him to Sir James Mackenzie in 1908 suffering from pulmonary valve incompetency probably due to the illness at 7 years of age. He stated that in April, 1920, he began to have what he thought were recurrent malarial rigors, having had malaria several times in South America, between 1909 and 1915. He consulted no one, but went out to the Argentine on business, as he did yearly from July to November. He noticed that he was losing weight in September, and also noted a rise of temperature at night. In the early part of October he had a very bad epistaxis, so severe that he went to the British Hospital, where his nose was plugged. He had blood examinations for malaria, syphilis, tubercle, etc.; no organisms were found, but no blood cultures were made. He was advised to return to London at once owing to the great heat. He arrived in London on December 8th, and came under the care of Dr. Robert Hutchison. His nose was cauterized at once. Blood cultures were then taken, and all of them showed *Streptococcus anhaemolyticus*. There was marked loss of flesh; the heart showed a loud basal murmur, there was oedema of the legs, intermittent septic temperature, pulse rate 106 to 120, unequal, irregular and soft; a large palpable spleen and petechial crops on the upper arms, forearms, legs, and neck, venous engorgement of the neck, sweating and variable pains in the legs, back, and joints. On arriving in Cumberland on December 30th I found, additional to these, slight clubbed fingers, with painful areas on the palmar aspect of the finger ends and over the great trochanters. The heart was enlarged fully two inches beyond the nipple line, with a diffuse heaving impulse. The spleen margin was three inches below the ribs. There was marked septic twitching of the muscles of fingers and toes. The urine showed blood cells with hyaline and granular casts. The urine was also deficient, with albumin, but only a slight trace; his complexion was chlorotic, with pink malar patches. He showed rapid progressive emaciation, very fickle digestion, constipation, and a moist middle furred tongue.

I got Professor Gulland to see him, and we again examined his blood, which now revealed no organisms. By blood count the red corpuscles were 2,800,000, and the haemoglobin 55 per cent.; the colour index was 0.9; white corpuscles gave 3,300; there was a definite glycogen reaction, septic proof. The differential count of the white corpuscles gave: Small lymphocytes 11.3, large lymphocytes 1.7, polymorphs 86, and eosinophiles 0.3 per cent. There was only a slight poikilocytosis, but marked rouleaux formation. The case steadily got worse with frequently recurring emboli to the kidneys, brain, lung, and spleen. He died from gradual exhaustion by toxaemia on February 3rd, 1921. I would reckon his full term of illness at about ten months.

The curious points to note were that his cardiac murmur never appreciably altered, and that petechiae came in frequently increasing crops; the embolic disturbance of the kidneys gradually lessened the urine, but did not markedly increase the albumin. I had no *post-mortem* examination, but these cases usually show recent vegetations, soft and friable, grafted on the cusp regions and the septal wall—hence the emboli—a large spleen with infarcts, swollen and soft, slight nephritis of the parenchymatous type, with destroyed glomeruli and many infarcts; the lungs are usually oedematous at bases, the streptococci usually numerous in the soft cusp vegetations, but sometimes are shut in. The main early symptoms to look for are: Gross valvular disease of the cardiac valves, pallor, enlarged spleen, and clubbing of the finger-tips; some pyrexia—aortic regurgitant cases show it most, mitral disease alone rarely shows it. There is a marked increase in the incidence of this disease.

Pernicious Anaemia.

In pernicious (Addisonian) anaemia we have a systemic infection characterized by intense haemolysis with alteration in size and shape of the red corpuscles; chlorotic appearance, no emaciation, no temperature variations unless in some post-puerperal and post-traumatic cases. Under arsenical treatment we get frequent recoveries, with the reds increasing from as low as 30 per cent., and haemoglobin from about 30 per cent., to nearly normal, only to be followed by relapses again and again, until sickness and diarrhoea, indicating intense infection of the gastric and intestinal mucosa, develop. This, unless checked by serum or vaccine treatment, rapidly produces death, accelerated by myocardial weakness.

Rheumatoid Arthritis.

In rheumatoid arthritis, or more correctly, peri-arthritis, we again have a systemic infection with joint swellings, progressive, variable and painful. It is usually primarily associated with agencies which lower the general health, hence we must remember to raise this in conjunction with other treatment. Of course we again wonder why the causative bacteria in the general infection select the joint structures as their principal area of activity.

TREATMENT.

(*a*) General to all. Inasmuch as all these nasal, antral, buccal, and nasopharyngeal infections are due to unhealthy mucous membranes, etc., the first treatment, if at all possible, should be to eradicate all possible unhealthy nasal conditions—sinus polypi or suppurations, adenoids, tonsils, and teeth, not forgetting septic or tartared plates, but I must advocate conservatism as to teeth.

(*b*) In streptococcal pneumonia. In addition to usual hygiene, nourishment, stimulants, medicines, etc., anti-

streptococcic polyvalent serum may help; it will certainly do no harm. Stock vaccines are dangerous, and are not held to be sound practice. If an autogenous vaccine can be prepared in very small initial doses, good results may occasionally be got, but it should be carefully used.

(*c*) In infective subacute endocarditis. In addition to hygiene, nourishment and stimulants, the only treatment with any chance of success seems to be a vaccine (autogenous) or horse serum; antistreptococcic and similar vaccines are useless. Even vaccines show no record of value. Horder and Libman's suggestion to adopt preventive measures in all cases of cardiac lesions of inefficiency by immunizing patients with vaccines of *Streptococcus anhaemolyticus* (or *viridans*) is sound, and the only hope so far.

(*d*) In rheumatoid arthritis. Much can be done by steady perseverance in raising the general health by diet, clothing, exercise, and climate. Guaiacol carbonate, salol, and quinine salicylate help to eliminate the rheumatoid poison. The urine odour is some guide to this elimination. Iron as iodide with malt and arsenic is useful in improving tissue tone. Radium, in waters, promises good results. Electric and thermal treatments have their partial successes, but vaccines are giving more hopeful results on autogenous lines, being prepared from cultures from the teeth, throat, faeces, or urine. Phylacogens prepared from rheumatic streptococci, etc., I have had experience of, but cannot speak of any success. The disease may be due to several infections; if you can find the definite organism, or organisms, autogenous vaccines would possibly do well.

In conclusion, it is evident that we know very little as to the incidence, varying virulence, and selective distribution of pathogenic and pyogenic bacteria. There is a great field of research open to the collaboration of anatomist, bacteriologist, pathologist and dental surgeon. We in this Border Counties area miss much of the clinical picture in difficult and obscure cases through want of a local pathological department. As to treatment, we must have confidence in future research, so that our treatment may become less empirical and general, and more scientific and accurate.

THE END-RESULTS OF SANATORIUM TREATMENT OF TUBERCULOSIS:

A RECORD OF SEVENTEEN YEARS' SANATORIUM WORK.

BY

F. W. BURTON-FANNING, M.D.CAMB., F.R.C.P.,

HONORARY PHYSICIAN TO THE NORFOLK AND NORWICH HOSPITAL, KELLING SANATORIUM, AND STANNINGHALL TUBERCULOSIS COLONY;

AND

W. J. FANNING, B.A.OXON., M.R.C.S., L.R.C.P.,

LATE RESIDENT MEDICAL OFFICER, KELLING SANATORIUM.

THE results of sanatorium treatment of patients from the industrial classes have recently been the subject of a good deal of criticism. We propose to publish figures setting forth up to date what has happened to patients admitted to Kelling Sanatorium between 1903 and 1919, and to let these figures speak for themselves. One of us (W. J. F.) has devoted a great deal of time to keeping in touch by continual visits and letters with all our old patients. The only claim we make for this publication is that our patients have perhaps been followed up more closely than is practicable in larger cities, or with more shifting rural populations.

Between 1903 and 1919 sanatorium treatment was given to 3,220 patients. Of this number 460 have been lost sight of, so there remain for consideration 2,760 patients, whose fate at the end of 1921 is here given:

Treated at sanatorium from 1903 to 1919 ...	2760
Living in 1921	1125 = 40.7%
Dead	1635 = 59.2%

Our patients on admission were classed as follows:

Class I	1118 = 42.3 per cent.
Class II	801 = 29.0 ,,
Class III	841 = 30.4 ,,

Before comparing these figures with those published by Dr. Noel Bardswell in the November issue of *Tubercle*, and in his memorandum to the London Insurance Committee, we must explain that we have been obliged to adhere to our original classification.

Dr. Bardswell's * Class I included only 25 per cent. or less of the total number of applicants, but his definition of this group is limitation of physical signs to the apex of one or both lungs, and the apex is considered as that part accessible to examination in the supraclavicular and supraspinous fossae. We quite agree with this restriction for Class I cases, but in the present communication that class includes cases whose physical signs denoted the involvement of an area of lung not exceeding that of one lobe, provided that severe constitutional symptoms and complications were absent.

In regard to ultimate results according to classification on admission to the sanatorium, Dr. Bardswell also emphasizes the great importance of the presence or absence of tubercle bacilli in the sputum. We are unable to make this distinction with our cases. In an immense majority the tubercle bacillus was demonstrated in the sputum; in the remainder we only concerned ourselves to obtain other unequivocal evidence that the patient was affected with tuberculosis of the lung.

The next table shows the different results according to the patient's classification on admission:

		Living.	Dead.
Class I ...	1118	724 = 64.7 %	394 = 35.2 %
Class II ...	801	274 = 34.2 %	527 = 65.7 %
Class III ...	841	127 = 15.0 %	714 = 84.8 %

If, therefore, we confine ourselves to the consideration of the more favourable class of applicants for treatment, instead of a mortality of 59.2 per cent. we get a mortality of 35.2 per cent. for the nineteen years. It is interesting to contrast these figures with those of Dr. Bardswell. His first class were, as we have seen, more strictly selected and their mortality was about 30 per cent., but his period embraced only four years. The excessive mortality which occurs during the first few years after discharge from the sanatorium is a point to which we shall refer shortly. The real crux of the matter, however, is the durability of the restorations of health obtained by sanatorium treatment. The next table gives the percentage of our patients now known to be living and to have died, arranged in their classes and according to the year of their discharge from sanatorium. We would repeat that our Class I was too broad and included a number of cases that we would now place in Class II.

Percentage Discharged.

Years.	Class I.		Class II.		Class III.	
	Living.	Dead.	Living.	Dead.	Living.	Dead.
1903–1905 ...	44.0	56.0	24.0	86.0	4.3	95.7
1906–1908 ...	54.5	45.5	20 2	79.8	8.8	91 2
1909–1911 ...	56.8	43.2	18 5	81.5	8.4	91.6
1912–1914 ...	58.0	42.0	36 5	63.5	14.4	85.6
1915–1917 ...	61 7	38.3	43.9	56.1	21.3	78.7

Of our Class I patients who left the sanatorium between 1903 and 1908, so long ago as thirteen to nineteen years, about one-half are, therefore, still alive. The crucial period is the first four or five years after treatment, and of those who survive this time a large proportion maintain their ascendancy over the malady for an indefinite number of years. This point is forcibly brought out by the next table, which gives the percentages of deaths occurring in five-year periods subsequent to discharge from the sanatorium.

Of those that died, death occurred as follows:

Within 1 year	...	...	in 6.0 per cent.
Within 1 to 5 years	...	...	in 57.6 ,,
Within 5 to 10 ,,	...	...	in 23.0 ,,
Within 10 to 15 ,,	...	...	in 9.2 ,,
Within 15 to 20 ,,	...	...	in 2.9 ,,

Of all the patients who died after receiving sanatorium treatment, the average length of time between the appearance of the first definite symptom and death was just over five years. Publications which dwell on the number of deaths which occur within a few years of leaving the sanatorium give, in our opinion, an unnecessarily gloomy aspect of the story.

* This classification is that adopted by the London County Council Public Health Department after consultation with the Tuberculosis Department of the Ministry of Health.

The immediate general improvement and the definite control of important symptoms brought about by sanatorium treatment are not called in question. We are concerned, however, about the proportion of patients who relapse soon after resuming their ordinary modes of life. In our conflict with consumption the part played by the sanatorium must, in our existing state of knowledge, be considered satisfactory, but the treatment needs to be commenced earlier and finished differently. The two directions in which reforms must be made for the purpose of securing more lasting recoveries are those of earlier diagnosis and better organized after-care. The advantage of placing the patient under treatment at an early stage of the malady is testified to by the records of all sanatoriums. Our first class embraced numbers of patients whose signs were reproachfully obvious and extensive, and yet about half of them have lived for fifteen years or more, mostly able to do some kind of work.

When we appreciate the supreme importance of early diagnosis the classification of cases of pulmonary tuberculosis deserves much consideration. We welcome Dr. Bardswell's proposal as marking a distinct advance in what we should aim at, for classification is used not only to provide convenient headings for the grouping of cases. His Class I, as defined above, represents a stage of the disease beyond which it should be our aim to let no patient go before he is caught and sent to a sanatorium. Dr. Bardswell's wide experience in connexion with the London Insurance Committee is that only 25 per cent. of applicants for treatment are Class I cases. In a communication we made to the BRITISH MEDICAL JOURNAL (August 24th, 1912, p. 409) concerning over 1,000 patients, we stated that eighteen months was the average time allowed to elapse between the first obvious manifestation of the malady and the application for sanatorium treatment.

There has certainly been improvement in this all-important direction of earlier diagnosis and treatment. The increasing numbers of expert tuberculosis officers who are at the service of the practitioner in the search for early cases must bear fruit. It was a great move when facilities were made for getting the sputum of any person examined, and as more and more advantage is taken of the public laboratory the practitioner will detect a larger proportion of his consumptive patients in their early stages. Pulmonary tuberculosis should be thought of whenever a cough cannot be otherwise satisfactorily accounted for. We are sure that a number of febrile illnesses of obscure nature owe their origin to tuberculosis. The systematic observation of the temperature in the latter part of the day is now made easier, thanks to the larger number of visiting nurses. A slight degree of fever in the afternoon for day after day, with no symptom perhaps beyond a little tiredness or loss of weight, is very suggestive of tuberculosis. Supposing there is no sputum and the diagnosis cannot be clenched by an examination of that for the bacillus, there is now radiology to be appealed to. In the hands of an expert the evidence of an *x*-ray examination of the chest may in a large proportion of cases be accepted as proving or disproving tuberculosis. We are certain from our experience that in every centre *x*-ray examination should be available for the diagnosis of doubtful cases.

A history of certain previous illnesses may arouse the suspicion of existing pulmonary tuberculosis. It is increasingly realized that pleurisy in the absence of pneumonia, rheumatism, septicaemia, or nephritis, must be regarded as tuberculous. Every patient who has had tuberculous pleurisy should be given a course of sanatorium treatment with a view to preventing the subsequent possible involvement of the lungs. In our cases of pulmonary tuberculosis there was a definite history of antecedent pleurisy, which had been apparently recovered from, in no fewer than 22.4 per cent. Undoubtedly to this number might be added others who had suffered from unrecognized or forgotten pleurisy. According to some observers, 40 per cent. of patients who have had primary pleurisy eventually develop pulmonary tuberculosis. There are good grounds, therefore, for giving all these patients the advantage of a precautionary course of sanatorium treatment.

It is contended by some writers nowadays that certain tuberculous manifestations have the effect of rendering the individual immune to pulmonary tuberculosis. Glandular affection, for instance, is stated by some to be always of bovine type, and to protect from lung disease. But of our patients with pulmonary tuberculosis 4 per cent. had previously suffered from glandular abscesses, and our strong impression is that this understates the frequency of the association. In hospital and in private practice one of us (F. W. B.-F.) has seen too many cases of pulmonary disease supervening on tuberculosis of glands to be ascribed to coincidence. In some of these the pulmonary tuberculosis has been of acute type, and it has been difficult to resist the suggestion that surgical interference with the glands or their treatment by tuberculin had stirred up the trouble.

Just under 3 per cent. of our sanatorium patients had previously suffered from tuberculous disease of bones or joints. We think that this by no means represents the actual frequency of tuberculosis of lungs and of bones in the same patient. Surgical tuberculosis is excluded from the sanatorium, but amongst hospital patients it is not uncommon to find combined disease of lungs, bones, joints, and other parts. There is a well recognized form of tuberculosis in which one or both pleurae are apt to be affected with the peritoneum, and at the present time there is a patient in the Norwich Hospital suffering from tuberculous peritonitis and double tuberculous pleurisy from whom tuberculous glands had been recently removed.

Fistula in ano had occurred in only 0.5 per cent. of our sanatorium patients previous to their lung trouble, but it is, of course, more common as a subsequent event. Tuberculous disease of the eye, of the epididymis, and of the Fallopian tube were mentioned in the past histories of a still smaller proportion of our patients. It should be unnecessary nowadays to insist that haemoptysis of any amount approaching a teaspoonful, and without other obvious explanation, is to be taken as evidence of pulmonary tuberculosis, but fatal mistakes are still made about this. In a number of cases pulmonary tuberculosis is said to have followed some other malady. Influenza is given as a particularly frequent precursor, but proof of the exact nature of the illness is difficult to obtain. We would lay more stress on the point that in the light of after events tuberculosis is the possible explanation of many attacks of fever which at the time cannot be diagnosed without the assistance of the specialist in *x* rays or in bacteriology, and perhaps even their evidence may be inconclusive.

A most fruitful field for the activity of the tuberculosis officer lies in his detection of the earliest cases by the inspection of so-called "contacts." To digress, we think that the use of this word is the begging of an important question. We are not convinced that the main cause of tuberculosis is the infection of the infant or child with the tubercle bacillus from a patient. Without attempting to present the arguments on this point, we would only say that from an unbiassed inquiry into the histories of our patients, we thought there was evidence of case-to-case infection of an adult in a very few instances only. In at least 50 per cent. of our cases there was a history of tuberculosis in a parent or brother or sister. According to some writers, these were instances not of heredity, but of infection. How do we explain on this theory the commonly observed fact that one brother or sister after another in a family develops tuberculosis, though neither parent has ever shown any symptom of the disease and though the children for many years had occupied different homes. Again, it is not exceedingly rare to trace the supposed hereditary susceptibility to a parent whose tuberculosis declared itself in disease of bone, joint, or abdomen, where no obvious diffusion of the bacillus took place. Whichever doctrine we adopt we shall agree that the existence of tuberculosis in a relation or the history of certain previous illnesses in the individual would be grounds for looking at him with increased suspicion.

The second direction in which we must aim at improvement is the after-care of our patients. In regard to this the one essential point, according to our experience, is securing for all ex-sanatorium patients continuous supervision by an expert. However thoroughly the patient has been instructed in after-care at the sanatorium, a small proportion only show themselves able to follow the precepts. So manifest an indication of trouble as persistent rise in temperature the patient may have noted but may elect to disregard, or more probably the ex-patient has broken the thermometer, or anyhow has not kept the enjoined watch on his temperature. There are numberless other points which indicate whether or not the consumptive is holding his ground, but the trained eye is needed to appreciate them.

It is only at a sanatorium that the real importance of attention to minutiae is grasped, and the advantage of having ex-sanatorium patients under the continued observation of a nurse or doctor who has had this training is obvious. The generally accepted rules of sanatorium treatment have been strictly followed by us, and continued experience has led

to little modification. From the first the patient's exercise took the form of useful work. For more than a year tuberculin was given systematically to a certain group of the patients, but we were not favourably impressed by it.

There has been a farm colony on a small scale in Norfolk for the last eighteen months, and the experience gained there has been most instructive. Generally speaking, the way in which the men's healths have been maintained, or more commonly improved, while they followed some useful occupation, has been highly encouraging. Some of the colonists came to us with the sputum already free from tubercle bacilli, and with signs of only past mischief. With only one or two exceptions these men have gone steadily forwards, and under the conditions of healthy housing, of good feeding, and of regulated work have required little attention. But the men with bacilli still present, and with physical signs placing them perhaps in Class II, have had to be watched more carefully. Even of them the majority have done surprisingly well. At the same time a week seldom passes without one of the colonists being pulled up with the threat of a smaller or greater set-back. Apart from elevation of temperature from increased frequency of pulse or from loss of weight, the jealous eye of the nurse notices loss of appetite or some other indication of lowered health. When this man is examined it may often be found that, sure enough, an extension of his disease has occurred.

Tuberculosis in all its phases is characterized by a broken course with ups and downs, and success in its management depends on any tendency to relapse being immediately detected and properly dealt with. This essential requirement in the after-care of the ex-sanatorium patient seems to us to be best met by the colony scheme. For the man whose tuberculosis has become arrested it is not of supreme importance whether his employment be out of doors or indoors. Of course it is an advantage if he can spend twenty-four hours each day in the fresh air, but it is of more importance to provide that the number of hours and the arduousness of the work be strictly regulated according to the man's ascertained capability.

Some years ago we got out figures for the purpose of comparing the after-results in our ex-sanatorium patients, according to their resumption of an indoor occupation, to their resumption of an outdoor occupation, or to their changing from indoor to outdoor work. Our statistics showed, however, no striking differences among the three groups. We know that there are many factors to be taken into consideration, such as the healthiness or the reverse of the workroom, the home conditions, the amount of the earnings, and the consequent sufficiency or scarcity of good food, and chiefly whether or not the individuals are worked beyond their strength. Our agricultural labourers, for instance, have not yielded good after-results. Their working hours are spent in the open air, but we know that their toil is arduous, that they are often badly housed, and have been badly fed. On the other hand, the few master farmers who have passed through the sanatorium have mostly continued to do well. Presumably they were able to choose their kind and amount of work, and, of course, they were able to live well.

While indoor work as such is not necessarily harmful, so long as it is not too strenuous, there is information in regard to certain industries which marks them as unfavourable for the ex-sanatorium patient. In Norwich, for example, the clerk of the City Insurance Committee finds that, of 439 men applying for sanatorium benefit, 33.5 per cent. were working in boot factories, and that of 297 women 20.2 per cent. were thus employed. Our sanatorium patients who were forced by circumstances to return to the boot factories have done no better than we should have expected. They are unfitted to take their places beside able-bodied men and to work full time at top speed and perhaps under unhealthy conditions. The experience at Papworth and elsewhere shows, however, that the consumptive man can do remunerative work in the model factory, so long as his exertions are adjusted to his physical powers.

Dr. F. Stanley Tinker suggests the institution of municipal workshops, the men going backwards and forwards from their homes, and working under medical supervision. There may be other solutions of the problem, but we are convinced that for the first five years at least the patient with pulmonary tuberculosis should be kept under close and expert supervision. Such work should be allowed as is found to be compatible with the retention of his ascendancy over the disease. He must be relieved of anxiety about the maintenance of himself and his dependants, his housing must be seen to, and there must be no difficulty in securing for him return to the sanatorium from time to time if his malady reasserts itself. The difficulty of such provision is, of course, the financial one, but unless this difficulty is overcome part of the expenditure on sanatoriums is thrown away. We know that it is possible not only to prolong the lives of these men, but to make them useful members of the community.

HAEMORRHAGIC COLITIS.

BY

J. W. GEARY GRANT, F.R.C.S.ENG.,

SENIOR ASSISTANT SURGEON, KING EDWARD VII HOSPITAL, AND CHIEF ASSISTANT IN THE SURGICAL UNIT, WELSH NATIONAL SCHOOL OF MEDICINE.

THE following two cases, which, in view of the fact that haemorrhage and the resulting severe anaemia were the leading symptoms, I have ventured to term "haemorrhagic colitis," were in the King Edward VII Hospital about the same time under the care of Dr. Mitchell Stevens, to whose courtesy and to that of Mr. Cornelius Griffiths, who operated on the first case, I am indebted for permission to give this account.

CASE I.

The patient, a housemaid aged 37, stated that for fourteen days she had passed a quantity of blood and mucus in the motions, which averaged five a day. She had had an attack of "dysentery" at Regina, Canada, in 1917, and two similar attacks subsequently. When examined on October 26th, 1920, the temperature was normal. The faeces contained blood, mucus, and pus cells, and *B. coli*. An autogenous vaccine was prepared and administered. At Dr. Mitchell Stevens's request I examined her with the sigmoidoscope, but was unable to get the instrument past the pelvic brim. This was largely owing to the continual flow of blood which obscured the view. The pelvic colon had a granular appearance, and in the upper part there were numerous papillary elevations, the mucous membrane bleeding at the slightest touch. No definite ulcers were seen, but the appearance at the upper part of the pelvic colon suggested carcinoma to me.

On November 28th, 1920, Mr. Cornelius Griffiths opened the abdomen by a median subumbilical incision and drew out the iliac colon which was found to be thickened. A portion of the wall was removed for examination and reported to be haemangiomatous. There was not, however, any localized growth but a diffuse thickening of the mucous membrane. A faecal fistula was established. For a month the temperature was irregular, averaging 100° to 101°. Blood and pus passed from the colostomy opening and from the anus, and staphylococci were found in the urine. The Wassermann reaction was negative.

On January 14th, 1921, Mr. Griffiths closed the fistula, and in May she was discharged to a convalescent home, all symptoms having cleared up.

CASE II.

This patient, a clerk aged 21, was admitted under the care of Dr. Mitchell Stevens on January 17th, 1921. He stated that for a month before admission he had passed large quantities of blood from the anus, and that he had passed blood also in small quantities for eighteen months previously; he suffered no pain. He had had no previous illnesses, lived in a mining district, and had not been abroad. The rectum was washed out, and the returned fluid contained blood, pus and mucus. On January 20th, at Dr. Mitchell Stevens's request, I passed a sigmoidoscope, but I could not get it past the angulation at the pelvic brim. The appearance was almost exactly the same as in the previous case. There was a continual flow of blood from the granular and friable mucous membrane of the pelvic colon. He was extremely anaemic and emaciated, and Dr. Mitchell Stevens felt that immediate surgical intervention was needed; the opinion we formed was that he probably had a polypus or multiple adenomata in the colon.

On January 26th, 1921, I opened the abdomen by a median subumbilical incision and drew out the iliac colon. Its wall was thickened and firm; the para-colic lymph glands were enlarged and two were removed for examination. A portion of the wall of the colon was also removed, and the report on this was that it showed a haemangiomatous condition of the mucous membrane, and the glands showed simple inflammatory hyperplasia. I passed a sigmoidoscope as far as the splenic flexure. The mucous membrane simply presented a granular appearance and intense engorgement and bled at a touch. There was no ulceration. As his condition was very bad, I fixed the loop of iliac colon in the wound and established a colostomy with a good spur. He was very collapsed after the operation, but with rectal saline and glucose he came round, but for two days vomited a good deal. The colostomy discharged pus and mucus freely, with small amounts of blood. It was washed out with saline and with collargol, and horse serum and calcium lactate were administered.

A blood examination on February 2nd showed haemoglobin 65 per cent.; red blood cells, 3,640,000; white cells, 16,000; the differential count gave polymorphs 76 per cent., small lymphocytes 10 per cent., large lymphocytes 6 per cent., eosinophils 3 per cent., myelocytes 5 per cent.

On March 16th a blood examination gave the following: Haemoglobin, 55 per cent.; red blood cells, 3,280,000; white cells, 8,000: polymorphs 54 per cent., small lymphocytes 44 per cent., large lymphocytes 2 per cent.

The first count showed a high-grade secondary anaemia with a moderate leucocytosis, probably a post-haemorrhagic one; the second, with a higher anaemia, appeared to show a relative lymphocytosis.

Washings from the rectum yielded a thick deposit of pus; epithelial and connective tissue cells were obtained, and a few *Entamoeba coli*.

From a swab of the rectal mucus *B. pyocyaneus* was obtained in almost pure culture, and a vaccine of this was administered. Although *Entamoeba coli* is now generally held to be innocuous, yet, as some authorities hold that all intestinal amoebae are potentially pathological, he was placed on Fowler's solution by Dr. Mitchell Stevens.

The amounts of blood passed were quite small, but as the anaemia was increasing and he appeared to be steadily going downhill, with Dr. Mitchell Stevens's permission I decided to perform appendicostomy with a view to securing a thorough flushing of the whole colon, and this I did on March 16th, although his condition appeared so bad that my house-surgeon did not expect him to return from the theatre.

He was washed out from the appendicostomy opening daily with saline, and from then on steadily improved; indeed, the change from the condition of extreme pallor and emaciation was remarkable. In a few weeks his face had filled out and his colour had improved, and he expressed himself as feeling well. There were three factors that may have contributed to the result—the administration of arsenic (which may have got rid of the amoebae), the *pyocyaneus* vaccine, and the more thorough flushing of the colon by means of the appendicostomy.

On June 26th I attempted the closure of the colostomy by Coffey's method. Owing to the presence of much prolapse and a very considerable spur the operation was difficult. Every attempt was made to get a thorough invagination, several tiers of catgut being used to secure inversion of the bowel wall, and ample drainage was provided, but four days later faeces came through the drainage tube, which passed down to the peritoneum. This, I think, was due to angulation and the presence of the spur, which prevented the onward passage of intestinal contents into the distal segment. At the present time some faecal matter is passed naturally, but most comes through the abdominal wound, and a further operation may be required to close this. In other respects his condition is very satisfactory. A blood examination made July 20th gave: Haemoglobin 65 per cent., red blood corpuscles 4,500,000, white blood corpuscles 8,000—polymorphs 60 per cent., small lymphocytes 37 per cent., large lymphocytes 1 per cent., eosinophils 1 per cent., and basophils 1 per cent. The only organisms found in the stools were *B. coli;* the entamoebae and *B. pyocyaneus* had disappeared.

These two cases differed from tropical dysentery in that there was no ulceration, and neither the bacillus of Shiga or the *Entamoeba histolytica* could be found. There was a remarkable absence of pain in each. The mucous membrane presented a uniform granular appearance, which in the second case was observed to extend from the rectum to the splenic flexure, and which probably involved the whole lower bowel. This case was much the more severe, and we did not expect him to recover. I attribute a large share in the result to the appendicostomy, and if I had a similar case to treat which did not respond to medical methods I should perform appendicostomy, and place a large flatus tube in the rectum, avoiding opening of the bowel, which in each case was done for diagnostic reasons, owing to the difficulty in investigating the colon higher up with the sigmoidoscope.

I may conclude with a few remarks on Coffey's method of closure of colostomies. I have tried this on four other occasions. In three, after some suppuration of the abdominal wound, a satisfactory closure ensued. In one a further operation was required. It is perhaps a safer operation than resection, but where there is considerable prolapse and extensive spur formation, it is difficult and unsatisfactory. The obstacle of the spur may be got over to some extent by the use of Balfour's rubber tube for a week or two before operation, but even then I think that the necessary invagination of the antimesenteric border is likely to cause distortion and angulation of the gut. In the second place, it does not seem to be in accord with the first principle of intestinal surgery—namely, that secure union depends on the apposition of serous surfaces; as the operation is extraperitoneal this cannot be obtained. There is, however, probably less risk to life, and in suitable cases, with little prolapse, it is worth doing. China clay emulsion was also given during the later part of the treatment, but he was then recovering and its effect could not be judged.

Since the above was written, I am informed that the first patient suffered a relapse, but is now well again.

The second patient has also had a slight relapse, again passing a moderate amount of blood and mucus, and is at present being treated at his home by injections of an autogenous coli vaccine. I hope shortly to be able to close his colostomy.

NOTE ON THE INTRAPLEURAL PRESSURES IN ARTIFICIAL PNEUMOTHORAX.

BY

JAMES LAWSON, B.Sc., M.D., M.R.C.P.E.,

ASSISTANT PHYSICIAN, TOR-NA-DEE SANATORIUM.

I SHOULD like to call attention to a feature which has not, as far as I am aware, already been noted and which deserves the consideration of those called upon to supervise the treatment of artificial pneumothorax cases. I refer to the alteration which takes place in the intrapleural pressures with a change in the position of the patient.

This fact was first observed in the case of a patient in whom a right-sided artificial pneumothorax had been established. The patient always experienced a desire to cough when lying on the left side (the position in which all former refills had been carried out) and requested to be allowed to lie on his back. Puncture was made in the anterior axillary line in the fourth interspace and the manometer recorded pressures of −2+5, whereas the pressures reached at the previous refill fourteen days before were −2+4. Fluid was suspected, but the patient had been unconscious of splashing and physical examination had not suggested its presence. On rolling the patient into the left lateral position the pressures at once fell to −4+2.

Subsequent cases were investigated to ascertain the constancy of this variation, with the results shown in the table.

Position of Artificial Pneumothorax.	No. of Refill.	Pressures before Refill.		Quantity of Gas Introduced.	Pressures after Refill.	
		Lateral.	Dorsal.		Lateral.	Dorsal.
				c.cm.		
Case 1: Right-sided, complete, with a small quantity of fluid in the pleura	18	−2+4	+2+6	100	±0+5	+5+12
	19	−2+3	+1+6	150	±0+6	+5+10
Case 2: Left-sided ...	20	−4−2	+2+5	1,000	+3+5	+8+12
	21	−3±0	+2+7	800	+3+5	+10+12
	22	−1+1	+8+12	700	+6+8	+12+14
	23	−2±0	+3+6	700	+4+8	+11+13
	24	−5−2	−2+5	700	+3+5	+4+10
Case 3: Right-sided, with fluid	36	−2+7	+4+14	100	+10+17	+14+22
Case 4: Left-sided ...	7	−8−2	−4+2	500	±0+4	+2+7
Case 5: Right-sided ...	18	−3+2	±0+4	450	+6+10	+8+12
	19	−3±0	−1+2	500	+3+8	+6+11
	20	−4+2	−2+4	500	+6+10	+9+13
	21	−4+2	±0+4	425	+6+10	+9+13
Case 6: Right-sided ...	12	−4+2	−2+5	350	−2+4	+4+8
	13	−6±0	−4+3	450	−2+4	+2+8
	14	−6±0	−4+4	550	−2+4	+3+8
	15	−10±0	−6+2	850	−3+3	+2+6
	16	−8−2	−6+2	600	−2+3	±0+6

In the columns headed lateral the pressures are those taken with the patient lying on the side of the functioning lung.

Figures are not available to demonstrate the pressures in the erect posture, but, in the few cases in which this has been investigated, it has been found that the pressures approximate to those found in the dorsal position.

A consideration of the pressures in the above cases will show that there is a constant rise in the pressures when the patient is moved from the lateral to the dorsal position. The importance of this observation will be recognized when any attempt is made to re-establish a previous pressure. This obviously can only be done with certainty when the patient occupies the same position on both occasions. Emphasis must therefore be laid on the fact that any statement of intrapleural pressures must be accompanied by a statement of the position of the patient.

Further, while the amount of the rise varies not only in different cases, but in the same case, it will be noted that the pressures are frequently doubled. As refills are usually conducted in the position in which the pressures are lowest.

the subsequent rise must not be lost sight of in cases which show extensive cavitation, and in which there is a possible danger of rupture of the cavity.

No attempt has been made to explain or correlate the reasons for the alterations of pressures, but it is obvious that the weight of the heart, the abdominal support of the diaphragm, and the increased action of the opposite lung all play a part. That the alteration does take place is sufficient to warrant attention.

A CASE OF MEGACOLON.

BY

E. R. FLINT, F.R.C.S.,

SURGICAL TUTOR, GENERAL INFIRMARY, LEEDS.

THE following case presents many points of interest; amongst others, the colon was the largest of which I have seen any record.

A man, aged 32, was admitted to the Leeds General Infirmary in August, 1918, for distension of the abdomen and faecal incontinence. He was born with an imperforate anus, for which an operation was performed some twenty-four hours after birth. The rectum was opened at a depth of 3/4 in. from the perineum and the edges stitched to the skin. The subsequent history was one of continual trouble with the bowels. He never had his bowels moved without aperients or enemata, and even these did not prevent him having attacks of partial obstruction, for which he was, on several occasions, readmitted to the infirmary and relieved by vigorous treatment with enemata. After such relief he returned home, gradually to fill up again, and so on. Vomiting and pain were quite exceptional. His complaint was, as on this occasion, of enormous distension and difficulty with the bowels, and when this was at its worst he would get a form of diarrhoea with incontinence. He worked fitfully, having often to absent himself for treatment, and when at work he had constantly to be attending to himself.

On admission, in August, 1918, the abdomen was enormous, like that of a woman with the largest imaginable ovarian cyst; the parietes were tense, and had a glazed appearance. There was no visible peristalsis and no evidence of distinct coils. He was in no real distress except from the continuous oozing away of faeces. The rectum was found to be full of great hard masses of faecal material, and, though the anal margin felt rigid with scar tissue, yet it was possible to insert two fingers easily and without hurting him. I thought the condition was one of interference with colon action, as one sees in Hirschsprung's disease, but complicated by the possible interference with control of defaecation, owing to the anal condition.

I decided, therefore, to do a colectomy, but to empty the bowel to some degree in the first place by colostomy. In this, however, I was not very successful, for though he was much improved by the colostomy it was impossible to create a spur owing to the enormous size of the colon, and the opening very soon began to close. Consequently in November I removed the sigmoid and upper part of the rectum, together with the colostomy opening. The sigmoid was enormous, the two limbs being the size of an average male thigh, and the apex of the loop was beneath the liver. The wall was markedly hypertrophied. The same condition extended down into the rectum in its whole length, but above it ended almost abruptly at the lower end of the descending colon. Proximal to this point there was a little dilatation, but no noticeable hypertrophy.

I brought the cut end of the descending colon to the surface to act as a permanent colostomy, and stitched up the upper end of the rectum, which was about 6 in. across. In the ordinary way I might have tried stitching the two ends together, but owing to the suspicion under which the anal canal lay I decided the best interests of the patient would be served by a permanent colostomy.

I have seen the man frequently since, and he says he has never felt better in his life; he has lost all the features of autointoxication which were so marked before, and he has been at work continuously since. He has no inconvenience from the colostomy, for by careful dieting he can easily regulate his bowels so that they act once a day, and at a time when it is convenient for him to attend to them. Immediately after the operation considerable difficulty was experienced in evacuating the rectum; now he has no trouble with this at all.

The segment of bowel removed was 2 ft. 6½ in. long, 22 inches in circumference, and weighed 11 lb.

I have labelled this as a case of megacolon because I am not sure whether it should be classed as a case of Hirschsprung's disease, or as one of obstruction due to the scarring resulting from the operation for the imperforate anus. There has never been anything which one could call an obstruction at the anus since I have seen him, though, of course, the natural elasticity of the part was absent, and I could not satisfy myself of the presence of a sphincter. On the other hand, apart from the anus, the pathological appearances were exactly those of Hirschsprung's disease, and the existence of the condition from birth conforms to either alternative.

GASTRO-ENTEROSTOMY, AND SOME DIETETIC RULES.

BY

SIR JOHN O'CONOR, K.B.E., M.A., M.D.,

SENIOR MEDICAL OFFICER, BRITISH HOSPITAL, BUENOS AIRES.

As a confirmed gastro-enterostomist of some years' standing, I wish to express admiration for Mr. Paterson's lucid exposition, at a recent meeting of the Royal Society of Medicine, of the rationale of this operation, and my personal experience justifies the statement that this gentleman's verdict fits the bill as to the application and success of the procedure.

Also, I was deeply interested in reading Mr. Walton's dark roll of surgical iniquity, which I am sure will command profound study by all who are responsible for the efficient training of surgeons. At the same time, I do not wish to infer that, although I happened to escape from inclusion in above roll, I have not had my share of compensatory post-operative trouble, the principal one being a two-year plague of diffuse, dense, iodine peritoneal adhesions, some of which caused intestinal obstruction, with three deaths. The abandonment of iodine skin disinfection and the return to old friends, alcohol mercurial lotion, and careful adjustment of isolating towels in and around parietal wounds by Mr. Marmaduke Sheild's through-and-through retractor silk sutures, relieved a situation which was really becoming intolerable.

It is not my desire to occupy space in reiteration of what I have already published on this subject, further than to mention that anyone may peruse my ideas on the operation of gastro-enterostomy by referring to the *Lancet*, October 26th, 1912, and it is possible that the method therein described may now merit some attention.

I think it a duty to repeat that in my opinion the employment of clamps in gastro-enterostomy violates the rudiments of operative surgery, in that they entail a needless traumatic insult to the delicate visceral structures and a fatuous, if not culpable, obfuscation of potential haemorrhage from many important vessels which must be injured in the course of the necessary incisions. I have no hesitation, judging from the number of fatalities which occur from post-operative haematemesis, in craving the attention of surgeons to what I maintain is a preventable catastrophe, and moreover, I consider it a disgrace to surgery and a parody on human reason that the term "haemostatic through-and-through stitch" should ever have been countenanced in the surgery of the stomach. I strongly recommend anyone who has not time or nerve openly to tackle the dozen or so bleeding vessels which usually demand ligature before the insertion of the inner circular catgut suture to transfer such cases to a colleague gifted otherwise.

Reference to my paper "Operating to the clock" (BRITISH MEDICAL JOURNAL, December 21st, 1918) will probably remove the suspicion that I am of those who discount the importance of time, yet I wish to emphasize that I am unable to follow the mentality that admits, in gastric surgery, of the repudiation of the cardinal rule—see the bleeding point and tie it.

With all deference I beg of the authors of operative text-books to give these remarks some reflection, in the hope that they may see their way to delete some of the irons which now adorn their illustrations, and to bring a needle and thread into better perspective, with an artery forceps and ligature well in the foreground.

There is another item which has for years baffled my sense of comprehension—the inordinate haste to get these patients out of bed, and to mock their doubly lesioned stomachs by the early administration of solid food. The introduction of this—apart from direct and peristaltic traumatism, apart from the very negation of Hilton's law, and apart from the fact that it takes at least fourteen days for *restitutio ad integrum* of any solution of continuity in the human body—is a physiological anachronism, in that it induces the gastric glands to pour forth an abundance of acid secretion at the moment when the organ is extra-handicapped with an additional six-inch gastric sore, just when, by all the rules, an alkaline state is necessary for its salvation. Recently I was gratified to read that Dr. Moorhead, of Dublin, had called attention to this matter, and I hope his opinions will exact the consideration which they always deserve.

It has been my plan for many years, a few days after operation, to hand over these cases to the sister's personal care, with the injunction that they shall be kept in bed and

on a rigid milk diet (in addition to mist. carbonatis, *ter in die*) until the twenty-eighth day. Before discharge each one receives instructions as to what he should eat and drink during the ensuing year—invariably some alcoholic stimulant being recommended at lunch and dinner.

It may not be reckoned irrelevant if I touch on the prophylactic treatment of this too prevalent malady, and in order to avoid prolixity, or getting out of depth, I will briefly mention "ten commandments" which I have found of great service to candidates for gastric ulcer who perforce have to eke out a sedentary existence, with comparatively little out-door exercise.

1. As a general rule indulge only in two meals a day, and take only two plates to each meal—meat with vegetables, and fruit, with or without light milk pudding, or cheese.
2. Masticate thoroughly, have any bad "stumps" extracted.
3. Take, in moderation, whatever alcoholic beverage is most congenial to your stomach—that is to say, which does not, hours afterwards, create excessive acidity or a feeling of "liver."
4. Whenever practicable, rest mind and body for one hour after a meat lunch in order to allow the digestive machine to get ready before an extra call for blood is made by brain or muscles.
5. Allow at least a six-hour interval between midday and evening meals.
6. Do not pollute the refreshing cup of afternoon tea with bread-and-butter, cakes, scones, or other decomposing fermenting carbohydrate messes, which deprive the unfortunate stomach of all chance of a rest before it has to tackle its dinner problem.
7. Abjure the use of any form of alcoholic refreshment except at your lunch and dinner table.
8. Whenever feasible take a stroll in the evening after dinner, and sleep in a room with a large open window—not in a draught—so that the blood may be properly oxygenated during the eight hours of repose.
9. Make it a creed to take regular morning exercise: begin with a hard snap of shadow-boxing (commence with twenty and work gradually up to 100 double clouts) in order to extend the heart muscle and elastic tissue of the lungs; follow with physical exercises, then have a cold shower bath, and promptly conclude with towel drill before some open door or window.
10. *Dulce est desipere in loco*, but not too often.

I am aware that I tread on delicate ground in advocating the general moderate use of alcoholic drink with meals. I do so, not inflated with any exalted idea of preparing any medium for the gradual evolution to a future conception of some incomprehensible super-race, but to endeavour to make the best and most agreeable of what we are, and to lubricate the cranking gear of life through its chequered and allotted span by applying the lessons derived from thirty years' experience in medical practice.

In response to the "Hallelujah" cantations of ascetic mummers whose psychological diapason is solely comprised of one hyphenated falsetto—to eradicate an abuse it is necessary to lop off the use—I have no compunction in affirming that the rational dietetic use of the fermented juice of the grape, of the hop, and of some cereals, is a godsend to man's digestion, and that while the indiscriminate use or bestial abuse of the same unquestionably speeds down to the grave, universal total abstention would tend, in a comparatively short cycle of time, to depopulate the earth, and, in all probability, would compel whatever might remain with human form ultimately to seek refuge in the simian freedom of an arboreal existence.

The die is cast and the test is now being applied on a large scale: may I beg my readers and their descendants carefully to note and compare, in the respective wet and dry zones, the future incidence of tuberculosis, cancer, lunacy, diabetes, resistance to infection, addiction to the drug habit, and frequent and prolonged tours abroad for business, health, and pleasure purposes?

A COMMITTEE appointed to consider a suitable memorial for the soldiers of Madison County, New York, has recommended the erection of a tuberculosis hospital to be maintained, under the provisions of the State county law, at the expense of the county.

DURING 1921, according to the *New York Medical Record*, medical practitioners in New York State issued a total of 946,700 prescriptions for alcohol; in the Chicago district the number was 2,189,000.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

BLINDNESS FOLLOWING INFLUENZA.

INTO my consulting-room in South Africa some years ago was led by two friends a man who was said to be blind. He had had influenza. Examination showed only a low degree of hypermetropic refractive error. Deciding there was nothing to prevent the patient seeing, I put up his correction and told him to read the letters on a board which was opposite him. This he promptly did, to his delight and to the mystification of his friends. I told him he did not need any glasses as he was an outdoor worker. He walked out of my room unassisted. Presumably the blurring—which a low error of hypermetropia will produce—had been exaggerated by the weakness of the ciliary muscle resulting from influenza. That he thought he was blind was obvious. Not only was he led into my room, but he was actually on his way to book his passage to England to see an eye specialist.

Kilnhurst, nr. Rotherham. CHARLES J. HILL AITKEN, M.D.

DUODENAL ULCER IN A NEWBORN INFANT.

ON February 9th I attended a Mrs. X. in her second confinement, after an interval of six years. After a normal labour she was delivered of a healthy female child, weighing just under 8 lb. Respiration was not well established at first, but after a few minutes the child breathed well and was a healthy colour. The first fourteen hours of life were uneventful, and the child appeared to be normal in every respect. There was then sudden haemorrhage from the mouth and the passage of somewhat dark blood per rectum. Calcium lactate with 1 minim of a 1 in 1,000 adrenaline chloride solution was given by the mouth, and rectal salines (1 oz. every hour) administered. For several hours the child appeared to improve, but twenty-eight hours after birth she died after a profuse haematemesis and melaena.

I was fortunately able to get the consent of the father for a *post-mortem* examination. The stomach was full of blood clot, but healthy. About half an inch from the pylorus there was a small duodenal ulcer rather less than half the size of a threepenny-piece. The duodenum was full of blood clot. There was no history of haemophilia or syphilis.

I unfortunately did not preserve the specimen, as at the time of the *post-mortem* examination I did not think of publishing the case.

Braintree. H. G. K. YOUNG.

CASE OF TRYPANOSOMIASIS FROM WEST AFRICA CURED BY ANTIMONY.

So much has been said and written about special methods of treatment and cures of trypanosomiasis by serum therapy and so-called specific drugs that it seems justifiable to bring forward a case of my own to add to those quoted by Low and Newham, which were under the care of Manson and Daniels.

The patient served in the British Expeditionary Force in the Cameroons in 1915; while there he contracted malaria quartan and subtertian, *Filaria loa*, with its embryonic form *F. diurna*, and *Trypanosoma gambiense*. After many adventures he reached England, and came under my care in the Dreadnought Hospital from February to November, 1916. At one time trypanosomes were very abundant (4,000 per cubic millimetre), with cyclical outbursts, the general condition being bad. Atoxyl controlled but did not eradicate the infection. Under intravenous injection of antimony oxide 1/2 grain the blood was rapidly cleared. For a year he was under constant supervision in the laboratory at Greenwich, where treatment was continued. In May, 1917, he was again admitted into hospital for a further course of antimony, as there was a definite relapse, which rapidly cleared up. A single trypanosome was found in 1918, but none since; films have been examined monthly. He had a course of ten injections each spring in 1918, 1919, and 1920, of 1/2 to 2 grains of antimony tartrate. This patient is now (1922) doing work, and is well but for the Calabar swellings; he has filaria in his blood and a high eosinophilia. The strain of *T. gambiense* is being maintained in guinea-pigs, and has reached the sixteenth passage.

The case may now be claimed as a severe infection of *T. gambiense* cured by repeated injections of antimony.

London, W. PERCY BASSETT-SMITH, K.C.B., C.M.G.

Reports of Societies.

THE ACTION OF ARSENOBENZOL PREPARATIONS.

AT a meeting of the Section of Therapeutics and Pharmacology of the Royal Society of Medicine, on February 14th, with Dr. W. LANGDON BROWN in the chair, a communication was made by Dr. H. H. DALE and Major C. E. WHITE on an experimental method of determining the therapeutic efficiency of "914" preparations. In Dr. Dale's absence through illness, the investigation was explained by Dr. Burn, his colleague. In 1915 the Board of Trade asked the Medical Research Committee to undertake the biological testing of compounds of "606" and "914" which were being sold in this country. When "606" was originally made in Germany Ehrlich himself pointed out that it was essential that some biological test should be imposed on account of the continual variations in toxicity. It seemed even more important, if "606" was controlled biologically, that "914" compounds should be similarly controlled, because no similar test had been proposed for these latter preparations when they were prepared and issued in Germany. The test carried out by the Medical Research Committee was a simple toxicity test, in the shape of an injection into the tail vein of mice, and if with a given dose a certain proportion of mice survived, the batch was considered satisfactory. In the first year or so after the introduction of these substances, preparations were brought forward by manufacturers in this country which closely resembled the German products, some of which only just reached the borderline of the toxicity test, while others easily passed the test. During the war there was little opportunity of obtaining information whether changes in the process of manufacture led to any deterioration in therapeutic value, but afterwards reports came to the Salvarsan Committee that the clinical results obtained with "914" were not so good as previously. Investigations were thereupon carried out under Dr. Dale's direct supervision, in which mice infected with trypanosomes were taken as the test. The precise number of trypanosomes per cubic millimetre could be counted; at a certain point in the infection an injection of neo-salvarsan was given, and it was found that very large doses would clear out all the trypanosomes in twenty-four hours, a smaller dose would do the same in forty-eight hours, and in other cases seventy-two hours was required. If trypanosomes did not disappear in seventy-two hours they did not disappear at all, and the mouse rapidly died. The minimal curative dose was taken as the dose which removed organisms from the peripheral blood of all mice within seventy-two hours or less. It was found that preparations of "914" at first differed greatly in their power to cure trypanosomiasis in mice, and that the German "914" had a much lower minimal curative dose than the original British preparations. The British manufacturers thereupon set to work to produce something which should be more like the German product, and as a result of this investigation they considerably reduced the minimal dose, so that it now compared favourably (as was shown by tables) with the German preparations. Certain clinical results—not many, owing to the difficulty of obtaining them—had been tabulated, and the correlation between these and the experimental results with the same given set of preparations proved to be fairly close. A test was now regularly imposed on preparations of "914," not merely for toxicity, but for therapeutic value.

Dr. MACKENZIE WALLIS at the same meeting read a paper in which he referred to the toxic action of arsenobenzol compounds on the liver, and described investigations with the object of discovering whether such compounds, when administered to patients, produced changes in the liver sufficient to give rise to disturbances of liver function without producing any obvious signs and symptoms of such toxic action. As a result of the trial of many testing methods, he had come to the conclusion that the tests which were of value were three in number: the levulose tolerance test, the blood lipase content, and the cholesterol content of blood. He described each of these, and said that the levulose tolerance test served to show that the maximum effects on the liver after injections of novarsenobenzol were exemplified from three to three and a half months after the last dose, and that six months after the last dose the liver had regained its function in regard to levulose. The greatest effect of hepatic damage occurred three months after the last treatment. The lipase test proved to be much simpler in its application and quite as valuable in the results obtained, and here again it was found that the maximum effect was exemplified three months after the last treatment. Of the various tests, he advocated the adoption of the lipase test as the one which could be universally applied.

Dr. T. H. G. SHORE gave an account of the effect of arsenobenzol treatment on the kidney and liver as he had seen it in *post-mortem* examinations which he had conducted at Étaples during the war. His observations related to 23 cases in which preparations of the "914" group had been used, and in 11 cases the death apparently was the result of jaundice. From such clinical history as he had been able to gather he found that these people did not develop their jaundice until three weeks or a month after their treatment had been completed, and when they did develop it they died very rapidly. Unlike Dr. Turnbull in some similar investigations, he found that the liver in these cases was devoid of fat, but he found fat in the kidney, and he believed that the fat which ordinarily accumulated in the liver by the time the cases reached him for *post-mortem* examination had got into the kidney for excretion.

In the subsequent discussion Mr. J. E. R. MCDONAGH referred to 67 cases of jaundice seen at the Lock Hospital, in nearly all of which the jaundice had appeared in the twelfth week after the last injection. Sir P. BASSETT-SMITH referred to the importance of testing all these powerful drugs by biological processes. Dr. SPENCE alluded to the most definite reduction of liver efficiency in catarrhal jaundice. Professor A. J. CLARK referred to some cases in which it had been possible to detect the effects of large doses of salvarsan given intravenously upon horses which had to be destroyed, and the *post-mortem* signs were almost identical with those of arsenical poisoning, as if the arsenic had been taken by the stomach. Dr. W. E. DIXON deprecated any talk of salvarsan as though it were a special kind of drug; it was only arsenic, and the difference between these organic arsenical compounds was a question of their dissolution more easily in one tissue than in another.

THE IDEAL PSYCHIATRIC CLINIC.

AT a meeting of the Section of Psychiatry of the Royal Society of Medicine, on February 14th, with Dr. BEDFORD PIERCE in the chair, "The ideal clinic" was the subject of a discussion which is to be continued at the next meeting.

Dr. HELEN BOYLE, in opening, urged that an out-patient department alone would not suffice for a psychiatric clinic. Beds were necessary, often because the patient's domestic surroundings interfered with treatment, and also because to carry out the various forms of treatment required in many cases continual observation and supervision. The clinic should be established in the town rather than in the country. In the town it would have the advantage of association with a big general hospital; also it would be more accessible to out-patients. The advantages of quietness in the country were more imaginary than real, and perhaps were more easily dispensed with by mental patients than by others. Such patients often found the country boring and irritating; while, on the other hand, the streets and shops in town were so various and interesting that the most introverted patient must to some extent respond to these stimuli. The clinic building should consist of an administrative block with observation wards on each side, and certain association rooms for gymnastic and social purposes. There should also be smaller wards for four, five, or six patients, which was a better grouping than two or three patients. The solitude of single rooms would seldom be found necessary. The patients eligible should include children, for these disorders should be tackled at an earlier stage than hitherto. In the United States and Canada children who got into the hands of the law were often referred to such institutions. She thought that it would militate against the best interests of the clinic to seek powers for compulsory detention. The locked door suggested force and mystery, induced fear in the mind of the patient, hindered treatment, and damaged the tone both of patients and staff. The most happy thing that could be said to any incoming patient was that he or she was perfectly at liberty to go home. On the other hand, a few patients were comforted by locked doors.

The treatment (Dr. Boyle continued) should include, in addition to all hydrotherapeutic and physical methods, occupational therapy, which offered a safety valve for emotional

strain. One American clinic even went so far as to allow a patient to learn embalming because that was his fancy. Games and concerts were of use, and so various and subtle was the curative treatment of a mind diseased that she had found a visit to the penny bazaar of service in the re-education of patients. Religion was very important, and there should be a chapel in the clinic, simple, beautiful, and non-sectarian. When the clinic was in association with a general hospital the medical staff would be chosen in the same way as the hospital staff. There should be part-time men and women practitioners, aided by house-physicians. The members of the staff should have real working experience of a mental hospital. Probably both out-patients and in-patients would have to be fewer in number in relation to the number of doctors employed than was the case in general hospitals. The nursing staff should be selected with great care as to temperament and personality. She looked forward to the time when they would prescribe people as they prescribed drugs, assigning to this patient a vivacious nurse, and to that a quiet one. Every clinic, also, should have social service workers who would go and collect the data with regard to the patients. Contrary to what might be expected, she found that in America such workers were very popular.

Dr. W. A. POTTS did not agree with placing the ideal clinic in a general hospital; that was not Utopian, but pre-Victorian. With a few exceptions, the staffs of general hospitals did not understand psychotherapy or the new psychology.

Dr. HUBERT BOND questioned Dr. Boyle's postulation of a clinic with out-patient and in-patient work under the same roof. The out-patient department would do great good, but, unless the general attitude towards mental disorders underwent a change, it would be impossible to get the out-patients without disguising the nature of the institution. The successful clinic would be part and parcel of the general hospital, and would bear its name, although it would be a distinct unit. When the moment came for these clinics to mature he hoped that the bogey of certifiability or non-certifiability would not be raised.

Sir ROBERT ARMSTRONG-JONES gave some account of an out-patient mental department which he carried on for two years at St. Bartholomew's. It had been useful, but he could not help a feeling of disappointment. The people who attended were largely chronic epileptics. The incipient insane would not see himself as others saw him. The mental hospitals were the proper places in which to treat incipient cases, and he did not like the suggestion that the experience and organization accumulated there should be put on one side.

Dr. R. H. COLE supported the idea of a clinic away from the mental hospital. It seemed to him that his duty in an out-patient department was to decide where a given patient should be located; he was quite certain that in that way he had been able to prevent a good many cases from drifting into mental hospitals.

Dr. CRICHTON MILLER said that Dr. Boyle had omitted to speak of the biggest element in the problem—the amount of time the treatment took. At the Tavistock Clinic, in the first year of their work, the average length of each interview was forty-nine minutes. At a large hospital there must be a certain amount of red tape, and red tape killed psychotherapy. The most valuable work could be carried on at a clinic while the patients remained at their work during treatment.

The discussion was adjourned until the March meeting of the Section.

X-RAY TREATMENT OF CANCER.

AT a meeting of the Oxford Medical Society a paper on recent advances in the *x*-ray treatment of cancer was read by Dr. H. K. WARD, who last July had had the opportunity of seeing the work being done at the Universitäts Frauenklinik, Erlangen, Bavaria. He gave a brief description of the technique elaborated by Professors Seitz and Wintz, at Erlangen, the principles on which it was built up, and the results obtained by it in the treatment of fibromyomata and malignant disease.

Dr. Ward said that Professor Wintz, although not the first worker in this field, had made a number of improvements both in the apparatus used and in the measurement of *x* rays. The apparatus was a powerful one, consisting of two coils, and giving a 16-in. parallel spark gap. The *x*-ray tube had an ingenious mechanism which automatically kept the vacuum constant, and it was claimed that, working with very high tension currents, this tube lasted longer on the average than the Coolidge tube. Professor Wintz early discarded the Kienböck strip and the Sabouraud pastille for measuring *x* rays, the former as unreliable for rays of different hardness, the latter as not giving sufficiently accurate graduations. He then developed the iontoquantimeter, invented originally for this purpose by two Frenchmen, Villard and Szilard, and had used this method ever since.

Professors Seitz and Wintz had laid down what they call the optimum therapeutic dose for various diseases. If the erythema dose was called 100 per cent. the dose that the ovaries must receive to sterilize the patient was 34 per cent., the dose to kill carcinoma cells—the so-called carcinoma dose—was 90 to 110 per cent.; the sarcoma dose was 80 per cent., and so on. It was stated that if carcinoma cells received 40 per cent. they were stimulated and grew faster than ever. If the rectum received 135 per cent. a severe diarrhoea resulted, and if the intestine received 150 per cent. it would ulcerate and perhaps perforate. The figures might not be quite accurate; indeed, other workers did not entirely agree with them, but it was at any rate the right method of tackling the subject, if controlled by accurate measurement of the rays. It aimed at giving a definite dose in a definite region, and had introduced a much more scientific method of *x*-ray therapy than had obtained in the past. The above figures at once stimulated the *x*-ray worker to elaborate new techniques to bring these doses to bear on diseased tissues, and limited him in other directions because of the destruction of normal tissues.

In the treatment of fibromyomata the Erlangen technique was to sterilize the patient by giving each ovary 34 per cent. of an erythema dose. The haemorrhage soon ceased, but the tumour only began to shrink some months after the treatment. There appeared to be very few contraindications, and, according to the authors, even accompanying tubal inflammations subsided in time. It was interesting to note that, if a dose of approximately 28 per cent. be given the ovaries, a temporary sterilization often resulted—that is, menstruation ceased for some months, to return again later, the explanation being that the more mature Graafian follicles succumbed, but the immature follicles were more resistant and survived.

The Erlangen school had had more experience with the treatment of cancer of the cervix uteri than with any other cancer. They began by combining radium with the *x* rays in the treatment of this cancer, but later discarded radium as unnecessary. They concentrated six erythema doses upon the cervix, using three ports of entry in front and three behind. Unless great care was taken, the rectum lying just behind the uterus would receive a dosage which was often sufficient to excite a very severe diarrhoea. For another reason no more than six erythema doses should be given at one sitting; the blood even with this dose suffered considerably, showing notably a destruction of red cells and lymphocytes. However, the blood recovered in six weeks' time unless the disease was far advanced, with pronounced cachexia and anaemia. In these cases the blood never recovered, and the patients invariably died.

They devised a technique which they called the Roentgen-Wertheim, in memory of the two men on whose work it was ultimately founded. This technique was carried out as follows: (1) Treatment of the cervix uteri with six erythema doses concentrated on the cervix uteri. (2) Treatment of the parametria. This could not be carried out at once, because six erythema doses is a very severe dose of *x* rays from which the blood alone takes some weeks to recover. The authors had fixed on six weeks as the interval which must elapse before a second set of six erythema doses was given to one parametrium. As before, three ports of entry were used in front and three behind, all concentrated on the parametrium. After another six weeks' interval the other parametrium was treated in a similar fashion. The results with this technique had been extremely promising so far, and the authors claimed a very much larger percentage of successes than with any other known form of treatment. Indeed, they said that cure was almost certain if the disease was not too far advanced. Naturally they did not claim to be able to cure cases with metastases and profound cachexia and anaemia. Their experience of cancer of the breast was limited. Here the problem was a different one. Instead of a centrally situated tumour which could be approached from all sides there was a tumour lying close underneath the skin whose base was at most 3 to 5 cm. below the skin. If the breast was poorly developed it was impossible to use even two ports of entry because the two bundles of rays would cross just beneath the skin, and the tissues would be burned. The axillary glands

were of course treated as well, and given the carcinoma dose. No actual results had been published, but they were understood to be quite promising. The same could be said for carcinoma of the vulva. In this case the technique was the same as in a cancer in a poorly developed breast. In cancer of the stomach the results were not very promising; it was indeed as unfavourable a form of cancer to treat with *x* rays as it was by operation. It was often diagnosed only late in the disease, when there were already metastases in the liver. Another complication was that the tumour itself was generally quite close beneath the skin, while the glands lay deeper. The results were not good, but were understood to be improving as more experience was gained.

With regard to the treatment of sarcoma, the problem was at the same time simpler and not so simple. A sarcoma formed metastases by way of the blood stream, and might, while still quite small, have already given rise to metastases in the lungs. Carcinoma, on the other hand, spread more slowly by the lymph channels, and its extension was held up temporarily by the lymph glands, so that it remained local for some considerable time, thus lending itself to local treatment by *x* rays. The disappearance of the main sarcomatous tumour might be dramatic after *x*-ray treatment, but there might be already formed metastases in distant organs, which were beyond treatment. Nevertheless, Seitz and Wintz were of opinion that the prognosis in fairly small sarcomata was on the whole favourable.

In Dr. Ward's opinion, credit was not so much due to Krönig, Friedrich, Seitz, Wintz, and other workers for the powerful apparatus which they had devised—though this was a considerable factor in their success—as it was for their introduction of proper scientific methods into the problems connected with the dosage of *x* rays. First, the actual measurement of the rays with an accurate instrument, then the measurement of the percentage deep dose at various depths, and the study of the various ways in which this percentage deep dose could be increased; then the estimation of the optimum therapeutic dose in different diseases which should be aimed at; and lastly, the various techniques devised in order to get that dose where it was wanted without seriously injuring the normal tissues; and among these techniques the Roentgen-Wertheim technique invented by Seitz and Wintz stood out as the most promising and successful. A note of warning should be added. This method of carcinoma therapy was such an extensive one, the therapeutic dose was so near the dangerous dose, that unless the *x*-ray worker had an intimate knowledge of the apparatus, the technique, and the principles on which it was based, more harm than good might result. This was unfair to the patient, as it was to the method of treatment.

Dr. W. J. TURRELL took a more pessimistic view of the future of *x* rays in the treatment of cancer. He said that uterine cancer was less resistant to *x* rays than certain skin cancers, and this was the explanation of the more favourable results obtained. He spoke in favour of divided doses, and thought the Roentgen-Wertheim technique for uterine cancer much too risky, on account of the danger to the intestines and the general reaction produced. He put in a plea for the development of methods to sensitize the cancer cells, so that they would be killed by smaller doses of *x* rays.

FLAT-FOOT AND ITS COMPLICATIONS.

AN ordinary meeting of the West London Medico-Chirurgical Society was held at the West London Hospital on February 3rd, with the President, Sir GEORGE LENTHAL CHEATLE, K.C.B., in the chair. Mr. H. A. T. FAIRBANK read a paper on flat-foot and some of its complications.

Mr. Fairbank began by discussing the progress made in recent years in the treatment of ordinary cases of flat-foot. In children flat-foot arose as a result of congenital deformity, muscular weakness, or absence of the normal reflex postural activity of the muscles supporting the foot. In adults overwork or weakness were two of the causative factors of ordinary flat-foot. He drew attention to the work of Sherrington and others on the "postural activity" of the anti-gravity muscles, failure of which might account for the development of static flat-foot. Re-education of this reflex was necessary for its cure. Pain was conspicuous by its absence in children and most adolescents, and in these subjects a cure was usually possible. In adults, however, relief of symptoms only was the rule. He spoke warmly of the satisfactory results obtained by electrical stimulation of the muscles, especially by Dr. Murray Levick's method by which the tone of the small muscles of the foot was re-established. This treatment should be combined with suitable exercises, every effort being made to interest the patient in his treatment, the "mental effort" on his part being an all-important factor. In children, wedging-up of the inner side of the sole and heel of the boots, and stiffening the inner side of the "upper," should be employed in addition. In adults electrical treatment often gave marked relief of pain, but in addition in these cases "sole-plates" were usually necessary. These plates should be made for each individual, plaster casts being taken and carved up suitably after Trethowan's method. He described and demonstrated this method in detail. In children contracture of the calf muscles was a complication sometimes met with. This could be overcome in milder cases by stretching, while tenotomy of the tendo Achillis might be necessary in the severer forms. He mentioned osteo-chondritis of the heel epiphysis and that of the tubercle of the navicular as causes of painful flat-foot in children. The pathology of the condition was similar to that of "Schlatter's knee." Köhler's disease, or "isolated disease of the navicular," was another cause of pain in children. Lastly, he drew attention to the frequent development of flat-foot after convalescence from illnesses necessitating prolonged confinement to bed, the absence of reflex postural tone accounting for this. The paper was illustrated by numerous radiograms and plaster casts.

Mr. MCADAM ECCLES considered that all infants were born with poorly developed longitudinal arches, the arch developing as the child grew. Flat-foot in children was therefore more often due to non-development of the arch than to flattening subsequently. He agreed with Mr. Fairbank as to the efficacy of electrical treatment and the frequency of flat-foot developing during convalescence from long illnesses. He had seen a number of cases of epiphysitis of the proximal end of the first metatarsal in lads about 12 years of age the subjects of flat-foot.

CONGENITAL STENOSIS OF BILE DUCT.

A MEETING of the Pathological Society of Manchester was held on January 18th, with the President, Mr. J. HOWSON RAY, in the chair, when Dr. J. F. WARD described a case of congenital stenosis of the bile duct and patent interventricular septum.

The history of the case was that of a first child, born at term, both parents healthy. It was apparently healthy at birth, but jaundice was noticed at the age of 3 days; this soon became marked and remained so with very little variation until death. The child was first seen at the age of 5 months, when there was marked jaundice; the weight was 7 lb. 12 oz., the liver was enlarged, the spleen not palpable. There was a systolic murmur over the whole of the precordium; the pulse rate was 120 to 140; the Wassermann reaction was negative. The child was kept under observation as an out-patient until one week previous to death; the weight was then 7 lb. 14 oz. Death took place at the age of 8 months.

On *post-mortem* examination the organs were found to be deeply bile-stained. The liver and spleen were enlarged, the surface of the liver smooth; the gall bladder was small. The actual site of obstruction of ducts was not definable without injection. There was no ascites. The heart had a small opening in the upper part of the interventricular septum, but there were no other malformations. On microscopical examination of the liver there was a very slight degree of biliary cirrhosis.

The case resembled those previously described in its clinical course. There was nothing to suggest any etiological factor, but the coincidence of a congenital defect of the heart, and very slight degree of cirrhosis suggested malformation of ducts rather than inflammatory stenosis.

Mr. J. HOWSON RAY showed a large renal calculus of unusual size and shape removed from the left portion of a horse-shoe kidney from a male aged 49 years. This calculus had a curious resemblance in shape to a hand with four finger-like processes, the lowest of which was tipped with a scale of phosphates simulating a finger-nail, whilst the rest of the calculus was coated with a deep reddish-brown film of urates. The lowest process projected from the dilated pelvis into the upper end of the ureter. The left kidney was little more than a shell of atrophied renal tissue, which closely embraced the calculus, and was joined by a bridge of kidney substance to the lower pole of the right kidney across the vertebral column. The right kidney was hypertrophied. The calculus weighed 3 ounces 15½ drachms. The patient at the age of 16 years was treated for stone impacted in the penile urethra. He had no further obvious trouble until the past year, and for a

little over six months had suffered from pain in stomach, constant indigestion, and flatulence, but had no pain in micturition and no increase in frequency of micturition. The calculus and left kidney were removed by the abdominal route and uninterrupted recovery followed.

Mr. J. PHILIP BUCKLEY showed a case of endothelioma of the stomach, removed from a young woman who had presented signs similar to those due to perforation of an ulcer. A partial gastrectomy was performed, with successful issue.

Mr. J. B. MACALPINE showed five urinary specimens of considerable interest, including a ureterocele, which had been removed from the lower end of the left ureter. The speaker believed that a congenital stricture was the cause of the condition in this case. A number of cystin calculi, removed from the kidney of a child, were exhibited; cystin crystals were found in the urine, and an examination of the urine of the seven other members of the patient's immediate family revealed similar crystals in three other individuals who had no symptoms. A large papilloma in the pelvis of a kidney, an extensive papillomatosis of the bladder, for which that viscus was removed after transplanting the ureters to the surface of the body, and a dissection of a case of ectopia vesicae were exhibited and discussed.

Mr. GARNETT WRIGHT, Mr. H. H. RAYNER, and Mr. JOHN MORLEY showed other cases and specimens of interest.

PULSE TRACINGS AND THEIR MEANING.

A MEETING of the West Kent Medico-Chirurgical Society was held on February 10th, at the Miller General Hospital, Greenwich, when Dr. C. O. HAWTHORNE gave an address entitled "Some pulse tracings and their meanings." Dr. Hawthorne analysed the sphygmographic wave, and by comparing its form with the sphygmometer maximum in different groups of cases argued that the pulse tracing gave no information as to the height or level of blood pressure; its message, in so far as blood pressure was concerned, was related to the endurance of pressure and to the fashion of its decline. Only in this way could be explained the fact that with one and the same sphygmometer miximum the sphygmographic pictures in different cases might vary widely in their forms and meanings, and that with similar or identical tracings the sphygmometer level might differ. The interpretation of this variety must be found in the suggestion that the sphygmometer registered the height to which the pressure rose, but gave no information of the endurance of pressure, while the sphygmograph, on the other hand, displayed the form of pressure—well-sustained or ill-sustained—but made no announcement of its numerical level.

The address was illustrated by numerous tracings and sphygmometer records in exemplification of the above argument, and by others showing the effects of various drugs on the peripheral circulation.

A MEETING of the Pathological Section of the Sheffield Medico-Chirurgical Society was held in the Pathological Department of Sheffield University on February 9th, with Dr. GODFREY CARTER, the President, in the chair, when Dr. A. G. GIBSON read a paper on the pathology of epilepsy. He urged that an attempt should be made in every case of epilepsy to discover a definite cause, and that if such an attempt were sufficiently painstaking a large number of so-called "idiopathic" cases would be found to be definitely assignable to some organic disease. Of such organic causes of epilepsy Dr. Gibson drew attention to circulatory changes, and instanced the seizures that occurred in the course of Stokes-Adams disease. He also pointed to the interesting connexion between epileptiform convulsions and the infectious fevers, and laid stress on the extreme importance of syphilis as an etiological factor in the production of the disease, stating that no case had been fully investigated until a serological examination had been carried out. Amongst the causes of epilepsy were to be found such definite entities as parasitic disease of the brain. The term "idiopathic" should be avoided when dealing with epilepsy until every possible source of recognizable etiology had been excluded. Until this had been done, simple administration of bromides was to be deplored.

AT a meeting of Glasgow Southern Medical Society on January 19th Mr. R. H. PARRY delivered his presidential address, taking as his subject "After-treatment." During the period since he was a house-surgeon the technique of surgical operations had advanced to a very high state of perfection, and methods of diagnosis had also greatly improved, but as regards after-treatment much remained to be done. He laid stress on the effects of early diagnosis in simplifying after-treatment, and showed that after-treatment, which was often apt to be regarded as drudgery, might be made a very interesting study resulting in great benefit to patients. He laid stress also on the need for closer co-operation between the hospital surgeon and the general practitioner, by whom the after-treatment ought usually to be carried out, and ended by saying that the gulf that existed between hospital treatment and that outside must be bridged. Quackery had its biggest scope in the failures in after-treatment.

Reviews.

MEDICAL PRACTICE IN THE TROPICS.

THE scope and object of *The Practice of Medicine in the Tropics*,[1] by many authorities, edited by Colonel W. BYAM and Major R. G. ARCHIBALD, the first volume of which is before us, is explained in the preface: "The primary object of the Fellowship of Medicine being to promote a closer relationship between the members of the medical profession throughout the English-speaking world, we have attempted to help this endeavour by producing a book which will serve the student as an introduction to the leading teachers of tropical medicine throughout the British Empire, in the United States of America, and in other countries where the English language is spoken." The authors believe that tropical medicine offers a particularly favourable field for the promotion of an international *entente* such as they are endeavouring to bring about. The book has been planned to include articles on diseases which are not peculiar to warm countries, but which present aspects of importance to practitioners in the tropics. Chapters on nursing, diseases of women, and the production of small-pox vaccine are also included. The authors' endeavour, they tell us, has been to produce, not an encyclopaedia, but a work of reference which will meet the practical needs of the average man in the tropics. The frontispiece is an excellent photograph of Sir Patrick Manson. The list of contributors, numbering seventy-eight in all, contains many names well known in tropical medicine, and the authors of the work are to be congratulated on their choice, which has provided representatives of every aspect of the subject. The main sections in the first volume are hygiene and minor tropical sanitation (pp. 1–238), nursing, entomology (pp. 271–494), laboratory methods (pp. 495–682), snakes and snake poisoning (pp. 683–762), and toxicology (pp. 738–855); there is also a good general index. Dr. Balfour, who is responsible for the first section, has produced a very interesting and readable article; it is abundantly illustrated, and should be very helpful to intending visitors to the tropics, warning them of the dangers to health they are about to encounter and how best they can avoid them. Entomology is fully dealt with by a series of writers, including C. Warburton, Ll. Lloyd, M. E. MacGregor, L. O. Howard, H. H. King. Here again the coloured plates and other illustrations are of a high order of merit, and contribute to an understanding of the text, which is well chosen and well written. The article on laboratory methods—a subject of paramount importance in the tropics—has been written by R. G. Archibald, the joint editor of the work. Here again a well-balanced, up-to-date article has been produced, containing all modern methods of importance, and good accounts of the examination of the blood, faeces, urine, etc.; at the end is a useful note on *post-mortem* examinations. A statement on p. 606 that the cervical glands are enlarged in infection by *Filaria perstans* is open to criticism. Why should they be? The adults live in the mesenteric tissues, not in the glands, and their embryos are in the blood stream; adenitis, when it occurs, must be due to some other infection, and not to the filaria. No mention is made of calcified filariae (*F. bancrofti*) in the tunica vaginalis and epididymis; they should always be carefully searched for as they afford evidence of an old filarial infection. When writing of multiple abscesses the small multiple amoebic abscesses are not specially commented upon, while the statement as to the diaphanous condition of

[1] *The Practice of Medicine in the Tropics.* By many authorities. Edited by W. Byam, O.B.E., Lieutenant-Colonel R.A.M.C. (ret.), and R. G. Archibald, D.S.O., M.D.Edin., Major R.A.M.C. (ret.). Vol. i. Oxford Medical Publications. London: Henry Frowde, and Hodder and Stoughton. 1921. (Roy. 8vo, pp. xxii + 855; 334 figures, 35 plates. £4 4s.)

the gut in kala-azar is open to dispute. Ascaris in the larynx might have been mentioned on p. 613, and paragonimus and helminthic lesions in the brain on p. 614.

The chapter on serums and vaccines, by Colonel D. Harvey, is specially interesting, giving as it does a very clear conception of the matter; it should prove of the greatest use to the worker in the tropics. The section on snakes is written by Major Acton, I.M.S., in collaboration with Major Knowles. It is well illustrated, and contains much useful information. Dr. H. H. Scott, the discoverer of the part the akee plays in vomiting sickness, appropriately deals with vegetable and fish poisoning in the tropics. Lastly, Mr. Colles discusses the chemical investigation of medico-legal cases, an intricate and very difficult subject. It will be gathered from what has been said that the volume contains a wealth of material which will be most useful to many workers in different branches. Mention has already been made of the excellent coloured plates (35 in all), and of the other illustrations by which its pages are so profusely adorned. These lighten the tedium of reading through the text, and make the understanding of it much more easy. The standard set by this volume is high, and if this level is maintained in the other two volumes, which are to deal with the diseases proper, then the book may well become the authoritative standard reference work in English on tropical medicine.

THE ART OF GROWING OLD.

DR. LAPTHORN SMITH has written a very readable, interesting and instructive little book entitled, *How to be Useful and Happy from Sixty to Ninety*.[2] It manifests throughout the work of a keenly observant man with multiform knowledge by no means confined to matters strictly medical. The author has certainly collected ample evidence in favour of the contention implied in the title of his book. Although a large part of this work consists of concrete examples of happy and useful lives led by men and women long after arriving at sixty, and by many up to ninety or over, there is no lack of illuminating comment on the way in which they achieved success. Apart from his repeated emphasis on the generally received medical maxims concerning sobriety, early rising and going to bed, dieting, and so forth, the author's insistence on the extreme importance of physical and mental exercise appropriate to each individual case, and continued persistently without counting the years as they pass, may perhaps be said to be the chief feature of his teaching. This is not to say that the book is marked by any dull repetition, for each chapter is enlivened by fitting anecdotes, by records of the author's own experiences, and by his evident conviction of the truth of the teaching he endorses.

Dr. Lapthorn Smith dwells much on the harm of too much meat food for the old and elderly, of alcohol in any but small amounts, and of tobacco smoking generally. But in his last chapter, entitled "Axioms for the man over sixty," which is well worth studying and generally following, one of the axioms runs thus: "If you have been a smoker all your life keep on smoking in moderation, and if you have been a moderate drinker, keep on drinking in moderation (if you can get it)." In view of the author's somewhat excessive tirade against tobacco in Chapter XIII—where he surely exaggerates the number of persons who suffer from tobacco blindness, and probably of those who have disordered heart action from over-smoking alone, and thus draws the conclusion that 1 oz. a week is the limit of safety for a smoker—he is certainly to be credited with a generous exercise of his common sense and humanity when he enjoins a man over 60 "to keep on smoking." He seems not to be aware that a man who has smoked all his life and would be satisfied at 60 with 1 oz. if he could afford more, is not often to be found. Moreover, he makes no mention of the quality of tobacco smoked, a matter which general medical opinion holds, we believe, to be one of much importance.

But it may safely be said that in spite of a few other minor criticisms which might possibly be made here and there, of this book, no one could be harmed, and most would greatly benefit, by following the author's rules without doubt or quibble. We wholly agree with Sir Charter Symonds in wishing this attractive and useful volume "bon voyage" and a long one.

[2] *How to be Useful and Happy from Sixty to Ninety.* By A. Lapthorn Smith, B.A., M.D., M.R.C.S., etc. With a Foreword by Sir Charters Symonds, M.D., M.S., F.R.C.S., K.B.E., C.B. London: John Lane, The Bodley Head, Ltd. 1922. (Cr. 8vo, pp. xiv + 236; 1 portrait. 5s. net.)

INTELLECTUAL EVOLUTION.

THE book on the genesis of psychical energy[3] which Dr. DANYSZ has written is an essay in biological philosophy. It is an attempt to mark out the place man occupies in Nature, and by tracing his evolution from the simplest forms of living matter to make a guess at the future progress of the individual and the State. It is divided into four sections: the first describes the evolution of man, the second details the reactions of living matter, the third gives an account of evolution generally, and in the fourth some general conclusions are stated. In this fourth section the author attempts a forecast of the lines upon which the human race is likely to develop in the future. His work may be recommended to the general reader; it is suggestive, and illustrates the difficulty of applying biological methods to the elucidation of psychological problems.

It is impossible to give the argument of the book and to explain the author's reason for his conclusions in a few words. He is an optimist, believing that man has not yet reached the highest intellectual development of which he is capable, nor human society the organization which will best ensure the greatest happiness for the greatest number. As a good evolutionist he is no believer in the doctrine of revolution so loudly preached by some to-day; in fact, he considers that quite a number of people who believe themselves leaders of "advanced" thought are, in fact, marching into the desert at an obtuse angle with the true line of advance. But though an optimist, he thinks that progress towards a better state of society must be slow, for the process of evolution needs much time, many generations, to achieve its beneficent results. Man is distinguished from the rest of the animal world by his intellect, and it will be by the evolution of his intellect that he will advance, but he "is not, and never will be, free to evolve in a direction arbitrarily chosen." The age of reason is coming; the present epoch will be remembered in the history of humanity as that in which "the sentiments and the passions were insufficiently controlled by the reason." For Dr. Danysz the doctrines of Marx are not constructive because they do not appeal to the desire for new and fruitful research, but arouse passions whose manifestations are the more opposed to progress the less enlightened the minds affected.

The merits and demerits of socialism of various shades and of anarchism cannot suitably be discussed in a medical journal; we have merely endeavoured to give a general indication of the argument of this book because M. Danysz is a distinguished biologist, because the book is suggestive, and because the biological aspect is usually neglected by political writers to whom this essay is primarily addressed.

NOTES ON BOOKS.

PROFESSOR BERNARD'S book on pulmonary tuberculosis[4] gives, from the French point of view, a picture of the disease in its clinical and sociological aspects, and may be read with profit by medical officers of health, medical men, and nurses who have to deal with phthisical patients. Originally designed to stir the inertia of the French, who are not yet, according to the author, fully awake to the necessity for an active antituberculosis campaign in their own country, this volume may be recommended also to the tuberculosis experts of Great Britain, for it throws interesting sidelights on problems that occur in our own country just as they occur in France, and on the solutions thereof that have been found and are in working order in England but are still to seek in France. Professor Bernard is all in favour of the governmental control of tuberculosis, and we trust that his well-written volume may meet with the attention it deserves.

The book on respiratory training[5] by Dr. J. PESCHER, who, we believe, practises in Paris, is the work of a whole-hearted enthusiast; he holds that most of the organic and functional ailments of children and adults can be cured or vastly ameliorated by graduated breathing exercises, use being made of his own variety of spirometer. The book is wordy; in

[3] *La Genèse de l'Energie Psychique.* Par J. Danysz; avec une lettre-préface de J. Payot. Paris: J. B. Baillière et Fils. 1921. (Demy 8vo, pp. 312; 26 figures. Fr. 12.)

[4] *La Tuberculose Pulmonaire. Études de Phtisiologie Clinique et Sociale.* Par Professeur L. Bernard. Paris: Masson et Cie. 1921. (Demy 8vo, pp. 258. Fr. 10 net.)

[5] *L'Entrainement Respiratoire par la Méthode Spirométrique.* Applications Pratiques en Hygiène, en Prophylaxie, en Thérapeutique. Par J. Pescher. Ancien interne des hôpitaux de Paris. Paris: A. Maloine et Fils. 1921. (Cr. 8vo, pp. 287; 33 figures. Fr. 10.)

style it seems designed for the layman, but in matter it is more suitable for the medical practitioner. Rules for the application of the breathing exercises are given, and the amount of the respiratory work to be done by the patient is specified for each disorder. It would seem that Dr. Pescher expects too much of his method.

The authors of a little French book, the clinical interpretation of laboratory reports,[6] have set out in tabular form the conclusions to be drawn by the medical man from the reports he receives on the specimens sent to the pathological laboratory for examination. Comparatively little is said as to the methods employed; given his report, the medical practitioner will find in this book all the different interpretations that it may bear, or all the diseases or disorders it may suggest. At the end of the volume is a synoptic table in which the various diseases come first, and have opposite to them a list of the pathological changes in the blood, urine, faeces, and so forth, to which they may give rise. The book is well arranged and full of information, but has the fault of increasing the separation between clinical diagnosis and laboratory diagnosis that is so frequently deplored by physicians and pathologists alike.

The first number has appeared of a bi-monthly medical review entitled *Les Néoplasmes*, which is to be devoted to original articles, abstracts, and reviews dealing with the etiology, pathology, and treatment of tumours, malignant and benign. In addition to an analytical review of current literature the first number contains original articles on the red blood corpuscles in cancer, and on the treatment of cancer of the tongue. The new journal is published by Messrs. Vigot Frères, 23, Rue de l'École de Médecine, Paris, VIe, and the annual subscription (foreign) is 18 francs.

The name of the *Journal of Orthopedic Surgery* (Boston, U.S.A) has been changed to the *Journal of Bone and Joint Surgery*; it will be published quarterly.

[6] *Comment Interpréter en Clinique les Réponses de Laboratoire.* Par Hugel, Delater, and Zoeller. Paris: A. Maloine et Fils. 1922. (Cr. 8vo, pp. 139. Fr. 5.)

MEDICINAL AND DIETETIC PREPARATIONS.

Phyllosan.

PHYLLOSAN is a preparation made up in tablets; each tablet is stated to contain 0.03 gram chlorophyll and 0.005 gram iron. The agents in this country state that the preparation is known by the name phyllosan in English-speaking countries, in Germany and Switzerland as chlorosan, with or without the name Buergi, and in Spain and Italy as foliosan.

The therapeutic value of chlorophyll was discovered by Professor E. Buergi, of Berne. He and his pupils made extensive laboratory experiments upon the action of chlorophyll on anaemia in rabbits, and also made clinical observations on the action of chlorophyll combined with iron in anaemia and various other diseases. Buergi[1 2 3] found that chlorophyll, when given to rabbits made anaemic by bleeding, had an action equal to that of iron in stimulating blood regeneration, and that a combination of chlorophyll and iron was much superior to either substance given alone; it was also found that chlorophyll and iron caused an increase in the haemoglobin content and erythrocyte content of the blood of normal rabbits.[4]

From clinical observations Buergi concluded that a combination of chlorophyll and iron was much superior to any preparation containing iron alone in the treatment of chlorosis and of secondary anaemias of various types. Buergi also found that a combination of chlorophyll and iron was of great value in the treatment of numerous diseases, particularly tuberculosis, cases of cardiac disease due to weakness of cardiac muscle, arterio-sclerosis, and cases of general debility. He concluded that chlorophyll acted as a general stimulant to the body tissues, and increased the vital force of the patient.

Buergi prepared a combination of chlorophyll and iron which he termed chlorosan, and this has been put on the market in England under the name of phyllosan. Phyllosan is stated to be prepared according to Buergi's directions, and is advertised in a pamphlet in which Buergi's claims as to its extraordinary therapeutic value are fully set forth.

[1] Buergi: *Correspondenz-Blatt für Schweizer Aerzte*, No. 15, 1916.
[2] Buergi: *Therap. Monatshefte*, 32, 1918, pp. 1, 33.
[3] Buergi and others: *Biochem. Zeit.*, 98, 1919, p. 256.
[4] Grigoriew: *Biochem. Zeit.*, 98, 1919, p. 281.

The obvious question at once arises as to why the administration of iron, together with the addition of green vegetables to the diet, should not produce the same effects, only at much less cost, as those produced by the administration of phyllosan. Buergi meets this objection by saying that chlorophyll is not absorbed when given in its natural form, and that it is only of therapeutic value after it has been submitted to special purification. The results obtained by Buergi's pupils agree completely with those obtained by Buergi himself, but we can only find record of one research upon the action of phyllosan which was done outside Professor Buergi's laboratory; it was performed by Dr. W. Loeffler,[5] who made extensive chemical, pharmacological, and clinical tests as to the action of phyllosan (or chlorosan), and obtained negative results. Loeffler found that the phyllosan tablets contained less than 0.003 gram of chlorophyll, and calculated that 10 grams of spinach contained as much chlorophyll as fourteen phyllosan tablets. He found that phyllosan was inferior to Blaud's pills in the treatment of anaemia, both in the laboratory and clinical tests. He considered that there was no certain evidence that chlorophyll had any therapeutic action, and argued that even if chlorophyll had a therapeutic action it was unlikely that the minute amounts present in phyllosan would be effective. These conclusions naturally evoked a lively controversy in the Swiss medical press.[6]

It is very difficult to decide on the merits of a preparation whose action is a subject of acute controversy. The chief laboratory evidence that phyllosan has any therapeutic action depends on the results of the experiments upon rabbits made anaemic by bleeding; experiments of this nature are, however, notoriously uncertain, on account of the great individual variations in different animals.

It is unnecessary to point out how difficult it is to obtain reliable evidence from clinical observation as to the action of drugs upon such diseases as chlorosis, tuberculosis, and general debility. In spite of the expressions of opinion by Buergi and his pupils quoted above, it still appears to us that the action of chlorophyll in experimental anaemia is extremely uncertain, and that the therapeutic value of phyllosan is the subject of a still unsettled controversy.

The agents for phyllosan in this country are the Chlorophyll and Chemical Corporation, Ltd., 26, Coventry Street, London, W.1.

[5] Loeffler: *Correspondenz-Blatt für Schweizer Aerzte*, No. 46, 1918; No. 48, 1918, pp. 1521, 1618; and No. 49, 1919, p 879.
[6] Buergi: *Schweizer Rundschau für Medizin*, No. 4, February 21st, 1919; *Correspondenz-Blatt für Schweizer Aerzte*, 49, 1919, p. 1604.

ABILITY IN CHILDREN.

IN the days when schools and classes were still small an observant teacher might gain a very good knowledge of the individual capabilities of his pupils, and his judgement of ability did not always correspond with the show that a pupil might make in class work or in examinations. The advantages of the direct and intimate knowledge which the teacher of a small class or a small school possessed is impossible of attainment in modern schools, where the number of pupils runs into several hundred and a class may total forty. In addition to this, the organization necessary in large schools requires that pupils should pass from form to form or standard to standard at reasonably short intervals, so that a pupil knows many teachers but few teachers know the pupil.

To make up for the loss of the old pedagogue's intimate knowledge of the ability of a pupil many endeavours have been made to measure the mental ability of children apart from the routine knowledge to which they may have attained by diligent attendance at school. This work is inseparably associated with the names of Binet and Simon, two French investigators, whose tests have been generally accepted as the basis for a standardization of tests of mentality which can be of practical value.

The London County Council, the largest elementary education authority of the country, has issued in a substantial volume[7] a series of memoranda prepared by Mr. Cyril Burt, its psychologist on "mental and scholastic tests." In the first he considers in detail the Binet-Simon scale and the practical methods of applying it; in the second he discusses the theoretical validity of the results of tests made with the

[7] *Mental and Scholastic Tests.* Report by the Education Officer of the London County Council submitting three memorandums by Mr. Cyril Burt, M.A., Psychologist on Mental and Scholastic Tests. London: P. S. King and Son, Ltd. 1921. (Med. 8vo, pp. xv + 432; illustrated. 21s.)

scale; and in the third he sets out a provisional scale of educational tests of attainments.

The school examination is a fair test of knowledge of school work, but it is a poor measure of capacity, and ignorance of school learning is no proof of defect. The argument that where attainments are meagre ability must be low will always be fallacious. Poor health, poor homes, irregular attendance at school, lack of interest in the subjects of instruction, want of will to learn them, or a higher order of diligence, of intelligence which enables the scholar to perceive their relative unimportance, are commoner causes of inability to spell or calculate than an inherent weakness of intellect or genuine defect of mind. The dull are usually backward, but the backward are not necessarily dull. To affirm the contrary would not be true, but would be nearer the truth. A high real ability does not always imply a high standard of school work. This ought to be a platitude, for history abounds in illustrations of unsuspected ability bearing rich fruit in adults who as children were reckoned indifferent scholars. Genius has laws of its own and must be left out of account, but if there were means of discovering embryo ability at an early age and giving its possessors the best advantages that our clumsy educational scheme can afford, the richness of the real capacity of the child might, it is argued, be brought to fruition without risk of such loss as must occur under the conditions at present imposed on us by pedants and doctrinarians. Similarly there are children of poor ability who struggle through the school curriculum with a difficulty that may be reflected in a diminished standard of health; were their disability discovered in time a modified curriculum would enable them to develop to the best advantage any innate qualities they may possess. Some perhaps have none, but it is waste of life and happiness, so stupid as to be wicked, to cause a boy who has sympathy with plants to waste his time in learning to spell. No really good gardener can spell English. He is too observant, too much in tune with Nature. To pass judgement upon the mentality of the child is, however, part of the duty of the teacher, and he should therefore be equipped with a knowledge of modern methods of examination of mentality, which he may learn to use within his limitations.

After discussing the standard Binet-Simon scale, Mr. Burt considers the difficulties presented by its use in England, and suggests modifications to render it better adapted to our needs, for, as Dr. Simon expressed it, "La bonne traduction est elle qui d'après l'expérience laisse l'épreuve à l'âge auquel elle est placée." Some of these tests might very well have been even further modified to suit English tastes. The picture tests are taken straight from the French originals. There are three, and all are of the most melancholy description, and very foreign to our eyes. The first is a half-tone reproduction of a drawing showing a pair of unhappy-looking individuals, man and boy, hauling at a rickety handcart laden with damaged goods. It is suggestive of a retreat in Poland. It is not even definite in its drawing, for a sharp boy of 9, on being shown it, and asked what it represented, immediately pointed to the boy's head and said: "A boy with a dog's head." And sure enough the right hand of the man and the tousled head of the boy do together make a very good head of a bob-tailed sheep-dog. It turned out on inquiry that this boy had been exercising his wits with puzzle pictures, in which he was invited to "find the villain" and the like. Mr. Burt defends the transfer of these drawings, but we must admit a preference for the alternatives introduced by other workers. The line drawings for comparison of faces, and for the discovery of missing features, are equally unpleasant. All these figures have been reproduced in many textbooks on these scales, and it is time that some drawing less pathological in appearance should be shown to the children. There is no merit in melancholy ugliness. The Porteus maze tests are not altogether free from difficulty, seeing that the response to them may be very unequal: one small boy of 7 years, who has not as yet shown any special ability, did the whole series up to that supposed to be suitable for the age of 14 years with little or no hesitation, and then asked for more. We agree with Mr. Burt on the desirability for intelligent translation of these tests, and think that he might have carried his modifications a little further with advantage.

The results of the use of these tests on London children tend to show that a mental age cannot be so definitely defined as Binet seems to have supposed. There is a very considerable overlap. "To measure intelligence by the yearly stages of intellectual growth is like measuring stature by means of a tape, where the lines that separate the inches are half defaced and the figures so broad, so blurred, and so ill centred that any one division may easily be confounded with the next."

The tests have been largely used also for the determination of mental deficiency, and it is interesting to note the results thereby obtained. The special school children (mentally defective) of London form some 1.5 per cent. of the total school population. Analysing these defective children, it is found that only one-third of them, or 0.5 per cent. of the grand total of all children, are so defective as to warrant their being classed as "institutional" cases, one third will need "supervision," and the other third are only to be reckoned defective owing to the defects of our educational system. That is a very satisfactory fact to be elicited. The more general application of these tests seems to show that there is discernible an effort, and an effort by no means sterile, to coax and coach the milder dullards of the ordinary schools to a grade more closely fitted to their actual age, so that their acquired attainment becomes greater than their inborn ability. By contrast the children who are most retarded mentally appear still more retarded educationally; and the children with superior talent are largely kept back scholastically, depressed to a stage which answers more closely to their actual years. The essays before us unmask a strong disposition to level a child's school work up or down towards the common standard for his age. That is a very grave reflection upon the effect of standardization of educational work, and one that needs much thought.

Some of the results show that the Binet-Simon scale is less a pure test of mental capacity than is sometimes thought. Mr. Burt writes: "There can be little doubt that with the Binet-Simon scale a child's mental age is a measure not only of the plane of intelligence with which he is congenitally endowed, not only of the plane of intelligence at which in the course of life and growth he has eventually arrived, it is also an index, largely if not mainly of the mass of scholastic information and skill which, in virtue of attendance more or less regular, by dint of instruction more or less effective, he has progressively accumulated in school." If this be true of children of the elementary schools, how much more will it be true of children in some smaller schools where a system of education is in practice which distinctly cultivates the powers of expression of the children, such, for example, as the system of the Parents' National Educational Union. To the children of such schools many of the tests of the scale are such as they are accustomed to practise in daily work, a condition which necessarily renders the tests valueless in them—a fact which is recognized by the author as a possible end-result of the common use of these tests in schools.

The last memorandum deals with the needs and uses of scholastic tests. For the measurement of school progress there is no scheme of tests, widely used and popularly recognized, claiming the same position and enjoying the same prestige as the Binet-Simon scale for the measurement of native intelligence. In collaboration with M. Vaney, Binet and Simon did attempt what they styled a "barometer of instruction"—a set of graded exercises in reading, spelling, and arithmetic, but the tests were compiled on a rougher plan, and in any case are not suitable for transplantation to other countries. Teachers are well fitted to make their own tests, but these are necessarily unrelated to the tests of other teachers. The difficulty is found especially in attempting to compare the scholastic attainments of children in widely different parts of a great city; what is only fair in one part may be considered excellent in another. There is no true comparison, and Mr. Burt has attempted to provide a series of graded tests, suitable for measuring as scientifically as possible the attainments of individual children in all the fundamental subjects of the elementary school curriculum. The scales are confessedly tentative, but are put before the inquiring teacher as a starting point for further research, and as an indication of lines of a principle likely to prove useful. Mr. Burt, indeed, recommends that every teacher should prepare his own tests after studying this test-sheet. The questions to be contained in the tests in actual use should be left to the investigators themselves, otherwise the tests may become stale and commonplace, and, like some of the Binet-Simon tests, so popularized as to be useless for their special ends.

These memorandums include a very valuable series of investigations which cannot fail to be of great value to educationalists and those engaged in school medical inspection. The London County Council is to be congratulated on their publication.

British Medical Journal.

SATURDAY, FEBRUARY 25TH, 1922.

THE MAUDSLEY HOSPITAL FOR MENTAL DISEASE.

SIR FREDERICK MOTT, Director of the Pathological Laboratory of the Maudsley Hospital of the London County Council, is retiring under the age rule, but the Council has arranged to retain his services until October next. He has held the appointment with great distinction since the hospital was erected, combining with its duties those of pathologist to the Council's asylums. The County Council is taking steps to appoint a medical superintendent to the hospital at a salary of £900 a year, with temporary additions on the Civil Service scale, and the right to engage in private practice as a consultant, subject to certain conditions, one of which will probably be that he shall reside in the neighbourhood of the hospital. So far as our information goes, no steps have yet been taken to decide on the staff which will be needed, but it is obvious that the objects with which the hospital was founded cannot be attained through the work of any single individual acting as medical superintendent.

We remember how in 1908, in a report on the arrangements made with Dr. Maudsley, the Chairman of the Asylums Committee spoke of the hope that the hospital would prove of great value in the dissemination of knowledge of mental disease, and in the provision of systematic instruction in methods of treatment. This hope has, indeed, partly been realized by the institution of courses for the diploma in psychological medicine, in the conduct of which Sir Frederick Mott has gathered about him some of the most distinguished exponents of the subject. The courses have been extremely well attended; but two things have somewhat militated against their complete success. The first is that, as there were no patients in the hospital, clinical instruction had to be given elsewhere; and the second, that the University of London has not shown the faintest interest in the matter. The chairman, in the report from which we have already quoted, referred to the advantages which would flow from the hospital being in close touch with the university, the general hospitals, and the medical schools. It was not, he truly said, to the advantage of the profession or the public that the study of insanity should to so great an extent remain an isolated branch of medical research. The belief was expressed that were this defect remedied, a closer acquaintance with the peculiarities of mental and nervous diseases would become more common, and many cases of incipient insanity which now find their way ultimately to the workhouse or to the asylum would by suitable treatment in the earlier and more hopeful stages recover without needing confinement in an institution. The need for a central pathological laboratory was also mentioned.

These are admirable sentiments, and a pathological laboratory exists, but the story of its dealings with the gift made to it some fourteen years ago by the late Dr. Henry Maudsley is not altogether creditable to the London County Council. There was, in the first place, an unexplained and most regrettable delay in finding a site and building the hospital. Its erection proceeded by slow degrees, and it was barely complete when early in the war it was taken over by the War Office for soldiers suffering from mental and nervous disorders. Though the hospital was given up by the military authorities some fifteen months ago, it is, we find, still unoccupied, yet the demand for the accommodation and treatment it could afford to civilian patients is pressing—so pressing, indeed, that we can hardly believe the suggestion, which nevertheless is being made, that it is being kept empty to save expense. No doubt sooner or later it will be taken into use, and the decision to appoint a medical superintendent is an indication of this intention.

But the purpose Dr. Henry Maudsley had in view was not to establish another asylum. His purpose was to set up an acute mental hospital which would serve as a model to other localities, and be a centre of investigation in both functional and organic diseases of the brain and spinal cord. To this end it is necessary to have a suitable hospital in a convenient locality, with a laboratory well equipped and of adequate size attached to it. These have now been provided. But for the intensive study of acute mental disorder, and for pathological routine work, to say nothing of research, a large staff is necessary. If we look abroad we find that the institute at Zurich has a medical staff of eleven—the Director, Professor Bleuler, two senior medical officers, five assistant medical officers, two voluntary physicians, and one pathologist. It has 400 beds; the number of admissions is about 750 annually. Of the beds, 250 are occupied by chronic patients, for whom two medical officers, in addition to the Director, would probably suffice. But it has 150 beds for acute cases, and these have a rapidly changing population; it is with them that the remaining officers are fully occupied—so fully, indeed, that in practice the pathologist has had to be taken away for clinical work, and in fact does no pathology. At Utrecht there is a mental hospital of about the same size under the direction of Professor Winkler, one of the most distinguished neurologists in Europe. He has a salary of £1,000 a year, a good house, and the right to private practice. Under him are a staff of five medical officers, and eight assistants in the laboratory. At the Psychiatric Clinic at Munich the Director, Professor Kraepelin, has working with him two senior physicians, four senior assistant physicians, four junior assistant physicians, five voluntary physicians, and three other officers recently qualified, whose duties are similar to those discharged by the clinical assistants working in the departments of general hospitals in England. The Munich clinic has 160 beds; the number of patients admitted annually is about 2,000. Again, at Cologne, Professor Aschaffenburg, the Director of the Psychiatric Clinic, has under him one senior physician, two assistant physicians, and a fluctuating number of voluntary physicians and newly qualified men.

The Maudsley Hospital, as we have said, possesses good laboratories, and it is in the direction of them that Sir Frederick Mott has been chiefly occupied. But we have shown how large a staff is considered necessary for the clinical study and treatment of acute mental cases. We still hope that the London County Council will rise to the height of its responsibilities, and organize the staff of the Maudsley Hospital on a liberal basis, both as to the number of the staff and their salaries. We are quite certain that its reward would be great, and that in the long run, even from the financial point of view, the ratepayers' pockets would be saved.

MILD SMALL-POX AND VACCINATION.

THE county medical officer of Lancashire (Dr. Butterworth) and his staff are to be congratulated on the very full, painstaking, and well-balanced report they have prepared on an outbreak of small-pox in Middleton in 1920. Indeed it is difficult to think of any aspect of the subject with which they have failed to deal, and that is important, because the epidemic was of so mild a type

that a less thorough investigation and record might well have been thought sufficient. The administrative measures adopted were of the usual character, including hospital isolation, disinfection, vaccination and re-vaccination, and surveillance of contacts and common lodging-houses.

The total number of cases was 83, and there was not a single death amongst either vaccinated or unvaccinated. Yet vaccination had abundant opportunity of demonstrating its value in protecting against attack. None of the 83 cases had been vaccinated or revaccinated within a period beginning seven years before and ending ten days before the onset of the disease. No child under 10 who had been vaccinated in infancy developed the disease, whereas 26 unvaccinated in this age period contracted it. Seven females were attacked between 20 and 40 years, but not a single male, and it is pointed out that this age period included ex-service men vaccinated during the war. Living in infected houses there were 175 persons who escaped the disease, and every one of them had been vaccinated either before or during the epidemic. The number of affected houses was forty-five, and a special investigation of vaccinal conditions was made in sixteen of these, containing 112 inmates, with the result that of 19 unvaccinated persons only one escaped attack; of 12 vaccinated over seven years ago, 6 escaped and 6 were attacked; of 8 vaccinated within seven years, all escaped; of 38 primarily vaccinated over seven years ago and revaccinated since contact, 37 escaped and one was attacked; of 34 primarily vaccinated subsequent to contact, 28 escaped and 6 were attacked; one person, protected both by primary vaccination and by small-pox in a previous epidemic, escaped. These figures go to demonstrate the value of vaccination even where there are no fatalities among the unvaccinated.

During the epidemic 4,410 vaccinations and revaccinations were performed, and if allowance be made for infant vaccinations by public vaccinators during the last seven years, and for vaccinations during war service, it is calculated that the total of recently vaccinated persons in Middleton at the end of the epidemic was approximately 33.9 per cent. of the population. Dr. Butterworth calls attention to the importance, in a vaccination campaign during small-pox, of securing the protection of contacts before dealing with others offering themselves for the operation, in order to prevent, as far as possible, dangerous delay in respect of contacts. Details are given of the precautions very successfully taken to prevent septic complications following vaccination and revaccination.

In discussing concurrent vaccinia and variola, attention is called to the mild type of the disease, and the interesting suggestion is made "that the quantity and quality of the small-pox virus initiating the infection influenced the question of the day up to which vaccination would be successful," and that "the cases in which vaccination failed probably had a more massive infection with the small-pox virus, or a less massive insertion of vaccine virus, than those in which the vaccination was successful." This proposition is very relevant to what has often been puzzling with regard to observed differences in the time which vaccination must have in order to overtake small-pox infection, so as to get home first in the race between variola and vaccinia. It need not cause surprise that vaccinia can sometimes be successfully cultivated locally in the earliest days of a variolous eruption. Cow small-pox and human small-pox are so nearly allied that they can grow together until one or other makes the subject immune to infection. As soon as that happens a further immediate attempt at vaccination will fail. This was so found in the Middleton epidemic.

A striking feature of the epidemic was the invasion of the largest school in Middleton. It began with a missed case in an unvaccinated child. Of the total number of cases in the borough 19 were in the school, and they were all notified within a period of nine days. All these were unvaccinated excepting two who had been vaccinated in infancy. One of the two was a teacher, aged 53, the other a child of 10. The vaccination history of 419 of the school children was investigated, and only 156 had been vaccinated in infancy. Of these 33 were revaccinated during the epidemic; 95 others were now vaccinated for the first time, whilst 168 remained unvaccinated. The school was closed for eleven weeks, largely because the attendance was much diminished, more than half being absentees who had to be kept under observation at home. The fact may be recalled that in the great Gloucester epidemic school children were a main cause of the spread of the disease throughout that city. A very important difference is, however, that the type of disease there was much more severe than in Middleton. Indeed, though various missed cases occurred in Middleton, we may assume that the total infective material must have been very small as compared with what would exist in a severe epidemic with abundant eruption. The risk from the missed cases may have been much more than counterbalanced by the low degree of infectivity of missed and recognized cases alike. In addition, there was the invaluable work of Dr. Butterworth and his assistants, several of whom were specially detailed for duty in Middleton, whilst the Ministry of Health, through Dr. Reece, gave valuable help during the epidemic. Such concentration of effort has become practicable only in recent times, and demonstrates the advantage of the county system of local government.

The report ends with a series of fifteen conclusions, of which the last is: "That the suppression of the epidemic was due to vaccination, revaccination, supervision of contacts, and the discovery of missed cases." There follows in an appendix a series of charts and diagrams, most of them devoted to the very useful purpose of showing the distribution of the rash both in small-pox and in chicken-pox, The origin of the outbreak is left in doubt. The hypothesis is fully discussed that it was due to infected cotton brought to local mills from America, where the type of small-pox is now commonly very mild, but Dr. Butterworth has cautiously reached the opinion that the theory is unproved for Middleton. In the end he adopts the somewhat trite conclusion, "that the most likely origin of the epidemic was a missed case." That is really another way of saying that the source could not be discovered.

It should be noted, finally, that the whole of Lancashire is indebted to its county medical officer for his masterly handling of the outbreak, occurring as it did in a town closely surrounded by great urban communities, such as Manchester, Rochdale, Heywood, Chadderton, Royton, Prestwich, extension to which might have involved a tremendously widespread epidemic.

THORACIC SURGERY AND SUBPHRENIC ABSCESS.

THE benefits which surgery derived from Henry V's campaign in France have been made very clear to us by the historical researches of Sir D'Arcy Power. In our own time the lessons learnt in battle surgery are bearing fruit in even more vital ways.

The timid and often only half-curative pre-war operations on the chest are giving place to bolder and better devised measures, which are justified by the brilliant progress made under stress of dire necessity during the war. Of all the books on battle surgery published during

the war, the great classic was Duval's book[1] on war wounds of the lung. Its influence is likely to spread far beyond the limits implied in its title. Dr. Ambrose Lockwood, writing from the Mayo clinic on "Developments and possibilities of thoracic surgery," provides a striking illustration of this influence. Although Macewen more than twenty years ago had shown that the thorax might be opened with as little ceremony as the abdomen itself, the generality of surgeons paid no heed to his teaching. The thorax remained a region to be approached with dread, and unhandy pressure chambers were deemed essential to the safe performance of thoracotomy. As Lockwood rightly says, "When it was realized" (as the result of the war and the influenza epidemic) "that the thorax could be opened and explored and the contents handled with as little risk as that attending the manipulation of the abdominal viscera, perfection of technique was all that remained to bring thoracic surgery to the standard it has attained to-day." Lockwood's contribution to this perfection of surgical technique under the most difficult forward-area conditions was one of the notable achievements of the war, although he would be the first to acknowledge the encouragement and practical help given him by his D.M.S. (Sir Menus O'Keeffe) and his commanding officer (Major R. J. C. Thompson).

On his return to the surgery of civil life Lockwood has applied his experience to good purpose in the operative treatment of thoracic conditions as met with in everyday practice. Empyema, lung abscess, bronchiectasis, foreign bodies, traumatic lesions, tumours of the thoracic wall, enlarged thymus, purulent pericarditis, subdiaphragmatic abscess, hernia of the diaphragm, and intrathoracic neoplasms are among the conditions to which improved surgical technique will bring prospects of sounder cure or greater alleviation. He suggests that splenectomy and operations on the cardiac end of the stomach may be performed more easily through a combined abdomino-thoracic incision. In his recent paper Lockwood does not devote much space to the problems of diagnosis, except that he insists on the immense value of x-ray examinations. The day is probably not far distant when a physical examination of the chest made without x rays will be regarded as no more complete than if auscultation itself had been omitted. Lockwood is an ardent advocate of local and paravertebral anaesthesia rather than a general anaesthetic for thoracic surgery, and his preference is right well founded. His description of the technique of the actual operation for thoracotomy is lucid and admirable. His remarks on the necessity for hermetically closing the chest at the end of the operation, for repeated aspiration afterwards, and his observations on the expansion of the lung deserve the closest attention.

In another paper[2] Lockwood discusses subdiaphragmatic abscess in all its bearings. The description of the anatomy of the under surface of the diaphragm is clear and complete, and follows in the main Barnard's anatomical account published in 1908. The etiology, symptoms, course, and complications are excellently set forth. The important part played by the lymphatics in determining the localization of subphrenic suppuration is emphasized; so, too, is the indispensability of x-ray examination in diagnosis. The extreme variations in the leucocyte count show that too much reliance must not be placed on leucocytosis as a diagnostic aid. The operation advocated is devised particularly for abscesses located on the right side. Rib resection is avoided. When the incision has been made the edges of the skin are undermined, the parietal pleura, with the diaphragm adherent to it, is separated from the rib above the incision and from the rib below, and, after forcing the interspace widely enough open to admit the hand, the cut edge of the muscle with the pleura is sutured to the diaphragm. The diaphragm is brought out as far as possible through the interspace and the edges of the skin are sutured to the diaphragm so as to shut off completely the intermuscular and fascial planes. Whenever possible the patient is sent back to bed for twenty-four to thirty-six hours and the diaphragm incised at a second operation. If a two-stage operation is inadvisable the diaphragm can, as a rule, safely be opened after smearing the suture line with vaseline. The after-treatment is of no less importance. A two-way drain is left in the abscess cavity and 1 oz. of saline is passed through the tube three times a day to clear it for drainage. On the sixth or eighth day the drain and packing are removed. The cavity is swabbed out with saline and inspected with a lighted retractor, and the wound is packed with glycerin and saline. A two-way catheter is left in position for drainage until the cavity is closed. The advantages of this method are summarized in series of thoughtful conclusions.

There is no doubt that thoracic and abdomino-thoracic surgery are on the threshold of advances long overdue. A clear indication of this was given by Professor G. E. Gask in his admirable Lettsomian Lectures before the Medical Society of London last year. No longer will textbooks be justified in summing up the surgical treatment of empyema as consisting in the evacuation of the pus and the provision of free drainage. Estlander's mutilating operation will, it is to be hoped, be abandoned. Surgeons embarking on the newer methods must bear in mind, however, that modern thoracic surgery demands uncommonly thorough mastery of technique and well-nigh fanatical asepsis.

[1] Duval: *War Wounds of the Lung*. Wright, 1918.
[2] *Surgery, Gynecology, and Obstetrics*, 1921, p. 502.

THE PENSIONS ORTHOPAEDIC HOSPITAL, SHEPHERD'S BUSH.

IN February, 1916, thanks chiefly to the prescience and energy of Sir Robert Jones, the War Office opened the Military Orthopaedic Hospital at Shepherd's Bush in the buildings of the Hammersmith Infirmary. To these buildings a number of others were added, until this institution became a model of what such a hospital should be, containing within itself every ancillary department that is necessary for the treatment of the deformities and disabilities consequent upon war injuries. The work was continued, and still goes on with unabated vigour and success under the Ministry of Pensions, and it must be many years before this and the similar institutions in the provinces cease to find occupation. When it is proposed—as paragraphs and letters in the daily press and questions in Parliament have disclosed to us—that such an institution should be removed to a distant site it might naturally be supposed that the only valid reason for such a proposal must be that the treatment of disabled pensioners would thereby be improved. But the letter of Mr. McCrae Aitken, which we print on another page, shows with convincing clearness that the proposed change is not likely to produce any such result, but that, on the contrary, the removal and separation of the in-patient and the out-patient departments must inevitably lead to delay, discomfort, and hardship for the patients, and, by impairing the efficiency of treatment, result in decreasing the proportion of pensioners who will be restored to conditions which will enable them once more to earn their daily bread. It must, we think, come as a painful surprise to our readers that the reason alleged for the removal is not that the patients will benefit, but that a problematical saving of a few thousands a year is expected to be made by the changes. Were there even a reasonable probability of this saving, it should count as nothing in the balance against the preponderant interest of the men injured in the defence of their country and of the sacred cause of freedom. We think, however,

that it is more than doubtful if any saving would accrue to the country as a whole; for the resumption of the infirmary by the guardians must involve considerable capital expenditure besides a great increase in the cost of maintenance of the sick poor who are now efficiently provided for elsewhere, while large sums would have to be expended by the Ministry of Pensions to render the Richmond hut hospital and the out-patient clinic efficient. The visiting staff of the hospital consists of surgeons, some of whom had great knowledge of orthopaedic work before the war, and all of whom have now acquired unequalled experience in the treatment of the difficult problems presented by the injuries and mutilations of modern warfare. They are now fully occupied during the time allotted to their visits, which amount to many hours a week. Yet it is clear that if they are to do part of their work some six miles further from London in order to treat in-patients, besides paying visits to an out-patient centre or centres, they must spend so much time in travelling that they will have less to devote to their actual work. Continuity of treatment is essential in these cases, and it is of the first importance that the surgeon who operates upon the case and treats him as an in-patient should continue to treat him as an out-patient. Therefore it will be necessary for the same surgeons to visit both the out-patient centres and the wards. Leaving aside for the moment the all-important question whether treatment can be as efficient as under present conditions—we have no hesitation in asserting that it cannot—on the lower ground of finance alone it is clear that the prolongation of the time of treatment which must inevitably result from such an arrangement will entail in the case of each man an increased expenditure in maintenance and in treatment allowances which is almost sure to swallow up any possible saving which might be made by this deplorable proposal which cannot fail to diminish the efficiency of the treatment of men who have earned the right to the best. The medical profession will be unanimous in condemning the proposed changes, which might probably be avoided if negotiations were reopened in a conciliatory spirit on both sides, so that a fair rental could be agreed upon.

SPIRITUAL HEALING.

On January 14th (p. 72) we called attention to a resolution of the Lambeth Conference in 1920 requesting the Archbishop of Canterbury to appoint a committee "to consider and report as early as possible upon the use with prayer of the laying-on of hands, of the unction of the sick, and other spiritual means of healing." At the meeting of the Upper House of Convocation on February 15th the Archbishop of Canterbury announced that after consultation he had appointed the following to serve on the committee: The Bishop of Oxford (chairman), Sir Clifford Allbutt, the Rev. Harold Anson, the Rev. E. J. Bicknell, Dr. William Brown, the Bishop of St. Albans, Bishop Chandler, the Bishop of St. Edmundsbury, the Bishop of Southwark, the Dean of Wells, Dr. J. A. Hadfield, Sir R. Armstrong-Jones, Canon A. J. Mason, the Rev. J. O. F. Murray, Master of Selwyn College, Mr. W. H. B. Rivers, F.R.S., Canon Streeter, the Rev. W. B. Trevelyan, and Dr. Jane Walker. Among the questions submitted to the committee were the following: Are we justified in assuming that there has been "the ministry of healing" in the Church? If so, what was its precise character? What qualifications and tests were required to become a minister of healing? Did it supplement or disregard the service of the physician—that is to say, were gifts of healing distinct and independent of the gifts of healing by medicine and surgery? If, without a technical ministry, there has been the habitual practice of laying-on of hands with prayer, with or without unction, has this been a method of healing different in kind from other methods of treatment? Even if there has been no ministry of healing, is the Church called upon, in the light of modern research and discovery, to direct the knowledge gained and to use it in her ministrations? It will be seen that much of the work proposed to the committee is of the nature of historical research. Therein its object differs from the task upon which Bishop Ryle's Committee on Spiritual Healing was engaged before the war. That committee, dealing with modern methods of spiritual healing, expressed the belief that "Divine power is exercised in conformity with, and through the operation of, natural laws." It considered that "spiritual ministration should be recognized equally with medical ministration as carrying God's blessing to the sick." But the committee was of opinion that the "physical results of what is called faith, or spiritual healing, do not prove on investigation to be different from those of mental healing, or healing by suggestion." The conclusion was that spiritual healing, like all treatment by suggestion, can be expected to be permanently effective only in cases of what are generally termed "functional" disorders; but that persons suffering from organic disease can be greatly comforted and relieved, and even physically benefited, by spiritual ministrations, which appeal to the spiritual nature, reinforce the spiritual powers, and may thus contribute to the success of physical treatment by the medical practitioner. The report of Bishop Ryle's Committee ended by deprecating strongly the independent treatment of disease by irresponsible and unqualified persons. It may be doubted whether the new committee will be able to go much beyond those very sane and reasonable findings—a distinguished authority has called them platitudinous.

THE INDUSTRIAL FATIGUE RESEARCH BOARD.

In the second annual report of the Industrial Fatigue Research Board, which has just been issued, we find a comprehensive summary of the chief results obtained by the Board since its inception some three years ago. These results have been published in a series of sixteen reports, which really represent the output of the Board's investigators over a period of about two years, for there is necessarily a considerable delay before the results of the inquiries reach the stage when they are ready for publication. If any critic had doubts as to the value of the Board's work, and the importance of its further development on the lines laid down in this report, we think that such doubts would speedily be laid to rest by an impartial study of its pages. They contain a solid body of information which is of direct value to employers of labour, and to welfare workers and factory inspectors; the practical application of this information to the remedy of adverse industrial conditions would produce a very real improvement in the health and efficiency of the workers. In the analysis of published work with which the report opens the various tests of efficiency and fatigue employed are briefly described, and then a more detailed account is given of the results obtained in various industries concerning output in relation to hours of labour and the duration of work spells and rest pauses. A subsequent section of the report deals with the impersonal physical conditions of the worker's environment, such as temperature, humidity, ventilation, and lighting, and the effects of these conditions on efficiency. Personal factors, such as vocational selection and guidance, time and motion study, and the effects of such conditions as seating and clothing, are treated in considerable detail, whilst a shorter section deals with such matters as organization and the relative importance of human and mechanical factors in efficiency. Most of the sections are illustrated by diagrams reproduced from the published reports of the Board, and they show at a glance the hourly and daily variations of output observed under various conditions, the effect of regular rest pauses on output, the improvement of output caused by more adequate lighting and by better ventilation, and the value of certain psycho-physiological tests in measuring the skill of compositors. The future of the Board seems full of promise, for, in addition to the investigations already made in certain branches of the textile, iron and steel, and boot and shoe industries, others are now in progress in the laundry and the pottery industries, whilst application has been made to the Board by various trade boards and research associations for the institution of inquiries into several other important industries.

CARBON MONOXIDE IN LIGHTING GAS.

LAST autumn we found it necessary to comment very unfavourably on the report (which had just been issued) of a Departmental Committee on the dangers from carbon monoxide in lighting gas. We pointed out that this committee had greatly underestimated the risks involved in increasing the percentage of carbon monoxide in lighting gas, and that the report was likely to mislead the gas industry very seriously. The facts on which our criticisms were based will be found set out in our articles published on September 10th (p. 411) and October 1st (p. 534), 1921. During the present winter cases of poisoning by lighting gas have been frequent, and the need for safeguards against the increasing risks of poisoning by carbon monoxide has recently been pointed out in articles and correspondence in the newspapers. As a consequence, doubtless, of this increasing frequency of poisoning by lighting gas, the Board of Trade has now issued an order that no lighting gas shall be distributed unless it has a pungent smell. We must point out, however, that the gas distributed in public supplies has and always has had a pungent smell. The order has thus no bearing whatever on the existing dangers. The frequency of poisoning by lighting gas has begun to exceed the limit of what public opinion will tolerate, and no further comment is now needed on the report of the Departmental Committee. As we have pointed out, the great increase in frequency is due to the increased percentage of carbon monoxide in the gas. It may be possible, by various precautions, to avoid these risks; but on the nature of these precautions the report of the late committee threw no light. It is unfortunate that leading representatives of the gas companies are now screening themselves behind the report instead of taking action to diminish the danger to the public. The situation can hardly remain as it is, and requires careful consideration by medical officers of health throughout the kingdom. It appears that in view of the terms of the late committee's report no Government department has now any power of interfering with the discretion of gas companies as regards the proportion of carbon monoxide in the gas they supply. On the other hand, we are confident that gas companies are particularly anxious to avoid exposing the public to avoidable risks of poisoning, and will be ready to take suitable action in response to well-considered representations from medical officers of health. If, however, the matter is not dealt with satisfactorily in this or some other way, there must be no hesitation in calling for legislation limiting the percentage of carbon monoxide in public supplies of lighting gas. The mistakes of a departmental committee cannot be allowed to stand in the way of public safety.

RADIOLOGY AND PHYSICS.

THE third Mackenzie Davidson memorial lecture was delivered at the Royal Society of Medicine on February 17th, when Major G. W. C. Kaye, D.Sc., was the lecturer, and described the ever-growing importance of physics to the radiologist. The appreciation of the physicist by the medical worker in this country, he said, was a plant of tender years. The average medical student, with an eye on the forthcoming examination, was prone to dislike and distrust physics. It was not sufficiently brought home to the student that a knowledge of physics, so far from trammelling him, would liberate him from many false notions. Major Kaye devoted most of his lecture to the physics of the *x* ray. Not everybody knew that *x* rays played a material part in nature. The sun was an *x*-ray bulb, but such *x* rays as escaped towards the earth were almost wholly arrested by the upper layers of the atmosphere, which accounted for the fact that the natural ionization of the air increased with altitude. No doubt *x* rays played a part in atmospheric electricity, and they might be held responsible for some of the vagaries encountered in wireless telegraphy. Until recently a gap of four octaves existed between the shortest ultra-violet ray known to spectroscopic science and the longest *x* ray, but within the last few weeks, as the result of experiments by indirect photo-electric methods on the part of a number of workers, both in England and America, it had been discovered that the continuity was complete, and that the *x* rays immediately followed the ultra-violet, or even overlapped into the ultra-violet region. The ultra-violet extended from 3,600 to 200 Angström units, the *x* rays from 500 to 0.06 units, and the gamma rays of radium from 1.4 further into the infinitesimal. The wave-length of the gamma rays was something like one 10,000 millionth part of a centimetre, and at the other extremity of the scale were the Hertzian waves with a length of several miles. There were sixteen octaves of *x* rays, and as yet the radiologist had turned only three of them to account. The output of *x* rays from a tube was proportional to the atomic weight of the metal used as target, to the current passing through the tube, and to the exciting voltage, which last was by far the most important thing for the radiologist to measure. Many new problems of interest awaited radiology when still higher voltages were made possible. Recently there had come news from America that Dr. Coolidge had succeeded in building a transformer which was capable of yielding a million volts. The problem of designing *x*-ray apparatus to "stand up" to such voltages was not a light one. In conclusion the lecturer dealt with the subject of *x* ray protection and the labours of the Protection Committee recently established as a result of the conjoint effort of interested societies. It had been his lot to inspect the conditions obtaining in the radiological departments at a number of hospitals, and he found matters very unsatisfactory. The protection for the operator was lamentable in its inadequacy. He had taken with him a delicate electroscope, with the object of exploring the scattered radiation in different parts of the *x*-ray room, and had found that this radiation was far beyond the capacity of the instrument to register. The investigators had to content themselves with the relative ease with which they could see the bones of the hand on a fluorescent screen carried about the room! Ventilation was of importance second only to the actual limitation of the issuing beam; yet many hospitals appeared to regard the radiologist as akin to the mole or earthworm, and packed him away in the basement, not far from the furnaces. The high-tension system also was not as it should be, and sometimes the coronal brush discharge on the wires resembled a benefit night at the Crystal Palace. Generous recognition should be given to the action of *x*-ray apparatus manufacturers for their assistance in the matter of protection. It was a very wise precaution to secure a certificate from the National Physical Laboratory as to the efficiency of the lead-glass and lead-rubber used for protection, because the protective value of these materials varied within very wide limits.

THE TEETH OF THE NATION.

PROFESSOR W. D. HALLIBURTON, F.R.S., who is chairman of the Committee on the Causes of Dental Decay appointed by the Medical Research Council, gave a lecture at the Royal Institution on the evening of Friday, February 10th, on the teeth of the nation. A number of sculls on the lecture table suggested the antiquity of dental mischief, though they included a rarity in the shape of a modern adult skull with perfect teeth. From the mouth of Jaques we had learned that the last scene of all which ends man's strange, eventful history was marked by toothlessness; and a much earlier oracle, the writer of the book of Ecclesiastes, spoke of old age as a time when "the grinders cease because they are few." The idea, based on some neolithic skulls with perfect dentition, that remotest man was free from this common ill, had been upset by the discovery of the Rhodesian skull, which exhibited a typical form of dental caries. The fossil mastodon also was said to show evidences of this trouble, but on this point the lecturer was sceptical. He reminded his audience that the teeth were a living portion of the body, and were affected by constitutional influences far below the surface, and in their turn, when unhealthy, were the source of many evils, affecting not only the alimentary canal, but leading to septicaemia and

rheumatoid affections. He also pointed out that the foundation even of the second and permanent set was laid in intra-uterine life, so that the dental question was in its beginning a question of pre-natal and infant care. The consumption of overmuch sugar was to be avoided because it was converted into lactic acid, which was destructive of the protecting enamel. It might be urged against this prohibition that the workers in cane-sugar plantations, whose mouths were full of sugar from morning to night, suffered comparatively little from dental troubles; but cane sugar excited a flow of saliva which washed away the offending material, and this did not apply to the same extent to glucose and the sugars commonly used in sweets. He uttered a special warning against allowing children to go to bed with sweets in their mouths, for in the night, when the flow of saliva was diminished, this sticky paste had its opportunity to foster dental decay. Professor Halliburton gave a vivid popular description of the formation of the teeth, likening the process to the operations in building, especially sculpturing and plastering, and showed some photomicrographs by Mr. Howard Mummery to demonstrate a matter which dentists had been slow to recognize, that the nerve fibres penetrated into the dentinal tubules. It was natural for the human mind to associate strength with solidity, but nature might have shown us quite early that there was a superior form of building to that exemplified in the castle wall—namely, slender lattice work, which might prove as resistant as solid masonry, and was much more economical. It was on that principle that bone and teeth were built, and also, on a larger scale, what might be called the teeth of the earth, in the shape of the cliffs jutting into the sea. The analogy between the two might be carried further still, for the basaltic columns found on the Island of Staffa, at the Giant's Causeway and elsewhere, were as a rule hexagonal, and so, when examined under the microscope, were the prisms of the enamel or adamant which fitted into corresponding depressions on the surface of the dentine. One of the skulls exhibited by the lecturer, from the collection at the Royal College of Surgeons, was that of some unknown soldier, found in France, and he pointed out the narrowness of palate and depth of arch. About one modern skull in four exhibited this curious down-growth of the alveolar process, which accounted for the long narrow face so frequently seen among intellectual men.

A DIPLOMA IN TUBERCULOSIS.

PROPOSALS to set up a diploma in tuberculosis, to serve as some evidence of the competency of candidates for the post of tuberculosis officer, have been considered by several universities and licensing bodies, but hitherto all have hesitated, mainly because the policy of establishing a diploma in any particular disease was felt to be of doubtful wisdom. The University of Wales has now taken the plunge, and we publish elsewhere a letter from Professor S. Lyle Cummins, explaining the reasons which have moved that university to set up a Tuberculous Diseases Diploma. The first is that the number of appointments for whole-time tuberculosis work is already large and is likely to increase; the second is that the diploma would provide young medical men with evidence that the holder had devoted a period to the study of the disease; the third is the importance of encouraging the study of the disease as a whole, including its surgical manifestations; and the fourth is the belief that preventive measures are likely to be based on sounder lines if greater account is taken of tuberculosis as a general rather than a local disease. The curriculum and examinations, details of which are given at p. 333, will suffice to afford adequate evidence of the holder's technical competence, and the Welsh National School at Cardiff has arranged a special course of instruction, both theoretical and practical. The contracted title of the diploma is to be T.D.D., and there were, no doubt, sufficient reasons for avoiding the shorter form, D.T., while there is not much fear that the holders will be supposed to be a new kind of Doctors of Divinity. The multiplication of diplomas in special subjects during recent years has been remarkable. Oxford gives a diploma in ophthalmology, other universities give diplomas in tropical medicine and hygiene, in psychological medicine, in medical radiology and electricity, and Manchester grants special certificates in factory medicine and in school hygiene. The number of letters which a medical man may now be able to put after his name has become very large, and we suggest discretion in their employment. To put oneself down as M.D., M.R.C.S., L.R.C.P., L.M.S.S.A., D.O., D.T.M. and H., D.P.M., D.M.R. and E., and T.D.D. would be a trifle absurd; and then there is the D.P.H., which, however, may be entered on the *Medical Register*.

AN HONOUR TO MEDICAL OFFICERS OF HEALTH.

THE President and Council of the Society of Medical Officers of Health were entertained by the Lord Mayor of London to luncheon at the Guildhall on February 17th. The principal guest was Sir Alfred Mond, who, in proposing the toast of the Society, said that as Minister of Health he was somewhat in the position of a godfather to the medical officers of health in the country, and watched their proceedings with the greatest sympathy. It was of the highest importance that the best men should be attached to the public health service, and local authorities could not expect to get first-class service at third-class salaries. This was a time of great anxiety to one holding his position, but he did not intend that the work should fall back. Though there was an extraordinary strain on the financial resources of the country at the moment, and everyone was anxious to co-operate in effecting economies, nothing must be done in that direction which would prevent the country from securing satisfactory results. Even in these days of retrenchment it would be false economy to employ a man who was not up to his job, in order to save a small outlay on his salary. Dr. Howarth, M.O.H. for the City of London, in responding, said that the forward policy of the City of London had done much to bring the public health service up to its present state of efficiency, which was so high that this country was everywhere looked up to in matters concerning the prevention of disease. A vote of thanks to the Lord Mayor, proposed by Lieut.-Colonel Fremantle, M.P., was suitably acknowledged.

COMMITTEE ON BIOLOGICAL ACTIONS OF LIGHT.

THE Medical Research Council has appointed a Committee to advise it upon the promotion of researches into the biological actions of light, with a view to obtaining better knowledge of the actions of sunlight and other forms of light upon the human body in health or disease. The Chairman of the Committee is Professor W. M. Bayliss, F.R.S., and the other members are Mr. J. E. Barnard, Dr. H. H. Dale, F.R.S., Captain S. R. Douglas (late I.M.S.), Sir Henry Gauvain, M.D., Dr. Leonard Hill, F.R.S., and Dr. J. H. Sequeira. The Secretary is Mr. Edgar Schuster, D.Sc.

HOSPITALS AND PAYING PATIENTS.

THE report of the Council to the Representative Meeting on the organization of voluntary hospitals, particularly as affected by the reception of patients for whom payment is made, will be found in the SUPPLEMENT for this week. It will eventually form part of the Annual Report of Council, but is printed thus early in order that it may be fully considered by the Divisions in time to allow any amendments they desire to be considered by the Council, which will deal with them in a further report. The Secretaries of Divisions have been asked to call special meetings to consider this report, which in its final form will be discussed at the Annual Representative Meeting at Glasgow next July. If then adopted it will become the policy of the Association on this matter. The report was drafted by the Hospitals Committee, and was considered at length by the Council at its meeting on February 15th. A report of other proceedings of the Council on this occasion will also be found in this week's SUPPLEMENT (p. 49).

AN INSTITUTE OF HYGIENE IN LONDON.

IT has been known for some time that the Rockefeller Foundation has been seriously considering the recommendation for the establishment of an Institute of Hygiene, contained in the Report of the Post-Graduate Medical Committee published last May (the Athlone Committee). The recommendation was that an Institute of State Medicine should be established in London with well equipped laboratories and an efficient staff. It was further recommended that the Institute should also provide instruction in other directions, including courses in forensic medicine, toxicology, and industrial medicine.

These recommendations were considered by an expert committee, with the Minister of Health as chairman. In view of the difficulty at present of financing the scheme, the whole case was put before the Rockefeller Foundation as one in which they might think it well to co-operate in the general interest of progress in public health here and abroad.

The Minister of Health has announced that the Rockefeller Foundation have offered to provide a sum of two million dollars towards the cost of building and equipping an Institute or School of Hygiene in London, on the understanding that the British Government accept the responsibility of providing for the staffing and maintenance of the school when it is established. This generous offer has been accepted by the Minister of Health on behalf of the Government.

Hygiene, like other departments of medicine, knows no boundaries. In that sense this fine gift is made for the benefit of international medicine, but this country is grateful to the Rockefeller Foundation that it should have been selected. The Athlone Committee estimated that the cost of maintaining an Institute of State Medicine would be about £10,000 a year. The scale on which the Rockefeller gift will make it possible to establish the Institute of Hygiene (it amounts at the present rate of exchange to over £400,000) will call for a larger expenditure for staff and maintenance; we have heard it estimated at £25,000 a year. Those familiar with the Athlone report will remember that it proposed to associate the Institute with the University of London. This recommendation, it would appear, is not to be carried out, and the annual expenditure will therefore not come out of moneys at the disposal of the University Grants Committee, but will be found by a special vote of Parliament. The intention is, we believe, that the Institute of Hygiene shall be administered by a mixed committee, representing the various bodies interested, for it is to be remembered that London already possesses certain important elements of an institute of hygiene.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

The Orthopaedic Hospital at Shepherd's Bush.

MAJOR TRYON informed Mr. A. Herbert, on February 15th, that it was proposed to give up the hospital at Shepherd's Bush, which had been specially equipped for orthopaedic surgical treatment at a cost of £16,000 by the Red Cross Society. The equipment would be moved from the present institution and installed elsewhere for the continued treatment of pensioners. On another question by Sir M. Wilson, Mr. Macpherson said that the transfer was to be to the South African Hutment Hospital at Richmond. He had received urgent representations from the guardians of Hammersmith that the administration of parochial relief was seriously hampered by the continued use by the Pensions Ministry of this institution, which was formerly the workhouse and infirmary of the parish, and they were willing only to assent to extended tenancy in return for a greatly increased rental, which would not have been justified. The opportunity presented itself of acquiring equally suitable premises at the Richmond Hill Hospital from the Army Council, free of rent, and he had taken it up.

Lieut.-Colonel Spender-Clay, on February 16th, asked what breaks in the continuity of treatment, both for in- and out-patients, the removal would involve, and if the consulting orthopaedic surgeon had agreed that the patients would not suffer. Mr. Macpherson replied that the transfer was entirely dictated by the need for public economy. The rent demanded for the building at Shepherd's Bush was £14,000, without security of tenure. The question of removal, therefore, did not resolve itself purely into a medical one. The medical staff would naturally prefer to remain in a building associated with so unique a standard of surgical efficiency. But he had no doubt that the change would not be detrimental to the interests of the patients. It was not possible to state the exact number of patients that would have to be transferred when the removal took place at the end of next month. He understood that the estimate of the cost of removal and adaptation would not be likely to exceed one half-year's rent that would have to be paid at Shepherd's Bush. There was no lease of the Richmond Park Hospital, but the First Commissioner of Works had agreed to its retention for at least two years, rent free. The matter of assisting out-patients who live near the Shepherd's Bush hospital was being considered.

Malaria in Ex-Service Men.—Major Tryon stated, in answer to Mr. Frederick Roberts, on February 14th, that the Minister of Pensions was aware that, in dealing with claims to pension for malaria, difficulty sometimes arose in establishing the existence of the disease owing to the fact that it was active at long intervals only and for very short periods. He was, however, considering what better arrangements, consistent with his powers under the pensions warrants, could be made to meet this difficulty.

Milk Impurities.—In reply to Mr. Doyle, on February 15th, the Minister of Health said that he had for some time, in consultation with leading experts, been considering what steps should be taken to improve the milk supply, but he could not yet say whether it would be possible to introduce legislation this session.

The Asylums Inquiry.—Captain Loseby and Mr. Mills addressed, on February 15th, further questions to Sir A. Mond in regard to the departmental inquiry into lunatic asylum administration. The Minister repeated that in his opinion the tribunal appointed to investigate the allegations made by Dr. Lomax was quite impartial, and that it was now for the latter to substantiate his charges or to withdraw them. In reference to the refusal of the Asylum Workers' Union to be represented at the inquiry, Sir A. Mond said that his information was that they refused because they wanted to have a representative on the Committee. Considering that they were the people who were mainly attacked by Dr. Lomax, it obviously would not be proper to put them on the Committee.

Food and Milk for Mothers and Children.—Asked, on February 15th, by Lieut.-Colonel Pownall what would be the policy of the Ministry of Health during the next financial year in regard to the supply of food and milk to expectant and nursing mothers and young children, Sir A. Mond said that the circular he issued last December was designed to reduce an expenditure which had been found to be excessive. The circular also embodied medical advice as to the value of supplying meals instead of milk, which information he had received from his medical advisers and from outside persons of great authority. He had now received replies from most of the local authorities, and these were generally to the effect that they preferred to continue the supply of milk, in view of the difficulty of arranging for the general supply of meals. He therefore proposed to continue during the next financial year the arrangements at present in force for the supply of milk under proper safeguards against abuse, allowing local authorities to substitute meat for milk where they desired and were able to do so.

Diphtheria in London.—Sir A. Mond, on February 15th, accepted a statement by Mr. Gilbert that the increase in the number of cases of diphtheria in London recently was abnormal. He regretted that it was impossible, in answer to a parliamentary question, to deal in detail with the preventive measures taken by the Ministry and the local authorities concerned, but he had reason to believe that they were satisfactory, and that a very large percentage of the total number of cases of diphtheria had been removed for isolation and treatment to the hospitals of the Metropolitan Asylums Board.

Mental Deficiency.—Mr. Leslie Scott asked, on February 16th, whether the Minister of Health had been able, in consultation with the Board of Control and the Treasury, to reconsider the position created by the circular of the Board of Control of August last in relation to the financial limitation of local authorities in dealing with urgent cases of mental deficiency. He asked whether the circular would not be withdrawn, as its operation would prevent large numbers of cases being dealt with under the Act, with results to the rates and taxes that would be far more expensive. Sir A. Mond said that in view of the economy which it should be possible to secure on the mental deficiency service generally, he hoped that local authorities could now make such provision as was essential to enable new urgent cases to be dealt with, and he was causing the Board of Control to issue a circular accordingly.

Orderlies in Pensions Hospitals.—Mr. Locker Lampson recently asked a question arising out of the Geddes report; he wished to know how many orderlies were employed in Ministry hospitals, and whether there was one orderly for every six patients. Mr. Macpherson said there were 1,879 orderlies employed in Ministry hospitals and convalescent centres, and there were 13,644 in-patients, but less than 50 per cent. of the orderlies were employed on nursing duties or in the wards. The remainder of the orderlies so termed were merely employees engaged on general domestic duties—for example, as messengers, sanitary men, store-men, gate-men, dining-room orderlies, gardeners, and ambulance drivers and in the out-patient department, where 17,861 patients were being treated. In reply to another question, Mr. Macpherson said he was considering the issue of a memorandum on the Geddes report.

End of the Rabies Outbreak.—Sir A. Boscawen, in answer to Sir John Butcher, on February 20th, stated that all remaining muzzling and movement restrictions imposed on account of rabies (namely, those in force in Hampshire and Wiltshire) were removed on February 6th, no case of rabies having occurred in those areas nor in any other part of Great Britain for eight months. The Ministry of Agriculture had now every reason to believe that rabies had been entirely eradicated after a visitation of three and a half years.

England and Wales.

THE WELSH COMMITTEE AND THE WELSH NATIONAL SCHOOL OF MEDICINE.

THE Welsh Committee of the British Medical Association, which met at Shrewsbury under the presidency of Dr. W. B. C. Treasure, J.P., of Cardiff, was attended by Mr. Gwilym Hughes, the Organizing Secretary of the Welsh National School of Medicine appeal for £100,000 for further endowment and equipment. During the proceedings the Chairman read letters from Lord Kenyon, the Pro-Chancellor of the University of Wales, asking for the influence of the Welsh Committee in pressing upon the medical profession in Wales the claims of the Medical School, and also from Professor Ewen J. Maclean, J.P., suggesting that the Divisions of the Association might, at the instance of the Welsh Committee, be asked to circularize their members asking for individual contributions to the fund, and for the influence of the members of the Association in making known to the people of Wales the requirements of the National School. In reply to Dr. Alfred Cox, the Medical Secretary of the British Medical Association, and other members, Mr. Gwilym Hughes gave further information as to the progress of the appeal. The Welsh Committee unanimously resolved:

> That this Committee warmly approves of the appeal of the Welsh National School of Medicine, and is of the opinion that it deserves the cordial support of the medical profession in Wales, and that the letters of Lord Kenyon and Professor Ewen J. Maclean be sent to the Divisions and Branches in Wales, with a suggestion that the Division or Branch, or both, should accept the offer of Lord Kenyon to invite the committee of the appeal to send a representative to address a meeting of the profession.

THE UNIVERSITY COLLEGE OF SOUTH WALES AND MONMOUTHSHIRE.

At the last meeting of the Court of Governors of the University College of South Wales and Monmouthshire a resolution was adopted pointing out that any diminution in the Government grants would seriously impair the efficiency of the College. Reference was made to the proposal to reduce the Government grant made to the universities through the University Grants Committee, and to the suggested withdrawal or suspension of the Government promise to contribute (on the £ for £ basis) the equivalent of all new contributions towards aproved university purposes. The proposal would affect both appeals—that of the National School of Medicine and the College generally.

At the same meeting the draft supplemental charter was approved. During the discussion it was pointed out that the relation of the School of Medicine to the College might be defined by stating that the school was a unit within a unit; the Faculty of Medicine had, in effect, become almost a senate, but the College Council retained financial control. An amendment was proposed providing that the departments of anatomy and physiology, now under the direction of the College Senate, should be added to the list of departments coming under the jurisdiction of the Faculty of Medicine. The amendment was resisted by the Principal and others, and was finally rejected. The statutes were then adopted.

INFLUENZA IN BIRMINGHAM.

Influenza assumed epidemic proportions in Birmingham during the early part of January. There are distinct signs, however, that the wave has reached its maximum height and is now falling. For the most part the disease has been of the benign type, affecting all ages, especially young adults and the middle-aged, the schools having suffered little. Intense headache and distressing cough have been amongst the most prominent symptoms, the latter being very persistent. Grave pulmonary complications and fatalities have not been so numerous as in some previous epidemics.

By courtesy of the medical officer of health, Dr. John Robertson, we are able to publish the following information. During normal winter months there are from 0 to 6 deaths every week, with influenza as a cause; 40 to 60 deaths weekly from respiratory diseases; and from 15 to 30 notified cases of influenzal or acute pneumonia. The recent figures are as follows:

	Respiratory Disease Deaths.	Influenza Deaths.	Pneumonia Notifications
Week ending—			
December 31st, 1921 ...	42	4	18
January 7th, 1922	48	8	28
January 14th ,, ...	70	25	41
January 21st ,, ...	86	43	119
January 28th ,, ...	91	54	167
February 4th ,, ...	84	46	142

The comparative figures of deaths from influenza are: in 1918, twenty-two per 1,000; in 1919, nine per 1,000; and in 1922, three per 1,000. It will be seen that the epidemic, although very widespread and attacking large numbers, has not been responsible for many deaths.

CONTRIBUTIONS TO HOSPITALS BY EMPLOYERS.

At the annual general meeting of the Midland Railway Company at Derby, on February 16th, Mr. Charles Booth, chairman of the company, referred to the financial position of the hospitals, which he said was so critical as to threaten the breakdown of the whole voluntary system throughout the country and to throw the hospitals upon the already overburdened taxpayer and ratepayer, with the consequent blighting influence of Government control. The Midland Railway Company had always subscribed to hospitals in the large towns on its systems, and, with the sanction of the shareholders, the directors had occasionally made large grants to the Derby Infirmary. A scheme had recently been put before the Midland Railway Friendly Society, and unanimously approved by it, which involved a weekly contribution from all weekly-paid employees, supplemented by a contribution on the part of the company. The Board had approved the principle of the proposals embodied in this scheme, and subject to its being generally adopted by the staff, was prepared to recommend it to the shareholders. On the basis suggested the company's annual contribution, if the scheme were universally applied, would substantially exceed the present subscriptions, but the alternative would be a much greater sum in rates, and he was confident that the shareholders would approve of the policy of the Board in the matter.

In a leading article published recently in our columns (January 14th, 1922, p. 70) it was pointed out that few large employers of labour have ever contributed sums really proportionate to the possible demands of their employees upon the hospitals. The scheme which was placed recently by the King Edward Hospital Fund before the London hospitals recommended a weekly contribution from employees, which it was hoped would be made at the place of employment by taking the contribution from wages, employers contributing a portion of the weekly payments. The Midland Railway Company, it will be seen, has adopted this idea, and it may be hoped that its example will be followed by other large employers, and that the hospitals throughout the country will benefit accordingly.

THE UNIVERSITY OF LONDON.

In his second lecture on the University of London and its possibilities, delivered at University College on February 20th, the Provost (Sir Gregory Foster) devoted himself again to answering the critics of the decision to accept the Government offer of the site at Bloomsbury instead of purchasing the site at Holland Park. Among other arguments, he mentioned that within a two-mile radius of the Bloomsbury site there were seven medical schools, with more than 3,000 students, as well as university colleges and schools providing for 11,000 students in other subjects. Bloomsbury was already in fact the university centre of London. Although a residential university like Oxford or Cambridge was not possible for London, the residential halls, which at present provided places for 1,040 students, ought to be increased to accommodate 4,000. The greatest need was for residential halls for post-graduate and research students, 90 per cent. of whom came to work within the University. He looked forward also to a great extension of the external work of the University in the shape of public lectures and tutorial classes, for which purpose, again, a

central site was very desirable. During the next twenty years he saw a university "empire" being consolidated in London, with "dominions," practically self-governing, in the shape of the larger colleges, and "dependencies" with smaller powers. One crying need of the University was a great Institute of Public Health. There was a small department in this subject at University College, but quite inadequate for London. The Faculty of Medicine might readily become the greatest part of the University of London were it not for the hampering effect of the examination fetish and tradition, which from the purely examination point of view made it more convenient to the student to get up what he could from textbooks; at the same time a great deal of teaching and research was carried on. The President of the Board of Education (Mr. H. A. L. Fisher), who presided, said that the University of London was a species to itself, unlike any other university in the world, and particularly unlike Oxford and Cambridge. The site had now been finally settled, unless, indeed, the University handed it back to the Government, an action which would be appreciated by the Chancellor of the Exchequer. Although the site at present contained only 11 acres, it was part of a large estate controlled by the Bedford Trust, comprising 50 acres or more, which would, he believed, come into the market during the next fifty years. Therefore the University could expand at leisure and become a worthy place of learning for the students, who, he believed, would come in increasing numbers to London from overseas.

Scotland.

Glasgow Medical Lunch Club.

At the weekly meeting of the Glasgow Medical Lunch Club, on February 16th, Dr. E. P. Cathcart, F.R.S., Professor of Chemical Physiology in Glasgow University, was present as the guest of honour, and after lunch gave a most stimulating and helpful address. He made a plea for a more profound and continued study of the normal and its variations in the individual, and welcomed the desire on the part of the practitioner for post-graduate study; but too much of it was, in his opinion, devoted to the study of special branches of disease or of cases of unusual disease. Young graduates set out on their medical life full of enthusiasm and with high ideals based on hospital experience. They soon found that hospital work had not given a true reflection of general practice, and that they had to readjust their earlier ideas. A large part of their work was concerned with trivial conditions, such as coughs and colds, pains and aches, and mild digestive disorders. The immediate result was a feeling of depression owing to the lack of scope provided for their "Osler-crammed" brains, and this was liable to lead them to become the subjects of convention and hypnotic words and phrases. There were fashions in medicine, as in dress, of great variety, and the latest of these was licensed pornography masquerading under the name of psycho-analysis, which was a good thing, but, like all good things, liable to deterioration. The general decline of the death rate, and the greater expectation of life at birth, as shown in vital statistics, were in themselves satisfactory as showing advances in the prevention and treatment of disease, but still much information was lacking regarding the trivial conditions which caused such a loss of time to industry. The National Insurance Act had brought out the fact that from sickness alone there was an annual loss of over 14,000,000 weeks, which was enormous if capitalized at, say, £2 a week. Much of this sickness was preventable and trivial, and made up the ordinary round of the general practitioner. A knowledge of these conditions could only be obtained from the family doctor, not from the consultant, nor from those connected with the more scientific or academic side of the profession. Members of the profession had been too busy studying disease, when they ought to have been devoting much time to the normal and its variations. Such basal data of trivial illness were necessary for further advance in medicine, as only on such a foundation could the new temple of real medicine be reared. In the past they had looked to pathology, which was merely the record of failure, but now they must turn to physiology, which was the science of the normal. His opinion was that if post-graduate work were directed more to fundamental principles than to treatment the practitioner would return to his daily round with greater zest.

Lister Ward at Glasgow Royal Infirmary.

At the annual meeting of contributors to Glasgow Royal Infirmary, held on February 13th, the decision of the managers that it was not in the interests of the institution to retain the Lister Ward was approved by the meeting. The managers, however, expressed willingness to allow the Lister Memorial Committee to remove the materials of the ward for re-erection, and they agreed that objects of interest and relics relating to the life and period of Lord Lister should be properly displayed in the Infirmary. Mr. James Macfarlane, the chairman, said that while the members of the Infirmary approved the motives of the Lister Committee, they had to point out that they had no ground to spare. The Memorial Fund Subcommittee had asked them to reconsider the decision they had reached several years ago that no part of the old building should be retained. The managers took the proposals into serious consideration, they viewed the site again, and the whole situation was discussed. The result was that they reaffirmed their previous decision that it was not in the interests of the Infirmary that the Lister Ward should be retained. At the same time the managers desired it to be known that they would welcome any proposal for commemorating Lord Lister's connexion with the Infirmary. During the recent controversy in the press it has been alleged, on the one hand, that the managers of the Royal Infirmary had taken a narrow, short-sighted, and parochial view of a sacred trust, possessing potentialities both historical and financial to which they appeared to be blind. There is considerable agreement with the opinion of Lord Blythswood that the Lister Ward should be retained, and there is little doubt that this opinion will be shared by many people both in this country and throughout the world. The ward has already been a Mecca for pilgrimages of scientists from all quarters of the globe. On the other hand, Sir George T. Beatson has expressed the hope that the decision of the directors of the Infirmary not to retain the Lister Ward may be accepted by all interested in the matter, and that no efforts should be made to overturn it either by protest or by agitation amongst the subscribers to the Infirmary. He suggests, therefore, that the Ward might be re-erected on another site, and in connexion with a Lister Memorial Hall, where, by lectures and demonstrations, the good work which Lister initiated as a surgeon might be extended.

Chair of Botany at Edinburgh.

Sir Isaac Bayley Balfour has intimated his resignation from the chair of botany in Edinburgh University, to take effect from April next. He was born in 1853, and was the son of John Hutton Balfour, who was professor of botany in Edinburgh University from 1845–79; he graduated M.B., C.M. at Edinburgh in 1877, and M.D. (thesis gold medal) in 1883. He was regius professor of botany in the University of Glasgow from 1879 to 1884, and for the succeeding four years Sherardian professor of botany at Oxford. He was appointed to his present chair in 1888, and at the same time became regius keeper of the Royal Botanic Garden, Edinburgh. He received the honour of knighthood in 1920.

Ireland.

The Health of the Irish Nation.

Dr. Richard Hayes, T.D., who represents Limerick City and East Limerick in the Irish Parliament, recently delivered a lecture on hygiene, which has been published by the Lecture Society in a pamphlet. Dr. Hayes is one of the nine members of the Irish medical profession who were returned for Irish constituencies in the last parliamentary election. He voted for the acceptance of the Treaty. Much in regard to health reform is expected in Ireland from the new Irish Government, and with such an advocate as Dr. Hayes a good deal should be accomplished. The following are some extracts from his lecture:

"During the past fifty years the death rate in England has been reduced by 35 per cent., in Scotland by 30 per cent., and in Ireland increased by 2 per cent.

"In the past Ireland has been so preoccupied with a struggle for mere existence that many vital national problems have been necessarily overlooked, but to-day the national conscience has quickened and awakened to a sense of the national value of things. No interest in the national economy is of more fundamental importance than the nation's health, and none has been more neglected in the past. There exists here an effete and anomalous Poor Law Medical Service, on which the majority of the Irish

people have to depend for medical treatment. Outside a few of the large cities there is a deplorable lack of hospital services. There is no provision for research, the basis of all really progressive medicine. No independent sanitary service, no school medical service, exist here. There is no national scheme in child or maternity welfare to cope with the enormous wastage of infant life. The housing conditions in the cities are appalling, and the great domain of preventive medicine lies unknown and unexplored. Remembering such things, and the pernicious and subtle methods employed to extinguish the race, one cannot but wonder at that marvellous vitality inherent in the Irish people, who could survive what long ago would have destroyed any other race. That the national health has deteriorated there is, of course, no doubt, and much of that joy of life of the older generation owes its disappearance to that deterioration. One fact alone—the emigration of the flower of the race during the last century—must have had profound effect on its physical and mental fitness. The work before us now, however, is to survey our present position and build up a strong and virile people from what remains here. It is a great work, because a nation to express itself in all its richness and fullness, to realize its complete destiny, to draw to the full on its latent stores of human energy, must be fundamentally healthy. For the success of all health schemes in such a work many things are essential. The establishment of an Irish State is, of course, a prime necessity. Equally important is the co-operation and sympathy of the masses in all such schemes—and this cannot be obtained unless they possess some knowledge of the laws and broad principles of public health, with a realization of their vital significance. An enlightened public opinion is one of the first essentials, and never was it more necessary than now. We are at the beginning of a fresh era, and in the new world coming into being a severe struggle has already begun between nations, and only those of the highest efficiency will stand the strain. In Ireland local administration has just passed into the hands of a new generation fired with high ideals and stimulated by a broad national vision. Notwithstanding their limited powers, a good deal relating to the health and welfare of the community will depend on their zeal and efficiency. Further and greater changes are imminent here, bringing with them big responsibilities on all classes, and it is our duty to be ready and prepared for the work that lies ahead—the building up of a new and greater Ireland. In that great undertaking every class and individual will have their own special work to do; but there is one domain in which every man, woman, and child in the nation can play a part, and that is in laying the foundations of a healthy race. We must all realize that the greatest wealth of a nation lies, not in its soil, its mines, its water power, or its factories, but in the health of its people. Whatever social class one is born into, every one of us is born with a great individual heritage, and if the potential value of that wonderful birthright of health does not fully materialize with us here in Ireland, the failure is due in no small way to ignorance or neglect of the great simple laws of hygiene. We must realize that we have a high responsibility in the preservation of the national health; that such work is not the work of doctors alone; that a healthy race is not built up by skilled sanitarians or scientific legislators, but by the enlightened masses of the people. Every effort must be made to cultivate here a 'healthy conscience.' If every individual unit in the nation observed hygienic laws in his own personal sphere there would be few sanitary problems to trouble us. While the advancement of the public health of a community can of course be assisted by the wider activities of its public bodies, really satisfactory progress can only come through individual action founded on knowledge. Unfortunately, in Ireland there exists no provision in the educational programme of the country to impart such knowledge to the boys and girls of the nation. The remedying of that defect is a crying need. Even in a free Irish State all health schemes will come to naught unless founded on the hygienic education of the people. The housing question, for example, requires urgent attention, but even if satisfactorily solved it may be that the existing evil conditions and results will reappear unless the people acquire hygienic habits and knowledge."

Correspondence.

THE ORTHOPAEDIC HOSPITAL OF THE MINISTRY OF PENSIONS: AN EXTRAVAGANT ECONOMY.

SIR,—On February 16th questions were asked in the House of Commons about the decision of the Ministry of Pensions to abandon the special surgical hospital at Shepherd's Bush and instead to put the in-patients in an old military hut hospital in Richmond Park, and to make provision for out-patients in some more central place in London. In his reply, Mr. Macpherson stated that "the sole reason for this removal is the urgent necessity for public economy," and further that he "had no doubt that the proposed transference of the staff and the equipment to Richmond will be in no way detrimental to the interests of the patients." I cannot share his confidence on this latter point, and am sure that my surgical colleagues at Shepherd's Bush will agree with me.

The efficiency of the work done in this and other similar hospitals has from the first depended on the principle of continuity of treatment and concentration of effort. The system of working has been that when a patient is sent to the hospital the surgeon who sees him carries out any operative treatment required, directs the after-treatment by the special departments by personally seeing the head of the department, explaining what he has done and why. When the patient is well enough to be treated as an out-patient this further treatment is carried out by the same personnel who have seen his progress from the beginning. Further, the visiting surgeons have frequent opportunities of consulting each other.

The effect on the *moral* of the patients of finding themselves treated according to a regularly defined plan has been emphasized too often to need repetition.

The type of case which is being treated is changing. During the war there were many recent fractures with extensive open wounds. Two years ago these were healing up, and we were dealing with ununited and malunited fractures with ankylosed and flail joints, and, of course, always with results of injuries of muscles and nerves.

To-day a large proportion of these more obvious defects have already been dealt with by bone graft or other operations. The patient may have been away for months, and is now being sent back because, though the fractured arm may now be firmly united and function has returned, there remains some particular movement which he requires in his particular work which he cannot perform, and asks for an operation. Each case becomes, therefore, a problem by itself.

Thus the surgical work is becoming more difficult and also, it may incidentally be said, more interesting. In order to make these men fit to earn their living it is more necessary than ever to have every means of treatment thoroughly co-ordinated. This is not a mere matter of material equipment; it depends also on co-ordinated work among the staff.

Under the new arrangement there must be a double equipment—one at Richmond and one at the out-patient centre. At present if Mr. A. has a particularly difficult case on which he wants to consult Mr. B., even if the latter is seeing out-patients, he is in the building, but under the new arrangement the surgeons will have to divide their time and energies between two institutions miles apart. *X* rays taken when the patient is first seen in the out-patient department will have to be sent out to Richmond when the patient, some weeks later, is admitted for treatment there, then back again when the man becomes an out-patient.

Inevitably there will be much dissipation of the surgeon's time and energy when working under these conditions. This means less effective results in some patients and in most delay in getting the results. This point should be carefully considered, for payments of allowances to men waiting for treatment may easily amount to a large sum when the number of patients dealt with amounts to several thousand every year. From inquiries made the financial difficulty between the Government and the Hammersmith Board of Guardians, in whose infirmary the hospital is housed, seems to have arisen as follows:

From 1916 to 1919 the hospital was military, and no rent was paid to the guardians. In 1919 the whole institution, with all the new additions built by the War Office with the generous assistance of the British Red Cross, was handed over to the Pensions Ministry. The guardians then asked for and received a rent of £8,000 a year. In 1921, finding that the outgoings to meet expenses on the buildings exceeded this by £1,300, the guardians wrote to the Ministry of Pensions suggesting that the rent should be increased to £10,000. Several months passed without any definite reply being given, so someone suggested that they might get a reply if they were to give the Pensions Ministry notice to quit unless it paid £14,000 a year. The Minister of Pensions offered £12,000, which was refused.

It is difficult to believe that a deadlock like this can be allowed to interfere with the welfare of wounded soldiers. The ratepayers and guardians of Hammersmith were offered £12,000, which was more than they had themselves asked for a few months earlier, therefore they probably would not lose anything by accepting this sum; and it is not pleasant to think that they would wish to make a financial profit at the expense of the wounded men, even though they may have grounds for being annoyed with the delays of a Government office. On the other hand, the Ministry has a duty to the Treasury, and must resist what seems to it unfair financial pressure. It is sincerely to be hoped that a way may be found for reopening negotiations and maintaining a great institution in its fullest vigour.—I am, etc.,

London, W., Feb. 20th. D. MCCRAE AITKEN.

A DIPLOMA IN TUBERCULOSIS.

SIR,—I venture to forward you a copy of the regulations for the Tuberculous Diseases Diploma (Wales),[1] which has just received the sanction of the University authorities, and the first examination for which will be held at Cardiff, I hope, on the first Tuesday and Wednesday of July next.

The reasons that are thought to render such a diploma desirable are as follows:

The number of Government appointments for whole-time tuberculosis work is now very large, and likely to increase in the future. In order to find suitable recruits for these appointments it is necessary that young medical men should have an opportunity of taking up special courses in the study of this disease and presenting themselves for an examination, the successful passing of which will provide them with a diploma as evidence that they have devoted a period of real study to the disease which they are about to deal with.

The extreme importance of pulmonary tuberculosis has undoubtedly tended to concentrate attention upon this form of the disease. The institution of a standard examination, study for which must necessarily involve the examination of the disease as a whole, including its surgical characters, must raise the standard of knowledge and improve the methods of dealing with tuberculous patients; while it is undoubtedly true that our preventive measures are likely to be based on sounder lines if greater account is given to tuberculosis as a general rather than a local disease.

It is hoped to ensure to the T.D.D. (Wales) examination the high standard that alone can make a diploma worth having, and to this end it is proposed to invite external examiners of recognized position as authorities on medical and surgical tuberculosis to assist in conducting the examinations.

It is realized that at the present moment difficulties may arise for would-be candidates in obtaining the courses of instruction which are laid down in the regulations for admission. These difficulties appear inevitable under the circumstances, and can only be solved when universities, medical schools, and tuberculosis hospitals are prepared to initiate the classes of instruction which are necessary for candidates belonging to Category B. The imperative necessity for these definite courses in the case of young medical men without whole-time experience of the disease will be generally recognized. Arrangements are being made to give these special courses to medical graduates in the Welsh National School of Medicine at Cardiff, and particulars can be obtained on application to the Professor of Tuberculosis or to the Registrar.—I am, etc.,

S. LYLE CUMMINS,
Professor of Tuberculosis, University College of South Wales and Monmouthshire.

Cardiff, Feb. 16th.

THE TREATMENT OF EMPYEMA.

SIR,—I have read with interest both the annotation in the BRITISH MEDICAL JOURNAL of February 11th, entitled "A physician on the surgical treatment of empyema," and Dr. J. A. Nixon's paper on "Progress in the treatment of empyema" which is there reviewed. To quote Dr. Nixon's words:

> "Routine resection and drainage undoubtedly save many lives, and not infrequently good functional recovery takes place in the affected lung. But we cannot be ignorant of the numerous instances in which the patient recovers with a sadly impaired lung, with a lung that remains hopelessly contracted, or even with a sinus in the chest wall which obstinately refuses to close."

Two methods are mentioned as improvements on the orthodox treatment by drainage of the pleural cavity after excision of a portion of a rib. These are (*a*) aspiration, which, if necessary, is repeated, and (*b*) thoracotomy by a long incision through an intercostal space, without excision of rib, but of sufficient size to permit of free access to the pleural cavity; through this incision the hand is introduced, all lymph and fibrin are removed, and the chest wall is completely closed at the conclusion of the operation. That the unfortunate results mentioned by Dr. Nixon are not infrequently met with is certainly true; and my object is to bring forward certain points in the after-treatment of the usual operation, which I have found of the greatest value, rather than to criticize these suggested alternative methods of treatment.

I should, however, like to point out that aspiration has been extensively tried, and though "it has long been known that pneumococcic empyemas sometimes clear up after aspiration alone," yet this fortunate result occurs in only a small proportion of cases, and on this account has not found general favour with physicians. Aspiration is commonly employed in the more serious cases to give relief and as a preliminary to excision of the rib and drainage of the pleural cavity. I can also recall operating on two cases which had been treated by repeated aspiration, which had failed to have a satisfactory result, and had set up a troublesome complication—cellulitis of the chest wall, which required several additional incisions.

Though I have on several occasions made an incision through an intercostal space as a preliminary or palliative measure in cases of pneumococcic empyema where the condition of the patient has been very grave, I have no experience of the other method of treatment suggested by Dr. Nixon. The operation strikes one as considerably more severe than the usual procedure, especially in a patient who is gravely ill, and one questions the desirability of interfering with layers of exudate which may have a protective function.

For some twelve years or so I have used Bier's treatment by suction cups as a routine method after resection of rib and drainage for empyemas, the great majority of which have been pneumococcic. The operation is performed in the usual way and a large rubber tube is inserted. On the second or third day this is removed, cleaned, and shortened, so that it projects but a short distance into the thoracic cavity. A large-sized Bier's cup is then fitted over the wound, with the drainage tube about the centre, and suction is applied by compressing the rubber bulb. The suction is kept up for about five minutes, and, after a few minutes' interval for the oedema to subside, may be repeated for a similar period. The cup is then removed, the wound and the tube again cleaned, and a dressing applied. This treatment is repeated twice a day. Usually the discharge rapidly diminishes, the temperature comes down, and the general condition of the patient improves. As the wound contracts the large tube is replaced by a smaller one. The treatment is continued as long as there is any discharge, and until the superficial wound has closed to such an extent as to render drainage unnecessary. There may be some bleeding from the superficial granulations, but this is not important, and can be obviated by diminishing the amount of suction. One minor advantage is that the patient is usually interested in the treatment.

There are several important practical points to bear in mind. The cup must be of sufficient size—for an adult at least three and a half inches in diameter. It must fit accurately and easily to the chest wall; this may be a real difficulty, for these cups are usually made for application to a flat surface. It is, however, possible to get them shaped so as to fit readily to the curve of the chest.

The usual rules in all applications of Bier's treatment must be observed—namely, that no pain must be caused, and that the suction must not be too great or continued for too long a time. From five to ten minutes twice a day will suffice. The drainage tube should always be in position while the treatment is being carried out, except possibly in the later stages where the wound is merely a sinus, as otherwise the suction may have a valvular action, drawing the edges of the superficial wound together, and preventing any action on the pleural cavity. The cup, of course, must be carefully cleaned after use, and before it is applied to the wound it should be sterilized by standing in some antiseptic solution.

The suction cup acts in three ways:

1. It sucks out any discharge which may remain in the pleural cavity.
2. It must produce some passive hyperaemia of the pleura, and so exert the antibacterial action which it is generally agreed is the result of the passive hyperaemia produced by Bier's treatment.
3. As the result of the diminished pressure in the pleural cavity it must have some effect in promoting expansion of the lung.

One is occasionally asked by a physician to see a case of empyema that has been operated upon, and that after some weeks is not doing well, with a view to providing freer drainage. These cases usually do remarkably well with Bier's treatment. As an example I will mention a case that I have recently been asked to see by my colleague, Dr. Fawcett.

A boy, aged 8 years, was operated upon for empyema on January 9th, 1922. The temperature promptly dropped to normal and remained so for a week; it then rose again, and from January 16th to February 3rd showed a typical septic chart with a morning temperature of about 99° and an evening swing to between 102° and 103°. When I saw him on February 3rd there was a sinus from which a little pus was oozing, and as no discharge appeared to escape through it the drainage tube had been omitted. I suggested

[1] The regulations are printed at p. 333.

that the sinus should be dilated with dressing forceps, a small drainage tube inserted, and Bier's treatment started twice daily. The temperature came down at once. On February 4th the evening temperature was only 99.4°, and since then it has never risen above 99°. The discharge has nearly ceased, the wound looks quite healthy, and the general condition of the boy has greatly improved.

The object of treatment should be, to quote Dr. Nixon's words, "the ultimate restoration of function as well as the immediate saving of life." I believe the line of treatment described above to afford the simplest and surest means of attaining these ends.—I am, etc.,

London, W., Feb. 14th. PHILIP TURNER.

MALARIAL GLYCOSURIA.

SIR,—In your issue of February 4th there appears a letter from Dr. Orlebar, in which he states that an instance of glycosuria published by us in the BRITISH MEDICAL JOURNAL for August 26th, 1921, as of malarial origin, was in fact a case of glycosuria due to hyperthyroidism. After carefully considering our notes, of which only a brief abstract was given in our paper, we are still of our original opinion, for the following reasons:

1. The pulse was 120 on admission only, when the temperature was 99.8° and the man was getting over an acute attack of malaria. The next day the temperature was 99° and the pulse 80, and on this day the urine showed 8.5 grams of glucose per litre.
2. The glycosuria persisted in spite of absolute rest in bed, and also in spite of 30 grains of quinine a day by the mouth for a long period; it only disappeared completely after this treatment was intensified by a course of intramuscular injections of quinine. It is our experience that all manifestations of malignant tertian malaria respond much more satisfactorily to quinine administered in this form than to quinine by the mouth.
3. The man was examined by a medical board at Brighton in August—two months after leaving Orpington. They found "no active signs of malaria," but much more definite signs of hyperthyroidism, including exophthalmos. In spite of this his urine then contained no sugar.

Dr. Orlebar gives also two reasons against the glycosuria being of malarial origin:

1. That the man had had much quinine before coming to Orpington.
2. That he continued to have much malaria after leaving Orpington.

Both these reasons appear to us to be unsound. In the first place, Sir Ronald Ross has pointed out the prime necessity of *regular* administration of quinine in the treatment of malaria. A note made at the Brighton clinic in March states: "Taking quinine, Meyer's test negative." It is apparent, therefore, that as long as the man was an outpatient, the regularity of his quinine treatment could not be guaranteed.

In the second place, apart from the findings of the Board in August, a further note from the Brighton clinic states that the man was admitted to Endsleigh Gardens Hospital in October and very shortly afterwards discharged as showing "no evidence of malaria."

To sum up: the man had definite glycosuria, which persisted until he had had a thorough course of quinine treatment *under supervision*. It then disappeared, as also did the signs of malaria, if the findings of the Brighton Board and Endsleigh Gardens Hospital are correct.—We are, etc.,

ALDO CASTELLANI,
J. GRAHAM WILLMORE.

Ministry of Pensions Hospital,
Orpington, Kent, Feb. 15th.

CANCER RESEARCH.

SIR,—Considerable publicity has been given recently to the work of the Imperial Cancer Research Fund, the Middlesex Hospital, and many other institutions, in the columns of the daily press.

Among the many other deserving institutions engaged in this research, not mentioned, it may be well to remind your readers of the work which is being done in the physiological and bacteriological laboratories of King's College, which has been carried out for many years by Dr. J. A. Shaw-Mackenzie, and without any financial assistance.

The generous offer of Lord Atholstan and of Sir William Veno towards cancer research work raises the question of the medical side in cancer treatment, and encourages this aspect of the problem. That this aspect of the problem is justified may be gathered from the facts that cancerous tumours in the human subject may remain stationary over considerable periods of time, and that disappearance of cancerous growths occurs spontaneously in a large percentage of inoculated tumour mice. These facts seem to indicate that defensive processes of the body are at work.

In this connexion one of the results of the laboratory investigations is that the blood serum of recovered mice shows that natural chemical processes are at work, and that a natural and increased production of lipase and of fatty acids in the tissues are important factors in the protective mechanism. The same reactions of the serum held good in recovered tuberculosis and other bacterial diseases examined. It has been shown, further, that sodium oleate, amongst other substances, increases the action of lipase *in vitro* and *in vivo*, and beneficial results have long been reported from its use in certain cases of inoperable cancer.

It is accordingly not unreasonable to hope that it is in the direction of reinforcement of natural processes that advances in treatment may be made. It was on this basis that (1) preparations of saponified extracts derived from the fatty material and lipoids of cancerous and tuberculous material have been made, and the same suggested from other pathological tissues. Further investigations are being continued on the (2) trial and therapeutic efficacy of these preparations; (3) examination of serums, including complement fixation tests in cancer; (4) the composition of cancerous material, with special reference to the fats and fatty acids.

It is interesting to note that the work of C. C. Warden at the University of Michigan and St. Josephs of Mercy Hospital, Ann Arbor, which is reviewed in the February number of *Medical Science*, issued by the Medical Research Council, London, appears to be on similar lines. While, however, in this work "the specific antigens of cells, bacterial and somatic," are attributed to suitably dispersed fatty acids, the importance in particular of the bacterial fatty acids and their sodium salts is evident in immune processes.—I am, etc.,

King's College, Feb. 18th. W. J. SIMPSON.

THE PREVENTION OF VENEREAL DISEASE.

SIR,—I ask for space for a short comment on Lord Gorell's letter in your issue of February 18th in which he refers to me as knowing well the efforts he has made in the direction of demanding a public inquiry conducted by men of independent standing on the one essential point which divides the two societies, and, in fact, was the sole reason of the establishment of the Society for Prevention of Venereal Disease.

In three private interviews which took place in January, 1921, between Lord Gorell and myself, I was strongly impressed by his evident desire to have this important matter thrashed out in all its aspects independently of Government or other officials. I had become convinced of the necessity of such an inquiry for some few years. Lord Gorell and I were agreed that no conference between the two societies alone could be fruitful. For the one point at serious issue between them was an indivisible one as regards the S.P.V.D.

Since the occasion of these interviews I know of no further efforts by Lord Gorell in the above-mentioned direction. But the following facts do not indicate that the National Council for Combating Venereal Diseases or its president are trying to assist in any measure towards the composing of the present difficulties, which are doubtless deplorable.

1. In February, 1921, a special committee of the Birth Rate Commission, at which both the societies were represented, issued a report that practically supported the main arguments of the S.P.V.D. Soon afterwards the Bishop of Birmingham invited the two societies to a round-table conference with him, which the S.P.V.D. accepted on condition that the general findings of this report should be accepted. This condition led to the refusal of the N.C.C.V.D. to attend the conference, which consequently was not held.
2. In June, 1921, the British Humane Society, consisting largely of many important public men, invited the N.C.C.V.D. and the S.P.V.D. to send representatives to a conference on this matter. The S.P.V.D. accepted the invitation without making any condition. The N.C.C.V.D. declined it.—I am, etc.,

Feb. 20th. H. BRYAN DONKIN.

PREVENTION OF VENEREAL DISEASES IN THE AUSTRALIAN IMPERIAL FORCE.

SIR,—Sir Archdall Reid has asked me to state what I know of the facts regarding the "compulsory issue of disinfectants, accompanied by both printed and verbal instructions in their use, to all men proceeding on leave" in the Australian Imperial Force. My experience is that these regulations were

much more honoured in the breach than in the observance. I was in Paris from April, 1918, to May, 1919, and I do not believe that 10 per cent. of the Australians arriving in Paris on leave had had disinfectants issued to them. I met practically every train for several months, and I know of my own knowledge that the men were without prophylactic outfits. I communicated with the D.M.S. and each A.D.M.S. in the Australian Divisions, and once or twice succeeded in getting a small parcel of fifty outfits, but usually these medical officers could send me none, because they were out of supplies themselves. I bought supplies myself in Paris, and for some of these received payment later from the A.I.F.; they paid me altogether about £120 on Paris chemists' receipts. The Australians and other British troops were supposed to be able to get tubes from the Pepiniere Barracks (British Medical Report Centre), but sometimes for a week or ten days or longer the barracks had no tubes at all. In any case only one tube at a time was issued from there, and men proceeding on leave to Rome, Nice, etc., were actually sent away to these areas, where there were no ablution rooms in existence, with one single-treatment calomel tube in their pockets. This was the army system. I tried to see every man proceeding on leave to Nice or Rome, and give him a prophylactic outfit containing at least ten calomel tubes, ten 2-grain tabloids of potassium permanganate, and a small syringe and some cotton-wool. During 1919 most A.I.F. men who could afford it came to Paris several times on leave officially or unofficially. Many thousands of men were absent without leave at different times, and of course prophylactic outfits were not issued to such men before they left camp, and they stood clear of Paris headquarters to avoid arrest. In England the same conditions prevailed. In May, June, and July I was lecturing on Salisbury Plain in different Australian and New Zealand camps. The officers in command were usually under the belief that outfits were being issued to men going on leave, and that this covered the matter. It did not—because so many men went away for week-ends without permission, and because there was frequently shortage of supplies. I always settled the matter thus on the lecture platform: Hands up those men who have been on leave, officially or unofficially, without prophylactic outfits. As a rule from 80 to 90 per cent. of the audiences promptly held up their hands. As to the issue of disinfectants being "compulsory," my opinion always was that men should carry a prophylactic outfit as a "town-dressing" in the same way as they carried a "field-dressing," but actually the Anzacs always had the option of refusal. I have no doubt that the Australian medical officers did their best to instruct the men and provide them with disinfectants from 1914 to 1919. But there was a war on at the time!—I am, etc.,

London, W., Feb. 20th. ETTIE A. ROUT.

HENRY OF NAVARRE.

SIR,—Some short time back Sir Charles Ballance in his Thomas Vicary Lecture, speaking of multiple trephining, mentioned that the classic instance was that of Henry of Navarre, whose surgeon trephined him twenty-seven times. This statement has passed without challenge; but was Henry IV ever trephined? I have seen no allusion to it in contemporary history, and it is not mentioned in the memoirs of the Duc de Sully, which are practically an intimate biography of Henry IV from his early manhood until his death.—I am, etc.,

London, N.W., Feb. 18th. H. A. CLOWES.

GERMAN-MADE X-RAY APPARATUS.

SIR,—A brief study of the contributions which have recently appeared in your pages discloses the unpleasant fact that the medical profession are already patronizing German manufacturers by purchasing *x*-ray and electro-medical apparatus of German origin, in particular equipments for deep therapy treatment.

As equally good, if not superior, apparatus is manufactured in this country, there is no excuse for purchasing these appliances from our late enemies.

There are nearly 2,000,000 unemployed in this country, and it is therefore everyone's duty to assist in stimulating home industries rather than those of Germany; we wonder whether those who place their orders abroad appreciate the inevitable result of their action.

If adequate support is not forthcoming for the British manufacturer, he obviously cannot continue, and will gradually cease to construct British *x*-ray and electro-medical apparatus, and seek the easier and possibly more remunerative path of representing a foreign house and so satisfying the demands of the English medical profession.—I am, etc.,

February 14th. A MANUFACTURER OF BRITISH APPARATUS.

AN IMPROVED METHOD OF DEMONSTRATING LANTERN SLIDES.

SIR,—Use of the lantern for lecture purposes in the common fashion offers several inconveniences. First, the room must be darkened, a condition that hinders note-taking, prevents demonstration of specimens, and favours somnolence; secondly, the windows must be closed, a great disadvantage in warm weather; thirdly, a lantern attendant is necessary, and the number of slides to be shown may be few or many; fourthly, arc illumination is required. In order to overcome these and other objections, I devised, and since October last have had in constant use, the following modification.

The lantern is provided with a gas-filled incandescent lamp (1,500 c.p., 7.5 amp.) and, instead of the usual method whereby an assistant projects the image on the wall behind the lecturer—that is, some 15 feet from the front row of students—in the method under description the lecturer himself operates the lantern from his bench, controlling the light by an ordinary tumbler switch. The image is projected upon and viewed through a ground-glass screen placed 3 feet from the front row of students. Hence the usual method, in which the projection lens points towards the lecturer and a large dead-white receiving screen is situated behind him, is replaced by a method in which the projection lens points towards the audience, and a small translucent screen intervenes between lecturer and audience.

As a result of its nearness to the observer the image need not be so large for proper vision, and a ground-glass screen of which each side measures 26 in. is sufficient. But the principal point is that, owing to the sufficiency of a smaller image and its nearness to the observer, the law of inverse squares governing illumination operates at so great an advantage that the image on the screen is clearly visible in diffuse daylight or ordinary artificial illumination of the lecture theatre even in the back rows, 20 ft. from the ground-glass screen.

For a lamp using 7.5 ampères special wiring is necessary, but Messrs. Fallowfield, Charing Cross Road, are supplying a complete outfit, consisting of lantern, lamp (800 c.p.) resistance, screen, and stand (cost £15), that can be worked from the ordinary lighting circuit by means of an adapter.

One proviso is necessary: It is impossible for the apparatus to compete with direct sunlight. The blinds must be drawn on that side of the room into which the sun's rays enter. If this be done, an observer at a distance of 30 to 40 feet from the screen can see the image well, even at noon on the brightest day in October. Whether he will be able to do so in June I do not yet know. I believe the modification will be of great practical use to teachers.—I am, etc.,

W. S. LAZARUS-BARLOW.

Cancer Research Laboratories,
Middlesex Hospital, W., Feb. 17th.

A CONFUSION OF NAMES.

SIR,—I shall be greatly obliged if you will allow me the opportunity of stating in your columns that I neither have nor ever have had any kind of connexion whatever with the commercial preparation known as "dimol," or any other "antiseptic" of commerce.

It is not possible for me to find the leisure to reply personally to the communications and inquiries which continue to reach me from time to time (owing to an inconvenient accidental similarity between my name and another) regarding the merits or demerits of advertised antiseptics. But it seems to me undesirable to appear, by silence, to admit either the accuracy and propriety or the relevancy to myself of opinions addressed to me by correspondents under a misapprehension.—I am, etc.,

University College, Oxford, Feb. 16th. E. W. AINLEY WALKER.

MORE persons were sent to asylums for the insane in New York State in 1921 than in any previous year, according to the *Journal of the American Medical Association*. At the end of 1921 there were 39,736 patients in the thirteen hospitals for the insane in the State, 1,445 more than there were a year previously, and 6,642 more than the nominal capacity of the hospitals.

Obituary.

DR. BERTRAM HAROLD KINGSFORD died on January 29th, at Sherwood, Woking, from acute leukaemia of under three weeks' duration, at the age of 51. Bertram Kingsford was born in Chelsea and educated at Merchant Taylors School, London, and received his medical training at St. Thomas's Hospital. He became M.R.C.S., L.R.C.P. in 1892, M.B.Lond. in 1895, and M.D.Lond. in 1905. After leaving St. Thomas's he held various resident posts in London and other hospitals, having been house-physician and house-surgeon at the West London Hospital. For two seasons he was surgeon on the Nile steamers. He went to Woking twenty-five years ago. In the course of a busy professional life he was always ready to give the benefit of his medical knowledge for the furtherance of any good work. He had been actively engaged with the Woking Division of the British Red Cross Society, instructing many in first aid and nursing for many years. He was one of the honorary medical officers of the Victoria Cottage Hospital. For some years he had held the appointment of police surgeon to the Woking Petty Sessional Division, public vaccinator of the Woking District under the Guildford Union, and certifying factory surgeon to the district. Dr. Kingsford was a prominent Freemason, being a member and past-master of the Weyside Lodge and a member of the Chesselden Lodge; he was also an old member of the British Medical Association. A colleague writes: Kingsford built up a large practice in Woking, by reason of his untiring efforts, great sympathy and kindness; knowing the end that awaited him, his fortitude, bravery and unselfishness were an example to all. He will be missed sadly by his devoted patients, friends and colleagues. The memorial service, which was most impressive, was attended by hundreds, representative of various interests, to pay a last tribute to the memory of their friend. His remains were cremated and buried at Brookwood Cemetery, beside the ashes of his wife, who died three years ago. Kingsford leaves one daughter to mourn his loss.

WE regret to announce the death, on February 13th, of Mr. CHARLES WRAY, of London and Croydon. He received his medical education at the London Hospital, and took the diploma of M.R.C.S. in 1881, proceeding to the F.R.C.S. in 1886. He specialized in ophthalmology, and was ophthalmic surgeon to the Croydon General Hospital and to the infirmary and council schools at Croydon. He was a member of the Ophthalmological Society and of the British Medical Association. Dr. E. H. Willock, late honorary secretary, Croydon Division, writes: By the death of Charles Wray the British Medical Association has lost a staunch supporter. He was a most active member of the Croydon Division and Surrey Branch, and no clinical meeting was ever complete without an exhibition of interesting cases by him. As an ophthalmologist he was frequently in advance of the times. He was a skilful and careful operator. Of vast experience, his opinion was much sought after and valued for the soundness of its judgement. Wray was a great and original thinker on many subjects. He was generous, almost to a fault. His left hand never knew what his right hand did, and everything was bestowed without publicity or ostentation. Many of his professional brethren have lost a good friend in Charles Wray.

DR. AUGUSTINE MARSHALL of Lowestoft died on February 2nd. Born in Leeds in 1866, he was educated at St. Thomas's and the London Hospitals. He took the diploma of M.R.C.S., L.R.C.P., and L.S.A. in 1894, the M.D.Brux. in the same year, and the D.P.H. in 1899. For some twenty years he had been medical officer of health for the borough and port of Lowestoft, and was also school medical officer. He was always mindful of the welfare of the town as a health resort and brought about many hygienic improvements. Dr. Marshall had not been in good health lately, but continued to attend to his official duties and to the large number of cases recently at the sanatorium, where he was taken ill suddenly. He was formerly honorary assistant surgeon to the Lowestoft Hospital, held many public appointments, and was a member of the North Suffolk Division of the British Medical Association. A keen yachtsman, a hard-working and painstaking official, in private practice considerate and comforting, his loss will be greatly felt in Lowestoft.

THE death is announced of DR. GEORGE SAMUEL WILD of Freshfield and Bootle. He was educated at Liverpool, where he became Derby scholar in clinical medicine and surgery in 1884, in which year he took the diplomas of M.R.C.S.Eng. and L.R.C.P.Edin. In 1892 he took the D.P.H.R.C.P.S.I., and graduated M.D.Durh. in 1900. He was consulting physician to the Bootle Borough Hospital, and showed great interest in public affairs. He served as a town councillor for a long term, and was appointed Mayor of Bootle in 1901. He was created an alderman in 1903, but retired in 1908. In November, 1903, he was appointed a Justice of the Peace, and continued to act on the rota ever since. He was a member of the Southport Division of the British Medical Association. Dr. Wild is survived by his widow and a daughter.

DR. THOMAS FRANKLIN PEDLEY died suddenly of heart failure at Bridge House, Rangoon, on January 13th, aged 67. He was the eldest son of the late George Pedley of The Haven, Surrey, and was educated at Guy's Hospital, taking the diplomas of M.R.C.S. and L.S.A. in 1876, and the M.D. of Brussels in 1879. Shortly after he went out to Burma, and had practised in Rangoon for over forty years, holding for many years the post of health officer of the Port of Rangoon, and latterly that of honorary medical officer of the Dufferin Maternity Hospital. He joined the Rangoon Port Defence Volunteers as medical officer in 1880, rose to the rank of surgeon lieutenant-colonel, and received the Volunteer Officers Decoration in April, 1899. He also held the first class gold medal of the Kaisar-i-Hind Order.

DR. JOHN GORDON LESLIE, late temporary Captain R.A.M.C., died at Guildford on January 23rd, aged 57, of septicaemia, caused by a scratch from a needle while performing a *post-mortem* examination. He was educated at Edinburgh, where he graduated M.B. and C.M. in 1893, and before the war was in practice at Newent, Gloucestershire. He joined the R.A.M.C. as a temporary lieutenant on August 1st, 1917, became captain after a year's service, and during the war served in Egypt. He was on board the *Braemar Castle* when she was torpedoed in the Mediterranean.

LIEUT.-COLONEL GEORGE HERBERT LE MOTTÉE, R.A.M.C. (ret.), died in Guernsey on January 18th, in his seventy-second year. He was educated at Elizabeth College, Guernsey, and Marlborough, and at King's College Hospital; he took the diplomas of M.R.C.S. and L.S.A. in 1872, and became M.D. of St. Andrews in 1884. He entered the Army Medical Service in 1875, passing into it at the head of the examination list. His military service was spent chiefly on foreign stations—South Africa and India. His last appointment was in India, as head of the Military Hospital in Quetta, an appointment he held for four years. He returned home on sick leave in 1901, and shortly afterwards retired. In 1902 he returned to his native island, and in the same year was elected a Jurat of the Royal Court. During almost twenty years of public service he held the office of Supervisor and Treasurer of the States for two years, and was also President of the St. Peter Port Harbour Committee and of the Board of Health. In the latter capacity he was instrumental in effecting many improvements and innovations, often in the face of great difficulties. He had a very large circle of friends, and his old-fashioned courtesy possessed a peculiar charm of its own. Colonel Le Mottée married in 1889, and his widow and two daughters survive him.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

AT a congregation held on February 17th the following were among the degrees conferred:

M.B. AND B.CH.—E. L. Dobson, L. P. Costobadie, K. J. Yeo.
M.B.—J. M. Lawrie.

UNIVERSITY OF BRISTOL.

THE following candidates have been approved at the examinations indicated:

FINAL M.B., CH.B.—*P. Phillips, †M. Critchley, W. K. A. Richards. *Part II (Completing Examination):* Phyllis Beames, Madge E. Golding, W. A. Jackman, Winifred G. Nott, Victoria S. Tryon. *Part I (including Forensic Medicine and Toxicology):* B. A. Crook, J. M. Evans, Constance L. Griffiths, F. J. Hector, Marguerite G. Hughes, Frances M. Jones, A. J. Keevill, F. C. K. Kenderdine, Doris M. Pullen, J. A. L. Roberts, H. L. Shepherd. *Part I only:* F. H. Bodman, Carrie H. Osmond, H. J. H. Spreadbury.

* With first class honours. † With second class honours.

CH.M.—(*Gynaecology*): R. S. S. Statham. (*Laryngology*): E. Watson-Williams.

D.P.H. (*Part I only*).—B. A. Astley-Weston.

THE WELSH NATIONAL SCHOOL OF MEDICINE.

THE TUBERCULOUS DISEASES DIPLOMA, UNIVERSITY OF WALES (T.D.D. WALES).

Regulations: Curriculum and Certificates.

CANDIDATES for the Tuberculous Diseases Diploma (T.D.D.) must possess a medical qualification registrable for practice in Great Britain and Ireland, be not less than 25 years of age, and *either*,

Category A, have held, for a period of not less than five years, whole-time appointments for work on tuberculosis, and presented the following certificates: (*a*) A certificate of general suitability for work in connexion with tuberculosis, signed by a tuberculosis physician, medical superintendent, medical officer of health or other medical man under whom or with whom the candidate has worked for at least one year. (*b*) Certificates in support of the fact that the candidate has worked for five years in whole-time tuberculosis appointments, signed by the representatives of the authorities for whom the work was performed, or by the administrative medical officer concerned;

or, *Category B*, have held a registrable qualification to practise for at least one year, and presented the following certificates: (the courses may be taken concurrently) (*a*) A certificate of satisfactory pursuance of a course of consecutive post-graduate study of the clinical and epidemiological aspects of tuberculosis of six months' duration at a recognized university, medical school, or hospital where such a course is given. (*b*) A certificate of satisfactory pursuance of a course of consecutive post-graduate practical study of the pathology and bacteriology of tuberculosis of three months' duration at a tuberculosis laboratory or a recognized general laboratory where such a course is given. (*c*) A certificate of three months' satisfactory attendance at a tuberculosis institute or dispensary. (*d*) A certificate of general suitability for work in connexion with tuberculosis, signed by a professor of tuberculosis, or the Dean of the Medical Faculty, or the registrar of the hospital where the course of six months' duration covered by certificate (*a*) has been satisfactorily pursued.

Examination.

The diploma will be granted to such candidates as pass an examination divided into two parts, as follows:

Part 1.—(*a*) A written examination on the clinical and epidemiological problems of tuberculosis. (*b*) Oral and practical work, including the examination of patients, the recording of the physical signs found to be present, the recognition of pathological specimens, and a *viva-voce* examination.

Part 2.—A written *and practical* examination on the pathology and bacteriology of tuberculosis. But in the case of candidates of Category A, Part 2 may be remitted on the submission and acceptance either of a thesis setting forth the results of clinical or epidemiological investigation carried out by the candidate in connexion with tuberculosis, or of reprints or copies of not less than two original articles on tuberculosis published by the candidate in the medical press.

An examination in each part will be held annually on the first Tuesday and Wednesday of July in each year. Notice of candidature, together with the entrance fee of £10 10s. and the necessary certificates, must be forwarded to the Registrar of the University, University Registry, Cathays Park, Cardiff, not later than June 18th.

Medical News.

IT is understood that Sir Alfred Mond has made substantial progress in negotiations with various authorities and interests with the object of getting agreement for a Pure Milk Bill. His hope is to introduce and pass a measure this session, but that may depend on the propinquity or otherwise of a general election. The probability is that the lines for legislation would be the establishment of a standard for milk, and the grant of greater powers to local authorities for inspection of dairies. An important point not yet decided is whether the exercise of such powers should be compulsory or optional. The establishment of a standard would not necessarily debar the sale of lower grade milk.

AT a meeting at Essex Hall, on February 21st, the University of London Labour Party adopted as its parliamentary candidate Dr. W. H. R. Rivers, F.R.S., Praelector in Natural Science, St. John's College, Cambridge. Mr. Sidney Webb, the candidate at the last election, who is standing for another constituency, proposed the adoption of Dr. Rivers, and among those who spoke in his support was Sir Arthur Newsholme, who described Dr. Rivers as the most advanced and original anthropologist in this country, whom the University would honour itself by electing. The proposal was unanimously approved; and Dr. Rivers, in accepting the invitation to stand, mentioned that he was himself a London graduate, and that his whole academic career until he was 30 years of age had been passed in London University. He expressed his whole-hearted adherence to the Labour programme, which as a scientist newly turned to politics he found very satisfying on account of its clear-cut principles. He criticized the Geddes proposals so far as they related to education. The meeting was small, but several persons of distinction sent messages. Sir Sydney Russell-Wells is the Conservative candidate.

THE special six weeks' course in surgery, arranged by the Fellowship of Medicine and Post-Graduate Medical Association, began on Monday last, and will be continued during the next five weeks. There is a morning and afternoon session on each day, and the appointments have been so arranged as to involve a minimum of travelling. Full particulars can be obtained from the Secretary of the Fellowship of Medicine, 1, Wimpole Street, W.1.

AT a meeting of the medical staffs of voluntary hospitals in Birmingham, held on February 13th, Mr. Albert Lucas and Mr. William Billington were elected representatives of the Birmingham Voluntary Hospitals Committee appointed to assist the Commission charged with the distribution of the Government grant of £500,000 for the benefit of voluntary hospitals, and for the co-ordination of services and appeals.

MR. JOSEPH BARCROFT, F.R.S., Fellow of King's College, Cambridge, delivered the sixth Harvey Society Lecture at the New York Academy of Medicine, on February 11th, on "The *raison d'être* of the red corpuscle."

THE programme for the ensuing session of the Child Study Society, London, includes a lecture by Mr. Macleod Yearsley, F.R.C.S., entitled "A plea for the deaf child," on April 6th, and a paper on April 27th on "The natural defences of the upper air passages," by Dr. Octavia Lewin. The meetings are held on Thursdays, at 6 p.m., at the Royal Sanitary Institute, Buckingham Palace Road, S.W.1; particulars can be obtained from the secretary, Miss H. M. Richards, at that address.

A GRANT of 75,000 dollars has been made to the Health Commissioner of New York to employ additional medical practitioners, nurses, and inspectors in connexion with an unusual number of scarlet fever cases in the city, and to take precautions against the possible recurrence of an epidemic of infantile paralysis, which usually runs in cycles of five or six years. In 1920 there were 6,885 cases of scarlet fever in New York, in 1921 there were 13,880. Part of the grant will be spent on the laboratory study of scarlet fever and infantile paralysis.

PROFESSOR CHAUFFARD has been elected vice-president of the Académie de Médecine for 1922.

THE lecture committee of the Boston (U.S.A.) Society of Natural History has reorganized itself into the Committee for the Protection of Animal Experimentation, and an appeal for funds signed by leading men of science in America has brought, it is stated, an encouraging response. The committee was formed to combat the activities of the various anti-vivisection societies in America, which were beginning to menace the health of the community; in California last year, for instance, a measure that threatened all animal experimentation was defeated with some difficulty.

DR. HENRI CLAUDE has recently been appointed professor of mental diseases in the Paris Faculty of Medicine in succession to the late Dr. Ernest Dupré.

THE University of Toronto has instituted a post-graduate course for a diploma in radiology. Candidates for the diploma are required to be graduates in medicine of a university recognized by the Senate, and must also have spent at least one year after graduation in a resident appointment at a recognized hospital. The curriculum for the diploma extends over eight months, and includes radiographic technique and interpretation, and gastro-intestinal examination.

A COURSE of five lectures dealing with recent researches on the accessory food factors will be given by Dr. S. S. Zilva at the Battersea Polytechnic, Battersea Park Road, S.W.11, on Thursdays, from 5.45 to 6.45 p.m., commencing on March 2nd. The fee for the course is 10s.

DR. G. O. C. MACKNESS of Broughty Ferry has, on the occasion of his retirement from practice, been presented by his friends and patients with a cheque for £700 as a mark of their esteem for his services to the community.

AMONGST the volumes announced for early publication by Messrs. J. and A. Churchill is *The Principles of Radiology*, by Dr. J. A. Crowther, University Lecturer at Cambridge in Physics Applied to Medical Radiology; it will contain fifty-five illustrations, and deals with the physical side of the subject. Messrs. Heinemann will shortly publish a book on anaesthetics in practice and theory, by Dr. Joseph Blomfield, O.B.E.

DURING the week ending February 18th the number of deaths from influenza showed a further decrease. In the 105 great towns the figures were 670 against 759 in the previous week. In London there were 17 fewer deaths from the disease than in the week ending February 11th (92 against 109). There was an increase in Liverpool (54 against 43). In Cardiff, Edinburgh, and Glasgow the number of deaths from influenza were 19, 24, and 28 respectively, against 27 in the first-named town and 48 in the latter two in the previous week. While in the aggregate of the 105 great towns there was an increase of 408 deaths from all causes, the deaths from influenza showed a decline of 89.

THE British Committee for Aiding Men of Letters and Science in Russia has received a letter from Professor Oldenburgh, Permanent Secretary of the Academy of Sciences, at Petrograd, stating that the books dispatched in ten cases from this country had been received and had been placed in a special reading room at the House of Savants. He expresses the deep gratitude of scientific workers in Petrograd for this stimulating intellectual aid. The British Committee considers that its work is now at an end. It received altogether £448. Out of the surplus it has spent £50 on books for the University of Latvia, and the small balance will be handed over to the Universities Committee of the Imperial War Relief Fund.

THE use of solutions of hypochlorites for the disinfection of water and to assist in the disinfection of clothes in the laundry is well known. Messrs. Vincent Roberts and Co., engineers of Leeds, have a machine which produces sodium hypochlorite by electrolysis and can be used wherever an electric current is available. They have issued a leaflet containing some reports from factories and institutions where their electrolyser has been used with success. In a note appended by the firm to these reports there is an error. "Disinfectants," it is stated, "only disguise unpleasant smells." The distinction is between disinfectants, antiseptics, and deodorizers. An effective disinfectant used in proper proportions destroys the organisms with which it is brought into contact, and this is what the hypochlorites do. Antiseptics inhibit bacterial growth and prevent decomposition. Deodorants merely oxidize or absorb malodorous products. Reference may be made on this point to *Hygiene and Public Health*, by Parkes and Kenwood (sixth edition).

IT is reported that the number of foreign medical students in France increased from 1,192 in 1920 to 1,555 in 1921.

THE idea of making all sizes of medicine bottles with the same size of neck (to fit an ordinary 6 oz. bottle cork) should prove exceedingly useful to the dispensing practitioner; such bottles are being made by the Medical Requisites Company, of 54, Deansgate, Manchester.

Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.*

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2630, Gerrard.

2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.

3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2630, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin;* telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

TREATMENT OF TAENIASIS.

A CORRESPONDENT writes that a patient of his has been afflicted with a tapeworm (*Taenia saginata*) for the past six years, which has defied all attempts to remove it. Filix mas, pomegranate, and pelletierine have all been tried; only the first gives any satisfactory result, but the head has never been found. Our correspondent invites suggestions as to further treatment.

Some years ago Sir James Kingston Fowler described in our columns (April 14th, 1906, p. 841) a method of treatment which he had employed for some time with success. (1) The patient is kept in bed. (2) For two or three, or in some cases four, days the diet consists of: Beef-tea, 2 pints; Mason's essence, one tin; two rusks; and port wine 4 ounces. During the same period the patient takes tabloids of cascara sagrada (gr. ij) three times daily. (3) On the fourth day (usually) at 5 a.m. haustus sennae co. ℥j; at 9 a.m. a capsule containing ♏xv of the extract of male fern; at 9.15 ditto; at 9.30 ditto; at 9.45 ditto; at 11 a.m. haustus sennae co. ℥j. If by 1 p.m. the worm has not been passed and the head found a second course of treatment with male fern at intervals of fifteen minutes is begun; to be followed in an hour by a purgative draught. If the head is not found a third course of treatment is prescribed. It is rarely advisable to continue the treatment beyond this without an interval of a day, as the patient may be somewhat exhausted.

INCOME TAX.

"K. R." asks how he should show the ownership of his residence by his wife on his income-tax form.

*** In making a declaration of *total* income the assessed value should be shown as income of the wife, and any payments from which tax is deductible should be detailed in the space provided on such declarations.

LETTERS, NOTES, ETC.

DR. EDGAR CYRIAX asks us to correct an error made by him in his letter published in the JOURNAL of February 11th, p. 247: Line 11-12 should read "which had been diagnosed as *influenza*," instead of "which had been diagnosed as scarlet fever."

THE TREATMENT OF PNEUMONIA WITH CREASOTE.

"M.D." writes: The treatment of pneumonia with a mixture containing 5 minims of creasote and 10 grains of potassium iodide in each dose, to be given every four hours, the dose of creasote to be increased if necessary, has been advocated on several occasions in the BRITISH MEDICAL JOURNAL. As the use of creasote may have fallen into disrepute, I would suggest that the large dose of potassium iodide—a drachm daily—may be a defect in the mixture, for in such large doses it probably acts only as a depressant. Given in doses of 2 to 3 grains it has a well marked expectorant action, and the addition of a stimulating expectorant such as aromatic spirit of ammonia, is advantageous. The prescription will then run as follows: Creasote ♏v; pot. iod. gr. ij; sp. ammon. aromat., sp. rectificat., ext. glycyrrhizae liquid., āā ʒss; aq. chloroformi ad ʒj; to be given every four hours. Probably not more than two ounces of brandy will be necessary in the twenty-four hours. The potassium iodide should be omitted in cases with profuse expectoration. I believe it is sometimes beneficial to remove the pillows and raise the foot of the bed, if the patient can bear it, by way of draining the bronchi and aiding the expulsion of the sputum.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

DR. RICHARD GILLBARD (Willesden Green) writes: The control of the Royal College of Surgeons by the Fellows has been discussed week after week in the lay press—a Sunday newspaper. I hazard a guess, therefore, it will not be debarred from a medical one. Apart from the suggestive comparison of the M.R.C.S. and F.R.C.S. with the B.A. and M.A. of Oxford and Cambridge Universities, the fact remains the F.R.C.S. men are a mere fraction of the College. It is a question of democratic control and the Members being masters in their own house—of the House of Lords being over the Commons, the peers above Pym, Pill, and Balfour. If the Members with these basic facts affronting them acquiesce in the *status quo* and government by the Fellows, it is not possible to afford sympathy. They deserve what they "are about to receive."

BIRTH CONTROL AND ABORTION.

DR. MARIE C. STOPES writes: As President of the Society for Constructive Birth Control and Racial Progress, may I register our committee's regret that in your otherwise excellent paragraph on abortion in Austria you have unfortunately headed it "'Birth Control' in Austria"? True, the words are in inverted commas, but we think it most deplorable that abortion should ever be referred to under the misnomer "Birth Control."

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 26, 27, 30, 31, 32, and 33 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 28 and 29.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Six lines and under	0	9	0
Each additional line	0	1	6
Whole single column (three columns to page) ...	7	10	0
Half single column	3	15	0
Half page	10	0	0
Whole page	20	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

Some Observations ON THE INVESTIGATION OF THE TOXAEMIAS OF PREGNANCY.*

BY

PROFESSOR A. LOUISE McILROY, M.D., D.Sc.,

DIRECTOR OF THE OBSTETRICAL AND GYNAECOLOGICAL UNIT, LONDON SCHOOL OF MEDICINE FOR WOMEN.

Of late years much stress has been laid upon the great value and benefit to be derived from the medical supervision of the pregnant woman, not only to herself but to the future welfare of her child. It has been proved by experience that attention to the disorders of pregnancy has brought about a considerable reduction in foetal mortality, and of the complications of labour and the puerperium.

The subject of pre-natal care is very closely bound up with that of infant mortality, as child life begins at the conception of the ovum. The medical profession owes a debt of gratitude to the work of Dr. Ballantyne of Edinburgh, as he gave the first stimulus to the interest in ante-natal hygiene and pathology, and it is due to his enthusiasm, and also to Dr. Amand Routh,[1] that we are now alive to the vast and far-reaching importance of the subject.

Obstetrics having been rescued from the hands of the untrained midwife is now a science which has advanced more rapidly than almost any other branch of medicine.

Now, when every possible surgical method has been exhausted for alleviating childbirth, we turn our attention to the medical aspect of the subject to find that the work of the future lies in the investigation of the physiological and pathological conditions of pregnancy. By the prevention or early relief of many conditions we will soon realize that much of the operative interference advocated hitherto is unnecessary, and that by reducing the number of operations at childbirth much will have been done to diminish the maternal and infant mortality.

For the same reason puerperal sepsis will be found to have a close association with the prevention of abnormal conditions found during pregnancy.

The main work of the future lies in the investigation of the toxaemias of pregnancy. At present we only stand on the threshold of the subject and contemplate as if in a mist the difficulties and complications which confront us. Already the literature is burdened with inexactitudes, published by physiologists and pathologists who not only contradict one another but themselves in their subsequent publications. Such a condition of affairs proves the difficulties of the research. Clinicians look for guidance to the laboratory workers, but much patience will be required before the problems involved are ready for solution. Take, for example, the ammonia coefficient in the urine of pregnancy, which was looked upon as an almost infallible test of the gravity of the condition, and was employed as an indication for the termination of pregnancy. It is now admitted that it is of little value, as it is so readily modified by various factors, such as diet, vomiting, and the administration of alkalis. One discovery of vast importance is that the clinical obstetrician can no longer stand alone in his diagnosis of the complications of pregnancy, but that he must have help from various sources. The main source of help is to be found in (1) public authorities, and (2) expert laboratory workers.

1. *Public Authorities.*

The first named must give facilities for the observation of patients in ante-natal clinics, both outdoor and indoor, either in connexion with maternity hospital centres or associated with them. The Ministry of Health has done much to advance obstetrics, and its department of maternity and child welfare, under the direction of Sir George Newman and Dr. Janet Campbell, has raised the standard of obstetrics throughout the country. Ante-natal and child welfare centres are given grants towards their upkeep, and their work is organized and inspected. The centralization of the work is the first step in the establishment of the fact that obstetrics is a branch of the work of the public health authority.

The maternity allowance enables the working-class mother to be freed from financial anxiety, and to have skilled help and attention when required.

Maternity hospitals not only benefit their patients directly, but provide material and facilities for the training of students and midwives, who are thus made fully aware of the importance of the subject of child welfare from its ante-natal beginnings.

2. *Expert Laboratory Workers.*

Well-equipped laboratories are required for the investigation of ante-natal conditions; such laboratories should be within reach of all maternity hospitals and obstetricians. The great difficulty at present is the problem of finance—a serious question, and one which must be overcome if British research workers are to maintain their place with other countries.

Grants can be obtained from the Medical Research Council and other scientific bodies, such as the Royal Society and British Medical Association, but even these are threatened with the Government economy axe, authorities being unmindful of the fact that true anti-waste conditions are brought about by the provision of healthy children who will not become a subsequent burden upon the State.

The Physiology of Pregnancy.

Before entering upon a discussion of the abnormal conditions found in pregnancy it must be noted that very little is known of the normal physiological processes which take place in connexion with the physiology of reproduction and the newborn; and that a great deal of research must be carried out in these directions before we can dogmatize as to where the normal ends and aberrations begin.

The Medical Research Council is the first organized research centre of its kind in this country, and its results will be of value since it co-ordinates the work of so many investigators. Ideas should be centralized and special lines of research organized, and workers should not remain isolated and scattered in laboratories. Committees composed of obstetricians and laboratory workers should be formed to draw up schemes for investigation, and mutual help should be given in the supply of information and material.

Public health authorities and societies should appoint committees to investigate and report upon subjects requiring further work. This has been done on several occasions recently by the Obstetrical Section of the Royal Society of Medicine with very satisfactory results, and it is a step in the right direction.

Scheme for the Investigation of the Toxaemias of Pregnancy.

At present much research is being done in various teaching centres upon the origin of these toxaemias. An outline of the scheme carried out at the Royal Free Hospital may serve as an example of such work.

In connexion with the obstetrical unit of the hospital, where whole-time specialists are employed, the patients first come under observation in the ante-natal outdoor clinics, which are held four times a week. The majority of the patients are entered for admission to the wards for their confinement when it is due. The cases are examined and the appropriate treatment given, and when the patient eventually enters the obstetrical indoor department her ante-natal case sheet is incorporated with that of the ward. Before dismissal from the ward after confinement each patient is seen by one of the senior obstetricians and her condition noted on her case sheet. She is given a card to attend at least once at the post-natal clinic should any complications arise and when she is not under the supervision of her own medical attendant. The baby is brought to the infant welfare clinic, and there kept under observation if necessary. A trained sister is available for visiting the babies in their homes, and an untrained visitor keeps a register of the patients and their home conditions, and visits them when required. In this way the patients are kept under observation during the ante-natal and post-natal periods. The infant welfare clinic with its physician in charge, and also the V.D. department, work in close co-operation with the obstetrical unit. In this way the various departments are linked up, and the patients have the benefit of responsible specialists. The obstetrical and gynaecological unit is therefore enabled to devote its entire time to its own special branch. Accommodation for the reception of indoor ante-natal patients is limited. Although these cases require observation to a certain extent it should be possible to carry

* The substance of a paper read at a joint meeting of the Nottingham Division of the British Medical Association and the Nottingham Medico-Chirurgical Society, January 18th, 1922.

this out in rest homes where the cost of upkeep is less than in a large general hospital, and where a purer atmosphere and surroundings might be available.

Cases diagnosed as toxaemic at the ante-natal clinic are admitted to the wards for further investigation and treatment. When admitted a routine method of procedure is carried out; the patient is put at absolute rest in bed and given a carefully measured diet. The urine is collected by catheter for six, twelve, twenty-four hours, and with the blood is sent to the Physiological Department of the London School of Medicine for Women, where an analysis is carried out by Dr. Pilman Williams—a Medical Research Council Scholar—and by members of the staff under Professor Winifred Cullis. The Wassermann test is done as a routine in a very large number of cases in the outdoor department. A general scheme of treatment is carried out for those toxaemia cases which will be referred to later, and it is hoped to publish the results of the investigation of the toxaemias at a future date.

Manifestations of the Toxaemias of Pregnancy.

The developing ovum causes physiological changes to take place in the maternal organism, the evidence of which is to be found in the breast, blood serum, and endocrinous organs. These changes are said to be due to enzymes or ferments circulating in the blood and having their origin in the trophoblast and foetal portion of the placenta. Antibodies are generated in the blood at the same time which render these ferments or toxins harmless by neutralizing them. In this way auto-intoxication is prevented and the woman is immunized by her own serum. These chemical substances were investigated by Abderhalden as the result of Veit's work on the syncytial fragments found in the blood stream in pregnancy, and which are said to be destroyed by antibodies. The ferments have not as yet been isolated as far as any chemical test can be applied to their recognition, but the theory of their presence is supported by a considerable amount of circumstantial evidence. Abderhalden found by his dialysing process that from the sixth week of pregnancy until after delivery these substances could be found in the blood, but his work has been questioned by subsequent observers who obtained similar results in cases of myoma and cancer. The presence in the blood stream of syncytial fragments with villi is borne out by the *post-mortem* examination of patients dying from eclampsia where emboli composed of these structures have been found in the lungs, and also in cases of chorion-epithelioma, where there is a widespread distribution of the malignant growth fragments from the ovum. As far as our present knowledge goes the main source of the toxins is the foetal placenta, the foetus itself contributing little by its waste products to the supply. Abderhalden did not find these substances in the foetal circulation. Under normal physiological conditions the toxins when neutralized are eliminated by the various excretory channels, more especially the kidneys. If the normal process of excretion is interfered with, or if pregnancy has occurred under conditions where elimination has been defective, as, for example, in nephritis, a condition of auto-intoxication or toxaemia may result; its severity depends upon the strength and degree of concentration of the toxins and on the failure of the maternal organism to excrete them. Accumulation of toxins occurs should there be any interference with the metabolic processes of the liver, as this organ, together with the endocrinous organs, detoxicates the ferments to a certain extent and renders them innocuous when passing through the excretory channels. The liver is therefore a most important organ in the investigation of those toxaemias which are intimately concerned with its function. The kidney is secondary and acts as an excretory organ, its degree of activity depending upon its previously healthy condition and upon the virulence of the toxins which pass through its tissues. As the toxins are retained in the blood, the chemical analysis of the blood is as important as that of the urine. It is said that toxins having their origin in the syncytium are more active in the early months of pregnancy, but this is open to question, as it is a matter of clinical experience that severe toxaemic conditions, such as are found in eclampsia and accidental haemorrhage, occur in the late months of pregnancy. As investigators advance in their researches wider fields seem to open out, and conditions such as haemorrhage from the pregnant uterus, formerly looked upon as due to local or traumatic causes, are now classified under toxaemias. The majority of cases of interruptions of pregnancy—that is, abortion, premature births, habitual death of the foetus, etc.—are now looked upon as toxaemic in origin.

Gordon Ley[2] found that a large number of cases of accidental haemorrhage showed toxic symptoms. The toxaemic origin of eclampsia is now accepted, and also of persistent vomiting, chorea, ptyalism, acute yellow atrophy, and insanity.

It may be possible that in the future we will find conclusive evidence that fibroids are due to a toxin in the blood. The investigation of several cases of this condition has led me to adopt this view of the origin of these overgrowths of the uterine wall, associated as they frequently are with severe haemorrhage which is not mechanical, and also with toxaemic complications. There is histological evidence to prove that there is some chemical irritation of the walls of the blood vessels in the substance of the growth, more especially in cases of multiple small tumours. It is quite possible that such conditions as hydatidiform mole also may owe their origin to some toxic condition of the ovum.

It is difficult to distinguish a toxaemia of pregnancy in a previously healthy individual from that of a pregnancy superadded to an already existing disease. This question affects the prognosis and also the advisability of incurring a future pregnancy. The history of previous constipation, intestinal stasis, hepatic or renal disorders is a guide. Examination of the teeth for evidence of caries or pyorrhoea, and *x*-ray investigation of the stomach and bowel are of value, as also the investigation of the bacteria of the bowel contents and the urine. As a rule the toxaemias of pregnancy disappear after labour. Little is known of the changes which take place in the endocrinous organs in pregnancy or of their failure in function. Epidermal changes such as pigment deposit, dry scaly skin, brittleness or loss of the nails, with thinning of the hair, point to thyroid and suprarenal insufficiency.

The Urine in Pregnancy.

The routine examination of the urine in pregnancy is essential in every case; when albumin is found to be present it should be looked upon as a danger signal, although it must be remembered that some of the most serious cases of eclampsia and coma have shown no evidence of albumin previous to the onset of the acute condition.

Albuminuria may be a transient symptom, it is not always evidence of toxaemia. It is most frequently found in the latter half of pregnancy and in primiparae. It may be associated with death of the foetus and premature labour. If the amount of albumin is considerable the possibility of the occurrence of eclampsia must be borne in mind. When associated with oedema of the abdomen and lower extremities it points to toxaemia. If there is oedema of the face and arms the condition is more likely to be one of chronic nephritis (Eden). In some cases the toxic symptoms disappear after death of the foetus in the uterus; the toxaemia resulting from infection of the dead ovum must not be confused with the toxaemias due to placental origin. In some cases of toxaemia oedema of the foetus has been found and pathological changes in the placenta.

What is the value of the analysis of the amount of the various constituents of the urine? Mackenzie Wallis[3] lays much stress upon the diastase content of the urine and blood, and advocates that the test should be made, together with the urea concentration test by Maclean's method, the ratio between the amount of globulin and albumin, and the urea content of the blood. He also investigates the blood for sugar, and when possible the cerebro-spinal fluid also. He holds the view that globulin is a direct indication of the amount of toxin eliminated, and is therefore more favourable than albumin excretion. In the urea concentration test 15 grams of urea is given to a fasting patient, and the urine examined in two or three successive hours. If the amount of urea is found to be 1 per cent. or below, damage to renal tissue is taking place; the normal amount should be 2 per cent. or more.

Mackenzie Wallis affirms that diastase is a constant factor in the urine of the non-pregnant, except in cases of disease of the pancreas, but that it is affected by toxins in pregnancy, the urine showing a high diastase content in eclampsia and other toxic conditions. This is an important danger signal if the rise in content is rapid; it sometimes persists after other symptoms have disappeared. Congestion of the capillary tufts of the glomeruli causes a rapid rise in the diastase content of the urine. The content is usually low in chronic nephritis—below ten units—and is therefore a means of distinguishing between the two conditions.

The nitrogen changes are of importance. For the meantime

the ammonia coefficient has to be left in abeyance. Urea is diminished in eclampsia and in persistent vomiting. Acetone is only of importance when associated with diacetic and β-oxybutyric acids; if these are in excess in the blood there is a condition of acidosis present. Williamson[4] has found acidosis constantly present in severe toxaemia with albumin, but not in chronic nephritis unless toxaemia is added.

The excess of acid in the blood is neutralized partly by the ammonia or alkaline blood salts. The liver being concerned with carbohydrate metabolism is an important factor and when destruction of its tissue occurs the condition is grave. Lipoid substances are found in the blood in hepatic derangements.

The Blood.

It is essential to examine the blood in order to determine the amount of retention of the various products of disordered metabolism. The concentrated toxins of pregnancy seem to have an effect upon the tissues similar to those of some forms of snake poison. According to Mackenzie Wallis the blood changes in toxaemias are not marked. Blood sugar shows little change, and this he takes as evidence of the slight disturbance of the endocrinous organs. Blood diastase is unchanged in eclampsia but increased in nephritis. A high urea content indicates progressive destruction of kidney tissue, and in such cases induction of labour should be considered. If the urea content rises to 0.3 per cent. there is grave danger to the patient.

The Wassermann reaction has been investigated in the obstetrical department of the Royal Free Hospital in a very large number of cases by Dr. Pilman Williams, but it has been found that the results are somewhat unreliable as compared with non-pregnant cases. Positive results alternate with negative results at different periods of pregnancy, and do not correspond with the clinical evidence of the presence or absence of syphilis. It is quite possible that there is a reaction in pregnancy which may influence the Wassermann test.

In the diagnosis of toxaemia from nephritis there is much confusion and difficulty. The factors which have been put forward as a means of differentiation are: The diastase urine content is high in toxaemia, low in nephritis, while in the latter the blood content is increased. Serum globulin is more abundant in toxaemia, and serum albumin in nephritis. Acidosis is present in toxaemia, and rare in nephritis. Albuminuric retinitis is more frequent in nephritis. Primiparae suffer more from toxaemia, and nephritis is more frequent in multiparae.

The rise in blood pressure is a valuable danger signal, and in threatened eclampsia is often the forerunner of convulsions. If it rises above 150 mm. there is cause for anxiety. A high blood pressure persisting in spite of treatment is sometimes an indication for the termination of the pregnancy. It is associated with the function of the pituitary and suprarenal glands, and with the presence of amines.

Changes in the Tissues.

Bacteriological investigation of the toxaemias has contributed little to their elucidation. The histological examination of organs obtained *post mortem* and the examination of the placenta show destruction of renal and hepatic tissue with degenerative changes in the uterus. Gordon Ley, who investigated fifty cases of accidental haemorrhage, in forty-two of which albumin was present, concluded that the condition was due to toxaemia; he found marked degenerative changes in the uterine wall, with areas of necrosis, haemorrhage, and oedema of the connective tissue, and diminished elasticity, showing a tendency to rupture.

It is probable that cases of rupture of the uterus will be found to have their origin in toxaemia; this theory explains the ease with which rupture takes place after slight manipulation of the uterus, and the resistance of a healthy organ to strain in cases such as impacted shoulder presentations. The cause of atonic *post-partum* haemorrhage may be found on examination of the blood and urine. Changes in the placenta have been observed by numerous workers. Persistent vomiting and eclampsia may be taken as examples of the early and late toxaemias, the clinical histories of such cases and the *post-mortem* findings point to a variety of toxins as a cause. In time it may be possible to group the toxaemias of pregnancy into various classes corresponding to the duration of pregnancy. It is also likely that it will be possible to draw a distinction between those cases in which the liver is involved, and others in which there is deficient elimination by the kidneys. The investigation of the sugars in the urine and blood of pregnant women opens up a wide field for research upon carbohydrate metabolism and toxaemias.

General Principles of Treatment.

The aim of treatment is to neutralize and dilute the toxins in the serum, and to facilitate their elimination by the normal channels of excretion. Rest in bed is essential in the severe cases, as it prevents tissue waste and favours diaphoresis and kidney excretion. A protein-free diet is essential in most cases, and Tweedy and others have found starvation of benefit in severe cases of persistent vomiting and eclampsia. It must be remembered that this method of treatment cannot be unduly prolonged as there is a possibility that acidosis may occur. It is sometimes possible to follow up the treatment by a carbohydrate and protein diet without much interval.

I cannot lay too much stress upon the importance of attention to the teeth. Pyorrhoea should be treated by antiseptic mouth-washes and vaccines, and carious teeth attended to or removed. Experience has shown that the treatment of the teeth gives most satisfactory results in the prevention of the severer forms of toxaemia.

Fluids, alkaline if possible, should be given in all cases of toxaemia. If the condition is severe, all stimuli such as noise and light should be excluded. Purgation must be used with caution so as not to cause irritation of the bowel wall; the days of drastic treatment by croton oil happily are over. Paraffin for more prolonged treatment is of great benefit, as it lubricates the bowel contents, prevents the absorption of toxins, and carries down the bacteria in its substance. The colon, which is the main channel for absorption, should be emptied at frequent intervals by enemata given by means of a long rubber tube at low pressure. Intestinal lavage with saline and sodium bicarbonate (ʒ ij to the pint) is essential in every case, and the slow method of introduction gives the best results, care having been taken to remove the faecal contents from the lower bowel. It must be remembered that such treatment may in rare cases cause uterine contractions and expulsion of the ovum. The continuous drop method of introducing saline and glucose (2 oz. to the pint) into the rectum is of benefit. In severe cases lavage of the stomach, leaving in a full dose of magnesium sulphate, gives good results. Stimulation of the skin is brought about by baths, radiant heat, and packs. Drugs are of little value. For mild cases intestinal disinfectants, such as thymol, creosote, salol, and small doses of calomel, are of benefit. Potassium chlorate gives good results in cases of repeated abortion (Jardine).

Veratrone for the reduction of blood pressure is advocated, but only one dose should be given. Pilocarpine has been abandoned by most obstetricians as it causes oedema of the lungs. The administration of morphine in eclampsia is still a matter of controversy, although the Dublin school by long experience testify to its good results. It is of great use in diminishing fatigue in cases of prolonged vomiting, and its sedative action undoubtedly outweighs its supposed harmful effects. In some cases of toxaemia with high blood pressure I have had good results from the administration of Dover's powder in 5-grain doses. I have had no experience of decapsulation of the kidneys, nor do I consider this treatment advisable in view of more modern methods. Venesection is advocated in eclampsia, and is of great benefit in cases of full pulse and raised blood pressure. It is contraindicated in cases of anaemia and exhaustion, such as is produced by persistent vomiting. Alkalinized saline transfusion is employed as a means of neutralizing and diluting the toxins in the blood stream. Mild cases of toxaemia respond readily to treatment, but in the experience of most obstetricians in some severe cases, especially if of sudden onset, all treatment has seemed useless.

The Interruption of Pregnancy.

The decision as to the advisability of induction of abortion or premature labour is difficult.

Induction is a confession of failure in treatment, and although the toxins are generated in the placenta and therefore removed in most cases by expulsion of the ovum or placenta, it is not always the case that cure results, and it must also be borne in mind that surgical interference carries with it a degree of risk and possibly the termination of the life of the child when pregnancy is advanced. The process of labour throws an additional amount of toxins into the blood stream. In devitalized conditions the risk of sepsis after any

manipulative interference is not to be ignored. In conditions such as threatened eclampsia with rising blood pressure, persistence of albumin in the urine after treatment, or in those in which the urine is diminished or suppressed, induction is indicated. In persistent vomiting, where there is evidence of exhaustion, with signs of liver and kidney destruction of tissue, as in jaundice and vomiting of blood, the termination of the pregnancy is justifiable. In acute conditions labour sometimes occurs spontaneously at the time when the medical attendant is considering its advisability. The administration of an anaesthetic calls for serious consideration, owing to the action of chloroform upon metabolism and the oedema of the lungs sometimes found after ether anaesthesia. If retinal changes occur or opacity of the lens, as in glycosuria, induction should be considered.

The method employed should be determined in each individual case. In early pregnancy laminaria tents may be employed. Premature labour may be induced by bougies or by the introduction of the soft rubber stomach tube into the uterus. Abdominal and vaginal Caesarean section may be selected for some cases, but these operations are associated with a degree of shock, anaesthesia is deep, and the results in severe cases are not always satisfactory.

Conclusion.

In conclusion, we must bear in mind that the main number of severe cases are preventable if treatment can be given in their early stages. Every pregnant woman should be kept under medical observation, and every case of albuminuria should be investigated. Every premature birth should be notified, no matter at what period of pregnancy, and facilities should be given for examination of the ovum. The public health authorities should take up the question of toxaemia of pregnancy just as they have taken up the question of syphilis. Ante-natal beds should be provided in all maternity hospitals. Financial facilities should be given to research workers, especially in the domain of physiology, for the investigation of the normal function of human pregnancy.

Inaugural Lecture

ON

TUBERCULOSIS IN WALES.

BY

PROFESSOR S. LYLE CUMMINS, C.B., C.M.G., M.D., LL.D.,

DELIVERED ON ASSUMING

THE DAVID DAVIES PROFESSORSHIP OF TUBERCULOSIS IN THE WELSH NATIONAL SCHOOL OF MEDICINE, CARDIFF.

THERE are one or two fundamental conceptions referring to the general question of disease that must be comprehended and borne in mind before it is possible to approach the special problems of tuberculosis with any hope of understanding them. Two essential elements must be taken into account whenever the human body is invaded by bacterial disease. The first is the invasive power of the germ—that is to say, the degree to which it can establish itself and multiply in the human host. The other is the power of the human host to resist or react against invasion. Bearing these two essential factors in mind, we reach another fundamental consideration, which is that the number of germs that can enter the body at the time of invasion is limited, and very much inferior to the number that must finally exist in the infected body when the disease is fully established. From this it follows that in resisting invasion, the body has usually to deal with a number of germs that is relatively small in comparison with the number that it has to deal with when it attempts to cure itself from the established disease. These conceptions are of the greatest importance because they imply that during the progress of an illness the body must gradually gain a much greater power of dealing with the germs than it possessed at the beginning. Were it not so recovery would be impossible.

In an acute disease such as typhoid fever the sequence of events is briefly as follows. A relatively small number of typhoid bacilli succeed in establishing themselves in the body. The body, having had no previous experience of typhoid bacilli, has not developed any considerable power of resisting their growth, and consequently they increase and multiply with great rapidity until, after a given time, usually about ten days, they have reached such numbers that they are able to excite the first well-marked symptoms of the disease. By this time they have gained an ascendancy over the body, and in fatal cases this ascendancy is maintained until the patient dies. But what happens in favourable cases? The ascendancy momentarily gained by the bacilli is soon lost owing to the successful mobilization of the resisting powers of the body. The symptoms take a turn for the better, the patient becomes less toxic, and in an astonishingly short space of time is convalescent and well on his way to recovery. Remember that at first his body was so lacking in resistance that even a relatively small number of germs could successfully invade it. At the height of his disease his blood and internal organs were teeming with myriads of bacilli, and yet, although unable to resist the small initial invasion, this same patient in the course of three or four weeks has reached a position in which his resistance is able to clear his blood and tissues of myriads of invaders that had multiplied unchecked during the first week or so of the disease. This astonishing power of the human body to defend itself against its bacterial foes is so well established that it can be exploited in prevention, and the use of antityphoid vaccine proves to us that even a dose of killed typhoid bacilli is sufficient to evoke an effective mobilization of the resistant powers of the body, with the result that subsequent invasion by the living germ becomes almost impossible while the immunity endures.

This story of invasion of the unresisting body—virgin soil to the germ—with the subsequent acquisition of sufficient resistance to lead to cure, tends to be repeated throughout the whole list of diseases that are caused by bacteria. But while the fundamental factors are the same, there are great variations in their manifestations in different instances. It is unnecessary to remind you how very different the course of tuberculosis usually is to that of typhoid fever. So different are these two diseases that many find it difficult to believe that, apart from the differences in the causative agents, the same kind of pathogenic machinery is operative in both. Yet there is no doubt that such is the case.

It must be admitted at once that while the story of typhoid fever is, in its main events, retold in nearly every case of the disease, the same is not true of tuberculosis. The manifestations of activity by the tubercle bacillus in its human host are of infinite variety. There are, however, certain points that all these manifestations have in common, and I shall now endeavour to formulate a few of the outstanding characters of the process of invasion by this germ.

To begin with, it can reach the human tissues by several different paths of entry, but the commonest is the breathing apparatus. The germ is usually coughed or spat into the air by sufferers from the disease, and is breathed in by the victim along with the dust or cough-spray that gets mixed with the air drawn into his lungs. In typhoid fever there is usually one definite invasion followed by a short period of multiplication or incubation, usually from seven to ten days, before the symptoms appear. In tuberculosis the process is much more gradual. In the first instance a few germs may be breathed in and may pass through the surfaces of the air passages without causing much local reaction, finally reaching the lymphatic glands. But these few will soon be followed by more, sometimes few, sometimes many, because tuberculosis is not usually contracted at one sitting, but through more or less prolonged association with an infected person. The next stage is one of gradual multiplication in the lymphatic glands, or perhaps in the tissues originally invaded; and this multiplication is unaccompanied at first by any considerable degree of general reaction. The body tends rather to devote all its powers to shutting in the invader and holding him down at the place where he has landed. Here there is no question of a few days. A much longer period—months or even years—may elapse before the germs have multiplied sufficiently to cause obvious symptoms and recognizable signs.

Invasion, then, is usually a matter of frequently repeated entries and gradual multiplication in a few sites, the body attempting to shut the germs in by building up defensive walls around them. It is the momentary breaking down of these defensive walls that leads to a sudden invasion of the rest of the body by a much larger number than it can conveniently deal with; and in this lies the explanation of the periods of acute illness that punctuate the history of chronic tuberculous disease. The process of invasion, then, is slow. What of the processes of reaction? These too are slow. Compared to what takes place in typhoid, the action of the germs and the reaction of the body are relatively slight, although both, acting over a long period, may finally lead to far more destructive effects. Where the initial invasions have

been too frequent and too large, the bodily resistance will usually fail to be effective and the patient will go from bad to worse. Fortunately, however, this is not the usual story. We have the best reason for knowing that in the vast majority of cases the circumstances are so favourable as to allow the body to obtain and maintain its ascendancy from the first, so that the germs are finally localized successfully in a few small foci from which they never emerge. We have reason to think that not less than 90 per cent. of the adult populations of our large towns has, actually existing in the tissues, such old foci of controlled and vanquished tuberculosis; and this victory has counted for them more even than might at first appear. Not only have they limited their infection to small isolated stations in their tissues, but they have gained in the struggle a considerable power of resisting further infection. In other words, they have acquired what we call a relative immunity. This relative immunity, although it cannot guarantee against invasion by a massive dose of bacilli, is still effective in overcoming the small infections which must be so constant under the special conditions that obtain in industrial and urban communities.

It is often said that there is no real ground for believing that relative immunity against tuberculosis can be acquired as the result of infection. A moment's reflection will show that the acquisition of such relative immunity is no longer open to doubt. We have only to note the number of hunchbacks that may be seen any day in good health and able to work, with no defect except the deformity that remains from old spinal tuberculous disease, to realize that resistance against tuberculosis can be, and frequently is, gained after infection.

Let us pause to consider what has happened in these persons. In the beginning small numbers of tubercle bacilli must have succeeded in establishing themselves in their bodies unresisted, because the soil had not yet become habituated to resist them. Some of these germs must have reached the spine and multiplied unchecked, leading to necrosis and breaking down of the bodies of vertebrae. The proof that this actually happened is the bent spine of these deformed persons. And yet the process, though accompanied when at its height by the presence and multiplication of innumerable bacilli, has been controlled and overcome; and slowly the patients have come back to health, retaining only the deformity, which shows how active and successful was the bacterial invasion before victory was obtained.

The old idea that tuberculosis is necessarily a fatal disease is therefore no longer tenable. We now know that under suitable conditions and with good surroundings the human body is usually able to overcome the invasion and return to health. Much depends upon the number of germs that were concerned in the original invasion. Where these numbers are very large the ascendancy of the germs is likely to be maintained from the first, and the body can never outstrip it. In these circumstances the disease can only run a rapidly fatal course. In practice every doctor is familiar with two types—the tuberculosis that goes from start to finish as an acute and fatal process, and the tuberculosis that lasts for years, during which time the victim may be perfectly well able to associate with his fellow creatures and to live a relatively normal and happy life fraught with much greater danger to others than to himself.

But there is a third type, one that the doctor does not see—the case that overcomes an early infection without ever knowing it and remains in good health and endowed with a relatively considerable resistance to the germ. Happily this third type appears to be the commonest of all in our urban populations. The proof of its existence is found at the *post-mortem* table and by means of tuberculin tests on the living. Naegeli and others have demonstrated the presence of healed tuberculous lesions in the bodies of adults dying from non-tuberculous diseases in a very large proportion of those examined, and their observations have been amply confirmed. Tuberculin tests applied to the skin and the eye have served to show that, while the percentage of children that react to these tests is very small, the figure increases steadily with each age group until nearly every adult in a town community gives a positive reaction.

In this natural acquisition of protection against tuberculosis by early and abortive infection we have a beautiful example of the adaptability of man to his environment. As Professor Leonard Hill puts it, "God does not temper the wind to the shorn lamb but the shorn lamb to the wind." The inhabitants of our great towns may be of poor physique; they may compare unfavourably in every respect with the men of our agricultural districts, but they are able to tolerate exposure to considerable doses of tubercle bacilli, and, when they get the disease, they tend to get it in its slow and chronic form, not in its acute and rapidly fatal variety.

So much, then, for those that have grown up in the urbanized, industrialized, tuberculized communities of Great Britain. But what of those whose early environment has been free from all tuberculous taint? Are such persons to be found nowadays? Yes; we have instances of such persons in the inhabitants of Central Africa, where the tubercle bacillus was until very recently unknown. How do they behave when brought into contact with the germ? The experiences of the African Labour Corps in France give us the answer. In spite of their splendid physique, in spite of good food and clothing, in spite of favourable conditions of housing as compared with the British soldiers fighting in the line, these Africans contracted tuberculosis in appallingly large numbers; they contracted it in the most acute and generalized form, and died of it in a very short space of time.

With these considerations in our minds, let us turn to the question of tuberculosis in Wales. The tuberculosis of the Principality differs from that of England in certain well-defined characters:

1. The mortality rate is, on the whole, higher.
2. The highest mortality, relatively to the numbers of the population, occurs not in the crowded town areas, but in the sparsely populated mountainous districts of the north and west.
3. The mortality tends to the "young adult type," especially in the northern and western areas.
4. Although the mortality is so high amongst the population in general, it is less amongst infants and young children than in England.
5. The clinical type in Wales appears to be more acute than in England.
6. In those parts of Wales where the mortality is highest it does not show, as in England, a close correlation with the mortality from all causes, but outstrips this in a very marked degree, showing that some other factor or factors than faulty hygiene must be at work.

What, then, can be the explanation? Why is it that the simple agricultural folk of north-west Wales die from tuberculosis to a degree far greater than the populations of the crowded industrial cities of Cardiff and Swansea or the big towns of England, such as Birmingham and Sheffield? Is it faulty hygiene? It is undeniable that the houses in which these people live are often very insanitary, but their lives are passed for the most part in the open air, and their physical characters are known to be above the average, whereas many of the inhabitants of industrial cities work all day in crowded factories, and return at night to homes where the conditions are, if possible, worse than in north-west Wales. Faulty hygiene, then, cannot explain the whole problem. Is it a matter of the excessive rainfall common to the areas where mortality is highest? There are many who maintain that this is so, but their arguments are by no means conclusive. Rainfall has the effect of clearing the atmosphere from the unhealthy dust and germs that pervade it. A shower of rain diminishes enormously the bacteria in a given volume of air. Infection, and therefore mortality, should be lessened not increased by rain, though damp may very well lead to the development of already acquired infection.

Is it a question of heredity? No serious student of tuberculosis holds the view to-day that tuberculosis is a hereditary disease. Many still believe that it is associated with an inherited disposition, an inborn tendency to invasion by the germ. Again, many authorities believe in the inheritance of resistance to tuberculosis, not in the inheritance to a disposition to it, and for this hypothesis a better case can be made out. I, however, do not share it. If hereditary predisposition were a factor of importance, the local differences in the mortality rate should be far less marked than they are within communities of common stock. If hereditary resistance played a large part, surely children should display marked differences in susceptibility, and should show a low incidence and mortality in those places where the adult incidence and mortality is low; but children everywhere appear to tend to a generalized type of infection such as is associated with extreme susceptibility, while in Wales a low infantile mortality goes with a high death rate in adults.

Again, it is stated by some authorities that the food of the people of the western counties of Wales is greatly inferior to that of the more prosperous agriculturists of the eastern counties and of the towns; and it is suggested that the high

tuberculosis mortality of the former is due to deficient nourishment. There can be no doubt about the importance of nutritional factors in tuberculosis, and recent research lends support to this; but I find it hard to believe that the fine physique of the peasants of the west and north of Wales is associated with serious food deficiency.

The hypothesis that I would put before you as the most probable is as follows. Where human beings are scattered and isolated, the passing of germs from one person to another is more or less restricted except within the home. A whole household may easily be infected by one of its members, but other households go free alike from infection and immunization. Where, on the other hand, human beings are herded together and constantly associated one with another, the germs carried by each are passed on indifferently to his neighbours in the factory, the tramcar, or the home. But the number of germs so passed on may be, and probably is, relatively small in most cases except in infected houses. In these circumstances what result should one anticipate? In crowded communities there should be in almost every individual some degree of infection with the tubercle bacillus. In the majority the degree of infection should be small, leading to the acquisition of a relative immunity rather than to active disease. The inhabitant of a large city must adapt himself to the bacteria that are so numerous in his surroundings in order that he may live at all. Therein perhaps lies the danger to those who quit the sparsely populated areas to seek the higher pay and the more attractive life of densely crowded towns.

In the history of every community it is the period of transition from an agricultural type of life to an industrial one that is fraught with the greatest danger. In England this transition took place during a period that reached its climax early in the last century. During this period of transition the tuberculosis death rate in England was high, and the "young adult" type of mortality was common. When the rural and urban populations became more stabilized the tuberculosis death rate began to fall, especially in the earlier adult age groups, and this fall has continued to the present time.

In Wales a similar period has been traversed, but, though the climax has been passed, stability has not yet been reached. Many persons still leave their country homes for London or for the big industrial centres of Wales itself, and many of them get infected with tuberculosis and go home again to die, perhaps infecting a whole household before the end. Still, in Wales, as in England, the tuberculosis death rate is falling rapidly, and the young adult type is giving place to the type of middle-age mortality. All these facts seem to point to the importance of varying degrees of acquired resistance as the essential factors underlying the differences between the tuberculosis of Wales and elsewhere. If these factors are indeed the fundamental ones, if Nature is gradually getting rid of tuberculosis by a process of unconscious vaccination, then we should, in our efforts at prevention, give a greal deal of attention to defending children and susceptible persons from massive doses, and we should concentrate research on efforts to discover a safe and efficient vaccine—a very difficult task, but one which may yet be accomplished.

I feel certain that it was the realization of the importance of these problems that led Major David Davies and the Misses Davies to found this chair, and it is in the hope that my work may help to solve them that I assume my new duties as Professor of Tuberculosis in the Welsh National School of Medicine.

THE "BUFFERING" OF BLOOD:

A SUMMARY.

BY

A. V. HILL, Sc.D., F.R.S.,

PROFESSOR OF PHYSIOLOGY, MANCHESTER.

THE "reaction" of the blood—that is, the hydrogen ion concentration (c. H) of the blood plasma—is of great importance to the body, especially in relation to respiration. The reaction of blood removed from the body is not constant; it can be changed by changing the volume of CO_2 which it contains, or by adding acid or alkali to it. The same thing may happen in the normal body—for example, exercise results in an increased production of CO_2, severe exercise throws lactic acid into the blood, gastric digestion removes hydrochloric acid from it, which has the same effect as the addition of sodium bicarbonate to it. In the normal body, however, the c. H of the blood is not altered much thereby, since the respiratory centre is a very sensitive regulator of the blood reaction; the smallest rise of c. H leads to an increase in the frequency and depth of respiration, CO_2 is washed out and the c. H returns towards its usual level. In its function of maintaining the constancy of the blood reaction the respiratory centre is aided by two factors: (*a*) the activity of the kidneys, and (*b*) the so-called "buffers" of the blood. The regulation by the kidneys is necessarily a slow process, though very important, their function in this respect being to remove unwanted acid or alkaline bodies; the rapid regulation often required in ordinary life—for example, during exercise—falls entirely on the respiratory centre, aided by the buffers of the blood.

If acid be added to water, or to a neutral salt solution, there will result an enormous increase in the c.H; if the same quantity of acid be added to normal blood the increase will be much smaller. If a given volume of CO_2 be absorbed by blood its rise of c. H will be nothing like as great as if the same CO_2 had been absorbed by water. This relative insensitivity of blood to added acid or CO_2 is due to the "buffers" which it contains. Again, if a given quantity of acid, or a given volume of CO_2, be added to plasma separated from corpuscles, the rise in c. H will be less than that caused by the same addition to water, but far greater than that caused by the same addition to whole blood. Thus the "buffering" of blood is due partly to certain constituents of the plasma, but more particularly to certain constituents of the red cells.

In blood there are two chief basic elements, which we will refer to indiscriminately as B, namely, sodium and potassium, combined with various acid radicles, chiefly bicarbonates, chlorides, phosphates and *haemoglobin*. The phosphates reside mainly, and the haemoglobin entirely, within the red cells. Carbonic acid $H.HCO_3$ forming bicarbonate $BHCO_3$ with base B, acid phosphate $H.BHPO_4$ forming alkaline phosphate B_2HPO_4, and acid haemoglobin H.Hb forming the haemoglobin salt B.Hb, must be regarded as weak, that is, only slightly dissociated acids. The salts of such weak acids, especially of the last two, may be regarded as possessing stores of base B, so that if free acid be added to their solution they surrender some of their base to form with that acid a neutral (or almost neutral) salt, while they themselves (being very weak acids) proceed to form the neutral (or almost neutral) undissociated acid. In this way considerable quantities of free acid may be added to a solution of such salts of weak acids, without a considerable rise in the c. H. This is the basis of the action of buffers.

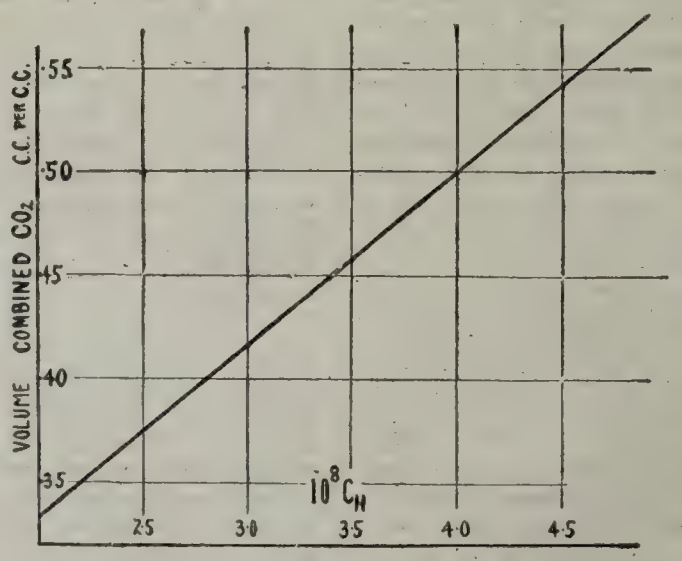


FIG. 1.

Recent work by Barcroft and his collaborators has shown that, in the average normal man, if the volume of CO_2 taken up by blood be plotted, as in Fig. 1, against the c. H of the plasma, then over the range of importance in the living body the relation is a straight line. The slope of this line is a measure of the efficiency with which the blood is buffered; in the case of pure water the line would be nearly horizontal, since here the solution of quite a small volume of CO_2 makes a considerable increase in c. H: in a "perfectly buffered" solution (if one could exist) the line would be vertical, since here the taking up of CO_2 would not affect the c. H at all. With blood the slope of the line lies between these limits; Fig. 1 shows the v. CO_2—c. H relation for the blood of the "average" normal man. There are certain small variations

in normal persons from this average curve, its slope varying by ± 25 per cent. and its height by rather more. We will consider the factors at work in causing these variations, a matter of importance clinically, since the same factors may produce more extensive variations in disease.

CO_2 is present in blood almost entirely in the combined form, as bicarbonate $BHCO_3$; a little is dissolved. The c.H of blood is proportional to the ratio,

$$\text{(dissolved } CO_2\text{) / (combined } CO_2\text{).}$$

Since the dissolved CO_2 is proportional to the CO_2 pressure we may say alternatively that the c.H is proportional to the ratio,

$$(CO_2 \text{ pressure}) \text{ / (combined } CO_2\text{).}$$

Now suppose we add bicarbonate to blood, keeping the c.H constant while we do so by increasing the CO_2 pressure in the same proportion as we increase the total bicarbonate—that is, the combined CO_2. Then the total CO_2 held by the blood is increased by the amount combined in the bicarbonate added, *plus* the extra amount dissolved owing to the increased CO_2 pressure. The second amount is very small, since CO_2 is not very soluble, so that the only important increase is that due to the added bicarbonate. The same is true of adding bicarbonate at any fixed c.H, so that by adding bicarbonate to blood we merely raise the v.CO_2—c.H line of Fig. 1 by a uniform amount all along, without changing its slope; in other words, *the degree to which the blood is buffered is unaffected by the addition of bicarbonate as such.* By adding bicarbonate to blood we merely cause an increase in its CO_2 pressure for a given c.H; the CO_2 pressure in the alveolar air is increased therefore, the respiratory centre slowing the respiration to keep the c.H constant. Hence variations in the total bicarbonate content of the blood are *not* responsible for differences of slope, but only for differences of position of the curve in Fig. 1. The variations of slope are due to another cause.

The v.CO_2—c.H line of Fig. 1 is much less steep for plasma than for blood, which is natural, since the red cells contain the major portion of the phosphates, and all the haemoglobin, which provide the greater part of the base required to combine with, and so absorb, the CO_2. If, therefore, *some* of the corpuscles be abstracted from blood, we may expect the resulting v.CO_2—c.H line to be intermediate in slope between the line for plasma and the line for whole blood; the more red cells be left the steeper will be the line, the less be left the less will be its inclination. Hence the differences in the bloods of normal individuals in this respect may be attributed to differences in the number and contents of the red cells.

A steep v.CO_2—c.H line, implying a well-buffered blood, will be a characteristic of an individual in whom exercise produces little respiratory distress; a line of little slope we should expect to find associated with dyspnoea. It will be very interesting to study the physiological and the clinical aspects of variations in the slope and position of this line.

THE END-RESULTS OF REMOVAL OF TONSILS AND ADENOIDS.

BY

HAROLD S. SINGTON, M.D.BRUX., M.R.C.S.ENG.,

LONDON.

So much has been written recently on the subject of the operation for the removal of tonsils and adenoids that there may perhaps seem to be little more which can be usefully added. There is, however, one aspect upon which little, if any, stress has been laid—namely, the general practitioner's views upon the effects and the utility of the operation. It is he who is naturally in the best position to judge the end-results, since he is able to observe the patients more intimately and for longer periods than the operator or the consultant can do. Further, it is as a rule the general practitioner who decides as to the advisability of his little patients having their tonsils and adenoids removed, and it is he who has to give the parents the reasons, based upon his previous experience, which lead him to believe that benefit will be derived from the operation.

For these reasons I feel that a summary of the cases which have been under my care during the last few years may serve a useful purpose. I have included all the children under 10 years of age who have had their tonsils completely removed by dissection (all according to the method originated by Mr. George E. Waugh) and their adenoids removed at the same time. The very striking conclusion which this summary indicates is that, once convalescence after the operation is complete, the child's health is so greatly improved that one has hardly ever had to attend him or her again; and that the child is not so liable to other and fresh illnesses as one who retains this lymphatic tissue.

I append a table of the cases, and must add that in only one instance (Case 34) where I have not subsequently attended the child again have I lost trace of the patient. In the remaining cases I have attended other members of the family and have had the opportunity of seeing for myself the healthy condition of the children referred to. I have purposely omitted stating the signs and symptoms which led me to advise operation because I do not wish to confuse the issue, the point which I desire to emphasize being the very small number of professional attendances on these children subsequent to operation, thereby proving the undoubted benefit that has accrued from the surgical procedure. In only four cases (Nos. 12, 26, 33, 39) had an obvious tonsillitis been observed; in four cases (Nos. 3, 11, 33, 50) a cervical gland was sufficiently enlarged to attract the mother's attention; and in three cases (Nos. 21, 45, 49) chorea or acute rheumatism was the reason for advising the operation. In all the other instances it was the general survey of the case which indicated the treatment.

Summary of Cases.

Case.	Year.	Attendances Previous to Operation.	Subsequent Attendances.
1	1911	40 in 20 months	For measles and hernia.
2	,,	Weekly for 3 years	For influenza 9 years later.
3	1912	45 in 18 months	Nil.
4	,,	26 in 4 months	Frequently for congenital deformity.
5	,,	53 in 2 years	Chicken-pox in 1920.
6	,,	33 in 20 months	Occasionally for uric acid.
7	,,	40 in 1 year	Nil.
8	1913	Seen once only	Occasionally for talipes.
9	,,	Daily for 2 months	Nil.
10	,,	5 in 2 months	Appendicitis in 1920.
11	,,	Seen once only	Nil.
12	1914	Seen once only	Nil.
13	,,	12 in 2 months	For small cuts, and bronchitis twice.
14	,,	14 in 2 months	For fissure in ano.
15	,,	25 in 2 years	Twice since.
16	,,	9 in 1 month	Nil.
17	,,	73 in 2 years	For gastric disturbances, 7 attendances.
18	,,	19 in 6 months	Nil.
19	,,	9 in 4 months	For pertussis in 1915; vulvitis in 1919.
20	,,	Almost daily for years	Frequently for "congenital heart."
21	,,	13 in 3 months	In 1919 for astigmatism.
22	1915	49 in 5 months	Frequently for asthma.
23	,,	14 in 12 months	Nil.
24	,,	21 in 2½ years	Nil.
25	,,	21 in 5 weeks	Nil.
26	1919	10 in 2 months	Chicken-pox in 1920.
27	,,	13 in 2 months	For gastritis and food rash several times.
28	,,	12 in 6 weeks	Fractured humerus in 1920.
29	,,	9 in 1 month	Two attendances for accidents.
30	,,	6 in 3 months	Nil.
31	,,	6 in 5 months	For gastritis several times.
32	,,	16 in 5 months	Two attendances since.
33	,,	6 in 2 months	Nil.
34	1920	15 in 7 months	For warts on hand.
35	,,	7 in 3 weeks	For tapeworm several times.
36	,,	12 in 3 months	Nil.
37	,,	14 in 7 months	Nil.
38	,,	15 in 14 months	Nil.
39	,,	4 in 3 months	Several times for talipes.
40	,,	7 in one month	Several times for talipes.
41	,,	20 in 16 months	For gastric disturbance in 1921.
42	,,	3 in one week	Nil.
43	1921	6 in 6 months	Nil.
44	,,	6 in 4 months	Nil.
45	,,	19 in 4 months	Nil.
46	,,	21 in 1 month	Nil.
47	,,	14 in 3 months	Three times for colitis.
48	,,	3 in 4 months	Nil.
49	,,	24 in 6 months	Nil.
50	,,	37 in 2 years	Nil.
51	,,	8 in 6 months	Nil.
52	,,		

In 24 cases, or 47 per cent., no further attendance was needed. In 5 cases, or 9 per cent., attendances were required for gastric or intestinal disorders only; in 4 cases, or 7.5 per cent., for congenital deformity; in 4 cases, or 7.5 per cent., for zymotic diseases; in 2 cases, or 4 per cent., for appendicitis; and in 10 cases, or 19 per cent., for other disturbances unconnected with the throat. Thus there are left only three cases—asthma, congenital heart, and bronchitis—where attendance after the operation for removal of tonsils and adenoids was at all frequent, and in these instances it was very much reduced.

THE AFTER-RESULTS OF 21 CASES OF ILIO-COLOSTOMY PERFORMED FOR TUBERCULOUS BONES AND JOINT DISEASES.

WITH A NOTE ON THE FUNCTION OF THE SHORT-CIRCUITED COLON.

BY

HAMILTON DRUMMOND, F.R.C.S.EDIN.,

SENIOR ASSISTANT SURGEON TO THE ROYAL VICTORIA INFIRMARY, NEWCASTLE-UPON-TYNE.

A FEW years ago the condition known as intestinal stasis was held responsible for many lesions, and among them tuberculous bones and joints. Arising out of this an operation known as ilio-colostomy came into fashion, and was carried out by many surgeons in this country and America.

The operation consists in dividing the lower end of the small intestine, closure of the distal end, and transplantation of the proximal cut end into the uppermost part of the rectum or lower pelvic colon. The idea was to short-circuit the large intestine so that it would cease to function. This procedure was introduced by Sir William Arbuthnot Lane. Professor Rutherford Morison, with an open mind on this subject, visited Sir Arbuthnot Lane's clinic, and after seeing the operation performed by him, and inquiring into his results, decided to give the treatment a fair trial for septic tuberculous bones and joints.

The cases selected for operation by ilio-colostomy were those which had defied all methods of treatment and were gradually losing ground. The operative technique as advised by Sir Arbuthnot Lane was followed, and is not discussed here, the object of this paper being, first, to follow up the late results of twenty-one of the cases operated upon as regards the general health and the local condition; secondly, to ascertain how the functions of the colon had become modified by the operation after the lapse of a number of years.

Table of Cases.

No. and Initials.	Age.	Primary Focus for which Ilio-colostomy was Performed.	Results.
1. M. W.	15	Tuberculous hip, infected.	Well and healed 2 years later; since then cannot be traced.
2. T. H.	7	,, ,,	Well and able to work. See attached note.
3. R. B.	8	,, ,,	Died of meningitis 1 year 7 months after operation.
4. T. M.	7	,, ,,	No better; died 13 months after operation, after amputation through hip-joint.
5. E. W.	20	,, ,,	No better; died 2 years after operation.
6. W.T. S.	34	,, ,,	No better; died 1 year after operation.
7. M. T.	25	Tuberculous disease of metatarsus	Well and healed 2 years after operation; since then cannot be found.
8. N. O.	9	Tuberculous spine	Died 5 days after operation from intestinal obstruction.
9. E. B.	25	,, ,,	Died of general tuberculosis 1 year after operation.
10. S. T.	18	,, ,,	Left hospital much improved; lost sight of 3 months later and cannot be traced.
11. A. K.	11	,, ,,	Died 2 years 3 months after operation from lardaceous disease.
12. J. H.	10	Multiple tuberculous foci in neck, limbs and back	No better 18 months later; cannot be traced.
13. W. C.	26	Tuberculous spine	Died from instestinal obstruction 8 days after operation of ilio-colostomy.
14. R. B.	23	Tuberculous spine	Died 2 years 6 months after operation from general sepsis; the local lesion was no better.
15. F. T.	20	Tuberculous spine	Greatly improved. See note.
16. J. M.	9	Tuberculous hip	Died of general tuberculosis 5 years after operation; local lesion remained unhealed
17. J. T.	12	Tuberculous gluteal bursitis	Died 19 days after operation from intestinal obstruction.
18. L. B.	8	Multiple tuberculous glands	Unhealed a year later; cannot be traced.
19. A. P.	26	Tuberculous hip-joint	Died 4½ years after operation of ilio-colostomy from septic absorption; local lesion remained unhealed.
20. J. H.	10	Multiple tuberculosis—thigh, legs, neck glands	No better 4 months after ilio-colostomy, complete colectomy performed. Patient now greatly improved but not cured. See note.
21. J. H.	23	Tuberculous hip-joint	Died 1 year later; cause unknown.

Professor Rutherford Morison was most careful in his selection of cases, choosing those which seemed the most hopeless, and they all were examples of tuberculous lesions with superadded sepsis.

He performed the operation of ilio-colostomy on twenty-one patients during the years 1911, 1912, 1913. Of the twenty-one cases operated upon, three are known to be alive at the present time; one, a case of hip disease, is cured, while the remaining two are greatly improved, as will be seen from the notes printed below.

Five cases cannot be traced up to date; two of these were known to be well and healed two years after operation; the remaining three were not cured when last seen, eighteen months, twelve months, and three months respectively after the operation.

Three died from intestinal obstruction following the operation of ilio-colostomy, one on the fourth day, one on the eighth day, and one on the nineteenth day. In all three cases the diagnosis of intestinal obstruction was made early and they were operated upon at once, but the serious general condition of the patients interfered with recovery. Another case—a boy with a discharging left hip-joint—was no better as the result of the operation, and succumbed to amputation at the hip-joint thirteen months later. The remaining nine cases when traced were found to be dead as the result of tuberculosis either from the primary focus or from meningitis. They lived for periods varying from one to five years after the operation.

Cases Living at the Present Time.

CASE I.

T. H., aged 7, a feeble, anaemic boy, first came to the hospital in 1910 with a discharging tuberculous hip-joint. Operations to cure the local disease were performed in November, 1910, and again in 1911; during this time he was kept on the balcony of the ward in the open air.

In March, 1911, as there was no improvement in the local condition, ileo-colostomy was performed. When he left the hospital six weeks later the sinuses around the hip-joint were still open, but the discharge was diminished.

When seen again nine months after the operation the sinuses over the hip-joint were all healed, and he was greatly improved in health. A year later he commenced to work as a boot repairer, and now works regularly at this trade, earning £1 a week. In July, 1921, the following note was made: The local lesion shows a firmly healed scar over the left hip-joint, with many old healed sinuses and no active hip disease. The hip-joint itself has healed in the third stage of disease, and he wears a patten on the good foot and walks well.

To find out whether or not the large bowel was functionating after being short-circuited for so long a period as ten years he was given a meal of half an ounce of barium sulphate and examined with *x* rays. Five hours after the meal the salt was seen to be entirely in the small bowel in the region of the pelvis. Twenty-one hours after the meal the whole of the large intestine was seen to be filled with the salt and the small bowel to be empty. Two days after the meal barium was still present in the splenic flexure of the colon and rectum, the greater part having been evacuated; three days later no trace of the salt was visible. *X* rays, therefore, show that the short-circuited colon is still functioning after ten years.

CASE II.

A youth, aged 20, had caries of the spine at the age of 14. Six years before admission he had an abscess in the right femoral region, which was incised and drained. When admitted in 1913 he had a discharging sinus in the dorsal region, and another in the right thigh, which was also discharging freely. The dorsal spine showed marked kyphosis.

In February, 1913, ilio-colostomy was done. Eleven months later he looked much better, but the wounds were not healed. He stated that they did not heal until three years after the operation. This patient was not seen again until August, 1921, when he informed me that in 1918 he went back to work and worked at the pithead for one year, doing light work; an abscess then developed in his back and discharged freely. He stopped work, and in six months the wound was healed, and he has remained well.

A meal was given, and on *x*-ray examination six hours afterwards was found to be in the lower end of the small intestine. Twenty-four hours afterwards the salt was seen to be in the colon, reaching up to the splenic flexure. Thirty hours afterwards another *x*-ray examination showed the salt to be in the colon as far as the hepatic flexure, and in forty-eight hours in the splenic flexure and descending colon. In three days the bowel was empty with the exception of a small amount in the rectum.

In this case the barium was not actually seen in the ascending colon and caecum, but may have been there between the radiograms taken thirty and forty-eight hours after the meal.

The third case was not any better after ilio-colostomy, but complete colectomy was followed by improvement.

CASE III.

J. W., a sickly-looking and thin lad, presented himself with multiple tuberculous foci but with no bone lesion. He had abscesses in both legs, in the right hip, and in the neck. Numerous operations had been performed, and he still had abscesses when the ilio-colostomy was performed in 1913. He left hospital in due time, when his wounds showed some improvement.

Two months later, however, he was readmitted with the foci discharging as badly as ever; four months after ilio-colostomy was performed, as there was no improvement, Professor Morison took out the whole colon. The patient was lost sight of until July, 1921, when he was found to be greatly improved in condition, and although the wound was not healed he was able to do light work and sew canvas cover-sheets in the pursuance of his occupation. His wounds are now healed, but every now and then he is laid off work on account of sores breaking down over the left knee-joint. He has fluid in the knee-joint, which, when last seen, was hot and showed active signs of inflammation. He states that his bowels are moved once daily with a solid motion, and that he has no diarrhoea.

I am indebted to Professor Rutherford Morison for his kindness in allowing me to publish these cases.

THE FUNCTION OF THE CHROMAPHIL TISSUES IN RELATION TO SPLANCHNIC STIMULATION.

BY

A. W. SHEEN, M.S., F.R.C.S., AND SWALE VINCENT, M.D., D.Sc.

(From the Physiological Laboratory, Middlesex Hospital Medical School.)

THE rise of blood pressure brought about by stimulation of the peripheral end of the splanchnic nerve is not simple, and the alterations (if any) produced in the curve by the elimination of the secretion of the chromaphil tissue of the adrenals from the circulation has not yet been precisely determined. The normal curve of splanchnic stimulation, according to several observers ([1] to [5]) consists of a rise on which is usually a "hump" followed by a marked "dip," and succeeded by a secondary rise prolonged as long as the stimulation lasts. Such a curve has been consistently obtained in dogs, cats, and rabbits.

When the adrenal secretion is eliminated, then, according to Pearlman and Vincent,[5] in all these animals the "dip" is abolished, and the result of stimulation is a simple and prolonged rise. Gley and Quinquaud,[2] on the contrary, maintain that there is a difference between dogs and cats. They think that in the cat elimination of the adrenals makes no difference to the splanchnic stimulation curve, "dip" and secondary rise being maintained, while in the dog their results conform to those of Pearlman and Vincent, the "dip" and secondary rise being abolished.

The difference between these two sets of observers is fundamental, because the observations govern the interpretations of the curves. Gley and Quinquaud consider that the alteration of the curve in the dog is due to damage to some of the splanchnic vaso-constrictor fibres necessarily brought about while tying off the adrenals because of the anatomical conditions present, while in the cat the anatomy is such that the adrenals can be tied off without damaging the splanchnics and therefore the curve is unaltered—that is, withdrawal of adrenal secretion from functioning by way of the circulation has no effect on the curve.

Pearlman and Vincent, who found the "dip" abolished in all animals they investigated, naturally concluded that the alteration is due to withdrawal of adrenal secretion. There is no doubt that the anatomical connexions of the main splanchnic trunk and its associated ganglia with the adrenal body are more intimate in the dog than the cat. We have confirmed this by dissections. A drawing in Ellenberger and Baum's book[6] shows well the condition in the dog. We consider, however, that while undoubtedly some nerve damage takes place in tying off the adrenals in the dog, it is not of such a character as to interfere with the main characteristics of the splanchnic curve. All observers are agreed that the main pressor effects persist. While in the cat the anatomical connexions are not so intimate certain nerves are undoubtedly damaged in it, as in all animals, in tying off the adrenals—namely, the nerves to the adrenal itself and the nerves to the kidney lying close behind the adrenal.

The majority of the experiments of Pearlman and Vincent were carried out on dogs. The present series has, therefore, been conducted on cats, with the simple object of ascertaining whether the "dip" and secondary rise after adrenal elimination are abolished or maintained.

The animals were anaesthetized with ether or ethanesal and anaesthesia maintained by intravenous injections of urethane. Blood pressure was taken from the carotid artery. After opening the abdomen the splanchnic—usually the left—was isolated between the diaphragm and the semilunar ganglion, divided where it left the muscular fibres of the diaphragm, and the peripheral length of nerve thus obtained—about 3 to 4 cm.—stimulated with various strengths of current. Prior to stimulation preparations were usually made for tying off the adrenals completely, or tying or clamping the adrenal veins, so that as short a time as possible should elapse between the stimuli. The anatomical conditions in the cat are such that the adrenals can be easily tied off without interfering with the main splanchnic connexions.

The results of these experiments show that by any method of adrenal elimination the normal curve is seriously altered. The "dip" is frequently abolished and is always considerably reduced. But a small "dip" sometimes persists after total elimination of the adrenals, and if this observation be true there is no escape from the conclusion that a part of the "dip" is due to factors other than the passage of a certain amount of adrenin into the circulating blood. Further investigations are required to determine completely the origin of the "dip," and we realize that one experiment where the "dip" is not entirely abolished is of more significance than any number where it is.

It should be added as confirmatory of adrenin effect that in two experiments the "dip" was practically abolished when the veins were clamped and subsequently restored to its full extent when the veins were released.

The "dip," in part at all events, is probably due to liberation of adrenin into the blood through vaso-constrictor impulses reaching the adrenals and causing them to contract, the small amount liberated having a vaso-dilator effect on the peripheral arterioles. This effect is quite temporary, the rise being again produced and maintained as long as the stimulation lasts.

SUMMARY.

1. Peripheral splanchnic stimulation in cats produces a characteristic curve in which an initial rise is followed by a marked "dip" and a prolonged secondary rise.

2. Elimination of the adrenals from the circulation abolishes or reduces the "dip," the more usual effect of splanchnic stimulation being a simple prolonged rise.

3. While the adrenal elimination is probably an important factor in altering the curve, further experiments are required to determine completely the origin of the "dip." Since some "dip" may occur after adrenal elimination, a part of the effect must be normally due to influences other than chromaphil secretion.

NOTE.—A portion of the expenses of this research were defrayed from the Scientific Grants Committee of the British Medical Association and the Government Grant Committee of the Royal Society to one of us (S. V.).

REFERENCES.

[1] Elliott: The Control of the Suprarenal Glands by the Splanchnic Nerves, *Journ. of Physiol.*, 1912, 44, 374 (see also v. Anrep, ibid., 1912, 45, 307). [2] Gley and Quinquaud: *C. R. Acad. Sci.*, 1913, 157, 66; Ibid., 1916, 162, 86; *C. R. Soc. Biol*, 1917, 80, 15; *Journ. de Physiol. et de Path. gén.*, 1918, 17, 807. [3] Johansson, T. E.: Die Reizung d. Vasomotoren nach der Lähmung der Cerebrospinalen Herznerven, *Arch. f. Anat. u. Physiol.* (Physiol. Abt.), 1891, 103. [4] Lehndorff, A.: Über die Ursachen der typischen Schwankungen des allgemeinen Blutdruckes bei Reizung der Vasomotoren, *Arch. f. Anat. u. Physiol.* (Physiol. Abt.), 1908, 362. [5] Pearlman and Vincent: *Endocrinology*, April–June, 1919, p. 121. [6] Ellenberger and Baum: *Anatomie des Hundes*, 1891.

THE RELATION OF THE CORPUS LUTEUM TO MENSTRUATION AND PREGNANCY.*

BY

W. R. MACKENZIE, L.R.C.S.EDIN.,

SURGEON TO THE SAMARITAN HOSPITAL, BELFAST.

THE ovary, according to our present knowledge, performs a double function—the production of ripe ova and the elaboration of internal secretions, of which the chief is formed in the corpus luteum.

Fraenkl in 1903, experimenting on rabbits, formulated the theory that the corpus luteum regulates the blood supply of the uterus and thereby controls the process of menstruation and the implantation of the ovum in the uterus. I find that if this controlling influence be removed, either by excision or rupture of the corpus luteum, a woman will either menstruate

* Read before the Ulster Medical Society.

or abort depending upon whether a false or true corpus luteum has been injured.

Some very interesting observations have been made by American veterinary surgeons on cows. They found that if the false corpus luteum remained unabsorbed the cow did not come in heat (which corresponds with menstruation in women), but that if the corpus luteum was expressed manually the condition developed in a few days. I find that if during an abdominal operation the corpus luteum be excised the patient will have a period two or three days afterwards, even if she has only recovered from her previous period a few days before the operation. The following cases illustrate this:

CASE I.

Mrs. E., aged 29, married two years; menstruation was of the four weeks type. Bimanually there was a tender tumour to the right of the uterus which was normal in position when felt. Her last period terminated two days before operation. I found on opening the abdomen a right hydrosalpinx adherent to the ovary, which contained the false corpus luteum. In removing the tube the corpus luteum was resected. The patient menstruated forty hours after the operation.

CASE II.

Miss S., aged 25; menstruation of four weeks type, always regular; the uterus was retroverted and the ovaries prolapsed; her last period had occurred thirteen days before the operation. Ventro-suspension was performed and the corpus luteum excised from the ovary. The patient menstruated two days after the operation.

Another very interesting point is that the size of the corpus luteum has a distinct bearing on the amount of haemorrhage lost at a period. On examining the ovaries during an operation, patients who have given a history of a heavy loss at their periods invariably have a large corpus luteum, and in those with only a slight loss the corpus luteum is small.

With regard to the true corpus luteum the veterinary surgeons made a very important discovery, that sometimes in expressing what they consider a false corpus luteum they have actually expressed or ruptured a true corpus luteum, in which case the cow has either aborted or bled to death. The following cases have a bearing on this observation:

CASE III.

Mrs. A. R., aged 28, married ten years, had had five children and one abortion; her last pregnancy was three years earlier. She was curetted at a hospital in October, 1919. She returned to this hospital during the first week of March, 1920; having missed two periods, she wished to know if she was pregnant. During the examination she felt a pain in her right side, became weak, and on going home went to bed. The next morning she noticed slight haemorrhage, which she took to be her period returning. As it continued for two weeks she consulted her own doctor, who sent her to me at the Samaritan Hospital. I found slight tenderness in the right iliac fossa; bimanually the uterus was about the size of an orange, freely movable, with a soft, round, tender tumour in the right and posterior fornices. A pre-operative diagnosis of an extra-uterine gestation was made. The abdomen was opened by median subumbilical incision. The left ovary and both Fallopian tubes were normal, and lay above the fundus of the uterus. The right ovary was not seen. On exploring the pouch of Douglas I found a mass of old blood clot intimately connected with the right prolapsed ovary which contained a ruptured corpus luteum. This I removed. Not being satisfied that I had found the cause of the haemorrhage I explored the uterus vaginally and removed a foetus.

CASE IV.

Mrs. McC., two months pregnant, was operated on for recurrent appendicitis. The apex of the appendix was adherent to the right Fallopian tube. In removing it I must, by handling the right ovary, have injured the corpus luteum, as the patient aborted next day.

CASE V.

Mrs. C., four months pregnant, had a subperitoneal fibroid about the size of a large orange, situated just below the right round ligament; it was removed without handling the ovaries. The patient made an uneventful recovery and went to term.

These observations throw very interesting light on the part played by the corpus luteum in abortion, sterility, premature menopause, and internal haemorrhage simulating extra-uterine gestation.

During pregnancy, if a woman receives an injury to the abdomen, as, for instance, a fall or during bimanual examination (Case III), it is not the traumatism to the uterus which brings on the abortion, but rather that to the ovary, causing the corpus luteum to rupture; if rupture takes place through a blood vessel in the wall of the corpus luteum, intra-abdominal haemorrhage occurs, showing all the physical signs of an extrauterine gestation.

Frequent and often recurring abortions during the early months of married life are, I believe, brought on by injury, during coitus, to a corpus luteum contained in a prolapsed ovary.

In sterility, especially in elder women, why is it that after a course of pelvic massage they will become pregnant? Has a false corpus luteum been expressed? The same question arises with regard to the operation of dilatation for sterility. Is it possible that we unknowingly express a false corpus luteum when bimanually examining the patient, and by thus producing menstruation and its accompanying ovulation we prepare the way for conception, rather than by the dilatation and curetting of the uterus?

Conclusions.

I believe that the above data justify the following conclusions:

1. That injury to either a true or false corpus luteum will simulate a ruptured extrauterine gestation.
2. That injury to a true corpus luteum will bring on an abortion.
3. That rupture of a false corpus luteum will bring on menstruation and its accompanying ovulation.

REFERENCES.

Marshall, *Physiology of Reproduction*, London, 1910. Ochsner, *Surg., Gyn., and Obstet.*, vol. xxxi, No. 5, p. 496.

MUCOCELE OF THE FRONTAL SINUS.

BY

J. ACOMB, M.B., B.S.,

ASSISTANT SURGEON, EAR, NOSE, AND THROAT DEPARTMENT, COUNTY HOSPITAL, YORK.

THE notes of the following case may be of interest, first, because there seems to be strong reason to infer that the condition was due to trauma in early life, a cause which apparently is somewhat rare, and secondly, because it produced no more distress than that occasioned by occasional diplopia and a "pricking sensation in the right eye," as occurred in the case reported by Mr. J. A. Gibb (BRITISH MEDICAL JOURNAL, November 26th, 1921), and slight headache.

In January, 1917, Miss L., aged 28 years, consulted me on account of a small swelling at the inner and upper angle of the right orbit and of occasional diplopia. I thought the swelling was probably an osteoma. The first sign of anything wrong—the presence of the swelling—was noted about six months before she saw me. She took up war work as a masseuse, and three months before she came to me began to feel run down and to have headaches after a hard day's work or after reading, and at such times the diplopia troubled her more. She had seen an ophthalmic surgeon, who wrote to me that he considered the swelling was an osteoma or a fibro-sarcoma. Immediately before seeing me she had consulted a surgeon who considered the condition to be due to nasal sinus disease. A skiagram was taken, which was negative in every respect.

On September 12th, 1921 (the description holds good for the first consultation in 1917), I made the following notes. Inspection showed slight proptosis of right eyeball with displacement downwards and outwards; neither of these features would have been noticeable on casual observation, the right pupil being about 3 mm. lower than the left. Across the bridge of the nose, which was broader than normal, was a linear oblique scar three-quarters of an inch long; it was the result of an accident when the patient was 3 years old which broke the nose and laid bare a considerable area of bone. A bilateral symmetrical bony boss could be felt on either supraorbital ridge about the position of the inner side of the supraorbital notch. The swelling complained of was below the boss on the right supraorbital ridge. Estimated by palpation it was about the size of an ordinary pea; it was bony hard, did not fluctuate, and was immovable but tender to deep pressure; there was no redness. The eyelids were freely movable; there was no lacrymation, and no history of nasal trouble, excepting that the patient thought the right nostril seemed narrower than the other. Headaches were confined to pain behind the right eye. Both fundi were normal; vision R. and L. = 6/6. In the diplopia the images were vertical without lateral displacement. Intranasal examination showed a deformed septum deviated to the right in the upper part and posteriorly. The nasal mucous membrane was apparently perfectly normal and healthy,

and there was no discharge or history of discharge of any kind. The patient was seen with me by Dr. Macdonald, to whose help I am indebted; he agreed that the condition might be an osteoma.

Operation.

On September 30th, 1921, an incision was made along the right eyebrow down to the periosteum. The supraorbital ridge was then felt to terminate in a sharp irregular ridge and in attempting to separate the orbital periosteum a thick gelatinous substance the colour of very pale yolk of egg presented; this I swabbed and scooped away with a blunt spoon; it measured, perhaps, a tablespoonful. There was apparently a delicate envelope, and pieces of eroded floor of the frontal sinus adhered. After this removal none of the floor of the sinus remained. The cavity above was bounded by the roof of the sinus. Either there was no median raphe between the right and left sinuses or it had been eroded; an opening which would have admitted a pencil led to the left sinus. As the condition in the left sinus was obviously the same as the right, a further incision was made through the left eyebrow, the periosteum was reflected, and the floor of the sinus, which was thin and fragile, was chiselled through and the sinus emptied.

Both fronto-nasal ducts appeared to be occluded. Drainage was established by two thick gauze drains into the nose through openings made by a spoon in the position of both ducts. The incisions were sutured. The gauze drains were removed on the following day.

After-History.

A little blood-stained discharge continued to flow from the right nostril for some days.

Forty-eight hours after the operation I was called to the case, and in my absence Dr. Macdonald kindly saw the patient at about 10 p.m. He describes her condition as follows: "She was comatose, curled up in bed; could not be roused. Temperature 102°. Did not respond to any stimulus. Reflexes normal." By midnight her condition was improved in that she could be got to respond to vigorous stimulation, but in the circumstances the condition was alarming, indicating a possible onset of meningitis. On careful examination Dr. Macdonald came to the conclusion there were indications pointing to the condition being at least partly hysterical, and that this was probably so is borne out by immediate and uninterrupted improvement.

The following day she was so much improved as to be able to say her head ached. The temperature reached 100° in the evening, but from this date she rapidly got well, and three weeks after operation only complained of a little occipital headache and occasional diplopia after a quarter of an hour or so of reading or close work. The wounds healed with practically no disfigurement.

The gelatinous substance and lining was examined by the hospital pathologist. His report was as follows:

"I find the fluid contains no cells and is of a mucoid nature, whilst sections of the solid pieces show them to be the normal mucous lining of the tissues. These results lead me to think that the condition was probably due to accumulation of the normal secretion."

The Lettsomian Lectures

ON

AMOEBIC LIVER ABSCESS.

DELIVERED BEFORE THE MEDICAL SOCIETY OF LONDON *

BY

SIR LEONARD ROGERS, C.I.E., M.D., F.R.S.

[*Abstract.*]

LECTURE III.—THE PREVENTION OF AMOEBIC LIVER ABSCESS AND THE RECENT REDUCTION IN THE PREVALENCE AND MORTALITY.

IN his final lecture Sir Leonard Rogers said that from what he had so far indicated with regard to the pathology and treatment of amoebic liver abscess, it would be sufficiently obvious that any simple method of preventing such a complication would be far more beneficial than even the most certain and established methods of cure. He wished, therefore, to devote himself in this third lecture to the measures which had enabled him to establish such prevention on a scientific basis. Ipecacuanha appeared to have been used at quite an early date in India in dysentery and hepatitis, but afterwards was superseded. In 1855, however, ipecacuanha was being used in large doses for dysentery among the British troops at Mauritius, and there were records of its reintroduction at a still earlier date. Maclean in 1854, in writing on hepatitis, did not mention ipecacuanha, but advised saline purges, strict dieting, and the cutting off of alcohol. In the same author's article in Reynolds's *System of Medicine* in 1871, however, he stated that for years past he had advised 20- to 25-grain doses of ipecacuanha in acute hepatitis, and remarked upon it as a curious fact in the history of tropical medicine that in dysentery this drug should have been superseded by calomel and opium. It was now clear that such violent fluctuations in treatment were inevitable in India so long as amoebic dysentery remained undistinguished. Sir Patrick Manson had consistently advised large doses of ipecacuanha whenever hepatitis was associated with dysentery, and long before he recognized amoebic dysentery as a distinct disease he recommended ipecacuanha in cases invalided home from the tropics.

Blood Changes in the Early Recognition of Amoebic Hepatitis.

The lecturer continued his description of the researches which led up to the differentiation of the presuppurative stages of amoebic hepatitis, with prevention of abscess formation, rendering surgical interference unnecessary. Coincidently with his studies in the etiology of amoebic liver disease he was working on blood changes in fever admissions. At the time he began this work (1901) it might safely be said that 90 per cent. of the fever cases were diagnosed and treated as malaria, although he found that only one seventh of them were really so, and among the fevers at that time nearly always confused with malaria were the more chronic forms of amoebic hepatitis, which were always treated with quinine. It was known that amoebic hepatitis produced a leucocytosis, but with no pathologist and a very small staff of overworked clinicians there was no detailed history of blood counts until he began his own investigations in Calcutta.

From his notes collected at that time he found that during nearly four years none of the hepatitis cases (including those going on to abscess formation) had been treated with ipecacuanha. It was clear, therefore, that at this time, in Calcutta at all events, the specific drug had been superseded by ammonium chloride in hepatitis. He showed some tables of cases to illustrate the leucocytosis which was found.

In a first series of five cases admitted for hepatitis and not going on to suppuration only two showed a very slight increase in the leucocytes. In sixteen other cases which went on to liver abscess all except one showed a leucocytosis, and even in that one there was a relative increase in leucocytes. The counts where there was leucocytosis varied from 12,750 to 38,500 leucocytes. The case which showed 38,500 leucocytes and another which showed 35,000 were cases of multiple small liver abscesses which rapidly proved fatal. In the more chronic and insidious forms leucocytosis was absent on admission, but developed later under ammonium chloride treatment.

At this stage in his investigation he had already proved that tropical liver abscess always contained amoebae, but rarely pathogenic bacteria. Therefore the abscesses were almost certainly caused by the amoebae, and were preceded by amoebic ulceration of the colon. He became convinced that ipecacuanha was a specific for the amoebic variety of dysentery, although useless for the bacillary form common in Indian gaols. Although cases in this presuppurative stage might or might not give a history of previous dysentery, he knew from his experience of the leucocytosis that latent amoebic ulcers must be present in some part of the large bowel which were healed by large doses of ipecacuanha.

Ipecacuanha in the Prevention of Amoebic Abscesses.

It was not, however, until 1907 that he was able to record a convincing series of successful cases. This included 15 cases of hepatitis he had met with among 1,350 consecutive fever admissions, or just over 1 per cent. It was not surprising that cases occurring in so small a proportion of the total number had not been differentiated by busy clinicians in the absence of blood examination.

The first three cases, which he showed in tabulated form, were cases of dysentery and hepatitis treated with ipecacuanha. The blood showed leucocytosis in all three. They had suffered from fever for eighteen, thirty-four, and forty-one days before they were put on ipecacuanha, and the fever ceased two, four, and three days after the full dose of this drug. The next eight cases were cases of hepatitis without dysentery: there was no previous history of dysentery, nor was there dysentery while in hospital; but one or two of them showed diarrhoea, and others constipation, and so on. In three of these cases, which were treated only with ammonium chloride, the fever went on for thirty-four, forty-four, and forty-nine days before the temperature came down. The others were treated with ipecacuanha, and the temperature quickly fell. Another group of four cases were cases without either dysentery or obvious liver symptoms; they were obscure cases of fever. Two of them showed leucocytosis on admission, and the other two developed it later, and on the strength of this all of them were put on ipecacuanha, and the temperatures came down quickly, in one case within two days.

The lecturer showed temperature charts obtained in these various cases. In one case the fever had lasted fifty-eight days

* Abstracts of Lectures I and II appeared in the BRITISH MEDICAL JOURNAL of February 11th and 18th, 1922.

before the ipecacuanha was given, yet after it was given the temperature came down in two days. Taking the whole of this series, it was noteworthy that 12 out of 15 cases were unassociated with dysentery, yet he was able to recognize them as amoebic in origin, and treat them with ipecacuanha. Of 21 other cases admitted with hepatitis and treated with quinine and ammonium chloride, 16 went on to suppuration, while of 12 cases treated with ipecacuanha, 11 of them showing well-marked leucocytosis, every one rapidly cleared up without going on to suppuration. There could be no doubt, therefore, that suppuration was averted by the use of ipecacuanha. When one got a very high leucocyte count in such a case as multiple liver abscess the polynuclear percentages were usually between 80 and 90, and the total leucocytes might range above 30,000, which carried a very serious prognosis. But he had seen a case of severe hepatitis, with a count of 20,000 or 25,000, cured by ipecacuanha without going on to suppuration.

Chronic Amoebic Hepatitis as a Common Cause of Cirrhosis of Liver in the Tropics.

The lecturer then turned to consider chronic amoebic hepatitis as a common cause of cirrhosis of the liver in the tropics. In an analysis which he had made of the records of nearly 5,000 *post-mortem* examinations in Calcutta, extending over a period of thirty-seven years, he found 6.9 per cent. of cases of well-marked cirrhosis of the liver. As this disease was common among Mohammedans, who were prohibited by their religion from taking alcohol, some other cause than alcoholism had to be looked for. On working out the percentages of the principal complications, he found granular kidney in 28 per cent. of the fatal cirrhosis cases and 13 per cent. of the latent cases, and dysentery in 25.6 per cent. of the fatal cases and 30.1 per cent. of the latent cases. Further investigation confirmed the intimate relationship between cirrhosis and dysentery, but the question remained as to the form of dysentery to which these cirrhosis cases related. Fortunately, he was able to complement his study of the *post-mortem* records by eight years of actual experience of necropsies in Calcutta, and he could testify that he found evidence of former chronic amoebic dysentery in three-fourths of the cirrhosis of liver cases; it was always of the amoebic variety. It was not difficult to account for the close relationship between these two diseases; he ascribed the cirrhosis to the long-continued amoebic irritation of the portal branches in amoebic dysentery, leading eventually to increased interlobular fibrous tissue.

Was there such an entity as "tropical liver" apart from amoebic hepatitis? The latest edition of Sir Patrick Manson's book introduced a graphic description of tropical liver, but the lecturer himself believed that the survival of the term "tropical liver" from the writings of nearly a century ago was fraught with danger. It was very interesting to note that such a warm advocate of ipecacuanha as Norman Chevers had said that he knew nothing of the mysterious disease called tropical liver. The abuse of alcohol doubtless did affect the liver in the tropics as elsewhere, while the remarkable immunity of women and children to liver abscess might be explained by their non-addiction to alcohol, though he thought there were other factors. But he urged that the so-called "tropical liver" should never be put on ammonium chloride treatment until amoebic disease had been definitely excluded.

He related the case of a patient admitted for dysentery which subsided in ten days after a castor-oil mixture had been given; but seven days later the patient developed an acute hepatitis, with high fever, pain in the right shoulder, and a slight shadow in the liver as seen under *x* rays. The surgeon diagnosed abscess, and was only persuaded by the lecturer to give ipecacuanha treatment before proceeding to operation, owing to the fact that the man had had dysentery before. Within two days after the administration of the ipecacuanha the pain ceased, within three more the temperature fell to normal, all signs of liver abscess disappeared, and there was a complete recovery without recourse to operation.

The Decline in Incidence of Amoebic Disease.

If all that had been claimed with regard to the prevention and treatment of liver abscess was true, some results ought by this time to be reflected in the statistics of cases, taking a wide area and a considerable period of years. Several years ago he published certain figures relating to the liver abscess cases occurring at the European General Hospital at Calcutta during the five years previous to his reintroduction of the ipecacuanha treatment and during the six years following. He had now brought the figures up to date (1921), and they showed a reduction of nearly one-half in the annual admissions during the later period as compared with the former, and a fall in the mortality from 43.5 to 23.3 per cent. He also gave the figures for hepatitis and liver abscess cases at the London School of Tropical Medicine during the period before the use of ipecacuanha was established as a means of preventing suppuration, during the period after ipecacuanha, but before emetine treatment was established, and during the period for which both treatments had been in vogue. In the first period the number of cures of liver abscess was 5 out of 13 cases, in the second 10 out of 15 cases, and in the third the whole of the 14 cases admitted had been cured.

The most convincing demonstration, however, was afforded by a chart which he had carefully plotted to show the incidence of amoebic hepatitis and liver abscess, and their relationship to dysentery and diarrhoea, in the British army in India during the last fifty years. The number of British soldiers in India during this period varied from 50,000 to 80,000. The incidence of hepatitis during the fifty years from 1869 onwards showed a steady fall. Dysentery showed a general decline broken by a number of epidemic rises, and diarrhoea showed the same features, the epidemic peaks occurring in the same years as in dysentery. When there was an epidemic rise in dysentery, the ratio of liver abscess to dysentery fell, thereby suggesting that the great majority of cases of epidemic dysentery were not that form of dysentery which was related to amoebic liver abscess and hepatitis—that is to say, not the amoebic form but the bacillary form; and it was known that the bacillary form was the one which gave rise to these epidemics. The close relationship between diarrhoea and dysentery which the chart demonstrated was of great importance. Diarrhoea was just as closely related to hepatitis as dysentery. There were two cases of hepatitis to every three cases of dysentery, and also to every three cases of diarrhoea. The correlation was extraordinarily close. A large number of cases of diarrhoea in India were really cases of amoebic disease, and would be better called amoebic colitis, for the grouping of them as diarrhoea rendered them liable not to be treated with ipecacuanha, and accordingly many of them went on to amoebic abscess. Another important fact in this connexion was that in an analysis of 1,000 *post-mortem* examinations, correlated with clinical findings, 50 per cent. of the fatal amoebic dysenteries were found not to have been recognized as dysentery at all in hospital; the diagnosis was almost invariably chronic or tuberculous diarrhoea, so that many fatal dysentery cases only gave rise to the symptoms of diarrhoea, and a large number might have been readily cleared up with ipecacuanha. In the earlier period to which the chart related there was a decline in the case-incidence of amoebic abscess, but a less marked decline in the mortality, and this, the lecturer suggested, was due to the fact that open operation about this time came into general favour and aspiration was relegated to the background. The decline in liver abscess went parallel with the somewhat similar course of hepatitis. Between 1896 and 1902 there was a rise in the number of cases of liver abscess, the high level continuing until about 1907, and the incidence of hepatitis meanwhile fell at first and afterwards remained practically stationary, so that there appeared to be nothing to account for this extraordinary rise in liver abscess. The maximum year for liver abscess cases was 1902, and this was the time when, immediately after the Boer war, a large number of army medical officers returned to India from South Africa, where they had had to deal almost entirely with the bacillary form of dysentery, and had found saline treatment of great value. Even previous to this the saline treatment had been boomed in India, owing to the successful use of it in gaol dysentery, which was of the bacillary type. The marked rise in the prevalence of liver abscess in the British army at that time was obviously due to the neglect of ipecacuanha in favour of the then popular saline treatment. The ratio of liver abscess cases to dysentery suggested the same conclusion; during this rise in the prevalence of liver abscess the ratio of liver abscess cases to dysentery was doubled.

The latest period of this inquiry, from about 1907 onwards, showed, as regards liver abscess, a rapid fall until the frequency of cases was diminished to less than one-third of what it had been in the early period, and there was also a marked fall in the death rate. During this same period both dysentery and diarrhoea rose for a time to double their ordinary numbers, but the incidence of liver abscess still remained very low, and the death rate reached the lowest point of all. It was still more remarkable that the curve representing hepatitis actually fell to its lowest point at the very time when dysentery and diarrhoea were rising. The year 1907, which was the last year of high incidence of liver abscess, was the year in which he demonstrated the great

value of ipecacuanha in preventing abscess formation. The fall in the mortality had begun a year earlier, and this coincided with the adoption of the treatment by aspiration and injection of amoeba-destroying drugs. Altogether the death rate in cases of liver abscess declined from 56 per cent. in the earlier period covered by the chart down to 28 per cent. in the end period. He concluded that the great reduction both in the prevalence and the mortality of liver abscess was due to preventive measures by means of ipecacuanha and to treatment by the aspiration and injection method. The decline in hepatitis as related to dysentery was also marked after the establishment of emetine treatment.

The Medical Cure of Multiple Small Amoebic Liver Abscesses.

The final question to which the lecturer addressed himself was the possibility of cure by medical means alone of already formed amoebic liver abscess. He had long thought that such cure was possible, and he now felt assured that this could take place under emetine treatment. He thought also that the small early acute multiple liver abscesses should prove very amenable to the specific action of ipecacuanha and emetine. It was wonderful what emetine treatment of a week's duration could do in the way of removing the extensive gelatinous infiltration characteristic of this condition. Emetine was probably the most definite specific drug known to medicine. Some day it would gain a place in the *British Pharmacopoeia*, even if some hoary remedy had to be sacrificed to make room for it.

In concluding his series of lectures, Sir Leonard Rogers referred to the foundation in Calcutta of a post-graduate research school of tropical medicine. He had long been convinced that, in the absence of post-graduate teaching, a new generation of medical men must arise before the general public could reap the benefit of the conclusions of the research worker. In the particular province with which he had had to deal in these lectures, he could say that amoebic disease was easily preventable in the great majority of cases, and that the development of amoebic suppuration in the liver should cause serious questioning to arise in the mind of the medical man in whose hands it had occurred; while in the case of patients who came under observation with an already formed liver abscess the treatment of election should be aspiration and emetine, with some form of sterile siphon drainage if necessary. He was convinced that with the more general adoption of the measures for which he had pleaded, whose rationale he had established as the result of careful observation extending over many years, this particular tropical disease might be almost completely abolished, thereby rendering tropical and subtropical countries safer and easing the white man's burden.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

EXOPHTHALMIC GOITRE IN CONGENITAL SYPHILIS.

CONGENITAL syphilitic affections of the endocrine glands are of much interest, and so I venture to think that the following case of exophthalmic goitre in a child suffering from congenital syphilis is worth recording. The adrenals, pituitary gland, and the testes are said to be the endocrine glands most often structurally damaged in congenital syphilis, and affections of the thyroid are rare, especially myxoedema and exophthalmic goitre, although hypothyroidism is not so uncommon.[1]

The patient is a fairly well nourished girl, aged 4½ months. The mother states that the child has abscesses of the buttocks. The mother had one child in 1914, which is stated to be quite well. In 1917 the mother was found to be suffering from late secondary syphilis, and her Wassermann reaction was positive. She received galyl 0.25 gram intramuscularly, kharsivan 2.1 grams intravenously, and 7 grains of mercury intramuscularly. She then discontinued treatment. She states that in 1918 she had a stillbirth at full time.

Present Condition of the Patient.—The weight of the child is 11½ lb. Both lobes of the thyroid are enlarged. This is very noticeable when the child draws its head backwards or cries. The eyes are prominent, and show the "thyroid stare." Von Graefe's sign is present, Moebius's sign absent. The heart is apparently normal; the pulse rate before examination is 134, after examination of the child, 160. There are no nervous symptoms. A few papulo-squamous spots are present on the face, several pustules on the trunk. Saddle-nose is present. On the right buttock is an undermined ulcer, on the left buttock one pustule. The glands, mouth, pharynx, tongue, are all apparently normal. The Wassermann reaction is positive.

[1] Rolleston: *Proc. Roy. Soc. Med.*, February, 1921.

NOEL F. ROWSTRON, M.D.,
Honorary Physician, Skin Department, Royal Infirmary, Sunderland.

PNEUMOCOCCAL PERITONITIS SIMULATING ACUTE GANGRENOUS APPENDICITIS.

IT has been my unfortunate experience during some years of practice to come across several cases of pneumococcal peritonitis in which the diagnosis of acute appendicitis was made and an operation for its removal undertaken. In all cases similar conditions were noticed. The abdomen was filled with pus, like thin cream, with a faint yellow-green colour, but without faecal smell. The appendix was easily found—injected externally, but healthy internally. The bowels had the same appearance.

To all intents and purposes, at the operation these cases are looked upon as a favourable variety, but if only the precaution of rapidly making a blood count, before deciding upon operation, were taken it would be found that most of these cases have a leucocyte count of over 30,000 per cubic millimetre, some 45,000 per cubic millimetre. The gravest prognosis must be given; all the cases I have seen have died within four days after the operation.

The previous symptoms in these cases, as seen in children from 3 to 12 years of age, are interesting, for the patients rarely complain of abdominal pain; the abdomen is quite supple, and there is no rigidity in the appendix region, nor of the lumbar muscles. The abdomen does not move with the respirations.

Acute appendicitis due to the streptococcus must not be confounded with these cases, for here we usually have the classical appendix symptoms and an acutely inflamed appendix with thin serum. The prognosis depends upon the blood count, and if it is 30,000 leucocytes per cubic millimetre or over, one may safely say that the case is hopeless; the fact that we now have many antistreptococcic serums to use may alter the outlook in an otherwise desperate condition, if heroically administered. The usual favourable acute appendicitis has, as a rule, a blood count of 14,000 to 20,000 leucocytes per cubic millimetre.

Bognor. J. F. REY.

INTESTINAL OBSTRUCTION DUE TO PARALYTIC ILEUS.

A. B., a woman aged 55, was under the care of my partner, Dr. T. Murray Newton, and myself for five months suffering from vomiting. This occurred two or three times during the day, it had no relation to meals and no distinctive features. She had no pain; the pulse and temperature were normal, and the tongue was clean. She was thin and very sallow. The examination of the abdomen was negative. Constipation was a salient symptom throughout, and aperients were continually required. Dieting and rest in bed for two months relieved her condition so that she was able to go about. She, however, vomited occasionally, and retained a very sallow colour. Generally she had lost weight.

During August her condition became much worse. On the 25th there was very frequent vomiting, a rising pulse rate, and the abdomen was slightly distended. The next morning the vomiting had become continuous, the abdominal distension was much more marked, and there was very marked peristalsis. Dr. Denyer, physician to Hull Royal Infirmary, agreed that she had intestinal obstruction, and that immediate operation was necessary.

I opened the abdomen the same evening, and found all the colon immensely distended, but there was no obstruction in the rectum nor any part of the colon. Examination for other causes proved negative. The central incision was closed and a temporary colostomy made. The vomiting stopped immediately, and she has never vomited since. Full-sized motions were passed by the rectum after the fifth day, and some faeces through the colostomy wound. The sallow colour has disappeared. She has gained weight, and is obviously in better health than she has been for years. The weight, which at operation was 5 st. 10 lb., was 7 st. 1 lb. on February 18th.

The case seems to fall into the group of cases of intestinal atony following stasis and bacterial toxaemia well described in Nothnagel's *Encyclopaedia*.

C. L. GRANVILLE CHAPMAN, F.R.C.S.Irel.,
Surgeon, Grimsby and District Hospital.

Reports of Societies.

FACTORS IN THE CAUSATION OF PUERPERAL SEPTICAEMIA.

A MEETING of the Section of Epidemiology of the Royal Society of Medicine was held on February 24th, under the presidency of Dr. A. K. CHALMERS, when a paper was read on the relation between puerperal septicaemia and other infectious diseases, including a reference to the propriety or otherwise of admitting maternity cases into isolation hospitals.

Dr. EVELYN D. BROWN, the author of the paper, confined herself to certain conclusions at which she has arrived as a result of an extensive study of statistics, including the Registrar-General's returns, the notifications of infectious diseases, and so forth; but very few figures were given in the paper itself, although, in view of the importance of one at least of her conclusions, it would have been useful to have had exact figures and to have known the precise area covered by the analyses.

At the outset Dr. Brown referred to the long-standing controversy with regard to a possible connexion between puerperal fever and liability to scarlet fever infection. When discussion on this subject first arose many years ago the chief interest lay in its clinical aspect; but to-day, when municipal authorities had to deal with the provision of accommodation for maternity cases, the question had its importance also on the administrative side. Some distinguished obstetricians of a generation ago held that scarlet fever arose as a complication of childbirth even when no exposure to infection had taken place, so that liability to scarlet fever was not a condition superimposed upon the puerperal state but was a part of that state. The whole question was complicated by the variations in the clinical picture of scarlet fever in different periods of years. There was good reason to believe that the prevalence of scarlet fever was fairly constant from year to year, but the discomfort which it caused varied greatly in intensity, and it was according to the discomfort that the condition was assessed. Her analyses of statistics over a considerable period of years led her to the conclusion that there was no association between the rise and fall of puerperal septicaemia and of scarlet fever, such as would have been expected on the old theory; and, indeed, that there was no parallelism between the incidence of puerperal septicaemia and that of other infectious diseases, such as diphtheria and influenza, with the possible exception of measles, where there was a significant positive correlation.

During the last fifty years the puerperal mortality rate had altered very little, although there had been a marked fall in the birth rate and in the death rate from all causes. What was it, then, that maintained so steady a death rate from sepsis following childbirth? Was there an inherent, unalterable factor in the patient herself, beyond the control of preventive or curative measures? Such an argument must be the last defence of the perplexed. All the evidence went to show that sepsis was not dependent upon the strain of repeated child-bearing, nor upon intrinsic factors, such as the age of the mother. Tables had been drawn up from the records of midwives in large practices, in districts of varying social character, which showed that there was a tendency for the occurrence of abnormality in the earlier age groups rather than in the later, and abnormalities were likely to be associated with temperatures. This seemed to dispose of the suggestion that the slightly later age of marriage now prevailing was responsible for keeping up the puerperal mortality, for the effect of a later age of marriage would be to place an increased number of births in the later age periods, in which the puerperal mortality rate was rather less. Nor was there anything to suggest that the woman with domestic advantages was either more or less liable to septic infection during childbirth than the working woman. It was therefore to external causes that attention must be turned to explain the failure to obtain any significant reduction in the rate of septic mortality. Here Dr. Brown ventured the conclusion from her correlations between the number of doctors per 1,000 of the population and the mortality rates from puerperal fever that the practitioner, rather than the midwife, might be the carrier of sepsis to the parturient woman. The statistics—into which she did not enter—suggested the doctor as a factor in the transference of infected material, and a little thought concerning the calls made upon the busy practitioner and the conditions under which he had to work might suggest the *modus operandi*. She believed that puerperal septicaemia was a preventable disease, that its prevalence was determined, not by the organisms of scarlet fever, diphtheria, or influenza, but by the organisms of erysipelas or septic cutaneous lesions, and that in consequence, given efficient administration, it was a safe and practical policy to admit maternity cases to isolation hospitals.

Dr. REGINALD DUDFIELD contested Dr. Brown's deduction with regard to the doctor as a source of infection. His own figures, so far as they went, established a lower prevalence of puerperal fever among cases attended by doctors than among those attended by midwives. He also reminded the Section that a very large proportion of the cases in which a doctor was called in were complicated labours in which puerperal fever was liable to occur, and it did not seem fair to debit the doctor with these.

Dr. R. J. EWART said that serious complications had been remarkably few among the 300 or 400 maternity cases admitted into the isolation hospital at Barking, and there had been only one death from puerperal sepsis following instrumental delivery. The maternity ward was about 40 ft. away from the diphtheria ward, and the latter had been overcrowded, but, although the two nursing staffs continually crossed one another's path, no case of diphtheria had occurred in the maternity ward. He believed that in studying the prevalence of infectious diseases they were apt to concentrate too much upon mere discomfort, and that as a matter of fact scarlet fever and diphtheria in a form which went clinically unrecognized were very common, so that by the time adult life was reached many women had become immune to these infections, and the only infection to be feared in childbirth was a surgical one.

Dr. MAJOR GREENWOOD referred to the views held by medical men half a century ago and longer as to the relation between scarlet fever and puerperal septicaemia; he thought these views were largely coloured by the fact that of all the zymotic diseases—small-pox being then on the down grade—scarlet fever was the one which produced the greatest mortality among grown-up persons, and the association of this condition with puerperal septicaemia might, therefore, be mainly psychological. He added that although Dr. Brown had followed the right line of investigation, it was not sufficient to work out sets of coefficients of correlation on one year's records, for misleading correlations might easily be forthcoming when the rate with which one was dealing depended upon very small absolute numbers, so that not too much was to be inferred from correlations when the observations were not repeated over several years.

Dr. REMINGTON HOBBS said that the cause of the rise in temperature in the parturient woman was some mechanical blocking of the genital tract. If the natural secretions were pent up, the organisms would ascend. He believed that latent infection was present before childbirth, that the organisms were carried through the later months of pregnancy, and asserted themselves when there was opportunity. The temperature was brought down by a proper system of drainage.

Among other speakers were Dr. W. H. HAMER, who could not help feeling still that there was some kind of relation between scarlet fever and puerperal septicaemia; Dr. ELIZABETH MACRORY, who urged that doctors should carry out their personal disinfection on attending maternity cases with the same scrupulous care as the good midwife; Dr. E. W. GOODALL, who believed that the idea that women in the puerperal state were likely to get scarlet fever arose from erroneous observations, and also added that he had seen many women come into hospital with scarlet fever and be confined in hospital without getting puerperal fever; and Dr. J. C. MCVAIL, who thought that Dr. Brown had suggested a case for a very serious inquiry on a large statistical scale—the matter was certainly one which should be pursued.

NITROUS OXIDE ANAESTHESIA.

AT a meeting of the Section of Anaesthetics of the Royal Society of Medicine on February 3rd, with Dr. H. J. SHIRLEY, President, in the chair, Dr. A. L. FLEMMING opened a discussion on the utility and limitations of nitrous oxide anaesthesia. It would, he said, only court disaster to ignore the difficulties associated with the administration of gas or to minimize its possible dangers. In former years the choice of anaesthetic most often lay between chloroform and ether; now it was

generally between ether and gas oxygen. Although experienced administrators could use gas and oxygen for almost any type of patient or operation, yet, whereas ether could succeed alone, the gases required in many instances the aid of preliminary injections, of local anaesthetics, or of ether. Certain physiological and pharmacological properties of nitrous oxide must be borne in mind. It had been shown that nitrous oxide exerted a specific effect upon the nervous tissues, that the motor areas remained more sensitive during the anaesthesia of gas than during that of ether, that gas somewhat abruptly interfered with oxidation of the tissues, that animals were killed by gas more quickly than by asphyxia, and that in animals the red blood corpuscles were diminished 25 per cent. after thirty minutes' anaesthesia with nitrous oxide. Nitrous oxide was a powerful drug but a poor relaxant. Consequently dosage was of importance, and to procure relaxation without cyanosis the addition of oxygen instead of air was necessary. In former days prolonged administrations of gas and air had been attended by dangerous respiratory depression and by outward displacement of the heart's apex. If enough ether was used with gas and air a very satisfactory result might be obtained. Nitrous oxide and oxygen alone might give rise to dangerous respiratory and circulatory embarrassment in the presence of abnormally high or low blood pressure. The anaesthesia might be followed by troublesome nausea. Nitrous oxide was most safe when used, not as the main or sole relaxant, but in conjunction with other agents. Dr. Flemming related cases illustrating difficulties that might be encountered during the use of nitrous oxide, oxygen, and ether, and discussed the efficacy of the two anaesthetics in combating or preventing shock.

Dr. G. A. H. BARTON protested against the loose use of the term "gas and oxygen" for a method which often involved the use of ether. If the anaesthetist confined himself to nitrous oxide and oxygen he met with many unsuccessful cases. If he first got the patient under with gas and ether and then continued with nitrous oxide and oxygen many good results were obtained. Often the best method was to give small amounts of ether throughout, along with the gas and oxygen. The method had advantages, if used intratracheally, in most operations about the head and neck and on the limbs. For throat operations he considered the anaesthesia insufficient, and the same was true of abdominal operations. The subjects of diabetes, albuminuria, and respiratory catarrh were especially well suited to gas and oxygen. For shock he could not agree with the value placed upon the method.

Mr. H. E. G. BOYLE remarked that the proper administration of nitrous oxide and oxygen and ether requires skill and constant practice. For the average man giving only occasional anaesthetics ether should remain the anaesthetic of choice. He believed in making induction of unconsciousness as quick as possible. He used ether or CE in conjunction with the gases as necessary, but it was remarkable how small an amount of these additions was needed even in long cases. Mr. Boyle believed that shock was less after the gases than after ether or chloroform. McKesson's secondary saturation certainly produced relaxation without any additional anaesthetic to nitrous oxide, but Mr. Boyle was not disposed to imitate the method.

Mr. J. H. CHALDECOTT said that the only method of using gas and oxygen which produced ideal results in abdominal and other serious operations was that of combining it with local anaesthesia. Satisfactory relaxation during operation and a minimum of discomfort afterwards could be obtained in this way only. The nerve blocking provided the relaxation and the freedom from shock. The nitrous oxide was responsible merely for unconsciousness. He deprecated the use of nitrous oxide and oxygen alone for these cases, but for other operations it was a good plan to induce anaesthesia with gas and ether and continue with gas and oxygen. For desperate cases he would not employ gas and oxygen except with nerve blocking. If the latter were not employed he would prefer ether.

Mr. H. M. PAGE said that after much experience he would be very sorry to abandon the water-feed apparatus for gas and oxygen. Several years ago he had advocated the induction of anaesthesia by gas and ether and its continuance with gas and oxygen. When difficulties occurred they should be met by recourse to additional ether, not by pushing the nitrous oxide; yet every saving of ether vapour that could be effected by the use of gas improved the after-state of the patient.

Dr. F. E. SHIPWAY regretted the absence of a physiologist who could explain to them the causation of alarming symptoms that arose under gas and oxygen. Some cases of sudden and unexpected fatality during the inhalation were explained by the writings of Haldane, who had shown that acute or long-continued anoxaemia more quickly and certainly paralysed the respiratory centre than it did the heart. Slight changes of colour were difficult to detect, and clinically some oxygen deprivation might be produced unawares. In handling difficult subjects Dr. Shipway recommended increasing the oxygen supply and addition of ether rather than reliance on nitrous oxide. The latter was contra-indicated, particularly in persons of high blood pressure or with arterio-sclerosis. Nor was gas and oxygen suited to active or recently healed tuberculous lungs. The rapid or deep breathing which might be set up was prone to cause spread of the disease or fresh breaking down. Gas and oxygen was the best anaesthetic in the treatment or prevention of shock, and Dale's work on histamine was most suggestive in this connexion.

DIAGNOSIS AND TREATMENT OF ACUTE TUBAL PERITONITIS.

AT a meeting of the Edinburgh Obstetrical Society held on February 8th, with the President, Dr. LAMOND LACKIE, in the chair, Mr. J. W. STRUTHERS read a communication on the diagnosis and treatment of acute tubal peritonitis.

Cases of tubal peritonitis, he said, might be roughly divided into two groups: those due to leakage from established chronic infective lesions of the uterine appendages, and those due to the spread of a recent tubal infection to the peritoneum. In both groups the onset of pain in the lower abdomen with vomiting and fever signalized the peritoneal involvement. The pain was usually bilateral, but was often more severe on one side than the other, and tenderness and muscular resistance corresponding to the pain were present. If the symptoms were definitely limited to the right iliac region, and if there was no history of pelvic disease or vaginal discharge, a tubal infection might be ruled out; but when the pain and tenderness were more central or bilateral the presence of tubal infection must be excluded, though a history of previous pelvic trouble would naturally direct suspicion towards the tubes. Examination under anaesthesia was usually advisable, and if diseased tubes were felt the question then arose as to whether operation should be carried out at once, or whether the acute stage of the illness should be allowed to pass and operation undertaken later. Operation was rarely needed to save life, as the infection was seldom of a virulent type. On the other hand, removal of the diseased tubes cut short the illness, prevented recurrence, and, if there was no possibility of restoration of function occurring, did not prejudice the patient in any way. If, however, conditions for operation were unfavourable, delay involved no serious risk provided we could be sure that the diagnosis of pyosalpinx could be confidently made, and that the symptoms were not those of a virulent infection. The difficulty arose in cases where salpingitis could not with confidence be diagnosed from appendicitis. Vaginal discharge was often very slight, and pelvic examination gave no help, for the tubes were not sufficiently enlarged to be recognized as diseased, while an inflamed appendix lying in the pelvis might give rise to similar clinical features. If the abdomen was opened and the tubes found to be diseased, should they be removed in every case; or if the infection appeared to be a mild one should they be left in the hope that function might be restored and pregnancy ensue? It always seemed to him a difficult matter to leave tubes *in situ* from which pus was actually leaking. If, however, it could be shown that in a definite number of cases resolution and restoration of function of the tubes might follow, he considered that the indication to leave the tubes was clear.

Dr. J. W. BALLANTYNE thought a small dermoid with twisted pedicle on the right side might be confused with salpingitis, and that accurate diagnosis was often impossible until the abdomen was opened.

Dr. HAIG FERGUSON thought it was better to delay operation in acute salpingitis unless there was general peritonitis. He was not in favour of leaving a leaking tube, gonorrhoeal or otherwise. He had generally found that tubal conditions gave sufficient pelvic indications for a fairly accurate diagnosis.

Mr. D. P. D. WILKIE had found that where the peritonitis was due to tubal inflammation there was much more restlessness and abdominal hyperaesthesia than where appendicitis was the cause.

Dr. H. S. DAVIDSON was of opinion that where the salpingitis was of gonorrhoeal origin the case could safely be left for six months, but where streptococcal delay was fatal.

Dr. R. W. JOHNSTONE also thought that if the history pointed to a streptococcal origin immediate operation was indicated, and that of a radical nature; but where it pointed to a gonorrhoeal origin operation should be delayed for several months, and then much more conservative measures might be carried out than if operation was undertaken during the acute stage.

Dr. JAMES YOUNG thought that there was no means of distinguishing between the mild and severe cases by the character of the symptoms, and operation was necessary in all cases of doubt. Where operation was called for in an acute ascending infection after labour or abortion removal of the tubes was necessary, but where the history pointed to gonorrhoea the treatment should be expectant.

Dr. LAMOND LACKIE had seen many cases of salpingitis in which the function of the tubes was apparently completely restored. He thought there should be no operation unless the patient was critically ill.

Dr. H. S. DAVIDSON recorded a case of ovarian dermoid rupturing into the bowel during labour. The tumour had been undetected and forceps applied. When the head was at the perineum a sausage-shaped tumour bulged through the anus. On pushing it aside it burst and extruded sebaceous matter and hair. The doctor who had delivered pulled the tumour down, ligatured it as high up as possible, and removed the part below the ligature. Dr. Davidson, on opening the abdomen five hours later, found on the right side a collapsed cyst constituting the entire ovary but completely emptied of all contents and with a ligature at one extremity. The cyst was removed and the raw surface covered with peritoneum. Owing to the large uterus and a prominent sacral promontory, the tear in the bowel could not be detected; so to obtain better access supravaginal hysterectomy was carried out, and by pulling the pelvic colon upwards the beginning of the tear in the bowel was demonstrated. It was longitudinal on the peritoneal surface, while on the mucous surface there was a perforation the size of a two shilling piece, situated at the lowest point of the pouch of Douglas. Anteriorly the tear continued through the peritoneum forwards across the pouch of Douglas and slightly ascending on the posterior vaginal wall. The tear was sutured in layers from above downwards, each successive stitch thus bringing more of the tear into view. Finally a rubber drainage tube was inserted through an incision made through the pouch of Douglas into the posterior fornix. Recovery, though complicated by bronchopneumonia, was in the end complete.

THE SIGNIFICANCE AND TREATMENT OF GLYCOSURIA.

AT a meeting of the Edinburgh Medico-Chirurgical Society on February 15th, Sir ROBERT PHILIP presiding, a discussion on glycosuria was opened by Dr. HARRY RAINY. Dealing with diabetes, he showed that fuller knowledge of the disease in recent years had materially improved treatment and bettered the prognosis. Statistics from a Boston hospital showed a death rate of 28 per cent. up to 1914, but since then a steady and rapid fall to 4 per cent. in 1918. He paid tribute to the work of Guelpa in Paris, whose method of starvation anticipated the Allen treatment. Carbohydrate metabolism was a complex mechanism, distributed among many organs; and recently more emphasis had been put upon the thyroid, parathyroid, and pituitary, and upon the sympathetic nervous system, in their control of the liver. But inflammation of the pancreas was the likeliest cause in most cases, and there was need for more careful study of this organ by pathologists. An organismal cause of diabetes was not impossible, and Dr. Ford Robertson had isolated a delicate anaerobic bacillus from the faeces of diabetes, failing to find it in controls. But the speaker believed that the appearance of this bacillus might be rather the effect of the disease upon the intestinal flora than its cause. The most useful division of glycosuria was into renal cases, with or without hyperglycaemia, and cases of hyperglycaemia proper, including true diabetes. After referring to the methods of estimating the blood sugar and the alkalinity of the blood, he dealt fully with treatment. In America it was usual to allow patients to be up, dressing them warmly. Constipation could be avoided even on fasting days by the use of bran biscuits, a compound of washed bran and agar jelly. A low temperature was a danger signal (below 96° F.). Free drinking of water was also important, especially on fasting days; and Joslin attached much importance to this in acidosis, and rather discouraged the free use of alkalis. The general principle of diet was to reconstruct it upon a lower metabolic level, reducing the patient to a weight that lessened the work of the pancreas and of metabolism generally.

Dr. MURRAY LYON discussed prognosis in diabetes, based upon a study of forty cases during the last two years. Upon the whole the best guide in prognosis was the response of the patient to adequate treatment. The severity of the disease before treatment, as measured by the percentage of glycosuria, or the total daily loss of sugar, was less reliable, for the end-result in some of these initially severe cases had been better than in others with a much lighter glycosuria. He dealt in detail with the curves of blood-sugar after test meals of glucose. Toxaemia was an unfavourable, aggravating factor, and he emphasized the importance of searching for and eradicating foci of sepsis. The influence of the nervous system upon sugar metabolism was also very great, and the elimination of mental worry and anxiety was of real importance in treatment. The presence of ketone bodies in the urine was of little value in estimating the severity of the disease or the prognosis. Ketonuria was present in half his cases, and usually persisted much longer than the glycosuria. The majority of cases in this series were consuming well over 2,000 calories before leaving hospital, and though weight continued to be lost during the early stages of treatment it was being rapidly regained before leaving hospital. The intelligent co-operation of the patient was another important factor in prognosis. In most cases the physical condition of diabetics can be improved by treatment, with relief from distressing symptoms; and many of these patients were able to return to their former occupations. Nothing could be said as yet as to ultimate prognosis.

Dr. J. S. FOWLER, continuing the question of prognosis, emphasized its difficulty from cases in his own experience, a severe case, in a young man, being apparently cured, while an old lady of 60, who showed after treatment a high carbohydrate tolerance, died in coma two months after leaving hospital. He suggested that some help in prognosis might be got by giving a test meal of fats and estimating the ammonia nitrogen. He also referred to cases of old-standing glycosuria without symptoms, the so-called renal diabetes. Did such cases tend to become true diabetes?

Dr. F. PORTER and Dr. MACRAE TAYLOR narrated cases illustrating a more hopeful prognosis, where the glycosuria was transient, disappearing spontaneously or after treatment.

Dr. W. S. MACLAREN told of a stout middle-aged woman, who developed glycosuria after six weeks' treatment with thyroid extract for obesity, dying in diabetic coma four months later. Here there was a heredity of diabetes, and a history of gall stones some years before.

Dr. SOMERVILLE pointed out that the morning sample of urine in diabetes was often sugar free, and that a sample from the day's collection of urine must always be obtained.

The Treatment of Pneumonia in the Older Patient.

Dr. R. A. FLEMING gave a short communication upon a modification of the usual plan of treatment in the croupous pneumonia of elderly patients. The appearance of oedema and certainly of pleuritic friction in the sound lung was always a grave sign in pneumonia; and in such cases he advocated the propping up of the patient in bed, and the withholding of sedative expectorants to check the spasmodic cough, which he believed to be beneficial. In corroboration of the effect of free lung movement in dispelling oedema of lung and pleural friction, he quoted a case of dry pleurisy which was being demonstrated to students, and where repeated deep breathing caused the friction sounds to completely disappear. The modifications he proposed were to allow elderly patients with pneumonia to sit up, and not to indiscriminately check the spasmodic cough, which was probably beneficial.

Sir ROBERT PHILIP spoke of the extension in recent years of open-air treatment to cases of acute pneumonia, and of its value lying in the stimulation of respiratory activity. It had been his practice to adopt, in certain cases of pneumonia, a kind of artificial respiration, carried out by relays of assistants, with precisely this object in view.

Dr. WEBSTER told of a case of spinal curvature treated by gymnastic exercises on the trapeze. There was a complication of general and severe chronic bronchitis, and this entirely disappeared after two months' treatment.

Dr. J. D. COMRIE corroborated Dr. Fleming's results from his own experience. In one old lady of 75, with severe pleurisy and bronchitis and in a very grave condition, propping up in bed, encouragement of coughing, and the stopping of sedatives were followed by recovery.

ETIOLOGY OF RICKETS.

AT a meeting of the Royal Medico-Chirurgical Society of Glasgow, held on February 3rd, Dr. HARRY S. HUTCHISON made a communication on "Rickets in India," and referred at length to his investigations in the town of Nasik, Bombay Presidency. Here there are two distinct classes of the population: Class 1, chiefly Brahmins, well-to-do Hindus, and well-to-do Mohammedans; and Class 2, lower caste and poorer Hindus, poor Mohammedans, and social outcasts. The general conditions in both are the same, but they differ in that Class 1 maintains purdah, or the close seclusion of women and children during part of their lives. This class has a good and rich dietary, whereas Class 2 has no purdah and eats a poorer dietary. All children are breast-fed for at least a year; in Class 1 this is supplemented with cow's milk at the age of 7 or 8 months, and in Class 2 with rice, and seldom with milk. The mothers of Class 1 eat a dietary containing more vitamin A than those of Class 2, and therefore it would appear that the children in Class 1 get more vitamin A than those in Class 2. The incidence of rickets was found to be much more common in the Brahmins and well-to-do Hindus in Class 1; less so, but still marked, among Mohammedans, partly in Class 1 and partly in Class 2; slight in other Hindus, all in Class 2. Of 1,073 children of purdah mothers there were 268 cases of early active or healed rickets (24.9 per cent.), and of 2,305 children of non-purdah mothers 113 cases (4.8 per cent.). Seventeen cases of late rickets were seen and their histories gone into. All occurred in females; 16 cases were Brahmins, well-to-do Hindus, and Mohammedans; only one case was in a lower caste woman, although many more of these were seen. In practically all the cases milk and ghee were consumed daily, and frequently a cow was kept. The mean age of incidence was 15.6 years, the majority being between 12 and 13 years. Dr. Hutchison discussed his results with regard to the etiology of rickets, and concluded that in his cases the presence of quantities of vitamin A seemed to be unavailing in preventing the onset of rickets in the class referred to, whereas in the poorer classes, without such quantities, the plentiful supplies of fresh air and sunshine very largely prevented its incidence. Cases of active rickets treated by fresh air and sunshine improved rapidly.

Professor NOËL PATON made a communication on "Rickets, the part played by unhygienic social conditions in predisposing to the disease." Professor Paton said that two factors predisposed to the onset of rickets—unhygienic surroundings and defective feeding. Recently an attempt had been made to prove that it was caused by the absence of a hypothetical antirachitic factor, probably identical with the fat-soluble A substance. The author of this contention had now abandoned this view, and had reverted to the long accepted theory that various errors of diet predisposed to rickets. The evidence of the influence of social condition had received scant attention from those who maintained the causal relation of the dietary factor to the disease. Rickets was common among the poorer classes of our northern towns, where they were housed in high tenements defective in light and ventilation. The condition of the house depended largely upon the health and habits of the mother, as did the extent to which the young children were taken out. A table was shown proving that, in Glasgow at least, the incidence of rickets was more directly associated with the condition of the home, with maternal care, and with overcrowding that it was with dietary. Between families with rickety children and those without the differences in the food were small. It had been argued that the absence of rickets among the people of Lewis, who lived largely in the so-called black houses, strongly supported the view that insanitary conditions of housing had nothing to do with a predisposition to the disease. An investigation of the housing, mode of life, and of the diet of eighteen typical families in the island had been made, and the results showed: (1) That the average air space and ventilation of the black houses was better than that of the rachitic families in Glasgow; (2) that the children were taken out when quite young, and that after they could walk they were constantly out of doors. The development and nutrition of the children showed an average well above that of the rest of the British Isles. Teething was early, and generally the infants walked at an early age. Only one case of doubtful rickets among eighty-one children was observed. The diets were ample, and the chief articles of diet were fish, milk, oatmeal, and potatoes. The condition of these people, not only as regards diet, but also as regards housing and mode of life, was such as to increase their resistance to the onset of rickets. Professor Paton stated that his studies of rickets had led him to the conclusion that the unhygienic conditions of life and defective diet were no more the causes of rickets than they were the causes of tuberculosis or of typhus. They merely predisposed to these diseases. Whether rickets would prove to be an infective process remained to be seen. Its association with slum life, its frequent incidence in several members of a family, and the record of an outbreak among foxhound puppies, checked in the case of some by removal to new kennels, suggested this possibility.

ALIMENTARY TOXAEMIA IN NERVOUS DISORDERS.

THE Hunterian Oration of the Hunterian Society was delivered on February 22nd by Dr. THEODORE THOMPSON, who took for his subject "Alimentary toxaemia in nervous disorders." The effects of alimentary disturbance, he said, operated on three levels of the nervous system — namely, peripherally, in the spinal cord, and in the brain. In connexion with the first of these he spoke at some length of alimentary influences in diphtheritic paralysis. He also said that peripheral manifestations of alimentary toxaemia might occur in the case of poisoning by food, and mentioned a case of which he had experience of a man who, as a result of eating sausages sent from Germany, had severe vomiting and alimentary derangement, which was followed by bilateral facial paralysis, with strabismus, and later on loss of knee-jerks and weakness of the limbs; the patient eventually recovered. The results of pure starvation experiments of recent years appeared to show that polyneuritis was not caused by a complete deprivation of food (and therefore, of course, of vitamins), but only by an unsuitable kind of food, such as polished rice in beri-beri, and it seemed to him very likely that the polyneuritis of beri-beri was analogous to that produced in diphtheria.

Turning to the group of spinal cord diseases characterized by more or less rapidly developing spasticity and ataxia of all four limbs Dr. Thompson said that these included the condition cumbrously known as subacute combined degeneration of the spinal cord, also the posterior lateral degeneration found in cases of pernicious anaemia, the spinal cord changes occurring in certain cases of grain poisoning, and, finally, pellagra. He proceeded to deal with each of these from the point of view of alimentary toxaemia, and pointed out that in pernicious anaemia the evidence of gastro-intestinal toxaemia was particularly marked. The tender spots about the mouth and tongue which occurred so constantly in the early stages of pernicious anaemia were frequently followed later on by persistent vomiting and sometimes by diarrhoea, and there was evidence to suggest an intestinal toxaemia as the cause of the disease.

With regard to alimentary toxaemia in brain diseases, the possibility that the alimentary tract was the site of infection for certain acute diseases of the brain had received striking confirmation by the examination of the sources of infection in cerebro-spinal fever. So important had the bacterial invasion of the nasopharynx become in the case of cerebro-spinal fever that the routine examination of the nose and throat should always be insisted on. Again, the connexion between rheumatism and chorea had now been definitely established. The view that rheumatism must be due to an invasion of the body by an intestinal streptococcus was gradually becoming widely held. It had been suggested also of late years that many of the degenerative diseases of the brain and spinal cord were the result of chronic intestinal infections. The possibility of a toxic effect in general nervous exhaustion had been much debated. The tendency to look to purely psychical factors had resulted in much unnecessary suffering for many patients. Pyorrhoea and chronic septic absorption from the roots of the teeth were responsible for many of the symptoms of mental and bodily exhaustion. Chronic septic

conditions of the tonsils should never be overlooked. In the treatment of nervous disorders from the point of view of alimentary hygiene particular attention should be paid to the mouth and associated cavities. The condition of the accessory nasal sinuses and of the tonsils should be explored. Over-consumption of meat and of sugar should be avoided; the taking of copious amounts of fluid was of assistance in alimentary toxaemias, and where the colon seemed to be the seat of the alimentary poisoning lavage of the large intestine was useful.

It is not customary to have discussion after an oration, but in expressing the thanks of the Society to the orator Dr. ANTHONY FEILING took occasion to agree with him in what he had said about beri-beri as being possibly not, after all, a vitamin-deficiency disease. Dr. Feiling had seen a localized epidemic of beri-beri among Chinese labourers in Mesopotamia. The epidemic was confined to men who lived in one out of several huts, and the diet of these men had been carefully devised to include as much vitamin-containing substance as possible, in addition to which they were accustomed to buy fresh food on their own account out of their considerable earnings, and yet the epidemic developed.

THE TREATMENT OF TUBERCULOUS GLANDS.

AT the meeting of the Medical Society of London on February 27th, Mr. JAMES BERRY presiding, a discussion took place on the treatment of tuberculous glands.

Mr. G. GREY TURNER, in opening, said that on looking back upon the history of the treatment of tuberculous glands the most striking fact was the absence of any pathological basis for the various plans of treatment. There were two main routes by which tubercle might reach the glands in the neck: (1) infection from the nasopharynx; (2) infection through the mesenteric or mediastinal lymphatics. The evidence for the first of these routes was well known and incontrovertible. On the clinical side there was the association of enlarged glands beneath the upper third of the sterno-mastoid, commencing with a definite throat affection or associated with obvious pathological enlargement of the tonsils or with adenoids; and on the pathological side there was the frequent discovery of the tubercle bacillus both in the lymphoid tissues of the tonsil or adenoids and in the involved glands. He submitted that the infection of the glands usually occurred during the first two years of life, though it might not be until long years afterwards that the tuberculous infection of the glands became a prominent feature. In the second method of infection what happened was that the infection of the internal glands took place during childhood, presumably during the first two years of life, as the result of the ingestion of food—usually cow's milk—containing living bacilli. At any time subsequently, but usually during the critical period of adolescence, the tubercle declared its vitality, and the infection spread to the glands, it might be only in the neck, or in other situations. The glands which became enlarged in this way were usually in the lower part of the neck, and quite commonly in the posterior triangle. As direct evidence on the route of infection he mentioned that on several occasions, when dissecting the lower part of the posterior triangle, just beneath the clavicular head of the sterno-mastoid, he had removed one or more glands which contained black pigment characteristic of mediastinal infection.

After dealing with the infection of the axillary and groin glands and other and mixed foci of infection, the speaker referred to the principles which should govern the management of the different groups of cases. In the first group, with the infection from the nasopharynx, a local condition was being dealt with, and the surgeon had here a wonderful opportunity of dealing radically with the focus of infection and the commencing invasion of the lymphatic system. The ideal treatment was to remove the tonsils and adenoids, and at a subsequent sitting systematically and thoroughly to clear out the whole group of infected glands. But in the second group, where the infection had arisen from the mesentery or in the mediastinum, the problem was entirely different. Here they could neither deal radically with the focus nor with the greater part of the disease, but it must never be forgotten that such patients developed tuberculosis of the glands of the neck or elsewhere because their resistance to tuberculous invasion was so far lowered that the bacilli had got the upper hand. The proper treatment was then to raise the resistance of the individual as far as possible; in this group therefore surgical intervention was not the primary requirement, but it might none the less be a useful adjunct.

The speaker went on to deal with the clinical features of these different groups, and gave some illustrative cases. He also touched on operative technique. No operations in surgery were more important than those on tuberculous neck glands. The incision must be so planned as to leave the best possible scar, but at the same time must be adequate to enable the dissection to be carried out without being hampered for want of room. Whenever possible the incisions should be made in the normal creases, or at least in the same direction. Extensions of any incision should either be made up into the hair line, where they were usually hidden, or behind the sterno-mastoid. When excision was contemplated the surgeon should remove all the lymphatic glands infected and otherwise from the area which was attacked. This extirpation must be thorough and complete, but it was not wise to attempt to remove all the lymphatic glands in the anterior triangle of the neck, for instance, from an incision which was only planned to expose the upper part. In other words, the surgeon should stick to some one area, and should clear that out very thoroughly. He dealt at length and precisely with the operation for the removal of the tonsillar group of glands, which he described as the ideal operation, because this was the situation in which it was usually possible to remove the focus of infection with the whole of the consequences of that infection.

Mr. Turner, who confined his remarks to surgical methods, finally gave the results of an investigation into the after-history of 143 cases operated on for tuberculosis of the neck glands. The inquiry was made from five to eighteen years after operation, and replies were received regarding 83 cases, the others being untraced. These 83 were classified as follows:

Perfectly well	54
Good health, but small glands near operated area...	15
Alive, but with other groups of glands involved ...	4
Alive, but with other tuberculous manifestations ...	2
Died of tuberculous disease	6
Died from other causes	2

Of these cases, 63 belonged to the nasopharyngeal group, and 20 to the mesenteric; 60 in the first group and 9 in the second were perfectly well or greatly improved. Very good scars were obtained in 50 of the nasopharyngeal group of cases and 5 of the mesenteric group.

Sir LENTHAL CHEATLE was not prepared on the spur of the moment to accept Mr. Turner's statement—that when the glands appeared at the base of the neck they were possibly the "outriders" of mediastinal or mesenteric tuberculosis. It seemed to him quite possible that in the cases Mr. Turner had brought before them he was really dealing with naso-pharyngeal infection, not only in the neck, but even in the mediastinum and in the intestinal tract. He agreed that tonsils and adenoids were a frequent source of infection; one of the reasons for the rarity with which operations for tuberculous glands of the neck now took place was the free removal of tonsils and adenoids in children in early life. It was possible, however, for the tubercle bacilli to get into the glands of the neck without infecting the tonsil, and also to have tuberculosis of the glands of the neck after the tonsils had quite recovered from the infection. It was not, therefore, a very important piece of evidence whether or not the tonsils were tuberculous, although, of course, a positive finding here was very significant. He indicated his methods of treatment in different stages of tuberculous glands. In the stage in which the tubercle bacilli had caused ulceration outside the lymphatic glands his custom was to open the abscess, squeeze out as much of the tuberculous and caseous material as he could through a small incision, and then wait a fortnight or a month before excising the gland.

Mr. W. H. CLAYTON-GREENE, speaking as a general surgeon, remarked on the rarity of infected glands in the neck as compared with the numbers of cases he saw twenty years ago. In those days they accounted for an average of one in every ten cases in his wards; to-day it might be putting it too high to say that he had one case in three months. The reason for this comparative rarity was the attention which was now paid to local irritative lesions in the teeth, tonsils, and adenoids. It had been assumed that the diagnosis of tuberculous glands was easy, but to him it was extremely difficult. Many cases were treated as tuberculous glands which were not so at all, and except the process of time he did not know any means of accurate

diagnosis. Three more or less distinct types of the disease might be recognized: (1) the single gland; (2) scattered glands all about the neck; (3) the matted type, where the glands were adherent to all the surrounding structures. In the first type, especially in the case of young girls, if he saw the case at a stage when the gland was softening and breaking down, he found it best not to excise the whole gland, but to puncture and scrape. In the third group he had found *x* rays of distinct value; they were useful also where sinuses persisted after an imperfect removal of the gland. He had had no success personally with tuberculin, though he was aware of striking success by others. On the other hand, he had had very good results from sending patients for open-air treatment. As for mesenteric tuberculous glands, here again he found considerable difficulty in arriving at a diagnosis. He had, however, come across a number of cases in which colic had occurred in association with such a condition, and a preliminary diagnosis of tuberculous glands had been suggested by the multiplicity of attacks of colic, often reaching back to childhood. These mesenteric glands were a very serious source of danger, because, both in the caseous and the calcifying state, so frequently the cause of obstruction. His method of treatment was to remove them, unless in doing so he was likely to interfere with the vascularity of the bowel, but the removal was done rather in the hope of getting rid of a source of obstruction than of extirpating completely a tuberculous focus. He believed in the great recuperative powers of the body against tuberculous infection. Perhaps it was a traitorous act on the part of a surgeon to confess that nature might sometimes be more potent than the knife; nevertheless, that was his belief, and the more he came into contact with surgical tuberculosis the less readily did he adopt active surgical measures.

Mr. WARWICK JAMES said that as a prophylactic measure the treatment of the teeth was of the utmost importance. Tubercle bacilli had been found in the débris around the teeth, but whether in individuals who did not have a tuberculous infection elsewhere was not clear. The histological demonstration of tuberculous lesions in the mouth had only been made in very rare instances. He did not think that the clinical evidence favoured the view that the mouth might be the portal through which the organism reached the glands. Many of the patients whose portraits Mr. Turner had shown them that evening were mouth-breathers; unless mouth-breathing was corrected, a source of irritation to the glands was likely to continue. He believed that the diminution in the number of operations now found necessary upon tuberculous glands was due to the care exercised by the laryngologist and dental surgeon in removing sources of irritation.

Sir HENRY GAUVAIN said that he rarely found cases in which large tuberculous glands were the only tuberculous lesions, but he was greatly struck by the number of cases which came to the Children's Hospital at Alton with sinuses and very frequently scrofulodermia following operation. He believed in conservative methods of treatment. He rarely used the knife, and did not see any great reason why he should. It was not simply a question of fresh air and sunlight, but of the employment of these agencies in carefully thought out ways. It did not always follow that the seaside was the proper place for these children; the younger children, up to the age of 5, did better in the country. Much might be done by sun treatment, but one should not start with the sunning of the glands themselves; the treatment should be commenced at the feet and gradually extended over the body. Sea-bathing was of immense value in many cases among older children and adults. As for minor measures, in cases where there was one large gland containing pus, he had often been able by a simple aspiration to empty it; if aspirations were required frequently he had a leaning towards a method of treatment which might not be good surgery, but was extremely effective—the putting of a seton through the gland and leaving it in place for a fortnight or three weeks. This induced a leucocytosis in the gland, without sepsis, and cleared up the caseous material, and when the seton was removed there were but two small punctures left, an even smaller scar than in Mr. Turner's cases. Masses of tuberculous glands with much pre-adenitis did best by *x* rays, which were also useful with sinuses, though not infrequently there was at the bottom of the sinus a little piece of caseous material which acted as a sequestrum and had to be removed before the sinus would heal. He mentioned in passing a case of two young Siamese students recently under his care—their race was to be noted, because he believed the Siamese less resistant than English people—with mesenteric glandular affection, one of the cases being followed by spinal caries and the other by sterno-clavicular tuberculosis.

Mr. W. G. HOWARTH believed that in a number of cases the portal of infection was the tonsil, and the proper line of treatment in all well-marked cervical adenitis was to remove this source of infection, when, in a large number of cases, the adenitis would disappear. With regard to the infection of the tonsil itself with tubercle bacilli, his own investigations over a series of several hundreds of cases revealed only 5 per cent. of cases of enlarged unhealthy tonsils associated with cervical adenitis in which there were tubercle bacilli in the tonsils. He wondered why surgeons were so chary about doing aspiration. When a gland was softened it was quite a good and legitimate surgical procedure to put in a sterile needle and withdraw the fluid; the natural resistance of the body was then often sufficient to overcome the infection. When sinuses existed he had had good results with *x* rays.

Mr. DUNCAN FITZWILLIAMS protested that if it was desired to get rid of the condition quickly, aspiration would not prove successful four times out of five. A deep-seated focus of infection could not be removed by mere aspiration. It was much better to make an incision and clear the whole focus out. With regard to scars, it was possible to excise them very easily and prevent the unsightly conditions sometimes witnessed, due to lack of platysma. One simply put in the tenotome, freed the scar, so that it came clean up from the underlying tissue, and then removed a flat piece of fat from the back, which could be easily slipped in to supply a false platysma.

Dr. LAPTHORN SMITH said that in his experience among tuberculous children, sunlight in the country was better as a rule than sunlight at the seaside.

Mr. GREY TURNER, in replying, said that he was quite sure the tuberculous organism could get into the body through the tonsil or through practically any mucous membrane without leaving any trace behind. If they looked for tubercle in the tonsil at the stage of the acute infection—not when the condition had been present for a long time—they would find it much more frequently. Some speakers had suggested that there was a stage in tuberculous gland lesions when only a single gland was affected. This might be the clinical picture, but on pathological examination groups of infected glands would invariably be found. He was perfectly certain that one never got only a single gland infected. He admitted that amelioration and perhaps cure were possible among many lines of treatment, but he doubted the permanency of many of the results. Certainly more evidence was needed, and the cases should be traced over a longer period of time before a cure could be definitely claimed. Practically all forms of surgical tuberculosis, if only enough time could be spent upon them, could be overcome by natural means. That was why Sir Henry Gauvain could speak so optimistically; he was working at Alton under most fortunate conditions. It was said that the number of cases of tuberculous glands had greatly diminished. Nevertheless, the speaker saw many cases still, although tonsillectomy was actively pursued in his district. The reason why these cases did not come into wards was the pressure on accommodation. Finally he protested against operation in these cases being treated as minor surgery. These cases should not be crowded in at the end of the surgeon's long and tiring list. He recalled that when C. B. Lockwood went to lecture at Newcastle on amputations he advised a surgeon who was undertaking his first operation that the most important thing was that he should have a good meal beforehand. The same advice might be given to those about to operate on tuberculous glands. The task should be approached with a feeling of contentment and well-being, combined with a wholehearted belief in the measures adopted.

THE sixth annual meeting of the Japanese Medical Association was held at Tokyo on November 25th and 26th, 1921, under the presidency of Dr. Kitasato. Among the resolutions adopted was one for the establishment of a board for the prevention of the sale of patent medicines, and another demanding a Government inquiry into the best measures to be adopted for the prevention of venereal diseases.

A BILL has been introduced into the New York Legislature forbidding a male doctor to treat a female except in the presence of another female. The bill was introduced by Mr. Male. The *New York Medical Record* describes it as one of the comic reliefs of the popular legislative meddling in medical matters; and the New York Medical Association has passed a resolution disapproving of the bill "unless it could be amended so as to work also the other way round."

Reviews.

EXPOSURE OF DEEP-SEATED VESSELS.

RELATIVELY few surgeons are acquainted with the admirable work of FIOLLE and DELMAS on the rational exposure of the deep-seated blood vessels, but the English translation of their book, which has recently appeared, should ensure a wider familiarity.[1] It is a fact that certain of the classical incisions and methods of approach are totally inadequate, especially in the wounds of war. Free exposure and an unhampered operation field are essentials in these cases, whether suture of the vessel or simple ligature is the object. And since these desiderata are equally to be sought in times of peace, much that is written in this book may advantageously be transferred to civilian practice. Not only are several of the common routes for exposure revised, but some ingenious operations have been thought out for the exposure of parts of vessels usually left untouched.

The ligature of the blood vessels of the posterior aspect of the leg is first described, and, indeed, most of the real innovations in technique are for vessels of the lower extremity. The classic procedure for exposure of the posterior tibial vessels is difficult indeed, as many unfortunate candidates for the higher diplomas in surgery have reason to know. Fiolle and Delmas replace the usual operation by an incision through the middle of the calf, dividing gastrocnemius and soleus; this gives a good view of the vessels of the calf and posterior tibial nerve. Two new operations have been invented to give access to the upper part of the anterior tibial artery in the interosseous space, and the origins of this and the posterior tibial from the popliteal. A noteworthy feature is the attention paid to anatomical reconstruction, both in the discussion of the proposed route and in the paragraph which closes each chapter. Probably the best of the new operations, in addition to those already mentioned, are those for exposure of the junction of the femoral and popliteal arteries and that for the display of the sacro-sciatic notch and gluteal vessels, not to mention the great sciatic nerve. The views expressed with regard to the remaining vessels discussed—those in the upper third of the forearm, in the axilla, in the root of the neck, and the carotids—are not so unusual as those in the lower limb.

The book has been translated and edited by Dr. C. G. CUMSTON of Geneva, and the fastidious will find a few faults with the translation. For instance, "detachable space" for "l'espace décollable" is bad, and "presolar" for "préso-léaire" is not very happy. Compare also the following: "Now, if he be lacking in coolness, he will apply haemostatic instruments haphazard on muscle, nerves, etc., or, what is more likely, on nothing at all, so that the patient becomes exposed to terrible risks," with the original, "S'il manque de sang froid, il pince au hasard muscles, nerfs, ou rien du tout, et le blessé court les plus terribles risques." It will be noted that the authors did not say that the operator is more likely to pick up in his forceps "nothing at all." This is apparently an addition of the translator's own, and the addition does not state a fact in accordance with probability. Whether a translator, even though he be editor too, is wise in making small alterations and additions to the text is a question for individual judgement. But the original text of MM. Fiolle and Delmas is so clear, so well planned, so excellently expressed, that those who know it well may be excused a little impatience at unnecessary alteration.

The translation is well printed, and the very clear and helpful illustrations of the original French edition have been skilfully reproduced. Altogether this book is a notable achievement.

TREATMENT OF DIABETES.

PROFESSOR CARL VON NOORDEN has written a pamphlet on the present position of diabetic therapeutics,[2] giving a summary of the treatment of diabetes as practised in Germany to-day. In the years before the war von Noorden was a leading authority on the subject, and his work had a great influence on the development of the modern treatment of diabetes. Then came the war; Germany was cut off from other nations, and by herself made no further progress. The rest of the world went on. When peace came Germany had been left behind. The German books on diabetes published after the war are old-fashioned to English ideas. Von Noorden makes a gallant attempt to assimilate the old German alternations of oat and other carbohydrate "cures," vegetable days, full diet and hunger days, with the modern far more precise and practical Allen scheme of treatment. He admits its excellence, but is of opinion that the course is unnecessarily severe in the majority of cases. Professor von Noorden does not accept the view that tolerance is raised by a period of under-nutrition, and consequently disapproves of the long continuance of diets in which the patient does not receive the number of calories theoretically necessary. Apparently he does not accept the conclusion to be drawn from the experiments of physiologists that in under-nutrition the body when at rest uses fewer calories than in the normal condition; at the same time he shows that he is fully aware of the dangers of overfeeding, and utters several warnings on this head. He seems not to have read Allen's latest publications, for some of his criticisms are directed against points already modified. The recent work on the relation of body weight to tolerance and on the effects of exercise is not alluded to. Professor von Noorden advocates Allen's treatment in all cases where the control of hyperglycaemia, glycosuria, and ketonuria is urgent; but he evades what seems to us the main point—namely, that Allen's diet affords a far better means than any other for testing the patient's tolerance and keeping a watch on his progress.

In laying down rules for the definitive diet von Noorden's plan is to alternate carbohydrate days, vegetable days, and days with full protein diet, the quantities given being of course adjusted to the individual patient's requirements. The plan would appear to be effective in the majority of cases, though it seems to us a rather complicated one. It is difficult for a patient to lead a normal life on this diet. In this respect the method of testing the patient's tolerance, and then giving him a list of foods (with their protein, carbohydrate and fat equivalents) from which he may choose, has the advantage. The pamphlet ends with a timely reminder that no one method is suitable for all cases and that the individual diabetic must be studied—not merely his disorder. When men cling to a stereotyped rule in the treatment of disease the end is sterility and failure. Von Noorden acknowledges no rules, but he never loses sight of fundamental principles. If he has succeeded in impressing his ideals on the rising generation his work will not have been in vain.

THE BACTERIOPHAGE.

DR. F. D'HERELLE believes that he has discovered an ultramicroscopic organism which is a parasite of bacteria, and he gives a full exposition of his views in a monograph of the Pasteur Institute entitled, *Le Bactériophage, son Rôle dans l'Immunité*.[3] It is based on researches carried out since 1917; many of the records have been published separately, but the book contains a fuller statement of the author's views. The book begins with a statement of the fundamental experiment on which the theory of the bacteriophage is based—namely, that a filtrate from the stools of a patient with bacillary dysentery (Shiga) when added to a fresh broth culture of Shiga's bacillus causes lysis of the bacteria, and that a drop of fluid from the culture so treated can produce the same change in a fresh suspension of dysentery bacilli. D'Herelle believes that he is dealing with an ultramicroscopic parasite of bacteria, so small that it will pass through the finest filter. This "bacteriophage," as he calls it, can only thrive on living bacteria, in the substance of which it grows and multiplies, becoming more and more virulent.

The first half of his book purports to describe the manner of life of this ultramicroscopic parasite, and relates the method adopted for estimating its activity, the distinguishing features of its cultures, and the influence of the reaction of the medium on its growth. An account is given of the effect of antiseptics on the life of the parasite and the manner in which it behaves in suspensions rich and poor in bacteria. The bacteriophage, we are told, exerts its lytic action through the agency of a powerful ferment which it secretes. The author has watched infected bacteria under the microscope, and describes how they assume a spherical form and finally

[1] *The Surgical Exposure of the Deep-seated Blood Vessels.* By J. Fiolle, M.D., and J. Delmas, M.D. Translated and edited by C. G. Cumston, B.S.M., M.D.Geneva. London: Wm. Heinemann (Medical Books), Ltd. 1921. (Demy 8vo, pp. 87; 34 figures. 8s. 6d. net.)

[2] *Über den Jetzigen Stand der Diabetestherapie.* Von Professor Carl von Noorden in Frankfurt (Main). Munich and Wiesbaden: J. F. Bergmann. 1921. (Med. 8vo, pp. 42. M.6.)

[3] *Le Bactériophage, son Rôle dans l'Immunité.* Par F. d'Herelle. Monographs de l'Institut Pasteur. Paris: Masson et Cie. 1921. (Roy. 8vo, pp. 227; 12 figures. Fr. 12 net.)

rupture, liberating the enclosed bacteriophages. Bacteria develop protective processes against these intruders in the same way that human beings develop antibodies against bacteria. Resistant bacterial races are described, the acquired resistance being associated with altered morphology and culture characteristics. To make the analogy complete, there are even bacterial carriers of the bacteriophage!

The second half of the book deals with the part the bacteriophage is believed to play in immunity. Here we are presented with even more revolutionary ideas. In the early stages of an infection, d'Herelle assures us, our chances of recovery depend on the presence of this enemy of bacteria. If the bacteriophage is present the bacteria are attacked and destroyed; if absent, the bacteria multiply and cause disease. The human body is no more than the battlefield where the struggle rages between bacterium and bacteriophage. It is only in the later stages of disease that the antibodies developed by the human subject play any part, for they take many weeks to appear. The ups and downs of an illness are an indication of the fortunes of the rival forces. In an epidemic, also, the disease dies down and disappears because of the triumph of the attendant bacteriophage. Unfortunately, we are not able to fortify ourselves by keeping a stock of well-disposed bacteriophages ready at hand in case of an illness. Injected into the body they are eliminated at once, for they are only able to live on living bacteria. Still, it is comforting to reflect that the bacteriophage is very abundant throughout the natural world, and is as likely to gain an entrance as is a pathogenic bacillus.

Conceptions so far removed from current ideas sound fantastic. But the fundamental facts of the lysis of bacteria by filtrates from organic matter have been verified by many observers. We are in the presence of most important phenomena hitherto unexplained. Whether we accept d'Herelle's theory or not, it is obvious that the power of producing lysis of bacteria is a property which deserves very great attention. Further research will show whether this property is dependent on an ultramicroscopic parasite or due to a ferment secreted by cells. In the meantime this exposition of d'Herelle's views will be welcomed by all who study bacterial life, to whom we commend it.

SURGERY IN SOUTH AMERICA.

DR. FRANKLIN H. MARTIN, Director-General of the American College of Surgeons, paid two visits to South America, the first in the winter of 1920, when he was accompanied by Dr. William J. Mayo of Rochester, then President of the College, and the second in 1921, when his fellow-traveller was Dr. Thomas J. Watkins of Chicago, a Governor of the College. On this trip Dr. Martin and Dr. Watkins were eventually joined by Dr. F. P. Corrigan, a Fellow of the College, who had started rather earlier and paid visits to Ecuador and Bolivia.

The primary object of the trips was to confer with the surgeons of the several South American states with a view to their submitting names for election as Fellows of the American College of Surgeons. The missions in this respect appear to have been highly successful. The secondary object, more or less personal to Dr. Martin, was to induce the authorities of the various states to take an interest in the establishment of an Institute of Tropical and Preventive Medicine in Panama as a memorial to the late Surgeon-General Gorgas, whose organization of the system for preventing malaria and other tropical diseases in the canal zone made the completion of that great enterprise possible, and marks an epoch in the history of tropical medicine. To Dr. Martin's success in interesting the Presidents of the several republics in this project we owe the introduction of their portraits into the volume he has compiled with the title, *South America from a Surgeon's Point of View*[4]; it is in other respects copiously illustrated with portraits of eminent surgeons and photographs of interesting buildings and scenery. In a chapter describing the journey across the Andes—in the composition of which Mrs. Martin had a large share—interesting accounts are given of the mountains and of the feats of the engineers in taking the railroad through them. The travellers started from the Chilian side, and the first part of the journey was therefore a very stiff climb through rocky valleys and by foaming torrents. The descent on the Argentine side is more gradual and less striking. On arrival at Buenos Aires the travellers were met by a deputation of surgeons, who helped them to spend the next few days, partly in doing their particular business, but chiefly in sight-seeing; this is what happened to the party in all the cities they visited.

The reports on the state of surgery in South America are to the effect that it has attained a very high standard. In fact, Dr. Mayo seems to have been twitted with having found all swans and no geese. His reply is that life is too short to spend any of it in witnessing bad surgery; he is interested only in good, and looking for it in the chief cities of South America he found it. He says—and his colleagues agree with him—that the technique is modelled on the French, which means that a great deal of what is done for the surgeon in North America and Great Britain by nurses has to be done in South America by his surgical assistants owing to lack of trained nurses. The two chief criticisms to which expression is given are indeed that the nursing in the hospitals is not good, and that not sufficient care is taken to screen the wards against flies. The actual buildings are in many instances large and well designed, and so are those provided for the medical schools. The teaching is thorough, and the curriculum extends to seven years. Very few foreigners obtain the right to practise, owing, as we gather, to the strictness of the regulations and the severity of the examinations.

Dr. Martin takes a sanguine view of the future of tropical South America. The grounds on which he builds his hopes seem to be mainly two. First, he believes that the modern methods of prevention which have already yielded good results in coast areas can be applied generally in the interior. Secondly, if we have correctly understood a passage on page 130, he is of opinion that a race is being evolved in which the energy and enterprise of European stocks will be combined with the inbred powers of resistance to disease possessed by the aboriginal inhabitants.

The medical pilgrim in South America or the stay-at-home who wants to get an idea of the general features of that great continent and of the character of its peoples will not easily find better guidance than is provided in this volume.

[4] *South America from a Surgeon's Point of View.* By Franklin H. Martin, C.M.G., M.D., F.A.C.S. With an Introduction by William J. Mayo, M.D., F.A.C.S. New York, Chicago, London, and Edinburgh: Fleming H. Revell Company. (Cr. 8vo, pp. 325; illustrated. Price not stated.)

COMMON FEMALE AILMENTS.

DR. F. J. MCCANN has published a little book entitled *The Treatment of Common Female Ailments*,[5] in which he offers to the general practitioner guidance in the treatment of gynaecological complaints, mostly those of a minor variety. All the common conditions are dealt with, and the essentials of diagnosis mentioned; the treatment is described in a most practical, and, where necessary, detailed fashion, which will make the book of value to practitioners who are not familiar with the methods of treatment. Numerous prescriptions are introduced, and these will be a boon to the practitioner who, from lack either of time or of intellectual energy, likes to have his therapeutic instruction provided in this ready-made fashion. Many of these prescriptions and some of the lines of treatment suggested are obviously suited only to patients of means. To this, of course, there is no objection; but surely even the leisured lady of means might be spared "at least ten days in bed" after a simple dilatation of the cervix. One of the best chapters in this little book is on "How to diagnose cancer in the womb," and its perusal should put the reader on the alert to recognize this condition while it is still in its early, and probably operable, stage. The subjects of abortion and puerperal infection have been included in the author's purview because of their preponderating influence in the causation of the more common female ailments.

Dr. McCann uses the appalling word "sacrache" for pain over the sacrum. If he objects to the word sacralgia as a hybrid, that is no justification for perpetrating another hybrid which has the additional objection of a hideous cacophony.

Moderately priced and well printed, this small book cannot be read without profit, and we are quite sure that it will make a strong appeal to many of the practitioners to whom it is addressed.

[5] *Treatment of Common Female Ailments*, by Frederick John McCann, M.D.Edin., M.R.C.P.Lond., F.R.C.S.Eng. London: Edward Arnold and Co. 1922. (Demy 8vo, pp. 152. 8s. 6d. net.)

NOTES ON BOOKS.

DR. W. E. FOTHERGILL'S *Handbook for Midwives and Maternity Nurses*[6] has reached its fourth edition, a proof of well-deserved popularity. The book is written throughout with the lucidity which is characteristic of Dr. Fothergill's style, and forms a useful textbook for nurses studying for the examinations of the Central Midwives Boards. The illustrations are good, and we are particularly glad to see the space which is devoted to the anatomy of labour—the numerous frozen sections which are illustrated being calculated, with the assistance of the text, to give the reader a clear idea of what actually occurs during labour. There are various appendices dealing with the regulations of the Central Midwives Boards and a number of test questions which have appeared in the examinations of the Boards. The book can be cordially recommended.

DR. RAMSEY'S *Care and Feeding of Infants and Children*,[7] now in its second edition, is a textbook for nurses. The first half of the book contains an adequate account of the anatomy and physiology of the child, and gives full details of the way in which the normal child should be fed and brought up. In the second half the chief disorders and diseases to which infants and children are liable are discussed briefly. The book is well illustrated, and the author writes with clearness and decision. The volume may be warmly recommended to intelligent mothers and nurses who wish for a sensible guide to the upbringing of infants and young children.

From Dr. K. UHTHOFF'S small book on the fate and care of the blinded soldier[8] it appears that there are in Germany about 4,000 soldiers blinded in the war. He gives an account of what is being done for them; some 2,000 fully trained leading dogs have been found, and a demand for 1,000 dogs a year is contemplated. Special chapters are given to the trades and occupations deemed suitable for the blind. The book is well written and should be in the hands of all who have the blind soldier's interest at heart.

[6] *A Handbook for Midwives and Maternity Nurses.* By W. E. Fothergill, M.A., B.Sc., M.D. Fourth edition. Edinburgh: W. Green and Son, Ltd. 1921. (Demy 8vo, pp. x + 278; 67 figures. 15s. net.)

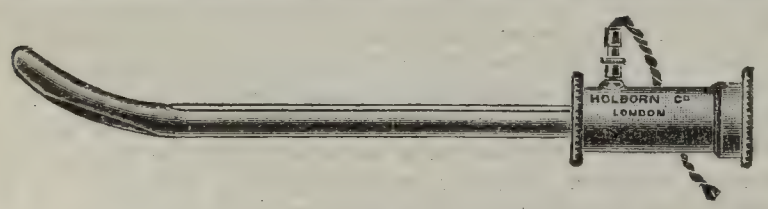
[7] *Care and Feeding of Infants and Children.* A Textbook for Trained Nurses. By W. R. Ramsey, M.D. Including suggestions on Nursing by Margaret B. Lettice. Second edition, revised. Lippincott's Nursing Manuals. Philadelphia and London: J. B. Lippincott Co. 1920. (Demy 8vo. pp. 304; 122 figures. 10s. 6d. net.)

[8] *Über das Schicksal der Kriegsblinden und ihre Versorgung, mit besonderer Berücksichtigung der Kriegsblinden Schlesiens.* Von Dr. med. K. Uhthoff. Halle a. S.: C. Marhold. 1921. (Med. 8vo, pp. 102. M. 9.50.)

MEDICAL AND SURGICAL APPLIANCES.

A Urethroscope Tube for the Posterior Urethra.

CAPTAIN F. CARMINOW DOBLE, R.A.M.C., writes: The difficulty in obtaining a simple urethroscope, by means of which one can examine the posterior urethra, has no doubt been experienced by many surgeons. I have recently had a special tube fitted to my "Holborn" urethroscope, by means of which one can get a very clear view of the floor of the posterior urethra. The urethral tube, as illustrated, is rather more than 7½ inches long and of 26 French catheter gauge. It is curved at the end, and has an opening 1¼ inches long in the convex surface of the bend. This opening is completely filled by the pilot when introducing the tube, and I find it causes very little bleeding and discomfort to the patient. The tube is made to fit the body of the "Holborn" urethroscope, and lengthening pieces are supplied for the lamp holder and instruments to make up for the extra length of the posterior tube. The lens used is a large single one 7/8 inch in diameter, and does not require any adjusting or focussing, which



is necessary with the more complicated and expensive instruments, and one can get a very much better view. The tube can also be used with the operating body, thus enabling one to carry out in the posterior urethra any necessary treatment as easily and with just as good an illumination as in the anterior urethra. It is advisable to give the patient a 1 4 grain belladonna suppository the night before and another an hour before the examination and to wash out the bladder with mercury oxycyanide afterwards; a local anaesthetic is rarely necessary. After the patient has passed water the tube is introduced as if it were a sound and the pilot removed. The mucous membrane is then dried with mounted swabs and the body of the instruments attached. The illumination is very brilliant. A little care and practice is necessary to prevent the window being pressed on to the mucous membrane. By gently withdrawing the tube and rocking from side to side, the walls and floor of the posterior urethra can be examined.

RADIUM THERAPY.

ANNUAL REPORT OF THE LONDON RADIUM INSTITUTE.

THE annual report of the London Radium Institute for 1921 differs somewhat in plan from the reports issued in previous years. Mr. A. E. Hayward Pinch, F.R.C.S., the medical superintendent, devotes the first part to a brief summary of the results obtained in the period of ten years that the Institute has been in existence. The second part of the report practically takes the form of a short monograph on radium therapy in gynaecology. Mr. Hayward Pinch has been responsible for practically the whole of the gynaecological treatment since the Institute was opened, and his personal experience in that subject is most interesting, and forms a contribution to medical literature of high value. The last part of the report consists of a summary of the work of the research department, by Dr. J. C. Mottram, and a short report on the work of the chemico-physical laboratory, by Mr. W. L. S. Alton.

THERAPEUTIC VALUE OF RADIUM.

The London Radium Institute was opened in August, 1911, and since that time some 7,750 patients have been dealt with, and nearly 100,000 treatments administered. The cases treated fall into four chief categories:

(*a*) Those in which cure, either complete in the case of non-malignant, or apparent in the case of malignant, disease, may be confidently anticipated: Chronic eczema, seborrhoeic eczema, lichenification, cavernous naevi, keloids, papillomata, keratomata, corns, rodent ulcer, lympho-sarcomata, sarcoma of the naso-pharynx.

(*b*) Those in which great benefit, both local and symptomatic, may be expected to ensue: Psoriasis, xanthelasma, xeroderma pigmentosum, Fordyce's disease, leucoplakia, capillary naevi, "port-wine" marks, spring catarrh, lupus erythematosus, lupus vulgaris, tuberculous adenitis, vicious cicatrices, Dupuytren's contraction (early stages), exophthalmic goitre, parenchymatous goitre, splenic leucocythaemia, lymphatic leucocythaemia, lymphadenoma, mediastinal tumours, epithelioma of skin, epithelioma of cornea, epithelioma of vagina, epithelioma of urethra (female), carcinoma of breast, carcinoma of uterus, carcinoma of bladder, carcinoma of prostate, carcinoma of thyroid, sarcomata (excluding endosteal), endotheliomata, angio-neurotic oedema, arthritis deformans (early infective cases).

(*c*) Those in which the result is doubtful, some cases responding very well, others of like character failing to show any improvement whatsoever: Pruritus, neuralgia, neuritis, epithelioma of tongue, epithelioma of mouth, epithelioma of fauces, epithelioma of larynx, epithelioma of oesophagus, carcinoma of stomach, carcinoma of intestine, carcinoma of rectum, myelomata, melanomata, glycosuria.

(*d*) Those in which radium treatment is practically useless: Dupuytren's contraction (late stages), kraurosis vulvae, adenomatous goitre, osteitis deformans, acromegaly, cysts, lipomata, enchondromata, osteomata, endosteal sarcomata, syphilis, locomotor ataxia, disseminated sclerosis, poliomyelitis, paralysis agitans.

While it would be perhaps unwarrantable to use the term "cure" when speaking of radium treatment in conditions such as the foregoing, yet Mr. Hayward Pinch believes that it can with reason be claimed that results have been obtained in the arrest of the progress of the disease and in the improvement of the patient's general health and comfort to a degree which cannot be excelled, and is rarely equalled by any other known medical or surgical measure.

"It is to be regretted," he says, "that within the past twelve months statements have been published in the lay press to the effect that radium was 'a failure,' and these appear to have originated in the pronouncements of some well-meaning but ill-informed practitioners concerning a subject of which they possessed but very little personal experience. As these statements are not infrequently alluded to by patients and their friends, it is obvious that considerable harm has been done by their dissemination, and it therefore appears desirable strongly to controvert the assertion. Radium is not a failure when used intelligently and scientifically, and applied to the treatment of those conditions which experience has shown are amenable to its action. No honest worker claims, or has ever attempted to claim, that radium is to be regarded as a panacea, or as a cure for malignant disease, and many years must elapse, and much more research and clinical work be done, before it will be justifiable to use the word 'cure' even in selected cases of malignant trouble. It is best, therefore, to speak only of 'arrest of the disease,' and this can truthfully be affirmed in very many instances."

RADIUM AND X RAYS.

In regard to the question of the relative advantages of radium and *x* rays in the treatment of disease, Mr. Hayward Pinch considers that each case must be separately and carefully considered before a decision is given. *X* rays, however, are generally to be preferred to radium when the condition is very widespread and large areas of the body are affected—for example, generalized psoriasis and the early stages of cancer "en cuirasse," generalized infection of the peritoneum, as met with in cases of cystic disease of the ovaries, etc. In all these conditions an enormous quantity of radium, mounted on numerous applicators, would be necessary adequately to radiate the whole affected regions at one sitting, but this can, however, be readily accomplished by means of an *x*-ray tube. On the other hand, when it is desired to give an intense dose over a small area—for example, rodent ulcer, small superficial epitheliomata, recurrent nodules after excision of the breast for carcinoma, endotheliomata of the parotid, and sarcomata in the early stages, etc.—radium should be advised, as by means of emanation applicators an extremely powerful dose can be administered to a very small area. Then, too, there are certain situations, such as the cavity of the uterus, bladder, larynx, oesophagus, stomach, and rectum, where it is almost impossible to give an adequate dose of *x* rays, but where by means of a suitable form of apparatus radium can be quickly, safely, and effectively employed. In young children and nervous patients the procedure associated with *x*-ray treatment often proves terrifying. With radium this difficulty does not occur; no pain, discomfort, or annoyance is occasioned by the application, and it is a common sight to see quite young children who are being treated for naevi or tuberculous glands, etc., playing with toys, the applicators being safely strapped in position.

Radium treatment, it is noted, is useless in all cases of disease affecting actual bone substance, whether malignant or non-malignant, and it is now the custom at the Radium Institute, when a patient suffering from rodent ulcer which has actually invaded the bony tissue applies for treatment, to recommend excision of the affected portions of the bone before any exposures are undertaken. With regard also to cystic conditions generally, it is stated that radium treatment is of little value, more especially if the cysts be large and tense. When favourably situated, however, the removal of the contents of the cyst by excision or aspiration, followed by the introduction of radium into the cyst cavity, may be utilized to induce inflammatory adhesions of the cyst walls, and so prevent its reappearance. Radium has no effect on fatty tumours, and surgical interference alone is to be recommended.

RADIUM EMANATION.

According to the report, the employment of radium emanation as a therapeutic agent is steadily increasing, and its field of usefulness broadens from day to day as its merits and advantages become more widely recognized. The manipulation of the emanation is a highly technical process, and necessitates the attention and services of a staff of specially trained physicists, whose measurements of its initial radio-activity and its subsequent variations can be relied upon absolutely. There is further the fact that the emanation can only be obtained from solutions of radium salts; the quantity is limited, and bears a strict relation to the amount of the parent salt.

Radium emanation may be employed for therapeutic purposes in three ways:

1. *By Inhalation.*—This method obtained a great vogue on the Continent in the years immediately preceding the war. Most of the spas and bathing establishments were provided with radium emanatoria—luxuriously equipped buildings containing rooms the air of which was freshened from time to time with small quantities of radium emanation and oxygen, or radium emanation only. Extravagant claims were made as to its therapeutic value in the treatment of widely differing forms of disease, but these have been only poorly substantiated by subsequent clinical observation, and it is an open question whether the greater proportion of the cures announced were not due as much to the power of suggestion as to the physical effects of the radium emanation.

2. *By Ingestion.*—Radium emanation is dissolved in water and administered to patients daily for periods of six, nine, or twelve weeks or longer. The strength of the solution furnished by the Radium Institute is 2 millicuries per litre, and of this patients take 250 c.cm. during each twenty-four hours. The principal conditions benefited by this form of treatment are arthritis deformans, glycosuria, arterio-sclerosis, and the extremely rare malady angio-neurotic oedema.

3. *By inclusion* in glass or metal tubes and containers, used for the radiation of diseased tissues in precisely the same fashion as radium salt apparatus.

The idea is prevalent in some quarters that radium emanation apparatus is less effective than radium salt apparatus, but the report strongly emphasizes the fact that their therapeutical properties are identical. In addition, radium emanation possesses certain special advantages. Being a gas it is both compressible and expansile, and these qualities are peculiarly valuable in the making of applicators, as it is possible to concentrate the radio-activity very greatly, and to prepare a tube of equal activity to any given radium salt tube, but only one-twentieth of its size. This is of great value in the treatment of small malignant growths or tiny nodules of recurrence, enabling an intensely powerful radiation to be given in a very small area. Further, the emanation possesses no intrinsic value, and should an emanation applicator be mislaid or destroyed, the only pecuniary loss incurred is the value of the metal container. This permits radium emanation tubes and applicators to be sent on hire or loan to all parts of the United Kingdom, no security or insurance being demanded, as would be the case if radium salt apparatus were dispatched.

Mr. Hayward Pinch states that advice is freely given to medical practitioners in the treatment of disease with radium emanation apparatus, and if precise information is furnished as to the nature and extent of the disease or growth, a suitable apparatus with full instructions as to technique can usually be forwarded to any address in the British Isles within two or three days.

RADIUM THERAPY IN DISEASES OF WOMEN.

Apparatus and Technique.

In regard to the treatment by radium of diseases of women, it is stated that the amount of radium bromide, or its equivalent in some other radium salt requisite for satisfactory treatment, should be at the very least 500 milligrams, which should be utilized to prepare:

1 tube of 100 mg.	= 100
2 tubes of 50 mg. each	= 100
4 tubes of 25 mg. each	= 100
2 rectangular flat varnished applicators, 3 by 2 centimetres, "full strength," each containing 60 mg.	= 120
2 rectangular flat varnished applicators, 3 by 2 centimetres, "half strength," each containing 30 mg.	= 60
1 square flat varnished applicator, 1.5 by 1.5 centimetre	= 20
Total	500 mg.

Radium emanation apparatus of the same shape, size, and activity may be used instead of radium salt apparatus when an adequate supply of emanation is available.

The set of screens should comprise:

(1) Screens of 1 mm. silver and 2 mm. lead for the 100 mg. and 50 mg. tubes.

(2) Screens of 1 mm. silver and 0.3 mm. platinum for the 25 mg. tubes.

The screens for the 50 and 25 mg. tubes should have the closed end pointed to facilitate their insertion into small growths and recurrent nodules.

The open end of the screens should be fitted with a screw thread to permit of the attachment of an eyeletted stopper with a silk thread, or a pliable silver wire eyelet, as occasion demands.

(3) Screens of 0.01 mm. aluminium, 1 mm. silver, 0.1 mm. and 2 mm. lead, accurately shaped to fit the surface of the different flat varnished applicators.

No instruments other than those generally employed in gynaecological work are necessary, though it is stated that it is an advantage to have all specula of the Fergusson type fitted with conical obturators. In cases of carcinoma of long standing the vaginal walls are often so infiltrated that the passage of a cylindrical speculum with abrupt edges is difficult and occasions the patient considerable pain. The use of an obturator prevents this occurrence. When the introitus vaginae is contracted and rigid, barely permitting the insertion of the forefinger, the smallest-sized proctoscope, such as used for children, is found very useful. Its passage causes but little discomfort, and it effectively illuminates the cervix, fornices, etc.

The dorsal position is the most satisfactory for the routine examination of the patient, and it usually suffices for treatment also, though in some cases the lithotomy position is essential. When introducing radium tubes into the uterine cavity, cervical canal, substance of the cervix, broad ligaments, urethra or bladder, all reasonable aseptic and antiseptic precautions should be observed, and the operator should wear rubber gloves to minimize the risk of infection.

Details of the method of application are given, and it is pointed out that patients who have received intravaginal radium treatment should be instructed to use some simple non-irritating vaginal douche daily for about four weeks after the exposure, as this will prevent the occurrence of adhesive vaginitis which sometimes ensues in susceptible subjects.

DISEASES OF THE VULVA.

In regard to the treatment of diseases of the vulva it is found that lichenification, leucoplakia, papillomata, and rodent ulcer, when they affect the vulva, clear up rapidly under radium treatment. It is an unfortunate fact, however, that patients suffering from epithelioma of the vulva rarely apply for treatment until the condition is far advanced and quite inoperable. If the lesion be small and circumscribed the result after radium therapy is usually satisfactory; in extensive flattened growths the progress of the disease may usually be arrested; in very advanced cases with deep ulceration and infiltration of the underlying tissues radium treatment may serve to heal or lessen the ulceration, alleviate the pain, and retard the progress of the disease, but it cannot do more. Sarcoma of the vulva is rarely met with; it usually appears as a rounded swelling in the substance of the labium majus, and may at first be mistaken for a fibroma. If operation is impracticable radium treatment may be tried, but the prognosis is always very grave.

DISEASES OF THE VAGINA.

Radium is of little use in the treatment of any kind of vaginal cyst, and its removal by surgical means should be recommended in preference. Polypi prove very amenable to radium treatment, and after it there is little probability of their recurrence. Primary carcinoma of the vagina is seldom met with in young women, and generally occurs some time after the establishment of the menopause. The immediate result of radium treatment is very often encouraging, but recurrence is extremely probable. Secondary carcinoma by extension from the cervix, or from the rectum, or by metastases from the body of the uterus, should be treated in the same way as the primary carcinoma of the vagina, but the prognosis is naturally not so good by reason of the existence of a primary growth elsewhere. Primary sarcoma of the vagina is extremely rare, and the two cases treated at the Institute were quite inoperable when first seen, and, in spite of temporary improvement, went on to a fatal termination.

DISEASES OF THE UTERUS.

Chronic cases of endocervicitis (cervical endometritis), which have proved refractory to all routine methods of treatment, are very often favourably influenced by radium, more especially when there is no antecedent history of gonorrhoeal or other acute pyogenic infection. It is advisable to limit the treatment to the cervical canal and surface of the cervix, and for this purpose the use of a special applicator devised by the late Dr. Louis Wickham is recommended. Patients suffering from chronic metritis, uterine fibrosis, and subinvolution have much in common. Such cases often prove most intractable, treatment by drugs alone rarely proves effective, and the cases sooner or later fall into the surgeon's hands. While curetting, amputation of the cervix, etc., may be performed with benefit, radium treatment is undoubtedly of great value, rapidly improving the patient's condition, and, if proceeded with, going on to complete cure. Cases of uterine fibroids most likely to be benefited by radium are those in which the growth is more myomatous than fibromatous in character, moderate in size, and not the subject of inflammatory or degenerate changes.

Carcinoma of the Cervix.

Mr. Hayward Pinch recommends that when dealing with carcinoma of the cervix, a clear opinion should first be formed as to the operability or otherwise of the growth, and that the cases should be grouped into three main classes: (*a*) Operable cases; (*b*) border-line cases; and (*c*) inoperable cases. In the first group the correct treatment should be operation, followed by a thorough course of radium irradiation. In the second group the procedure should be radiation followed by operation, provided the result of the treatment has been sufficiently definite to warrant attempts at surgical interference. In the third group radiation should be relied upon principally, but it may advantageously be supplemented by such local operations as removal of fungating portions of the growth by excision, scraping, or diathermy.

Many workers are now advocating the radium treatment of early operable cases of carcinoma of the cervix by radiation alone, and the figures they advance in support of their claim cannot be disregarded. At present, however, it would appear premature blindly to follow their lead, and early performance of Wertheim's hysterectomy in skilled hands, followed by a thorough course of radiation, still appears to be the line of action most likely to free the patient entirely from her trouble. The local and symptomatic effects of radium treatment in carcinoma of the cervix are usually very striking, and the benefit obtained not infrequently imbues the patient with a false sense of security; the symptoms which caused her so much pain and discomfort having disappeared, she imagines the disease to have been eradicated completely, and ceases to attend for examination and treatment until, after a lapse of some time, fresh symptoms develop; and when the patient is next examined the disease is found to have affected parts beyond the effective reach of radium. For this reason it is considered imperative that all patients receiving radium treatment for carcinoma of the uterus should be instructed to report at intervals not exceeding three months for a very long period of time.

From a clinical standpoint carcinoma of the cervix presents three well marked varieties: (1) the endocervical or medullary type; (2) the flattened ulcerated type; (3) the proliferative fungating type; and each variety requires a somewhat different method of treatment.

1. *The Endocervical or Medullary Type.*—These tumours originate in the mucosa of the cervical canal and form circumscribed nodular growths, unaccompanied by any external ulceration; the predominant early symptoms are an occasional slight uterine haemorrhage and a scanty vaginal discharge. Vaginal examination reveals little more than an enlarged and somewhat nodular indurated cervix. These growths sooner or later break down, ulceration and disintegration rapidly occur, and the cervix is speedily transformed into a crateriform ulcer, with its apex at the internal os; its walls are thin, hard, and extremely friable. This is by far the most malignant type of the disease; lymphatic infection takes place at an early date, and involvement of the base of the bladder, leading to the formation of a vesico-vaginal fistula, is commonly observed. In this type of growth a tube of 100 to 150 mg., screened with 1 mm. of silver, should be inserted within the cervical canal for twenty-four hours. This should be supplemented with one or more tubes of 25 mg., screened with 0.3 mm. of platinum, and inserted into the thickened cervical walls, or into the nodular infiltrations in that situation. The exposures here should be of twelve hours' duration. If definite infiltration of either or both of the broad ligaments be present, a radium tube or tubes of 50 mg. activity, screened with 1 mm. of silver, should be inserted into the infiltrated area, an exposure of twenty-four hours' duration being given there. In addition to the foregoing, a general irradiation of the pelvic cavity should be carried out by means of flat applicators containing 150 to 200 mg., screened with 2 mm. of lead, and applied immediately above the pubes, and in each iliac fossa. The exposure here should be from twenty-four to thirty hours' duration, and it is advisable slightly to move the position of the applicators from time to time, in order to avoid the possibility of producing skin vesication. The exposure may be repeated after an interval of six weeks, but not earlier.

2. *The Flattened Ulcerated Type.*—In these cases the disease manifests itself as a flattened superficial ulcer with a hard edge and a flat granular base. It much resembles a simple erosion, and is not infrequently mistaken for the same. This growth infiltrates but slowly, and tends to spread rather by a surface extension. Treatment in these cases is best carried out by means of the small 25 mg. tubes screened with 1 mm. of silver, and the most satisfactory way of doing this is to take a mould of the diseased cervix with dental modelling compound. When this is withdrawn the tubes are embedded in grooves on that portion of the mould which will come in contact with the surface of the ulcer, and the mould carrying the tubes is reinserted and maintained in accurate position by gauze packing. The exposure should be of twenty-four hours' duration, and may be repeated after the expiry of six weeks. The same procedure should be carried out with regard to the external irradiation of the pelvic cavity as indicated in the previous case.

3. *The Proliferative Fungating Type.*—This class is characterized by the so-called "cauliflower" growth, which springs from the surface of the cervix, forming an irregular fungating friable mass, which may almost completely fill the vaginal cavity. Here it is advisable, before proceeding to radium treatment, to remove as much of the growth as possible by excision, curetting, cautery, or diathermy. The remains of the cervix should then be treated by the insertion of a 100 tube, screened with 1 mm. of silver, into the cervical canal for twenty-four hours, and any outlying nodules that may have escaped the surgical procedures should be treated by the insertion of a 25-mg. tube, screened with 0.3 mm. of platinum, into their substance for twelve hours. Here, too, a general radiation of the pelvic cavity should be adopted as a matter of routine, and the exposures repeated at an interval of six weeks if necessary. The local and symptomatic benefit which usually follows the procedures indicated is usually most striking. Haemorrhage and discharge are arrested, ulceration is healed, the growth is diminished, the parametric infiltration is reduced, and

pain ameliorated, In the "border-line" cases some patients respond in such excellent fashion that within three or four weeks of the exposure the surgeon is inclined to regard as quite operable a case which before he was strongly averse to interfering with. In these cases the reduction of the infiltration and the lessening of the accompanying fixation are often most pronounced. This is possibly due to the fact that the peri-uterine infiltration is of a composite character, both carcinomatous and inflammatory, and the action of the radium has done much towards lessening the inflammatory effusion. It is, however, important in these "border-line" cases that too long a period of time should not be permitted to elapse between the radium treatment and the performance of hysterectomy. Three to four weeks should be the maximum. If the period of time exceed this, the fibrosis associated with the radium reaction will have taken place, and will render the removal of the uterus a more tedious and difficult operation. If one exposure in a "border-line" case fail to effect sufficient improvement to warrant operation, it is extremely improbable that further treatment will improve the outlook from a surgical standpoint, as each successive treatment inevitably produces an increased fibrosis.

Carcinoma of the Body of the Uterus.

Carcinoma of the body of the uterus is much rarer than carcinoma of the cervix, and the total number of cases seen at the Radium Institute has not exceeded 2 per cent. of all the cases of uterine cancer treated. It is more prone to occur after the establishment of the menopause, and is most generally met with in nulliparae. Hysterectomy for cancer of the body of the uterus gives much more encouraging results than cancer of the cervix, and on this account the immediate performance of this operation should strongly be urged upon patients directly the diagnosis has been established. If, however, the condition be inoperable some improvement usually follows after radium treatment, but as the symptoms of the condition are not so manifest or painful as those of carcinoma of the cervix, the result to the patient is not nearly so striking, and it is sometimes difficult, therefore, to induce them to submit to further exposures.

Prophylactic Irradiation.

The use of prophylactic irradiation in cancer of the uterus is steadily increasing, and it appears likely that before long it will be a routine procedure in all operative cases. It may be administered either three or four weeks before operation, which is advisable in all "border-line" cases; two or three days before the operation, a procedure of special value in treating cases of the proliferative fungating type; or two or three months after the major operation—this should be carried out as a routine measure in all cases in which Wertheim's hysterectomy has been performed for malignant disease, but considerable caution must be exercised in its performance.

Patients suffering from recurrence after hysterectomy often do exceedingly well, more especially if treated within a short time of the appearance of the recurrence.

DISEASES OF THE FALLOPIAN TUBES AND OVARIES.

Primary malignant disease of the Fallopian tubes is seldom diagnosed until the abdomen has been opened and an exploratory operation performed. The pathological conditions most commonly met with are either acute inflammatory conditions or cyst formations, neither of which are suitable for radium treatment. New growths of the ovary may be either cystic or solid, the former being the more frequent. Cystic tumours of any kind, however, are but little influenced by radium, and its use in such conditions is therefore of little practical value. In the late stages of papilliferous cystic disease of the ovary, when rupture of the cyst has occurred, and the peritoneum is studded with numerous secondary growths leading to the development of hydroperitoneum, some transient benefit may follow exposure to radium, but such treatment must be regarded as only palliative. Ovarian fibroids are not suitable for radium treatment and should be removed surgically. The prognosis in cases of malignant disease of the ovary is most grave, and it is advised that operative procedure should always be undertaken if possible. If this be impracticable for any reason, prolonged exposures to radium may be given; by these measures some retardation of the rate of growth and amelioration of pain may be obtained, but nothing more than this can be expected.

DISEASES OF THE URETHRA AND BLADDER.

Urethral caruncle is best treated by surgical methods (cautery or excision), and radium treatment is not recommended for the condition. Primary epithelioma of the urethra is occasionally met with in elderly females, and radium treatment will often produce complete disappearance of the growth, though it appears to have little influence in checking dissemination through the lymphatics, and recurrences are apt to take place after some little time. Recurrent and inoperable cases of papilloma of the bladder are often very greatly benefited by radium treatment, the growths shrinking, their vascularity being diminished, and the haematuria arrested. Inoperable cases of carcinoma of the bladder, in which the patient is tolerant of intravesical applications, may quite justifiably be submitted to radium treatment, as great improvement, sometimes going on to apparent cure, may result.

NEUROSES.

The pruritus which occurs in highly neurotic subjects, and in which no pathological lesion can be found as the exciting cause, is a most intractable condition, and radium often fails completely to bring about any relief. Even when it does prove effective, freedom from the complaint is seldom of long duration, and any undue shock or emotion will serve to bring about a return of the irritation. Patients who are approaching the menopause, and are of a definitely neurotic type, sometimes complain of severe attacks of neuralgic pain referred to the region of the ovaries, for which no adequate cause can be discovered by the most careful physical examination. Routine medical treatment often proves ineffective, and radium sometimes gives great relief, though it is probable that the results are as much psychical as physical in origin.

Mr. Hayward Pinch acknowledges his indebtedness in the compilation of his report to his colleagues, Dr. J. E. A. Lynham and Dr. Philip Gosse.

LABORATORY WORK.

Research Department.

Dr. J. C. Mottram, director of the research department, reports that during 1920 increased protection for the radium workers was instituted, and, as mentioned in the last report, evidence was being found of a return of the altered blood condition of the workers to the normal. During 1921 the evidence of this became very clear, and the details were published in *Archives of Radiology and Electrotherapy* (May, 1921, p. 368). In the case of the red cells, the polymorphs, and the haemoglobin the return to the normal was complete; only a mild lymphopoenia persisted. In this paper there was also a short description of the protective devices which gave rise to this desirable result. The results of two other investigations upon the action of radium and x rays on the blood were published during the year, one in collaboration with Professor S. Russ, "Lymphopoenia following exposures of rats to soft x rays, and the β rays of radium," in the *Journal of Experimental Medicine* (September, 1921, p. 271), and the other, "Observations upon the action of radium and x rays on the mononuclear leucocytes of the blood of rats," in the *Proceedings of the Royal Society of Medicine* (Pathological Section, February, 1922). During the year a new line of investigation, the basis of which was an attempt to correlate the remarkable similarity between the effects of withholding vitamin B and of exposure of animals to x rays and radium, was begun in collaboration with Drs. Cramer and Drew of the Imperial Cancer Research Fund, and as the result two papers on this subject were published in the *Lancet* (1921, vol. i, p. 963, and vol. ii, p. 1202).

Chemico-Physical Laboratory.

Mr. W. L. S. Alton, F.I.C., director of the chemico-physical laboratory, states that the number of bottles of radium solution distributed was 3,800, the output being 950 litres, and the number of emanation tubes and applicators prepared was 719. The average strength of the tubes and applicators made was higher than in the preceding year, due partly to the demand for higher dosage and to the use within the Institute of radium salt tubes containing 10 and 20 mg. of radium bromide, two of which were made and others were in preparation. The steps taken for the protection of the workers from the effects of radium have been beneficial. Increased protection was sought, and it was decided to alter the whole technique of the emanation apparatus. Protection by "distance" rather than by the use of heavy metal screens was found to be suitable, and modifications were therefore made in the department. Grants of emanation were made for lecture purposes and for research work in other institutes, and it is stated that demonstrations of the apparatus used can be given on application.

British Medical Journal.

SATURDAY, MARCH 4TH, 1922.

CANCER OF THE CERVIX UTERI.

HAVE the surgical measures adopted during the last fifteen years, and the better knowledge possessed by doctors, midwives, nurses, and the public as to the dangers of delay in cases of uterine cancer, led to a reduced mortality? There seems reason to think that during recent years, owing to anxieties, war work, and preoccupation of the minds of those concerned, the early indications of a disease so serious as uterine, and especially cervical, cancer have been overlooked or disregarded.

In the Epitome of February 4th last a short note was published on a paper by Winter in the *Zentralbl. f. Gynäk.* for December 3rd, 1921. He put this increased disregard of pre-war warnings into definite figures as regards cancer of the cervix uteri. He stated that during and since the war the percentage of patients with cervical cancer coming to his notice when the disease was in its early operable stage had markedly diminished. The actual figures he gives are 72 per cent. of inoperable cases in 1920 as compared with 34 per cent. in 1911.

In addition to neglect by the patient herself of evidences of cervical cancer, it must be remembered that the woman's usual family doctor during the war was often not available, and that to avoid consulting a stranger she might be the more inclined to postpone seeking advice till too late, fortified meanwhile by the suggestions of her friends that her losses of blood were the usual accompaniments of the menopause. The cervix is about fifteen times more frequently attacked by cancer than the body of the uterus, and cervical cancer is more rapidly fatal, owing to the lymphatic and cellular tissues round it. The operative prognosis also, for similar reasons, is much worse than when the growth is confined to the uterine body.

When in 1905, at the annual meeting of the British Medical Association at Leicester, Wertheim introduced to British gynaecological surgeons the operation known by his name, it was hoped that many valuable lives would be saved. It is, however, a question how far the extended Wertheim operation, as a substitute for vaginal hysterectomy for cervical cancer, has yet reduced the death rate when the whole mass of cases of the disease is considered. Nearly 40 or even 50 per cent. of the cases when seen by the gynaecologist are inoperable, and, except in the hands of a few, the average operation mortality has not hitherto been much under 18 or 20 per cent.; the recurrences appear to average about 75 per cent. during the first three or four years.

The statistics of the Wertheim operation in this country and abroad, both of the operation mortality and the number and dates of recurrences, vary in a remarkable manner, and seem to depend largely upon the operability rate of the operator. His optimism, his experience, and perhaps his caution and his sympathy, will, in different directions, influence his judgement in the selection of cases for operation. There is not, and at present cannot be, any fixed or standard operability rate; this creates difficulties in comparing statistics, and makes the actual and relative saving of life impossible to determine.

Radiotherapy is on its trial. Symptomatic cure of inoperable cervical cancer of the uterus, with great improvement of the general health, is claimed, but sooner or later the growth seems to recur in outlying parts of the genital area. Irradiation in association with Wertheim's operation is, according to Mr. Hayward Pinch,[1] likely to give the best results when employed as a routine procedure two or three months after operation for early cancer, when applied in doubtfully operable cases three or four weeks before operation to reduce inflammatory infiltration, and when used a few days before the operation in fungating forms supplementing local operative procedures.

There is no doubt, however, that if the cases were seen earlier the operation mortality would be much reduced, and recurrence would take place less frequently and after a longer interval. From the point of view, therefore, of saving the lives of women who have uterine cancer, the main desideratum is to get women to seek medical advice when the first symptoms, often as they may seem to her to be trifling, are observed, for this will imply that the gynaecologist will be able earlier to consider the advisability of operation.

In 1907[2] Dr. Herbert Spencer read a notable paper, in the Gynaecological Section of the Annual Meeting of the British Medical Association in Exeter, on the measures to be recommended to secure the earlier recognition of uterine cancer. He showed that more women die of cancer of the uterus than of cancer of any other part of the body (19,645 such deaths in the five years 1901–1905). Of these deaths, only 30 were of women under 25, the highest mortality being between 45 and 55 years of age. There was thus an annual mortality of nearly 4,000 adult women, mostly mothers. The death rate from cancer of the uterus now, after fifteen years have passed, is no better. In 1919 the deaths from cancer of the womb in England and Wales numbered 5,162, representing 20.2 per cent. of the total deaths from cancer in women in institutions, and 17 per cent. among women in private care; only 9 of the 5,162 deaths were in women under 25 years of age. Dr. Spencer considered that the cause of this terrible mortality from uterine cancer was that valuable time was lost before the patient presented herself to the gynaecologist, owing to her ignorance of the early symptoms, and because the family practitioner sometimes delayed to examine the patient after she had consulted him, and not very infrequently patients refused to be examined or to see an expert.

A valuable discussion followed this address, and a resolution was passed requesting the Council of the British Medical Association "to appoint a committee to consider the best means of disseminating knowledge of the importance of the early recognition of uterine cancer." A committee was forthwith appointed under the chairmanship of Dr. F. J. McCann, and duly reported to the same Section at the Sheffield Meeting in 1908; two appeals were drawn up, the one to medical practitioners and the other to midwives and nurses, "in order to promote the early recognition of cancer of the womb." They were approved by the Council in April, 1909, and were published in the BRITISH MEDICAL JOURNAL[3] and widely distributed. The appeal to medical practitioners was perhaps too elaborate, and if reissued might with advantage be simplified and shortened; but the appeal to midwives and nurses is, as was pointed out in a leading article in the same issue, "the most simple and direct document of the kind which we have seen prepared for circulation in this or any other country."[4] The Central Midwives Board has been careful to instruct midwives to report haemorrhage during pregnancy, as, among other conditions, it may indicate cancer. We are reminded that in June, 1908, the President, Sir Francis Champneys, at the request of the Board, added

[1] BRITISH MEDICAL JOURNAL, this week, at p. 358.
[2] BRITISH MEDICAL JOURNAL, August 24th, 1907, p. 43.
[3] May 15th, 1909, pp. 1189–90.
[4] This appeal is reprinted in the SUPPLEMENT this week at p. *61*.

to the other leaflets it issues one on cancer of the womb, which it was suggested might be distributed to the laity as well as to midwives. A wide distribution to women over 25 might well be adopted as regards any reissue of the briefer and more concise appeal to midwives and nurses published by the Association in 1909.

Until research enables cancer to be prevented, earlier presentation of cases of cervical cancer to the gynaecologist, with increased experience of the radical operations, especially when associated with radiotherapy, ought soon to secure a reduction in the number of deaths. This disease now annually exacts a toll of the lives of some 5,000 women, often in the prime of life and of usefulness.

THE NEW INSTITUTE OF HYGIENE.

A FEW details may now be added to what was said last week (p. 325) when announcing the gift by the Rockefeller Foundation of two million dollars (£400,000) for the establishment and equipment of an institute, or school, of hygiene in London.

The idea of establishing such an institute had been debated for some years, but no overt progress was made until a specific recommendation on the subject, in the report of the Athlone Committee on Post-Graduate Medical Education, compelled attention to the subject. That Committee was appointed by Dr. Addison, and when its report was presented to Sir Alfred Mond—who meanwhile had succeeded him as Minister of Health—he called a committee to advise him on the steps which could be taken to carry out its recommendations. In addition to the Minister, the Committee consisted of Sir George Newman, Sir Walter Fletcher, Sir H. Read, Sir J. Rose Bradford, Sir Wilmot Herringham, and Sir Cooper Perry. The recommendations of the Athlone Committee dealt with post-graduate education generally, but the goodwill displayed by the Rockefeller Foundation showed that the establishment of an Institute of Hygiene—which, as has been said, was among the recommendations of the Committee—had come within the sphere of practical politics. The generous offer of the Rockefeller Foundation was accepted by the Government, which, as Sir Alfred Mond has informed the House of Commons, undertook to provide the annual expenditure for the staff and maintenance; this, as we indicated last week, is estimated to amount to £25,000 a year. Sir Alfred Mond has appointed a small subcommittee to advise as to the choice of a site and on the plans of the new institute. It is intended that it shall be an imperial institute, prepared to receive post-graduate students in hygiene, not only from Great Britain, the Dominions and Colonies, and India, but from foreign countries also. It will therefore be necessary to provide class-rooms, lecture theatres, and research laboratories. To fulfil these conditions it will probably be considered desirable, when planning the building, to make provision for some 300 post-graduates. As we pointed out last week, London already possesses some of the elements of an Institute of Hygiene, and it is intended that the new institute shall be formed, in part at least, by entering into arrangements with existing institutions. Thus it is hoped that the London School of Tropical Medicine and Hygiene will become the Tropical Section of the Imperial Institute of Hygiene, and that the schools now giving courses for the diploma of Public Health will pool their resources within the new institute. It is intended, also, that the Lister Institute of Preventive Medicine shall be brought into intimate relation with the scheme, and it is hoped that it will undertake to provide facilities for teaching and research in certain departments.

Much importance is attached, by those most competent to form an opinion, to the constitution of the governing body which will administer the affairs of the institute. Several alternatives were open. It might have been placed under the jurisdiction of the University of London had that body been a living institution; it might have been placed entirely under the control of the Ministry of Health, as is the case with the somewhat similar institute at Berlin. Having regard to the number of interests concerned, however, it has, we understand, been determined to establish a special board containing representatives of the Colonial Office, the India Office, the Ministry of Health, and the Medical Research Council, and this plan will render it possible to include other bodies, should this be found desirable. It is intended, however, that the institute shall be recognized by the University of London as a school of the University, and that its curriculum and certificates shall be accepted by the University for its degrees, a provision which may possibly be extended to other universities.

The scheme, so far as it has at present been worked out, is both wide and elastic, and will, it may be hoped, for this reason receive the support of all the bodies concerned. It affords very great opportunities for the development of post-graduate medical education in all branches of hygiene; its benefits, though they will be limited to medical graduates and diplomates, are not to be confined to those holding British medical qualifications. On the contrary, it is hoped to make it a great international institution in which medical graduates from all countries who desire to perfect their knowledge in hygiene or to specialize in sanitary administration, will find what they need. Its laboratories, we do not doubt, will in process of time make important contributions to the advancement of bacteriology, parasitology, and statistics, in all of which there is still ample room for original work.

We do not, however, forget that the provision now to be made through the munificence of the Rockefeller Foundation is concerned with only one part of post-graduate instruction, which in London is greatly in need of better organization and larger resources. The words of Sir Clifford Allbutt seem appropriate to be recalled: "A post-graduate scheme consisting of desultory side-shows will not continue to draw serious visitors. The visitor wants not cut flowers but a nursery garden. If students are to come to study medicine in England . . . there must be something large and creative for them to come to." We can only express the hope that the country may before long be fortunate enough to witness the realization of the aspirations in this respect to which the Athlone Committee gave form if not substance.

SUPERANNUATION FUNDS AND INCOME TAX.

THERE appears to be a considerable amount of doubt as to whether payments made to a superannuation fund can be deducted in computing income tax liability, and this note is intended to state the present position of the matter. In 1903, as a result of a series of cases in the High Court,[1] it was established that where a superannuation scheme was set up which provided *inter alia* for a return of a lump sum at death or retirement, the deductions from salaries could not be allowed for in the income tax assessment, which must be made under Schedule E on the full salary. In practice, however, the Board of Inland Revenue appears to have entered into explicit or tacit arrangements under which the allowances were made, subject, in the case of returnable deduction, to certain conditions by which the superannuation fund agreed to be bound. Extra-legal arrangements of this nature, however equitable, are undesirable, and the whole matter

[1] Beaumont *v.* Bowers [1900], 2 Q.B., 204; Bell *v.* Gribble and Hudson *v.* Gribble [1903], 1 K.B., 517.

was regularized by Section 32 of the Finance Act of 1921, which has clothed with statutory authority the recommendations of the Royal Commission on the Income Tax. Under that Act the Board of Inland Revenue received power to draw up regulations, and copies thereof can now be obtained from Somerset House, laying down in precise form the conditions under which superannuation funds will be "approved." When that approval has been given and the fund placed on the list the deductions made on payment of the salary become proper subjects for allowance for income tax purposes. It would be unprofitable to enter on any full statement as to the conditions affecting approval of a superannuation fund, but two points may be mentioned. In the first place, the 1921 Act automatically determines, as from April 6th, 1922, the operation of the previous extra-legal arrangements under which the allowances were being made, so that early action on the part of any fund affected is desirable. Secondly, the value of the allowance in these days of a 6s. income tax is not to be despised; for instance, although a new life insurance policy will carry a benefit of 3s. in the £ only, an allowance for a superannuation fund deduction operates as an "expense," reducing that portion of the assessment on which tax is being paid at the highest rate. It may, perhaps, not be out of place to warn those concerned to see that on their own assessments the application of the old arrangements has not been discontinued prematurely; where a deduction was allowed for 1920–21 it should have been given for 1921–22, whether the fund is approved under the 1921 Act or not.

PARASITES OF BACTERIA.

ELSEWHERE in this issue (page 354) will be found a review of a book in which Dr. d'Herelle of the Pasteur Institute in Paris has set out in consecutive manner the opinions he has been developing during the last four or five years with regard to the existence of parasites of bacteria. He believes such living organisms exist, and that they are widespread in nature. He proposes to call them "bacteriophages." The property filtrates of organic matter possess of inducing lysis in a culture of bacteria is commonly known as the phenomenon of d'Herelle. But it was originally described by Twort in 1915, who gave an exact description of the phenomenon; he called it a disease of bacteria, and believed it to be due to an enzyme secreted by the bacterium. It was two years later that d'Herelle announced that in the filtrate of dysentery faeces he had discovered an invisible microbe capable of producing lysis of the dysentery bacillus (Shiga). Though there has been ample confirmation of d'Herelle's experiment, yet very few investigators are prepared to accept the explanation that the changes are due to an ultramicroscopic bacterial parasite. Kabéshima has shown that the substance d'Herelle believes to be living, and has called "bacteriophage," can withstand a temperature of 70° C., and that the white powder obtained by precipitating with acetone induced the same lysis; he concluded that he was dealing with a catalytic agent which was produced by the patient as a protective mechanism against infection; that this catalyst caused micro-organisms to produce autolytic ferments, and that these ferments acted as catalysers to other bacteria, so that the lytic action was carried on from one generation to another. Bordet observed the appearance of the so-called bacteriophage in the peritoneal exudate of a guinea-pig inoculated with *B. coli* intraperitoneally. The lysis produced could be carried on from one culture to another even when the clarified culture had been killed by heat. It might seem at first sight that to explain the phenomenon as due to ferment action would require us to assume the inheritance of acquired characteristics. To this objection the reply is made that if the external stimulus produced by the original lytic agent acted by exciting an intracellular autolytic mechanism, then such a tendency to rapid autolysis might be transmitted from one generation to another even after the original exciting cause had ceased to act. D'Herelle considers that a more acceptable explanation may be given by postulating the presence of an infinitesimally small parasite of bacteria, which attacks bacteria in much the same way as the malaria plasmodium infests the red blood corpuscles and reproduces itself within them. His bacteriophage, he tells us, can only live in living bacteria; in them it multiplies rapidly, increasing its virulence meanwhile. It is a natural enemy of bacteria, illustrating the adage that " . . . little fleas have lesser fleas, and so *ad infinitum*." The hesitation displayed by other scientific workers in accepting the bacteriophage theory d'Herelle likens to the incredulity with which the scientific world received Pasteur's explanation that fermentation is due to the action of living cells. Pasteur convinced the world by his simple, clean, clear-cut experiments, and we are more ready to change our views than were our forefathers, and this generation does not even seek a sign. D'Herelle would have no difficulty in making us all his disciples if he produced evidence as convincing as that advanced by his great fellow countryman. The subject deserves attention because of the practical questions involved. If we are dealing with ferments secreted by cells, then such lytic agents may be valuable allies in ridding the system of bacteria. If, on the other hand, the effects are produced by living ultramicroscopic parasites, then we are in the presence of an unexplored world of life, and perhaps a form of life different from any we have yet known.

MOBILE LABORATORIES.

IN an interesting article Major A. C. H. Gray,[1] late Assistant Director of Pathology at the War Office, has given an account of the evolution of mobile laboratories and of their activities in the late war. As he took the second motor bacteriological laboratory, known as the Princess Christian Motor Laboratory, to France, he speaks out of much personal experience and supplies a number of practical details about their construction and the arrangements for carrying out the work, which entailed half the day and sometimes half the night in journeys between the field ambulances and clearing stations for the collection of specimens from suspected cases. For this purpose a bicycle and sidecar formed a most convenient conveyance, and Major Gray insists that it is much better to collect the swabs and specimens personally than to have them sent to the laboratory, for not only are they more likely to be satisfactory and capable of cultivation and examination, but it is an advantage to the bacteriologist to see the patient or contact. In some form or another the travelling laboratory was used by all the armies in the war and has come to stay; indeed, it might with advantage be employed by the civil authorities in peace, for in epidemics a mobile laboratory can by going to the patients save time and take the place of several stationary institutions. From his experience he concludes that the type of motor laboratory used by our army in France was too cumbersome and heavily equipped, and that something after the French colonial model, which was designed by Dr. Tilmont and fitted out by Messrs. Baird and Tatlock, would be more generally useful. Investigation of the history of our Army Medical Service shows that the first "mobile laboratory equipment" dates back to 1875, and consisted of a "chemical cabinet" intended for water analysis; a new and improved pattern was introduced in 1897 and used in the South African war. The first suggestion as to a field bacteriological equipment for the British Army came from Colonel Sir Robert Firth in 1909, and the use of a fitted motor mobile laboratory was advocated in 1912 by Colonel S. Lyle Cummins. But in the Russo-Japanese war (1904–5) the Russians had mobile laboratories as independent units, and the Japanese field hospitals were provided with a bacteriological equipment. In March, 1911, shortly after mobilization for manœuvres at San Antonio, Texas, the chief surgeon of the United States Army instituted a mobile bacteriological laboratory. Major Gray, however, regards as the first real mobile laboratory that constructed in 1906 under the direction of Dr. Andrew Balfour, of the Wellcome

[1] *Guy's Hospital Reports*, 1921, lxx, 257–271.

Research Laboratories, Khartoum, and fully described in 1908 by Dr. C. M. Wenyon; it was a two-decked barge, so well equipped that it resembled a laboratory at home rather than the accommodation that might be expected on one of the upper tributaries of the Nile in a remote corner of the Sudan.

OPERATIVE TREATMENT OF MENINGITIS.

ATTENTION is latterly being directed to the possibility of treating suppurative meningitis by operative methods. Recoveries from this disease are rare, and it is not to be wondered that determined, if as yet sporadic, efforts are being made to discover something that shall be an adjuvant to recovery, if not a certain cure in itself. With our limited knowledge of the functions and workings of the cerebro-spinal fluid a rational treatment was difficult to establish. The very important work of certain American investigators, especially that of Weed when he was in Harvey Cushing's service, and later at Baltimore, together with that of Wegeforth, Dandy, and others, have furnished us with much-needed information. The direction in which these discoveries is leading us is well shown in a paper read by W. P. Eagleton before the American Otological Society.[1] A careful analysis of the literature has yielded only thirty cases of recovery from generalized suppurative meningitis. To these Eagleton adds one case of his own. Meningococcal infections are expressly debarred from this discussion. Many recorded cases he rejects because organisms were not demonstrated in the cerebro-spinal fluid. Certain of these presented a cloudy fluid with leucocytosis; others were examples of serous meningitis. Such protective reactions in the cerebro-spinal circulation often give rise to a clinical picture naturally difficult to distinguish from a true infective meningitis. Repeated punctures, local instillations of serums, and chemical solutions have led to a number of cures in this category. When there is declared and definite sowing of the cerebro-spinal fluid with organisms the chances of recovery are so small that Eagleton thinks that more radical measures might be employed to combat the usual fatal termination. He advises subarachnoid irrigation. He bores two or more holes in the frontal region, opens the dura, and inserts a cannula beneath the arachnoid. Fluid is run in, and an outlet is provided by puncture of the occipito-atlantal membrane by Ayer's well-known method, supplemented, if need be, by a lumbar puncture. The composition and temperature of the fluid used is most important. A small proportion of calcium is essential; sodium chloride alone is toxic. A modified Ringer's solution, the precise composition of which is not given, is advocated. All antiseptics when actually irrigated through the subarachnoid space appear to be highly toxic. It is true that injections of lysol and protargol have been made into the spinal theca without deleterious effect. But a distinction must be drawn between such cases and those in which an actual irrigation of the cerebral subarachnoid space has been performed. Eagleton reports three cases in which subarachnoid irrigation was done by him. In one, diplococcal meningitis followed compound fracture of the cranial base; a second was an example of streptococcal meningitis arising from a cerebral abscess, the result of a gunshot wound; the third was an instance of pneumococcal meningitis secondary to otitis. The first case recovered, the others died. Very complete clinical and pathological records are given, rendering the cases of unusual interest. The direction of irrigation was in all cases from before backwards, from frontal trephine holes to occipital puncture. Eagleton comments on the fact that the flow obtained has not been very satisfactory, especially after the first few minutes have elapsed. It occurs to us that irrigation in the opposite direction would be more promising, for Leonard Hill long ago found the same difficulty in irrigating in a caudal direction, but not in a cephalad. Eagleton now inclines to the view that the infection is *per se* the cause of death in meningitis, and that death does not come from compression. In this view many will concur. He also is coming to believe that in cases with pneumococcal meningitis and pneumococcal infection of the blood the meningeal infection is the first thing and the blood infection secondary. He thinks therefore that subarachnoid irrigation might well be tried early in these cases and blood infection prevented. He concludes that this irrigation, which keeps open the cerebro-spinal river beds, is a painless proceeding, without great danger if carefully conducted, and should be resorted to as soon as organisms are found in the cerebro-spinal fluid on lumbar puncture. As a corollary to this paper reference may be made to E. D. D. Davis's report[2] of fourteen fatal cases of otitic meningitis. Davis recommends labyrinthotomy or drainage of the posterior fossa through the internal auditory meatus. This has not sufficed to save his patients, but the conditions found after death (especially the finding of the pus over the vertex rather than in the basal cisterns) throws an interesting sidelight on Eagleton's paper.

[1] "The Operative Treatment of Suppurative Meningitis, with especial reference to Irrigation of the Cranial and Spinal Subarachnoid Spaces, etc.," by Wells P. Eagleton, *Transactions* Amer. Otolog. Soc., 54th Annual Meeting, vol. xv, Part III, p. 227, 1921.

[2] "Some Observations on the Early Diagnosis and Drainage of Otitic Meningitis," etc. E. D. D. Davis, *Proc. Roy. Soc. Med.*, Section of Otology. February, 1922, p. 9.

CLEAN MILK.

To guarantee the supply of clean, wholesome milk to large towns is a problem a vast amount of labour and legislation has hitherto not availed to solve. No permanent freedom from anxiety followed the institution of the 3 per cent. standard of fat, the institution of a penalty for adulteration, and the prohibition of preservatives. The hopes founded on this legislation were quickly dispelled by the reports of bacteriologists warning us of millions of bacteria per cubic centimetre, and presence of the colon bacillus in as little as a thousandth of a cubic centimetre. These organisms may not be dangerous in themselves, but are an index of contamination, and are responsible for the rapid souring of milk. Approximately 1 per cent. of milk is lost by souring, and the losses due to this cause, combined with the irregular supplies due to the unstable character of milk, produce, it is estimated, a total loss of about one-ninth of the monetary value of the milk supply. The work done in the National Institute for Research in Dairying at Reading encourage the belief that the present unsatisfactory conditions can be easily improved. The results, Dr. Stenhouse Williams considers, justify the statement that "the best produced commercial milk can maintain a bacteriological standard of less than 10,000 bacteria per cubic centimetre for at least twenty-four hours after milking, even under the conditions of cooling and transit which exist in the country at the present time." This 10,000 colony standard is the one adopted in America; in this country more latitude is allowed, and a count of 30,000 bacteria per cubic centimetre constitutes Grade A certified milk. This standard of purity can only be maintained if attention is paid to many important details. The milk churns should be cleaned out by the persons receiving the milk; if they are sent back dirty the difficulty of cleansing them after the milk has soured is greatly increased. The churns should be properly washed out and then steamed for three minutes—a procedure which has been found to yield satisfactory bacteriological tests. Dirty milk churns are responsible for a great deal of contamination of milk. It is held that in an up-to-date farm with special milking sheds, well lighted and with abundant water supply, and if the co-operation of clean workers can be ensured, it is possible to produce milk of great purity. But Dr. Stenhouse Williams and his co-workers are to be congratulated on the convincing demonstration they have given that even on an average farm, with no special advantages as to surroundings, provided that the milker understands his business, and is provided with light, water, and steam, it is possible to produce milk of equal purity. The successful production of Grade A milk requires the co-operation of persons possessing a certain amount of technical knowledge of the precautions that should be observed in milking. The supply of this form of labour is very limited in this country at the present time. The experiments of the workers at Reading go to show that, provided the milk industry is in a

position to supply Grade A milk to the consumer within twenty-four hours, no attempt need be made to keep the milk cool on the journey. Commercial milk of the bacteriological standard of Grade A will maintain its sweetness at room temperature for a period of over six days in the winter months and over three days in the summer. The two essential conditions for the supply of Grade A certified milk are: (1) the employment of intelligent milkers, working in milking sheds adequately lighted, with a good supply of water and steam; and (2) provision for the thorough cleansing and sterilization of the milk churns before they are returned to the country. There are, of course, certain other conditions into which we are not called upon to go in this place—namely, that the milkers themselves should be well housed, considerately treated, and properly paid.

THE MENTAL AFTER-CARE ASSOCIATION.

THE annual meeting of this benevolent society, which for many years has done useful social work by helping to re-establish, in ordinary conditions of working life, large numbers of poor persons convalescent or recovered after treatment in mental hospitals, was held on February 24th at Apothecaries' Hall, Blackfriars, under the presidency of Dr. W. F. R. Burgess, O.B.E., the Worshipful Master. The annual report, presented and summarized by Dr. Henry Rayner, Chairman of Council, gave a succinct account of the various activities pursued by the executive of the association in pursuance of its objects: (1) as a specialized labour bureau to find suitable employment for those fit for work; (2) as an agency for providing supplementary convalescent care in cottage homes whilst such employment is being looked for; (3) as a board of voluntary relief, visiting discharged cases and ameliorating their home conditions as far as possible; (4) reporting to asylum authorities as to such in cases about to be discharged; and (5) affording help by friendly sympathy and advice in difficulties, and so preventing relapses. No fewer than 874 cases had been considered and ministered to, wherever practicable, during the year 1921; and kindly supervision had been extended in some cases over several years. Speeches in support of the report were made by Sir Claud Schuster, K.C.B., K.C., secretary to the Lord Chancellor, who referred especially to the sympathetic devotion of the "personnel" of mental hospitals to their charge (often under trying conditions); by Lieut.-General Sir John Goodwin, K.C.B., D.G.A.M.S., who gratefully acknowledged the valuable aid rendered by Miss Vickers, the secretary, and other officers of the association, to soldiers discharged after mental and nervous troubles; 90 such cases had been dealt with during 1921. The report was adopted. Much detailed information as to the finance of the association was given, in the regretted absence through illness of the new honorary treasurer, Sir Maurice Craig, C.B.E., M.D., by Mr. C. Gabain, who pointed out that although the gross receipts for 1921 had reached the sum of £3,667 18s. 2d. (including a donation of £500 from the Maharajah Holkar of Indore) it had been necessary to trench on capital to the extent of nearly £600 to meet current expenses; and that some falling off of annual subscriptions had occurred, which it was essential to make good in order to secure stability of working. It was gratifying to note that the sum of £329 had been contributed by way of repayment by patients aided and by their friends. Speeches were also made by Mr. C. Marriott, the novelist, by Mr. Lionel Faudel-Phillips (treasurer of Bethlem Royal Hospital), by Dr. C. Hubert Bond, C.B.E. (Commissioner of the Board of Control), who expressed the Board's appreciation of the invaluable work of the association, and by Sir James Crichton-Browne, M.D., F.R.S., who remarked that a great deal was said nowadays about psycho-analysis, but what was required was psycho-synthesis, or sympathy and intelligent comprehension of "the mind shattered by disease." This valuable association, which for more than forty years has steadily but quietly pursued its beneficent course as "guide, philosopher, and friend" to thousands of sufferers from mental disorders in helping to restore them on recovery to a useful place in the workaday world, is perhaps too little known to the profession; but full information will be gladly furnished by the energetic secretary, Miss E. D. Vickers, at the offices, Church House, Dean's Yard, Westminster, S.W.1.

THE GORDON MEMORIAL COLLEGE, KHARTOUM.

THE annual report of the Gordon Memorial College at Khartoum for 1920, which is the nineteenth, shows steady progress in all directions; it pays a tribute to the late Sir William Mather, one of its most generous supporters and an energetic member of the governing body for seventeen years. The Wellcome Research Laboratories are accommodated in the Gordon Memorial College; they are under the supervision of Major Archibald, who is maintaining the high standard set by his predecessors, Drs. Andrew Balfour and Chalmers; it contains research departments in medicine, chemistry, and entomology, the activities of which are duly set forth. Research work in the bacteriological section was interfered with by depletion of the staff and by the large amount of routine work that had to be carried out. But the director has a number of articles awaiting publication—namely, notes on urinary amoebiasis in the Sudan; on kala-azar in the Sudan; on tropical splenomegaly caused by a hitherto undescribed bacillus; on juxta-articular nodes, their etiology and pathology; and on bacilluria as a cause of pyrexias of uncertain origin in the tropics. According to the report the time when the prophets of research had to clamour for a hearing is happily past, and there is no longer any hesitation on the part of Government departments or private enterprise in appealing for assistance. Of the two possible methods of extension to meet these increased responsibilities Major Archibald advocates decentralization, by the establishment in various parts of the Sudan of local laboratories, temporary or permanent, for medical, chemical, and entomological research. This he considers preferable to the creation of new and larger laboratories at Khartoum. His recommendation has been unhesitatingly approved by the Government.

THE PENSIONS ORTHOPAEDIC HOSPITAL, SHEPHERD'S BUSH.

THE fate of the Orthopaedic Hospital of the Ministry of Pensions at Shepherd's Bush, to which we referred last week, still hangs in the balance. As will be seen in our Parliamentary column, the Minister, Mr. Macpherson, said, in answer to questions in the House of Commons on February 23rd, that he was fully prepared to reconsider the matter of the removal of the hospital, which, in his judgement, was one of the greatest triumphs of the Ministry, and which he did not wish to remove. At the same time he stated it as the opinion of his medical advisers that the work could proceed as satisfactorily as at present if the removal took place. We do not know who are the advisers in question, but we feel sure that those medical men who are most competent to judge would be unanimous in the opinion that the quality and quantity of the work would suffer if the proposed divorce of the out-patient from the in-patient department took place, and that much unnecessary waste of time and labour would be incurred by the removal of the latter to Richmond. The official mind is apt to consider that one medical practitioner is just the same as another with the same diplomas, and is equally capable of discharging any of the duties which can fall to the lot of a surgeon or physician. One F.R.C.S. in its view is the same as another, just as one Mark III rifle is the same as another. Similarly officials are apt to think that part of the work can be done at one place and part at another, just as efficiently as if the whole were kept under one roof, or to treat a matter of this kind as one of arithmetic and to ignore the value of daily personal contact and consultation between medical officers, physiotherapeutists, and instructors. Mr. Macpherson professed to be willing to enter into an amicable discussion with the Hammersmith guardians, but he did not take a course likely to produce a conciliatory disposition on their part when he said that he refused to be blackmailed. This was a most unfortunate

remark, and one which is likely to be deeply resented by the guardians, thereby jeopardizing the hopes of agreement. As the writer of an article in the *Morning Post* of February 27th says, "it would seem that the men who have suffered so much in the service of their country are being prejudiced because of a squabble between the Ministry and the Hammersmith guardians." If that should prove to be the case, the greatest dissatisfaction will be aroused throughout the country wherever there are crippled pensioners, and another stick will be provided with which to beat the Government candidates at the polls in the next election. We refuse to believe that a satisfactory way out of this deadlock, honourable to both parties, will not be found if the Minister will only modify his opinion of the guardians' conduct and the latter will forget their offended self-respect in the interests of the disabled pensioners.

OXFORD OPHTHALMOLOGICAL CONGRESS.

THE provisional programme for the next Oxford Ophthalmological Congress has been issued. The Congress will assemble at Keble College on the evening of Wednesday, July 5th, 1922, and the meeting will be held on July 6th and 7th, with an extension to the morning of Saturday, July 8th, should the business demand it. On Thursday, July 6th, a discussion on "The significance of retinal haemorrhages" will be opened by Dr. C. O. Hawthorne (London) and Mr. P. H. Adams (Oxford). Members intending to take part in the discussion are requested to send in their names to the Honorary Secretary, Mr. Bernard Cridland, Salisbury House, Wolverhampton. The Doyne Memorial Lecture will be delivered on the morning of Friday, July 7th, by Dr. J. Burdon Cooper, the subject being "The Etiology of Cataract." The official dinner of the Congress will take place on July 6th in the Hall of Keble College. A general meeting will be held during the Congress at a time of which due notice will be given in the final programme. It is hoped that members will contribute to the success of the meeting with papers, pathological specimens, new operations, cases, or novelties of any kind. Early notification should be sent to the Honorary Secretary.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

The Insurance Bill.

THE Insurance Bill, which was introduced by Sir Alfred Mond at the beginning of the session, was, according to the frequent practice of departments of the Government, presented in "dummy," the text to be supplied afterwards and submitted for second reading. The assumption was that it was intended to follow the recommendations of the Geddes Committee and relieve the Exchequer of the balance of grant towards the medical services. The Committee suggested that an extra halfpenny a week should be contributed by the employer and the same amount by the employed in respect of each insured person, but without addition by the State, the object being to lessen the call on the Exchequer. This would have allowed also of some additional benefit at discretion of the friendly societies. According to rumour, however, negotiations are proceeding with the idea that the societies may come to an agreement to take over the balance of charge from the State, without a call for extra contributions. If this is being considered it may account for the delay in the issue of the text of the bill. On the other hand, the bill may be framed quite differently, or even withdrawn.

Pensioners: Revision of Diagnosis.

Mr. Inskip, on February 23rd, asked whether the Minister of Pensions was aware of the large number of cases which, having been classed in the first instance as attributable, were, after re-examination at a much later day, classed as only aggravated, and finally as neither attributable nor aggravated, in spite of the continuance of incapacity. Mr. Macpherson replied that it was clearly his duty to secure that entitlement to pensions had been properly conceded, and review with that object was specially necessary in connexion with a very large number of claims which, owing to the heavy pressure of work consequent on demobilization, were admitted on the report of a single medical officer. When subsequent examination by a properly constituted medical board, followed by full and expert consideration of all the relevant circumstances, revealed an incorrect decision on entitlement, he should not be justified in neglecting to make the necessary correction. In all such cases the man was informed of the alteration and advised of his right of appeal to the Pensions Appeal Tribunal. In reply to a further question, Mr. Macpherson said that it cut both ways. Very often a man at the beginning of his demobilization was not considered to be entitled to a pension, but had since gone to the appeal tribunal and got his pension. The man always had the right of appeal to the Pension Appeal Tribunal, which was an entirely independent body instituted at the express wish of the House of Commons, and when there was any doubt in any case he had always advised the man to appeal. This tribunal consisted of three persons. For the case of an officer there were a doctor, a lawyer, and an officer; for other ranks there were a doctor, a lawyer, and an ex-service man.

An Institute of Hygiene for London.—In reply to a question by Captain Elliot, the Minister of Health gave the particulars of the gift of two million dollars for the provision and equipment of an Institute of Hygiene in London, which we published last week (p. 325). Sir Alfred Mond said that the cost of staffing and maintaining the Institute, which the British Government had undertaken to defray, was estimated not to exceed £25,000 a year at the outset. He did not anticipate any actual charge on the votes for, say, two years. He was taking the preliminary steps towards the establishment of the Institute. The House would doubtless agree with him in heartily welcoming this evidence of common interest and co-operation between Great Britain and the United States of America in furthering education and research in preventive medicine.

Milk for Tuberculous Cases.—Mr. Hurd asked, on February 22nd, whether it was the experience of the Ministry of Health that fresh milk formed the principal part of diet in the successful treatment of tuberculosis, and whether the Minister would advise all local health authorities that they should use no substitutes for fresh milk in this or any other part of their administration. Sir A. Mond answered in the negative. He was advised that although milk might be an essential element of special diet for tuberculous persons in certain stages of the disease, or for young children, a mixed general diet was preferable in the case of adults to one consisting mainly of milk. He was further advised that certain substitutes, such as full-cream dried milk, suitably prepared for use, were as nutritious as fresh milk so long as vitamins were provided in the necessary amount in other parts of the diet.

Deaths from Starvation.—In answer to Mr. R. Richardson, on February 22nd, Sir A. Mond said that in past years special returns were made showing the number of deaths from starvation, but they were unsatisfactory and had been discontinued. If there were any deaths from starvation last year they would be recorded in the annual report of the Registrar-General.

The Spahlinger Treatment for Tuberculosis.—Mr. C. Edwards asked, on February 22nd, whether the Minister of Health was aware that many people, in all parts of the country, were interested in Mr. H. Spahlinger's professed cure for tuberculosis, and if Sir Alfred Mond would now give the result of the unofficial investigation which he told the House some time ago had been made. Sir A. Mond replied that he was aware of the interest. He understood that the unofficial investigations had been suspended until supplies of the serum were available, and that this would not be for some months to come. He should certainly assume that the result of any independent investigations by competent persons as to the efficacy of this treatment would be published.

Wound Pensions.—On inquiry by Sir F. Hall, on February 22nd, Major Barnston said that the number of men in receipt of wound pensions on December 31st, 1921, was 37,250; and the number on December 31st, 1920, was approximately the same.

The Orthopaedic Hospital at Shepherd's Bush.—Lieut.-Colonel Spender-Clay asked, on February 23rd, whether the attention of the Minister of Pensions had been called to the hardship which the contemplated removal of the Shepherd's Bush Hospital to other quarters would entail on out-patients attending the hospital; what action he proposed to take to assist such cases; and whether the saving which it was anticipated would be the result of the change would be almost entirely wiped out by the cost of removal and allowances to out-patients. Mr. Macpherson replied that in the selection of alternative accommodation for out-patients' treatment full regard was being paid to the convenience of the pensioners, and he did not anticipate any difficulty in making satisfactory arrangements. The estimated cost of the removal from Shepherd's Bush included the cost of providing suitable out-patient accommodation. All the electric appliances would be removed. Viscount Curzon inquired whether it was a fact that the treatment of out-patients could not proceed so satisfactorily as at present if the hospital were removed. Mr. Macpherson replied that his medical advisers told him that it could. Sir H. Foreman asked the Minister whether he would be prepared to reconsider the matter should he receive a more moderate demand from the guardians. Mr. Macpherson said he would. The desire of the Ministry had always been to maintain this hospital. Such a proposal must, however, be made at once; he could not keep the fate of these men hanging in the balance. Viscount Curzon asked whether it was a fact that the action taken by the guardians necessitated the removal of this hospital? Mr. Macpherson replied that it was, without a doubt—it was a question of rent. He pressed the guardians very hard, and had been negotiating with them for a long time, and he knew the value of the hospital. In his judgement it was one of the great assets to the Ministry of

Pensions, and he was anxious to keep it, but he refused to be blackmailed. The guardians were asking a rent which he thought was wholly unjustified.

Lip-reading Lessons.—In reply to Lord H. Cavendish-Bentinck, who asked the Minister of Pensions to reconsider his decision to reduce the number of lip-reading lessons given to ex-service men suffering from deafness to twenty-five, Mr. Macpherson said that it was the definite opinion of his advisers that proficiency in lip-reading after a course of, say, twenty-five lessons, under a skilled tutor, depended entirely upon regular practice, and was in no way furthered by additional tuition. It had been ascertained that proper tuition could be given by lessons in the pensioner's spare time, under local authorities, and steps had therefore been taken to give effect to that system of instruction. While no loss of efficiency or hardship to the pensioner would result, a saving of public funds would be effected.

Pensions Temporary Medical Staff.—In answer to Mr. G. Locker-Lampson, the Minister of Pensions said that he was considering the reduction in pay of the temporary medical staff (which worked out at £972 per head) in accordance with the recommendation of the Geddes Committee.

Ministry of Health Economies.—In reply to Mr. G. Terrell, the Minister of Health said that he expected to obtain the entire saving suggested on his estimates for 1922-23 as recommended by the Geddes Committee, mainly on proposals submitted by him.

Asylum Administration Inquiry.—On further question by Mr. R. Richardson, on February 23rd, as to the refusal of the National Asylum Workers' Union to submit evidence before the Committee on Asylum Administration, Sir A. Mond said that in the first instance the union made a verbal request for representation on the Committee. When he refused this, the union declined to give evidence, and sought to justify its action on the ground that representatives of the Medical Psychological Association predominated on the Committee.

Gas Poisoning Experiments.—Sir L. Worthington-Evans, on February 23rd, informed Mr. F. Green that experiments on the results of gas poisoning were being conducted at Torton, near Salisbury. The animals employed have been rabbits, rats, and goats, and the total number used to date were twenty-six, twenty-three, and two respectively. The experiments were conducted under statutory safeguards.

Neurasthenic Pensions Cases.—In reply to Mr. Frederick Roberts, on February 27th, Major Tryon said that 18 hospitals for the treatment of neurasthenics had been established under the direct control of the Ministry of Pensions in different parts of the country, and provided accommodation for about 170 officers and 2,500 other ranks. Treatment for certified mental cases was provided by the Board of Control.

Coroners (Emergency Provisions Continuance) Bill.—Mr. Shortt, on February 27th, moved the second reading of this measure, which had come down from the Lords. Its object is to continue for the rest of the year two war-time enactments lapsing on February 28th—namely: (1) The Coroners (Emergency Powers) Bill, 1917, which temporarily reduced the maximum number of jurors to be summoned from 23 to 12 and the minimum from 12 to 7; and (2) Section 7 of the Jurors Act, 1918, which enabled coroners to hold inquests without jurors in certain cases. The whole question of coroners' juries was, Mr. Shortt reminded the House, considered by a Departmental Committee in 1910, but during the war permanent legislation could not be undertaken. The provisions now submitted for continued temporary operation had worked very well, and the whole subject was now under consideration for lasting legislation. Sir Donald Maclean, supporting the motion, observed that the findings of the Committee of 1910 included recommendations to avoid overlapping between the magistrate's inquiry and that of the coroner, so inconvenient to professional and civilian witnesses. The bill was read a second time. It had third reading on February 28th.

HOSPITAL POLICY.

I.

BY THE CHAIRMAN OF THE HOSPITALS COMMITTEE.

IN the SUPPLEMENT of last week there was an instalment of the Annual Report of the Council of the Association. It deals with hospital affairs and the organization of voluntary hospitals. The document is long; that is inevitable, for the subject is a large one. But it will prove less formidable on examination than appears at first sight, for it is in the nature of a consolidated bill. It includes the restatement of the existing policy of the British Medical Association, with such amendments as the passage of time necessitates, and new recommendations (which are clearly marked and easily recognizable) relating to the several "contributory or provident schemes" which have been put forward whereby suitable persons may provide by some method of insurance against that rainy day when hospital benefit may be needed.

The main features of the report are three: (1) A general statement of the policy of the Association on the present-day purpose of the voluntary hospitals, with a specific statement of what is meant by the voluntary principle in hospital administration. (2) A statement of the types of patients admissible for hospital benefit, particularly through contributory schemes. (3) The reaction of the new conditions upon the honorary medical staffs.

The voluntary hospitals in their origin were charities. But with the betterment of the economic position of the vast majority of our people there are fewer persons who are fit subjects of undiluted charity. In effect the hospitals have already modified their practice to the extent of making various charges to the patients, which the patients view as payment, in part at least, for whatever the hospital affords them, whether treatment by a doctor, the supply of medicines, or nursing or maintenance when in hospital. Some would argue that the change has destroyed the voluntary principle, but the Association puts its finger on the voluntary method of administration as the factor that gives the voluntary hospitals their outstanding advantage. There is no quarrel with State hospitals maintained under statutory authority and rule; but it is claimed that private enterprise in hospitals, as seen in the voluntary hospitals, presents such advantages to the public, medical science, and the medical profession that it should be maintained, even though this be accompanied by modifications in practice necessitated by altered conditions.

The charitable side of these hospitals must be continued just in so far as there is need for it and so far as gratuitous contributions permit, and for the indigent patients the hospital staff should continue their free services. But it is recognized that the voluntary hospitals should be developed so as to provide accommodation for paying patients, so that the benefits of these institutions may be available for those who cannot secure proper treatment elsewhere. The working out of this position is seen in the recommendations regarding contributory schemes. Schemes have been submitted to the Association for approval. They were originated by medical men, and these are desirous that the general body of their colleagues should approve them. The reply is that definite schemes should not be approved in our present limited knowledge, but certain standards are submitted which these schemes should reach to render them safe and effective. A leading condition is that the hospitals themselves should not take insurance risk; contributors should bargain with some independent body, which in its turn would pay the tariff dues chargeable to its members by the hospital when hospital benefit is given. Only by some such plan can the hospital maintain its independence in determining which is and which is not a fit case for hospital treatment, and avoid the risk of charging some part of the costs of these patients to the purely charitable funds of the institution.

Another important point arises in connexion with consultations and specialist treatment. Some of the contributory schemes put forward would tend, if successful, to bring all this work into the hospital out-patients' department, and possibly limit the field of choice of practitioner unduly, to the detriment of medical progress. The report recommends that any such arrangement should provide for these services to be rendered at the homes of the practitioners wherever possible.

The introduction of paying patients to voluntary hospitals, whether tariff patients through a contributory scheme or private patients in nursing home annexes, has the inevitable corollary that members of the staffs attending these patients must receive some remuneration for the work they do. With private patients this should be a matter of private arrangement between doctor and patient. In the case of tariff patients the recommendation is for the transfer of a percentage of the charges to the staff fund, after the manner which proved so efficient in arrangements for the treatment of State patients during the war.

Finally, the independent management of the voluntary hospitals must be safeguarded. It must not fall under the control of one set of supporters or contributors. Each interest should be represented, and none be in a majority. Otherwise there will be a limitation of outlook of governing bodies, to the detriment of the hospitals and of medicine.

The report is referred to the Divisions of the Association. But I would also urge every member of the staff of a voluntary hospital to give this report his personal thought, and to secure a joint consideration of it by his colleagues, and possibly with the members of his hospital board. The views of the hospital staffs will be required at no distant date. The King Edward's Fund for London has for the moment deferred any decision on the institution of a contributory scheme, but recommends that steps should be taken to ascertain the considered opinion of the medical profession in London, upon whom the duty of carrying any such scheme

into practice would ultimately devolve. Also the Council of the Association is arranging to hold a conference of the staffs of voluntary hospitals on Wednesday, March 22nd, to consider this report.

II.

By a Country Practitioner.

ALL country practitioners reading in last week's SUPPLEMENT to the BRITISH MEDICAL JOURNAL the report of Council on the organization of voluntary hospitals must realize its importance, no less to themselves than to their colleagues in town. Their more immediate concern is with the cottage or local hospitals; but the policy of the central hospital is of equal if less direct consequence to them, so that they may quite pertinently express their views on the whole policy set out in the report.

It must be realized that this report will eventually be considered by the public; it is doubtful whether it will accept the definition of the voluntary system of hospitals as being essentially the voluntary or independent management. The great majority of laymen would say that the essential principle was the voluntary support; this is the definition cited in *Burdett;* it is the official explanation given by the Voluntary Hospitals Commission; it is the superscription on many a hospital building. Why not include it in our own official statement?—always remembering that a voluntary contribution is not necessarily a charitable contribution; in fact, with the larger proportion of voluntary contributions there is an implied benefit to the donor—admission tickets or even treatment, patronage, control.

No doubt this system does not necessarily involve the gratuitous services of the medical staff, but by long custom and association this has become an accepted principle in the conduct of our voluntary hospitals, and many members of the honorary staff, as well as the public, will require to be satisfied as to the reasons for the proposed change of policy. It is clearly set out in paragraph 2 that medical treatment has been given gratuitously and willingly to those unable to pay for it, but it might with advantage be made clear that the proportion of patients for whom no payment for treatment can be provided has of late years grown very much smaller. There are other reasons why it has become proper and advisable to remunerate the medical staff. Voluntary hospitals were originally founded to secure treatment for the poor; they now exist to provide institutional treatment for all cases of the community that may require it. They exist also for research work, for the advancement of medical science, and the continued instruction of medical practitioners—all this for the benefit of the public. Some also are necessary for the teaching of medical students. The hospital is the place where medical men can meet together and work together to initiate and to perfect not only means of treatment but means of prevention for the benefit of the whole community. This being accepted it is obvious that the medical men doing the work of the hospitals have a considerable claim to some sort of remuneration, also that it is to the interests of the public that as many keen and efficient practitioners as possible should take part in the work. It is not expected, it would not be practicable, to provide payment that might be considered a full reward for the work done, but it should be some recompense for time and services given. As it is advisable to encourage the younger members of the profession to take an active part in this work it is important that they at any rate should have some assistance; otherwise the result must be that they cannot afford to do the work at all, or if they do, they have to devote so much time and thought to the struggle for existence that there is not enough left for the scientific work that they would probably prefer. It is only by throwing open more hospital appointments to younger men, by making the term of office shorter, and by offering some payment for the work, that it will, under the altered circumstances of these days, be possible to attract to the service, to select and to keep there the keenest and ablest men in the profession. What is now happening only too often is that the brains and the work of many an enthusiast are lost to the hospitals. It is being found increasingly difficult to get men to fill many of the junior posts in some of our large hospitals; they cannot afford it, and prefer to take other paid work.

It is quite possible, even probable, that the senior members of the staff—those who have succeeded in practice—will be willing, will prefer to give their services gratuitously, at any rate to a large extent; it is very necessary to retain their services, but the work they do need not be so exacting.

It should be made clear that acceptance of payment does not necessarily involve either State or lay control; it does not mean now or later on a State service. Many of the public and of the profession think, probably rightly, that men will do for love of science and humanity what they will not attempt for a State service. But to assume that work will not be so keen, or the hospital spirit not so strong, because the staff receive a monetary acknowledgement of their work, is not logical. The utmost keenness, the best hospital spirit, the sincerest love of humanity, will not alone enable a man to live. Some men fear that by accepting payment they will lose prestige and influence with the public and the profession; but surely these do not come because the work is gratuitous, but because of the experience and skill that follows the work well done.

Whether the proposal to form a staff fund by deducting a percentage of certain payments is the best, is open to question; it is doubtful whether it would, as things are, be of much benefit to practitioners attending cottage hospitals, but this is not the place to discuss it.

It is quite necessary, as stated in the report, that the medical profession should have a share in the management of the hospitals, but it would, I think, be a mistaken policy to press the recognition by the authorities concerned of the suggested Advisory Medical Committees; these should of course be formed, but in the hope that the authorities would of their own accord recognize and consult; unless the consultation is voluntary it is not likely to be of much avail.

At the moment, though cottage hospitals are just as necessary in big towns as in country districts, the proposals in the report as they affect these institutions are particularly interesting to country practitioners—in the first place, because it is quite obvious that if the hospitals are put on a better business footing, as they would be, their capacity and the scope of the work that could be done in them would be considerably increased. Work here should be part of the daily routine of the practitioner; it is here that he can do most satisfactorily much of his work; here that he can conduct much valuable clinical research, that he can find opportunity for his skill, his imagination, his professional and scientific ambition; here he can collaborate with his fellow practitioners and specialists, with mutual advantage, and benefit to his patients; here he can admit and hope to treat effectively so many cases that he now perforce too often can only look after in their ill-suited homes; here can be examined and observed cases that otherwise must remain enigmas; it is here, in fine, that he can, better than anywhere else, bring pleasure to his practice, skill to himself, and health to his patients. But his opportunities are limited for want of beds and equipment and for want of time—for want of time because he has himself a family to support, because he is human and wants to make not only cures and discoveries but money too, and this he cannot do if he sends patients, who are paying him at home, into hospital and cures them there without reward and in half the time. It may be said that he has the reward of gratitude and satisfaction for work well done, and that the consequent reputation will bring him more practice later on. But this will not feed him now, and as to the work later on, the hope and object of those who believe in the advantage of hospital treatment is that it will become available for a constantly increasing proportion of people, in which case remunerative domiciliary practice will correspondingly decrease.

In this connexion some objection may be raised to the classification of patients in paragraph 19. Private patients are described as "those who pay for special accommodation and who arrange for medical treatment fees independently of the hospital." In some cottage hospitals there are already patients who are willing to pay the cost of their maintenance, without special accommodation, and who pay the doctor for treatment independently of the hospital.

THE tenth International Congress of Otology will be held at the Paris Faculty of Medicine from July 19th to 22nd, under the presidency of Professor Sebileau. The following subjects will be discussed: (1) Cerebellar abscess, (2) otogenic meningitis, (3) the value of functional tests of the vestibular apparatus, (4) syphilis of the ear, (5) *x*-ray and radium treatment of cancer of the larynx. The titles and brief abstracts of papers should be sent to the general secretary, Dr. A. Hautant, 28, Rue Marbeuf, Paris, before April 8th. The subscription of 100 francs should be paid to the treasurer, Dr. Georges Laurens, 4, Avenue Hoche, Paris.

England and Wales.

MANCHESTER ROYAL INFIRMARY.

ACCORDING to the last report of the Manchester Royal Infirmary the year 1921 surpassed all previous records in the number of annual subscriptions, and there has been a further substantial increase in the contributions of in-patients and out-patients. Expenditure, however, exceeded income by £23,255, but it is suggested that there are indications that the high-water mark of the prices of commodities has now been passed. Owing to its association with the Medical School of Manchester University the Infirmary is involved in a greater expenditure than hospitals to which no medical school is attached, and it is noted further that the thirteen teaching hospitals are responsible for no less than 50 per cent. of the total deficit incurred by provincial hospitals. Lord Cave's Committee, when investigating the financial condition of the voluntary hospitals, recognized that hospitals with medical schools must necessarily be under greater expense than other hospitals, and it is hoped that through the representations of this Commission a grant in aid of teaching will be made by the Government. The Board had long recognized that the amounts contributed to the Infirmary and the local hospitals by employers of industrial undertakings and workers of all grades had not been in proportion to the vast number of workers employed in the district served by the hospitals; it is of the opinion, therefore, that the time has now come for setting up machinery necessary to obtain adequate contributions from these sources, and thus to restore something like equality between income and expenditure in the hospital accounts. Representatives of the hospitals have been appointed to deal with this important matter, and a scheme has been formulated which will be put forward during the present month. While the Hospital Saturday Funds at Birmingham and Newcastle contribute £30,000 and £28,000 respectively to the hospitals, that of Manchester and Salford, with a population larger than Birmingham, and four times larger than Newcastle, contributes only £5,548. The necessity for increased accommodation for nurses, the extension of the *x*-ray and electrical department and the aural department, referred to in the last report, involving additional expenditure estimated at over £200,000, continues to be a serious problem. During the year 11,252 in-patients were treated, and the out-patients and accident cases treated at the Infirmary and the Central Branch numbered 47,164; the number of persons treated in all departments, inclusive of the Barnes Convalescent Hospital, totalled 59,902. It is recorded that the honorary radiologist received an offer from an anonymous donor of sufficient funds to enable research to be carried out on the method of intensive *x*-ray treatment of cancer. A scheme has been drawn up and a research scholarship in intensive radiotherapy for the treatment of cancer was instituted. Apart from research on cancer carried out in other departments, the work of the Cancer Research Laboratory in the Infirmary was continued during the past year.

CLINICAL ASSISTANTS AT LONDON MENTAL HOSPITALS.

The London County Council nearly two years ago fixed at eight the normal establishment of assistant medical officers at mental hospitals which normally accommodate 2,000 patients or more, and at the same time suggested that it might be possible to fill the position of eighth assistant medical officer by the appointment of a qualified clinical assistant. The proposal to appoint clinical assistants was based on the assumption that general practitioners and others would welcome an opportunity to obtain experience in the diagnosis and treatment of mental disease, and would be satisfied with remuneration sufficient to cover their expenditure on board and lodging. Applications were accordingly invited for the position at a salary of £200 a year, without emoluments, but this has not attracted candidates, and after further consideration it is now proposed to invite applications at a higher rate of remuneration. The position of eighth assistant medical officer in the London county mental hospital service is therefore to be filled by the appointment at each hospital of a duly qualified clinical assistant, at a salary of £400 (on present economic conditions), without emoluments. The appointments are to be held for a period of six months, and favourable consideration is to be given to applications from women candidates.

Scotland.

CLINICAL MEETING OF THE EDINBURGH BRANCH.

THE annual clinical meeting of the Edinburgh Branch of the British Medical Association was held in the Edinburgh Royal Infirmary on February 17th, and in spite of unusual difficulties, caused particularly by the influenza epidemic, proved very successful. In the morning a number of demonstrations, which had been arranged by Dr. John Eason, was held in the different departments of the Royal Infirmary. These included a short demonstration on physical methods and appliances by Dr. A. D. Webster, and a demonstration on venereal diseases by Mr. David Lees. Dr. Chalmers Watson gave a clinical and laboratory demonstration on alimentary sepsis, including *x*-ray examination, and the results of naked-eye, microscopic, and bacteriological examination of the urine and stools. A series of cases was shown, including one in which a loop of duodenum was removed at operation by Mr. Wilkie, with the results of the bacteriological examination of its contents. Dr. Dawson Turner gave a demonstration on radium and its application in the treatment of disease. A demonstration of chemical tests for renal function, including estimations of blood urea and non-protein nitrogen, urinary urea concentration, phenolsulphonephthalein excretion, and kidney fixation tests, by Dr. John D. Comrie, Mr. C. R. Harrington, and Dr. Malcolm Smith, was given in the Biochemical Laboratory, where Dr. Davies also gave a demonstration of the basal metabolic rate in cases of disturbed thyroid function. Professor G. Lovell Gulland gave a lantern demonstration of *x*-ray photographs of normal and diseased organs. Later in the afternoon a surgical and medical demonstration was held in the large surgical theatre of the Infirmary, where cases were shown by Sir Harold Stiles (including, with Dr. Edwin Bramwell, a case shown eight weeks after laminectomy for the removal of an endothelioma of the pia arachnoid opposite the seventh dorsal spinal segment), Sir David Wallace, Professor F. D. Boyd, Dr. H. Rainy, Mr. J. W. Struthers, Mr. D. P. D. Wilkie, and others. A pathological museum was arranged in the Pathological Department of the Royal Infirmary, and was open throughout the day; a large number of interesting pathological specimens was exhibited, in addition to various splints and appliances. In the evening a dinner took place at the Caledonian Hotel, which was a very enjoyable function after the heavy day. Dr. William Stewart, President of the Branch, was in the chair, and after the loyal toasts had been duly honoured, the health of the British Medical Association was proposed by Dr. C. E. Douglas, and responded to by Dr. Drever. Dr. John Keay proposed the health of the guests, which was responded to by Dr. R. C. Buist of Dundee and the senior president of the Royal Medical Society. The health of the President was proposed by Mr. D. P. D. Wilkie, and after the President's reply the meeting closed with the singing of "Auld lang syne." The secretaries, Dr. John Stevens and Dr. John Eason, are to be congratulated on the success of the annual clinical meeting.

THE ROYAL EDINBURGH MENTAL HOSPITAL.

Professor G. M. Robertson's annual report of the Royal Edinburgh Mental Hospital is always interesting, often suggestive, and sometimes inspiring; in the present instance it is all three. In last year's report (JOURNAL, March 12th, 1921, p. 400) emphasis was laid on the part played by alcohol in the supply of patients for this and similar mental hospitals; this year the prevailing stress is rather placed upon "voluntary treatment." The number of patients admitted to the two departments (Craig House and West House) during 1921 was 506, as compared with 523 in 1920; in these two years, therefore, 1,029 patients were admitted, and the average population of the hospital during that time was 1,018. Dr. Robertson rightly draws attention to these rather extraordinary figures, and he claims that no mental hospital in the kingdom has ever had so high an admission rate in proportion to its permanent population. The proportion of inmates suffering from acute illness is higher than in ordinary mental hospitals, and that of chronic residents who are in good health and able-bodied is much smaller. The explanation is that the institution is still doing war work, Bangour not having yet been reopened for its ordinary uses. To provide for the new admissions

about a fourth part (133) were transferred to other asylums before they had been long enough under treatment to expect recovery. The statistics of recoveries and deaths could not therefore be fairly compared with those of other hospitals doing normal work. The recoveries were 106 and the deaths 159.

A somewhat unusual occurrence was the appearance of pellagra, there being four cases (all in females), of whom three proved fatal. Dr. Robertson points out that this disease, common enough in Italy and sunnier climes, was not known to exist in Great Britain until a girl suffering from it was discovered in West House in 1911; since then other cases had been found in different parts of the country. Diseased maize, the alleged cause in other countries, could not be held responsible here, as none of the four patients had ever tasted maize, and it seemed clear also that they had not eaten chickens fed on that foodstuff. Dr. Robertson is inclined to attribute the malady to some form of food deficiency. The distinctive eruption is developed usually under the influence of sunlight, and, since the Morningside patients lie out so much in verandahs, it is possible that in them diagnosis is thus made easier, especially in sunny summers such as that of 1921. Apparently, therefore, there may be other cases of pellagra waiting the advent of sunshine to be recognized in other asylums and among the general population.

The voluntary treatment of insanity is one of the most hopeful parts of the work at Morningside. Exactly one-half (fifty) of the patients admitted to Craig House (the department for private patients) in 1921 entered voluntarily. These persons belonged to the educated classes and were able to pay the higher rates of board in Craig House; but ever since the introduction of an excellent provision into the 1913 Act the practice has been growing, and its extension to other classes may be confidently looked for. The new provision in 1913 was that whereby a simple written application to the medical superintendent alone enabled a patient at once to be admitted to the hospital. The fact that this plan of entering an asylum is so largely taken advantage of shows the degree of confidence that the general public of the better classes have in the administration and curative value of such institutions as the Royal Mental Hospital. Another conclusion surely follows—namely, that at least one-half of those suffering from mental disorder have, at any rate in the earlier stages of their illness, some insight into their condition or consciousness that they are not well in mind. Advantages of many kinds accrue from voluntary treatment. It can be begun earlier, and therefore with more hope; when a certificate is needed the disease must necessarily be more unmistakable and further advanced. The presence of the voluntary patients makes for ease in efficient administration and, above all, it gives confidence among the general public that all is well within the institution, for it does away with the so-called "stigma" of certification. In order, however, that this benefit may be extended to the poor, a change requires to be made. At present the poor are debarred because the Government gives a grant-in-aid to the parish councils for the maintenance of certified lunatics, but nothing for the upkeep of voluntary patients. Professor Robertson is able to record a case in which this anomaly led to hardship. A private mental nurse came from the country, accompanied by a friend, with the express object of putting herself voluntarily under treatment in West House. She was suffering from melancholia, and was admitted; but the next day she was certified as a lunatic and detained under an order granted by the sheriff solely that the parish of her settlement in paying for her board might obtain the assistance of the Government grant-in-aid, which is given for certified lunatics but not for voluntary patients. This occurrence brings back to Dr. Robertson's memory Samuel Butler's satire, *Erewhon*, in which a man was accused of pulmonary consumption, was tried, found guilty, and was sentenced to imprisonment, with hard labour, "for the rest of his miserable existence." It is obvious that in this and in other directions it would be well if legislation were introduced facilitating the coming of patients in early stages of mental disorders for efficient treatment, not only in mental hospitals, but also in nursing homes and hostels. The managers of the Royal Edinburgh Mental Hospital have opened two nursing homes, and will soon open a third, for the purpose of early treatment, and they have also acquired a country house for convalescent patients; in this way accommodation for fifty patients has been secured. These homes are not mental hospitals, they are not a part of Craig House, they do not come under the provision of the Lunacy Acts, nor are they supervised by the General Board of Control, but, being the property of the corporation, they are under the care of managers well qualified to deal wisely and well with the inmates. But again, such nursing homes are for the better-off classes, and the question arises about the poor who should have the benefit of early treatment also. Professor Robertson thinks that a way will be found through the co-operation of four bodies—the Edinburgh Royal Infirmary, the parish council, the University, and the Royal Mental Hospital; by this quadruple alliance it may be possible to establish an early treatment hospital, centre, or clinic, and with the reopening of Bangour for its pre-war work West House at Morningside would be able to afford the necessary accommodation. Dr. Robertson earns the thanks of the profession for his practical realization of the truth that prevention is better than cure and that early treatment is better than late.

GLASGOW MEDICAL LUNCH CLUB.

The weekly meeting of this club, held on February 23rd, was rendered especially interesting by the presence, as guest of honour, of Sir Donald MacAlister, K.C.B., Principal of Glasgow University and Chairman of the General Medical Council. From his long experience of the work of the Council, extending over a period of thirty-three years, during half of which he has been president, Sir Donald gave an interesting account of its functions and influence. The Council, he said, was neither a professional parliament nor a union for the protection of professional interests. The declared object of Parliament when, in 1858, the Council was first constituted was simply the interest of the general public, and not the welfare of medical men or of professional corporations. By the preamble of the Act it was determined that persons seeking medical aid were to be enabled to distinguish "qualified" from "unqualified" practitioners. Machinery was set up whereby the "qualified" were hall-marked, but the public were free then, as now, to employ the "unqualified," should they so desire. Except for some limitations the unqualified were left untouched by the law. The qualified, however, having received his legal status and official recognition, became subject to a new central control, both educational and disciplinary, from which control the unqualified was exempt. Although in other countries and British Dominions the law restricted practice to the qualified, legislation to the same effect with regard to medicine and surgery was not very probable in this country in the near future. Parliament would go so far as to distinguish the trained from the untrained, but the public were left to make their own choice at their own risk. All the Council's power and work, apart from a few subsidiary matters, had reference to the two statutory functions of education and registration. Though its positive statutory powers in both these fields seemed meagre it had gradually but surely developed an influence which was real and potent for good. They worked by the exercise of moral rather than legal pressure, and this good influence was due, he thought, to three factors: (1) the constitution of the Council itself; (2) the loyalty of the teaching and examining bodies; and (3) the publicity of the Council's proceedings. The acknowledged weight of educational influence wielded by the Council in moulding the content and standard of professional training had been reached not by compulsory rules and regulations but by recommendations made and accepted by common consent. This moulding process was still going on, and at present some twelve committees, representative of all branches of the profession, were considering the revision of the present curriculum. The final result when approved by the Council would go forth as a recommendation to medical schools and licensing bodies, and he had not the slightest doubt that, as in the past, these would follow the lead of the Council for the sake of the well-being of the profession which was their special trust.

GLASGOW HEALTH VISITORS' ASSOCIATION.

At the annual meeting of the Glasgow Infant Health Visitors' Association the chairman, Bailie Angus McDougall, said that it now had seventeen branches, three or four of which worked in or around the original Cowcaddens area; associated with these branches there were now between 300 and 400 voluntary visitors; the Association during the past year had kept under supervision altogether some 3,770 infants. During the same period the corporation had appointed four lady medical officers

to devote their whole time to child welfare work, with a nursing staff of twenty. The corporation had also taken over and expanded the day nursery services formerly carried on by the Day Nurseries Association. The vital statistics contained in the report afforded a measure of the progress which had been made.

Ireland.

THE LATE DR. J. A. HANRAHAN.

DR. WM. DOOLIN, honorary secretary Leinster Branch, writes: Some months ago (April 9th, 1921, p. 841) you very kindly published an appeal on behalf of the widow of the late Dr. Hanrahan. As the bulk of the subscriptions we received came from members of the Association, through your publication, I enclose the list of subscribers with the amount contributed by each:

£10.—Dr. H. Meade, Captain P. J. Ryan, R.A.M.C., Dr. J. M. O'Connor.
£5.—Drs. W. M. Crofton, H. C. Venis.
£3 3s.—Drs. H. Barniville, W. Doolin, W. M. Falkiner, V. Tighe, E. P. McLaughlin.
£2 2s.—Mrs. Cantwell, Drs. M. Gumel, P. Foote, Lieut.-Colonel T. Murphy, I.M.S., Dr. C. J. Macauley.
£2.—Drs. E. Murphy, A. L. Nielan.
£1 1s.—Drs. S. S Simmons, G. H. Nelly, L. E. Hardy.
£1.—Mrs. K. O'Connor, Drs. R. O'Connor, H. P. O'Sullivan, S. H. Taylor.
10s. 6d.—Dr. W. D. O'Kelly.
10s.—Mr. J. Doyle, Dr. W. J. Dewar.
Per Dr. T. Dillon:
£1 10s.—Some Students at Vincent's Hospital.
Per Dr. M. C. McGrath:
£1.—Drs. F. W. Kennedy, J. Devane, W. A. Fogerly, M. C. McGrath.
10s.—Drs. J. Roberts, J. Massy, Malone, P. F. Graham, W. J. O'Sullivan, A. Humphries.

Total amount received, *£87 19s.*

Correspondence.

A DIPLOMA IN TUBERCULOSIS.

SIR,—In connexion with the letter of my friend, Professor Lyle Cummins, in last week's JOURNAL, and your comments on the proposal for a diploma in tuberculosis, will you allow me to indicate briefly the existing arrangements and outlook of the University of Edinburgh?

Tuberculosis is now included in the curriculum for the degrees of Bachelor of Medicine and Bachelor of Surgery, and candidates for the Final Examination must present evidence of having attended a course of not less than thirty meetings.

The University course for undergraduates deals with tuberculosis in the widest sense, and more particularly with its practical aspects. The course, which is conducted by the professor and several assistants, includes a survey of the etiology, pathology, diagnosis, prophylaxis, and treatment of all forms of tuberculosis, special attention being directed to the clinical side. Opportunities for practical work are afforded both in the classroom and at various tuberculosis institutions. The subject is included in the Final Examination, at which board the professor of tuberculosis sits, along with the professor of medicine and the extern examiner.

The curriculum for the Diploma in Public Health, recently instituted by the University, extends over an entire academic year, and includes, in addition to the more general subjects of public health (chemistry, bacteriology, parasitology, administrative duties, etc.), special training in tuberculosis, clinical and administrative, as also in venereal diseases, medical inspection of school children, and child welfare. The General Medical Council is at the present time considering the advisability of altering the conditions and standard curriculum for the Diploma in Public Health. In view of the extending scope of the health service of the country it is eminently desirable that all officers attached to the service should have practical training in those subjects.

From men who intend to devote themselves more specially to tuberculosis, which is now a recognized division of the health service, more may well be required—and what applies to tuberculosis is no less applicable to the other specialized departments. In the interests of those who have in view advancement to higher posts in those departments, it seems reasonable that some official credential should be available in respect of higher study and proficiency in the given subject. This might readily be afforded by attachment to the general Diploma in Public Health of an additional certificate to the effect that such special proficiency had been attained. The extra statement would be a matter for the examining body before which the candidate appeared.

The practical result would be that, while some candidates remained content with the possession of a general Diploma in Public Health, others would prefer to have the diploma with honours, pointing to special proficiency in one or other department. The proposal obviates what most of us feel to be undesirable—namely, the multiplication of special diplomas in limited departments of medicine.—I am, etc.,

University of Edinburgh, Feb. 25th. R. W. PHILIP.

THE RECOGNITION OF AORTIC INCOMPETENCE.

SIR,—I am obliged by the three courteous notes of comment on my paper on the recognition of aortic incompetence. Unlike Dr. Gordon, I never use a binaural stethoscope except occasionally for children and for getting at stout patients in awkward positions in the middle of a full-sized bed; with the form of wooden stethoscope which I use I can hear as much as, if not more than, I can with direct auscultation.

The views of my old teacher, Dr. Graham Steell, on the evidence of aortic incompetence which is to be gained by inspection are as sound and instructive as are all the writings of such an observant clinician as he is, but the passage quoted refers to cases in which the incompetence was advanced, and my concern was with the earliest appearance of the disease, as, indeed it is Dr. Heatherley's too. I agree with Dr. Heatherley on the effect of change of posture on the audibility of some aortic diastolic murmurs and with his other remarks, some of which I would have added to my paper had I not been anxious to save space.

My answer to Dr. Broomhead's question, "Is it not an established fact that in order to make a diagnosis of aortic stenosis three essentials are necessary: (1) a thrill over the aortic area, (2) enlargement of the left ventricle, (3) definite signs of aortic regurgitation?" is that (1) a thrill only occurs in a proportion of cases of aortic stenosis; (2) enlargement of the left ventricle does occur, and this varies with the degree of stenosis; (3) a diastolic murmur of aortic incompetence is not always present in aortic stenosis. A systolic bruit heard at the base does not justify a diagnosis of aortic stenosis or obstruction (the difference between these two conditions is one of degree only), unless the murmur is heard also over the carotid artery without pressure from the stethoscope. But even in these conditions the murmur may occasionally be a posture murmur and arise from pressure on the subclavian artery from muscle or collar-bone, or even cervical rib, as I have described in my book on *Heart Disease*. Such a posture murmur was the cause of some rejections of army recruits during the war which came under my notice.

I am obliged to Dr. Broomhead for his interesting figures on the incidence of syphilis in heart disease.—I am, etc.,

Manchester, Feb. 25th. E. M. BROCKBANK.

HOLLOW VISCERA AND VESSELS: CURVATURE AND PRESSURE.

SIR,—In your issue of February 18th Dr. Cranston Walker in an excellent article draws attention to some interesting and highly important applications of Lagrange's tension and pressure theorem to the human body. This subject deserves careful study.

In the year 1892 I read a paper before the Royal Academy of Medicine in Ireland on quite similar lines. It may be found in the *Transactions* for that year, and also in the *Journal of Anatomy and Physiology*, vol. xxvi. I only dealt with the statics, but there were one or two points brought out in my paper that I think are worth mention.

The first was that the theorem gives a perfect explanation of the varying thicknesses of the heart wall, and of the fact that when the heart ruptures it rarely does so at its thinnest part.

The second and more practical one was that it affords the true explanation why allowing the liquor amnii to escape precipitates labour; not, as used to be held, and sometimes still is, on account of foetal movements stimulating the uterine wall to greater effort, but owing to decrease in the radius of curvature of the viscus enabling the same tension in the wall to give rise to a higher pressure on the contents.

It is safe to say that there is no single point in physics of such wide application to the human mechanism, nor one better worth understanding by those who have to treat surgical, or indeed medical, complaints. To give only one

example, but an important one, it affords the true explanation of the inability of dilated intestines to empty themselves of their contents.—I am, etc.,

Dublin, Feb. 20th. ROBERT H. WOODS.

SIR,—I have read with much interest the extremely valuable paper on the above subject in your issue of February 18th by Dr. Cranston Walker, and I sincerely wish that he would further develop his work on many practical lines which lie open to his investigation. A clear knowledge of the principles which he has enunciated as applied to the circulation might save much useless and injurious medication to which patients are subjected by the modern cardiologist. His physics strongly support the views expressed by Dr. J. R. Gillespie recently in your columns.

I shall only give a couple of illustrations to show the importance of his facts as applied to the circulation:

1. If the body be inverted, the static pressure in the carotids is increased, but those vessels at once contract down to about half their previous size, and with the diminution in the radius of curvature the tension is increased, and the greater internal pressure converts the energy of the blood into velocity, and thus the cerebral capillaries are saved from the great static pressure to which otherwise they would be subjected.

2. When a great volume of blood is thrown out of the left ventricle at each systole, and there is great disparity between the diastolic and systolic pressures, we get longitudinal straining of the arch of the aorta, and an aneurysmally dilated aorta is the result. Hence a high pulse pressure, which many look upon as evidence of an efficient circulation, is injurious. I have often said that when the pulse pressure exceeds 40 mm. of mercury it is time to be thinking about repairs.—I am, etc.,

Liverpool, Feb. 19th. JAMES BARR.

SIR,—I very much regret that a slip led to errors in writing the integration on p. 261 (col. 2) of the above article. Lines 14–17 should read:

$$\text{For the sphere } p = \frac{2t}{\sqrt[3]{\frac{3V}{4\pi}}}$$

$$\therefore W = \int_{V_1}^{V_2} \frac{2t}{\sqrt[3]{\frac{3}{4\pi}}} \cdot V^{-\frac{1}{3}} \cdot dV$$

$$= 3t \cdot \sqrt[3]{\frac{4}{3}\pi} \cdot \left(V_2^{\frac{2}{3}} - V_1^{\frac{2}{3}}\right)$$

t being constant in this type of membrane.

Line 46 should read:

$$\left(\frac{dp}{dn} \propto \frac{R_o}{(R_o + n)^2}\right)$$

—I am, etc.,

Birmingham, Feb. 21st. CRANSTON WALKER.

THE TREATMENT OF EMPYEMA.

SIR,—I should like to endorse what Mr. Philip Turner says (p. 329) about the use of Bier's cups in empyemata. I have used them for some years, not as a matter of routine but whenever the drainage seemed to be unsatisfactory. Everyone is familiar with cases in which all goes well up to a certain point, and then improvement seems to stop. There is often a sinus with a small pocket at the end in which pus accumulates and discharges periodically. In these cases Bier's cup, if it can be properly applied, is invaluable; it ensures the emptying of the pocket and promotes healing. Unless the sinus is very deep a smaller cup than the three inch is quite effective, and generally much more easily applied to the chest.

The rapid and complete healing up of these sinuses is not a trivial matter, as their persistence seems often to be the determining cause of the occurrence of cerebral abscess, the most formidable and not infrequent sequel of empyema. Out of six cases due to intrathoracic trouble which I have seen in the last few years three were connected with persistent fistula.—I am, etc.,

Brighton, Feb. 25th. E. HOBHOUSE.

SUICIDE IN BORDERLAND CASES.

SIR,—Dr. S. E. White (BRITISH MEDICAL JOURNAL, February 18th, 1922) says the aim is to "prevent the suicidal tendency." Everybody will agree, but short of the regulation of everybody's mental processes it is difficult to see how this ideal can be realized. Many cases do not come under medical advice until the suicidal tendency has actually come into existence—and then, unfortunately, in some a waiting policy is adopted or the danger is not realized.

Surely it would be better to direct our energies to educating the public to understand that sufferers from mental disorder should be regarded in the same light as those with bodily diseases, so that treatment will be sought as early as possible, instead of perpetuating the idea that insanity is a disgrace to which a "taint" attaches. There is no difference, in principle, between the isolation of patients with mental disorder and those with other diseases which require special measures in their own interest or in that of the public.

Dr. White makes sweeping charges against the Lunacy Board and asylum authorities. Dr. Edwin Goodall's letter, which immediately precedes it, is highly appropriate. To refer to one or two details, I know personally of cases in which apparently inadequate certificates, or those with technical errors, have been unaccepted until amplified or corrected; to "invalidate" them without inquiry, thus involving the patient's release, would entail grave risks. I also know of a case—not in England—where the authorities corresponding to the English Lunacy Board, on the application of a patient in a mental hospital, gave him so much liberty under conditions defined by them, in spite of the protests of the medical officer, that he was enabled to commit suicide promptly.

Has Dr. White never heard of voluntary boarders and ex-certified patients applying for readmission when they feel the approach of a relapse? What does Dr. White want? She practically alleges that the Lunacy Board fails to protect the helpless, and wrongfully allows detention in asylums, but would have homes for uncertified (not necessarily uncertifiable) cases kept free from any link with the Board. Who is to see that cases which require certification are not so detained, and that the homes do not become an even more serious "menace to liberty" than the Scottish system she dislikes? It is evident that in Dr. White's opinion the various local authorities and justices are useless as a protection, and are all parties to abuse of the Lunacy Law—to say nothing of the asylum staffs.—I am, etc.,

E. C. PLUMMER.

Neurological Clinic, Plymouth, Feb. 19th.

HENRY OF NAVARRE.

SIR,—You kindly published a long and admirable abstract of my Thomas Vicary lecture on December 17th. I did not know you intended to publish this abstract, and I had no opportunity of correcting it. There was one mistake (p. 1041). Henry of Navarre was substituted for Philip of Nassau. Presumably Dr. Clowes has been led astray by this mistake; he could not have been present at my lecture, neither can he have had an opportunity of reading it *in extenso* (*Lancet*, January 28th, p. 167). The following is taken from the lecture. Guthrie was an opponent of the mediaeval practice of frequent and multiple trephining, and he gives the following case (and others) in support of his views:

> "Philip of Nassau having been thrown from his horse fractured his skull in several places by striking his head against the stump of a tree. He was trepanned 27 times by a surgeon of Neomagen. He gave a certificate of this, signed by himself, and Solingen adds as a proof of his complete recovery that he drank 3 of his companions to death." (Guthrie, *Injuries of the Head Affecting the Brain*, 1847, p. 153.)

Guthrie quotes the story from Solingen (*Manuales Operatien der Chirurgie*, cap. vii, p. 29). Solingen's work is not in the library of the Royal College of Surgeons and is not in the library of the Royal Society of Medicine. It was in the library of the Medical Society of London, but has apparently been lost.

I should be much obliged if Dr. Clowes would tell me who Philip of Nassau was and all about him.—I am, etc.,

London, W., Feb. 28th. C. A. BALLANCE.

THE NAVAL MEDICAL SERVICE.

SIR,—It seems very probable that the medical services of the Navy, Army, and Air Force will all be merged into one, and this great change, apart from any question of economy, will indeed be a fortunate thing for the Naval Medical Service, which otherwise would seem destined to perish from inanition due to the lack of suitable candidates, as well as to neglect by those in authority to represent the best interests of that service to which they belong. The silent but nevertheless scathing criticism passed by those temporary medical officers who served during the late war (I believe that out of about 860 temporary surgeon lieutenants only some 2 or 3 per cent. elected to become permanent on the offer being made by the Admiralty) must be apparent even to the dullest intellect. One reason given for this by a very keen and able young medical officer was that he would not wish to remain in a service where senior medical officers were treated with such scant consideration.

The placing on the retired list of senior men, who had reason to suppose that the Admiralty would honour its obligations, and that they would reap a small return for their long and often arduous service during and also after the war; the very slight increase to the ordinary pre-war pension, as compared with other branches of the service; the casual and curt way in which these senior officers are placed on the retired list, without, in some cases, even any decent warning—these, and many other considerations, have created a feeling of much bitterness and resentment. This feeling is naturally known to the junior officers, and it would not be surprising to hear that they were keen to get out of the service at the first favourable opportunity.

All these facts cannot but fail to react on the Naval Medical Service itself, where good, but often unrecognized, work is being done.—I am, etc.,

"EXPERTO CREDE."

February 8th.

CLAYDEN *v.* WOOD-HILL.

SIR,—I am sending you the sixth list of subscriptions to the Wood-Hill Fund, which I shall be obliged if you will kindly insert in your next issue.

In the original letter, published in the JOURNAL on December 3rd, 1921, appealing for contributions in aid of Dr. Wood-Hill, it was stated that the total expenses incurred by him, including the damages awarded, would be about £1,600. I have recently heard from the solicitor for the defence, and I regret to say that the original provisional estimate of £1,600, made immediately after the trial, will be considerably exceeded, owing mainly to the large claim for costs sent in on behalf of the plaintiff. Dr. Wood-Hill's total liability will be not less than £2,250.—I am, etc.,

HAMILTON A. BALLANCE,
Honorary Treasurer.

All Saints Green, Norwich,
February 25th.

Sixth List of Subscriptions.

Amount previously acknowledged, £938 8s. 6d.

£20 14s. 4d.
Fife Branch of the B.M.A., per Dr. D. Elliot Dickson, Hon. Sec.

£11.
Hastings Division of the B.M.A., per Mr. C. Charnock Smith, Hon. Sec.

£10 10s.
Honorary Staff of the Bradford Royal Infirmary, per Mr. F. W. Goyder, Hon. Sec.
Ipswich Clinical Society, per Mr. Cecil S. Staddon, M.C., Hon. Sec.
Medical Staff of the Golden Square Throat Hospital, per Mr. Lionel Colledge

£10.
Stourbridge Medical Society, per Mr. George J. Dudley, O.B.E., Hon. Sec.

£8 8s.
Colwyn Bay Medical Society, per Dr. S. L. Butterworth Wilks

£6 6s.
Coventry Division of the B.M.A., per Dr. N. J. L. Rollason, Hon. Sec., 10s. 6d. from each of the following members: Drs. B. A. Ballantyne, J. Bradley, W. D. Cogbill, F. A. Collington, J. T. H. Croft, D. Davidson, S. C. Harris, A. Hawley, W. H. Lowman, N. J. L. Rollason, H. D. Rollinson, and H. P. Thomason

£5 5s.
Sir Joseph O. Skevington, K.C.V.O., Windsor
Drs. Relton, Powell, Hoskyn, Wheeler, and Roche, Rugby
Dr. George Stewart, Ipswich
Drs. H. and W. A. Watson, Norwich

£5.
Major Sidney L. Barrett, Beccles

£3 3s.
Mr. Hugh Davies, London

£2 2s.
Mr. G. F. Briggs, Hull
Dr. A. Ingram Cooke, Chobham
Dr. L. B. Perry, Baghdad
Mr. J. Sleeman Reed, Gorleston-on-Sea

£1 1s.
Dr. George Schilling, Kessingland
Mr. V. J. Duigan, East Dereham
Dr. C. Ede, Colne
Dr. Norman C. Carver, Surbiton
Dr. A. W. Havard, Lowestoft
Dr. Geoffrey Cowan, Thetford

10s. 6d.
Dr. S. O. Eades, Ipswich
Mr. L. P. Costobadie, Mottram

Obituary.

CHARLES DRAGE, M.D.,

Late of Hatfield.

DR. CHARLES DRAGE, formerly of Hatfield, died recently at his daughter's residence in Herefordshire at the age of 97. He was a student at St. Bartholomew's Hospital, took the diplomas of M.R.C.S.Eng. and L.S.A. in 1848, and graduated M.D. at King's College, Aberdeen, in 1857. After a short apprenticeship at Ipswich he settled in practice at Hatfield, where he practised continuously for some sixty-five years until his retirement in 1912. He was one of the best known men in south Hertfordshire, which when he settled in Hatfield was still a purely agricultural district containing the seats of many distinguished persons. Dr. Drage belonged to the best type of general practitioner, and kept himself well acquainted with the progress of medicine and surgery, with perhaps a special leaning to the latter. At one time he was a frequent visitor to the operation theatres of London hospitals. Dr. Drage was a tall, well-proportioned man of striking appearance, and was endowed with remarkable energy and a robust constitution, a combination which enabled him to get through an immense amount of work. One of his earliest patients was the great Duke of Wellington, and he was medical attendant to three Prime Ministers—Lord Melbourne, Lord Palmerston, and the late Lord Salisbury. With the changes in south Hertfordshire, which converted it into a kind of residential outskirt of London, Dr. Drage got into the habit of spending much time in London, running up to see patients who had come under his care in Hertfordshire. Dr. Drage was for many years a member of the British Medical Association, and served on the Council, but he did not approve of the changes made in 1883, and his active interest in the Association thereafter greatly diminished.

He retired in 1912 and went to live with his daughter at Rodd Court, Herefordshire. He had three sons: one of them, Dr. Lovell Drage, who died in 1919, was associated in practice with his father, and was also coroner for Hertfordshire; another is a clergyman in Yorkshire; and the third, Mr. Geoffrey Drage, is the well known writer on economics and politics, who was formerly M.P. for Derby.

DR. JOSEPH BRINDLEY-JAMES, who died on February 20th, was born in 1849 at Aberystwith, the son of Dr. Thomas James. He was educated at Shrewsbury Grammar School and subsequently at King's College, London. He took the diplomas of M.R.C.S.Eng. in 1876, and L.R.C.P.I. in 1894. He was president of the Association of Members of the Royal College of Surgeons, and a vice-president of the Medical Sickness Annuity and Life Assurance Society, of which he was one of the original members. He was an Associate of King's College and honorary physician to St. Mary's College, Brook Green. Up to the end of last year Dr. James had been a member of the British Medical Association; he had also served as a member of the Barnes District Council. A memorial service was held at Holy Trinity Church, Barnes, on February 25th, and the interment took place at East Sheen.

WE are indebted to Dr. Herbert E. Friend (London) for the following: It will interest your readers to hear that there passed away on February 16th what must surely have been the last of the old army surgeons who saw service in the Crimean war—at the age of 96. The Rev. JAMES GEORGE was the son of Dr. George, who practised in Kensington at the end of the eighteenth and beginning of the nineteenth centuries. He was born in 1826, and in due time became a pupil at St. George's Hospital under Caesar Hawkins and Tatum on the surgical side and Bence Jones and Nairn on the medical. Taking the M.R.C.S., he joined his father in his practice, but later—in 1853—received a surgeon's commission in the army, and was present in the Crimea during the war; he later contracted small-pox, on his recovery from which he decided to give up medical work and to take Holy Orders. Until comparatively recently he lived in the country, leading the quiet life of a country vicar, retaining his faculties to the last.

DR. HOWARD B. CROSS of the Rockefeller Institute of Medical Research, who went to Mexico in December last to study yellow fever, contracted the disease in the centre of the yellow fever district, and died on December 27th, at the age of 32.

Universities and Colleges.

UNIVERSITY OF OXFORD.

AT a congregation held on Saturday, February 18th, the following degree was conferred:

D.M.—E. W. M. H. Phillips, Jesus College.

UNIVERSITY OF LONDON.

AT a meeting of the Senate on February 22nd, Professor H. R. Dean, M.A., M.D., B.Ch.Oxford, F.R.C.P., was appointed as from June 1st next to the University Chair of Bacteriology, tenable at University College Hospital Medical School. He held the Salters' Company's Research Scholarship in Pharmacology in 1906 and the Radcliffe Travelling Fellowship of the University of Oxford from 1909 to 1911, when he studied in Berlin. After holding various appointments at St. Thomas's Hospital and the Lister Institute, he became Professor of Pathology in the University of Sheffield. Since 1915 he has been Professor of Pathology and Pathological Anatomy in the University of Manchester.

UNIVERSITY OF LEEDS.

William Hey Medal in Medicine and Surgery.

PROFESSOR SIR BERKELEY MOYNIHAN, K.C.M.G., C.B., F.R.C.S., has given to the University of Leeds an endowment for the annual award at the Leeds Medical School of a gold medal to the best student of the year in medicine and surgery. The gold medal will bear the name of William Hey in commemoration of the work of that great Leeds surgeon. The Council of the University in accepting the endowment have recorded their thanks to Sir Berkeley Moynihan for his generous gift.

William Hey (1736–1819) was one of the pioneers of modern surgery. A brilliant operator and teacher, he established the tradition of surgical skill which has ever since been one of the chief distinctions of Leeds. He was a friend of Joseph Priestley when the latter was minister of Mill Hill. He took an active part in the foundation of the Leeds Infirmary, of which he was senior surgeon from 1773 to 1812. His statue by Chantrey stands in the entrance hall of the infirmary. His son William (1772–1844) and his grandson, the third William Hey (1796–1875), were also eminent surgeons, the latter being one of the founders of the Leeds School of Medicine in 1831. The medical traditions of the family were carried into the fourth generation by two great-grandsons of the first William Hey—namely, Samuel Hey and Edward Atkinson—who respectively served the Leeds Infirmary as surgeons from 1850 to 1872 and from 1874 to 1894.

Medical News.

THE Royal Society of Medicine has adopted a new by-law permitting the election as associates of medical men and women, whether British or otherwise, within five years of their first professional qualification. An Associate will be entitled to the privileges of Fellows other than that of voting or holding office, but will only be allowed to borrow one volume at a time; he will pay an annual subscription of three guineas, but no admission fee, and if after having paid three annual subscriptions he is then elected a Fellow, will not be required to pay an admission fee.

THE fifteen candidates selected by the Council of the Royal Society to be recommended for election into the society include Dr. C. G. Douglas, C.M.G., M.C., of St. John's College, Oxford, and Dr. M. S. Pembrey, lecturer on physiology at Guy's Hospital and professor and examiner in physiology in the University of London.

DR. F. GOWLAND HOPKINS, F.R.S., Professor of Biochemistry in the University of Cambridge, and Dr. William Halse Rivers, F.R.S., President of the Royal Anthropological Institute, have been elected members of the Athenaeum Club under the rule which empowers the annual election by the committee of a certain number of persons of distinguished eminence in science, literature, the arts, or for public service.

THE fourth Italian Congress of Medical Radiology will take place at Bologna, in the Rizzoli Orthopaedic Institute, from May 9th to 11th, with Professor Aristide Busi as president. In connexion with the congress an exhibition of radiological apparatus will be held. Further information may be had from the secretary of the congress, Dr. Alberto Possati, Villa Verde, Bologna.

A THREE months' course of lectures and demonstrations in hospital administration will be given at the North-Western Hospital for Infectious Diseases, Lawn Road, Hampstead, by the medical superintendent, Dr. E. W. Goodall, on Mondays and Thursdays, at 5.15 p.m., beginning on April 3rd. The fee for the course is £3 3s., which should be paid to the Clerk to the Metropolitan Asylums Board.—A course of instruction in the diagnosis and treatment of fevers will be held in the hospitals of the Metropolitan Asylums Board during the month of May. A two months' course will be held in August and September, and a further course will commence in October. Full particulars can be obtained on application to the Clerk of the Metropolitan Asylums Board, Embankment, E.C.4.

WE regret to announce the death, at the advanced age of 95, of Dr. Alfred Hill, for many years medical officer of health for Birmingham, and for nearly seventy years a member of the British Medical Association. We hope to publish a memoir in an early issue.

THE King's Services Choirs consist of ex-service men from the various hospitals where neurasthenics, mainly sufferers from shell shock, are treated. They are trained and maintained by the Vocal Therapy Society, and on February 11th they gave a demonstration of the value of the treatment which they receive. The men demonstrated their capacity for singing in harmony as well as in unison as separate choirs and as a combined mass, and the effect upon the men as well as on the audience of interested supporters was most inspiriting. The beneficial effect of the activities of this society make it worthy of generous support; reports can be obtained from the secretary at 27, Grosvenor Place, S.W.1.

DR. EDITH M. BROWN, of the Zenana Bible and Medical Mission, and for twenty-eight years principal of the Women's Christian Medical College, Ludhiana, Punjab, India, has had the honour of Fellowship of the Punjab University conferred upon her in recognition of her work.

AT a meeting of the British Spa Federation recently held in London it was resolved that the tariff in operation at the British spas be reduced for the coming season, and that the hotels, hydros, and places of accommodation be recommended also to reduce their tariffs considerably. Railway facilities to the spas was also recognized as a matter of importance, and the Federation intends to press for at least a revival of the twenty-eight day facilities granted before the war. The honorary secretary of the Federation is Mr. F. J. C. Broome, general manager of Harrogate Spa.

AN action for damages against Inecto Limited and a hairdresser was heard before Mr. Justice Bailhache in the King's Bench Division on February 24th and 27th. The plaintiff, who was a music-hall artist, said that she went to the hairdresser's shop to have her hair dyed black for the purposes of a part she was playing. Shortly after the application she felt an irritation in her head; this afterwards became so much worse that she was under treatment at Charing Cross Hospital from March 12th till April 5th. Medical evidence was called to support the plaintiff's case. One of the witnesses was Dr. J. M. H. MacLeod, who said that the substances stated to be in the compound—paraphenylene diamine and resorcin—were both irritants of the skin. No evidence was called on behalf of the company. The hairdresser stated that he had had ten years' experience of using Inecto Rapid and only once before had he had a complaint about it. The action against the hairdresser was dismissed but without costs. In giving judgement, Mr. Justice Bailhache said that the warning sent out by Inecto Limited at the time was not sufficient to protect them in such a case, but that that now issued was much more complete and seemed to him sufficient. He found the company liable in damages, which he assessed at £200, and gave judgement for that amount with costs.

THE King of the Serbs, Croats, and Slovenes has conferred the Order of Saint Sava upon Dr. Mary Alice Blair (Class IV) and Dr. G. K. Bowes (Class V), the former in recognition of services rendered in connexion with the Serbian Relief Fund, and the latter for valuable services rendered during the war.

FESTIVITIES are being arranged to take place early this year in celebration of the foundation of the University of Padua in 1222. Professor Lucatello, the Rector of the University, is arranging the ceremonies.

THE Chairman of the London Hospital, Viscount Knutsford, announced at a meeting of the Governors on March 1st that the Committee, on the advice of the Medical School staff, has decided that no more women students will be trained at the hospital.

THE second general assembly of the thirty-seven national societies which are members of the League of Red Cross Societies will meet in Geneva on March 26th to 31st. The British Red Cross Society will be represented by Sir Arthur Stanley, G.B.E., Sir Napier Burnett, K.B.E., M.D., and Sir George Newman, K.C.B., M.D. The report of the Secretariat will be presented by Sir Claude Hill, K.C.S.I., Director-General of the League. The assembly will then discuss a programme of popular health education.

THE number of deaths from influenza in the week ending February 25th showed a further decrease. In the 105 great towns the figures were 525 against 670 in the preceding week, and in London 77 against 92.

THE annual meeting of the Central Council for District Nursing in London took place on February 23rd, at the offices of the Metropolitan Asylums Board. The question of extending the area of the work of the Central Council to include the whole of the metropolitan police area was considered, but no definite action has yet been taken; it was felt that it would be best if a voluntary district nursing association could be established in each district. It was agreed that there was a demand for adequately trained home helps, who, however, should not be allowed to drift into being amateur nurses, and that their training could best be supplied by the infant welfare centres. Inquiries had been addressed to all the federated district nursing associations in regard to the nursing of septic cases and practically all had now declared their willingness to undertake the nursing of such cases under the direction of a doctor. During the year grants were distributed to the district nursing associations of the metropolis amounting to £7,415, and besides the £4,000 remaining of the grant made by the British Red Cross Society there was a balance in hand of £2,000, which the Executive Committee proposed to allocate to special needs and to opening up new districts.

Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.*

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2630, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2630, Gerrard.

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin;* telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

"E." invites any member, who has had personal professional experience, to say whether excision of one or both testicles in a middle-aged married neurasthenic, whose symptoms seem primarily to arise from a neuralgia in these glands, is likely to be effective as a cure.

INCOME TAX.

"LAPIS" holds a County Council appointment, and inquires (1) whether he is entitled to deduct the expenses of subscribing to this and other medical journals; and (2) whether he is entitled to the benefit of the three years' average.

*** (1) In our opinion, Yes. We consider that a reasonable expenditure on current medical literature of a general character can properly be said to be incurred wholly, exclusively, and necessarily in the performance of the duties of the office. In our experience, however, we find that local inspectors of taxes are inclined to take the contrary view where the more stringent rule under Schedule E applies (as it does here), though allowing the expenditure where the general rules of Schedule D apply, as they do in the case of a private practice. The point does not appear to have been carried to the High Court, but "Lapis" might succeed in an appeal to the local Commissioners of Taxes. (2) No. This is unfortunately beyond dispute. The emoluments of a public office are assessable under Schedule E on the basis of the actual emoluments of the year, and that rule is, so far as we know, applied without qualification or concession.

"T. N. G." bought a car for £350 in 1909, and another for £260 in 1917, retaining the original car until 1918, when it was sold for £59. He asks what allowance he can claim.

*** The second car was bought to replace the first, and the fact that both were retained in hand for some time does not alter the fact that the circumstances as a whole justify a claim to treat the second car as a replacement. The loss on the first car was £350−£59=£291, but we understand that the Revenue authorities claim that the maximum allowance is the actual out-of-pocket expenditure incurred on the replacement, which would be £260−£59=£201. "T. N. G." appears, therefore, to be entitled to an allowance of at least that amount as for either 1917 or 1918, and seeing that the amount was indeterminable until 1918 that would seem to be the appropriate year for the allowance.

"BRUNSWICK" inquires why a salary for contract work at a large works should be taxed separately when panel receipts are pooled with the general private practice receipts.

*** Assuming the salary to be paid by a joint stock company it is legally separately assessable under Schedule E; we may, however, say that some time ago the Board of Inland Revenue agreed to treat hospital part-time salaries as part of the general practice receipts, and there seems to be no reason why they should not deal similarly with a contract salary paid by a company.

LETTERS, NOTES, ETC.

A CONFUSION OF NAMES.

MR. J. T. AINSLIE WALKER (London, E.C.), in the course of a communication, refers to the letter (p. 33) by Dr. E. W. Ainley Walker of Oxford disclaiming connexion with any antiseptic of commerce. Mr. Ainslie Walker states that the introduction of the benzene derivative dimol to the scientific world was made in accordance with strict ethical canons in a paper read at the International Congress at Brussels in 1920, and that the Anglo-French Drug Company are responsible for the commercial introduction of dimol to the medical profession. He adds: "If Dr. Ainley Walker's letter has the effect of directing my correspondence into the proper channels we shall both be spared any further annoyance and inconvenience."

ALPINE TREATMENT OF TUBERCULOSIS.

DR. FELIX SAVY (Grampian Sanatorium, Kingussie, Inverness-shire), in the course of a letter, writes: I cannot agree with your correspondent Sir Martin Conway that "the passport tyrants in all Foreign Offices and Consulates, and other interferences with free international travel resulting from the war, have had a disastrous effect upon the treatment of tuberculosis." It seems difficult to say on what grounds and for what purpose he makes this sweeping and not too generous statement. The Alpine resorts for the treatment of pulmonary tuberculosis are very much overrated, and also very much advertised. Egypt, the Canary Islands, and South Africa have had their day. Now it is Switzerland. The medical profession have had an opportunity of testing the result of treatment in our "damp and sunless" climate during the last twenty-five years or more, and I venture to say that a good many of us are satisfied that results as satisfactory can be obtained in British sanatoriums. If Sir Martin Conway will compare the results of treatment in some of our leading sanatoriums with similar institutions in Switzerland he could satisfy himself on this point. We hear about the wonderful cures from Switzerland. We hear little or nothing about the failures. The Swiss climate is certainly ideal for the sun cure in surgical tuberculosis; but it is not always the ideal climate for pulmonary tuberculosis. Before the war the Queen Alexandra Sanatorium and other institutions in Switzerland found it difficult to carry on, chiefly because few patients cared to spend the summer months there, when the climate is, if anything, worse than ours. These institutions were running at a loss because these patients did not find it disastrous to spend the summer months in British sanatoriums. The class of patient for which Sir Martin Conway is appealing would, I venture to say, do just as well under treatment in a sanatorium in this country. They do not belong to the idle rich class, who can afford to go to Switzerland winter after winter. Most of them have to earn their living; for them to undergo the cure in the same climate in which they are going to live and work is preferable. I believe this is the view held by many experts in this and other countries.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 32, 33, 36, and 37 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 34 and 35.

THE following appointments of certifying factory surgeons are vacant: Acle (Norfolk), Newton Abbot (Devon), St. Boswells (Roxburgh).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Six lines and under	0	9	0
Each additional line	0	1	6
Whole single column (three columns to page) ...	7	10	0
Half single column	3	15	0
Half page	10	0	0
Whole page	20	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

The Robert Campbell Memorial Oration

ON

THE SURGERY OF THE BLOOD.

BY

THOMAS SINCLAIR, C.B., M.D., F.R.C.S.,

PROFESSOR OF SURGERY IN THE QUEEN'S UNIVERSITY OF BELFAST.

In selecting a theme for this, the first Robert Campbell Memorial Oration, which the trustees have done me the honour of inviting me to deliver, my object has been to find one that would have interest for physicians and surgeons alike rather than one of purely surgical concern, with its wearisome details of minute technique. I trust that in discussing the surgery of the blood, as allusion must be made to various organic diseases of the haemopoietic system, it would be more correct, and more in harmony with medical nomenclature, to regard the blood dyscrasias as secondary phenomena. I hope to justify my presentation of the blood diseases by viewing them from a different angle, and by pleading that the pathology of the anaemias remains obscure.

Cohnheim's conception of the blood as a tissue consisting of cells and a fluid intercellular substance is attractive, and suits my present purpose, although it must be admitted that its cells differ from those of other tissues in their incapacity to multiply and reproduce their like. This conception of the blood raises its dignity from that of a mere circulating medium, a servant to the more stable tissues, carrying to them the materials for their sustenance and renovation, and at the same time doing all the scavenging they require for the smooth performance of their functions. Such adulteration as these menial services imply may appear to detract from its stability and render it unworthy to rank with the fixed tissues as a constructional entity. But the more its characters are studied the more are we impressed with its marvellous capacity for clearing itself and maintaining a relative constancy or homogeneity of composition and structure.

What tissue allows so many liberties to be taken with it and withal retains its vitality and identity? What tissue can vie with it in rapid restoration after haemorrhage, haemolysis in fevers, and other distempers? What other tissue would survive the insults and abuse of injections into it of copious solutions of salt and soda, eusol, mercurial salts, gelatin, gum arabic, ether, alcohol, aniline dyes, and the homologous blood of other persons, whether freshly drawn or bottled and kept in cold storage for a month or more? Still more the injections of vaccines and serums, often in large volume, at the hands of eager bacteriologists and haematologists—as, for example, in the Argentine treatment of anthrax, or in the treatment of pneumonia and tetanus.

Haemophilia.

Nothing has yet been ascertained as to the essential nature of this strange complaint. We do not know wherein consists the defective coagulation, which may take thirty to fifty minutes to accomplish, as compared with the four to five minutes in normal blood when tested by Sir Almroth Wright's method. Must we accept what seems a counsel of despair? or is it a counsel of perfection when non-sentimental eugenists forbid the girls of haemophilic families to marry, or, if they marry, to stipulate that they shall not bear children?

Hitherto the surgical rule has been to confine operations upon haemophilics to those of primary surgical urgency. Can we do anything to qualify haemophilics for expediency operations, and render these proceedings reasonably safe? Several experiences of my own in this regard make me think that we can. There are degrees of severity in haemophilia, and if we take the milder forms we may test by Wright's process before and again after a few days of preparatory treatment by calcium salts, haemoplastic serum, or repeated small transfusions of homologous blood at short intervals. Even the subcutaneous injection daily of 40 c.cm. of any mammalian blood, or of human blood not necessarily homologous, may temporarily increase the thrombin elements, and enable us to discriminate those who do not respond, and remain ineligible for operations, from those who do.

Pernicious Anaemia.

In pernicious anaemia the part played by surgery has hitherto been inglorious if we consider the results of splenectomy in the management of the ordinary type; while in the Addisonian variety the extirpation of the adrenals has been equally unsuccessful. The latest results from the Mayo clinic, however, show some improvement, possibly from improved technique and a careful selection of cases. The Mayo clinic claims now that a couple of years may be added to the life of these patients by a timely splenectomy, combined with transfusions of whole blood carried out after a preparatory treatment by radium, which appears to render the splenectomy much safer. It is doubtful whether the spleen is the seat of the disease, and so accomplished a surgeon as Moynihan, who has recently written so well upon splenic surgery, sums up that the results, having regard to the risks, do not entitle us to urge this operation upon patients with any degree of earnestness or conviction. The nature of the haemolysis is obscure: it seems probable that it is an infection; yet this has not been established, hence a truly rational handling is denied us, and the treatment remains empirical, with arsenical preparations as the leading agents. The surgical demands in many cases may be limited to transfusions of small quantities of whole blood at ten-day intervals, but these seem little better than retarding, not curative, measures. Large quantities of ox serum alone, which appears to have the advantage over horse serum that it does not sicken, may be considered in promoting thrombokinase formation.

Whether Dr. Hurst's method of grafting adrenal gland tissue into the groin—or, better, into the testis—will stand the test of time remains to be determined, but already some encouraging results have been reported.

Haemorrhage.

Turning next to the management of haemorrhage in normal blood we know that the sudden loss of a fourth part of our thirteen pounds' weight of blood may be fatal; but if the shedding be spread over a week or more by recurrent bleedings prodigious quantities may be lost with ultimate survival. We have been told that the extreme age of a single red blood cell is about one month. The speed with which these cells can be reproduced after haemorrhage is wonderful.

The two important indications in haemorrhage are: to restore the blood pressure by ingesting or transfusing fluids copiously, thus enabling the heart to supply the vital centres in the encephalon with a sufficient quantity of blood, however thinned in quality; and secondly, to maintain the warmth of the body by internal and external means, the latter indication being often overlooked when the mind is intent upon the former. Isotonic saline, or 6 per cent. gum solution, may be employed intravenously, but in extreme cases pure homologous blood should be used if available, and warm fluids given by the mouth or rectum.

I have not been impressed by the results of subcutaneous injections of salines for this purpose; I have noted them unabsorbed after a week, and have frequently seen disastrous sloughing follow their use. Dr. George Rea has recently simplified the determination of the homology of bloods. As to apparatus, we have our choice of the hydrostatic method; the multiple Record syringe method; and the paraffin-lined Kimpton-Brown tube. The technique is not difficult if care be taken not to introduce air bubbles. The direct method of connecting the artery of a donor to the vein of the patient by a ten-inch transparent tube with suitable nozzles, which Mr. Fullerton distinguished himself by introducing, has been found inconvenient, and in septic states of secondary haemorrhage positively dangerous to the donor. For anyone not fully familiar with the technique the safest plan appears to be the reception of the donor's blood into a warm vessel containing one-fifth part of a 3.8 per cent. sodium citrate solution, and instilling this mixture into the patient's veins by the gravitation or hydrostatic method. We must make sure that diseased blood—syphilitic, tuberculous, or malarial—is not used. In this connexion the interesting fact has been discovered that blood from an asthmatic donor has caused asthma in the recipient. Does this in any way show that we may revise our views of the pathology of asthma, and regard it as belonging to the category of blood diseases?

Thrombosis and Embolism.

Are we to assume that clotting of blood in varicose veins and in haemorrhoids in apparently healthy persons is an inflammatory process? It is very difficult to prove that it is so; certainly an attempt to demonstrate microbic activity in such simple cases usually fails. On the other hand, when definite phlebitis or arteritis exists, we can readily understand

that changes in the intima due to inflammation cause thrombosis.

The anxieties in phlegmasia dolens and in veins that have been operated on in various ways are common enough, but why detachment of portions to form emboli should be more frequent in the post-operative states as compared with phlegmasia is not easy to explain. In the recent debate in the Royal Society of Medicine conflicting views were expressed as to whether pulmonary embolism and infarctions were commoner now than formerly. My own impression is that they are on the increase, but to what change in technique or nursing this is to be attributed is not clear. The more recent deliverances from America are to the effect that the limbs should be permitted free movements, and no splints applied after operations on veins, in order to promote a freer circulation of blood. The practice hitherto has been the opposite—namely, to keep the limbs at rest in splints for a long time in order to give time for condensation of thrombi, lest bodily movements should detach portions of soft clots, with disastrous embolic excursions. Similarly, long rest has been enjoined for phlegmasia. A close observation of a number of cases convinces me that embolism is commoner in the cases treated by early movement and activity, and I still remain an advocate of prolonged rest. Likewise, in the treatment of acute thrombosis in varicose veins without operation prolonged rest is best. We have had in recent years a fair number of cases where men have refused to lie up and rest, and a fatal pulmonary embolism has been apparently caused by their activity; it has occurred, also, after the too early dismissal of hospital patients.

From a medical point of view we may discuss two rival and diametrically opposite therapeutic methods. Should we give calcium salts to condense the clots that may have formed, or should we give citrates to render the blood less liable to clot? As a matter of experience citric acid is better than its citrates for the latter object. My own view is in favour of the citric acid scheme as opposed to the calcium salts as a prophylactic against embolism.

If we apply to the physiologists for the reason why coagulation does not take place spontaneously in the blood vessels we are told that thrombin, the activating substance, does not exist in the blood. It has to be formed by the interaction of prothrombin and antithrombin which do exist. When these combine we get the thrombin that can convert the fibrinogen of the blood into fibrin. What the exact catalytic process is whereby the calcium salts and kinases react to liberate the thrombin is not clear.

The substance known as antithrombin appears to be formed in the liver as one of the secretions of the liver cells, and it is added to the blood as it passes through that organ. Now the fluidity of the blood in the hepatic veins as it leaves the liver is much superior to that in the portal system entering it. To facilitate coagulation all that is wanted to inhibit the restraining influence of this antithrombin is some thrombokinase, such as is liberated at a wound, bruise, or fracture, or even an internal injury to the intima of a vein, a burst valve, or an overstretch. Antithrombin appears to resemble hirudin, an extract from the salivary glands of the leech, or its more accessible and cheaper substitute albumose of peptone. We do not use this albumose of peptone as a therapeutic agent to prevent clotting because it is a powerful and even dangerous depressor of the blood pressure.

When clotting occurs in a vein after operations, two types of clot are recognized—one the firm white clot at the ligature, and the other a soft red colloidal clot, extending up approximately to the nearest tributary or branch. If the white clot disintegrates, it may be comparatively harmless, for it breaks up into almost powdery fragments. It is the soft red clot we have most to dread. To minimize its formation early movements to reduce stagnation after operations are now recommended. But we may lose as much as we gain by this nursing licence, for, as a soft red clot will inevitably form in some segments, we may by movements facilitate its detachment, leading to embolic developments. It therefore seems to me that the elevation of the limbs, and the foot of the bed, combined with somatic rest, is the safer procedure.

Regarding the matter from the clinical standpoint, we may say that in blood conditions in which thrombosis is the leading feature the coagulability of the blood is already too high. Therefore, in a rational treatment in the prevention of thrombosis and embolism, one would argue that we should endeavour to reduce this tendency by citric acid, or its citrates, rather than accentuate it by the exhibition of the calcium salts.

The question of the influence of electricity upon thrombosed veins, whether employed as a preventive agent, or to promote absorption or canalization of clots, is interesting. It is well known that the blood of persons killed by lightning remains for a long time uncoagulated, and this has led to the use of electricity in surgery, either as constant current alone or for the ionization of potassium iodide. We learn from Professor Milroy's researches that other influences, apart from the lightning stroke, may account for the fluidity of the blood. Nevertheless, electric ionization over thrombic areas appears to do good, and to expedite a restoration of the disabled circulation in post-operative conditions. This action, if we admit it, is probably due to a general effect upon the nutrition of the limb as a whole, for we find that the American experience of electrocution of criminals reveals no specific influence upon the coagulability of the blood, either for or against, from electrical currents.

Polycythaemia Vera.

Erythraemia, also called polycythaemia vera, is a rare disease of the plethoric type in which the red cells may rise to double the normal number. This probably depends upon undue activity of the red bone-marrow. Although the spleen is much enlarged, it is a fatal mistake to extirpate the spleen. This organ is not the source of the disease. Rather is it undergoing functional hypertrophy in its efforts to destroy the excess of red blood cells. Forty years ago the spleen was called "the grave of the red blood corpuscles," and in this disease it justifies its old title. Surgery, therefore, directed to the spleen is quite improper. Whether the suggestion of extirpating every alternate rib to reduce the amount of red marrow at work will bring this disease again within the surgical ambit remains to be seen. For the present the best treatment appears to be radium applied to the long bones, or possibly the deep x-ray therapy of the Erlangen school may have some advantages to offer in the future.

The influence of repeated small bleedings in reducing the plethora in erythraemia must also be borne in mind.

Splenic Anaemia or Banti's Disease.

This form of anaemia furnishes a sharp contrast to pernicious anaemia in its curability by early splenectomy before cirrhotic changes in the liver become too far advanced. The operation may, however, be a formidable one by reason of the parieto-visceral adhesions which abound, and bleed freely in their separation. Possibly a preliminary application of radium to reduce the size of the spleen may help to reduce this risk.

Spleno-medullary Leukaemia.

This myelogenous form of splenomegaly—what used to be called splenic leucocythaemia—causes the pendulum to swing strongly from surgery to medicine, seeing that splenectomy in this form has so gloomy a record. The very few patients that have survived the operation have not permanently benefited by it; at most a very brief retardation has followed, but not sufficient to justify so serious an operation. It will be best to depend upon radium, or the intensive deep x-ray application, when the blood count indicates this particular form of leukaemia. Some remarkably good results have been recorded at the Radium Institute.

Lymphatic Leukaemia.

This is a more rapidly fatal disease than the last-mentioned spleno-medullary form, and offers even less inducement to surgical enterprise; its management also must be left in the hands of the radiologists. In this disease it is not so much the increase in size of the lymph glands that strikes one, but the universality of their distribution, rendering surgical extirpation a hopeless task.

Hodgkin's Disease.

On the other hand, Hodgkin's disease reverses this position, and offers in its earlier stages a field for operative surgery. The extirpation of clusters of glands which are very large, discrete, and not adherent through inflammatory changes is not only feasible but useful. The spleen, which enlarges in the later stages, need not be extirpated. At first there are no striking blood changes: the anaemia occurs later on, so that in the early stages the patients are fit to stand operation better than in the anaemias already discussed. Nevertheless, I believe this disease will pass into the hands

of the radiologists, and that surgery will be less and less enlisted in the future for its treatment. The Radium Institute results in this complaint are very encouraging.

Tonsillar Anaemia.

Considerable difference of opinion still exists as to the wisdom of completely extirpating the tonsils, some claiming that an anaemia results from the removal of these haemopoietic organs. There are therefore advocates of the slicing or guillotine operation as against the thorough enucleation. My own experience leads me to adopt the enucleation plan, as less liable to be followed by recurrence of the hypertrophy. Aside from the primary or recurrent haemorrhage at the time of operation, which may be copious and account for a temporary marked anaemia, I have not seen a chronic anaemia result after enucleation that would deter me from ablating these small haemopoietic glands, which are so often removed with manifest advantage to the patient.

Haemolytic Jaundice.

This is a peculiar acholuric jaundice, which may be either congenital or acquired, and which may last for years; it is a slow blood disease, with marked anaemia from destruction of red blood cells. In this disease splenectomy has a high curative value, and may arrest the disease quite promptly and satisfactorily.

Purpura Haemorrhagica.

In this disease, hitherto regarded as purely medical, the intervention of surgery is justified, and may prove curative. The spleen is distinctly enlarged, and its removal by splenectomy has been followed by the happiest results. The exact nature of the disease is ill-understood, and why there should be a deficiency of the fibrin-forming elements is not explained. Though apparently not primarily a splenic disease, still the extirpation of the spleen is very useful. In some way it breaks a link in the vicious circle that underlies this malady. Hence a fair field for surgery in this blood disease may be predicted.

Skin Grafting.

Brief reference may be made to important discoveries of interest to practical surgeons in respect to skin grafting. It is desirable before taking grafts, even from a mother to her child, to determine whether the bloods of both harmonize or are homologous. When they do not correspond there may be failure in grafting—a point of special importance when the larger flights in plastic surgery are attempted.

Blood-letting.

A word must be said about a practice against which the errors and abuses of former generations have created some prejudice. I refer to blood-letting, either local or general. It is more than possible that we abstain from this too often, and that we should reconsider its value. Anyone who has seen the relief afforded by general blood-letting in the congestion of the lungs in immersion cases, and its recent revival in pneumonia, in apoplexy with high temperature and flushed face, will be willing to admit its potency. Similarly, in chronic kidney inflammation, with uraemia imminent, and in polycythaemia vera, as I have already mentioned.

Artificial Leucocytosis.

The artificial production of leucocytosis has received some attention since Metchnikoff's experiments showed that the resisting power of the peritoneum against the invasions of virulent organisms could be temporarily increased by injections of sterile broths or peptone solutions. This might be utilized in cases where the surgeon dreaded the onset of sepsis in abdominal operations. The same principle has recently been advocated in the treatment of influenza by the injection into the blood of substances capable of producing a general leucocytosis—for example, nucleinic acid or sodium cinnamate—and favourable results have been claimed for this practice.

In passing these various diseases in review it will be apparent that the account of them is necessarily incomplete and discursive. What will emerge, I think, is this, that surgeons in the future will have to be more thorough physicians and physiologists in order to guard themselves against rash or precipitate extirpations of organs which may be temporarily enlarged and apparently inconvenient burdens. These may not be the seat of the disease, though they may constitute its most conspicuous feature. The enlargement may actually be salutary—of the nature of a functional hypertrophy to protect the patient—as in polycythaemia.

On the other hand, the physicians should see to it that surgical aid should be sought as early as possible after a diagnosis has been made of one of these maladies in which splenic or glandular extirpation has proved of service. In a word, is it not clear that any sharp cleavage between these sister sciences, to which a premature and exclusive specialism is prone, is as unphilosophic as it is unscientific? We should, therefore, condemn an unnatural divorce of surgery and medicine, though both branches must gratefully recognize that only by specialized "team work" in many cases can the necessary diagnosis be laboriously built up.

THE TREATMENT OF INSOMNIA.*

BY

ROBERT DAWSON RUDOLF, M.D.,

PROFESSOR OF THERAPEUTICS IN THE UNIVERSITY OF TORONTO.

THE treatment of cases of insomnia is a very large subject, and here only an outline can be given, founded on an attempt to classify the different forms of the affection under two great heads.

Physiologists cannot tell us exactly what sleep is, and it would serve no useful purpose to enunciate here the different theories—or shall I say hypotheses?—that have been advanced as to its nature. A common belief is that the lowering of blood pressure that undoubtedly occurs during sleep is the cause; but if this were so one should find intense drowsiness in cases of low blood pressure, but this is not usual. Sleeplessness is not a symptom of severe haemorrhage, and, on the other hand, I understand that in mania the blood pressure tends to be low. Again, chloralose is a good hypnotic, and yet it raises the blood pressure. A fall in blood pressure is a usual accompaniment, but probably not the cause of sleep.

Sleep and sleeplessness are associated with decrease or increase respectively in the activity of the cells of the central nervous system, and the cause of this decrease or increase is not always the same. Sleeplessness, indeed, is a symptom and not an entity. One might just as well speak of one kind of cough or one kind of pain as of one kind of insomnia. We see it occur in arterio-sclerosis when the arterial blood pressure may be high, and again in anaemia when it is probably low. Usually a cup of coffee will lead to sleeplessness, but I have known people in whom it has the opposite effect. Evidently the essential cause of the symptom is not the same in the two classes.

Sleeplessness is perhaps the most distressing symptom to which human flesh is heir. Every practitioner knows how it wears out his patients and how a few hours of sleep may alter the whole aspect of a case. Sleep is more essential to life than food, in that an animal may go for weeks without eating, but let it be deprived of sleep for four or five days and life becomes impossible. A form of torture said to have been popular in old days was to deprive the victim of sleep, and it must have ranked high as a producer of exquisite suffering, which was the object of the torment. Our patients sometimes undergo this torture, unless we lessen it by therapeutic means.

As sleep is so essential, it follows that absolute insomnia for any length of time is incompatible with life, and yet often one is told by healthy-looking individuals that they have not closed an eye for weeks. I saw an example of this only the other day. A short period of sleeplessness is, strange to say, productive of an increase in weight of the body, but if the insomnia be persistent a loss of weight ensues, and the degree of emaciation is often an index of some value in estimating the amount of insomnia.

A great many classifications have been made of the different forms of insomnia. Perhaps the one most quoted is that of Germain Sée, which is as follows:

1. Dolorous.
2. Digestive.
3. Cardiac and dyspnoeal.
4. Cerebro-spinal and neurotic.
5. Psychic.
6. Insomnia due to physical fatigue.
7. Genito-urinary.
8. Febrile and auto-toxic.
9. Toxic.

* Communicated to a meeting of the Ontario Neuro-Psychiatric Association, September, 1921.

These nine classes are nine pigeon-holes in which we may put most cases of insomnia, but beyond that they are not of much value, as they are not founded upon any fundamental basis of classification.

Whatever be the ultimate nature of sleep, it appears to me that it depends upon two essential factors, and an increase in either, and especially in both, of these will prevent its occurrence. These two factors are:

1. The degree of irritability of the central nervous system.
2. The amount of afferent impulses reaching the central nervous system.

Table of Causes of Insomnia.

I. Nervous system hypersensitive, owing to—
   (*a*) Inheritance, bad habit, alteration in habits.
   (*b*) Fatigue or neurasthenia.
   (*c*) Circulatory disturbances, especially arterio-sclerosis and aortic regurgitation.
   (*d*) Exciting toxins produced in the alimentary tract or in the body tissues, or introduced from without.

II. Increase in afferent impulses, as from noise, light, heat, or cold, mental or physical discomfort or pain.

If the irritability of the nerve cells be not abnormal, and if no excessive storm of afferent impulses arrive, then at rhythmic intervals unconsciousness steals over the brain and the individual sleeps, and during that sleep many biochemical changes take place which eventually cause him to awaken with powers renewed for the carrying on of the functions of active life. But let the central nervous system be too irritable from any cause, then, although only the normal amount of afferent stimuli be arriving, these will prove sufficient to prevent sleep; and it is well to remember here that although we may check all evident afferent stimuli, such as light, noise, pain, and so on, during all of life there occurs a constant flow of afferent impulses, which do not normally reach to the level of our consciousness and yet must have a stimulating effect upon the central structures, especially when the excitability of these is raised from any cause. On the other hand, if the degree of irritability of the central nervous system be normal, let the amount of afferent impulses be only sufficient and sleep will be impossible. The most healthy man will be kept awake by an aching tooth or by sufficiently worrying thoughts.

It is easy to put most cases of sleeplessness into one of these two classes, although often a cause may act in both, as when indigestion reflexly causes distress and also increases the irritability by the production of toxins. Looking at Sée's nine classes it is evident that dolorous, genito-urinary, and psychic cases come into our second group, in that they act by increasing afferent impulses; while those cases labelled cardiac and dyspnoeal, cerebro-spinal and neurotic, fatigue, febrile and auto-toxic, and toxic, act by increasing the irritability of the central cells and hence come in the first group; and lastly, the digestive (and possibly many of the cardiac and dyspnoeal) act in both ways, and hence belong to both classes.

It is manifest that in many patients we are dealing with several causes of sleeplessness, as when we meet with a chronic renal patient who has business worries and who has been imbibing in order to keep himself up to the mark. He has an increased irritability of the central nerve cells due to the toxaemias from the nephritis and the alcohol, and he also has the increase in afferent impulses from the worrying thoughts. An irritable nervous system is being overstimulated, and of course he cannot sleep.

As regards treatment, an appreciation of the above grouping of the different causes of sleeplessness makes the problem, to me at least, a little less complex.

Although we do not know the essential nature of sleep we do know a great deal about the factors that will favour its occurrence, and, on the other hand, those that act in the opposite direction. By encouraging the former and decreasing the latter as far as possible we can usually, more or less, restore the deranged function.

Speaking generally, in every case we should reduce the flow of afferent impulses to as few as we can, and hence the patient must be placed where light, noise, heat, and cold do not disturb him. Many a sufferer is kept awake by cold feet or other result of an unequalized circulation. Noise keeps most people awake, and yet monotonous noise (like that of the engines of a steamer) may have a soothing effect, and sleeping passengers are usually wakened if the ship stops. Monotonous sound, especially if pleasant and rhythmic, is calming, and hence the value of music in helping the sleepless.

When the afferent impulses are of the nature of pain or discomfort, then we strive to remove the cause of them; but if this be impossible and the centres continue to be stormed by such, then nothing will make these less sensitive to them than opium or its derivatives. But opium is a very edged tool in insomnia, unless this be dependent upon some disturbing condition which is likely to be of short duration, and it has no place in the treatment of chronic insomnia.

If the environment is made conducive to sleep and yet this is wooed in vain, then the central nerve cells are too irritable, and the cause of this irritability must be sought for and if possible removed. Going through our list it is evident that this can often be done. We cannot influence inheritance, but can bad habits, such as the reading of exciting books or indulging in exciting thoughts at night.

When a person is too tired to sleep, a stimulant such as tea or coffee, or even a glass of toddy, may make all the difference. Circulatory disturbances may frequently be treated successfully, as when we use digitalis in cases of auricular fibrillation, and the sleeplessness is thus etiologically treated. In less evident circulatory abnormalities hydropathy is of special value and should always be tried. If the feet are cold a hot bottle may help, or a hot, or even a cold, foot-bath followed by friction may be effectual. A complete warm bath is often valuable, and in very excited cases this may be continued for hours and the patient thus soothed to sleep. I have seen this apparently save life in chorea. Or we may use the wet pack, in which the patient is enveloped in a wet sheet for half an hour and then rubbed dry with a rough towel. The water may be warm, tepid, or cold. Occasionally gentle massage is of value in inducing sleep.

All these physical methods probably act by influencing the circulation. In toxaemia from infections or metabolic changes treatment can often do much; in that due to toxins introduced from without, especially the purin bodies, alcohol and tobacco, the remedy is in our hands.

But in many cases, after all possible afferent stimuli have been checked and all possible causes of irritability of the central cells have been removed, still too much excitement remains, and then, and only then, is it our duty to try and directly lessen this excitement by medicinal means.

Hypnotics should be avoided as much as possible, especially in chronic cases of insomnia, and never used until every other method has been tried. The two bogies that haunt us here are (1) habit formation, and (2) gradual loss of effect, so that the dose of the drug must be constantly increased. But sometimes sleep-producing drugs are necessary, it being wise "to do little wrong to do a great right."

Every practitioner has his favourites here, and I will not weary you with any discussion of hypnotics in general, but will merely say that they should be used as seldom as possible, and in as small doses as will act. They all bring about sleep by dulling the excitability of the nerve centres.

When a hypnotic appears to be required it is wise to begin with the mildest, and here one can put the bromides. They can be given either at bedtime in a single dose of from 30 to 60 grains, or in several doses during the day. It makes little difference what form of bromide is employed. Sometimes a combination of several is preferred.

Next in order may come chloralamide, now official in the B.P. as *Chloral Formamidum*, in doses of 20 to 30 grains, given in solution flavoured with liquorice. Then veronal (dose 5 to 10 grains), and the action of this drug can be enhanced by the addition of an equal amount of aspirin (say 5 grains of each). Then the sulphones, sulphonal and trional, in doses of 10 to 25 grains; and lastly, chloral hydrate, in doses of 10 to 20 grains, repeated. Chloral is rapidly eliminated, and it is better to give it in repeated doses than in one large one, for some people are very susceptible to it, and cases are on record where 30 grains have proved fatal. Often a combination of several hypnotics acts better than a large dose of one. In excited cases paraldehyde in doses of one-half to one drachm is valuable, or we can use hyoscine hypodermically, although occasionally this increases rather than decreases the excitement. An ordinary dose of it hypodermically is 1/150 grain.

Opium should never be used in chronic insomnia, although, as already said, in acute disease, as pneumonia, it is often invaluable.

Some have used hypnotism in producing sleep, but of it I have no personal experience, and in the few cases in which I have seen it tried I have not been much impressed with its value.

SUMMARY.

1. All cases of insomnia may be classified as being produced either by an increase in the excitability of the nerve centres, or from an increase in the afferent stimuli reaching those centres, or by both.

2. In every case the afferent stimuli should be reduced as much as possible, and to this end, after the environment has been made as appropriate as practicable, physical therapy, especially hydrotherapy, should be employed.

3. If the excitement of the cerebral centres remain too great, then this may have to be reduced by the employment of hypnotics, and here the mildest should first be used.

4. Opium and its derivatives should never be employed in the treatment of chronic insomnia, or in that dependent upon abnormal mental states.

RICKETS: A THEORY OF THE METABOLIC DISTURBANCES AND OF ITS ASSOCIATION WITH TETANY.

BY

D. NOËL PATON, M.D., F.R.S.

(From the Institute of Physiology, University of Glasgow.)

Introduction.

ANY explanation of the etiology and pathology of rickets must take cognizance of the fact that it is not merely a bone disease, but that the symptoms show that there is a profound and general disturbance of the metabolism. The sweating, the muscular weakness, and the close association with the spasmophilic condition all point in this direction. Miss Ferguson[1] found that 43 per cent. of the markedly rachitic and 41 per cent. of the slightly rachitic children examined by her in Glasgow had, or had had, tetany. The slight degenerative change in the muscles, first described by Bing in 1907 and again by Banu[2] in 1921, with the altered chronaxie recorded by Bourguignon and Banu,[3] and the decrease in the creatin content found by Pearl Henderson,[4] indicate that muscle is implicated as well as bone.

Although the causal factors in the production of the disease are still quite obscure in spite of the immense amount of work which has been done upon the subject, the course of metabolism is beginning to be somewhat better understood. Probably nothing has done more to delay progress than the general acceptance of the belief that a defective supply of calcium to the bones is the basal factor, and the failure to recognize that the decreased ossification may be due to a limitation in the supply in proper form of some other element in bone. While calcium constitutes some 50 per cent. of dried dense bone, phosphoric acid (P_2O_5) constitutes about 40 per cent.

Phosphoric Acid as the Possible Limiting Factor in Ossification in Rickets.

Recent work is pointing more and more to the primary involvement of phosphorus rather than calcium in the perverted metabolism of rickets.

Howland and Marriot[5] have published a large series of observations on the calcium content of the serum of the blood in rachitic and non-rachitic children showing no marked decrease in the calcium, and more recently Howland and Kramer[6] give a parallel series showing a marked decrease in the inorganic phosphates. The analyses of Findlay, Noël Paton, and Sharpe[7] had shown no decrease in the calcium content of the whole blood of rachitic pups, and a series of metabolic studies upon children led them to conclude that the evidence does not point to a primary implication of the metabolism of calcium. The recent work of McCollum and others[8] shows that a limitation of the phosphates of the food in proportion to the calcium, especially when accompanied by a limitation in the fat-soluble A accessory factor, produces in rats a condition of the bones resembling that in rickets. Some unpublished metabolic studies by Telfer also afford an indication that in rickets there is a decrease in the proportion of the retention of phosphorus to the retention of calcium, as had long ago been maintained by Schabad.[9]

The evidence thus tends to indicate that failure in the supply of phosphoric acid, or its supply in unsuitable forms, may be the limiting factor in the ossification in rickets, and this suggests a possible disturbance in the metabolism which may explain not only the bone changes in rickets but also its association with tetany. This I propose to discuss.

It was formerly supposed that the inorganic matter of bone is composed of some 87 or 88 per cent. of calcium phosphate, with some 10 or 11 per cent. of calcium carbonate, but it is now recognized that the calcic phosphate and carbonate probably occur in a more complex combination, which Gassman[10] considers may be represented by the formula:

$$Ca\left[\left\{\begin{matrix} O & PO_3 & Ca \\ & Ca & \\ O & PO_3 & Ca \end{matrix}\right\}_3 CO_3\right]$$

The Carriage of Calcium in the Blood.

The very generally accepted theory that the bone salts are carried in the blood in the form in which they are deposited seems to be based upon the older analysis of the relative amounts of calcium and of phosphoric acid in the blood. Since the transference must occur through the plasma, it is the proportion of the two constituents present in this which requires consideration.

The amount of CaO is about 14 mg. per 100 c.cm. plasma. The amount of inorganic P_2O_5 is about 7.2 (Bloor). Hence the amount of calcium is in excess of that which could be carried as $Ca_3(PO_4)_2$, even if none of the inorganic phosphoric acid were combined with sodium and other bases. It has long been found difficult to explain the solution of the calcium in the plasma if it is present as a phosphate, and Hofmeister[11] speculates upon the way in which it is held. He considers that it is greater in amount than can exist in simple solution. He discusses the various possibilities, and comes to the conclusion that the colloidal condition of the blood plasma, with its high protein content, renders possible the transport of phosphates, calcium soaps, and lipoids, themselves insoluble in water, in the form of colloidal suspension.

Wells[12] lays stress on the probable action by CO_2 in dissolving lime salts and retaining them in solution, and refers to the work of Barillé, who concludes that calcium is carried in the blood in a definite compound, a "carbon-phosphate" of calcium,

$$P_2O_8Ca_2H_2 : 2\,CO_2\,(CO_3H)_2Ca,$$

which, on evaporation to dryness, yields about 77 per cent. of $CaHPO_4$, and about 23 per cent. of $CaCO_3$. In an alkaline medium Ca_3PO_4 is formed. Wells points out that 77 parts of the di-calcium phosphate would yield 87.7 parts of tri-calcium phosphate, which is the proportion in bone. Howland and Kramer elaborate this explanation, and point out that "a decrease of the phosphorus (HPO_4) ion would render more difficult the precipitation of tertiary calcium phosphate."

On the other hand, Rona and Takahashi[13] found that some 20 to 30 per cent. of the calcium of the serum was not diffusible, and MacCallum, Lambert, and Vogel[14] were unable to dialyse all the calcium out of the plasma. Cushny[15] finds that while all the inorganic phosphoric acid may be filtered through a collodion filter, at least one-third of the calcium is retained. Von Meysenburg, Pappenheimer, Zucher, and Murray[16] found that 60 to 70 per cent. of the calcium of serum is diffusible. These facts strongly suggest that the calcium is not all combined with phosphoric acid as assumed by Hofmeister, but that it is in some other combination. Vines[17] gives some evidence that part of the calcium of the blood exists in the ionized and part in the non-ionized condition.

The interesting observations of Paul and Sharpe[18] on the transport of calcium in the blood of the crab, from the liver to the shell, in combination with lower fatty acids, suggests the possibility of its being linked in the blood of mammals to some other substance than phosphoric acid.

Again, the fact that the lime for the bones of the chick comes from the calcium carbonate of the shell of the egg, while the phosphorus for the phosphoric acid comes from the lecithin of the yolk (Plimmer and Scott),[19] suggests that a combination is not formed till the bone is reached. Haines[20] describes the abundance of phosphorized fats in the liver of the chick in the form of isotropic globules during the first two weeks, and finds that during the third week anisotropic globules of cholesterol esters of fatty acids take their place. He suggests that a break-up of the lecithin complex and a recombination of the fatty acids occurs, and that the glycerophosphoric acid, or some other compound, passes on to take part in ossification, while cholesterol takes the place of glycerol in ester combinations with the fatty acids.

Further, the fact that the subcutaneous or intraperitoneal injection of almost any soluble lime salt leads to patches of

calcification in adjacent tissue in which the proportion of calcium to phosphoric acid is the same as in bone seems to indicate a combination of lime and phosphoric acid *in situ*.

In pathological calcification, for example, atheroma, the same proportion exists as in bone, but in the early stages there is a considerable amount of lecithin with cholesterol and fatty acids, and these decrease as the calcification advances, indicating that the phosphoric acid is derived from the lecithin.

The Carriage of Phosphorus in the Blood.

As is well known, the phosphorus of the blood is carried in three definitely distinct compounds: (1) Phospholipin, (2) inorganic phosphorus, (3) nucleic acid. That other combinations exist is indicated by Bloor's[21] figures. His investigations show that the proportion of the various compounds is more fixed in the corpuscles and that there is a relatively great excess of all these combinations in the corpuscles as compared with the plasma, the distribution of the phosphorus thus being the reverse of that of calcium. The total phosphorus is five to seven times, the lipoid phosphorus two to three times, and the inorganic twice as abundant, while an unknown organic compound or compounds is fifty to a hundred times more abundant in the corpuscles than in the plasma. Both in the corpuscles and in the plasma the lipoid phosphorus is two to three times as abundant as the inorganic. It is this constituent of the corpuscles which varies. It increases during the absorption of fat, and the possibility is considered that the phosphorus in the unknown compounds may be synthesized with fat in the formation of lecithin. Bloor suggests that the phospholipoids of the plasma may be derived from the breaking down of the corpuscles. He points out that, unless the unknown phosphorus compound can take some part in the exchanges, the small amounts of inorganic phosphates in the corpuscles and in the plasma can play only a small part in acting as a buffer substance. The later analyses of the blood in children by McKellip, de Young, and Bloor[22] show comparatively small differences.

Jones and Nye[23] give somewhat similar results, and Bloor's observations are confirmed by the work of Greenwald[24] and of Abderhalden.[25] Meigs, Blatherwick, and Cary[26] give a long series of analyses of the serum of the cow, showing that the variations are considerable, but that generally the lipoid phosphorus is in excess of the inorganic. They advance experimental evidence to show that the blood of the udder vein of milking cows contains less phospholipin and more inorganic phosphorus than the arterial blood, and they regard the inorganic phosphates as products of excretion.

The existence of the exchanges of phosphoric acid between corpuscles and plasma somewhat diminished the value of Howland and Kramer's observation that the phosphoric acid of the serum is decreased in rickets, although it may be argued that the serum in rachitic and non-rachitic children was analysed under similar conditions, and that therefore the extent of the interchange was in both cases the same.

Lecithin and Bone Formation.

Lecithin is probably the most abundant phospholipin in the body. Its composition may be indicated as follows:

Glycerol { Fatty acid radicle
" " "
Phosphoric acid—Cholin.

Little is known about the normal metabolism of lecithin in the body. There is satisfactory evidence that it can be formed by the combination of fats, cholin, and inorganic phosphates. This was shown by me to be the case in development of the lecithin of the eggs of the salmon from the water-soluble phosphoric acid of the muscles and by McCollum, Halpin, and Drescher,[27] and Fingerling,[28] in the formation of lecithin in the eggs of hens and ducks from the inorganic phosphorus of the food. In the chick and in the salmon the phosphates for the bones come from the lecithin of the yolk of the egg, and the constant large amount of lecithin found in the liver during starvation[29] suggests that it is in this combination that the phosphorus of wasting tissues is fixed for further use in the body.

The close connexion of the phospholipins with bone formation seems to be indicated by the presence of lecithin before calcification in such pathological changes as atheroma and by the higher proportion of lecithin in the bone marrow of young than of old animals (Gliken,[30] Bolle,[31] Nerking,[32] and others).

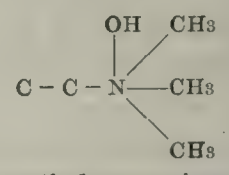
A consideration of these results seems to point to:

1. The independent carriage of at least part of the calcium and of the phosphorus in the blood to the growing bone and to their combination *in situ*.
2. A limitation in the supply of phosphorus or of phosphoric acid, or a supply in unsuitable form, as the primary disturbance in the metabolism in rickets.
3. The important part played by the phospholipin, especially of lecithin, in the metabolism of phosphorus in the body on its way to the formation of the calcium phosphate in bone.

The possibility is suggested that some modification in the normal metabolism of lecithin may be the essential disturbance in rickets—a disturbance leading to the transference of phosphoric acid to bone in an unsuitable form and to a concomitant change in the metabolism of cholin.

The Metabolism of Cholin and its Significance.

The significance of the cholin part of the lecithin molecule has never been adequately considered by physiologists. It is an ammonia base—

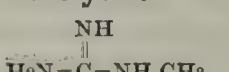


Ethanol tri-methyl ammonium hydroxide.

That it is a substance of considerable physiological activity has long been known. Hunt and Taveau[33] and Dale[34] have shown that acetyl-cholin is about 100,000 times as active as cholin, and Magnus[35] has given evidence that acetylation may occur in the body.

Cholin seems to be excreted from the body only in small quantities (Guggenheim and Loeffler[36]). Its probable fate has been studied by Reisser,[37] who demonstrated an increase in the methyl-guanidin-acetic acid (creatin) in the muscles of rabbits after injection of cholin. Bauman, Hines, and Marker[38] perfused cholin in the dog and got an increase in the creatin of the muscles. These observations have been repeated and confirmed in this laboratory by Shanks.[39] The toxicity of cholin limited the dose which could be given intravenously, and the experiments lasted at most for three hours. The increase of creatin was not constant, but was in many cases distinct, and the average increase fairly corresponded to the increase to be expected upon Reisser's theory.

Burns[40] had previously shown that during the incubation of the egg of the hen there is an increase in the guanidin, which may have been derived from the cholin of the lecithin, which is so abundant in the yolk. Thus methyl guanidin,



must be considered as a probable product of the metabolism of cholin.

It is unfortunate that the estimation of methyl guanidin involves a long and complex chemical process. On the other hand, when linked to acetic acid as creatin, it is readily determined by converting it to creatinin and applying Folin's colorimetric test.

Noël Paton, Findlay, and others have shown that methyl-guanidin produces the same symptom as those of tetania parathyreopriva.[41] It increases the spastic tone of muscles and may produce jerkings and tremors. Burns and Sharpe[41] have demonstrated that the amount is markedly increased in the blood and urine of dogs after removal of the parathyreoids and in the urine of cases of adult tetany and of the idiopathic tetany of children so closely associated with rickets.

The formation of an excess of methyl guanidin in this way from cholin liberated in the metabolism of lecithin would account for the frequent association of tetany with rickets, especially if there were any interference with its linkage with acetic acid to form the innocuous creatin.

The fate of methyl guanidin in the body is not fully known, but probably it is not all excreted as such. This suggests that it may first be linked to acetic acid to form creatin, which is an inert substance, and that thus the active guanidin may be detoxicated. The curious relationship of the creatin of muscle to its state of tonus (Pekelharing) may be due to its formation from methyl guanidin which has so marked an effect on muscular tone. Evidence of this formation has been afforded by Wishart,[42] who found that the creatin of the muscles is increased after intravenous injection of guanidin salts.

Conclusion.

The consideration of the evidence suggests that an error in the metabolism of lecithin, probably in the liver, may be a causal factor in the failure of bone formation in rickets, and that this faulty metabolism may in some cases be accompanied by an increased conversion of cholin into guanidin compounds, thus explaining the association of tetany with rickets.

The theory is put forward tentatively in the hope that it may indicate lines for further work upon the nature of the disturbance in rickets.

REFERENCES.

[1] Medical Research Council Special Report Series No. 20, 1918. [2] *C. R. Soc. Biol.*, 1921, 84, 457. [3] Ibid., 1921, 84, 798. [4] *Journ. of Physiol.*, 1918, 52. [5] *Quart. Journ. of Med.*, 1917–18, 11, 289. [6] *Amer. Journ. Dis. Children*, 1921, 22, 105. [7] *Quart. Journ. of Med.*, 1921, 14, 352. [8] *Journ. Biol. Chem.*, 1921, 47, 537. [9] *Arch f. Kinderheilk.*, 1910, 52, 380. [10] *Zeit. f. physiol. Chem.*, 1910, 70, 161, and 1913, 83, 403. [11] *Ergebnisse der Physiol.*, 1910, 10th Jahrb., 431. [12] *Arch. f. inn. Med.*, 1911, 7, 721. [13] *Biochem. Zeit.*, 1911, 31, 336. [14] *Journ. of Exper. Med.*, 1914, 20, 149. [15] *Journ. of Physiol*, 1920, 53, 391. [16] *Journ of Biol. Chem.*, 1921, 47, 529. [17] *Journ. of Physiol.*, 1921, 55 85. [18] Ibid., 1916, 50, 183. [19] Ibid., 1909, 38, 247. [20] *Journ. of Exper. Med.*, 1912, 16, 512. [21] *Journ. of Biol. Chem.*, 1918, 36, 49. [22] Ibid., 1921, 47, 53. [23] Ibid., 1921, 47, 321. [24] Ibid., 1913, 14, 369. [25] *Zeit. physiol. Chem.*, 1893, 25, 65. [26] *Journ. of Biol. Chem.*, 1918, 37, 1. [27] Ibid., 1912–13, 219. [28] *Zeit. f. Biol.*, 1912, 38, 44, and 39, 239. [29] *Journ. of Physiol.*, 1896, 19, 167. [30] *Biochem. Zeit.*, 1907, 4, 235. [31] Ibid., 1910, 24, 179. [32] Ibid., 1908 10, 193. [33] *Journ. of Pharm. and Exper. Ther.*, 1909 1, 303. [34] Ibid., 1914, 6 147. [35] *Die Naturwissenschaften*, 1920, Heft 20. [36] *Biochem. Zeit.*, 1916, 74, 208. [37] *Zeit. f. physiol. Chem.*, 913, 86, 415. [38] *Journ. of Biol. Chem.*, 1918, 35, 75. [39] *Journ. of Physiol.*, 1921, 55, 8. [40] *Biochem. Journ.*, 1916, 10, 263. [41] *Quart. Journ. of Exper. Physiol.*, 1916, 10, 203. [42] *Journ. of Physiol.*, 1920, 53, 400.

AMPUTATIONS AT THE SHOULDER AND AT THE HIP.*

BY

THE LATE H. LITTLEWOOD, C.M.G., F.R.C.S.ENG.,

BREVET-COLONEL R.A.M.C.(T.),

CONSULTING SURGEON TO THE GENERAL INFIRMARY AT LEEDS, AND FORMERLY PROFESSOR OF SURGERY IN THE UNIVERSITY.

TEN years ago, when I was President of the Leeds and West Riding Medico-Chirurgical Society, I described two new major surgical operations in my presidential address. They were: (1) interscapulo-thoracic amputation, and (2) supra-trochanteric amputation of the femur as a substitute in some cases for amputation at the hip-joint.

My friend and colleague Mr. Lawford Knaggs had already published a short account of the former (*Lancet*, May 7th, 1910), as he was afraid I might delay the publication of the new method and so not get the full credit for my work. It is from his short description that the details of the operation have found their way into the English and American textbooks. The only note of the second operation is in the short report of my presidential address, which appeared in the BRITISH MEDICAL JOURNAL, November 4th, 1911.

I had intended to describe these operations with fuller details, and to illustrate the description by the excellent drawings made for me by Miss E. Wright of Leeds, but I delayed doing this, and then mislaid the typescript and the illustrations; they only turned up a few weeks ago. I have lately received letters asking me where my original communications can be found, and am therefore encouraged to believe that the operations are considered to be of some value; this has decided me to place them on record, with fuller details than have yet been published.

I. INTERSCAPULO-THORACIC AMPUTATION.

The operation may be required for trauma and some cases of malignant growth of the upper end of the humerus or scapula. Some have advocated it for malignant disease of the breast and for extensive tuberculous disease. Professor Berger's name is associated with the usual methods of performing the interscapulo-thoracic amputation. His paper, entitled "L'Amputation du membre supérieur dans la contiguité du tronc," was published in Paris in 1887. Sir Frederick Treves, Mr. Stanley Boyd, and Mr. (now Sir Gilbert) Barling in this country, and Professor Keen and Dr. La Conte in America, have made valuable suggestions.

Professor Berger was not the first surgeon to perform interscapulo-thoracic amputation, and to speak of the operation I have devised as a modification of Professor Berger's method is not correct. I do not know who was the first to perform the operation, but I remember seeing the late Mr. Christopher Heath remove the forequarter in 1882.

I submit that the operation I perform differs entirely in principle from Professor Berger's; in fact, it has nothing in common with it except the final result—that is, the forequarter is removed. The chief principle in Berger's operation is the ligature of the subclavian vessels as a preliminary step in the amputation; by my method the vessels are secured during the course of the operation. I have only once performed Berger's operation, but I have seen it done two or three times and noticed the difficulties the surgeons experienced in exposing and ligaturing the subclavian vessels; the whole operation took one and a half to two hours. It has sometimes to be done in two stages. I have performed my operation in twenty-five minutes, including the suturing of the flaps. The ease with which the operation can be performed reduces the time and so must be an important factor in the success of these cases.

When the second case presented itself I carefully read up the whole subject again, and, when thinking it over, it struck me that there might be a better way of removing the forequarter than that usually practised. I remembered when I was reading for the first examination for the diploma of F.R.C.S. that I attended a class of special dissections conducted by Professor (now Sir George Dancer) Thane at University College, London. One of the dissections was of the brachial plexus from behind. I think we tried two or three different ways; one was to turn a flap back over the scapula and to divide all the muscles attaching the vertebral border of the scapula to the spine, and I remembered that when this was done the brachial plexus could easily be seen with the subclavian vessels. It then struck me that this would be a much easier way of doing the operation. So I planned it out on these lines and was delighted with the comparative ease with which it could be performed.

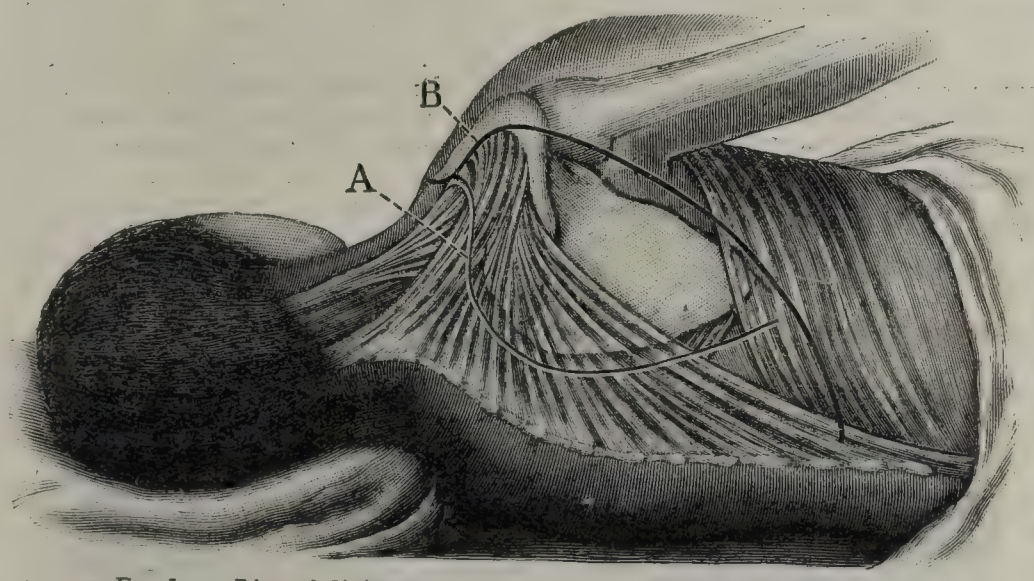


FIG. 1.—A, Line of division of muscles. B, Line of cervico-scapular flap.

Description of the Operation.

The flaps, of course, may vary according to the exact position of the disease; there are two flaps, a cervico-scapular and a pectoro-axillary.

The patient is placed on the sound side close to the edge of the operating table. A cervico-scapular flap is made, commencing at the clavicle near the outer margin of the sternomastoid attachment, carried along the clavicle over the prominence of the shoulder along the axillary border of the scapula to a point below the angle and backwards to about two inches from the spine (Fig. 1). A flap of skin and subcutaneous tissue is rapidly turned back; this exposes the posterior surface of the scapula, with the muscles attaching it to the spine.

The trapezius and the latissimus dorsi are then divided, next the levator anguli scapulae, the rhomboids, and, lastly, the scapular attachment of the serratus magnus and the omohyoid muscles. Three or four vessels may require ligature, branches of the suprascapular and posterior scapular arteries. The soft tissues are now separated from the clavicle, close to the sternomastoid attachment, and the bone surrounded by a Gigli's saw and divided; the subclavius can now be divided.

The whole upper extremity now falls away from the trunk,

* This paper reached us a few days before Mr. Littlewood's lamented death on December 19th, 1921.

held by the subclavian vessels and the cords of the brachial plexus, which are fully on the stretch, standing out and easily seen (Fig. 2).

The cords of the brachial plexus are now divided with a pair of scissors close to the spine; an injection of cocaine into the nerve can be given before division, as has been recommended, to lessen the shock. In my three cases I have not noticed any increase of shock in division of the nerves. I have not injected cocaine.

Clips are applied to the subclavian artery, which is divided between them; the vein is then seen and treated in the same way. The advantages of securing the artery first have been pointed out by many operators, and in this operation it is the easiest plan. The vessels can now be ligatured, or this can be done after the parts have been removed. The anterior or pectoro-axillary flap is now cut and reflected as far forwards as necessary.

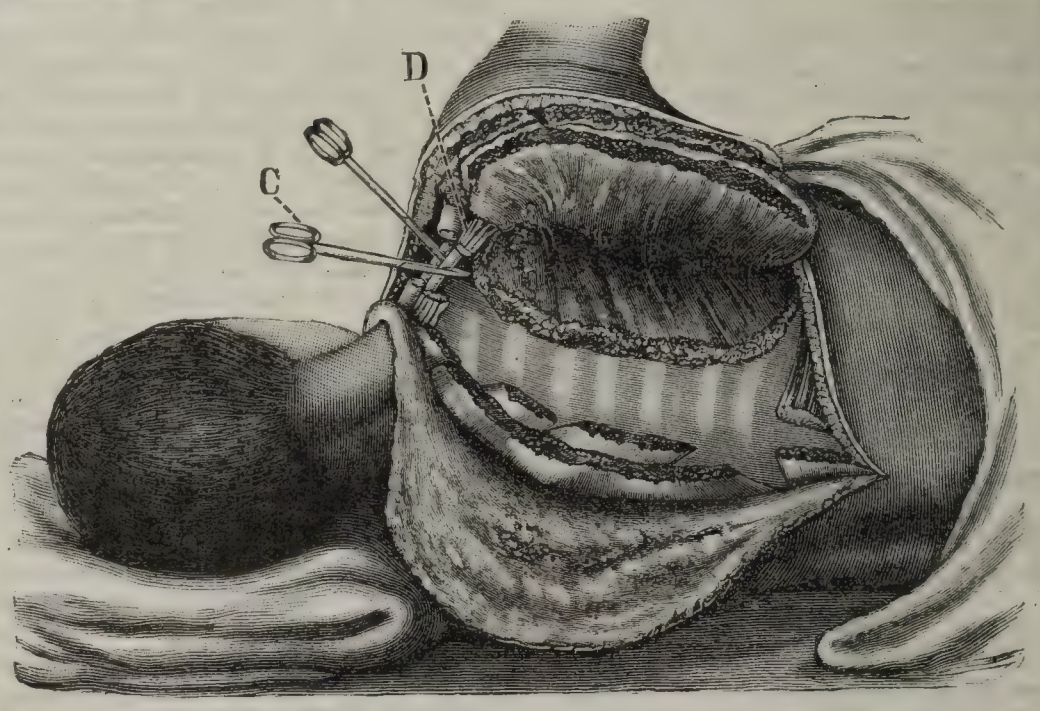


FIG. 2.—C, Forceps on subclavian muscles. D, Brachial plexus diverted.

The last stages in the operation consist in the division of the pectoralis major and minor muscles; the position of the division depends on the extent of the muscles it may be thought necessary to remove.

After the division of these muscles the forequarter is removed. This exposes the thoracic boundaries of the axilla and the posterior triangle, so that it is now quite easy to remove any lymphatic glands which require removal (Fig. 3).

The flaps are now sutured and a firm dressing applied. I have recently used silkworm gut prepared with iodine for suturing.

II. AMPUTATION NEAR THE HIP-JOINT (SUPRA-TROCHANTERIC).

The other operation I wish to describe I have called the supratrochanteric amputation of the femur, and I suggest it should be performed in some cases as a substitute for amputation at the hip-joint. I have performed it several times, on the first occasion in 1897.

Amputations at the hip-joint are either done for trauma or for malignant disease of the femur, generally at the lower end, and also for tuberculous disease. The operation here described could not be done for the latter condition, as the disease is in the joint itself.

In cases of sarcoma of the lower end of the femur it is generally taught that the whole bone must be removed. It is unfortunately a very serious disease; in the majority of cases death occurs from secondary deposits in internal organs in eighteen months to two years after the onset; often at a much earlier date. In one of my cases the patient lived five years.

The disease, however, has not in my cases recurred in the stump; the recurrence has generally been in the internal organs, mostly the lung, and in one case I know the death was certified as "tuberculous disease of the lung." I found out that the patient had had several attacks of haemoptysis, due, I have no doubt, to a secondary growth.

I do not believe there is any fear of the growth recurring in the portion of the bone—just the head and neck of the femur—that is left in the supratrochanteric operation. Now the object of my operation is to leave the hip-joint intact, and I submit there is less shock at the time of the operation, and the stump is more useful.

Description of the Operation.

The patient is brought to the edge of the operating table, resting on the sound side.

An antero-internal flap is first cut beginning just below the anterior superior spine, coming down to a level to secure an adequate covering—that is, to one-third of the circumference of the hip-joint—then over the front of the thigh, and upwards on the inner and posterior aspect to a point near the ischial tuberosity; a postero-external flap is now cut. Any flaps that are used for an amputation at the hip-joint would be suitable for this operation. I always think the Furneaux Jordan flap is far too long and bulky, but his principle of keeping the incision away from the perineum should be followed whatever flaps are made.

The inner flap, consisting of skin and subcutaneous tissue, is now turned up about a couple of inches, the femoral vessels are exposed, clipped with forceps, severed, and ligatured. The muscles are next divided and separated as high as the neck of the femur; the ilio-psoas is the last divided. The branches of the profunda artery are caught in clips, divided and secured by ligatures; with a good assistant the loss of blood is small. The muscles in the outer flap are now divided and separated from the bone, those attached to the great trochanter being severed last. The sciatic nerve is divided after forming this flap. The flaps are held on one side; this exposes the neck of the femur.

The anterior part of the capsule of the hip-joint is attached to the anterior intertrochanteric line, and without opening the hip-joint this must be separated from the neck of the femur upwards for about half an inch by means of a raspatory; the neck of the femur is surrounded by a Gigli's saw and the bone sawn through close to the trochanter; the limb is removed, leaving, as will be seen, the hip-joint intact.



FIG. 3.

The muscles can be brought together with deep sutures and the skin secured with silkworm gut. The stump can be drained if it is thought desirable.

All will agree that it is right to amputate for trauma. Operations for malignant disease are open to criticism. My own feeling is that it is the right thing to do; the fact that one case lived five years is encouraging. Perhaps an earlier diagnosis will give us better results; so often do we wait to see whether the condition is inflammatory, when an exploratory incision would clear up the doubt. During recent years I have explored four cases of enlargements about the lower end of the femur, thinking they might be sarcomatous, and have found them to be due to traumatic periostitis, accompanied by some myositis ossificans. In addition to clearing up the doubt it is good treatment for these conditions, so there is really no reason to delay the exploration, and much time

is gained if, unfortunately, they should turn out to be sarcomatous.

It must be remembered that scurvy rickets, the result of improper feeding of children, may produce swellings of the lower end of the femur simulating sarcoma.

In my earlier cases I tried to arrest the haemorrhage by means of one of the many methods recommended for amputation at the hip-joint—the names of their originators are not quite legion: Lister, Macewen, Jordan Lloyd, McBurnie, Wyeth, Davies, Lever, and a host of others—the supposed value of these I have delighted to explain to students. They are mainly methods by the use of tourniquets, which are often unsatisfactory; in amputation at the hip-joint some of them may slip over the stump before the vessels have been secured.

I have long given up the use of tourniquets in cases of excisions, as I found that the oozing and bleeding afterwards was considerably less when the tourniquet was not used; in amputations where there is marked arterial disease, and in amputations for gangrene, a tourniquet may do a great deal of damage to the tissues and so favour sloughing of the flaps.

The method for the arrest of haemorrhage used in these cases carries out the same principle as I adopted in the interscapulo-thoracic amputation—that is to say, no preliminary attempt is made to control the bleeding, but the main vessels are exposed during the ordinary course of the operation, clipped with forceps, divided, and ligatured.

In ordinary amputations I had never tried this method, until Mr. J. A. Coupland, who was helping me with a supra-trochanteric amputation of the femur, suggested that I should expose and secure the femoral vessels at the point of division in forming my flap. I was a little bit afraid at first of not using some form of tourniquet as a first line of defence against haemorrhage, but was very pleased with the result. It answered admirably, the patient only losing a small quantity of blood. I think this principle should be applied to all amputations. It is not a great deal to expect of any operating surgeon that he should remember the anatomy of the main vessels. If this method is thought worthy of following, then the tourniquet will only be used for first aid.

This method has now been practised and advocated for some time by a certain number of surgeons. I believe, however, that the large majority still rely, as I had done, on the tourniquet.

I find that in a very useful and practical book (*Amputation Stumps*, Oxford War Primers, 1918) the author, Mr. C. Martin Huggins, F.R.C.S., writes (p. 114) in favour of the supra-trochanteric operation in certain cases; the method is also commented on favourably in the *Manual of Surgery*, by Thomson and Miles, 1920, p. 539.

A Post-Graduate Lecture
ON
CLINICAL ASPECTS OF ABDOMINAL TUBERCULOSIS.*

BY
JOHN MORLEY, CH.M., F.R.C.S.,
HONORARY CONSULTING SURGEON, ANCOATS HOSPITAL; HONORARY ASSISTANT SURGEON, MANCHESTER ROYAL INFIRMARY; HONORARY SURGEON FOR CHILDREN, ST. MARY'S HOSPITALS, MANCHESTER; LECTURER IN SURGICAL APPLIED ANATOMY, MANCHESTER UNIVERSITY.

THE great frequency with which tuberculosis attacks the abdomen in childhood, the wide variations in its manifestations, and the grave results to which it often leads, all combine to make it a disease of prime importance in the abdominal surgery of the first two or three decades of life. My purpose in the following remarks is to approach the subject from the point of view of clinical diagnosis, and to state the conclusions to which my own experience has led me on the subject of the appropriate surgical treatment.

Tuberculosis of the Intestine.

Tuberculous ulceration of the intestine in its early stages is a problem for the physician, and rarely, if ever, requires surgical intervention. A history of diarrhoea, accompanied by the passage of some blood and mucus per rectum, is not uncommon in all classes of abdominal tuberculosis, and such a feature in the history gives us evidence of some value, as suggesting earlier tuberculous ulceration of the bowel. It is only when ulceration has gone on to cicatrization, with stenosis of the intestinal lumen, that the need for surgery arises. Tuberculous ulcers of the bowel commence, as is well known, in the lymphoid tissue of the mucosa, either in the larger collections known as Peyer's patches, or in the solitary follicles, and such ulcers are accordingly commoner in the lower end of the ileum and near the ileo-caecal valve. Two forms of intestinal stenosis are met with in these old tuberculous cases—in one the ulcer, which tends to spread in a circular direction round the lumen of the bowel, gives rise in the process of healing to an annular cicatricial diaphragm. There may be many such stenoses in the small intestine, but not uncommonly they are single. In the second form there is a massive formation of fibrous tissue, which gives rise to a gross thickening of the intestinal wall, as well as a narrowing of its lumen. I will illustrate these types by two cases:

CASE I.

A woman, aged 36, on whom I had operated eighteen months before for tuberculous wrist with a very satisfactory result, returned to hospital complaining that for the past twelve months she had suffered from intermittent attacks of acute pain in the left of the epigastrium. These attacks had occurred with increasing frequency, until they came on every week, and were accompanied by vomiting. There was no history of jaundice. On examination the upper abdomen was somewhat fuller than normal, but no palpable mass could be detected, and there was no visible peristalsis. There was no localized tenderness in any part of the abdomen, and *x*-ray examination was negative. In view of the nature of the attacks and the previous tuberculous lesion, the provisional diagnosis of tuberculous stricture of the intestine was made, and exploratory laparotomy undertaken. On examining the small intestine systematically a single annular, fibrous constriction was found in the jejunum some two feet below the duodeno-jejunal flexure. On the peritoneal coat of the bowel there were several small grey tubercles, and there was some enlargement of the mesenteric glands in the neighbourhood. The bowel above the stricture was somewhat hypertrophied and distended as compared with that below. Four inches of jejunum were excised, including the stricture, and lateral anastomosis performed. The patient made a rapid recovery, had no more attacks of pain, and when last heard of was in good health. Histological examination confirmed the diagnosis of tuberculous ulceration.

CASE II.

A woman, aged 29, had for five years been suffering from attacks of pain in the right iliac fossa, associated with local tenderness, vomiting, and increasing constipation. Her general health was poor, and she had lost a good deal of weight. On examination the right iliac fossa was found to contain a firm, palpable mobile mass, somewhat tender on pressure. There was no general abdominal distension. The diagnosis lay between ileo-caecal tuberculosis and carcinoma of the ileo-caecal valve. On exploring the abdomen the lower eight inches of the ileum, the ileo-caecal valve, and the caecum were found to be involved in a uniform hard and massive thickening, which strongly resembled a carcinomatous growth. On the peritoneal aspect, however, numerous small white tubercles could be made out. Lateral anastomosis between the normal ileum above and the transverse colon, combined with resection of the diseased area of bowel, brought speedy relief to her symptoms, and when seen recently, five years after the operation, she was in good health.

When such cases of hyperplastic ileo-caecal tuberculosis are met with in young children, they must be diagnosed from chronic intussusception or appendicitis with abscess formation. In chronic intussusception the attacks of pain are much more frequent and urgent, there is usually some passage of blood-stained mucus, and the illness is rarely of more than a few weeks' duration. In acute appendicitis with abscess formation there is again a much shorter history, with a typical sudden onset, and the mass is firmly fixed and not movable as in the case under discussion.

In older patients the diagnosis from carcinoma is a matter of extreme difficulty on account of the similarity of symptoms. In some cases the presence of subperitoneal tubercles will determine the diagnosis at operation, though even these may not be distinguishable from secondary carcinomatous nodules, and it may sometimes happen that the diagnosis between hypertrophic tubercle and carcinoma of the ileo-caecal valve remains in doubt until the specimen has been submitted to microscopical examination.

Tuberculosis of the Appendix.

Tuberculosis of the appendix, as an isolated lesion, is an occurrence of some rarity. The majority of recorded cases of tuberculous appendicitis have occurred in combination with hyperplastic ileo-caecal tuberculosis, and in such cases implication of the appendix in the tuberculous process must be regarded as a comparatively unimportant detail. The following case of primary tuberculosis of the appendix is the only one that has come under my care.

* Delivered at St. Mary's Hospital, Manchester.

CASE III.

A boy, aged 7, had had a brief attack of abdominal pain and pyrexia two years before he was brought to me with a history of two days' pain that began in the umbilical region and had settled in the right iliac fossa. He had not vomited, and his temperature and pulse were normal. On examination the boy did not look ill, but on palpation in the right iliac fossa there was a definite hard, tender mass, which felt much like an acutely swollen appendix with surrounding omental adhesions. The mass was, however, better defined and more mobile than usual, and there was little muscular rigidity.

A diagnosis of acute appendicitis was made, and laparotomy disclosed a hard, elongated mass lying below and to the inner side of the caecum. The mass was 4 in. long and 1 in. in diameter, and the omentum was adherent to its lower extremity. It was readily delivered through the abdominal wound, and proved to be an appendix, enormously distended and congested and twisted somewhat on its origin from the caecum. The adherent omentum was ligatured off and divided, without stripping it from the appendix; the appendix was removed by dividing it across at the healthy base, and the stump invaginated in the usual way. Examination of the specimen showed that the distal half was involved in typical hyperplastic tuberculosis, with areas of caseation here and there. The lumen of this distal half was reduced in size, but the proximal half, with thin and non-tuberculous wall, was distended with blood and pus, and the outlet into the caecum was blocked by a hard concretion. It was evidently, therefore, a case of acute obstructive inflammation of the appendix, superimposed on a chronic tuberculosis, which had given rise to no symptoms. The ileo-caecal region and adjacent glands were not tuberculous. The boy made an uneventful recovery, and is now, five years after the operation, in good health.

Tuberculosis of the Liver.

Tuberculosis of the liver is also a rare occurrence in surgical practice. Setting aside the cases in which the liver is involved in general miliary tuberculosis, tuberculous peritonitis, or multiple small tuberculous abscesses, cases are occasionally met with in which a solitary tuberculous mass is found in the liver and can be removed by operation. That the diagnosis of such a tuberculoma of the liver is by no means simple is illustrated by the following case.

CASE IV.

A boy of 13, who had been operated on a year previously for "tuberculous glands of the neck," came to hospital complaining of abdominal pain. On palpation a rounded, hard lump, about one inch in diameter, could be felt, and indeed seen, in the right epigastrium. It was evidently in the right lobe of the liver, and in view of his previous history the diagnosis of tuberculosis of the liver was made.

On opening the abdomen a solid yellow mass was found on the anterior aspect of the right lobe, with a smaller adjacent mass of a similar character. Both these masses were enucleated with ease, but it was noticed that instead of presenting the homogeneous appearance of caseating tubercles, they were somewhat lamellated and the appearance suggested gumma.

A Wassermann reaction taken after the operation was strongly positive, and histological examination of some of the excised tissue confirmed the diagnosis of gumma. It is quite possible that the supposed tuberculous glands that had been previously dealt with had, in reality, been the result of congenital syphilis.

Tuberculosis of the Mesenteric Glands.

I now pass to the consideration of the commonest form of abdominal tuberculosis—namely, tuberculosis of the mesenteric glands, and in this group of cases I do not include those with general tuberculous peritonitis in addition. The diagnosis of tuberculous mesenteric glands in children is by no means difficult, for it may be laid down as a broad general rule to which there are few exceptions, that wherever a child presents a firm, rounded, mobile lump in the umbilical or right iliac zones of the abdomen, unassociated with intestinal obstruction, the case is one of tuberculous adenitis. Surgical interference is necessarily limited to those cases in which the glandular implication is not too extensive. Where the whole chain of mesenteric glands is grossly enlarged and caseous, any attempt to excise them would endanger the blood supply of the bowel, to say nothing of the risk of lighting up tuberculous peritonitis. There is, however, a very common type of case in which one or two glands, lying along the ileo-colic vessels in the angle between the lower ileum and the ascending colon, are enlarged and caseous. These glands receive the efferent lymphatics from the appendix and ileo-caecal valve, and their infection with tuberculosis is closely analogous to the common tuberculous adenitis of the upper deep cervical glands which receive the drainage of the tonsils. I have frequently removed the appendix and the glands in such cases, but have never yet, on microscopical examination, found any evidence of tuberculous disease of the appendix, though typical tubercle formation can usually be found in the glands. In the case of tonsils which are removed in association with tuberculous cervical glands, we know that under 5 per cent. of such tonsils show tuberculous lesions. I believe that in the appendix, as in the tonsil, a chronic catarrhal inflammation of the lymphoid tissue, of a non-specific nature, acts as a predisposing cause to tuberculosis of the glands, and that the tubercle bacillus can be absorbed through the mucosa of either a normal or chronically inflamed appendix and give rise to no specific lesion until it reaches the nearest lymph glands.

What, then, are the indications for surgical interference in these cases? I believe operation should be undertaken if, after a few weeks' constitutional treatment, the glands do not disappear, provided that the glandular swellings are not too extensive. I believe further that if recurrent attacks of colicky pain are associated with glandular enlargement operation should be advised in any case, for such pains signify some mechanical interference, by kinking or adhesions, or perhaps by an associated stenosis, with the peristaltic movement of the bowel.

CASE V.

A girl, aged 7, was brought to hospital with a history of repeated attacks of abdominal pain, accompanied by vomiting, during the previous six months. The child was thin, and the abdomen somewhat distended; on the left of the umbilicus an indefinite hard mass could be made out on palpation. Laparotomy disclosed a mass of caseous glands in the upper mesentery adherent to the transverse colon and kinking it somewhat acutely. The glands were freed from the colon and excised, and an omental graft placed over the area of colon denuded of peritoneum. Since this operation was performed, nearly a year ago, the child has been free from the attacks of pain, and has put on weight.

Occasionally, as is well known, such isolated tuberculous glands will produce a kink of the adherent bowel sufficiently grave to cause acute intestinal obstruction, and I have records of one case in which gangrene of the apex of an adherent intestinal loop had resulted, and necessitated resection of the bowel. The cord-like adhesions so prone to result from tuberculous mesenteric glands in childhood are, of course, one of the commonest causes of acute intestinal obstruction in adult life.

Tuberculous Peritonitis.

In considering the subject of tuberculous peritonitis I would first remark that whereas, according to *post-mortem* statistics, this disease is most common between the ages of 30 and 40 years, according to my clinical experience it is most usually met with between the third and twelfth years of age. We can distinguish broadly two main clinical groups of tuberculous peritonitis:

1. The *ascitic* type, in which the whole peritoneum is dusted over with innumerable tubercles, varying in size from the finest grey granules to discrete yellow nodules almost as large as a pea. In this type adhesions, if present at all, are unimportant in number and extent, and a massive ascites dominates the clinical picture.

2. The *plastic* type, with a large, doughy abdomen, in which tympanites is more evident than ascitic fluid. In this second form there are often localized pockets of clear fluid, but the outstanding feature is universal adhesions, fibrous in character, which often obliterate the peritoneal cavity almost completely. In the graver cases of this group large caseating tubercles are found between adjacent and adherent coils of intestine, and in some, though this is infrequent, definite abscess formation occurs.

These two clinical groups have this in common, that the child's abdomen swells, and at the same time there is wasting of the limbs and face and marked failing in energy; but, whereas in the ascitic type there is shifting dullness in the flanks and a fluid thrill, in the plastic form these latter signs are absent, and there are commonly palpable masses of adherent, infiltrated omentum, with considerable enlargement of the mesenteric glands. Symptoms of associated tuberculous ulceration of the intestine are uncommon in each type in my experience, though there is not infrequently a previous history of blood-stained diarrhoea. Pain is unusual in the ascitic form, and may or may not be present in the plastic.

It has long been recognized that laparotomy gives the most satisfactory results in the ascitic form. To what mechanism we should attribute the remarkable improvement that occurs in most of these cases from the day of operation is a problem on which many theories have been

elaborated, and concerning which little definite is known, but this improvement is an undoubted clinical fact. It is not to be denied, of course, that certain of these cases make a complete recovery under medical treatment without surgical assistance, but the change in their condition after laparotomy and evacuation of the ascitic fluid is so rapid and so striking that there is, I think, no doubt that operation has a most definite influence on the course of the disease.

CASE VI.

A girl of 14, who had had no previous ill health, was playing hockey for her school team when she noticed an unwonted shortness of breath. Seven days later, when I saw her, there was a large collection of ascitic fluid, without any pain, and her limbs were already wasting. Operation, performed three days later, showed tubercles so profusely scattered all through the peritoneal cavity as to be confluent, with great thickening of the peritoneum itself, but no adhesions. When seen eight months after the operation she had put on over 28 lb. in weight, the abdomen was normal, and she appeared to be in every respect a healthy girl.

The abdominal incision should always be sutured in layers without drainage, on account of the danger of mixed infection and the greatest care should be taken to prevent tuberculous infection of the abdominal wall—a not uncommon complication which is a cause of serious delay in convalescence.

The prognosis after laparotomy in the plastic type of tuberculous peritonitis is generally considered to be poor, and it is undoubtedly a fact that the percentage of recoveries is smaller in this than in the ascitic type, whether treated by medical or surgical measures. There is the further consideration that laparotomy in these cases is by no means devoid of risk, since the intestines are firmly adherent to the abdominal wall and to adjacent coils, and unless the greatest care is exercised by the surgeon, a faecal fistula may readily be produced, with disastrous results. I was somewhat surprised to find, however, on tracing a series of eight of these cases in which I had operated as a last resort, that five of them, in spite of the very grave prognosis that I had given on the strength of the operative findings, were in good health after four, seven, one, two and a half, and two years respectively, and all dated improvement from the operation. One patient had made such a rapid and complete recovery as to be on active service in Mesopotamia for two years without any ill health. Of the remaining three cases, one improved for a time, but died of bronchopneumonia one year after operation, one is suffering from pulmonary phthisis and still has abdominal pains and distension, and one developed a faecal fistula shortly after the operation and died in about three weeks. The series is, of course, too small for any wide conclusions, but it does at least suggest that there is something to be gained in these cases by surgical measures when medical treatment has failed.

CONCLUSIONS.

I would sum up the general indications for operation in the various types of abdominal tuberculosis as follows:

Pain, when it occurs in recurrent, well-defined, colicky attacks, especially if they return with regular periodicity and sharp intensity, signifies a mechanical interference with intestinal peristalsis, and this can only be relieved by operative measures.

Glandular masses in the mesentery, if not too extensive, and if they do not yield rapidly to constitutional treatment, should be excised, and this is particularly urgent when they are associated with colicky attacks of pain.

Palpable masses in the ileo-caecal region associated with signs of chronic intestinal obstruction are an emphatic indication for laparotomy and resection of the tuberculous ileo-caecal region should such be found.

The ascitic form of tuberculous peritonitis is essentially a disease for surgical treatment. The operation is free from danger, and its beneficial results are usually dramatic. I need hardly labour the point that the utmost care in the medical or constitutional treatment is of great importance in the cure, but I wish to emphasize the view that operation is almost equally essential.

Finally, in the plastic type of tuberculous peritonitis, if the trouble does not yield to the ordinary medical measures, operation may be undertaken with a fair degree of safety, provided that no extensive attempt is made to separate adhesions, and there is some ground for hoping that even these apparently desperate cases may make a complete recovery.

OBSERVATIONS ON THE RESTING METABOLISM OF CHILDREN AND ADULTS IN SWITZERLAND.

BY

LEONARD HILL, M.B., F.R.S., AND J. ARGYLL CAMPBELL, M.D.,

With the Co-operation of

BERNARD HUDSON, M.D.

WE have carried out observations at the English sanatorium in Montana, in November and December, where the patients are under the supervision of Dr. B. Hudson, and where a laboratory and every assistance in our work was given us. We also made observations at the Belgian children's clinic under Dr. Chassot, and the Geneva sanatorium under Dr. Betchow, and we are greatly indebted to these physicians for the facilities they afforded us.

In October the sunshine at Montana averaged over eight hours a day, and during the last three weeks of November the sun shone every day, while the air was calm and frosty; the thermometer, while showing from 5° to 20° F. of frost at night, rose at midday in front of the sanatorium to some 50° F. dry bulb and 35° F. wet bulb. Montana is at an altitude over 5,000 ft., and the midday winter sun piercing the clear atmosphere was so warm that it raised the surface temperature of a dark fur or wool coat to 100° or 120° F., and a shade became necessary for the head.

While the sunlight absorbed by the clothes and skin warms those parts of the body exposed to it, the shaded parts of the body are actively and pleasantly cooled by the cool dry air, and the heat production of the body is thus stimulated. In the shade, or before the rising and after the setting of the sun, the cold dry air stimulates the body heat production far more powerfully. Patients can sit or lie out of doors in the sun in comfort, even without overcoats, after 9 a.m., when the temperature of the air is scarcely above the freezing point. In sheltered sun-boxes, open only to the south, they can comfortably expose themselves nude to the sun. Such exposure has, of course, to be gradually inducted, and, while suitable for surgical tuberculosis, is considered unsuitable for phthisis. We suggest that, given a sufficiently high cooling power of the air, insolation might be borne by such cases when not febrile. Such is the experience of Rollier at Leysin. It is obviously unwise to produce tissue cell degradation in the skin or blood by exposure to the sun when the body is dealing with an active tuberculous process and is febrile.

At an altitude of 5,000 ft. the greater tenuity of the air not only stimulates red blood formation, but the breathing, and the greater volume breathed of dry cool air acts with advantage on the respiratory membrane, for the amount of water vapour evaporated daily from this membrane may be some three times greater in patients taking exercise in the Alpine winter climate than in people living a sedentary life in England indoors, where the water vapour tension is much higher. Saturated air at 0° C. holds some 5 grams of water vapour per cubic metre, while air saturated at almost body temperature holds some 40 grams. The dry cool air as breathed in is warmed up to almost body temperature and saturated with water evaporated at this temperature from the breathing passages. The greater evaporation of water entails a greater flow of arterial blood and lymph through the respiratory membrane, and this helps to keep up its health and immunity to disease.

The cooling power which the Alpine air exerts out of doors on a dry surface at body temperature, as measured by the kata-thermometer, is some three times greater than in ordinary conditions indoors, and the evaporative power twice as great. The heat production of the resting subject, stimulated by this cooling power, is put up, above that taken indoors in London, some 40 to 50 per cent. in the case of clothed adults, and 60 to 90 per cent. in the case of children exposed more or less nude to the sunny, calm Alpine winter atmosphere. A cold wind and cloudy sky may raise the breathing metabolism of clothed children over 200 per cent. Increased appetite, better digestion, and more active breathing and circulation of the blood result from this increased heat production. Owing to the climatic conditions the growth of muscular tissue is enhanced and fatness and flabbiness opposed. For early cases of phthisis and all cases of surgical tuberculosis, then, the Alpine winter climate offers great advantages.

TABLE I.—*Children with Surgical Tuberculosis at Montana (Winter).*

Place.	Subject.	No. of Observations.	Age.	Weight in Kilos.		Heat Loss.*	Calories per Diem Found.	Standard Basal.	Percentage Increase over Basal for same Weight.
				Found.	Standard for same Age.				
Belgian children's clinic, balcony (partly nude)	3 girls	6	14.0	28 6	44.0	2.28	2147	1012	112
Ditto, balcony (partly nude)	7 boys	14	10.9	25.2	32.0	2.16	1712	993	72
Ditto, shelter (clothed)	2 girls (less exposed to cold wind)	2	8.5	26 3	23.0	2.33	1963	954	95
Ditto, shelter (clothed)	2 boys (more exposed to cold wind)	2	9.4	30.0	27.5	3.90	3825	1115	225
Geneva sanatorium (clothed)...	3 boys	3	12.5	40.2	37.5	2.07	2073	1300	59

* Millicalories per sq. cm. per sec.

We employed the Douglas-Haldane method of indirect calorimetry, the subject lying quiet for half an hour before the sample was taken. Table I shows the results obtained from boys and girls under 16 years of age suffering mainly from surgical tuberculosis. The calories per diem found may be compared with the basal standards of Benedict and Talbot [1] for the same weight. It will be noted that the calories found show increases varying from 59 to 225 per cent. above the basal. The standard figures for the weights of healthy children of the same age are also given. In some cases our subjects were under-nourished, but others gave better figures for weight than the standards, so that under-nutrition cannot play a great part in the increase noted. Blunt and others [2] find that under-nourished children give higher figures for calories per diem than normal children. We consider that the increase in metabolism was due to exposure to the high cooling power of the atmosphere. The Belgian children on the balcony were partially nude and exposed on sunny days, calm or with very gentle breeze. The children in the shelters were clothed, but exposed on a cloudy day to a very cold wind—so cold was it that the children's pulse could not be felt at the wrist owing to vaso-constriction, and one had to listen to the heart. The Geneva children were clothed. Slight shivering was obvious in some cases. On some days the children were more exposed than on others, but in any case were exposed to a much higher cooling power than children enclosed in a calorimeter chamber, such as that used by Benedict and Talbot. One would expect, therefore, a much higher degree of tone under the former conditions than the latter. The children at Alton Hospital, Hampshire, gave an increase of 40 to 50 per cent. above basal by exposure to open air in the summer and 130 per cent. in the winter, but the children at Alton were never exposed so much as to allow shivering. The Alton summer figures are not much less than the Montana winter figures taken on calm sunny days. The children at Hayling Island undergoing sea-bathing show figures as high as those given by the clothed children exposed to a cold wind on a cloudy day at Montana. The body metabolism can, then, be excited by exposure and bathing in Southern English summer to the same degree as by exposure to the winter Alpine climate.

Table II gives the results obtained from adults, some of whom were healthy and others suffering from phthisis. For the morning walk. The serious cases of phthisis—those confined to bed—were not exposed to insolation, but were able to derive benefit from exposure to Alpine conditions of open air, and showed no less an elevation of metabolism. The metabolism of the more serious cases must rise to meet the cooling power to which the patients are exposed, otherwise their body temperature will fall and they will require protection by shut windows, more clothing, and artificial heat. It is obvious that those cases will benefit from exposure which can respond to it by adequate increased metabolism and digestion and absorption of food. Thus, Sir Henry Gauvain finds that the sea air at Hayling Island is too strong for weakly young children, and they do better at Alton. Their surface exposure is too great in proportion to their body mass. On the other hand, stronger, heavier children do better at Hayling Island. Open-air treatment requires to be controlled by exact measurements and good sense. The sunshine and calm frosty air of the Alpine winter make the management of open-air treatment comparatively easy, and its effect on the feelings of the patients hastens their response.

The accompanying tables show the average results of our observations.

TABLE II.—*Adults in Switzerland. Montana (Winter).*

Place.	Subject.	No. of Observations.	Age.	Weight in Kilos.	Heat Loss.	Calories per Diem.	Standard Basal (40 cals. per sq. m. per hr.).	Percentage Increase over Basal.
Geneva sanatorium ...	7 men (T.B.)	8	27.6	65 3	1.99	3021	1690	79
Palace Hotel	5 healthy men	9	33.0	57.5	1.53	2319	1670	38
Palace Hotel	1 healthy woman	2	30.0	6.10	1.65	2282	1345*	69
Palace Hotel	8 men (T.B.), walking cases	8	29.0	66.2	1.57	2476	1730	43
Palace Hotel	2 women (T.B.), walking cases	2	24.0	56.7	1 50	2015	1305*	54
Palace Hotel	3 men (T.B.), bed cases	3	30 0	68.0	1.60	2623	1815	44
Palace Hotel	4 women (T B.), bed cases	4	33.0	49.9	1.39	1816	1270*	43
Palace Hotel	3 visitors	7	36.0	64.8	1.58	2421	1690	43

* Basal for women = 35 cals. per sq.m. per hour.

REFERENCES.

[1] Carnegie Institution of Washington, Publication No. 302, 1921.
[2] *Journ. Biol. Chem.*, November, 1921, 49, p. 247.

PERTUSSIS WITH A LEUCOCYTOSIS OF 176,000.*

BY

GEOFFREY BOURNE, M.D., M.R.C.P., AND J. M. SCOTT, B.A.

THIS case is reported for two reasons. No other white blood count of such a high figure (176,000) has come to the notice of the writers, excluding those found in leukaemia. It is hoped that publication of such a leucocytosis in connexion with a case of whooping-cough may arouse speculation as to the possible reasons for its coexistence with this disease.

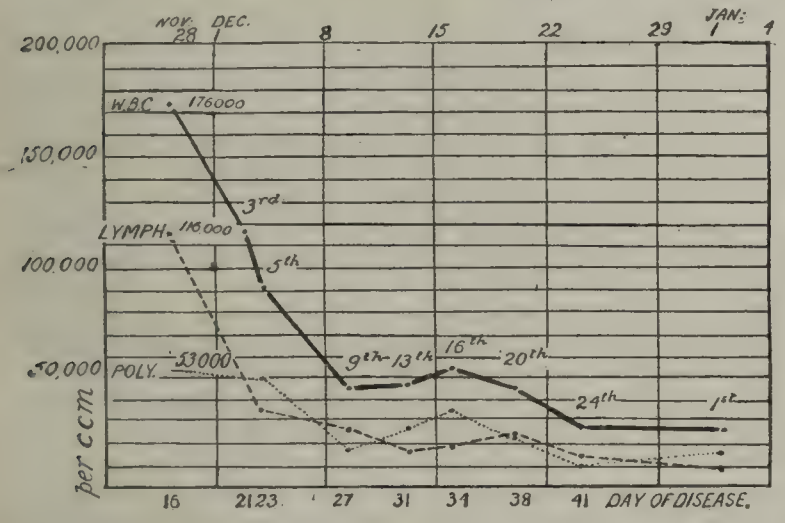
The patient, a female child aged 1 year and 9 months, was admitted to St. Bartholomew's Hospital under the care of Dr. Hugh Thursfield, to whose kindness the writers are much indebted for permission to publish the particulars of the case. The child was admitted with fever (102°), dyspnoea, and tachypnoea (rate 60), and with signs of bronchopneumonia in both lungs, especially the right; an ulcer was present on the fraenum linguae.

History of the Condition.—For the preceding twelve days the child had been subject to fits of coughing of gradually increasing severity and duration. During the later attacks she was alleged to have become blue in the face. The cough was paroxysmal and composed of numerous successive expiratory efforts. No whoop had been heard. The attacks were followed by vomiting.

Course.—Fever, tachycardia, and tachypnoea persisted for six weeks, during which time the pulmonary signs gradually cleared up. The child was discharged after a stay in hospital of seven weeks and an illness of nine weeks' duration.

Blood Counts.

The first white blood count was taken on November 28th, the sixteenth day of the disease; it showed 176,000 white cells per cubic millimetre, of which 116,000 were lymphocytes; the dates of the successive counts are shown in the chart. The black line in the diagram represents the total white blood count, the divided line the number of lymphocytes, and the dotted line that of polymorphonuclear cells.



In connexion with the high lymphocytosis observed, it is interesting to compare the results of two German observers.

Reiche [1] reports an outbreak of influenza in a ward devoted to whooping-cough. He says that 8 of the 16 cases already in the ward were attacked by influenza, and that one in the early stages of both diseases was admitted soon after. The latter case had a white count of 172,000—a figure nearly identical with that noted in the case herein described. He would seem to think that the mixing of the infections was the reason for the high figure. The explanation would be applicable to this case, seeing that it undoubtedly occurred early in the present epidemic of influenza. All evidence, however, is valueless while the cause of influenza is yet unproved.

Hess [2] of Frankfort alleges that the lymphocytosis of whooping-cough is the direct mechanical result of the paroxysms; he has made numerous blood examinations, and states that the lymphocytosis is greatest in the paroxysmal stage—indeed, that the highest figures actually coexist with the height of the paroxysms themselves. He suggests that the paroxysms, by increasing intra-abdominal pressure, squeeze lymphocytes out from the spleen and the thoracic duct into the circulation.

The present case also seems to show that the lymphocytosis is high at the end of the paroxysmal stage. Clinically, although the white count fell from November 28th till December 9th, no improvement was obvious. That this fall in the count was of good prognostic significance is suggested by the fact that from the latter date improvement was progressive. It is interesting to observe that the excessive lymphocytosis—presumably a manifestation of active pertussis—was present sixteen days after the onset of the disease.

REFERENCES.

[1] Reiche: *Muench. med. Woch.*, 1920, 67, 1352. [2] Hess: *Zeit. f. Kinderheilk.*, 1920, 27, 117.

* From a Non-professorial Medical Unit, St. Bartholomew's Hospital.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

REACTION TO TREATMENT BY KLEBS-LOEFFLER'S BACILLUS VACCINE.

WHEN so much is being written for and against vaccine therapy the following account of a case under treatment in hospital may be of interest, especially as one has read a lot concerning the freedom from reaction of patients who have been treated by certain types of vaccine.

In February, 1921, a patient, aged 18 years, was admitted to the diphtheria block of this hospital as a case of faucial diphtheria. Microscopical investigation showed that this was indeed the case, and the usual treatment was given, including antitoxin, and the patient was discharged on March 3rd, after an uneventful recovery. On November 4th she complained of sore throat, and a swab having been taken by her doctor and examined by me, the Klebs-Loeffler bacillus was found. On admission to hospital her tonsils were found to be dotted over with pieces of membrane, the constitutional disturbance of the patient being very slight. No antitoxin was given, and from inquiries into the history the case was looked upon as one in which the diphtheria bacillus had been lurking in the tonsils and throat. A course of vaccine treatment was begun, the ordinary stock vaccine being used (strength: 1 c.cm. = 50,000,000 organisms). I began by giving 0.5 c.cm., and the list below shows the dates of administration, dosage, temperature, and pulse rates:

Date.	Dose.	Temperature.	Pulse Rate.
Nov. 5	0.5 c.cm.	98.2°	72
,, 9	0 75 ,,	99.6°	90
,, 13	1.0 ,,	97.6°	80
,, 17	1.0 ,,	98°	80
,, 18	*nil*	99°	86
,, 19	—	98.2°	88
,, 20	—	99.6°	98
,, 21	—	100.6°	98
,, 22	—	101°	96
,, 23	—	101°	100
,, 24	—	101°	96
,, 25	—	100.4°	96
,, 26	—	99.6°	88
,, 27	—	98.2°	80

On November 18th, the day following the final injection, which was given in the right arm, a localized swelling and tenderness were present at the site of injection. On the 21st the left arm and forearm became almost covered with raised, red, erythematous-looking spots, which varied in size from 2 by 2 inches to 1/2 by 1/2 inch. They were exceedingly painful, gradually increased in size, and many became confluent, forming large, inflamed patches, darkish-red in colour, and showing black staining beneath. The right arm by this time was greatly enlarged, with the appearance of a very severe cellulitis. On the 25th a similar eruption appeared on both legs, the spots being again painful and exquisitely tender to the touch. The patient complained of pains in the elbow and also in the knee joints, and the general condition was alarming. On the 27th the temperature dropped, and the pain in arms and legs disappeared. The many patches on the arms and legs began gradually to fade, but in disappearing they passed through exactly the colour changes which a traumatic extravasation of blood undergoes in the tissues.

At present, with the exception of dark staining on the arms and legs, the patient feels quite well. The Klebs-Loeffler bacilli have disappeared from the throat.

I am much indebted to the M.O.H. for Brighton, Dr. Duncan Forbes, through whose courtesy I am enabled to publish this case.

DANIEL HUGHES, M.B., B.Ch., B.A.O.,
Resident Medical Officer, Sanatorium and Infectious Diseases Hospital, Brighton.

RUPTURE OF THE EXTENSOR LONGUS POLLICIS TENDON.

I WAS much interested in paragraph 136 of the *Epitome of Current Medical Literature* (February 11th) on "spontaneous" rupture of the extensor longus pollicis tendon after Colles's fracture, as recently I had a case of this obscure complication.

Mrs. B——, aged about 55, a farmer's wife, sustained an injury to her right wrist by a fall at the beginning of December, 1921. Thinking it was merely a "sprain," she paid little attention to it at the time, and, in fact, proceeded with a big baking. It was not until nearly a fortnight later that she consulted me about the persistent pain, swelling, and

stiffness of the wrist. The evidence of an impacted Colles's fracture was undoubted, and the joint was immobilized by a single anterior splint for a week and then placed in a sling, gentle massage being kept up from the first. A week after removal of the splint, when very slight active movements had been commenced, quite suddenly one morning she felt the thumb weak and found that, although she could bend it into the palm, she could not straighten it. There was no pain whatsoever, and she was quite definite about the sudden onset of the disablement.

Separation of the long extensor was diagnosed and treated by splinting the thumb in the position of extreme extension. I have not seen the patient recently, but a fortnight ago recovery was not yet complete.

Owing to the apparent rarity of this complication—as evinced by Stapelmohr's inability to collect more than ten cases, including his own two—I think it worth while to place this on record.

S. NORMAN DYKES, M.B., Ch.B.Glasg.

East Kilbride.

INTESTINAL DISINFECTION IN ENTERIC FEVER.

IN five cases of enteric fever I have used pulverettes of dimol (dimethylomethoxyphenol), which has been recommended as a non-poisonous preparation for intestinal affections. It is also stated to be non-irritant.

In the recommended doses of 2 to 4 grains in two cases intestinal haemorrhage ensued within forty-eight hours. The haemorrhage in each case was brisk, but quickly ceased on discontinuing the drug.

In three other cases, where the dose was reduced to 1 grain, then to 1/2 grain twice daily, nothing untoward occurred.

The cases were comparatively mild, and were selected for trial out of a total of 116 enteric cases admitted to our hospitals in 1921. The temperature in each case had come down to normal for a day or two, but was irregular and varied between 98° and 100° F. at the time of administration.

The number of cases is rather small to condemn the use of the drug in enteric fever, but the pungent taste of the pulverette when the outer coating is removed suggests that it might not be as free from irritation as the advertisement states.

THOS. E. FRANCIS, M.D.,
M.O.H., Barnsley.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

ULSTER BRANCH.

AT the winter meeting of the Ulster Branch, held in the Medical Institute, Belfast, on February 9th, the President, Dr. ROBERT REID, in the chair, the following cases were shown: Mr. FULLERTON, a young man with a branchial cyst, a young woman with a cystic hygroma of the neck, and a young woman with enlarged glands of the neck suggestive of Hodgkin's disease. With regard to the second case, Mr. CRYMBLE said he had attempted to remove a cystic hygroma of the neck, but it had returned with increasing rapidity of growth. Mr. FULLERTON also showed a tooth-plate which he had successfully removed by oesophagotomy; an attempt to remove it by the oesophagoscope had failed; it was opposite the arch of the aorta. He sutured the oesophagus in two layers.

Mr. CRYMBLE showed a case of a young girl with ankylosis of the left temporo-mandibular joint cured by excision of the head of the mandible; there had been a history of ankylosis for five years following some prolonged illness; the jaw opened to the extent of about 3 mm.; he had tried wedges, and secured a gain of only 2 to 3 mm. It was considered inadvisable to give a general anaesthetic, so, under a local anaesthetic with a short period of general anaesthesia, he removed the head and adjacent portion of the ascending ramus, and the jaw fell open after the five years' fixation; the right joint was free; six months after there was 30 mm. movement. He also showed a case of a young child from the left half of whose forehead he had removed a large black hairy mole in its entirety; union had been obtained without grafting, and no recurrence had taken place.

Mr. FULLERTON gave a brief account of the recent advances of cystoscopy and pyelography; he traced the development of the diagnosis of urinary affections from the days of guesswork to the present days of accurate knowledge gained by the newer methods and apparatus. The first substance used was collargol, but it was viscid and colloidal; its chief danger lay in its tendency to permeate the kidney if a greater force was used than 30 mm. of mercury. Recently solution of thorium nitrate was much used in America and was of great value. Solution of sodium bromide was now commonly employed; it was cheap, easy of manipulation, was innocuous and gave a good shadow. His own practice was to let flow from a Record syringe some of the solution into the ureteral catheter; he raised the syringe about two feet above the level of the patient; this was done in the *x*-ray room; the capacity of the normal kidney pelvis was about 4 to 12 c.cm.; the slightest loin pain showed tension of the pelvis, and was an indication for immediate stopping. Mr. Fullerton then showed a series of lantern slides of (1) pyelograms illustrating various abnormalities of the pelvis and ureter; in this way early cases of hydronephrosis, tumour of the kidney, tuberculosis, inflammatory conditions, could be recognized; (2) radiograms illustrating the value of the opaque catheter in determining (*a*) whether shadows seen on the plate were in relation to the kidney or ureter, or were outside this area; stereoscopy was very important in determining whether the shadows were in the same plane as the ureteral catheter; (*b*) the relation of foreign bodies, supposed to be in the neighbourhood of the kidney or ureter, to the opaque catheter. In this way accurate localization of the foreign bodies could be made, which was a factor of great importance when their removal was contemplated; the removal of missiles of war was much facilitated.

In speaking to the paper Professor SINCLAIR expressed his appreciation of it and of the slides, and Mr. IRWIN showed a slide where pyelography pointed to incipient hydronephrosis, which was cured by fixing the kidney.

Dr. MORROW read short notes of a case of a female, aged 40, who had suffered from "indigestion" since childhood: there was much flatulence, constipation, and some tenderness over the appendix. The symptoms did not fit into any of the recognized forms of abdominal trouble, and he had asked Mr. Irwin to do an exploratory laparotomy.

Mr. IRWIN said that duodenal ileus might be either acute or chronic. The acute embraced cases of acute dilatation of the stomach; the chronic was first described by Wilkie, and was now recognized as one of the causes of "indigestion" with recurring bilious attacks. The modern tendency was to explain diseases of the alimentary system on mechanical principles—for example, pyloric and ileo-caecal obstructions, etc. To this group Wilkie had added duodenal ileus: the cause of the obstruction was either in the root of the mesentery or in a prolapsing caecum and proximal colon. There was a frequent association with chronic ulcer of either stomach or duodenum, and it might occur with gall stones and pancreatitis. It occurred mostly in the female sex and the symptoms included: (1) a long history of indigestion; (2) pain and flatulence unless modified by careful dieting; and (3) periodic attacks of bilious vomiting. The attacks were made worse by prolonged standing, by constipation, and were frequently accompanied by a slight degree of jaundice. Similar symptoms were occasionally a sequel to gastro-enterostomy, where some obstruction occurred at the duodeno-jejunal junction, requiring Roux's operation in "Y." Signs were often absent, but occasionally epigastric fullness was made out. *X* rays had not given much help in the diagnosis. The treatment consisted in doing a lateral anastomosis between the jejunum and the duodenum, proximal to the root of the mesentery. The history, symptoms, and signs in Dr. Morrow's case agreed with those already given, and this mode of treatment was adopted with success.

Mr. Irwin also showed an *x*-ray lantern slide illustrating obstruction of the duodenum in an old case of gastro-enterostomy, in which the symptoms agreed with those in Wilkie's cases, and in which the "Y" operation gave instant relief.

Mr. CRYMBLE read notes of a case of jaundice produced by enlargement of the head of the pancreas and relieved by cholecyst-duodenostomy; the Wassermann reaction was positive, and it was considered probable that the enlargement was due to a gumma of the head of the pancreas. The patient is at present receiving antisyphilitic treatment and has put on a stone in weight. Mr. Crymble also read notes of a case of chronic obstructive jaundice due to enlargement

of the head of the pancreas. The symptoms were relieved by cholecyst-duodenostomy; the cause of the enlargement was not known.

Dr. CALWELL made some remarks on some of a series of nerve cases that he had demonstrated that morning in his wards in the Royal Victoria Hospital. The two chief points were the incidence of the toxin of encephalitis lethargica on the motor nuclei of the base of the brain, and evidence towards an explanation of the variety of the signs in myelitis.

Reports of Societies.

PSYCHOLOGICAL ANALYSIS IN DIAGNOSIS.

AT a meeting of the Medico-Psychological Association of Great Britain and Ireland, held in the rooms of the Medical Society of London on February 23rd, with the President, Dr. C. HUBERT BOND, in the chair, Dr. T. S. GOOD (Ashurst Hospital, Oxford) read a paper on the use of analysis in diagnosis. Analysis, he said, must be used by every practising physician and surgeon in all kinds of cases; they must be influenced in their decision by what they saw, felt, and heard. Until a quite recent date the material upon which the doctor drew had been the conscious only; but, thanks to the ingenuity, the genius, and the patient work of Freud, a new source of medical knowledge had been opened to the profession, for he found that the solution of many of the problems as to the cause of neuroses and psychoses lay deeply buried in the unconscious mind of the patient. By special methods of technique these elements could be disclosed and brought into consciousness, and energy hitherto dammed back could be released to bring about improvement or cure. This had never been better demonstrated than during and after the war in cases of shell shock and neurasthenia; for many cases had been cured by psychotherapy, of which psycho-analysis was one of the instruments. By following the method of free association, physical conditions could be diagnosed which would otherwise escape notice or be only partially understood, because the key to the solution of the physical mischief lay repressed in the unconscious, and so could not be furnished by the patient in response to the usual examination.

Dr. Good elaborated the point by quoting in detail two cases, which had been diagnosed respectively as neurasthenia and hysteria.

The first case was that of a man, aged 50, who, after four years of war, was invalided out in 1918, with the diagnosis of neurasthenia. He had been under a varied treatment, and had tried, but with only partial success, to resume his pre-war occupation of motor-body making. There was nothing abnormal in the family history. At his first attendance at the clinic he was obviously apathetic and depressed, questions being answered slowly and with apparent indifference. He complained of a headache, great depression, inability to work, loss of memory, and was puzzled as to what could be the matter with him. He said that at times he felt "lost and giddy." The right side of his face did not move so well as the left. The tongue was protruded straight; the pupils were normal and equal in their reactions; fundi and vision were also normal. The only abnormality in the reflexes was that the plantar on the right was indefinite. Oppenheim's reflex was absent. Sensation, co-ordination, muscular sense were normal, also muscle tone, and there appeared to be nothing wrong with the organs; the pulse rate was 80.

The two abnormalities mentioned indicated that the case was not purely functional, but they did not form a sufficient basis for a firm diagnosis. He was unable to remember a certain period of his war experiences; he showed a disinclination to talk of the war, beyond stating that to it he attributed all his disability; he had a desire to be quietly by himself. After the third interview the man's demeanour changed, and he began to co-operate in his treatment and to associate, with the result that his thoughts and feelings on his illness became clearer. A part of his life which he could not account for, however, was a period during a voyage at sea. He was on a ship when it was torpedoed at sea, but he could remember nothing between that explosion and his being in hospital. But details emerged in his mind as he evinced more interest and showed co-operation, and eventually he was able to describe what happened after the ship was struck. It appeared that he was thrown across the cabin, and his head came into violent contact with a bulkhead, injuring his left parietal region; he remembered feeling and hearing his skull crack. Feeling very sick and ill, he rushed, with others, on to the deck. He was rescued from the sea and taken to hospital. The whole of this amnesia was removed at one sitting, and the patient then expressed great surprise, remarking, "I do not know why it is, but I feel all right, and am glad I can now remember everything." On returning to the clinic a fortnight later, he said his memory was good and he felt better, but instead of the dull headache he now had a new and more acute pain in the head, such as he had never experienced before, except when his head struck the ship's bulkhead, and the site was the same. This directed attention to a probable injury of the left parietal region, perhaps a fracture, with some resultant injury of the brain. A surgeon thereupon operated, and discovered a 2-in. fracture at the exact site of the pain and some bruising of brain substance. Previously there had been no suspicion of an organic element in the case. In this case, the amnesia having been cured, the clue was supplied by the patient himself. His attention to that stage had been so concentrated on his mental feelings that physical sensations were unnoticed until the mental conflict had been solved. The man had now recovered his mental poise, but the pain in the head was still present, and following the operation he had slight hemiplegia.

The second case was that of a man, aged 25, reputed normal before the war. After serving two years in the army he was discharged, the diagnosis being "hysterical fits." When his mother brought him to the clinic she said his disposition had now completely altered, for at times he was violent, aggressive, and irritable. He was said to have been having two kinds of fits, but both were ushered in by twitching on the right side of the face. Sometimes he became rigid, and seemed dazed and dull afterwards, with headache. In the other kind of fits he threw himself about, and was afterwards violent and irritable. The man was unable to remember any of the fits. When pressed to talk about the war he became irritable. Generally the reflexes on the right side were greater than on the left; on the right, also, there was some muscular weakness. At the second interview he was induced to talk about the war, when it was found that his memory of events for long periods was very defective; he did not remember why he had been sent home, nor when the fits started.

The detailed history which Dr. Good read showed that his trouble was connected with heavy trench-mortar warfare, in which he received a severe head injury. By the method of association the blank interval was made good, and then the patient talked freely about the episodes he experienced. After the recovery of the memory the emotional fits ceased, but the rigid fits increased in frequency. The right-sided weakness seemed to indicate that on that side there was increased intracranial pressure, probably due to head injury. Later the operation of decompression was performed, and since then he had had only two epileptiform attacks. He was discharged three months later. Four weeks afterwards his mother brought him again and said there had been no attacks since he was discharged, and that he was now working as a gardener.

After pointing out the parallelism in the two cases Dr. Good commented on the fact that one of them reacted by being depressed (introverted), the other by becoming excited (extroverted). The cases showed that psycho-analysis could be of use in diagnosing organic conditions.

The PRESIDENT, in thanking Dr. Good for his interesting contribution, deprecated any tendency to regard the materialistic and the psychiatric schools or lines of thought as being opposed to each other. The cases described in the paper showed how useful was the broad, inclusive view in unravelling difficult cases.

A short discussion followed, and in his reply Dr. GOOD elaborated at greater length some of the aspects of this line of inquiry.

GYNAECOLOGICAL SEQUELAE OF GENITAL TUBERCULOSIS OF CHILDHOOD.

AT a meeting of the North of England Obstetrical and Gynaecological Society, held at Sheffield on February 17th, with the President, Mr. HAROLD CLIFFORD (Manchester), in the chair, Mr. MILES PHILLIPS (Sheffield) read a paper on the gynaecological sequelae of genital tuberculosis of childhood. He had been interested in these cases for several years, and his chief object had been to collect evidence to prove that certain gynaecological complaints—for example, primary amenorrhoea, dysmenorrhoea, dyspareunia, and sterility—might occasionally be due to damage done to the genital organs by tuberculous disease occurring during childhood and before organs were fully developed. The evidence of the original disease nearly always indicated tuberculous peritonitis, and for this he had usually to rely on statements made by the patient or a near relative. For instance, one patient knew that at the age of 11 she was very wasted, had a swollen abdomen, and was sent into the country for months. Many of the patients were supposed to have had typhoid fever, and

he had actually had two cases of genital tuberculosis sent to him direct from isolation hospitals where they had been under treatment for this disease. None of his patients had symptoms of phthisis, but two or three had puckered scars on the neck suggestive of old suppurating tuberculous glands.

As regards the damage done to the genital organs, he had found the Fallopian tubes affected in all cases, the mucous membrane being hopelessly destroyed in some, in others the abdominal ostium closed and the lumen distended with pultaceous material.

In some cases the endometrium was affected, leading to more or less obliteration of the uterine cavity, and then primary amenorrhoea, haematometra, hydrometra, or even pyometra, might occur. The functional disturbances were as follows: Menstruation was generally late in starting, infrequent, and scanty, but in a few cases commenced at the average age and was free or even profuse. It was always painful. In some cases it was absent or the products were retained as a result of obstruction to the outflow. Sterility, with or without dyspareunia, was sometimes the chief symptom, and married life was very apt to aggravate the patient's troubles.

The speaker read notes of five cases bearing on the subject of the paper, and in conclusion stated that the prognosis as regards sterility was a gloomy one. It was advisable to warn the patient or a responsible relative that the uterus or appendages might have to be removed. Conservative treatment was unsatisfactory; radical measures gave excellent results.

Dr. DOUGAL (Manchester) read notes of a case in which ectopic pregnancy had occurred twice within four and a half months. Mr. LEYLAND ROBINSON (Liverpool) showed a specimen of sarcoma of the cervix. The patient was a 4-para, aged 40 years, and complained of backache and an offensive discharge of eighteen months' duration. The growth produced a localized ulcer indistinguishable from carcinoma, and it was only after operation that histological examination revealed its true nature. The epithelial structures of the cervix were unaffected, but the stroma was typically sarcomatous.

Mr. W. GOUGH (Leeds) read notes of a case in which rupture of the uterus had occurred through the scar of a Caesarean section performed two years previously. The uterus had been sutured with two layers of catgut at the previous operation.

The patient was admitted to hospital at full term complaining of pain in the back and lower abdomen. She was well enough to walk to the hospital, but within four hours she presented the symptoms of an abdominal catastrophe and operation was decided on. The abdomen contained a quantity of blood-stained fluid and a haematoma was present under the utero-vesical peritoneum and in the left broad ligament. This was due to the uterine scar giving way at its lower end. The uterine wall was incised to one side of the rupture and a dead child extracted. The old scar was then excised and the uterine wall sutured with catgut. Recovery was uneventful.

INFLUENCE OF COMPLICATIONS OF PREGNANCY ON INFANT MORTALITY.

A MEETING of the London Association of the Medical Women's Federation was held on February 4th at the Elizabeth Garrett Anderson Hospital, with Dr. LOUISA MARTINDALE (the President) in the chair.

Professor LOUISA MCILROY spoke on the subject of complications of pregnancy and their influence upon infant mortality. She began by pointing out how the spread of ante-natal clinic work opened up a possibility of dealing with such complications at an early stage, and increased the possibility of the use of general medical treatment, which should obviate many of these complications when due to toxaemia and similar conditions. She regretted the fact that as yet there was no system of training midwives in ante-natal work, and urged that facilities for obtaining laboratory reports of specimens should be made more easily available. She then discussed at some length two types of complications of pregnancy: (*a*) contracted pelvis, and (*b*) toxaemic conditions and their treatment. In dealing with the treatment of pelvic contraction stress was laid upon the necessity for ascertaining the relationship of the head to the pelvis rather than dependence upon actual measurement of the pelvis itself. Induction was seldom to be advocated before the thirty-sixth week, owing to the unfavourable prospect for the child's future life or welfare if done earlier. Caesarean section was still an operation associated with danger to the mother, and should not be lightly undertaken. The future of obstetrics lay in the ante-natal supervision, and by this means many of the diseases of pregnancy could be prevented, and also it would do away with much operative interference at the time of labour. The application of forceps was associated with risks to the child's future welfare, except in cases of flat pelvis where the head was retained in the cavity of the pelvis owing to defective expulsive forces. The toxaemias of pregnancy included abortions, premature death of foetus, and haemorrhages. Accidental haemorrhage also owed its origin in some cases to a condition of toxaemia. The early phenomena of pregnancy, such as vomiting, were not physiological conditions, but were due to the retention of toxins, and to the upsetting of the balance of the internal secretory organs, their adjustment being affected by the newly introduced ovum, which is also an internal secretory organ, although of a temporary nature. More laboratory work was required to aid clinical diagnosis and prognosis in cases of toxaemia.

An animated discussion followed, in which Dr. FRANCES HUXLEY, Miss BOLTON, Lady BARRETT, Miss BASDEN, Lady BRISCOE, Dr. LOUISA MARTINDALE, and others took part.

HAEMATO-PORPHYRINURIA.

AT a meeting of the Oxford Medical Society on February 10th with the President, Dr. E. MALLAM, in the chair, Sir A. E. GARROD gave an address on the subject of haemato-porphyrinuria. He began by describing a case shown at Birmingham before the Association of Physicians last year. This was a boy of 5, who suffered from a bullous eruption of the face and exposed parts, which was accentuated in summer, and had led to much scarring. Furthermore, his teeth were pinkish, and he always passed urine of a port-wine colour; a specimen of the urine was shown to the meeting. The case was one of congenital haemato-porphyrinuria, of which only ten or eleven other cases had been described. The lecturer had himself shown some years previously that a trace of haemato-porphyrin was present in normal urine, and that this was slightly increased in diseases of the liver. But, apart from these congenital cases, haemato-porphyrin in obvious amount only occurred in cases of poisoning by sulphonal and similar drugs. He then briefly discussed the chemical constitution of the substance present in the two conditions and its relation to other similar bodies. All cases of haemato-porphyrinuria suffered from hydroa vacciniforme (aestivale), and animal experiments had shown that haemato-porphyrin had the effect of sensitizing living tissues to the action of light. A case was also described in which a pathologist had shown the same sensitizing effect upon himself as the result of a small injection of haemato-porphyrin. The probable explanation of the condition was that a link in the normal conversion of haemato-porphyrin into bilirubin was missing; and that, like most of the other inborn errors of metabolism, this characteristic was a very rare Mendelian recessive. It was interesting that while about two-thirds of the cases occurred in males, sulphonal haemato-porphyrinuria was much commoner in women.

In the discussion that followed, Dr. TURRELL drew attention to the importance which might result, from the point of view of electrotherapy, from the discovery of a substance which would sensitize the tissues to the action of light and heat waves.

The following were among the exhibits shown:

1. Dr. STOBIE: A child with congenital heart disease. Sir A. E. GARROD discussed the pathology of the condition and pointed to the difficulties of the ante-natal endocarditis, as well as the maldevelopment theories.

2. Dr. STOBIE: A case of aortic stenosis in a discharged soldier. This patient had a definite thrill over the aortic cartilage, and the systolic murmur in the same region was conducted into the vessels of the neck.

3. Dr. MALLAM: A case of pityriasis rosea. The diagnosis from secondary syphilis and the treatment were discussed.

4. Dr. W. T. COLLIER, junr.: Specimens illustrating two cases of embolism of the superior mesenteric artery. One had occurred in an oldish man with a fibrotic heart and a thrombus in the left ventricle, and the other in a younger man with subacute bacterial endocarditis. Both cases had been diagnosed as acute intestinal obstruction. Mr. DODDS-PARKER quoted a similar case due to thrombosis following syphilitic endarteritis.

SUTURE OF THE SCIATIC NERVE.

A MEETING of the Section of Surgery of the Royal Academy of Medicine in Ireland was held in the Royal College of Surgeons on February 3rd, with Sir WILLIAM I. DE C. WHEELER in the chair.

Mr. R. A. STONEY reported a case of division of the left sciatic nerve sutured by him four and a half months after a gunshot wound of the buttock received in 1917. The ends were separated by an interval of over one inch and the lower end carried forward into the muscles. Both ends were freed, freshened, and sutured with fine silk. Sensation had completely returned, even for light touch. There was still one inch of wasting of the thigh, and one and a quarter inches wasting of the calf. Movements of the knee were full and strong. Plantar flexion of the ankle and toes was strong, but there was no voluntary power of inversion, eversion, or dorsiflexion of the foot or toes, though the muscles of the anterior tibio-fibular and peroneal regions appeared well developed. The patient had given up wearing a drop-foot support for the last three years; he was able to walk several miles; occasionally he was troubled with blisters on the great toe, but this had been less marked recently. It was not till two years after operation that a slight contraction of the calf muscles could be felt on attempted movement of the ankle.

Mr. M. DOCKRELL had noticed that in many cases of foot-drop the tibialis anticus had been over-developed in comparison with the extensors of the toes, causing a tendency to inversion of the foot. Mr. A. CHANCE asked if this patient took special pains to keep his foot warm; warmth often prevented ulceration in these cases, as in infantile paralysis. Mr. MCCULLAGH found that after sciatic suture recovery was often favourable at first; then the tendo Achillis shortened and might require tenotomy. Mr. STONEY, in reply, said that the patient had worn a splint for a long period after operation, but had then refused to continue its use. This accounted for the laxity of the extensor group. He thought that ulceration of the sole of the foot was due to chilblains, as there was good sensation in this area.

Sir W. I. DE C. WHEELER showed two cases with stiff meta-carpo-phalangeal joints treated by Verrall's splint. In one case the man was still wearing the splint and extension tapes. In the second almost complete function was restored.

Mr. H. STOKES showed a case of myositis ossificans of the brachialis anticus. The patient had been wounded by a bomb splinter and afterwards kicked by a horse. Repeated attacks of inflammation occurred, leaving much scarring. A piece of bone, 2 in. by 3/4 in., was removed, but the *x*-ray photograph taken after the excision showed persistence of a dense shadow at the site of operation. Mr. W. PEARSON thought that the kick was responsible for the condition, as myositis ossificans was uncommon after gunshot wounds.

Mr. A. BLANEY showed a large spleen successfully removed from a case of haemolytic jaundice of the familial type. The fragility test was positive with saline at 0.6 per cent. dilution, and was unaltered by operation; there were notches in the anterior border of the spleen.

Mr. W. C. STEVENSON reported the results of a year's work with radium emanation, with a summary of 160 cases. Sir W. I. DE C. WHEELER, Dr. T. KIRKPATRICK, and Mr. W. PEARSON spoke of the excellent results obtained by Mr. Stevenson in cases they had sent him, and considered that he claimed too little for this mode of treatment. Dr. KIRKPATRICK instanced a case of chronic syphilitic enlargement of the tongue with induration, which was the cause of great pain. Complete excision was considered; antisyphilitic treatment gave no relief, but the radium treatment almost immediately relieved the pain. Sir W. I. DE C. WHEELER referred to the improvement in inoperable prostatic cases. Inoperable cancer of the rectum, too, sometimes became operable after radium treatment. Dr. M. HAYES spoke of the danger of producing telangiectasis in effecting depilation by means of radium.

Mr. W. PEARSON showed a case of a boy where necrosis of the proximal phalanx had left a flail thumb. A piece of rib was grafted between the metacarpal and the distal phalanx, resulting in a stiff but opposable thumb; the grip was good. Radiograms of the thumb were shown. Mr. MCCULLAGH said that he had transplanted an index finger to replace a lost thumb. The patient had afterwards complained that though the thumb was movable, it was too weak to allow him to use it for heavy labour, and requested its removal. This operation should be reserved for cases carefully selected in regard to occupation.

DEMONSTRATION OF ARTIFICIAL LEGS.

AT a meeting of the Edinburgh Medico-Chirurgical Society on March 1st, Sir ROBERT W. PHILIP presiding, Mr. C. W. CATHCART, F.R.C.S., showed a number of maimed soldiers wearing artificial legs, demonstrating in each case the level of amputation, the artificial limb that had been fitted, and a walking test. Before the war artificial limbs had been stereotyped, and little progress was being made; but the war had stimulated improvement. On the whole the best artificial legs now made were those of the American Rowley firm. Previous experience had shown the difficulty of fitting an artificial appliance to a Chopart amputation, and though the latest model was a considerable improvement, this amputation was inferior to the Syme amputation. The former reputation of the Syme operation had been confirmed by the late war, and the new type of leg suitable for this amputation was lighter and less cumbrous than the old. Amputation a little higher than the Syme nearly always gave trouble; a patient was shown in whom re-amputation at a higher level was found necessary and had given a good result. Where, therefore, the Syme operation was not available, amputation a little below the middle of the leg should be performed. Amputation a little below the knee, leaving a short stump of tibia about four inches long, had been condemned by the War Office memorandum. But he disagreed, for this operation retained the attachments of the thigh muscles below the knee and so secured the muscular control of the knee-joint. Even if the leg stump were less than four inches in the bent position, it provided a good support, besides retaining the great benefit of muscular control. Disarticulation at the knee-joint had also been officially condemned; but, using a leather bucket in the artificial limb, he had had satisfactory results with it; and in his experience it was a better operation than the Gritti-Stokes, the stump of which bore the weight well only in a few cases. A better operation than either disarticulation at the knee-joint or the Gritti-Stokes operation was amputation of the thigh at the junction of the middle and lower thirds. Patients illustrating these various sites of operation were shown; also two of amputation at the hip-joint or immediately below. In these higher operations the Rowley device of a pulley and a cord passed over the shoulder was demonstrated; by this the man as he walked hitched his shoulder (an imperceptible movement) and so produced an artificial extension and control of the knee. He finally demonstrated the Beaufort artificial limb, introduced many years ago by Count Beaufort, but which had remained almost unknown and unused in this country until now. In walking with this the patient had no movement, either at knee or ankle, and yet a smooth progression was achieved by rolling over a curved sole. This artificial limb had the simplicity of genius; it was effective, it was much lighter, and it was very much cheaper than other artificial limbs.

Professor F. M. CAIRD, speaking of the pendulum of fashion in surgery, mentioned how the Syme amputation stood high in credit in America after the Civil War, had thereafter fallen into disrepute, but had after the recent war recovered its former position. He recalled Mr. Cathcart's early and unsuccessful advocacy of the Beaufort limb; he was glad that he had now been able to demonstrate its value. Sir DAVID WALLACE said that the late Professor Annandale was more concerned in getting a good stump than in saving an inch or two of length, and this was a sound principle. Another point of importance was to keep the stump in good condition by a provisional limb until the permanent limb could be fitted. He had admired the walking of these patients over a smooth floor; but how did they get on over a rough or a sloping surface? He quoted the case of a patient of his own who, possessing both the old-fashioned peg leg and an artificial limb, preferred the former as more generally effective. Mr. CATHCART, in reply, said he did not disapprove of the peg leg, but its disadvantages were that it sank in mud or soft ground, that it wore out more quickly, and also made it more difficult for a man to find and keep employment than the artificial limb.

Internal Strangulation of the Bowel.

Professor F. M. CAIRD presented an analysis of twenty-three cases of internal strangulation of the bowel caused by bands, adhesions, and kinks. The cases were consecutive and covered a period of twenty years; fifteen were male and eight female, and the average age was 40; there were eleven deaths. Dealing with the symptoms and their comparison with those of

strangulated hernia, he spoke of the difficulty of diagnosis. It was fatal to delay until diagnosis could be made accurate; and it was very important that the general practitioner should send these cases earlier to the surgeon for exploratory laparotomy. He had divided his cases into the following groups: Bands of fibrous cords allowing herniation and then strangulation of a loop of bowel (two cases); bands producing a solitary constriction (nine cases); multiple constrictions, generally by omental tags which often had become unloosed at the operation (three cases); a mixed group, adhesions alone, or adhesions combined with constricting bands (eight cases). In fifteen cases the site of obstruction was the ileo-caecal region. Treatment might be very simple, consisting merely in division or release of the constricting band; but in the cases of difficulty it was directed first to the constricted area, and next to the distended proximal bowel. Various procedures—invagination of a damaged patch by Lembert sutures, enterotomy, enterostomy, enterectomy with primary suture or Paul's tubes—were discussed. It was very difficult to give general rules, and each case must be dealt with on its merits. But when he was doubtful of the vitality of the constricted area, or of the peristaltic vigour of the proximal bowel, he advised enterectomy, first dividing the bowel between clamps and freeing the mesentery; next carrying this length of intestine over the flank and free of the peritoneum, and thoroughly emptying the proximal bowel; then dividing above and performing an end-to-end suture.

Sir HAROLD STILES said that the high mortality in these cases was not the fault of the surgeon, and could be reduced by the general practitioner sending the patients sooner to hospital. The results were better where the bowel did not require enterostomy but could be put back. In doubtful cases his method was to empty the proximal bowel by taking a long loop of intestine well out of the abdomen and over the flank, tilting the patient and doing enterotomy, thus avoiding soiling of the peritoneum. Mr. D. P. D. WILKIE said that experimental research showed that the toxic products in the distended bowel were not bacterial toxins, but proteoses and toxic products of digestion. The cases that died had distended floppy jejunal coils, showing the necessity of a thorough emptying of the small intestine from the duodenum downwards in every case, and reserving enterostomy for the late and severe cases.

TREATMENT OF HYPERTHYROIDISM.

A MEETING of the Liverpool Medical Institution was held conjointly with the Manchester Medical Society on March 2nd, the President, Dr. J. HILL ABRAM, in the chair.

Professor G. R. MURRAY of Manchester read a paper on the treatment of hyperthyroidism and exophthalmic goitre. He stated that the cases in which hyperthyroidism occurred might be divided into three groups: (1) Simple hyperthyroidism, (2) toxic adenoma with hyperthyroidism, (3) exophthalmic goitre. The determination of the basal metabolic rate was helpful in determining the severity of the malady and the progress of treatment. In simple hyperthyroidism surgical treatment was not required, as medical treatment sufficed. In toxic goitre partial thyroidectomy was required if the trachea was compressed or if the toxic symptoms were marked. In mild cases, or in those in which operation was contraindicated, the hyperthyroidism could only be treated by medical means. In exophthalmic goitre medical treatment should be tried for six months. This consisted of rest, suitable diet, medicinal treatment with the use of *x* rays or radium. The importance of diet had been shown by the work of Dr. Chalmers Watson, Colonel McCarrison, and Professor and Mrs. Mellanby, though we could not without further evidence assume that these experimental results could be immediately applied to the treatment of the malady in man. The chief difficulty arose in selecting those moderate and severe cases most suitable for surgical treatment. The advantages were: (1) The saving of time by the rapid reduction of the hyperthyroidism and the relief of symptoms; (2) the diminution of the risk of injury to the myocardium; (3) the complete and rapid recovery in some cases. The disadvantages were: (1) The risk to life; (2) the uncertainty of the ultimate result owing to the difficulty in determining the extent of operation suitable in each case; (3) the tendency to relapse a year or more after operation.

Mr. GARNETT WRIGHT of Manchester read a paper on the surgical treatment of gastro-jejunal ulcer. After a short review of the theories concerning the causation of jejunal ulcer in which the persistence of the original cause of the ulceration was emphasized, he read a short account of seven cases which had come under his care. The methods of surgical treatment adopted were classified under the following heads: (1) Local excision of the ulcer; (2) undoing the gastro-enterostomy and the formation of a fresh anastomosis; (3) partial gastrectomy; (4) undoing the gastro-enterostomy and restoration of the normal channel if necessary by a plastic operation. Of these methods, the last was considered to hold out the best prospects of a permanent cure.

Dr. J. GRAY CLEGG of Manchester read a paper on visual fields in lesions of the nervous system. Of 20,000 private patients he had made a charted record of the fields of some 900 individuals—that is, about 4.5 per cent. of all patients. He confined his attention to those connected with affections of the nervous system. After showing slides illustrating the visual paths and centres, charts of the defects noted in papilloedema as such, those in primary optic atrophy and retrobulbar neuritis were exhibited. There were several diagrams of the results of trauma of the optic nerve, of which two showed entire loss of an altitudinal half of the field, one a central absolute, and another a paracentral absolute scotoma. Various effects of pituitary disease were described. He also produced hemianopic fields; those of right-sided loss were associated with mind blindness in one and word blindness in two. Quadrant anopsia was shown twice, once of an inferior and once of a superior type. He had also come across one case of hemichromatopsia and word blindness. Another remarkable field presented a small remaining central area of sight after a left hemianopsia in 1903 and a right hemianopsia in 1911. An interesting case was that of a patient with inferior altitudinal hemianopsia affecting both fields. One illustrated the changes in a case of tumour of the left auditory nerve. Lastly, the peculiarities of fields of vision in the psychoneuroses were exhibited.

Reviews.

BLAND-SUTTON'S "TUMOURS."

THE first edition of Sir JOHN BLAND-SUTTON'S *Tumours, Innocent and Malignant*,[1] appeared as long ago as 1893. The seventh edition, which has just been issued, retains the fascinating interest and personal touch of the first. Another attractive feature that has always characterized this work is the broad outlook, the product of the author's early studies on comparative pathology. One of the difficulties attendant on keeping a popular book up to date—and this, it need hardly be said, has been efficiently done—is to prevent the size from becoming unwieldy. The new volume contains sixteen pages more than the previous edition and the same number of figures, but twenty of these illustrations have been changed, so that, in spite of alterations necessitated by recent research, the size and general character of the volume remain much as before.

A noticeable change, however, is the omission of the chapter on endotheliomas, the contents of which, such as the mixed tumours of the salivary glands and psammomas, are dealt with elsewhere; the latter appear under the heading of epithelial tumours of the meninges, in a chapter which occupies the position in the book previously given to the consideration of endotheliomas. Sir John Bland-Sutton, as our readers know from the lecture published in February, considers psammoma to be a compact cluster of arachnoid villi infiltrated with cholesterol, and, like a calcified fibromyoma of the uterus, a dead tumour, though it generally wrecks the life of the patient by damaging the brain or spinal cord. The author thus appears to share the view of Dr. G. W. Nicholson—among others, it was the opinion, very vigorously expressed, of Professor Sharpey, the "father of British physiology"—that the term endothelioma should be consigned to oblivion, and it is perhaps for this reason that the question is not discussed, though the terms perithelioma and endothelioma are just mentioned in connexion with some growths of the breast and of the choroid coat of the eye respectively.

[1] *Tumours, Innocent and Malignant.* By Sir John Bland-Sutton, LL.D., F.R.C.S. London, New York, Toronto, and Melbourne: Cassell and Co. 1922. (Demy 8vo, pp. 806; 383 figures. 30s. net.)

INFECTIVE DISEASES.

OF the thirty-two volumes of the *Traité de Pathologie Médicale et de Thérapeutique appliquée*, edited by ÉMILE SERGENT, RIBADEAU-DUMAS, and BABONNEIX, the fourteenth to appear is that on *Infections à germe connu*,[2] containing sixteen articles by Professor Hutinel and seventeen collaborators. Other volumes of this series on parasitic and on unknown infections, on tuberculosis and on syphilis have already been published. The present instalment contains articles on a few tropical diseases, such as yaws, plague, and cholera, but it would seem more convenient for the reader to have had all these diseases collected together into one or more volumes.

In an introductory article Hutinel and Darré give a general sketch of the problems of infection, such as immunity, the clinical manifestations, which are divided into the general, local, and visceral symptoms, and specific treatment. The typhoid infections are considered in forty-seven pages by Lenglet, Ayrignac, and Brulé, with a note on psittacosis and the salmonelloses; the group of infections included under the salmonelloses, after Salmon, who, in 1886, described the first of them, includes paratyphoid B, Danysz's virus, the septicaemia of calves, and others. Philibert is responsible for the articles on septicaemias of various kinds, including meningococcaemia, and on facial erysipelas; Fochier's fixation abscess, induced by the subcutaneous injection of 2 c.cm. of turpentine, has given good results in septicaemia, but in some instances suppuration does not follow this injection and then the outlook is particularly dark; the intravenous injection of specific serums and vaccines is firmly discountenanced. In the section on cerebro-spinal fever (Baur of the Val-de-Grâce) special attention is directed to the untoward effects of intrathecal injection of serum—namely, seric meningitis—in which the cerebro-spinal fluid, though containing pus cells, is free from meningococci, and anaphylactic manifestations, which fortunately are rare and should with care not occur. Lemierre gives a comprehensive sketch of tetanus, and naturally refers to its occurrence in the great war. Writing on Malta fever, H. Roger of Marseilles says that, as the British Government protested against this name for a disease that is far from being confined to that island, the Académie de Médecine of Paris has proposed the names melitosis, or preferably melitococcaemia. As regards the specific treatment, vaccines are recommended for the afebrile periods of the subfebrile forms and serums for cases with high fever and acute paroxysms.

In a copiously illustrated article on leprosy Ameuille describes and figures the early evidence, pointed out radiologically by Colombier, of bony atrophy of the terminal phalanges of the toes; he speaks with wise reserve of the therapeutic value of Deycke s nastine or the ethereal extract of the non-pathogenic *Streptothrix leproides* cultivated from a leproma. The volume concludes with accounts of some tropical diseases, such as Oroya fever and verruga. In the well-illustrated article on yaws the condition of goundou, originally described in 1882 by the late Professor A. Macalister as "the horned men" of Africa, is included, as urged by Chalmers and by Nell, among the tertiary lesions.

The volume can be confidently recommended as a clearly written and up-to-date summary of the infections of known origin.

WORMS AND APPENDICITIS.

DR. REINDORF'S monograph[3] presents an account of his observations, made during the past ten years, of several hundreds of cases of appendicitis, in which the appendix contained oxyuris. His material is derived chiefly from civilian hospital practice, but also from the German army during the war. It contains evidence of much painstaking research, and of careful and original thought. The reader gains the impression that while Dr. Reindorf is possibly influenced by enthusiasm as well as facts in his general conclusions, his subject probably deserves more attention than it has received.

The first section deals chiefly with the literature relating to the occurrence of intestinal worms in the appendix. It is interesting, and apparently very complete.

In the second section the histo-pathology of primary ulcers caused by the oxyuris is accurately described, and the assertions in the text are well borne out by excellent microphotographs of his preparations. He shows that where the parasite lies in contact with the epithelium of the mucous membrane of the appendix an ulcer develops. This he attributes chiefly to toxins produced by the worm, and partly to its mechanical pressure and boring action. The occurrence of ulceration is dependent on a serological reaction, of anaphylactic nature, between host and parasite. These defects are quite typical, and can be attributed with certainty to oxyuris, even when the parasite is not present at the time of examination. The worm may penetrate deeply into the lymphatic tissue, and even through the muscular and serous coats, though the latter occurrence is extremely rare. These "oxyurendefekte" have been regarded by some as artefacts. Dr. Reindorf proves they exist during life, chiefly on the evidence of epithelial regeneration. The trichocephalus also bores into the mucous membrane of the appendix. The ascaris fills up the appendicular lumen and produces extensive epithelial lesions, presumably by toxic action, but its presence in the appendix is extremely rare.

The third section is devoted to the clinical aspect of the subject. Pain, in its mode of onset, character, duration, and sites, presents no features distinguishing it from that produced by the commonly recognized types of appendicitis. It is considered to be due to the action of the oxyuris toxin on the vagus and sympathetic nerve endings in the appendicular wall; it may be very severe with a minimum of anatomical disturbance. If the appendix alone is infected, appendicectomy causes the pain to disappear; but if the colon is also infected it may persist. The temperature in these cases exhibits no characteristic features; it is extremely variable in relation to the severity of the lesion, as in all types of appendicitis. The presence of worms in the appendix does not always cause symptoms (13 per cent.), and the symptomless oxyuris carrier is compared to the carrier of potentially pathogenic organisms. Dr. Reindorf believes that the individual susceptibility in both cases, and the varying susceptibility of an individual from time to time, are referable to serological conditions. The differential diagnosis is discussed briefly, but it is suggested that most "obscure" abdominal conditions—for example, mobile kidney, mobile caecum, hysterical pains, etc.—are to be traced to oxyuris infection. Gross infection constitutes only 4 per cent. of all cases. In the remaining 96 per cent. there are only a few worms—often only one. The male is practically invisible when embedded in mucus. To these conditions the author attributes the almost universal failure to observe the parasite except in the rare cases of gross infection. This section includes tables of cases, setting forth the main points, as well as detailed histories.

In the fourth section the pathogenesis of appendicitis is discussed. All appendicitis, with the exception of the superficial catarrhal form, is, the author thinks, due to primary ulceration, followed by secondary bacterial infection. The oxyuris is considered to be by far the commonest cause of primary ulceration, while trichocephalus is variable and ascaris very uncommon. Primary ulceration may be due to tuberculosis, typhoid fever or dysentery, concretions, foreign bodies, or rare parasites such as *Distomum haematobium*, but all these are uncommon as compared with oxyuris. The occurrence of primary infection without antecedent ulceration is emphatically denied.

Two types of oxyuris appendicitis are recognized: (*a*) The superficial catarrhal form, due to the toxic products of the worm alone, causes desquamation of the epithelium, transudation of serum, leucocytic infiltration, and toxic haemorrhages in the submucous tissue; (*b*) secondary bacterial infection of ulcers caused by the worm may lead to consequences varying between chronic fibrosis and perforation, with general peritonitis. In many cases which recover spontaneously such conditions as kinks, adhesions, and stenosis result, and lead to further inflammatory developments later; but Dr. Reindorf insists that in almost all these cases oxyuris infestation is the ultimate cause. In 50 to 60 per cent. of his cases operated on for appendicitis in children the appendix contained oxyuris, in adults 25 to 30 per cent., while in a much higher percentage evidence of worm ulcers and remains, such as portions of cuticle or parasite's eggs, showed the true causal factor. Dr. Reindorf thinks the worms often leave the appendix on account of inflammatory changes and raised local temperature. An excellent account is given of the morbid anatomy of the infected appendix. A rare case of actual perforation by the parasite is cited. The spread of infection from the primary ulcer by the lymph stream is

---

[2] *Traité de Pathologie Médicale et de Thérapeutique appliquée.* Publié sous la direction de Emile Sergent, L. Ribadeau-Dumas et L. Babonneix. Tome XV: *Infections à germe connu.* By various writers. Paris: A. Maloine et Fils, 1921. (Demy 8vo, pp. 625; 104 figures. Fr. 30.)

[3] *Die Wurmfortsatzentzündung.* Von Dr. A. Reindorf. Berlin: S. Karger. 1920. (Roy. 8vo, pp. 244; 52 figures.)

discussed, as is the occurrence of intramural abscess. The infective agent may not be arrested before the meso-appendix is reached, and the unexpected onset of post-operative peritonitis or wound infection, where an apparently normal appendix has been removed, is explained by the division of infected lymphatics. Appendicitis due to foreign bodies is estimated at 1 to 2 per cent. The appendix normally fills along with the caecum and is quite capable of emptying itself, but such bodies as fish-bones, bristles, or enamel splinters may stick and cause ulceration and secondary infection. Dr. Reindorf believes that a concretion never causes pain. Very rarely it may cause direct pressure ulceration, or indirect ulceration by obstruction, followed by retention of secretion and empyema. The very common association of oxyuris with concretions (50 per cent.) suggests that there is an etiological relationship—the fibrosis induced by a chronic worm infection favouring the development of a concretion.

In the fifth section percentage figures are given of the incidence of oxyuris, trichocephalus, and ascaris, derived from *post-mortem* examination of soldiers of the European nations engaged during the war. Statistics are quoted also from the literature of those he had not the opportunity to examine. Oxyuris was present in 9 to 25 per cent. of all cases. Of all infected cases the parasite was found in the appendix in 59 per cent. Trichocephalus infection was more common, but its presence in the appendix relatively less frequent. Ascaris infection was common, but it was not observed in the appendix. On the ground of the high percentage of oxyuris infection among soldiers, Dr. Reindorf prophesies a considerable post-war increase in appendicitis.

In the sixth section some suggestions as to the prophylaxis of appendicitis will be found. More research is required as to the action of anthelmintics, and as to whether they reach worms in the appendix. The extreme difficulty of clinical diagnosis is discussed. An active campaign against the oxyuris is recommended, and it is thought that a great advance would be effected if the importance of the question were generally recognized by the profession. Much could be done by the medical school inspector, and pamphlets dealing with the subject might be circulated among parents of school children. It is emphatically stated that in the presence of symptoms of appendicitis, even of a mild degree, anthelmintic treatment is unjustifiable, and early operation is strongly advocated.

It is unfortunate that this excellent material has not been presented in a more accessible form. The sequence of thought in the book is bad—one might almost say it is not arranged. There is excessive and quite unnecessary repetition. One regrets that so much space is devoted to the discussion of priority of publications, and to the detailed histories of various debates in which the author has been engaged during the past ten years. A scientific monograph is not a fit place in which to air his personal grievances against his opponents; and his criticism of their opinions often assumes an unpleasantly personal character. The book is interesting and suggestive, but it will tax the reader's patience considerably.

GRAVES'S DISEASE.

DR. CASSIO DE REZENDE has published in a small volume an interesting little essay on the etiology and treatment of Graves's disease,[4] which he presented to the National Academy of Medicine of Brazil in support of his claim to be elected a corresponding member. He first discusses the various theories which have been proposed to explain the pathogenesis of the disease, such as bulbar neurosis, hyperthyroidism, stimulation of the sympathetic system, pluriglandular disturbance, and intestinal intoxication; he dismisses all of them as unsatisfactory, and advances the hypothesis that it is an infection. This theory, he thinks, explains almost if not all the symptoms, and reconciles certain apparently contradictory facts. Graves's disease he describes as a chronic morbid process, presenting intervals of quiescence which are not infrequently complete, alternating with periods of acute exacerbation. How, he asks, is this fact to be explained except on the supposition of an internal parasite which, in the course of its evolution, also presents phases of attenuation and increased virulence? The occurrence in Graves's disease of ophthalmoplegia similar to that met with in syphilis, diphtheria, influenza, and lethargic encephalitis, and the occasional presence of fever like that observed in syphilis, are further manifestations of infection. Moreover, the numerous lesions of different kinds found in the various organs after death and the changes in the blood are, he thinks, precisely those met with in infectious processes. The successful action of two drugs, arsenic and quinine, whose only point of resemblance is their parasiticidal action, is used as a further argument in favour of the infective origin of Graves's disease. The author concludes by advocating the use of antimony salts in the form of tartar emetic intravenously, as they have been found of even more value than arsenic in the treatment of protozoan infection. Dr. de Rezende shows a remarkable familiarity with modern English medicine, which is as gratifying as it is rare in foreign writers.

[4] *Ligeiras reflexoes sobre a etiopathogenia e o tratamento da molestia de Graves.* Memoria apresentada á Academia Nacional de Medicina pelo Dr. Cassio de Rezende. Guaratingueta, S. Paulo, Brazil. 1921. (Demy 8vo, pp. 40; 5 illustrations.)

TREATMENT OF FRACTURES.

FOR the new edition of Mr. E. W. HEY GROVES'S book, *On Modern Methods of Treating Fractures*,[5] the text has to a great extent been rewritten. The bulk of the book has thereby been greatly increased, but its value has also been increased. Since 1916, when the first edition appeared, experience of the treatment of fractures, more especially of the various complicated injuries following gunshot wounds, has grown greatly. In the first edition perhaps undue prominence was given to the various forms of open operation, to the exclusion of the more generally applicable methods of extension and splinting. In the present volume no claim is made for any one system, but it is clearly shown that the various methods of treatment should be used as occasion requires. Perhaps the most interesting section of the book is that which embodies the author's Jacksonian essay on bone-grafting. It gives a digest of the work of the various pioneers, and describes much original work carried out by the author himself. The increase in the size of the book is in part due to the introduction of detailed accounts of the treatment of the fractures of the upper and lower limbs. It should perhaps be pointed out that no systematic account is given of the various fractures themselves and their displacements; this knowledge, it is presupposed, has already been gained from clinical experience or from one of the various textbooks on surgery. It is satisfactory to find that the author condemns the almost criminal practice of plating a septic compound fracture.

Perhaps the outstanding fact to be learnt from the book is that in order to get good results in the operative treatment of fractures, either by plating, bone-grafting, or pegging, the operator must be a really skilled carpenter. It would almost seem necessary for the surgeon to spend at least a year in a workshop gaining skill as a cabinet maker! However this may be, it is right to lay emphasis on the point that complicated operations on fractures are not to be undertaken light-heartedly. Many of the procedures, which in the author's hands give excellent results, require such technical skill that they will probably never gain favour with the general surgeon. Possibly the day may come when the treatment of the more complicated fractures will be undertaken by a "fracture specialist."

The book is excellently illustrated with diagrams and reproductions of skiagrams. It should prove of great interest as a scientific and up-to-date treatise on the subject.

A POCKET SURGERY.

MR. D. C. L. FITZWILLIAMS'S new book[6] is a frank attempt to confine the whole realm of examination surgery within a small compass. It is possible that his book may become famous, as did the "Breeches" and "Treacle" Bibles, from a remarkable statement. On p. 17 it is said that anthrax has lately "been imported from Japan very largely in the thistles of shaving brushes"!

The book has a good deal to recommend it, as it is more than an abstract of some well-known textbook. It bears the impress of a vigorous personality, and, brief though the descriptions necessarily are, the author succeeds in interesting his readers.

[5] *On Modern Methods of Treating Fractures.* By E. W. Hey Groves, M.S., M.D., B Sc.Lond., F.R.C.S.Eng. Second edition. Bristol: J. Wright and Sons, Ltd. London: Simpkin, Marshall, Hamilton, Kent, and Co. Toronto: The Macmillan Company of Canada, Ltd. 1921. (Roy. 8vo, pp. xix+435; 295 figures. 30s. net.)

[6] *A Pocket Surgery.* By D. C. L. Fitzwilliams, C.M.G., M.D., Ch.M., F.R.C.S.Edin. London: Edward Arnold. 1921. (Cr. 8vo, pp. 348. 10s. 6d. net.)

All such manuals as this are apt to leave the reader a little breathless after his rapid chase from cover to cover. Students, however, seem to like their cram books just like that, and we can assure them that Mr. Fitzwilliams will lead them on no false scents.

NOTES ON BOOKS.

THE new number of *Brain*[7] (Vol. xliv, Part IV) is larger than usual, containing, as it does, over 240 pages, without counting the title-page and index to the volume. It opens with a paper by Professor Harvey Cushing, of Harvard, on the field defects produced by temporal lobe lesions. It contains also a long paper by Dr. George Riddoch and Dr. E. Farquhar Buzzard on reflex movements and postural reactions in quadriplegia and hemiplegia, with especial reference to those of the upper limb; a paper by Dr. Ramsay Hunt, of New York, on primary atrophy of the dentate system (a contribution to the pathology and symptomatology of the cerebellum); and one by Dr. F. M. R. Walshe, of the Medical Unit, University College Hospital, on disorders of movement resulting from loss of postural tone, with special reference to cerebellar ataxy. The proceedings of the Section of Neurology of the Royal Society of Medicine are reported, and there are the usual notices of recent publications.

The eighth edition of Mr. J. F. BINNIE'S *Operative Surgery*[8] differs only slightly from the seventh, which appeared five or six years ago; several additions have been made to the chapters on thoracic and plastic surgery. Perhaps the most noticeable feature of the book is the space devoted to the rarities and complications met with in operative practice. The volume is a mine of information; no operative measure ever made use of seems to have escaped the author's notice. The book is, perhaps, not quite suitable for the junior student, but it should often prove a valuable work of reference in those frequently occurring cases about which nothing can be discovered in the ordinary textbooks.

We have received a number of fasciculi of a German work on diagnostic and therapeutic errors and their avoidance,[9] in which the commoner mistakes made in surgery, medicine, gynaecology, and ophthalmology are recorded and discussed. No single section of the work appears to be complete; it seems to be written for the use of specialists rather than general practitioners of medicine. The full title of only a single fasciculus—that dealing with diseases of the spinal cord and peripheral nerves—is given in the footnote.

The book by Dr. BREGMAN of Warsaw on sleeplessness and its treatment[10] gives a general account of the association of sleeplessness with disease, illustrated by cases quoted from his own practice. The last chapter of the volume gives an account of the many hypnotic drugs that may be used to promote sleep, together with the author's views as to their respective advantages and disadvantages, and contains much information of service to the practising physician.

A few articles by Mr. PIKE, which appeared in the *Practitioner*, have been gathered together to form a little book to which the author has given the novel and arresting title of *Permeating Mastoid Meningitis*.[11] There is nothing perhaps very original except the title, but if the writer succeeds in drawing the attention of practitioners to the most dangerous complication of disease of the middle ear he will doubtless have accomplished his aim. It is to be hoped, therefore, that the book will be widely read.

[7] London: Macmillan and Co., Ltd.; New York: The Macmillan Co. 1921. (Price 6s. net.)

[8] *Manual of Operative Surgery.* By J. F. Binnie, A.M., C.M.Aberd., F.A.C.S. London: H. K. Lewis and Co., Ltd. 1921. Eighth edition, revised and enlarged. (Roy. 8vo, pp. xvii + 1311; 162 figures. £3 3s. net.)

[9] *Diagnostische und therapeutische Irrtümer und deren Verhütung innere Medizin.* Herausgegeben von Prof. Dr. J. Schwalbe. Elftes Heft: *Krankheiten des Rückenmarks und der peripherischen Nerven.* Von Prof. Dr. R. Cassirer. Leipzig: G. Thieme. 1920. (Sup. Roy. 8vo, pp. 157; 1 figure. M.25.50.)

[10] *Die Schlafstörungen und ihre Behandlung.* Von Dr. L. E. Bregman. Berlin: S. Karger. 1920. (Roy. 8vo, pp. 141. M 12.)

[11] *Permeating Mastoid Meningitis: A Clinical Note for the General Practitioner.* By J. B. Pike, M.R.C.P., L.R.C.P.Edin. Bristol: John Wright and Sons, Ltd. London: Simpkin, Marshall, Hamilton, Kent, and Co. 1921. (Cr. 8vo, pp. 24. 1s. net.)

THE Instituto storico italiano dell' arte sanitaria was founded in 1920 to promote and organize the study of hygiene along historical lines, and to collect illustrative material in a museum and library. It has begun to issue a *Bolletino*, the first number of which opens with an article by Dr. Capparoni on Giovanni Battista da Vercelli, a nineteenth-century syphilologist. The general secretary of the institute is Dr. Pietro Capparoni, Via del Pozzetto 108, Roma 7.

MEDICINAL AND DIETETIC PREPARATIONS.

Pure Barium Sulphate.

WE have received from the British Drug Houses a specimen of barium sulphate as supplied by them for *x*-ray diagnosis, and have submitted the article to analysis, with results showing that it is a very pure product. By repeated exhaustion of the sample with water or dilute hydrochloric acid no solution of barium was obtained beyond the infinitesimal traces corresponding with the solubility of barium sulphate. It contained no impurity except a trace of alkali sulphate, and the proportion of this did not exceed 0.01 per cent. The protective action of alkali sulphate against dissolution of barium sulphate through the reactivity of the latter would be a valid reason for the sanction of a much more considerable percentage of alkali sulphate.

The material is neatly put up in a case of separate cardboard packages, each package containing four ounces of barium sulphate, the quantity usually required for a single meal; a leaflet gives directions for the preparation of the meal and memoranda on the average time of its passage to the different regions of the alimentary canal. The way in which the product is packed will make it very convenient for keeping a supply in reserve ready for use; barium sulphate stored in this form should prove a safeguard from the dangers of such accidents as have occurred from resort to ordinary commercial supplies.

New Season's Cod-Liver Oil.

Messrs. ALLEN AND HANBURYS have sent us a sample of the new season's cod-liver oil, recently received from their Lofoten factory. It is pale in colour, has little odour, and the fishy flavour is slight. They send us data showing that the acid value is low, and that the iodine absorption figure indicates a high content of unsaturated metabolized fat. They inform us also that the oil has been prepared with a minimum of exposure to conditions favouring oxidation, which, as is well known, are inimical to the preservation of the activity of the fat-soluble A vitamin. The preparation appears, therefore, to be one upon which the profession can rely.

RADIUM THERAPY.

II.

ANNUAL REPORT OF THE MANCHESTER RADIUM INSTITUTE.

A PREVIOUS article on radium therapy, dealing with the work of the London Radium Institute last year, appeared in our columns on March 4th (p. 356). The annual report of the Manchester and District Radium Institute for 1921 covers the work of a year which was regarded as a period of transition, and which has been an important one in the history of the Institute. In the original scheme, which came into effect at the beginning of 1915, there were eight participating hospitals, and their patients were received and treated at the Institute, which worked in premises within the Manchester Royal Infirmary. The work of the Institute steadily increased, and the accommodation at the infirmary was found to be inadequate. Throughout the period of its existence Sir William Milligan has acted as honorary secretary and treasurer of the Institute, and its success has owed much to his enthusiasm. Through the generosity of Sir Edward and Lady Holt, last year a building close to the Royal Infirmary was equipped and furnished as a hospital, and handed over to the committee of the Institute, which was transferred there. In this hospital have been provided thirteen beds, which are used solely for radium treatment, and there are also eight treatment rooms for patients receiving local applications, a well-equipped operation theatre and sterilizing room, research laboratories, a workshop, and other necessary accommodation. This complete hospital for radium treatment, as was noted in our columns at the time, was opened last October.

In his annual report of the Institute for 1921 the radiologist, Dr. Arthur Burrows, states that during the year 783 cases presented themselves, which shows a slight decrease from the previous year, due probably to the changes which have been mentioned. The physicist reports that 526 emanation plates and 1,281 emanation tubes were made during the year. Sixty cases of malignant disease, exclusive of rodent ulcer, were rendered free from signs and symptoms of disease during the year, including four cases of carcinoma of the uterus previously inoperable, which were rendered operable and the operation performed. As 564 malignant cases were treated, these 60 cases represent nearly 12 per cent. of the total number of cancerous patients seen, a proportion which is practically the same as in 1920. The

number of cases of rodent ulcer treated was 71, of which 36 were permanently cured; 24 non-malignant conditions were also cured. The total number of attendances of patients during the year increased from 5,424 in 1920 to 6,167, but this number does not include in-patient treatments.

Dr. Burrows includes in his report an analysis of 2,595 cases which were treated at the Institute between the years 1915 and 1919. This number excludes those who, although examined, did not present themselves for treatment and those who were so very advanced as to be hopeless even for palliative treatment. Of this total, 1,753 were suffering from cancer, 14 from papilloma of the bladder, and 14 from mediastinal tumour. In addition, 267 patients were suffering from rodent ulcer, and 575 cases suffered from various conditions which were usually described as non-malignant, although a considerable proportion of them would, if allowed to progress, have terminated in death. Dr. Burrows states that practically all the cancer cases, except those of cancer of the skin, were inoperable, with the exception of a very small number which were treated by radium for such special reasons as bad general health, failing heart, or diabetes. A certain number of cases of early carcinoma of the cervix of the uterus received prophylactic treatment immediately before operation. Under these conditions 135 of the patients are alive and well to-day, having lived from periods varying from two to seven years; this is equal to just over 7½ per cent. of the cancer cases treated, or 6¼ per cent. omitting cases of skin carcinoma, although a number of these were inoperable. Dr. Burrows points out that about 50 per cent. of the symptomatic cures—which are not claimed as "cures," but are often examples of excellent palliation—annually reported eventually recur.

TREATMENT OF CARCINOMA.

In regard to the treatment of carcinoma of the breast, 16 of the cases treated have been well for over two years (2 of them for between six and seven years), and one inoperable case was eventually operated on. More than half of the cases of carcinoma of the breast treated by radium were recurrences after operation. Of the cases of carcinoma of the cervix of the uterus treated, 8 previously inoperable were, subsequent to treatment, operated upon, and 13 have been well for over two years (including 2 who have been well for between five and six years); in a number of cases after the operation the growth of the uterus was found to have completely disappeared. Twenty-five per cent. of the cases of carcinoma of the lip have remained well for over two years, 2 of them for between four and five years. Dr. Burrows considers that carcinoma of the mouth and tongue is not a favourable condition from the radium point of view, owing to the rapid formation of secondary deposits. The use, however, of unscreened emanation tubes has improved results; in 29 of the cases treated the primary growth was caused to disappear, and 7 cases have been alive and well for over two years (one of them for between six and seven years). In carcinoma of the rectum it is uncommon to get a really good result, and palliation is the most that can be hoped for; but one patient has been alive and well for between five and six years, and another more recent case has been treated with success up to the present. Thirty-three cases of carcinoma of the skin, or nearly 25 per cent. of the total treated, have been alive and well for between two and seven years. Carcinoma of the thyroid gland is considered to be a favourable condition for radium treatment, and 4 cases have been well for over three years, 2 of them for between six and seven years. Of the cases of carcinoma of the vulva 4 have been well for over two years, one of them for between five and six years. The burying of unscreened tubes is believed to be the most hopeful method of treatment in these cases at present, but the reaction is apt to be extremely prolonged and painful. All the cases treated have been very advanced ones, and in Dr. Burrows's opinion surgery is likely to be a less painful method of treatment in early cases, while perhaps diathermy may obviate the difficulty in the matter of pain. In abdominal carcinoma, if there is widespread dissemination of the growth little can be hoped for from radium treatment. In two cases of carcinoma of the colon promising results were obtained, one case remaining without signs of growth for two years, but subsequently dying of a recurrence, while the other lived for three years in good health, eventually dying, according to the information received, of cerebral haemorrhage. Carcinoma of the stomach will often diminish in size for a time if tubes are buried in the growth, but no completely successful result has so far been obtained in Manchester.

TREATMENT OF SARCOMA.

In lymphosarcomas the immediate results of radium treatment, says Dr. Burrows, are often brilliant, but usually the disease spreads elsewhere and eventually kills the patient; two of these cases have been alive and well for between three and four years. Of the cases of sarcoma of the nasopharynx two have been alive and well for between six and seven years, and one for between two and three years. Spindle-celled sarcomata react very sluggishly to radium, and prolonged, not too violent, treatment for a long period is necessary. In the end, however, they appear to repay the trouble taken, for the prospect of cure appears to be much greater than in the case of the small round-celled type, which locally, under radium treatment, seem to melt away and subsequently recur.

TREATMENT OF OTHER MALIGNANT CONDITIONS.

Of the cases of endothelioma of the parotid gland, ten have been alive and well for over two years, three of them for over five years. This represents over 30 per cent. of the cases treated, many of them recurrences following operation, and this percentage of cures is so high as to suggest that radium is likely to be the treatment of choice in the future, especially because of the good cosmetic results. Dr. Burrows considers that no surgeon could operate on a case of endothelioma of the parotid gland without the help of radium, either for prophylaxis or in case the operation cannot be completed without destroying the facial nerve.

Most of the cases of papilloma of the bladder were advanced cases, and four of those which were treated have been alive and well for over two years, one of them for between six and seven years.

Of the patients suffering from rodent ulcer, 125 have now been well, after treatment, for a period varying from two to seven years. A very large number of advanced hopeless cases have been treated, but still 50 per cent. of all cases have been cured, and if properly treated recurrence appears to be rare.

TREATMENT OF NON-MALIGNANT CONDITIONS.

Fifty-two cases of exophthalmic goitre are recorded as cured; that is to say, all symptoms and signs of disease have disappeared for over two years, and only one recurrence is recorded. Much patience is needed in the treatment of these cases, for the application of radium is a long process, and the treatment may last from two to three years. The cases of Hodgkin's disease may be divided into those under 25 years of age and those who are middle-aged; the former give excellent results, but the middle-aged cases seem almost hopeless, except for palliation. Perhaps, suggests Dr. Burrows, they may be two different diseases. Keloid and vicious scars nearly always yield to radium treatment, and sixteen such cases have been cured, although some mark must always remain. Radium is stated to cure almost all cases of "spring catarrh," and appears to be the most satisfactory treatment of this disease. Fifty per cent. of the cases of cavernous naevus were cured practically without any mark remaining, and capillary naevi, says Dr. Burrows, can always be made paler, but if treatment is kept on too long telangiectases appear. For excessive uterine haemorrhage radium is stated to be a specific. The Institute records only one failure in this condition, and that patient did not submit to a second application. If by using a small dose the risk of the necessity of a second application of radium is taken, with young women menstruation often returns to normal, and cases are recorded in which they have married and had children subsequently. A good proportion of lupus vulgaris cases, if not too advanced, can also, it is stated, be cured by radium, contrary to general expectation.

THE Calcutta Medical College students recently decided, as a protest against the present Government policy, to suspend duty in hospital and attendance in classes.

IT is reported from Washington that Dr. Hubert Work, president of the American Medical Association, who at present holds the office of First Assistant Postmaster-General, is the probable successor as Postmaster-General of the United States to Mr. Will H. Hays, who is resigning to become the head of the cinematograph industry of the United States at a very large salary.

HOSPITAL POLICY.

III.

THE CONTRIBUTORY SCHEME IN OXFORD.

[DR. WILLIAM COLLIER, honorary consulting physician to the Radcliffe Infirmary and County Hospital, has been good enough to send the following account of the Oxford contributory scheme.]

In the SUPPLEMENT of February 25th appeared a report on the organization of voluntary hospitals, with reference in particular to the reception of paying patients, and the position at the hospital with which I am associated may be of interest in regard to this, although our hospital happens to be in a more fortunate position than most. During the past year the whole finances of the hospital were placed on a better basis by generous support from all classes of the public. The administration and organization of the whole scheme of financing have been revised and greater efficiency and economy in working were effected. The hospital is one of the few in the country that have had a balance in hand on the year, and it appears as though it will not have to ask for any grant from the regional court appointed under the terms of the Voluntary Hospitals Commission. In addition, it must be one of the few hospitals in the country that have taken on a great deal of new work during the year—a maternity home with a resident physician having been added, a new convalescent home equipped, and a preliminary training school for nurses opened. All this has been achieved by the aid of a new scheme of weekly contributions, covering the whole district within range of the hospital. In an area that is mainly agricultural, without large towns, but dotted with prosperous market towns and villages, over £17,000 was raised in the year in twopenny contributions; and in other ways, mainly from the working classes and by entertainments, a total of over £25,000 in new money was received, being an increase of about £20,000 on the previous year's income, the total income this year being just over £41,000.

The report of the council on voluntary hospitals states that in schemes for providing hospital benefit it is undesirable that the hospitals concerned should undertake any insurance risk, or, in other words, undertake to provide hospital benefit when required in return for a periodic payment by an individual or a group of individuals. It goes on to state that the acceptance by voluntary hospitals of insurance risk under any scheme for the provision of hospital benefits would prejudice the primary consideration in the admission of a patient to hospital—namely, the suitability of the case for admission on medical grounds, and also, in the event of the actuarial estimates proving faulty, it would render the hospitals liable to meet outlays for which there was no financial provision. It suggests that in any contributorial scheme, the presence, limitations, or absence of a contractual obligation for the provision of hospital and additional benefits should be plainly stated to the contributors. The scheme at this hospital implies no contract on the part of the hospital to provide such institutional benefit as the subscribers may require. Under its provision a weekly contribution of 2d. exempts the contributors from the patients' payments due from non-contributors. In the case of married people, where the husband and wife each subscribe 2d. a week, their children are also entitled to treatment up to wage-earning age, and from then until they are earning adult's wages each child pays 1d. a week. The children of a widow or widower are also entitled to treatment up to wage-earning age on the 2d. contribution of their parent. Non-contributors are required to contribute towards their maintenance in the hospital, but no payment is required from old-age pensioners or others quite unable to pay.

It is definitely pointed out on the card which is issued to all subscribers of weekly contributions that every case must be accepted by the physician or surgeon of the hospital as suitable for hospital treatment. Contributors are specially requested to bring a letter from their doctors. It is pointed out that it must be clearly understood that only those who, owing to the gravity of their illness, and on account of their financial position, are unable to obtain adequate medical and surgical treatment, are entitled to attend at the hospital. The hospital strives by every means in its power to prevent all abuse, and up to the present we have had only one complaint from a doctor in the area that his practice had been injured. On the other hand, members of the staff are frequently urged by medical practitioners in the neighbourhood to admit patients who are seriously ill or require an immediate operation. We have established 270 hospital aid committees in the villages and thirteen in the market towns. These committees arrange for the collection of the payments and remit them to our hospital once a quarter. We know that we have now some 4,000 helpers, directly interested in our hospital, knowing something of the work it is doing, and most anxious to keep it in full working order. Had we not started this scheme we should have been compelled to close down more than half our beds for want of funds. The question of a staff fund has been carefully considered by the staff and unanimously and emphatically rejected.

IV.

ARRANGEMENTS IN BRISTOL HOSPITALS FOR RECEPTION OF PAYING PATIENTS.

[FOR the following contribution we are indebted to Dr. J. A. Nixon, C.M.G., physician to the Bristol Royal Infirmary, who has had valuable assistance, in checking the information, from Mr. E. C. Smith, the secretary of that institution.]

The Report on the organization of voluntary hospitals and the reception of paying patients, published in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of February 25th, will shortly be considered by the Divisions, and then again by the Council before its presentation to the Annual Representative Meeting. The following account of measures adopted last year in Bristol contains data that may be of general interest and prove useful in future discussions. In May, 1921, the Governors of the Bristol Royal Infirmary and General Hospital adopted a scheme for the admission of paying patients to the two voluntary hospitals. The scheme, which came into operation on July 1st, was a uniform one, agreed to by the committees and staffs of both institutions after a series of conferences held in common.

All in-patients with the exception of really necessitous cases should be asked to pay one guinea per week towards the cost of their maintenance. All out-patients and casualties, except the necessitous poor, should be asked to pay a registration fee of sixpence per attendance, and also an extra sixpence for medicines or dressings when supplied, and a special charge should be made for treatment by *x* rays, electricity, massage, etc., according to cost.

Each institution should appoint its own almoner or inquiry officer. The medical staffs, realizing that the adoption of this scheme involved a fundamental change in the conditions under which they would be working, made a definite offer to alter the terms of their service, and this offer being accepted by the governors constitutes a new and definite contract between the governors and the staffs. The offer was as follows:

In order to enable the governors to bring into operation the proposals for the admission of paying patients, the honorary staff desire to offer their gratuitous services to all patients who are found after inquiry by the almoner to be unable to pay more than the cost of their maintenance. But in the case of patients whose payments are defrayed by public authorities or approved societies the honorary staff will attend and treat such patients in consideration of an agreed percentage of the gross payment received by the hospital being allocated to and paid into a fund which shall be administered by the honorary staff.

The plan has been working for a little more than six months. The effects at the Royal Infirmary have been analysed carefully. As regards the admission of in-patients, no perceptible variation has been recorded; the number of out-patients may have declined a little, but as previous records deal with a full year instead of six months, the secretary is inclined to think that there will be no material alteration in a year's totals. The casualties and emergencies have, on the other hand, dropped by one-fifth, an effect which the secretary considers is directly due to the small charge made, but he points out that formerly people would come in to have the most trifling cuts and abrasions dressed, and it is their abstention which has reduced the figures.

The financial workings of the scheme are worthy of note. The average stay of each in-patient was two and a half weeks, and the number of in-patients was 2,684; if each of these patients had paid one guinea a week whilst in hospital a sum of 6,710 guineas (£7,045) would have been received. The actual number of in-patients who paid 1 guinea was 456; 330 paid from 10s. to £1; 494 paid under 10s.; and 780 were passed free. From out-patients, if one shilling had been paid for each attendance the sum of £4,325 would have been received (29,000 out-patients attended, with an average of three and a half attendances per case).

The actual sum received from both in- and out-patients was £2,968 instead of £11,375. The conclusion is that only one patient in five was found by the almoner to be in a position to pay the full sum asked for. Smaller amounts were accepted than the full sum, but it must be observed that the one guinea per week in-patients are asked to contribute is only about

one-third of the actual cost of maintenance. The almoner at the Royal Infirmary is an experienced lady, well qualified for the work, whose competence to assess a patient's circumstances no one questions. It seems clear that the amount which patients can contribute to the cost of hospitals is so little as to provide no solution of the financial difficulties with which they are faced.

Another result must be mentioned. Formerly considerable sums were paid by collections among works employees. The money when collected was paid over to the hospitals. Now in many instances the money is held in a "works fund," and expended as occasion arises to defray the hospital charges of such contributors to the fund as chance to need hospital treatment. There has not yet been time to say whether the hospital gains or loses by this arrangement.

But, looked at from any point of view, there appears no prospect that patients' contributions can furnish adequate financial support for hospitals unless the hospitals are diverted from their original object of catering for the poor and are open only to those who can pay for admission.

Other voluntary hospitals in Bristol are making trial of the same scheme. The Bristol guardians have also introduced a plan for the admission of paying patients to the Poor Law hospital at Southmead. The following rules are in force:

Admission of Private Patients to Southmead Infirmary.

Paying patients may, at the discretion of the Infirmary Committee, be admitted for treatment or operations when the accommodation there admits.

Cases only will be entertained which need infirmary treatment, and which, on investigation, are found to be quite unable to pay the rates of charge made at private nursing homes or other available institutions.

Applicants must, in the first instance, produce a certificate of recent date from a medical man who has been attending the case within one month from the date of the application, such certificate to fully state the nature of the illness and, in the case of an operation considered necessary, the nature of the operation.

The weekly charge for ordinary treatment will be £2 2s. in one of the general wards or £3 3s. per week where a single-bed ward or bed in a three-bed ward is required. This charge to include attendance from the infirmary resident medical staff. In the event of the services of one of the consultant medical officers of the infirmary being required an additional charge of £1 1s. for each attendance of the consultant shall be paid, and in the event of an operation being required a fee shall be paid for the services of the operating surgeon at the rate specified in the table attached hereto.

The private medical attendant of a patient so admitted may be allowed, subject to reasonable restrictions, to visit him in the infirmary and confer with the medical staff in reference to his progress.

All applications for admission must be made to the clerk to the guardians.

It will be noticed that the guardians have not seen their way to consent to paying patients remaining under the entire charge of their own doctors when admitted to Southmead. They put the matter clearly when they said that they did not think that the regulations at present governing the administration of Poor Law infirmaries would permit them to run a private nursing home where the doctors in attendance on the patients would not be in any sense responsible to the board of guardians.

The admission of paying patients is in the hands of the clerk to the guardians, and is outside the province of the relieving officers.

V.

BY A MIDLAND GENERAL PRACTITIONER.

THE organization of voluntary hospitals is so intimately bound up with the teaching and practice of medicine that any alteration or suggested alteration in their organization or work is bound to arouse the strongest interest all through the medical profession. The fact that the Council of the British Medical Association has thought it necessary to issue a special report on this subject in advance of the usual annual report of the Council, and to lay down a proposed policy for the Association, is evidence that alterations of serious and fundamental character are actually taking place or expected to take place.

A consideration of these changing conditions shows that they are being brought about by the progress medicine and surgery are making in their methods of diagnosis and treatment; they do not originate primarily in a change of the attitude of the public towards the hospitals or even in a falling off of subscriptions. With the progress of scientific knowledge more and more expensive means both of diagnosis and treatment are being evolved and taking their place in the scheme for dealing with diseases of all kinds.

The immediate effect of this is that a continually increasing proportion of the whole population find themselves unable to provide what is now considered necessary for their proper treatment without having recourse to the hospitals, either because the treatment is beyond their reach financially or because the apparatus is not otherwise available, and an increasing proportion of all diseases are more efficiently treated in hospital than they can possibly be in the homes of the patients.

In London and the large centres with teaching schools this same progress leads to a continually increasing degree of specialization among the members of the staffs of the voluntary hospitals, and an increasing gap between the experience of the specialists and that of the great body of the practising medical profession. Even thirty years ago, outside London, a large proportion of the consulting physicians and surgeons on the staffs of the voluntary hospitals were at the same time in general practice, and appointments to the hospital staff were within the reach of suitably qualified general practitioners. These conditions still hold in the smaller centres and with regard to the staffing of county and other voluntary hospitals. And in country districts the cottage hospitals give practitioners an opportunity of keeping up certain sides of their work. The town general practitioner is in danger of becoming a sorting and certificate-signing machine, passing all important treatment on to others (because it is in the best interest of the town patient), and having no opportunity of carrying out or seeing carried out such treatment.

The absolute necessity of linking up the general practitioner of the town with the treatment carried out in voluntary hospitals, if he is to maintain and increase his efficiency, must not be lost sight of in the changes of organization which are taking place. This can be helped in several ways—for example, by the frequent holding in the hospitals of clinical courses of instruction for practitioners, by the establishment of small hospitals or setting aside wards in hospitals, in which, as in the present cottage hospitals, the practitioner can take his part in the treatment. The increasing cost and complexity of medical treatment is taking to the voluntary hospitals numbers of persons who must get their treatment in this way, although able and willing to pay something of the cost. In the past these people have paid their own doctors', and in many cases the consultants', charges, and this money is part of the available income which enables an area to provide and pay the number of medical practitioners of the various types necessary for the medical service of the inhabitants of the place. If the voluntary hospitals, out of subscriptions and charitable funds, are to provide services for these persons free of cost, much harm is likely to be done to the medical service of the district; as the available money for medical services gets less the number of practitioners would proportionally diminish.

For these reasons it seems essential that, in any changes of organization by which certain patients pay the hospital for the benefits they receive, and if the standard and amount of medical service in the area is to be maintained, payments must be made to the practitioners who carry out the treatment. As a temporary measure, and as the only practical way yet put forward, the staff fund does meet this point. The staff fund ought not to be regarded as the final settlement of this difficult question, but only as a present and temporary solution during what is likely to be a transition period.

For the sick poor, in the future as in the past, the services of the medical profession, both consulting and general practitioner, will be certain to be available. It is a tradition we have inherited and which we would wish to pass on to our successors unimpaired, and it is our business to see that changes in organization do not interfere with this principle.

Of the many and various expedients to which the voluntary hospitals have resorted to increase their funds there is one that concerns the medical profession most closely. I refer to the recent schemes for enrolling members who, in return for a weekly or other periodic payment, are entitled to the services of the hospital when they may require them; in other words, "hospital clubs." The method of regular collections from workers to Hospital Saturday Funds, which are handed over to the hospitals as donations, has been found in practice to carry with it an implication of right to service by the subscribers, so that these donations tend to become

payments for services; but this implication is as nothing to the obligation which a hospital will find itself saddled with when it starts its "hospital club." The members of the scheme can and will demand hospital treatment whenever they consider they require it, and will not tolerate rules which would limit their access to the hospital—for example, via the general practitioner's recommendation. Such a club, if successful, would quickly monopolize the resources of the hospital, and the staff of consulting physicians and surgeons would find themselves engaged in a new form of club practice in which they did not even get the small weekly subscriptions. Fortunately this type of scheme is not likely to succeed.

One of the most recent phases of the hospital problem has arisen from the attempts which some approved societies have made and are making to give additional benefits to their members in the form of the services of consultants, or of specialists in some particular subject—for example, ophthalmic surgeons. The medical profession had always anticipated that when such benefits were added to the present general practitioner's service the scheme would be drawn up by the Ministry in consultation with the profession, and not in the way that it is coming about now. In face of this it is of primary importance that the medical profession take up the position at once that any society wishing to extend to its members any service by registered medical practitioners must negotiate its scheme direct with the profession through the British Medical Association and not with the committees of voluntary hospitals; and that negotiations with the hospital authorities should only take place after it has been agreed that the service in question would be given to greater advantage through a voluntary hospital than by the individual practitioner. It should be brought to the knowledge of societies that the British Medical Association is willing to help them to lay out their schemes on the best lines, and hospital staffs should be warned not to agree to give service under any such arrangements as have not been approved centrally as well as by the profession locally.

Though many or most of us would prefer to see the old arrangements of voluntary hospitals and their honorary staffs carried on unaltered, yet the changes now coming about seem to render this impossible, and it is not in the interest of either the public or the voluntary hospitals that we should allow fresh arrangements to mature without expressing our opinion on the form these arrangements should take.

VI.

By a London General Practitioner.

Most of the present turmoil in the medical profession, as well as amongst the public, is due to the contest between the principle of voluntary effort and the principle of State control.

If it be agreed that the State, through local authorities, should make complete provision for the medical treatment of some section of the community (if not the whole) it becomes plain that the two services which urgently require consideration at the present moment are the hospitals and the clinics. In connexion with these services certain axioms may be laid down. In the first place, in the present state of the country's finances economy is necessary. If any advocates of those services desire particular modifications it is essential that these modifications should be shown not only to make for efficiency, but also to be economical. A very high degree of efficiency will be required to justify the more expensive of two methods. It is not to be expected that local authorities will double the expenses simply to oblige the medical profession. Secondly, as public funds will be involved, the usual corollary of public control will be insisted upon. Thirdly, in order to enforce public control all medical officers engaged in the service will be paid. Fourthly, sooner or later in any service involving any special skill the public authority will insist on the production of credentials.

If local authorities become responsible for hospital treatment there are various methods by which it may be exercised. Thus, arrangements may be made with a voluntary hospital if such exists with a sufficiency of beds. In this case the voluntary hospital could retain its distinctive character, and might receive payment from the local authority in return for right of inspection of their patients under treatment, or for some representation on the hospital board, or both. But if all patients of the hospital class become the care of the local authority, it is clear that in the end the local authority will have a preponderating voice in the management of the hospital, and the voluntary hospital system will become extinct. Hence again the need for answering fundamental questions becomes clear. For what sections of the community should the State make complete provision? Instead of making arrangements with voluntary hospitals, and in places where no such hospitals exist, the local authority might set up hospitals of its own or utilize existing Poor Law infirmaries, as is indeed being done.

Much is made of the stigma of pauperism. But in its essence is there any real difference between the municipal hospital and the Poor Law infirmary? Both are under public bodies; both take people who cannot afford adequate treatment at their own expense; both have the right to make a charge according to the means of the patient; to both certain sections (if not the whole) of the community have the right of admission under certain circumstances; in both treatment is conducted by paid servants of the authority. The only possible differences will be in matters of detail, and in the fact that the right of admission to these institutions is to be extended to cover a larger section of the community.

It is at this point that the views of the Consultative Council of the Ministry of Health come into prominence. Is it possible to make these municipal hospitals correspond to the Primary Health Centres of the Dawson Report? In certain areas perhaps; in other areas almost certainly not. The present Poor Law infirmary is generally a large institution wherein are many cases of serious illness. In the past treatment has, in the main, been carried on by whole-time medical officers who in many instances acquired skill and experience. This position is now changing. Consulting staffs have been appointed to some infirmaries in various parts of the country, and the proposals of the Ministry of Health will lead to these institutions being thrown open to other grades in the community. The Primary Health Centre, it has been proposed, should be an essential part of general practitioner treatment. Are these large infirmaries, which are now introducing more specialized work, to be handed over to the general practitioners in the districts in which they are situated? If all the general practitioners of the area are to be admitted to treat their patients in the infirmary, what is to be the relation of the whole-time superintendent to all the general practitioners? Under what supervision or inspection will the local authority which pays for the infirmary place the general practitioners who are treating patients for whom the authority is responsible? When the municipal hospital takes the form of a cottage hospital, all may be well. In an outlying suburb of manageable dimensions, or in a comparatively small special hospital, some reasonable arrangement may be made. But these are "parish pump" concerns compared with the disposal of a municipal hospital of 2,000 beds. And it is in terms of such institutions that the questions should be debated.

In connexion with the formation of municipal hospitals there is another matter which has received insufficient attention. There has long been an outcry against the so-called out-patient departments at voluntary hospitals. In schemes drawn up by the British Medical Association there has usually been a statement to the effect that there shall be no out-patient departments of municipal hospitals. But a very large number of patients go to out-patient departments, and the question is whether the medical profession can at the present time absorb these patients so that these departments shall cease to exist. For financial reasons an extended panel system applying to the dependants of insured persons is probably out of the question at present. A large proportion of the hospital out-patients are unable to pay a fee at which the private practitioner is willing to see them. They are of value for teaching purposes where medical schools exist. Their numbers are, as a matter of fact, being added to in the system of clinics which are now springing up—as, for example, at Willesden. The method by which some of the class are being treated by the guardians through district medical officers does not seem satisfactory in some areas. On the other hand, a system of driving them to seek medical treatment from private practitioners might ultimately tend to solve the question by producing an additional crop of doctors willing to take on such work. At all events, I venture to suggest that the question does not seem to be so completely settled as to justify the dictum "no out-patient departments." Active local authorities will establish such departments unless their difficulties are met by reasonable discussion. If it can be shown that the local provision of

medical man-power is adequate for the purpose, both in quality and quantity, there is no reason why out-patient departments should not be curtailed. Until this is shown it is probably better in certain districts to concentrate on a proper sifting of cases by means of almoners.

In regard to health measures for the future it would be well if three questions were definitely answered before any further legislation is attempted: First, is it agreed that the State, through local authorities, should make complete provision for the medical treatment of the community, or for any section of the community? Secondly, if it is thought that only partial provision should be made, in what should that provision consist? Thirdly, if provision is not to be made for the whole community, to what section should it be limited? To these fundamental questions a fourth may be added—namely, in what way should the cost of these services be defrayed? This question can only be answered after details of the proposed services have been fully considered.

THE METRIC SYSTEM IN MEDICINE.

THE advantages of employing the metric system for prescribing is a matter which has long been under the consideration of the medical profession in this country, and particularly of the British Medical Association. The Medico-Political Committee of the Association, so long ago as 1908, in a report to the Annual Representative Meeting at Sheffield, advocated its introduction, and recommended that a pronouncement should be made on behalf of the Association in favour of the principle of its adoption. Dr. R. C. Buist suggested a practical method of effecting a transition to the metric system in prescribing and dispensing, and this was duly considered and reports were made to the Divisions, leaving it to each Division to take such further action as it deemed advisable. It was agreed at that time by the Representative Meeting that the metric system was safer so far as prescribing was concerned, that its adoption was simple, and that the retention of the present system was unjust to the rising generation of medical students and chemists.

In 1911 the Council of the Association, in pursuance of the instructions of the Annual Representative Meeting at Sheffield, issued a special report on the adoption of the metric system of weights and measures by medical practitioners in prescribing and dispensing. In this report it was stated that the full and complete adoption of the metric system in practice depended upon its being made the system according to which students were trained, so that they would learn to think of quantities primarily in terms of grams, centimetres, etc., instead of, as at present, grains, minims, etc. The Council therefore recommended that the teaching, both theoretical and practical, in pharmacology and materia medica should henceforth be according to the metric system. In 1913 the Medico-Political Committee of the Association again considered the matter in view of the official recommendations by the General Medical Council, but resolved to take no further action at that time. The employment of the metric system in prescribing and dispensing came up again at the Annual Representative Meeting in July, 1917, when a motion was adopted to the effect that the general use of the metric system in the teaching of dispensing, prescribing, and treatment would be beneficial to the scientific interests of the medical profession, and this resolution was forwarded to the General Medical Council, the universities, and other interested bodies.

In spite of these recommendations, however, it must be confessed that the use of the metric system has not yet made much progress among the general body of the medical profession in this country. If, however, medical students are trained thoroughly in its employment, the general adoption of the metric system by the profession must come in time.

At a meeting of the North British Branch of the Pharmaceutical Society of Great Britain, held at Edinburgh on February 15th, 1922, Dr. W. C. Sillar, lecturer on experimental pharmacology at Edinburgh University, stated that the question of employing the metric system for prescribing had been forced upon their attention at Edinburgh by circumstances due to the war, which rendered it necessary to lighten the curriculum. Instead, therefore, of teaching two systems of prescribing, and letting the individual student exercise his preference, the relative advantages and disadvantages were weighed, and the metric system alone was chosen for instructing students. The student, appreciating the ease of calculation of the metric system and its simplicity, met with no difficulty until he encountered his clinical teachers, and was obliged to follow their instructions in the other method. The practitioner, who had learned his doses in minims, grains, and drachms, and was unable readily to translate from one system to the other, was apt to exaggerate the difficulties. The difficulties of the pharmacists were the expense of weights and measures, or alternatively of errors in reading or transposition of quantities from the one system to the other. The imperial system, modified for prescription writing by the additional use of the apothecaries' weight, owed its persistent use to certain conveniences which it possessed. The weights and measures of the system were mainly those which had been originally convenient domestic measurements; for instance, the handful was represented by the ounce, the drop by the minim, the mouthful by the fluid ounce, the teaspoonful by the fluid drachm, a drink by the pint. Secondly, the relation between the weights, as well as that between the measures, had been arrived at to a considerable extent by the simple process of successive doublings; the imperial ounce doubled successively four times equalled the pound, and the apothecaries' drachm doubled successively three times was the apothecaries' ounce. Thirdly, the dissimilarity between the names of these various increments lessened the likelihood of confusing them with one another. The advantages of the metric system, on the other hand, consisted in the easy divisibility by tenths and the simple interchange into equivalents between the respective weights and measures. The advantages of both systems could be combined to some extent for prescription writing by visualizing the fluid domestic measures, the teaspoonful, etc., by the nearest metrical equivalent, 5 c.cm., and then doubling; thus, 5 c.cm. was approximately equivalent to a large teaspoonful, 10 c.cm. to a large dessertspoonful, and 20 c.cm. to a large tablespoonful. This principle might also be carried out with the present conception of the unit to represent the grain, which might therefore be taken as 0.05 of a gram. Two grains and four grains presented no difficulty, being 0.1 and 0.2 of a gram respectively, but the discrepancy became marked on arriving at 10 grains. Therefore in deciding on dosage the new departure had to be made, and it must be considered whether 1.0 gram was too large a quantity or 0.5 too small. Confining the figures to 1, 2, and 5, the question of symbols and nomenclature might also be simplified. To prevent errors in placing the decimal point, a perpendicular line should be drawn immediately to the right of the whole numbers; the use of the decimal point was then no longer necessary. Solids were to be weighed and fluids to be measured, percentages were to be expressed by the weight of a solid in the volume of a fluid, and in the case of fluids by volume in both.

Dr. Sillar said that his practical classes had done the whole of their dispensing using weights of grams and fractions of grams and graduated measures of 100 c.cm., 10 c.cm., and 1 c.m. He hoped that the medical and pharmaceutical professions would heartily co-operate in this serious attempt to lessen the burden of the medical student and to carry out the recommendation of the General Medical Council.

THE late Dr. Alfred Mason, O.B.E., M.C., Admiralty surgeon and agent for Deal, has left net personalty of £13,831. He bequeathed, subject to two life interests of two aunts, £1,000 to the Royal Medical Benevolent College, Epsom, for the education of sons of deceased medical men, to be known as the "Caroline Mason Bequest."

THE sixth Unity History School will be held at Woodbrooke, Birmingham, from July 27th to August 4th. The special character of these schools is the mingling of classes; teachers, business men, labour leaders, professors, and working men attend, and the discussions after the lectures, of which one is given each day, are carried on with good humour and good taste by all parties. This year the course of lectures arranged by Mr. F. S. Marvin and Dr. Charles Singer will deal with "Science and Social Progress," and each will be given by an authority on the subject. Thus, of two lectures on the science of the Greeks, one on biology will be given by Mr. J. A. Platt, Professor of Greek in University College, London; Dr. Singer will lecture on "The Dark Ages and the Dawn," Professor J. A. Thomson on "Darwinism and Contemporary Life and Thought," and Mr. Julian Huxley of Oxford on "Science and Religion." Other lectures, on the relation of science to everyday life, will be given by various authorities. Full particulars can be obtained from Mr. Edwin Gilbert, 78, Mutley Plain, Plymouth.

British Medical Journal.

SATURDAY, MARCH 11TH, 1922.

THE MEANING OF DEATH RATES.

IT is to utter the merest commonplace to say that the technical developments of medicine, and of the arts and sciences ancillary to medicine, have become so extensive that there is a real need of monographs which, although not "popular" in the too frequent sense of that word—the sense which implies that the author is talking down to the reader—do focus attention upon principles. A monograph by Dr. John Brownlee on the use of death rates as a measure of hygienic conditions, just published by the Medical Research Council,[1] discusses the principia of a method of investigation which is far from being the least technical and specialized of our instruments of inquiry. Although we all use death rates to point morals and adorn tales, we have not all clear ideas as to the advantages and disadvantages of different ways of measuring a death rate. In the ordinary medical curriculum there is no instruction in medical statistics—even in the course for diplomas in public health there is very little; the recent proposals of the General Medical Council do not afford any assurance that a serious training in vital and medical statistics will become a normal part of the course of English post-graduate training. Most medical men, we fancy, know that there are three ways in which the facts, or some of the facts, of mortality can be expressed—namely, by relating the deaths to population without regard to age, the "crude" death rate; by expressing the death rates at ages in terms of a particular population, the "standardized" death rate; and by constructing a "life table." Most medical men know that the first method is liable to be misinterpreted, believe that the second is more useful, and imagine that the third is intelligible only to mathematicians, but, when understood, far more valuable than the others. Dr. Brownlee set himself the task of explaining the merits and shortcomings of the various measures, and has produced a report which is not only valuable but interesting. Of course Dr. Brownlee does not confine himself to this comparison; his monograph contains original contributions both to epidemiology and to the technique of vital statistics, but we shall here only discuss his remarks on the general theme.

Briefly, Dr. Brownlee's conclusion is this: hygienic inferences ought only to be drawn from a comparison of standardized death rates if the latter are connected with life-table death rates in such a way that standardized death rates can be converted easily into life-table death rates. Thus the standardized death rate from all causes together is so related to the life-table death rate, as also are the death rates from pneumonia and from Dr. Brownlee's types of phthisis. Hence it does not in these cases matter which method is employed. But for such diseases as cancer or nephritis there is no simple relation between standardized and life-table scales, and in these cases hygienic inferences ought not to be drawn from standardized mortality rates. Although the standardized death rates from cancer are higher in urban than in rural districts, the life-table method shows that, "taking an equal number of persons living above the age of 15 years, exactly the same proportion is destined to die from cancer whether the individuals live in a rural district, an urban district, or in a county borough."

[1] Special Report No. 60, Medical Research Council, published by H.M. Stationery Office, London, 1922, pp. 80, price 3s. net.

Dr. Brownlee, it will be seen, has an even higher opinion of the life-table method than Dr. Farr had; his judgement of the value of any other method depends upon the degree to which the other method reproduces the teaching of a life table. On the other hand, we recently read, in a journal devoted to actuarial science, a criticism of the Registrar-General's abridged life tables which contained something very like a sneer at the supposed enthusiasm of medical officers of health for the calculation of life tables. It may therefore be of interest to inquire whether any of the arguments against the primacy of the life table—all, we think, mentioned by Dr. Brownlee with the candour which distinguishes his papers—deserve to be emphasized. The first and most important is that a district life table is as much a statistical fiction as is a standardized death rate. Were there any rural district or county borough entrance to which was restricted to those born within its boundaries and from which nobody could escape except by death, the life table of that district would be a perfect translation of the facts of mortality. The meaning of the translation from the hygienic point of view might still not be easy to make out, unless the sanitary conditions of the district were unchanged throughout a generation, yet the statistical translation would be perfect. But in England and Wales there are no such closed areas, and the actual life tables are only statistical fictions. They tell us how a hypothetical population would die out if through a whole generation those rates of mortality were to prevail which prevailed amongst members of different generations observed contemporaneously over a small number of years—at most ten years. Since there is a great deal of internal migration, and since the death rates at ages are not constant from decennium to decennium, it is evident that a district life table does not approximate at all closely to the *Absterbeordnung*, the Order of Dying, of a real human generation. Therefore, if this method gives an answer to some question different from that given by, say, the method of a standardized death rate, it does not follow as an irresistible consequence that one answer is right and the other wrong.

To apply these reflections to the particular case chosen by Dr. Brownlee—that of cancer—his point is that the reason why the standardized death rate of the urban districts is greater than that of the rural districts is that people of the same age in years in town and country are not of the same physiological age; "the necessary allowance," he says, "for the ageing of the body experienced in towns over that experienced in the country must thus first be made before any differentiation between the amounts of cancer present in different districts is justifiable, though here the possibility of local ageing of tissues must not be overlooked, a phenomenon well known when problems of local immunity are the seat of question." But if, as Dr. Brownlee says, "cancer is commonly believed to be a degenerative disease," and if this belief be true, we are left in some doubt as to what remains to be justifiably compared after the desired allowance has been made. It might be urged that this ageing of the tissues is precisely what we wish to study, that we wish to know *why* the tissues are more senescent at a given age in one district or type of community than in another. If in a series of districts the numbers of life-table decedents from cancer at ages over 15 are equal, does it really follow that the average etiological factors of cancer are identical qualitatively and quantitatively in all?

This objection is, we think, much the most formidable in the way of accepting life-table death rates as ultimate criteria of mortality for the purposes of the sanitarian, and we are not sure that Dr. Brownlee's arguments have removed it. The more usual objection, that life-table constants are difficult to compute, is of little moment.

The method of Dr. Snow, used in the Registrar-General's recent collection of district life tables, and Dr. Brownlee's own method, described in the paper under notice, are easy to understand and handy in application. Dr. Brownlee's critique may justifiably excite distrust of inter-local comparisons of rates of mortality, whatever standard of comparison be adopted, whether that of life tables or another.

Dr. Hamer has often called attention to the way in which migration, both internal and external, complicates the problem of geographical comparisons. This difficulty cannot be overcome by any manipulation of the data we now have. Perhaps the intensive study of small samples—a method which in the hands of Professor Bowley has yielded valuable economic results here and has been applied in America to the study of hygienic problems—will prove to be the solution. We do not mean to say that all has now been learned from general routine statistics of mortality which can be learned. Farr showed how much more than a simple arithmetical profit and loss account could be made up from the mortuary registers. Since his time other statisticians, amongst whom Dr. Brownlee himself holds an honourable place, have come nearer still to the centre of the labyrinth, and no man can say that further progress is impossible. But something akin to the collective investigations which the British Medical Association promoted some forty years ago seems to be a need of the time. We are now in a much better position to carry out such investigations than we were even a generation ago. On the purely statistical side knowledge of the conditions and limitations of sampling and of the methods by which the significance of averages based upon samples may be appraised is more diffused, and the training of field workers is easier. Such a study as Dr. Perry's, of the American Cotton Industry,[2] suggests lines of inquiry which could be followed in England with greater ease than in the United States, and, although involving peculiar difficulties, would at least not be subject to those ambiguities which inhere in the massed records of our official departments. While we do not agree with all the conclusions reached by Dr. Brownlee, it is a pleasure to express our appreciation of the value of his monograph. Dr. Brownlee deserves what we think he would regard as the highest praise—namely, a comparison between himself and Farr. He has not, we think, equal powers of literary expression, and hardly carries his learning as easily as his spiritual ancestor. But he has the same large philosophical grasp, the same perception that the statistical method is a means to an end, that end being the revelation of the biological factors of life and death, of disease and health. The medical officer of health who reads his papers will learn a good deal about statistical methods; he will also learn what is even more important—something of the goal to which all medical statisticians and biometricians are striving.

[2] Bulletin No. 251 of the United States Bureau of Labour, Washington, 1919.

THE *X*-RAY TREATMENT OF UTERINE FIBROIDS.

NONE of the applications of *x*-ray therapy are more important or fraught with greater interest than that to the treatment of fibromyomata of the uterus. While it is true that the method has acquired greater popularity in America and on the Continent, yet that British gynaecologists are, on the whole, keenly alive to its possibilities and advantages was abundantly demonstrated by the joint discussion between the Sections of Obstetrics and Gynaecology, and Electro-Therapeutics, at the British Medical Association Meeting at Cambridge in July, 1920.[1] Put briefly, the participants in the discussion were agreed upon certain well-defined contra-indications to the treatment, and in the assumption that there is a distinct place for the use of *x* rays in the treatment of selected cases of uterine fibroids. They were agreed that it is unsuitable for women under 40 because of the premature and unusually severe vasomotor phenomena found to ensue; for submucous fibroids and very large fibroids of any variety; for cases in which the tumour is undergoing degeneration or complicated by pelvic inflammatory conditions, old or recent, by the presence of malignant disease, of an ovarian cyst, or of pregnancy; and, according to Dr. Herbert Williamson, when the patient is gravely anaemic with a red blood cell count of less than 2½ million, and the haemoglobin less than 35 per cent.

In a recent article[2] Béclère submits the results of 300 new observations on patients whom he had not only examined but irradiated himself, and whose after-history he had carefully followed. A perusal of his article reveals radical differences between his practice and that of his more conservative British colleagues. Thus, of the 300 cases, 49 were below the age of 40. "Time was," he says, "when Roentgen therapy was only admitted in women above 40. It has, however, been abundantly proved that not only below 40 but even below 30 years it is followed by the same success as at a more advanced age. The youth of the patient has ceased to be a contra-indication." He has not observed any appreciable difference between the natural menopause and that induced by *x* rays. Indeed, most of the patients afterwards enjoyed better health than for many years, owing, no doubt, to the arrest of haemorrhage. On this point of the abnormal severity of the artificial menopause Williamson is, however, very emphatic, and states that he has on several occasions seen distressing and prolonged vasomotor phenomena follow the treatment in women under 40, producing symptoms which were not relieved by extracts of the endocrine glands; in three cases he has seen kraurosis vulvae develop with severe dyspareunia. Such symptoms can, of course, be avoided by hysterectomy with conservation of the ovaries. On the other hand, the views expressed at Cambridge by Dr. Louisa Martindale were in agreement with those of Béclère. She said that "the menopause produced was freer from symptoms than the normal climacteric." And again, *x*-ray treatment "brings about a climacteric involving less disturbance even than a natural one."

According to Béclère, the decision for or against the use of *x* rays is not to be determined by the size of the tumour; in 159 of his cases it was of such dimensions as to extend to a height varying from 10 to 34 cm. (4 to 13 in.) above the symphysis pubis; compression of neighbouring organs, even of the bladder, so far from being regarded as a contra-indication is looked upon as an indication for the employment of *x* rays. "Size," he says, "is never a contraindication to the use of *x* rays." In many of his cases the tumours reached above the level of the umbilicus, while some even extended underneath the costal margin. He recognizes, however, that in the case of such large tumours diminution in size can only be expected to reach a point at which it becomes just bearable to the patient, and that in such cases surgical interference gives a more complete result. The patient should be informed of the relative advantages of both methods, and allowed to choose. But if operation is contraindicated or is refused, "the largest myomas may be treated with success by Roentgen therapy." Thus Béclère's position on this point does not differ very materially from that of his British colleagues.

The "aseptic degenerations"—myxomatous, calcareous and necrobiotic—Béclère does not look upon as contra-

[1] BRITISH MEDICAL JOURNAL, 1920, vol. ii. p. 535.
[2] *Bull. de l'Acad. de Méd.*, T. lxxxvi, p. 151.

indications. Of conditions in the tumour itself, "only septic complications, torsion of the pedicle, or grave haemorrhage necessitate surgical intervention, whilst all the other conditions, formerly looked upon as contra-indications, can no longer be considered as such."

In Béclère's experience the only risk attending the treatment was the possibility of producing a form of dermatitis which might be followed by trophic disturbance of the skin of the abdomen. It is a danger easily avoided by using a proper method and precise dosage In none of his 300 cases did he observe the least cutaneous accident, except that frequent temporary brown pigmentation which he looks upon as a normal phenomenon. Sometimes on the same day or the day after the treatment the patient suffered from a condition resembling sea-sickness—the "Roentgenkater" of the German radiologists, called by the French "mal des rayons." Only exceptionally did it end in vomiting, and in no case did it necessitate the patient remaining in bed.

In view of results so excellent, obtained by a technique admittedly in many important respects imperfect, it seems strange that radiotherapy has not been more widely and generally adopted in this country for the treatment of uterine fibroids, more especially as it seems probable that, with increased experience, the results would rapidly improve. We know of famous British schools of medicine in which the only resort in the treatment of fibroids is still surgical operation.

THE ROBERT CAMPBELL MEMORIAL ORATION.

THE first Robert Campbell Memorial Oration was delivered on February 16th, at the Medical Institute, Belfast, by Mr. Thomas Sinclair, C.B., F.R.C.S., Professor of Surgery in the Queen's University, and Surgeon to the Royal Victoria Hospital, Belfast. Sir John Walton Browne, M.D., was in the chair, and there was a very large attendance of the profession; a few of the late Mr. Campbell's relations and intimate friends were also present. Mr. Sinclair began by recalling how, after Robert Campbell's death at the early age of 55, his friends and colleagues resolved that the tribute they desired to pay would better find expression in the establishment of a biennial memorial lecture, by which the advance of surgery and research might be promoted, rather than by seeking to enshrine his well-known personality in some form of pictorial or plastic art. Mr. Sinclair then sketched the outstanding incidents of Campbell's life. He was the second son of the Rev. Robert Campbell of Templepatrick, and a brother of the distinguished gynaecological surgeon Dr. John Campbell of the Samaritan Hospital, Belfast. After a brilliant academic career in Arts and Medicine, during which he secured the highest honours at every step, he graduated in the Royal University of Ireland as first man of his year. Later on he added the Fellowship of the Royal College of Surgeons of England, after further study in Trinity College, Dublin, and St. Thomas's Hospital, London. He was for a time house-surgeon to the Chester Infirmary, but shortly was appointed surgeon to the Children's Hospital in Belfast and to the Royal Victoria Hospital. From time to time he published papers on operation for perforated typhoid ulcer, exophthalmic goitre, and fractures of the head of the radius, and was one of the first to recognize the importance of acid intoxications as a cause of death after chloroform anaesthesia; but his most notable achievement was his pioneer work in the radical cure of hernia in infants and young children. At a time when radical cure was reserved for older children, say from 5 to 9 years of age, Campbell demonstrated that no child was too young to be treated in this manner, and that such cases might in many instances be treated as extern patients after operation. His first paper concerning twenty cases was read before the annual meeting of the British Medical Association at Portsmouth, and the popularizing of the early adoption of this practice may be said to date from this period. Stiles of Edinburgh followed the next year with an account of 100 cases, but assigned the age of 2 years as a limit. Campbell in later years extended his series to 1,500 cases with only one death, and that from delayed chloroform poisoning, and with only three cases of sepsis in the wound. Campbell was the first to show that at the start cases of appendicitis fell into two categories, one primarily obstructive leading to gangrene and perforation with paroxysmal pains like strangulated hernia, little or no tenderness, rigidity or fever, these symptoms being followed in a day or two when inflammation supervened. Such a train of symptoms brooked no delay in operation. In contrast with these were cases of appendicitis inflammatory from the outset, with fever, tenderness, rigidity, elevation of pulse, and a more continuous, if less violent, type of pain. Such attacks might recur again and again over months or years; the anxieties were not so acute as in the former type, and temporizing in these primarily inflammatory cases was not so disastrous, though prompt operation was safest in both types. In conclusion Mr. Sinclair touched lightly on Robert Campbell's personal qualities, his social graces, his kindliness of disposition, his high standard of honour, and his generosity. He furnished an admirable example to the rising generation of surgeons, who should keep before them his engaging personality, which was the embodiment of the best traditions of our profession. It was a pleasure to bear this testimony in the presence of Mrs. Campbell, who had been a powerful factor in her husband's successful career. Mr. Sinclair then proceeded to make the remarks on the surgery of the blood which are reported at page 375. At the conclusion of the oration a vote of thanks to Mr. Sinclair was cordially adopted, on the motion of Professor J. A. Lindsay, Professor of Medicine in Queen's University, seconded by Dr. John Morrow, physician to the Royal Victoria Hospital.

NATIONAL COLLECTION OF TYPE CULTURES.

THE Medical Research Council has issued a catalogue[1] of the national collection of type cultures, to the formation of which at the Lister Institute we have on several occasions made reference. The need of such a collection has long been felt in many directions, and particularly in medical research work, both for the study of principles and methods in bacteriological investigations and for the systematic classification of the various species and strains of bacteria and protozoa. Before the war M. Binot's collection at the Pasteur Institute in Paris was very helpful to workers here, as was a collection of type cultures, first formed on a commercial basis by Král at Prague, and subsequently maintained by the Serophysiological Institute in Vienna. The Museum of Natural History in New York has for some years maintained a culture bureau, which has helped workers here, not only by the provision of authentic cultures, but also by the studies in classification made by its staff. In this country the Lister Institute of Preventive Medicine has for many years assisted bacteriologists, both at home and abroad, so far as the resources of its own private collection permitted, and two years ago the Medical Research Council was able to make arrangements for the maintenance there of a national collection of type cultures, the governing body of the Institute undertaking to provide all necessary facilities. The collection is under the direction of Dr. J. C. G. Ledingham, F.R.S., a member of the staff of the Institute, assisted by a curator, Dr. R. St. John Brooks, and an assistant curator, Miss M. Rhodes, appointed by the Medical Research Council. Attention has been concentrated primarily upon obtaining fully authenticated strains of pathogenic organisms, but bacterial and protozoal strains of economic importance are being added as opportunity offers. The staff of the collection, which is also experimenting with economical and labour-saving methods of sub-culture, is prepared to help in the identification of strains received from workers at home or abroad. It is hoped that such workers will reciprocate by presenting new material to the collection

[1] London: H.M. Stationery Office or through any bookseller. (Price 1s. 6d. net.)

for permanent maintenance. In the present position of the problems involved in the classification of micro-organisms, the names in the main catalogue have been arranged in alphabetical order, and a subject index has been added giving cross-references under etiological headings. In the nomenclature employed long-established usage has been followed, but the need for international uniformity is recognized, and it is hoped in future editions to take fuller cognizance of the labours of systematists in this and other countries. The scope of the collection has been extended to include fungi of importance in plant-pathology, medicine, veterinary science, technology, and soil biology. This part of the collection will be managed by a committee appointed by the British Mycological Society, and of which the curator of the National Collection is a member. The annual lists of the mycological collection will be published in the *Transactions* of the society. The Council invites the co-operation of bacteriologists, and it asks that cultures sent either for identification or for maintenance in the collection should be accompanied by full particulars as to source and date of isolation, and if possible by clinical and epidemiological notes. All communications should be addressed to the Curator, National Collection of Type Cultures, Lister Institute, Chelsea Gardens, London, S.W.1.

PROPHYLAXIS AGAINST TYPHUS FOR TRAVELLERS.

THE practitioner is nowadays asked with increasing frequency by patients who have to travel in Poland or the Near East as to what precautions can be taken against typhus fever. The advice is not easy to give. Unlike typhoid fever, no effective method of immunization against typhus is known. Various protective and therapeutic serums have been described by foreign observers, such as that of Drs. Nicolle and Blaigot,[1] and, more recently, interesting and promising experiments in immunizing monkeys with living virus have been described by Professor Kusama, of Tokio,[2] but prophylactic vaccine therapy against typhus remains entirely in the experimental stage. Even were it possible to procure it in this country, there is no serum or vaccine which can be recommended in any sense as of proved value. Nor is this surprising when we consider the uncertainty which still surrounds the causal organism. Apart, therefore, from the ordinary rules of hygiene, such as the avoidance where possible of over-fatigue, filth, overcrowding, and areas known to be heavily infected, the traveller must for the present rely on those precautionary measures which consist entirely in the avoidance and destruction of lice. It will probably not be necessary for the ordinary English traveller to take all the precautions recommended to doctors or nurses who are actually in attendance upon typhus patients, such for example as the special "louse proof" combined linen under-garments or the top boots which are thought to defy louse invasion from the floor. Frequent changes of underclothing are, however, desirable, and if the places visited are infected with typhus or known to be heavily infested with lice, a rigorous search should be made at least twice a day for the parasites; if frequently and thoroughly done, merely searching, picking, and brushing the underclothes can accomplish a good deal. Frequent change of underclothing is advantageous even in the absence of facilities for washing the clothing removed. Cold and fasting are abhorrent to the louse. The hair should be kept short and baths taken when possible. For the ordinary traveller probably the most convenient way of "delousing" infested underclothing is to soak it in a solution of lysol for twenty minutes in a strength of 2 per cent. if cold, or 1 per cent. if hot water be available. Baking, boiling or soaking in petrol are also efficacious. A hot flat-iron applied along the seams is a simple and effective method, if available. Anti-louse applications for the clothing are innumerable. Powdered naphthalene (or ointments containing naphthalene) is probably the best and least objectionable to the user. The ordinary pyrethrum insect powder avails little against the louse. A 15 per cent. alcoholic solution of anisol rubbed on such parts as might be first invaded—for example, the neck—is said to have a deterrent action. In conditions of travel approximating to service conditions, however, where frequent changes of underclothing are impossible or heavy infestation is to be feared, the N.C.I. powder (naphthalene, with creosote 2 per cent. and iodoform 2 per cent.) should be dusted at two-day intervals into the underclothing, except at the fork and the armpits, where it may cause severe irritation. For these situations, and as a general adjuvant to N.C.I., "vermigelli" may be used. Those with sensitive skins may find difficulty in tolerating any of these remedies. The habits, the frequent changes of underclothing, and the vigilant eye of the ordinary clean Englishman will, however, in peace-time conditions, even in the Near East, greatly assist to preserve him from the low-grade infectivity of typhus without additional precautions. If actually engaged in medical or relief work in typhus areas, however, stringent precautions should be taken, especially with regard to louse-proof clothing.

[1] *Annales de l'Institut Pasteur*, 1916
[2] *Lancet*, August 20th, 1921.

TRANSMISSION OF PLAGUE BY RATS.

PROFESSOR J. J. VAN LOGHEM, director of the Department of Tropical Hygiene at the Colonial Institute, Amsterdam, delivered one of the series of Chadwick Public Lectures in London on March 2nd, when he dealt with the plague question as it affected Europe past and present. He confined himself to bubonic plague, which he regarded as being the plague of all the great historical epidemics, and his argument was that in the time of old Europe the domestic architecture, the habits of the people, and the sanitary conditions generally were such as to encourage the breeding of rats in much closer proximity to man than was the case anywhere in Western Europe to-day. At the time of the plague outbreaks in London and Amsterdam in the seventeenth century the rat probably lived as near to the occupiers of dwelling-houses as it did at the present time in the plague-stricken areas of the tropics and subtropics. In this connexion he spoke of his recent investigations in Java, where he found the house rat—*Mus rattus*—making its nest inside the bamboo poles used for the beams of the houses and the supports of the beds. Plague infection, in his view, depended upon the distance between rat and man being sufficiently short to permit of the rat-flea conveying the disease to man. The influence of climate and season upon the rat-flea carrying the plague parasite accounted for the climatic and seasonal variations of rat-borne plague. He showed diagrams illustrating the fluctuations of the plague in London and in certain Dutch towns in the seventeenth century. In all these cases the highest point was reached in August and September, after which there was a sharp decline. He quoted Daniel Defoe's *Journal* to prove that in the winter and spring preceding the plague of 1665 in London isolated cases appeared within a few weeks of each other and traceable to the same neighbourhood—Long Acre—although it was not until the summer that any epidemic arose. There was no difficulty in explaining these sporadic cases in the light of modern knowledge if it was remembered that the propagation of the plague depended not on contact between human beings but on the activity of the rat-flea, for the supposition was that all through this epidemic-free period there was plague among the rats, and only when the seasonal conditions favoured insect activity did the epidemic arise among human beings. His pupil, Dr. Dykstra of Amsterdam, had made some interesting researches on the plague which occurred in that city in 1617, by studying the lists of the Carthusian burial ground. They gave full particulars of the persons interred, including their places of residence, and he found that for six weeks in the early summer the plague was strictly localized to two or three streets; later it spread over a large quarter of the town, but its spread was topographical, from house to house and street to street. There was no other explanation of such a picture than localized rat plague. The animal concerned was not the brown or grey rat now familiar, but the black house rat, the "big

mouse," which was rarely seen in Europe to-day. Even in the time of Cuvier the black rat, though still common, was being ousted by the brown, but it was a rat of the same species as this former domesticated habitant of Europe which caused the recent outbreak of plague in Java. That the brown rat can carry plague in the same way is, of course, evident; it was the brown rat which was responsible for the small epidemic in Paris in 1920, when most of the 150 victims were rag dealers, who were compelled by their trade to live near to the haunts of the rats; but the point is that the brown rat is not a domesticated animal like its predecessor, and to that extent is less dangerous. In the old days, with dark house interiors, straw beds, and abundance of food and other stores kept in dwellings, the black rat had a fertile breeding-ground. Professor Van Loghem paid a high tribute to British work on plague. He said that before the plague appeared in the Dutch Indies the hygienists of Holland were well acquainted with the investigations of British epidemiologists —he mentioned a dozen names—and when in 1911 the plague came to Java, fifteen years after it had come to Bombay, they had only to avail themselves of the ideas with which British research had furnished them.

THE NATURE OF THE VIRUS OF VACCINIA.

A METHOD which permits of the isolation and concentration in suspension of the infective agent of vaccinia has been devised by MacCallum and Oppenheimer.[1] Briefly stated, it is a method of differential centrifugalization with the use of suspending fluids of different specific gravities, and it is applicable to the purification of vaccine lymph from bacterial and other contamination. The same procedure may be applied to the study of many diseases, the infective agent of which is unknown or difficult of isolation, such as small-pox, measles, scarlet fever, typhus fever, rabies, and all the various infections supposed to be due to ultramicroscopic organisms. A commercial sample of calf lymph, the specific gravity of which was determined as 1.1638, was centrifugalized at high speed for an hour in small narrow tubes of 1 c.cm. capacity. The lymph separated into a solid mass of sediment, a thick turbid layer, and a superficial less turbid layer. The separate layers were inoculated on the rabbit's cornea, and only the superficial layer produced the typical vaccine lesion. This layer was pipetted off, mixed with Locke's solution (the specific gravity of the mixture being 0.99), centrifugalized, and the upper and lower layers tested on the rabbit's cornea as before. It was now found that the virus had sunk to the bottom of the tube, showing that the specific gravity of the infective agent was higher than the last figure. A series of flasks was prepared with mixtures of glycerin and Locke's solution varying in specific gravity from 1 to 1.6, and with these suspending fluids the specific gravity of the virus itself was approached from both sides. Each mixture was accurately weighed and the specific gravity of the final mixture thus ascertained. By inoculating top layer and bottom layer in each case it was found that the virus floated in a suspending fluid of specific gravity 1.14 and sank when the specific gravity was 1.11. Its own specific gravity is probably about 1.12 or 1.13. To purify it, therefore, it seemed best to wash it and centrifugalize it in a suspending fluid just heavier than itself, for by so doing the maximal removal of contaminating material will be removed. When this was done, the examination of a drop of the virulent top layer under the microscope with dark ground illumination showed myriads of minute granules of uniform size, very much smaller than streptococci or staphylococci. They shone dully and exhibited Brownian movement. The granules occurred singly, in small groups, or in tiny beaded chains which were about one-tenth the size of a chain of streptococci with the same number of elements. They stained faintly with methylene blue, were Gram-negative, and took a deep colour with carbol-fuchsin. The granules are apparently identical with those seen in tissues and smears from vaccinia and small-pox by Prowazek and others. So far the authors have not succeeded in agglutinating them with the immune serums at present available.

[1] *Journ. Amer. Med. Assoc.*, February 11th, 1922.

EFFECTS OF GAMMA RAYS FROM A LARGE QUANTITY OF RADIUM.

THE promised report of the Medical Research Council on the effects of the gamma rays from a large quantity of radium has been published.[1] The radium employed amounted to nearly 5 grams of hydrated radium bromide, or about 2½ grams of radium element, which was collected by the Ministry of Munitions from innumerable gun-sights, watch-dials, and other instruments of war, and handed over for the purpose of medical research. The whole quantity of radium salt thus made available was, in the first instance, put in the charge of the late Mr. Cecil Lyster—whose untimely death in January, 1920, was a great loss to medicine, and especially to his chosen field of radiology—Professor W. S. Lazarus-Barlow, and Professor Sidney Russ. The object of the first inquiries was to determine the curative value in malignant disease of penetrating radiation of extremely short wave-length, like that of the gamma rays of radium, in order to ascertain whether the use of this very large amount of radium would give appreciably different results, in kind or degree, than had been obtained hitherto with quantities of about a tenth of the amount. This work was done in the cancer wards and research laboratories of the Middlesex Hospital, with the clinical collaboration of the physicians and surgeons of the hospital. Special apparatus was designed by Dr. S. Russ for the custody and employment of the unusually large quantity of radium and for the protection of the workers. When the radium salt was not actually in use for the treatment of patients it was employed for experimental exposures of various animals. In 1920 the Treasury gave its sanction to the formal transference of the radium, at its insurance value of £72,500, from the Disposal Board of the Ministry of Munitions to the Medical Research Council, in order to maintain its use for research purposes, and at the conclusion of the preliminary period of mass experiment at the Middlesex Hospital the Council arranged for the distribution of the radium among several research centres in London, the provinces, Wales, Scotland, and Ireland. At each centre special attention is being concentrated upon particular forms of malignant disease and their treatment. The report is divided into six chapters. The first chapter, by Dr. W. S. Lazarus-Barlow, Dr. S. Russ, and Dr. Helen Chambers, deals with the use of the gamma rays from a large quantity of radium in the treatment of malignant disease; the conclusion is that the majority of malignant growths exhibit a high degree of resistance to the radiation; some few types of growth (lymphosarcomata, for example) have seemed more susceptible, but others (squamous epitheliomata, for instance) have proved more refractory. The amount of pain due to the damage of the skin has been very variable, and the degree of injury to the skin seems to be definitely influenced by the local vascular supply. Sometimes the effect of radiation has been to hasten ulceration, and an additional factor influencing this result is the effect of the radiation on sepsis, for there seems little doubt that if a growth is already infected the radiation produces favourable conditions for the growth of bacteria. One of the chief features of interest in the application of this large quantity of radium was the general physiological reaction of the patients; under the conditions adopted the whole body received an appreciable amount of gamma radiation, and during exposures lasting four or five hours several patients complained of headache and sickness, followed by a feeling of general malaise lasting a few days. Another observation of importance was that occasionally marked oedema would supervene within twenty-four hours of the radium exposure. The investigators are convinced that it is necessary for the physician, surgeon, radiologist, and pathologist to work

[1] *Medical Uses of Radium: Studies of the Effects of Gamma Rays from a Large Quantity of Radium.* Medical Research Council. Special Report Series, No. 62. London: His Majesty's Stationery Office. 1922. 5s. net.

together in the treatment of malignant disease. The second chapter, by Dr. W. S. Lazarus-Barlow, deals with the histological changes produced in certain neoplastic and normal tissues in man by the gamma rays of radium. The result of the exposure to a considerable degree of radiation is apparently that there is a disappearance of cytoplasm from the neoplastic cells, more marked after a single than after two exposures; the intranuclear relations are altered; there is increased tendency to the occurrence of localized degeneration of neoplastic cell masses; the connective tissue fibres permeating the growth become collagenous; the appearance of lymphocytic or small mononuclear cells—usually found in advance of the growing edge of a malignant neoplasm—is less extensive than usual; and there is no evidence of proliferative change in connective tissue or endothelium. The third chapter of the report, also by Dr. Lazarus-Barlow, deals with the histological and some other changes produced in animals by exposure to the gamma rays of radium; it is founded on the examination of a large number of frogs, rats, rabbits, and cats, exposed under different conditions to the gamma radiation of the mass of radium bromide. The fourth chapter is a separate report by Dr. T. Morowoka and Sir Frederick Mott upon the appearances found in the brains of the animals; and the fifth chapter, by Dr. C. Price Jones, deals with the changes produced in the bone marrow in rabbits. Chapter six is a short report on the average range of beta rays in different metals, by Mr. G. A. Sutherland and Mr. L. H. Clark.

HOOKWORM IN CORNWALL.

IN a recent article in our columns on the work of the Medical Research Council (January 23th, 1922, p. 152) mention was made of investigations into ankylostomiasis, particularly as found among the workers in Cornish tin mines. Twenty years ago Haldane and Boycott found that a large proportion of the underground workers in certain of these mines were infected by hookworm. Since that time two simple measures have been brought into operation at the mines, one of them the lowering of the temperature by means of improved ventilation, and the other the bucket transport of faecal matter to the surface from below. Professor R. T. Leiper, at a meeting of the Section of Tropical Medicine of the Royal Society of Medicine on March 6th, brought forward some recent investigations which showed, so far as they went, that hookworm infection, thanks to these measures, had very greatly diminished. His investigation, in which Dr. M. Khalil and Mrs. Philpot were associated, was undertaken during a period of three weeks in the summer of 1920, at a time when the industrial depression now so severe in Cornwall was just beginning, so that the facilities available were not of the best. The number of workers examined was 130, and of these only eight (or 6.1 per cent.) were found to harbour the parasite, as compared with something like 80 per cent. in part of the earlier investigations. In the Dolcoath mine—which had a very bad pre-eminence at the time of the inquiry by Haldane and Boycott—out of 34 underground workers examined, only two were found to be infected; in the neighbouring mines not a single case was discovered, but at a newly worked mine at East Pool, where there had been a breakdown of the pumping machinery, so that the sanitary precautions at the time of the investigation were not fully effective, out of 22 people examined the ankylostoma was found in 6. Other parasitic worms were found with considerable frequency, showing that there was gross faecal contamination, but Professor Leiper believed that the chief factor in accounting for the diminution in the hookworm infection was the lowering of the temperature of the mine, which resulted in the death of the parasite in the larval stage. He also showed a propaganda film on hookworm disease, prepared by the International Health Board of the Rockefeller Foundation. It was a very lively and popular piece of kinematography, with startling captions, intended to drive home the need for personal and domestic hygiene. One remarkable portion of the film showed the intestine of a dog recently dissected with the ankylostomes still alive and active.

THE GOVERNMENT AND THE GEDDES REPORT.

THE Geddes Committee's report on public economies extends into three Blue Books, of which summaries have appeared in the SUPPLEMENT; it covers practically all the departmental services. No one could expect Sir Robert Horne, in stating what the Government intends to do on the recommendations, to make his analysis and exposition follow strictly parallel lines. That was impossible in a speech of two hours and a half. The matter was rendered the more difficult because the Geddes Committee had reached their totals for reductions by including sums for cuts the nature of which they did not specify but only indicated. Further, it is obvious that in dealing with men and contracts varying time would be required for effecting economies. But the conclusions can be put succinctly. The Geddes Committee suggested cuts to the amount of £86,000,000, of which £71,000,000 was specified. The Government propose cuts on the same basis to the amount of £53,000,000, or, including what can be done as the result of the Washington Conference, £64,000,000. Of this sum £54,000,000 will be realizable in the financial year 1922–23, and will be in addition to reductions amounting to £75,000,000 previously made by the departments themselves. By far the largest savings will, as expected, be in the fighting services, and these will be obtained by the reduction in the numbers of officers and men. Another comparison by Sir Robert Horne was still more striking as an indication of what is being done. Taking into account the supplementary estimates of the present year, which have so weighted the expenditure, he said that the estimates for next year offered a total reduction of £181,000,000. But that, of course, is subject to any supplementary estimates in the later period. The Government is frankly proceeding not only on lines of economy but on a decision that the country must do without various things which would be afforded in normal times. On the other hand, they are bound to remember, in regard to the health services, for example, that a cutting of expenditure may mean an actual loss to the nation in other ways; and for that reason the Geddes Committee itself showed restraint in its counsel in this connexion. The reduction proposed by the committee was £2,100,000; and that was accepted by the Ministry, though it is to be secured in somewhat different ways, and with some sacrifices that must be regretted. The war pensions did not come under review, as they were fixed some time ago, subject to small modifications periodically, as the decline in the cost of living may permit. It would be a mistake to assume that the Government has decided, in regard to grants through departments as a whole, that the percentage system is to be abandoned. The balance of opinion (adds our parliamentary correspondent) is against it, as it does not give adequate control, and rather encourages expenditure by local authorities, but there are objections to the block grant system in that it may also tend to perpetuate an allowance to be lived up to by the local authorities. The proposal to raise the age of entry in elementary schools to 6 years has been rejected.

TERRITORIAL ARMY REDUCTIONS.

THE Secretary of State for War recently called together the Presidents and Chairmen of County Associations in order to announce to them the reductions in Territorial Army expenditure decided upon by the Army Council in consequence of the pressing demand for economy of public money. Part of this reduction, we understand, will consist in the disbandment of units and the consequent removal from the Active List of officers and other ranks who thus become supernumerary to establishment; there will also be a proportionate reduction in buildings. According to this plan of economy the number of Territorial general hospitals will be reduced from 23 to 3, and the number of casualty clearing

stations from 15 to 8. So far as the general hospitals are concerned, it is probable that all the existing units will be disbanded with the exception of the three to be retained. Further, each Territorial division will have only one field ambulance instead of three as at present; this is to be effected in the main by amalgamating the three existing divisional field ambulances to form a single unit. It is proposed to cut down the establishment of officers in the surviving medical units: Territorial general hospitals are to have 10 instead of 32 officers, clearing stations 6 instead of 12, field ambulances 6 instead of 8, and cavalry field ambulances 6 instead of 7. The establishments of "other ranks" will not be reduced in field ambulances, but slight reductions are proposed in the personnel of Territorial clearing stations and general hospitals. It may confidently be assumed that the wholesale disbandment of general hospitals goes far beyond any reduction in which the medical advisers would be willing to concur on grounds of safety and efficiency, and serious representations should be made when parliamentary sanction is sought for these economies. According to our information there is another proposal affecting the Territorial medical service which needs publicity. The reduction is small, but it appears to inflict a distinct hardship upon a number of Territorial medical officers. At the present time each Territorial Division has in peace time a headquarters medical staff of three officers: an assistant director of medical services, who is a Territorial officer and unpaid; a deputy assistant director of medical services, also a Territorial officer, but receiving pay for full-time services; and an adjutant, who is a Regular officer (with full pay and pension rights) and is attached to the Divisional school of instruction. It is proposed that the fourteen D.A.D.M.S. appointments shall be abolished and the holders thereof given two months' notice, the adjutants of the regular R.A.M.C. being retained. Since the appointment of D.A.D.M.S. was understood to be for four years, the Territorial officers holding them incurred domestic commitments, and we are strongly of the opinion that (assuming the economy to be necessary in the public interest) the notice given these officers is far too abrupt. We therefore hope that the medical members of Parliament will watch this matter when the Secretary of State for War makes his statement in the House of Commons. The Army Council has evidently made up its mind, but the final decision rests with Parliament.

A COURSE of advanced lectures in medicine by professors in the Faculty of Medicine of Paris has been arranged by the University of London, and will be given at the house of the Royal Society of Medicine, 1, Wimpole Street. The first, on March 20th, by Professor H. Roger, will be on the functions of the lung; at this lecture the Vice-Chancellor of the University, Sir S. Russell-Wells, will preside. The second, on March 23rd, by Professor A. Chauffard, will be on the humoral syndrome of gout; Sir Thomas Lewis, F.R.S., will be in the chair. The third, on March 27th, by Professor P. Duval, will deal with the present position of intrathoracic surgery; Mr. W. Sampson Handley will preside. The lectures will be given at 5 p.m. on the days mentioned. The course will be continued by other lecturers in May.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

Geddes Committee Report.

The Government's Intentions.

THE Chancellor of the Exchequer, Sir Robert Horne, on March 1st reviewed in detail the recommendations of the Geddes Committee for the reduction of national expenditure, and announced the intentions of the Government. He said that when the Committee were asked to make suggestions for cutting down the Estimates by a hundred millions it was not expected that they would be able to do so much, but they were given a round figure to aim at. The cuts which they advised amounted to eighty-six millions sterling, and these he had to consider.

In regard to education, Sir Robert Horne said, the Committee recommended a reduction of eighteen millions, but part of that (about three millions) would be simply a transfer of burden from the taxpayer to the ratepayer. The two principal submissions were for a lowering of teachers' salaries and the exclusion from school of children under 6. The Government had decided that neither of these proposals could be put into operation. There was no doubt that the health of the children of this country had been immensely improved by the medical attention and the care which they had at school during these tender years; and it would be a grave injury to many of the homes in this country if, when women were battling with the difficulties of life in trying to support their families, they were forced to keep their children away from school, where at present they received the only mothering they could get. The Government, however, did see its way to save six and a half millions on the education votes. They accepted the proposal of the Geddes Committee that teachers should contribute 5 per cent. of their salaries towards their pensions, and this arrangement would yield nearly two million pounds. They were also in favour of increasing the size of the classes as far as practicable.

The Geddes Committee had recommended a reduction of twenty-one millions on the Navy Estimates, irrespective of what might result from the Washington Conference. Out of the suggested reduction of twenty-one millions only fourteen millions were in respect of specified items. The other seven millions were a kind of margin which might readily be represented by savings effected at Washington. Anyway, on definite figures there was a difference of only four millions between the Committee and the Admiralty, and this resolved itself almost entirely into the number of the personnel of the Navy. The number of men in the Navy now was 122,700; the Admiralty proposed to reduce it to 121,600; the Geddes Committee proposed 88,000. The Admiralty had since agreed to 98,000 men, and the Government held that this figure should be accepted. It would be quite impossible, however, to bring about this saving by March 31st of this year; on the other hand, he hoped that in the course of next year, still greater reductions in naval expenditure might be obtained.

As regards the Army, the Geddes Report advised a reduction of twenty millions, or £22,500,000 including the Middle East, but again there was a vague sum of £7,000,000 for unspecified reductions, therefore the reduction recommended was £15,500,000. Against that the War Office suggested a reduction of £17,000,000. The difference was on the question of numbers. The Committee advised a reduction of 54,000 men; the War Office accepted one of 33,000. Afterwards it was discovered that the 54,000 recommended by the Geddes Committee was based on a misapprehension, really due to a change of mind on the part of the Indian Government as to its necessities. The revised figure of the Geddes Committee therefore was 39,000, and the War Office proposal was 33,000; the Government could not recommend any further curtailment. For the Air Force the cut recommended was five and a half millions, including one million unspecified. The Air Minister proposed a reduction of three millions. The Government gave these recommendations to the House as those which could be most justified in existing conditions. The suggestion by the Geddes Committee that there should be set up a Ministry of Defence would be referred for consideration to the Committee of Imperial Defence.

Coming next to the portion of the report which dealt with the Ministry of Labour and the recommendation for amalgamation of Health Insurance and Unemployment Insurance, Sir Robert Horne said that preparations were being made for a complete investigation into the possibility of carrying out some such scheme. For the Ministry of Health the reduction proposed was £2,100,000, and that had been accepted. As to War Pensions, he was able to say that the administration had themselves put forward suggestions for a reduction of six millions, and these had been adopted both by the Geddes Committee and the Government. The saving was entirely effected by economies in the working of the department itself.

After referring to various other departments Sir Robert Horne, in summing up, said that for the purpose of comparison he deducted from the eighty-six millions aggregate recommendations the sum of fifteen millions for unspecified possible savings, and so reached a figure of £71,000,000. The Government accepted in all a reduction of £64,000,000, but that would include £10,000,000 attributable to possible savings as the result of the Washington Conference, and £1,000,000 saving on the supply of oil. This brought him down to £53,000,000, and the difference between the figures of £71,000,000 and £53,000,000 was £18,000,000. Of that, £12,000,000 were represented by the education reduction proposals of the Geddes Committee, which the Government could not accept, and beyond that there was only £6,000,000 between the Committee and the Government. Sir Robert Horne went on to say that with the savings already effected he hoped that the estimates for next year would be £181,000,000 less than the estimates for the present year, and in reply to Mr. Asquith as to how he got these figures he explained that for purposes of comparison he was including the supplementary estimates.

In the course of debate Mr. J. H. Thomas, for the Labour party, declared uncompromising opposition to any proposal to amalgamate health and unemployment insurance. Lieut.-Colonel Sir Arthur Warren advised caution in the consideration of such amalgamation.

Voluntary Hospitals Grant.

Mr. Gilbert asked, on March 1st, if the Hospitals Commission had now distributed the £500,000 voted to assist the voluntary hospitals, and whether there was an improvement in the position of the London institutions. Sir A. Mond replied that the Voluntary Hospitals Commission anticipated

that the grants made during the present financial year would amount approximately to £120,000, of which £87,900 had been paid to London hospitals. Applications for grants to the local Voluntary Hospitals Committee were dealt with as soon as they were received. Hospitals had been asked to expedite their application, but comparatively few had as yet been received, as their accounts for the year were not made up. Although the figures were not complete, the King's Fund estimated that the aggregate deficit for the London hospitals would be substantially less than in 1920, and it was probable that the same would be the case for the provincial hospitals. The Minister gave the following list of grants for London approved by the Voluntary Hospitals Commission up to February 28th, 1922:

	£
Canning Town	700
East London Hospital for Children	3,000
Elizabeth Garrett Anderson Hospital for Women ...	600
Royal Northern Hospital	11,000
Hospital for Epilepsy	850
Hospital for Sick Children	4,000
Infants' Hospital	1,000
King's College Hospital	9,000
London Hospital	10,000
London Temperance Hospital	2,000
Metropolitan Hospital	750
Middlesex Hospital	3,000
Mildmay Mission Hospital	400
National Hospital for the Paralysed	800
Prince of Wales's General Hospital	2,200
Queen Charlotte's Lying-in Hospital	3,000
Queen Mary's Hospital for the East End	1,000
Queen's Hospital for Children	2,100
Royal Free Hospital	12,000
Royal National Orthopaedic Hospital	3,000
Royal Waterloo Hospital for Women and Children	500
Samaritan Free Hospital for Women	800
South London Hospital for Women	800
University College Hospital	12,000
Total	£87,900

Higher Contributions for Health Insurance Dropped.

Mr. J. H. Thomas asked the Minister of Health, on Tuesday, March 7th, whether it was his intention to proceed with the bill increasing National Insurance contributions.

Sir A. Mond answered that in view of the objection to increasing such contributions in present circumstances he had obtained the concurrence of the Consultative Council on National Health Insurance in securing the economies in State expenditure on National Insurance recommended by the Geddes Committee, with certain other economies, on lines different from those suggested by the Committee. The proposal was that all State expenditure on National Health Insurance, with certain exceptions such as the cost of the central administration, the cost of audit, and the statutory two-ninths contribution, should be defrayed until December 31st, 1923, from the accumulated surpluses of approved societies. This proposal had been accepted by the Government, and legislation to give effect to it was being drafted. Between the present date and December 31st, 1923, the whole position would be reviewed.

The above announcement is in accordance with a forecast made in this column last week.

Criminal Law Amendment Bill.—The text of the Criminal Law Amendment Bill, introduced by the Home Secretary on February 8th, has been issued. It contains six clauses and a schedule. The principal proposals are that consent shall be no defence to a charge or indictment for an indecent assault on a child or young person under the age of 16, and that reasonable cause to believe that a girl was of or above the age of 16 shall not be a defence to a charge under Sections 5 or 6 of the Criminal Law Amendment Act, 1885. The maximum penalties imposable on keepers of brothels are to be increased to a fine of £100 or imprisonment with or without hard labour for a period not exceeding three months, and on second or subsequent conviction to a fine not exceeding £250, and to imprisonment with or without hard labour for a term not exceeding six months. In addition to suffering such penalties persons may be required to enter into recognizances with or without sureties to be of good behaviour for twelve months; or in default of entering into such recognizances may be imprisoned for a period of three months beyond the imprisonment already awarded. For Scotland different provisions are proposed. Indecent conduct which would constitute an offence in common law in reference to a girl under the age of 12 is to be reckoned in the case of an offence under the present measure, when a girl is between 12 and 16 years of age, whether with consent or not, and the offender is to be liable—on conviction or indictment—to imprisonment with or without hard labour for a period not exceeding two years, or on summary conviction to imprisonment for a period not exceeding three months. The penalties on conviction of brothel keepers are also changed. Another section of the bill proposes the repeal of the Punishment of Incest Act, 1908, which requires that all proceedings under the Act shall be held *in camera*.

National Insurance Funds.—At the instance of Mr. Rhys Davies, on February 28th, Sir A. Mond said that the total loss suffered in National Health Insurance funds by the conversion or sale of Consols and other securities purchased previously to December 31st, 1921, was approximately £1,800,000. The extent of the depreciation of securities held on December 31st, 1921, was approximately—on the basis of mid-market prices—£2,100,000. The amount of interest earned by the investment through the fund of moneys standing to the credit of approved societies on December 31st, 1921, was approximately £10,000,000, and the proportion credited to the societies £7,500,000. While the improvement in market prices went far to meet the losses and depreciation mentioned, it rendered the maintenance of the existing average yield more difficult, since new moneys had to be invested on less favourable terms.

Increase of Sickness amongst Insured Persons.—Sir Robert Clough inquired, on March 9th, whether the medical reports and statistics available in connexion with the National Insurance scheme indicated that any increase of sickness, particularly among women, was due to the prevalence of restricted means of livelihood arising from unemployment. Sir A. Mond said that the figures available as to the claims for sickness benefit amongst approved societies comprising about half the total number of insured persons showed that there was an increase in the number of weeks for which benefit was paid in 1921, as compared with the previous year, of 1.4 per cent. in the case of men and 8.4 per cent. in the case of women. Many factors must, however, be borne in mind in making a comparison between the figures for the two years and, in particular, the serious epidemic of influenza about the end of the year 1921. The material in the possession of the Ministry did not make it possible to state to what extent the increase might have been attributable to the cause referred to by Sir Robert Clough.

Irish Insurance.—Mr. Devlin, on February 27th, moved an address praying that the Order in Council dated January 31st, 1922, and cited as the Government of Ireland (Adaptation of Health Insurance Act) Order, 1922, be annulled. His complaint was that the British Government was handing over to the Northern Government the health services before the Southern Government had begun to function, and that according to the Act the transfer should be made simultaneously. Sir Hamar Greenwood, in reply, maintained that the action being taken was absolutely correct, and, indeed, was necessary in the circumstances. The staff in Northern Ireland was complete, ready to take over duties on March 1st, and so there would be no serious break in the administration in the North of Ireland. No more serious inconvenience would be caused in administering the Health Insurance Act by the Northern Parliament on the one side, and by the Southern on the other, than occurred in administering the Act in Wales on the one side, and in England on the other. Captain Redmond urged that it was wrong to divide an Act which was based upon area administration before the area itself had been properly defined. Mr. Devlin's motion was counted out.

Pensions Appeal Tribunals.—The Solicitor-General, on February 28th, moved a vote for a supplementary sum not exceeding £5,000 for salaries and expenses of pensions appeal tribunals. He explained that the original estimate provided for only nine tribunals, but in face of arrears it had been found necessary to increase the number to twenty-four. By the end of last year the accumulation had been cleared off, and four tribunals had been demobilized, but it was necessary at present to maintain twenty. Mr. Lawson moved a reduction of the vote by £100, on the ground, not that the additional tribunals were unnecessary in the existing circumstances, but because, in his opinion, if the Medical Boards and the Pensions Minister did their work rightly, cases which went to the Appeal Board would be settled. The Solicitor-General, replying to a rather discursive debate, promised that careful consideration should be given to the views expressed in favour of opportunities for a rehearing of appeals in particular cases. The vote was carried by 160 to 59.

Medical Treatment of Ex-Service Men.—Mr. Will Thorne, on March 1st, raised the case of casual dock labour, ex-service men, who need to attend a hospital and other institutions for treatment and cannot get allowances for expenses and loss of time—such loss of time arising because they have to be at a place of call for employment every morning. Mr. Macpherson agreed to meet the exceptional position by accepting the required certificate from the pensioner's usual employer, instead of, as in other cases, from the actual employer; a further relaxation of the rules was not thought practicable.

Appeal Tribunal Statistics.—On request by Sir R. Clough, the Minister of Pensions, on March 1st, gave the following statistics of the number of appeals finally rejected by the Pensions Appeal Tribunals for England and Wales, and the percentage they represented, in each of the last four periods of three months:

Period.	No.	Percentage.
February–April, 1921	3,981	71.5
May–July, 1921	7,351	72 0
August–October, 1921	7,943	72 2
November, 1921–January, 1922 ...	8,173	72.4

Conditional Pensions.—Major Tryon, answering a question by Mr. Gillis on March 6th, said that the personal and family allowances and other privileges granted under Article 6 of the Royal Warrant in respect of ex-service pensioners were in all cases conditional on the acceptance of the course of medical treatment which was considered necessary by the medical advisers of the Ministry. The Pensions Minister had to consider whether they could be continued at full rate where a course of treatment was interrupted against definite medical advice to the clear detriment of a man's condition.

Tuberculosis Cases.—In reply to Sir James Butcher, Major Tryon, replying for the Pensions Minister, said that the provisions made for ex-service men suffering from tuberculosis were not only adequate but exceptional. Generally speaking, in every active case of tuberculosis the man received the equivalent of pension at

the maximum rate, and where a pensioner had satisfactorily completed a prescribed course of treatment and training pension at 100 per cent. rate was granted for six months, followed by at least 50 per cent. for the next two years.

The Burden of Income Tax.—Dr. McDonald inquired, on March 1st, if the Chancellor of the Exchequer would endeavour in the next Budget to reduce the income tax by at least one shilling in the £, and so lessen the heavy burden borne by all taxpayers. Mr. Hilton Young said that the Chancellor of the Exchequer was not in a position to anticipate his Budget statement. Dr. McDonald asked if the Chancellor would apply the principle of the equality of the sexes to the incomes of husband and wife, taxing each separately according to individual means. Mr. Young responded that full recognition of the principle of equality was afforded by the provision by which either husband or wife could elect to have separate assessment. The Chancellor could not agree to the suggestion for separate ratings, as that would shift burden from the rich to the poor.

Pure Milk Supply.—In reply to a suggestion by Mr. Hurd, on March 1st, that a small committee should be appointed to consider the simplest means of ensuring the cleanliness and purity of the milk supply of urban areas, with a view to the amendment of the Act of 1915 before it was brought into operation, Sir A. Mond said he was in continual consultation with persons well qualified to express opinions, and was now considering the introduction of legislation. Viscountess Astor inquired whether, if proposals made by influential producers and distributors were put into an Act, towns would be able to adopt model clauses which would enable them to improve the milk supply at little cost to the taxpayer. Sir A. Mond said he thought that the bill now being prepared would meet the general view, and he would see, if possible, that it should cast no burden on the ratepayers.

Foot and Mouth Disease.—Major Barnston, in answer to Mr. Doyle on March 1st, stated that, as no method could be discovered of cultivating artificially the virus of foot-and-mouth disease or of identifying it, the inquiry into the means by which the infection causing sporadic outbreaks of this disease was carried had been discontinued. Circumstantial evidence pointed to the air or birds as the most probable carriers of the disease. The Minister of Agriculture, as already stated, was endeavouring to arrange for an international inquiry into the whole subject.

Venereal Disease.—Captain Elliot asked, on March 1st, what grants were being paid direct by the Ministry of Health to the National Council for Combating Venereal Diseases, and what, through the local authorities, on the 75 per cent. proportion of sums expended by them. Sir A. Mond said that the amounts paid up to date to the National Council for Combating Venereal Diseases during the current financial year amounted to £9,500. No grants were made direct by local authorities to the National Council.

Cancer Investigation.—Mr. T. Griffiths asked, on March 2nd, whether, in view of the increase in mortality from cancer and the urgent necessity for investigating the origin of the disease and the best form of treatment, the Prime Minister would consider the advisability of the appointment of a Royal Commission. Sir Alfred Mond said he was advised that a Royal Commission would not be a suitable body to undertake an investigation of this kind. Extensive research into the cause and treatment of the disease had for some time past been undertaken by various competent medical bodies in this and other countries.

Coroners Emergency Provisions Bill.—This measure received the Royal assent on March 2nd.

Clinical Thermometers Bill.—The bill introduced in the Lords had its third reading and was passed through that Chamber on March 1st.

Answers in Brief.

There are 302 ex-service men under notice of discharge from the Ministry of Health due to curtailment of work.

The Lancashire Asylums Board have recently afforded accommodation for over 2,000 mental defectives at the Calderstones Institution, Whalley, where facilities exist for dealing with all the children for whom it is the duty of the local authorities under the Mental Deficiency Act, to provide.

The convictions for drunkenness in the Metropolitan Police district in each month of the year 1921 were: In January, 2,304; in February, 2,073; in March, 2,357; in April, 1,961; in May, 2,163; in June, 1,878; in July, 1,804; in August, 1,962; in September, 2,751; in October, 2,615; in November, 2,502; in December, 3,040. Total, 27,410.

England and Wales.

New Sussex Hospital for Women and Children.

THE *Quarterly News-letter of the Medical Women's Federation* for February, 1922, contains an account of the opening of the new buildings of the Sussex Hospital for Women and Children, which, after having for some years carried on its work in temporary premises as a branch of the Lady Chichester Hospital, was opened by Lady Astor a short time ago. The new buildings comprise a large out-patient department, with waiting rooms, examining rooms, dental department, and venereal diseases department. There are two wards, each containing eight beds, for medical and surgical cases, into which patients are admitted at a minimum weekly charge of one guinea, and in addition there are ten private wards accommodating twelve or fourteen private patients, who pay from two to seven guineas a week. The operating theatre, with anaesthetizing room, sterilizing room, and surgeons' lobby, with separate dressing rooms, has been equipped in memory of Mrs. Martindale, who was the first to originate the idea of a Sussex Women's Hospital officered by women physicians and surgeons.

Courses on Tuberculosis at Manchester.

The regulations for the curriculum as well as the examinations for the diploma in tuberculosis of the Welsh National School of Medicine were published in our issue of February 25th, 1922 (p. 333). We have now received particulars of the advanced courses on tuberculosis instituted by the University of Manchester in 1912, in connexion with the course for the diploma in public health, by the late Professor Sheridan Delépine, who described their purpose in our columns in January, 1913. The acting director of the public health laboratory at Manchester informs us that owing to the war those courses had been interrupted, but that the certificate has been obtained by some sixteen medical practitioners, the majority of whom also held the D.P.H., at Manchester. The course extends over a period of not less than six months, and includes laboratory practice, supplemented by demonstrations and lectures at the public health laboratory; instruction in administration at health offices recognized by the university; and clinical instruction at tuberculosis dispensaries, hospitals, and sanatoriums recognized by the university.

Inspection and Treatment of London School Children.

Under the London County Council system of medical inspection, children requiring treatment or observation are reinspected about six months after the first inspection, and, if necessary, a second reinspection takes place at the end of a further six months. In 1921 the number of children examined in detail at elementary schools was 294,552, of whom 113,732 (or 38.6 per cent.) were noted as requiring treatment for one or more defects; teeth, vision, and nose and throat complaints accounted for most of these cases. In addition to the elementary school examinations, 2,255 children were examined at special schools, of whom 40.6 per cent. were found to need treatment for defects other than the disability which rendered attendance at a special school necessary; and 73,470 children were seen during the year as urgent cases, either at the schools, treatment centres, or local offices, and 26,425 of these were found to require treatment. At a first reinspection of children marked out for review there were 112,776 cases, of which 45.2 per cent. were regarded by the school doctors as discharged, and of 62,320 cases which came under the second review the school doctors reported that 60.3 per cent. had received treatment or no longer needed it. The results of the year 1921 are the best since the Council undertook the inspection and treatment of children. The report of the Education Committee states also that of every 100 cases receiving treatment 73 receive it under the Council's scheme, and the remaining 27 go to private practitioners or dentists or to hospitals not under the scheme. The full average cost of treatment is charged to the parents of fee-paying pupils in secondary schools who cannot afford to make private arrangements, and these charges, representing the cost of the treatment to the Council, are to be, for 1922–23, in the case of enlarged tonsils and adenoids, 9s. 8d.; minor ailments, 8s. 1d.; dental treatment, 7s. 2d.; *x*-ray treatment of ringworm, 25s. 4d. These rates show a reduction of 1s. 1d. and 5d. for minor ailments and dental treatment respectively.

Re-education of Tuberculous Ex-Service Men.

Dr. Noel Bardswell has submitted a report to the London County Council on an inquiry into the results of combined courses of treatment and training of tuberculous ex-service men. The report relates principally to the experience of ex-service men sent to training centres from the various metropolitan boroughs. During the period 1918 to 1921, 160 London men passed through the training centres at Papworth Colony, Nayland Colony, and elsewhere, but so far as could be ascertained not one of the men discharged home is now employed at the occupation for which he was trained. Some made an attempt to benefit by training, but failed for various reasons. Only nine men are employed in any newly acquired calling, twenty have resumed their original occupations, and the remainder—about 130—are unemployed and living on their pensions. The report submitted by Dr. Bardswell is believed to represent the first attempt by any public authority to ascertain the results of the scheme for the vocational re-education of tuberculous persons. The results are admitted

to be discouraging, but it is thought that the selection of cases for training is open to improvement, and it has also to be remembered that the experiment has been carried through at a time of exceptional difficulty, particularly as to the subsequent employment of those who have been trained.

REPORT OF THE CITY OF LONDON CORONER.

In his annual report for 1921, as coroner for the City of London, Dr. F. J. Waldo states that 570 inquests were held during the year, and that *post-mortem* examinations were carried out in all save 17 of the inquiries. Public inquests with juries numbered 305, the remaining 265 being investigated by the coroner without a jury. Dr. Waldo states that in all cases of violent death he is still a believer in the constitutional method of the coroner sitting in public with a jury, on the principle that an intelligent jury, as found in the city, directed by a coroner, is a better and more satisfactory tribunal in the public interest for the elucidation of truth than that formed by a coroner sitting alone. In his opinion, also, inquests are a mere farce without *post-mortem* examinations, and he thinks that inquests ought to be left alone altogether if not carried out in a thorough manner.

THE BRITISH INDUSTRIES FAIR.

The British Industries Fair, organized by the Department of Overseas Trade, has been held during the last fortnight at the White City, London. In a dozen large halls, accommodating altogether the exhibits of well over a thousand firms, almost every British product, from safety razors to aeroplanes, has found a place. From the medical point of view the exhibition was of interest on many sides, for it included a brave display of fine chemicals, alkaloids, disinfectants, surgical and dental apparatus, orthopaedic appliances, hospital furniture, opticians' supplies, and exact instruments for the laboratory, but even though the exhibits were classified to some extent, so that one went into one hall to look for miners' lamps and to another at half a mile distance for vaccines, the task of anyone who should attempt to describe the exhibition in detail would be stupendous. Here were twenty firms showing analytical and research chemicals, a number of others concentrating on sanitary preparations and druggists' sundries, and others again on perfumery and cosmetics; the chemical section, with its pyramids of salicylate and aspirin, and such objects of interest as the Burroughs Wellcome exhibit of the stages in the preparation of kharsivan, was very wonderful and engrossing. It was very closely rivalled, however, by the glassware section, for glass-making, both for artistic and scientific ends, is progressing quickly, and offers another illustration of British energy and resource in the face of no small difficulty.

CENTRAL MIDWIVES BOARD.

At a meeting of the Central Midwives Board for England and Wales, held on February 23rd, Sir Francis Champneys presiding, four midwives were struck off the roll. The chairman announced that the following had been re-elected as representatives on the Board by their respective bodies: Sir Francis Champneys (Royal College of Physicians of London); Dr. Griffith (Royal College of Surgeons of England); Dr. West (County Councils Association); Dr. Fairbairn, Miss Pearson, and Miss Pollard (Incorporated Midwives Institute); Mr. Sangster (Society of Apothecaries); Professor Briggs, Lady Mabelle Egerton, Miss Haydon, and Miss Le Gent (Ministry of Health). Letters were read from the town clerks of Bristol, Portsmouth, Stoke-on-Trent, and West Ham stating that their respective authorities support the action of the Manchester City Council in objecting to the carrying and administration by midwives of preparations containing opium. The Board decided to forward to each authority a copy of its resolution on the question passed on November 17th, 1921.

Scotland.

GLASGOW ROYAL ASYLUM.

In his annual report Dr. D. K. Henderson, physician superintendent of the Glasgow Royal Asylum, stated that of the 151 new patients admitted during the year 92 were women. This predominance of the female sex, which had been observed during the past two years, was, Dr. Henderson suggested, to be explained partly as a reaction from the strain of the war years, and partly as the result of the high cost of living and the difficult economic and social conditions of life in these days. An interesting feature was the large proportion of voluntary cases (39 per cent. of admissions), which evidenced that the public was realizing more and more that the mental hospital was more than a mere custodial institution—it was a real hospital for the care and treatment of patients. The recovery and improvement rate reached 52 per cent., but Dr. Henderson thought that still better results could be obtained if cases applied earlier for treatment. During the year he had introduced a new grouping or classification of mental disorders, to bring it more into accord with modern ideas. He advocated a uniform scheme of classification to be used thoughout mental hospitals in order to facilitate ready comparisons in different parts of the country, and so lead to more precise data. In this psychological and psycho-analytic age they realized that mental disorders were not simply characterized by the expression of absurd delusions and hallucinations, or by odd, strange, bizarre conduct, but that these disorders were merely symptoms, the result of unhealthy or disorderly habits of thought which had developed gradually. The disorder was often the expression of a wish which had been unfulfilled. Some individuals, instead of meeting the actual difficulties of life, tended to fly from reality, and, in their mental disorder, seemed to attain those things for which they had been vainly striving in their ordinary conscious life. This same type of mental mechanism was in operation in ordinary life in the group who styled themselves spiritualists. Such were those who, instead of meeting the difficulties of life and facing its various isssues with common sense, sought to evade these issues like the patient of unsound mind, and fly to something mystical which they termed a "new religion," and about which they could really know nothing. In his opinion it would be of much more practical benefit to themselves and healthier for others if they devoted themselves to the study of the problems of everyday life, instead of trying to outline a hereafter. He referred to the treatment of epilepsy during the past year by luminal, a drug about the efficacy of which glowing reports had been made in America and in Germany. He considered that the results so far were inconclusive, because the number of cases was too small to allow an opinion to be based on them, but they were sufficiently satisfactory to warrant more extensive trial. The total number of patients under treatment during the year was 648, and the average number of residents 508. Of the 151 new patients admitted, 143 were private cases. Of "service" patients admitted to Gartnavel there had been in all 113. Of these, 14 have been discharged as recovered, 7 greatly improved, 3 not improved; 7 have been transferred to other mental hospitals, and 15 died, leaving 67 still under treatment.

CRICHTON ROYAL INSTITUTION, DUMFRIES.

The eighty-second annual report of Crichton Royal Institution by Dr. C. C. Easterbrook, its physician superintendent, shows that 1,242 patients were under treatment during 1921, that the number at the close of the year was 971 (442 males and 529 females), and that there were 636 private and 335 parochial patients. Of the private class 169 were voluntary boarders. Dr. Easterbrook, like Professor Robertson at Edinburgh, emphasizes the value of the early treatment of mental disease, and points out that under the law as it stands only private or "paying" patients can be admitted for treatment in mental hospitals as voluntary boarders; the rate-aided patient must be certified as a "lunatic" and become technically, at any rate, a "pauper" before he can gain entrance; obviously there are some reforms needed to put this matter right and give to rate-aided patients the chance of early treatment on a personal application for admission. The superintendent also pleads for the establishment of mental clinics in the general hospitals of the medical schools and main centres of population in the country as a prophylactic and curative measure for the treatment of incipient mental disease. Further, he points out that the United States with its National Committee for Mental Hygiene (founded in 1909) is far ahead of this country in its endeavour to prevent mental disease by spreading reliable information on the subject, and by trying in other ways to maintain mental health. During the year 77 certificated patients and 7 voluntary boarders died; the causes of death among the certificated were chiefly heart disease and arteriosclerosis, cerebral apoplexy, exhaustion from mental disease, senile decay, pulmonary tubercle, and influenza with pneumonia. In 53 per cent. of the deaths the mental disease had lasted for longer periods than two years.

THE LISTER WARD.

The weekly meeting of the Glasgow Medical Lunch Club was held on March 2nd, the guest of honour being Mr. A. Ernest Maylard. After lunch he addressed the members on the subject of museums. He referred at the outset to his own interest in, and work connected with, museums throughout a long medical life. He emphasized strongly the instructive and educative part which such institutions play in conveying to the minds of all classes valuable information. He instanced as an example the Hunterian Museum at Glasgow University, a lasting memorial to the name of William Hunter, physician and anatomist, who, by his will in 1783, founded it. From that the speaker proceeded to refer to the proposed Lister memorial, and to that end more especially the retention of the original Lister ward in the Glasgow Royal Infirmary. He recapitulated the various steps which had been taken in the matter from the time when it was first proposed to retain the ward until now, and deplored the lack of wholesome sentiment which had led to the decision for its demolition. As one of those who had all along taken an active part in advocating its retention on its original site, he again made an impassioned appeal against its destruction, as thereby an invaluable asset would be lost to the Royal Infirmary, to Glasgow, and to the medical world. He summed up his appeal thus: "You cannot separate a part from a perfect whole without lessening the relative value of the divided portions. To remove the Lister ward from its inseparable associations with all that has made it and the Royal Infirmary one in the eyes of the civilized world is irretrievably to damage both."

South Australia.

(FROM OUR SPECIAL CORRESPONDENT.)

MEDICAL LEGISLATION.

IN an otherwise somewhat barren session Parliament has passed two Acts of some importance to the medical profession. The object of one is stated in the preamble to be to make better provision for the control and management of the Adelaide Hospital. The present Board of Management is to be replaced by a board of three, the chairman of which must be the Inspector-General of Hospitals. How in addition to his present duties Dr. B. H. Morris will manage to find time to supervise the hospital effectively remains to be seen. Legislators, however, seem to think that the new departure will prevent such incidents as deaths under anaesthesia and the occasional dismissal of a drunken man with an unsuspected fracture of the skull. Besides the triumvirate (which may include a member of the gentler sex) an advisory committee of seven members will be appointed to assist and advise the University Council and the Hospital Board as to appointments to the staff and other matters affecting the Medical and Dental Schools. The Act thus recognizes the importance of the hospital as a teaching school, whereas formerly the students were considered to be there very much on sufferance.

A short Medical Practitioners Amendment Act was also passed; the essential point in it is the power given to the Medical Board to establish reciprocity, and the adjustment of fees, with similar Boards in the adjoining states, as well as with the General Medical Council, if it be possible. At present an Adelaide graduate, who pays 5 guineas for perpetual registration, has to pay additional fees for permission to practise in other states, and, if he should go to England for six months to furbish up his work, he must pay another £5 for registration there, although he never intends to stay to practise.

Although the profession seemed inclined to boycott the Opticians Act, two distinguished specialists have been persuaded to join the Board and the examinations have commenced. The Nurses Board, under the new Act, has also come into existence, and is busy formulating rules and registering the old hands. The Venereal Diseases Act appears to be a dead letter at present, as no regulations have so far been gazetted.

THE UNIVERSITY.

Sir Joseph Verco has decided to retire from some more of his activities. He has refused reappointment (for the eighteenth time) as President of the Royal Society of South Australia, and he has also declined to be renominated as Dean of the Faculties of Medicine and of Dentistry, in which capacities he has rendered yeoman service to the University. He is succeeded as Dean of the Medical Faculty by Dr. W. T. Hayward, C.M.G. At the Adelaide Hospital the teaching staff is strengthened by the appointment of Dr. William Ray (a former Rhodes scholar) as full physician, though the retirement of Dr. H. Swift will be a distinct loss to the students. This year also Dr. T. G. Wilson succeeded to the Lectureship on Gynaecology vacated by Dr. J. A. G. Hamilton, who has retired from practice.

THE BRANCH.

The outstanding features of the year have been the appointment of Dr. Bronte Smeaton as President, the delivery of the Listerian Oration by Mr. Fred Bird, C.B., the distinguished Melbourne surgeon, who took for his subject the knee-joint, and the death of our much-beloved and respected colleague, Benjamin Poulton, the originator of the now extinct Inter-Colonial Medical Congress, and a former secretary and president of the Branch.

MEDICAL DEFENCE ASSOCIATION.

At the annual meeting of the Medical Defence Association it was reported that a medical man in the country had been assisted who appears to have been too outspoken in his utterances with regard to the competence of a nurse who ran a hospital in his district. After two days' discussion in the local court, the case was settled out of court. Another case had been mentioned in Parliament and had created much sensation, an unfortunate circumstance which could easily have been avoided but for the indiscretion of the operator who discovered the forceps in the pelvis which had accidentally been left there by another surgeon two years before.

India.

LEPROSY IN BENGAL.

THE Bengal Government has decided to establish a leper settlement for 1,000 persons. The settlement will be situated at some distance from one of the larger towns, and it will be attractively laid out. At present there is no question of compulsory segregation of any but pauper lepers in this colony, so that difficulties which might otherwise arise will be obviated. The cost will undoubtedly be great, but the value to the sufferers and the population will, it is anticipated, more than compensate for the expenditure. This action is none too soon, as the Collector of one district described as the "blackest spot of leprosy in India" gives an appalling description of the conditions which now exist under the present futile attempt at prevention and segregation. Leprous mendicants are at large everywhere, and many known lepers ply trades which, in the interest of public safety, are forbidden by the Lepers Act. This is not peculiar to this part of India; it is not remarkable that credible authorities state that leprosy is spreading from the lower to the middle classes. It is hardly realized in England that it is not uncommon for lepers to be present at village feasts, to sit on the common mat, and to share the same hookah with healthy individuals. They actually wash in the village tank, and, of course, freely handle the coins and paper money circulating in the shops.

INDIAN MIDWIFERY TRAINING.

The response made by the General Council of Medical Education and Registration to the representations of the Secretary of State and Government of India shows, says the *Civil and Military Gazette*, that that body had not been actuated by malice and uncharitableness and racial prejudice as certain speakers in the Legislative Assembly appeared to imply during the debate on the question last September. It could hardly be denied that there were valid grounds for its conclusion that the practical training in midwifery in Indian medical colleges fell a good way short of the required standard. By agreeing to postpone its final decision on the question of recognition of Indian medical diplomas the Council indicated, it might be assumed, that it was prepared to take the special circumstances obtaining in India into account. It was admitted that the customs of the country, except possibly in Madras, made it difficult for Indian medical students to obtain much practical experience of midwifery cases. Even allowing for this difficulty, however, the Council would be sure to ask for definite evidence that the medical

colleges in this country had made genuine efforts to improve the standard of training in midwifery by every possible means before it consented to continue recognition of Indian medical diplomas.

A CHRISTIAN UNIVERSITY IN INDIA.

The directors of the Forman Christian College, Lahore, which is the largest missionary college in northern India, with the largest number of scholars among the colleges of the Punjab University, have very strongly urged the scheme for a united Christian university for the Punjab. In order to consider practical proposals a conference has been arranged between the board of directors of the Forman Christian College, representatives of the Indian Christian Association, the American missions, the Church Missionary Society, the Scots Church, the Methodist Mission, and some educational experts.

LIQUOR REFORM IN BOMBAY.

Among the regulations made by the Bombay Government to control the consumption of alcohol and to discourage excessive manufacture and sale of illicit spirits, is one which fixes the maximum quantity of "country spirit" which can be possessed by or sold by retail to one individual at a time. The maximum hitherto has varied in different parts from one to seven bottles. The Government have now decided that the quantity should be reduced to one bottle in all urban and municipal areas; and as regards most rural areas where shops are at a considerable distance, three bottles.

Correspondence.

THE HUNTERIAN LECTURE ON PROSTATIC ENLARGEMENT.

SIR,—I have read this lecture by Professor Kenneth Walker, published in the BRITISH MEDICAL JOURNAL on February 25th, with much interest, partly because it contains much new matter resulting from his valuable original investigations, and partly because he arrives at practically the same conclusions as to the pathology of the complaint that I did in 1910.

As my views were quite original I looked for some acknowledgement, but failing to find it I write to call Professor Kenneth Walker's attention to my paper read at the Liverpool Medical Institution, and published in full in the *Liverpool Medico-Chirurgical Journal* for July, 1910, and also in the *Lancet* for July 30th, 1910, with ten illustrations.

To show how similar Professor Walker's views are to those I had published, I append a copy of his printed conclusions and my own:

"(1) It is impossible to explain enlargement of the prostate by any theory of chronic inflammation alone.

"(2) Although enlargement may reproduce conditions favourable to the development of a neoplasm, the enlargement itself does not come into the category of true tumours.

"(3) The condition is in the nature of a fibro-epithelial degeneration which finds its analogy in the female sero-cystic disease of the breast.

"(4) This degeneration may be regarded as an accident occurring during the progress of involution of the genital tract.

"(5) The cause that determines the onset of the condition is unknown, although it is not improbably connected with a loss of endocrine balance occurring during this period."

"(1) The accepted theories as to the cause of prostatic hypertrophy all fail because each can only apply to a limited number of cases.

"(2) The prostate and breast are both controlled by their respective dominant sexual glands, and respond to their influence in a similar way in health and disease.

"(3) Both organs are subject to a disturbing influence at the climacteric period, which may, and frequently does, result in hypertrophic change.

"(4) In such change the microscopical appearances in the two organs show a remarkable resemblance in all essential details.

"(5) Prostatic hypertrophy, like the mammary involution hypertrophy, occurs only at the climacteric period, whereas there is no known neoplasm which is so strictly limited to an age-period.

"For these reasons I consider prostatic hypertrophy is not due to a chronic inflammation of septic or specific type, nor to a neoplasm, but that it is an involution change similar in character to that with which we are familiar in the mammary gland."

—I am, etc.,

Liverpool, March 6th. FRANK T. PAUL.

SIR,—I have read with interest Professor Kenneth M. Walker's lecture on the nature and cause of old-age enlargement of the prostate (February 25th, p. 297), and am pleased to find that his accurate researches do not give the lie direct to the position in which I find myself as regards the above subject as a general practitioner.

I think it is now almost universally admitted that the thyroid enlargement of young women is the response, in the first place, of the organism to the call for increased function. Since, in 1904–5, I successfully treated over a hundred young women with early soft parenchymatous goitre by the patient administration of small doses of thyroid extract, I have never had reason to alter my opinion that in the pathogenesis of goitre physiological hypertrophy plays a part. It has become a working rule with me that early enlargement of any gland connected with the endocrine system is a call for increased function, and I have applied it in the case of the early enlarged prostate. So I have given "Opocaps" prostate gland gr. 3, prepared by the British Organotherapy Co., in a few of these cases. It is no good giving thyroid extract to people with enlarged thyroids of long standing, and, similarly, the enlarged prostate must be in an early stage of physiological hypertrophy, such as, I submit, precedes formation of the so-called adenomata.

My contention is upheld by the fact that these people get relief from prostatic feeding. I have two men under my care—one a writer by profession, and the other an overwrought mechanic—who both have taken repeated courses of the preparation named. The first begins with his capsules when he feels the return of frequency and slight difficulty in micturition, and has been going on like this for two years. The second had persistent haematuria, copious and clotting, six months ago, for two weeks. He says that urination is becoming increasingly easier as he goes on with the treatment. The clinicians threw more light on the thyroid function than the researchers, and I should be much obliged if your readers who have used this remedy in really early cases where it is likely to do good would let us know their opinion, thus upholding, or the reverse, my—may I say?—analogical guesswork, that physiological hypertrophy plays a part in, or possibly is the main prime cause of, enlarged prostate.—I am, etc.,

Heaton, Bradford, Feb. 28th. A. F. MARTIN, M.D.

HAEMORRHAGIC COLITIS.

SIR,—The article under this heading by Mr. Geary Grant (February 25th, p. 308) raises a subject of particular interest. There can be no doubt that haemorrhagic colitis is a very definite form of colitis which often goes unrecognized. I gave a full description of the condition in my *Diseases of the Colon*, published in 1910, but there have been very few recorded cases since then, although at St. Mark's Hospital we get three or four cases yearly. Records of five cases are to be found in the *Transactions* of the Proctological Subsection of the Royal Society of Medicine (November 12th, 1913).

The two cases described by Mr. Grant are typical. Both were in young adults, the bleeding was profuse, and there was a serious anaemia; there was no pain, temperature was raised at night, and the patients became seriously ill.

The condition is easily diagnosed by means of the sigmoidoscope. In my experience no other condition imitates the appearance of the mucous membrane seen in this disease. Repeated bacteriological examinations have so far failed to demonstrate any specific organism, though in two cases an almost pure culture of *Diplococcus pneumoniae* was demonstrated in the discharges.

Mr. Grant says that in another case he would perform appendicostomy if the patient did not respond to medical treatment. I would advise him to do appendicostomy at once, as I have never seen any case recover from medical treatment, and it is most important that the appendicostomy should be done as early as possible, and not as a last resort, as is too often done. Appendicostomy is a life-saving operation in these cases, and should be performed directly the diagnosis has been established. As soon as the colon can be kept washed out from the appendicostomy opening the patient begins to recover and progresses with surprising rapidity. I differ from Mr. Grant as regards the method of closing the colostomy. Extraperitoneal methods of closure are uncertain and liable to cause subsequent trouble: resection and intraperitoneal closure is the better method, and should be quite safe where an appendicostomy opening already exists.—I am, etc.,

London, W., Feb. 28th. J. P. LOCKHART-MUMMERY.

FATS AND GOITRE.

SIR,—Colonel King (February 18th, p. 287) suggests that there are several localities in England where research on simple goitre could be undertaken, and mentions recruiting figures indicating that certain areas near Chester are endemic foci. One district of Cheshire is also referred to in Hirsch's *Geographical and Historical Pathology*.

As children are not exempt, the reports of school medical officers might be of value in determining areas of extraordinary prevalence. Some years ago, when a school medical inspector in Cheshire, covering the middle third of the county from north to south, I was greatly struck with the prevalence of simple goitre in some localities. To avoid the difficulty of deciding whether or not a thyroid was pathologically enlarged, I registered every case in which the outline of the gland was obvious on inspection, and the percentage among the children examined varied from *nil* in some areas to a maximum of 60 in one small school. I found a definite area of maximum prevalence, crescent-shaped, south of Nantwich, one horn of the crescent north-west of Nantwich, the other east of Crewe, with a second area of less intensity extending from Winsford eastwards to near Congleton. From my observations among parents, and from inquiries, adults appeared to be also particularly affected in these regions.

I regret that I left the district before completing what to me was a most interesting study.—I am, etc.,

C. R. GIBSON,
February 21st. M.O.H. Guisborough, Yorks.

PREVENTION OF VENEREAL DISEASE.

SIR,—In the BRITISH MEDICAL JOURNAL of February 18th (p. 288) Mr. E. B. Turner and Mr. Charles Gibbs ask us to answer eleven questions:

1. Sir Archdall Reid cannot give "the total admissions to hospital of venereal cases under his charge *before as well as after* he initiated his plan of disinfection at Portsmouth." Before the date of initiation venereal disease had no special interest for him, and he kept no records. Doubtless, however, evidence exists which would furnish not only the information desired, but also material for testing every statement made by Reid—(*a*) the records of Hilsea Hospital to which *all* his venereal cases were sent, (*b*) the monthly reports of his A.D.M.S., and (*c*) the sick reports made daily to the officers commanding the troops in his medical charge. At first his cases were numerous, and for that reason he initiated his plan. The troops in his charge were throughout of exactly the same type as the rest of the garrison, and presumably suffered equally. In the year the plan was put into operation the general garrison rate of infection was 92 per 1,000. His own rate was 1.5. At a later date he offered to go at his own expense to any area in the kingdom in the confident expectation that he would be able to reduce considerably the incidence of venereal disease. Still later he offered, again at his own expense, to go to any port where men on leave from the Continent landed. Neither offer was accepted; but at least both afford evidence of willingness to put his plan to very stringent tests. Yet later he offered to go to the Rhine. This time the offer was accepted, with the proviso that he should work as a civilian. He was strongly advised by military officers of high rank to decline, as, without sufficient military status, he would be powerless.

2. Reid cannot "indicate how many men from Portsmouth during the period of his experiment were admitted to other hospitals for venereal disease contracted while in Portsmouth." But to the best of his knowledge and belief, not one man. Certainly not one of his men. It was in orders that all venereal cases must be sent to Hilsea Hospital. They would not have been accepted elsewhere. Nor can Reid say "how many men consulted private practitioners." The question is ridiculous. How should he know? Is there any reason for thinking that a greater proportion of cases consulted private practitioners in Portsmouth than elsewhere? Reid constantly impressed on his men the truth that they were not likely to receive such excellent treatment from private practitioners (including himself) as from the very competent specialists at Hilsea.

3. The evidence on which is based the statement "that throughout the Portsmouth area disease fell to the vanishing point" is contained in the weekly returns compiled for his own information by the A.D.M.S. of the area while testing the plan. Doubtless these returns are still in existence. In them disease locally acquired was carefully distinguished from that imported by immigrant troops. One of us has begged unavailingly for the publication of these returns.

4. This question involves a misstatement. We never said that Metchnikoff's method of aborting syphilis was particularly effective for prevention. In our opinion the quick use of any active antiseptic is better. We said only that his method, though already employed for prevention by Continental armies and the British Navy, was ignored by a Royal Commission appointed to study prevention. Either the Commission was ignorant of the method, or it wilfully ignored it.

5. We know nothing personally about venereal disease in Germany. But we ask on what evidence is founded the statement that there has been "six years of propaganda in Germany on the lines suggested by the Society for the Prevention of Venereal Disease"? Again, what is the evidence that (*a*) juvenile disease has increased in Germany (*b*) because juveniles have been taught to disinfect themselves? We understand that one gentleman from one town in Germany has stated that juvenile disease has increased in his town. He is a warm sympathizer with the N.C.C. and appears to copy its methods. Are there no other conditions in Germany (and Russia) which would account for the increased juvenile immorality and disease? In scorn of the N.C.C. and the Ministry of Health, more than a score of English boroughs have adopted the teaching of quick disinfection. We hear of no increase of juvenile disease in them.

6. We have already explained why it was thought hopeless to bring the question of prevention before the Royal Commission which began work in 1913. Neither of us gave evidence before it; but one of us who was a member of the N.C.C. resigned his membership after becoming aware in 1916 that the question of self-disinfection in men had been excluded from the deliberations of both the Royal Commission and the N.C.C. Before he took further steps in January, 1917, to bring the question before the public, he asked personally for the support of the ex-chairman of the Commission, of the Director-General of the Army Medical Services, and of a distinguished medical member of the N.C.C.; but his request was declined on the general grounds that public opinion would be hostile to such a movement. The S.P.V.D. has since proved the contrary.

7. Certainly we can explain why we "ignore salvarsan treatment as a factor in the reduction of the venereal disease rate which is apparent in the army and navy statistics of all countries from 1913 onwards, but is claimed by them to be entirely due to self-disinfection." Salvarsan has no influence on gonorrhoea which furnishes the great majority of cases. It may cure, but does not prevent even syphilis. The venereal rate of armies is calculated not on a basis of "constantly sick" but on the rate of infection. While the military rate was falling disease was steadily rising among civilians, from whom soldiers derive their infections. How, then, can salvarsan have influenced the rate of infection?

8. Certainly again we are willing to submit our figures "to the analysis and criticism of an independent expert." Indeed, we have been shouting from the housetops for just that kind of inquiry for the last four years. But even hostile "experts," even the ingenious statistician of the Ministry of Health, with all the evidence at his hand, have been discreetly silent. What, however, does this question mean? Our statements are founded on published accounts—for example, those by Sir James Barrett—all of which can be verified from the records of naval or military units. Is it suggested that the officers who made these easily tested statements were lying? The expert is welcome to the records.

9. This question has already been answered in our previous letter.

10. We would suggest that posters be exhibited in public lavatories warning the public against *contagious* disease, and instructing individuals when endangered to disinfect with speed and such care that the disinfectant shall reach into every cranny of the skin. These posters could be so worded that the innocent boy would think he was being warned against contagious disease—for example, scabies, sepsis—while the intending sinner would know that the advice was directed especially at him. Most men who sin are ready to seize opportunity. They regard a temptation resisted as a temptation wasted. Such people always discuss sexual matters among themselves and would learn what was meant by the posters. We do not for a moment suggest that juveniles shall be "personally" instructed.

11. Of course not. This question is merely rhetorical.

Systematic personal instruction was never given even in the army.

We do not "find it necessary always to impugn the *bona fides* of those who have arrived at different opinions from" our own. We impugn only the *bona fides* of those who have been caught in the act. We gave some examples in our first letter. The following is another characteristic instance:

"With a view of acquiring a full and adequate presentation of the case, the Committee invited medical representatives specially qualified from professional experience, as well as others who had taken an interest in the question, to meet the Committee or furnish them with memoranda of their views. Among those invited to give us the benefit of their experience or advice in this way were . . . Sir J. Barrett." (*Report of Lord Astor's Inter-Departmental Committee.*) "Is the information derived from that tainted source which cooked the statistics for the Inter-Departmental Committee of 1919?" (Archdall Reid, *The Times*, November 18th, 1921.) "I can assure him that all the evidence was examined impartially." (Lord Astor, *The Times*, November 22nd, 1921.) "Lord Astor . . . has since declared that the Committee was quite impartial, and published the statistics as received. But did it publish all the statistics? Did it even ask for them? Why, for instance, was Sir James Barrett's magnificent success, achieved on a grand scale under the most difficult conditions in Egypt among the Australians, not so much as hinted at?" (Donkin and Reid, BRITISH MEDICAL JOURNAL, February 11th, 1922.) "I am writing, therefore, to say I did not give evidence before that Committee, that I was not asked to do so, and that no communication from that Committee, either verbal or written, has reached me." (Sir James Barrett, *The Times*, February 21st, 1922.) "The Committee (as they stated) invited Sir James to give them the benefit of his experience and advice. Unfortunately he had already left for Australia, and they could not delay the publication of their report until they received a memo. from him." (Lord Astor, *The Times*, February 27th, 1922.)

It seems, then, that this impartial and candid Committee first invited the leading advocate and most successful teacher of quick disinfection to furnish evidence, next it ascertained that he had passed beyond reach, lastly, still in the exercise of its impartiality and candour, it announced that it had invited him. Meanwhile it collected (and published) evidence not of the successes in Egypt and France, but of the failure in England.

Mr. Turner and Mr. Gibbs suggest that self-disinfection did not succeed in Egypt. Let Sir James Barrett speak for himself:

"On the value of prophylaxis being challenged, an examination of those Australian troops who had been supplied with outfits established the fact that out of a group of 200 men exposed to infection only one contracted disease, and he had not taken precautions. In the lecturer's experience primary prophylaxis had been practically certain in its results."

—We are, etc.,

H. BRYAN DONKIN,
G. ARCHDALL REID.

London, March 3rd.

HOSPITAL POLICY.

SIR,—I gravely doubt whether the Leicester motion in its new guise[1] will be more acceptable to lay committees than it was before. Surely also it is futile to set up again the pretence of a fund for altruistic purposes after the frank confession of quite other intentions openly expressed at the Conference in December, 1920, and the candid admission of the chairman of the Hospitals Committee in his letter of December 24th, 1921. In truth, if this money is honestly earned why not pocket it? If it is not, why touch it at all? To all staffs who support this Leicester motion I would address a few plain questions:

1. Do you deny that your hospital appointment has been valuable, giving you opportunities, fame, and experience hardly to be obtained in any other way, and bringing in indirectly considerable income?
2. Do you deny that in consideration of these conspicuous advantages you deliberately undertook to treat the poor in this institution free of charge?
3. Dare you say that, having already reaped such benefits, and while still retaining these advantages, you are honestly entitled, without even consulting the other party to the contract, to publicly repudiate your part thereof, merely because, under stress of financial difficulties, it is found necessary to induce a poor man to subscribe 2s. 6d. a week towards the cost of his child in hospital, such sum being less than the cost of that same child at home when in health?
4. Do you consider it compatible with your dignity, and that of your profession, that 3d. of this 2s. 6d. should be weekly divided among the staff?
5. Do you claim your share of tea, butter, and potatoes contributed for maintenance; and if not, why not?

To those who would reply in the affirmative to these inquiries I have nothing to say; to others I would suggest an alternative procedure by alteration in the suggested scheme as follows:

Section VI, Para. 19a.—"*Free Patients.* Those who can produce evidence that they are unable to contribute more than their bare cost of maintenance, as distinct from treatment."

Section XII, Para. 33.—"In the event of decisions being taken which would lead to patients (other than private patients referred to in Section IX) paying in part or in whole *the cost of treatment*, in addition to that of maintenance, either individually or by some contributory method, a percentage of all such payments should be passed," etc.

The essential feature of three grades of patients would still be preserved, but there would be more of the "Free" and fewer of the "Tariff" class, and we might still haply retain our title of "Honorary." Also the word "maintenance" is vague enough to allow latitude to suit opinions in various localities. I would reiterate my opinion that before demanding even this concession and, *a fortiori*, before requiring more, representatives of lay committees should be formally consulted. Surely if these gentlemen, who are really the only persons entitled to speak with expert experience and authority upon such a topic, tell us frankly that, in their considered opinion, the Leicester motion would shatter the success of their appeals to the public, wither up subscriptions, and generally knock the bottom out of the voluntary system, it is mere humbug to pretend that we are supporting the voluntary system, while pressing such a demand. Conversely, if they differ from the Cave Committee, and approve the motion, the latter at once gains immensely added prestige.

With regard to para. 34, in view of the wealth recently disclosed, there is much to be said in favour of this motion as regards approved societies, nevertheless, as a matter of justice and policy, would it not be well to confer first with some persons representing them? Their members now number about 12,500,000; they control and dispense millions of money, can influence millions of votes, and bring much pressure to bear on the Minister of Health. Only lately he personally met and addressed in complimentary terms representatives of the industrial approved societies at their annual conference, and they were afforded a reception by the Lord Mayor at the Mansion House. To me it has always seemed a quite extraordinarily unpractical and unbusinesslike arrangement that of the three parties concerned in the practical working of the Insurance Act—the panel doctors, the Insurance Committees, and the approved societies—the panel doctors and the British Medical Association should each have their separate annual conferences, the Insurance Committees and their clerks have each their separate conferences, the industrial societies and the other combined societies have each their separate conferences, and on no solitary occasion should the least attempt be made to bring these various parties together, in order to discuss their mutual and, to a large extent, quite identical interests. Surely a combined conference at least once a year would be useful, and might bring much pressure to bear upon the Ministry in favour of any necessary reform. A friendly discussion of this hospital problem between two of the parties might pave the way to such alliance. "Public authority" would naturally apply both to the State and to county councils, etc., and their cases would come under para. 34, and not under 33, where they are out of place.—I am, etc.,

Chichester, Feb. 26th. G. C. GARRATT.

A DIPLOMA IN TUBERCULOSIS.

SIR,—In a note on the above subject you characterize as "remarkable" the recent multiplication of diplomas in special subjects. Very regrettable also I think many must feel it to be, and it is satisfactory to see that an acknowledged leader, Sir Robert Philip, is of this opinion. We have already special diplomas in public health, radiology, tropical diseases, ophthalmology, and psychological medicine, and now we hear of the creation of a diploma "in tuberculosis." In spite of the arguments in its favour cited by Professor Lyle Cummins this new diploma would seem both unnecessary and undesirable. May we expect in the future similar diplomas in venereal diseases, dermatology, laryngology, infant welfare, etc., for which there would appear to be equal justification? The unfortunate newly qualified man of the future, instead of occupying those first most valuable years in the acquisition of clinical experience, unhampered by examination requirements, will need to go about collecting such diplomas (each at the cost of a ten or twenty guinea fee) as he may think necessary in the line of practice he is taking

[1] BRITISH MEDICAL JOURNAL SUPPLEMENT, February 25th, 1922.

up, or, if he is a candidate for public appointments, as he may consider will most impress the selection committee.

Surely this is a tendency in the wrong direction. What is wanted in medical education? Is it not a training as complete and thorough as possible in general medicine and surgery for every student? The rest is but common sense and experience, of which he cannot have too much, but which no course for a diploma, still less the diploma itself, can give. Tuberculosis is a part—a very considerable part—of the ordinary curriculum in medicine, surgery, and pathology, and should be taught, in relation to other diseases, in general hospitals, and not as though it were something rare and strange. If there is an extra subject in which a special course is desirable for would-be tuberculosis officers, it is in what one may call social science, the machinery of the Poor Law, the complexities of organized charity, the economics of working-class households, and the like. But this most useful branch of knowledge does not appear to be included in the course for the T.D.D. Wales.

I submit that special diplomas in tuberculosis are undesirable for the following reasons: (1) Men wishing to enter the tuberculosis service might be encouraged to concentrate too early on the specialized work for the diploma, to the exclusion of general hospital experience. (2) Students and general practitioners of the future might come to regard tuberculosis as a highly specialized side line, something of a mystery revealed only to the elect, just as public health is looked upon to some extent as the exclusive interest of men holding the D.P.H., whereas it should be the affair of us all. Even now there is a tendency, for which State treatment is doubtless responsible, on the part of some general practitioners, to feel that his responsibilities in a tuberculosis case begin and end with notification. Yet the responsibility for early diagnosis and for the major part of the treatment of tuberculosis rests, and must always rest, with the general practitioner. To him Osler addressed these words: "The leadership of the battle against this scourge is in your hands."—I am, etc.,

Brighton, March 6th. A. NEVILLE COX.

THE VIRULENCE OF DIPHTHERIA-LIKE ORGANISMS.

SIR,—In the interesting record of work by Dr. Eagleton and Mr. Baxter on the virulence of diphtheria-like organisms (BRITISH MEDICAL JOURNAL, January 28th, p. 139) the results indicate that on morphology alone the *B. diphtheriae* still cannot be determined. These workers include as *B. diphtheriae* (morphologically) eight strains of *B. xerosis* and fifty-three other avirulent strains. No indication is given of what criterion is taken to justify inclusion on morphology. One cannot admit *B. xerosis* on morphological grounds. It bears resemblance to, but is morphologically distinct at all stages and culturally readily to be distinguished from, *B. diphtheriae*. Asserting this, one may ask, what are the characteristics of the fifty-three avirulent strains? May not they also be morphologically distinct when a standard of comparison is adopted? Working on diphtheria in 1908–10, I was accustomed to rely on a standard which I have always attributed to my master, Delépine. This test, which satisfied me as capable of eliminating the (virulent) *B. diphtheriae* from all "likes," was the simple one of comparing the sixteen-hour culture (or subculture) on Loeffler's medium, stained briefly with half-strength Ziehl-Neelsen solution and immediately washed.

I should be surprised to learn that this criterion still allowed the inclusion of 53 avirulent *B. diphtheriae* out of 105 cultures.—I am, etc.,

Riga, Feb. 22nd. ANGUS MACDONALD.

INFLUENZA.

SIR,—Each influenza epidemic may well be a new disease, so different are the symptoms. It appeared here first in some of the most lonely and out-of-the-way cottages. In almost every case there was a history of a "common cold" for five or six days. Then quite suddenly there were the symptoms of pyrexia, followed in a few hours by intense pain between the shoulder-blades and a brown furred tongue. This pain was described as burning in character, and often overshadowed all other symptoms. Sometimes there was vomiting and diarrhoea. There was generally some cough, but this seemed a relic of the previous catarrh. Among some three hundred cases there were only ten with serious lung trouble. These had the symptoms of acute lobar pneumonia, but with the physical signs of bronchopneumonia, very like acute phthisis; five ended with crisis, and three died.

The impression left on my mind was that the preceding catarrh was not the influenza but a predisposing cause. I should feel inclined to say, "Don't catch cold, and you won't have the influenza."

Relapses were common, and several took place before the patient had left his bed. Two were in bed with a "common cold" when the influenza attacked them, and many did not go to bed at all, and yet did quite well. There was nothing to show that the lung cases were due to early neglect.

Its sudden appearance in scattered homesteads made a contagion theory difficult. One was inclined to accept the theory that it comes out of the earth periodically. A number of cats died in the village during the epidemic from some unknown cause.

It disappeared as suddenly as it came, but has left a number of patients suffering from brown-furred tongues and loss of taste and smell.—I am, etc.,

Silverton, Devon, March 6th. O. CLAYTON JONES.

X-RAY TREATMENT OF CANCER.

SIR,—Will you kindly allow me to disclaim the views on the treatment of cancer by *x* rays attributed to me in the brief summary of my remarks furnished to you and published in the JOURNAL of February 25th (p. 314) on Dr. Ward's paper read at the Oxford Medical Society?

Though I pointed out the dangers of these massive doses on the blood and intestines, I certainly did not express the opinion, nor do I hold such a view, that the Roentgen-Wertheim technique is "much too risky" for the treatment of uterine cancer.

Neither did I express an opinion in favour of the divided dose method for the treatment of cancer, but I pointed out that in non-malignant cases the divided dose method was to be preferred, and quoted in support of this view the valuable statistics published by Béclère of the treatment of uterine fibroids by small and repeated doses of *x* rays. Béclère has shown that in 400 cases treated by the *x*-ray sterilization of the ovaries, in 202 cases the periods ceased after twelve applications of these small doses, but in six of the patients thirty-one to fifty radiations were required to bring about this result. Now Wintz and Seitz, administering the same dose irrespective of the age of the patient, bring about sterilization by means of a single massive dose of *x* rays, therefore it follows that in more than half the cases treated by the massive radiation, a dose of *x* rays of three or four times the necessary strength is administered.

So far as we are able to judge at present it appears probable that the future treatment of cancer by *x* rays will be by a technique resembling the single and massive dose of Wintz and Seitz, but that non-malignant growths and diseases will be best treated by a radiation of more moderate strength administered in divided doses.—I am, etc.,

Oxford, Feb. 25th. W. J. TURRELL.

SUICIDE IN BORDERLAND CASES.

SIR,—While it is certain that Dr. S. E. White desires to do everything she can to benefit those who suffer from mental diseases, she has done what can only have the effect of hurting their susceptibilities. As she points out, many of these sufferers are extremely sensitive. With the laudable intention of avoiding unnecessary pain the Government changed the name of a Department to "Board of Control." Dr. White persists in referring to this Department as the "Lunacy Board," although it is now seven years since that title was abolished. This is not a small matter to morbidly sensitive people, and when one is "out" to criticize others and to effect reform, then even small blemishes show up strongly and create an unfavourable impression.

Dr. White, in most praiseworthy fashion, has qualified her original statements regarding suicide and the treatment of melancholia. Should she not now also qualify those regarding the "Lunacy Board"? As they stand, they give to a complete outsider the impression of animus. This is surely detrimental to her great cause.—I am, etc.,

February 25th. M.D.

THE NAVAL MEDICAL SERVICE.

SIR,—I have no axe to grind and am not labouring under a sense of grievance, but I do think that when we honestly know or believe a system to be wrong it is a duty to say so, and keep on saying so until the wrong is righted. "Experto Crede's" letter interests me. I should like to know how many senior medical officers are being "turned down."

If one had only to consider the future of the Naval Medical Service one could afford time gradually to attempt to instil into red tape the old, old arguments concerning social position and the relative importance of the executive and civil branches; but if a gross injustice is being perpetrated by the Admiralty on old and tried medical officers, I think an immediate explanation is called for. Any conscientious objector during the war could get a question asked in the House; possibly the same privilege could be obtained for those who did their duty.

In my opinion the blending of the Navy, Army—and now Air—Medical Services (as I adumbrated some time ago) is the final solution.—I am, etc.,

Sevenoaks, March 4th. GERALD SICHEL.

HOLLOW VISCERA AND VESSELS: CURVATURE AND PRESSURE.

SIR,—In connexion with Sir Robert H. Woods's letter (March 4th, p. 370) I should like to ask if, in the consideration of the mechanical efficiency of the hollow viscera, there is not another important factor that must be taken into account—the force of the muscular contraction. Within limits the lengthening of muscle increases the strength and energy of its contraction. To quote from Professor Starling's Linacre lecture (Law of the Heart): "The energy of contraction, however measured, is a function of the length of the muscle fibre." This being so, the tension in the wall of a contracting viscus would not necessarily remain the same. That is to say, t in the equation $2t = pr$ would not be a constant and p would not vary inversely as the radius of curvature. It might not, of course, follow that the lessened energy of muscular contraction would cancel the increased mechanical efficiency due to the increased curvature.—I am, etc.,

Hull, March 5th. E. E. LASLETT.

ASTHMA AND THE MENOPAUSE.

SIR,—In your issue of January 7th (p. 12), Dr. MacBean Ross gave a very interesting account of a case of asthma and aggravated nasal trouble, following the production of artificial menopause by radium treatment, which benefited markedly by ovarian extract treatment.

Asthma frequently occurs during pregnancy in those who never had it before, as also trouble of the nasal passage, especially hypertrophy of the turbinates. In a paper on the toxaemia of pregnancy[1] I have shown that these conditions are due, not directly to ovarian insufficiency, but to hyperpituitarism, caused by this ovarian insufficiency. As in acromegaly, hyperpituitarism produces hypertrophy of the mucous membranes of the upper respiratory air passages,[2] and this is the immediate cause that is responsible for the frequent occurrence in pregnancy of hypertrophy of the turbinates, deafness, intractable cough and asthma.

In Dr. Ross's case, the artificial production of sudden cessation of the activities of the ovaries and of the uterine mucosa brought about a condition analogous to pregnancy with its concomitant tendency to asthma and nasal trouble, and this was the more easily precipitated in this patient as she had a strong predisposition to both affections.

Ovarian hormone, acting antagonistically to that of the pituitary, explains the marked benefit derived by the administration of ovarian extract.—I am, etc.,

Capetown, Feb. 8th. S. E. KARK, M.B., Ch.B.

TREATMENT OF EMPYEMA.

SIR,—The treatment of empyema is again being discussed in your correspondence columns. It seems evident that the results obtained nowadays are not generally satisfactory. May I once more urge a return to the older method of opening an empyema always well in front of the mid-axillary line? I am confident that if this old rule were again observed there would be fewer cases of persisting sinus.—I am, etc.,

Bromsgrove, March 5th. H. CAMERON KIDD.

[1] South African Medical Congress, October, 1921.
[2] *Biedl innere Sekretion*, p. 322.

"SACRACHE."

SIR,—Your reviewer of Dr. F. J. McCann's book in to-day's JOURNAL blames the author for "perpetrating" the hybrid word "*sacrache*" for "pain over the sacrum."

But Dr. Matthews Duncan used the word, and used it habitually. It is of no new coinage. In his *Clinical Lectures* there is an article on "'Sacrache' and backache" on pp. 442–3 [in my copy, which is dated 1886]. The volume is dedicated to Sir Clifford Allbutt—too good a master of English to object to a vivid word which sums up much in little.—I am, etc.,

Holmes Chapel, Cheshire, March 4th. LIONEL JAS. PICTON.

RESUSCITATION AFTER APPARENT DEATH.

SIR,—Whilst I was in practice in Paris I had in November, 1895, the singular experience of bringing back to life a woman who had been apparently dead for two hours, and on three other occasions of snatching from death patients who were apparently dying when I was called in.

The first case, an English lady, Mrs. X., aged 50, was diagnosed to be suffering from cerebral gumma pressing on the optic tract and the front of the medulla oblongata. Hemiplegia and double strabismus, daily increasing in intensity, with asthenia, were the principal symptoms; potassium iodide in a tonic and good food, the treatment. On the morning of her apparent death there were no indications of her approaching end. At 4 p.m. I was hurriedly summoned, as the attendant said she was dying; but for two hours I was not able to leave an operation I was performing. When I arrived at her house at 6.15 I found her apparently dead, and already "laid out." The attendant said soon after the message summoning me had left, the patient had died.

Whenever I visited cases *in extremis* I always carried in my handbag strychnine, ether, caffeine, ergotinine, and syringes, and brandy. In those days adrenaline and pituitrin were not known; at all events opotherapy was in its infancy. There was no doubt about it that the patient was dead, there being no radial pulse, no heart movements, and no respirations, the usual film over the eyes, and the skin greenish-grey, though it was still warm. On this last indication, and also on account of the unexpected death, I resolved to try and resuscitate the patient. I injected 1/60 grain of strychnine under the left breast, thirty drops of ether under the right breast, and twenty of caffeine under the clavicle; after giving a warm enema of black coffee and brandy we chafed the cardiac region, and rubbed the raised limbs from extremities to trunk with hot brandy. Half an hour after, I repeated the injections, and we persevered with the friction, when suddenly the patient moved her foot; and thenceforward colour returned to the skin, the heart and lungs began to work, the film over her eyes disappeared, and in half an hour more she spoke. We removed her to a warm bed and wrapped her in blankets, with hot bottles by her sides, and she lived for twenty-four hours, becoming gradually unconscious two hours before she finally died. I offered to try and bring her to again, but the husband refused. The cause of death was no doubt due to the invasion of the fourth ventricle by the gumma. Unfortunately no *post-mortem* examination was made.

The second case was an Irish governess, Miss R., aged 24, with gastric ulcer, to whom I was called on Christmas Day, 1896. She was said to be "vomiting basinsful of blood." As I ascended to her mother's apartment I met two fellow physicians, who said: "You are too late, she is dying: there is nothing to be done." However, I went in, and found a priest giving extreme unction to the patient. As soon as I was able to examine her I found that although she looked livid, and the film was on her eyes, and there was no reflex, yet there were shallow breathing and an irregular feeble pulse, scarcely perceptible, and the body was still warm. I did for her what I had done for Mrs. X. the year before, with the addition of an injection or two of ergotinine of Tanret, and a teaspoonful of pounded ice mixed with half a teaspoonful of Pond's extract of witch hazel (a teaspoonful by the mouth) every ten minutes. In an hour the rosy colour of the skin reappeared and her heart and lungs began to work, and she spoke. I saw her ten years after and she was looking strong and well.

The third case, Mrs. B., an American lady addicted to alcohol. An enlarged and tender liver, fatty heart, severe dyspepsia, and painful haemorrhagic diarrhoea were her principal symptoms. On the third day after I had been called in I was summoned by telephone to her hotel; her attendant said she had fainted after coming from the closet. I injected ether and strychnine, as the pulse could not be felt, nor the heart beats heard, and respiration was by gasps; the livid appearance of approaching death spread over her face, and I felt sure the shock and weakness resulting from a painful stool, in her alcoholic condition, had been too much for her degenerated heart. I injected under the skin of her abdomen a pint of artificial serum (Hayem's prescription) and repeated that dose and also the other injections ten minutes after, and gradually she came to, and in less than three-quarters of an hour was out of danger. She left Paris a fortnight later on, and I have never seen her since.

The fourth case: Mdlle de S., a French lady, aged 32, had been operated upon for carcinoma of the uterus, and three years after, when I first saw her, there was recurrence of the growth, which had involved the right ovary and spread to the right iliac fossa. One morning whilst lifting a can of water she felt something snap inside the tumour, and although there was not much pain she felt faint. On examination a couple of hours after, I came to the conclusion she was bleeding internally. Her pulse was 100, and of low tension, soft, and regular. I injected ergotinine of Tanret, put an ice-bag over the hypogastrium and right iliac region. I repeated the injection an hour after, but as she became paler and the pulse beat faster, besides giving her a third injection I administered Pond's extract with pounded ice every ten minutes. Four hours after the accident the pulse was 120 and could scarcely be felt, and the patient had become unconscious. I then injected under the skin of the abdomen two pints of artificial serum (sodium chloride), and within five minutes the pulse had returned, and gradually slowed down to 100. An hour after I again gave one pint of the serum, and consciousness returned. Eight hours after the accident the pulse was 90, and she fell asleep. The next day the pulse was normal. Evidently a large, firm clot had formed around the ruptured blood vessel, and had stopped the haemorrhage. The serum at the critical moment had helped the circulation and saved her life. She lived several years after this.

I think a correspondence on this subject from men who have had similar experiences might result in saving life that would easily be sacrificed through want of patience and perseverance on the doctor's part.—I am, etc.,

D. E. ANDERSON, M.D., B.A., B.Sc.Lond.
and Paris, M.R.C.S., F.R.S.E.,
Honyman-Gillespie Lecturer to Mansfield College, Oxford.

London, W., Jan. 30th.

Obituary.

BENJAMIN MOORE, D.Sc., M.R.C.S., L.R.C.P., F.R.S.,

Professor of Biochemistry in the University of Oxford.

THE news of the premature death at the age of 55 of Professor Benjamin Moore will be received with universal regret. It occurred on March 3rd from heart failure following an attack of influenza last January. He received his early education partly at Queen's College, Belfast, and partly at University College, London, where he was a pupil of the late Sir William Ramsay, and worked for five years in the chemistry department. He was for a time teacher of physiology in the medical school of Yale College, New Haven, but returned to London to become lecturer on physiology in the medical school at Charing Cross Hospital. In 1902 he was appointed to the newly founded Johnston Chair of Biochemistry in the University of Liverpool, the first of its kind to be established in this country. He retained this appointment until 1914, and it was while occupying it that many of his most important contributions to biochemistry were published. He contributed an article on the chemistry of digestion to Schafer's *Textbook of Physiology*, and another on the energetics of cell secretion and nutrition to Hill's *Recent Advances in Biochemistry*. He was one of the founders of the *Biochemical Journal* and a frequent contributor of important articles to its pages. He was, during a time of great expansion, Dean of the Medical Faculty of the University of Liverpool, an office in which he rendered good service. He was elected F.R.S. in 1912.

In 1914 he resigned his chair in Liverpool to become a member of the staff of the Department of Applied Physiology of the Central Research Institute of the Medical Research Council. During the war much of the energy of the institute were given to problems it raised, and Moore took a leading part in investigations carried out in co-operation with the Health of Munition Workers Committee and the Factory Department of the Home Office into the action of various poisonous dusts and vapours arising in the process of munition manufacture. During 1916–17 he undertook the direction of inquiries of the utmost importance with regard to T.N.T. poisoning. The investigations included not only work in laboratories but many inquiries at different factories, in which the laboratory results were given a practical application and a variety of protective methods devised and studied. In 1918 he published the results of his work on photo-chemical syntheses; part of it, done in conjunction with Mr. T. A. Webster, was related in a paper in the *Proceedings* of the Royal Society on the action of light rays on organic compounds, and the photo-synthesis of organic from inorganic compounds in presence of inorganic colloids. At the same time he was determining some of the elementary chemical conditions necessary for the growth of algae. Later on, in conjunction with a number of colleagues, he was able to show that both fresh water and marine algae, unaided by bacteria, were able in summer to fix nitrogen from the atmosphere, and incidentally advanced evidence to show that the so-called "active oxygen" of fresh country air is not ozone, but nitrogen peroxide, probably formed by ultra-violet light causing direct union of nitrogen and oxygen. These researches, which were continued in subsequent years, and upon which he published a number of papers, confirmed his interest in inquiries directed to ascertain the origin of life on the earth. It had, perhaps, first been aroused during his frequent visits to the Marine Biological Station at Port Erin in the Isle of Man. His latest publication was entitled *Biochemistry, a Study of the Origin, Reactions, and Equilibria of Living Matter.*

Less than two years ago he was appointed to the chair of biochemistry at Oxford, founded by Mr. Edward Whitley. In his earlier years his work was assisted by grants made by the Science Committee of the British Medical Association, and since 1917 he had been a member of that Committee and an active worker on its Subcommittee on Medical Research and Laboratory Workers. In 1912, when the annual meeting met at Liverpool, he was vice-president of the Physiological Section.

Moore gave a great deal of time, energy, and thought to the borderland of medicine and sociology. His interest in such questions and in the British Medical Association led him to accept office as representative of the Birkenhead Division; in that capacity he took an active part in the Representative Meetings in 1909–10, and again in 1910–11. He wrote much in many publications on medico-sociological subjects, and his views were summarized in a book entitled *The Dawn of the Health Age.* When the Association held its annual meeting in Cambridge in 1920 he was a vice-president of the Medical Sociology Section.

Benjamin Moore was a man of volcanic energy which found many outlets, perhaps too many, but he has left his mark upon the department of science to which he specially devoted himself—that of biochemistry.

ALFRED HILL, M.D.,

Formerly Medical Officer of Health for Birmingham.

DR. ALFRED HILL, who died on February 22nd, aged 95, at Freshwater Bay, Isle of Wight, was believed to be the oldest member of the British Medical Association, having been elected in 1853. He was born in 1826, and at the age of 16 he was articled to his uncle, Mr. Joseph Heeley, a surgeon at Stone, Staffordshire. He became a medical student at Birmingham, and took the diplomas of L.S.A. and M.R.C.S.Eng. in 1850, graduating M.D. at King's College, Aberdeen, in 1854. In 1851 he was elected to the chair of chemistry, and later to that of toxicology, at the Sydenham College Medical School and Queen's College, Birmingham. Ten years later he was appointed public analyst, and when the Public Health Act of 1872 came into force he was appointed medical officer of health of the city of Birmingham. Dr. Hill assisted in the important work of setting up a proper system of sewage disposal in Birmingham, and he was the author of many articles on subjects connected with public health. He was a former president of the Society of Public Analysts and of the Society of Medical Officers of Health, and he p'ayed a leading part in the development of the public health service in this country. He retired to the Isle of Wight in 1903, when he resigned the post of medical officer of health. His surviving sons include Dr. Bostock Hill, consulting medical officer of health for Warwickshire and emeritus professor of hygiene and public health at Birmingham University, and Dr. Eustace Hill, medical officer of health for the county of Durham and late professor of public health at Durham University.

We are indebted to Dr. JOHN C. MCVAIL for the fol'owing:

The generation to which Dr. Alfred Hill belonged has passed away. No one now in the fighting line of public health can properly claim to have been his contemporary, though the later years of his work coincided with the earlier years of some men who are still in the service. It is more than seventy years since Dr. Hill became a professor of chemistry in Birmingham and half a century since he was made medical officer of health under what was then the new Public Health Act. In these far-off days the work was very different from that of the present time. Lister had gone from Glasgow to Edinburgh to continue, under the inspiration of Pasteur, the laying of the foundations of modern scientific

surgery. But for preventive medicine the era of bacteriology had not dawned and the light of entomology in relation to public health was still further below the horizon. In the absence of such guidance the new medical officers of health, of whom Dr. Alfred Hill was one of the chief, were wisely relying on the establishment and maintenance of municipal cleanliness as the mainstay of their policy. Dr. Hill, both chemist and health officer, was concerning himself with and writing on such basal subjects as water supply in large towns in relation to health, house drainage, sewage disposal—a particularly difficult problem in a large city far from the sea—and the regulation of house building. At the time when he became medical officer Europe was being swept by the great pandemic of small-pox which followed the Franco-Prussian war, and health authorities and their medical advisers were realizing more clearly than they had ever done before, excepting in Germany, the need for revaccination in supplement to primary vaccination. The importance of hospital provision for the isolation of infectious diseases was also pressing itself on public and professional attention. Compulsory notification came later, and was dealt with by Birmingham's medical officer.

I had the pleasure of meeting Dr. Hill when I presided over a conference of health officers at Birmingham close on a quarter of a century ago. His work only I had known previously. I recollect him as a handsome man, of fine presence and old-fashioned courtesy. He did a great work for the industrial capital of the Midlands, and he has enjoyed a long evening of honoured retirement after his life-duty was accomplished. He leaves behind him sons who worthily and successfully follow him in the field of disease prevention, and in the education of yet another generation of doctors in the principles and practice of hygiene and public health.

ALEXANDER STEVENSON GREENWAY, T.D., Lieut.-Col. R.A.M.C. (T.F.), died at Belvedere, Kent, on February 20th, aged 69. He was educated at Edinburgh University, where he graduated M.B. and C.M. in 1874, and M.D. in 1880; he took the M.R.C.S. in 1878. After filling the posts of house-surgeon of the Hertford British Hospital in Paris, senior resident medical officer of St. Mary's Hospital, Manchester, and house-surgeon of the county hospital at Huntingdon, he went into practice at Belvedere, Erith, Kent, where he was medical officer of the Belvedere dispensary and Erith cottage hospital; surgeon to the metropolitan police, to the post office, and to the Royal Alfred Institute for Aged Seamen, and ex-president of the Belvedere and Erith Natural History and Science Society. He had served for a long time in the auxiliary medical force, volunteer and territorial, and attained the rank of lieutenant-colonel, R.A.M.C. (T.F.), on April 1st, 1908, as commandant of the 4th London (Woolwich) Field Ambulance, which post he still held when the war began in August, 1914. He had received the Territorial Decoration.

JAMES NEAL MACMULLAN, T.D., Major R.A.M.C. (T.F.), died at Woking on February 23rd. He was educated at Queen's College, Belfast, and took the Scottish triple qualification in 1893. Before the war he was in practice at Regent's Park, London. He joined the R.A.M.C. (T.F.) as lieutenant and medical officer of the Herefordshire regiment on August 1st, 1903, became captain on November 1st, 1906, and was promoted to major on August 5th, 1914. He had received the Territorial Decoration.

THE death is announced of Dr. C. T. CAMPBELL, of London, Ontario, in his 79th year. He received his medical education at Cleveland, obtaining his licence from the Canadian Board in 1866. He was formerly a member of the Ontario Medical Council, became vice-president of the Canadian Medical Council in 1892, and president in the following year. He served for many years on the London Board of Education, of which he was chairman in 1884; he was also an alderman, and in 1905 mayor of the city. He was much interested in historical research, was first president of the local historical society, and was a contributor on historical subjects to various magazines. He was twice married, and is survived by his widow.

ACCORDING to the *Deutsche medizinische Wochenschrift*, the losses of Germany in the war were 1,808,545 dead and 4,247,143 wounded, the medical profession figuring in these totals with 1,675 dead and 2,200 wounded.

Universities and Colleges.

UNIVERSITY OF MANCHESTER.

DR. H. R. DEAN, as announced last week, has been appointed professor of bacteriology at University College Hospital Medical School, London, and has in consequence resigned the Proctor chair of pathology and pathological anatomy. The Council, in accepting the resignation with much regret, expressed to Professor Dean their cordial thanks for the valuable services he has rendered to the University during the last seven years in teaching, in research, and, in particular, in the reconstruction of the department of pathology. They offered their congratulations to Professor Dean on the important post to which he has been appointed, and wished him all success and happiness.

The Council also expressed congratulation to the following on their recommendation for election as Fellows of the Royal Society: Professor F. L. Pyman, formerly a student, and at present professor of technological chemistry in the University; Professor D. M. S. Watson, formerly a student, and later a member of the staff of the University; Mr. C. G. Darwin, formerly a member of the staff of the University.

The Services.

TUBERCULOUS OFFICERS AND NURSES.

THE Ministry of Pensions announces that officers and nurses suffering from pulmonary tuberculosis accepted by the Ministry as attributable to or aggravated by service in the great war will, under certain conditions, receive retired pay or pensions at special rates for certain periods:

1. Officers and nurses who have completed a course of sanatorium treatment, and who are certified as likely to benefit by a further course of extended treatment combined with training will, if they decide to undergo such a course, continue to receive retired pay or pension at the rate for the highest degree of disablement (100 per cent.) from the commencement of the course until its termination. After the further course has terminated they are entitled without further medical examination by a Ministry Board to retired pay at the rate of 100 per cent. for a period of six months, and at the minimum rate of 50 per cent. for two years thereafter. These awards, which may cover a period of two and a half years in all, are subject to the condition that the officers present themselves for examination by a tuberculosis officer from time to time as directed. The concession applies only to officers and nurses certified at likely to benefit by the further course referred to, and agreeing to undergo and undergoing such a course.

2. Officers and nurses who are discharged from sanatoriums on or after December 22nd, 1921, will be granted retired pay or pension at the special rate of 100 per cent. for a period of six months after leaving the institution, provided that the course of treatment was satisfactorily completed, and that the pecuniary circumstances of the officer or nurse are such that worry and uncertainty which might be prejudicial to health would result if the special rates were not granted. The grant will not be retrospective before December 22nd, 1921. At the end of the six months period an award will be made at the rate of not less than 50 per cent. for a further two years, subject to the same conditions, and provided that the officer or nurse continues to comply with the medical requirements of the Ministry.

DEATHS IN THE SERVICES.

Lieut.-Colonel Frederick Rowland Barker, M.B.E., R.A.M.C. (retired), died at Worthing on January 22nd, aged 68. He was born at Stoke-on-Trent on March 18th, 1853, and received his medical education at St. Thomas's Hospital. He took the M.R.C.S. in 1877, the L.S.A. in 1878, the M.B.London in 1879, and the D.P.H.Cantab. in 1887. He served as surgeon to the Red Cross Society in the Turko-Servian war of 1876–77, receiving the fifth class of the Medjidie, and as surgeon to the Stafford House Committee in the Russo-Turkish war of 1877–78, receiving the Turkish war medal and the fourth class of the Order of the Osmanli. At that time the terms of service in the Army Medical Department were not considered satisfactory by the profession, and finding it impossible to obtain medical officers of good qualifications on the old terms, the War Office found it necessary to offer much better terms of service. The first competitive examination held under the new and improved terms took place in the latter part of 1879, the selected candidates being commissioned after their Netley training from March 6th, 1880. There was a great rush of candidates for commissions under the new terms, and at the examination Barker headed the list of successful candidates, the second place being taken by one who was destined to go much further, Sir Alfred Keogh. Barker became lieutenant-colonel on March 6th, 1900, and retired on September 15th, 1900. He served in the South African war in 1899–1900, receiving the Queen's medal with three clasps.

Major Walter Tibbits, R.A.M.C.(retired), was killed by a fall from a train near Stowmarket on January 15th. He was born at Warwick on March 25th, 1870, and educated at Edinburgh, where he graduated M.B. and C.M. in 1892, and at the Middlesex Hospital. Entering the army as surgeon-lieutenant on January 29th, 1894, he became major on October 29th, 1905, but was not further promoted, and retired after the war was over, on February 1st, 1920. He was still employed, however, after retirement in medical charge of the dépôt at Ipswich. He served with No. 1 General Hospital in the Tirah campaign on the North-West frontier of India in 1897–98, and in the South African war in 1901–02, receiving the Queen's medal with two clasps.

Captain Andrew Cooper Cassells, late South African Medical Corps, died at Maritzburg, South Africa, on December 18th, after a long illness. He was the fourth son of James Cassells, of Leven, and was educated at Dundee and St. Andrews, where he graduated as M.B. and Ch.B. in 1915, after which he took a commission as lieutenant in the Special Reserve of the R.A.M.C., subsequently being transferred to the S.A.M.C.

Medical News.

THE forty-fourth annual meeting and St. Patrick's Day dinner of the Irish Medical Schools' and Graduates' Association will be held, on March 16th, at Pagani's Restaurant, Great Portland Street, when Major-General Wallace Kenny, C.B., will resign the presidency to Dr. J. A. Macdonald, who will take the chair. The Right Hon. Edward Shortt, Home Secretary, will be the special guest at the dinner, on which occasion the Arnott gold medal of the association will be presented to Lieut.-Colonel Robert McCarrison, I.M.S., M.D., LL.D. Tickets (9s. each) may be obtained for the dinner from Dr. F. Howard Humphris, 8, West Chapel Street, W.1.

AT a meeting of the Manchester Clinical Society, to be held in the physiological theatre of the University of Manchester on Thursday, March 16th, at 4.30 p.m., Professor Leonard Hill will give an address on the physiological principles underlying light treatment and heliotherapy; all medical practitioners are cordially invited.

WE are asked to state that hospitals in the county of London, or within nine miles of Charing Cross, desiring to participate in the grants made by the King Edward's Hospital Fund for London for the year 1922, must make application before March 31st to the Honorary Secretaries, 7, Walbrook, E.C.4. Applications will also be considered from convalescent homes which are situated within the above boundaries, or which, being situated outside, take a large proportion of patients from London.

A DEPUTATION, organized by the Catholic Women's League, waited recently upon the Minister of Health to protest against the active propaganda carried on by individuals and certain public bodies regarding birth control. The deputation asked as ratepayers that advice or lectures on the subject should not be given in the maternity and child welfare centres which received grants from the Ministry of Health. The deputation was sympathetically received by Sir Alfred Mond.

A POST-GRADUATE course dealing with recent ideas in medicine and surgery on diseases of the liver, bile ducts, and pancreas, and on diabetes will be held at the Hôtel Dieu, Paris, commencing on April 10th, and continuing for two weeks. The instruction will take a practical form, and will be carried out under the direction of Dr. Maurice Villaret, with the collaboration of M. Okinczyc and others. The fee is 150 francs, and further information may be had from the secretary of the Faculty of Medicine, Paris.

CAPTAIN STEWART RANKEN DOUGLAS, I.M.S. (ret.), Director of the Department of Bacteriology, Protistology, and Experimental Pathology at the National Institute for Medical Research, is among the fifteen candidates selected by the council of the Royal Society for election into the society.

THE proceedings on the conference on lunacy administration in London on January 19th and 20th, under the presidency of Sir Frederick Willis, chairman of the Board of Control, were reported in our issue of January 28th. An official verbatim report has now been issued by the Stationery Office, and can be purchased through any bookseller, price 2s. 6d.

ALTHOUGH the City of New York has been experiencing an outbreak of pneumonia and influenza, the bulletin issued by the Health Department on February 2nd appears to show that down to that date there had been no unusual prevalence of these diseases in the State of New York. In spite of the recommendation of vaccines for the prevention of pneumonia by the New York City health commissioner the State Health Department does not favour their use, the report indicating that during the last epidemic little or no protection against pneumonia appeared to be afforded by the use of vaccines.

A RESOLUTION that dogs should be exempted from scientific experimentation was put before the New York City Federation of Women's Clubs at its annual convention, but was defeated by an overwhelming vote.

A NEW radium institute has recently been opened at Naples with much ceremony and a banquet; its foundation is due to the initiative of Dr. R. Stanziale, professor of dermatology and syphilis.

AN additional telephone exchange was opened within the boundaries of the City of London on March 4th. The new "Bishopsgate" exchange is intended to serve an area embracing the thoroughfare of that name and extending to Whitechapel, Bethnal Green, and Haggerston. As it is situated within five miles of Oxford Circus, the central telephone measuring point, calls may be passed for 1½d. up to a distance of ten miles from Oxford Circus.

THE International Committee set up by the International Labour Office of the League of Nations to consider problems of war disablement met in Geneva on March 2nd. The British representative on the Committee is Major J. B. Cohen, M.P.; the Health Section of the League of Nations, the Red Cross Organizations, and the Inter-Allied Committee of Disabled Men are also represented. The subjects for discussion include the holding of an international exhibition to show the progress made in the manufacture and use of artificial limbs, and the administrative organization of prosthesis and orthopedy. A comparative study of the existing arrangements in the various countries and the results obtained will be undertaken, and the future of the organization for the supply of limbs will be discussed. The third question before the meeting is the organization of medical treatment for disabled men. This will also be dealt with by a comparative study of the existing national systems, and the Committee will be invited to discuss the methods by which men disabled in industry may receive the same benefits as men disabled in the war. Special consideration will be given to the position of disabled men who live abroad, and may therefore be unable to obtain prosthesis and medical treatment. Some States have concluded reciprocal agreements in order to deal with cases of this kind. The Committee will consider the possibility of promoting the wider adoption of such agreements, and the practicability of securing an international convention laying down fundamental principles for the international protection of men disabled in the war.

DR. C. A. MOORE, on the occasion of his retirement from the post of medical officer to the Leicester Post Office after thirty years' service, has been presented by the various staffs with an electro-plated breakfast dish, gold cuff-links and studs, and a case of pipes and a pouch, as a mark of their appreciation for his courteous attention to them during his term of office.

AT the January matriculation examination of the University of London there were 101 successful candidates in the first division and 984 in the second division; the supplementary certificate in Latin was granted to 50 candidates.

THE number of prescriptions for alcoholic liquor issued in Ontario during December, 1921, was 71,028; 311 medical practitioners were suspended by the Board of License Commissioners for Ontario for exceeding their monthly quota of fifty prescriptions.

AT Durham assizes, on March 3rd, Mr. Justice Bray passed sentence of twelve months' imprisonment in the second division upon Edward Ernest Willis, aged 50, a registered medical practitioner, who was found guilty of the manslaughter of the wife of a miner at New Herrington on October 13th, 1921. The prosecution alleged that in operating on the deceased woman Dr. Willis did not use reasonable skill and care, and was guilty of criminal negligence. Evidence was given that he attempted to perform an obstetrical operation while under the influence of drink, and fatal internal injuries were inflicted upon the patient. The accused held the salaried post of medical officer to the Newbottle Miners' Medical Club.

THE late Mr. E. J. Maher-Smith has bequeathed £2,000 to the Swansea General and Eye Hospital and £1,000 to Guy's Hospital. In addition Swansea Hospital receives one-fourth and Guy's Hospital one-eighth of the residual estate.

AT the meeting of the Society of Public Analysts, on March 1st, Mr. Raymond V. Wadsworth reported that the analyses of cocao beans from twenty-one different areas showed a variation in the theobromine content of the nib from 2.2 per cent. to 3.9 per cent., calculated on the dry fat-free material. The variation was due, first, to the variety of the bean, the Criollo bean containing much less theobromine than the Forestero, and, secondly, to the amount of fermentation, for by it the theobromine was considerably reduced. In the shell the theobromine varied much more. During the process of fermentation the alkaloid is brought by the sweatings from the nib to the shell, and the amount naturally present in the shell, 0.19 per cent., might thus be increased to 2.89 per cent. During roasting there was practically no loss of theobromine from either nib or shell. The analyses of twenty-two brands of commercial cocoas showed a variation in the theobromine content of 2.39 per cent. to 3.55 per cent., calculated on the dry fat-free cocoa.

AT a special council meeting of King Edward's Hospital Fund for London, held on March 8th, the main lines of a contributory scheme for the London hospitals and a combined public appeal were approved.

THE number of deaths from influenza during the week ending March 4th continued to show a decline. In the 105 great towns it was 306, against 525 in the previous week; in London it was 49, against 77.

Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.*

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2630, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2630, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin;* telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

"J. B." would be glad of advice as to the best treatment for broken chilblains of a very painful nature on the toes of a farmer aged 65 years.

VITAMINS.

"F. R. H."—Vitamins are not destroyed by freezing or refrigeration. The rate of destruction of vitamins depends more upon the length of time to which they are exposed to oxygen than upon the temperature. If exposed to oxygen vitamins are slowly destroyed, even when kept at freezing point. They are destroyed less rapidly at low temperatures than at high temperatures. The optimum conditions for preserving vitamins appear to be: (1) absence of oxygen; (2) neutral or feebly acid reaction; (3) dry condition (rather than in solution); (4) low temperature.

TESTICULAR NEURALGIA.

DR. M. W. BROWDY (London) writes: In reply to "E." (p. 374), I would advise him to have a urethroscopic examination made of the posterior urethra, as I have seen a good many cases in which the neurosis arises from chronic disease of the colliculus seminalis. In these cases excision of the testicles would be a calamity.

INCOME TAX.

"D. K." bought a practice for £2,800, paid £1,000 down, and is paying the remainder by instalments of £600 per annum.

*** He can claim no allowance for the payments, which are of a capital nature.

"COTSWOLD" is paying premium for a deferred annuity becoming payable in 1924 for four years. He asks if he can claim an allowance.

*** Since 1916 payments to life assurance companies are not proper subjects for claim unless the benefit is a capital sum payable on death. In this case no allowance seems to be due.

"VENATOR" asks what deductions can be claimed as living expenses by an outdoor assistant?

*** There is no ground for claim in respect of living expenses; an "indoor assistant" who receives a portion of his total remuneration in kind—and therefore in a form rendering it unassessable to income tax—is in a peculiarly favourable position as compared with other persons whether assistants or practitioners.

"W. R." inquires as to the deduction of certain expenses.

*** (1) The fraction of general expenses, such as rent, light, etc., varies with the locality; in a provincial town a common proportion is one-half. (2) The amount to be allowed for domestic staff is the sum—whether expended as wages or in "keep"—applicable to that portion of the total service which is employed in cleaning the waiting- and consulting-rooms and similar professional matters. If the whole of the cost of a maid is allowed "W. R." is not likely to obtain more. (3) Nothing is allowable for depreciation of a car used in professional work, but the cost of replacement can be deducted as and when incurred.

LETTERS, NOTES, ETC.

THE TREATMENT OF PNEUMONIA.

DR. H. L. GORDON (Accrington) writes: May I suggest to anyone not satisfied with his own treatment of this dread disease the following: ℞ Pot. iod. ʒj, liq. ammon. acet. conc. ʒiij, aq ad ʒviij. ʒss. every two hours. As pneumococcal invasion increases blood pressure, the indication is to lower it. This I claim as the rationale of the treatment suggested. I am satisfied with it, but it must be begun as soon as the nature of the case is suspected and not as a last resource.

DR. ARTHUR J. MATHISON (Hornsey) writes: In the JOURNAL of February 25th, on p. 334, "M.D." writes on the treatment of pneumonia. It is necessary always to remember the great difference between lobar and lobular pneumonia—a difference better set forth in those other names, croupous and catarrhal. It is also necessary to remember that the lobular pneumonia, generalized, closely resembles the other form, giving a large area of solid lung so far as percussion and auscultation discover. The disrepute into which creosote may have fallen is probably due to this mistake. I do not put forward the creosote and potassium iodide treatment as a specific in lobular, but only in lobar pneumonia. During the epidemic of influenza in 1918–19 I found cases that would not yield to the treatment, and I hastily doubled the dose and wrote to the JOURNAL to that effect. But now I see that those cases were probably either (*a*) cases of mixed infection, or (*b*) cases of lobular pneumonia, or both (*a*) and (*b*). The mixture should stand as used with so much success. Every four hours till the temperature falls give 2½ minims of creosote and 5 grains of potassium iodide. The mixture should only be expected to act as a specific in lobar pneumonia and never in cases with failing heart, in which cases the heart would be still further depressed by a mixture unsuitable at so late a stage. Surely to be a specific for so widespread and fatal a disease as lobar pneumonia is quite distinction enough for this simple combination of drugs without adding the very doubtful reputation it might earn in the other very different malady. Brandy is not as a rule necessary.

AMMONIUM CHLORIDE IN GLYCOSURIA.

DR. T. HOUGHTON MITCHELL (Ambleside, Westmorland) writes: May I draw the attention of readers to the efficiency of ammonium chloride in glycosuria of hepatic origin? Given in full doses three times a day before meals, combined with taraxacum, compound spirits of ammonia, and nux vomica, it speedily reduces the sugar content and produces a rapid fall in the specific gravity of the urine.

DEPILATORIES.

WITH reference to our note on depilatories (February 11th, 1922, p. 252), a correspondent writes that the advice to use a safety razor in cases of unwanted growth of hair is often met by the objection that the constant shaving will cause the hair to come more quickly and of stronger growth. He asks if there is any ground for this apprehension, and whether this objection does not apply also to the use of barium paste on account of the irritation which it causes. Constant shaving does appear to cause the hair to grow more strongly, but the only real objection to shaving seems to be that it has to be done at frequent intervals in any case.

GIGANTISM.

DR. H. E. BLOXSOME (Fairford, Gloucestershire) writes: A girl was brought to me recently as her rate of growth was causing some alarm. I could not find anything abnormal except her size. She is 14 years old, 6 ft. high, and weighs 15 st. She is immensely broad and deep in the chest and perfectly well-proportioned everywhere. She is rather fat, but the weight is as much bone as fat. She is quite intelligent. The mother and father are ordinary healthy, medium-sized people, but the daughter is surely a giantess.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 34, 35, 37, 38, 39, and 40 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 35 and 37.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£ s. d.
Six lines and under	0 9 0
Each additional line	0 1 6
Whole single column (three columns to page) ...	7 10 0
Half single column	3 15 0
Half page	10 0 0
Whole page	20 0 0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

A British Medical Association Lecture

ON

"PERNICIOUS ANAEMIA" AND "SEPTIC ANAEMIA."*

WITH NEW OBSERVATIONS ON THE DISTINCTIVE SORE TONGUE, SEASONAL INCIDENCE AND POWERS OF RECOVERY OF "PERNICIOUS ANAEMIA," NOW TERMED "GLOSSITIC ANAEMIA."

BY

WILLIAM HUNTER, C.B., M.D., F.R.C.P.,

(SENIOR PHYSICIAN, THE LONDON FEVER HOSPITAL; CONSULTING PHYSICIAN, CHARING CROSS HOSPITAL.

INTRODUCTORY.

THE subject of anaemias, selected by the Council of the British Medical Association for my address to you to-day, has been one of peculiar interest to me for over thirty-five years. In coming back to it now after a break in that interest occasioned by the war, I have put to myself the question, What has been the practical outcome of it all? And I have thought that I might best help it if I endeavoured to-day to consider before you what new light, if any, this prolonged study has thrown either on the nature, the diagnosis, or the treatment of those forms of anaemias that are obscure and give trouble both in diagnosis and treatment—forms best designated as severe to distinguish them from others that are simple in their character.

In my remarks to you to-day I shall draw on my experiences, and illustrate them by the specimens and plates shown to you, without adhering to the final form which I have sketched out and now give to this address. The former is easy to me, while the latter, owing to the abundance of material at my disposal, is difficult. And yet I feel a great desire to put together in the form of one address the salient facts of that experience, in the hope that by so doing I may give you something that may help you in your outlook and practice in connexion with blood diseases generally and severe anaemias in particular.

The infective and clinical features of severe anaemias go deeper into their nature and help far more in diagnosis and treatment than the various blood criteria so much before our notice in dealing with anaemias. Such sums up in one sentence the most important outcome of my studies, and may well be taken as the text of my address to you to-day.

I am not going into the matter of these blood changes with you to-day. Indeed, in all my various studies and writings I have kept them in the background. I have had a great purpose in doing so. As detailed in the formidable list of percentages familiar to us in blood reports they make a deep impression on the eye and on the mind—that surely here, if anywhere, the full facts regarding anaemias must be found. Unfortunately this is not the case. For they have one great drawback—namely, they always fail precisely in the borderland group of cases, in which the clinical observer most needs their help. Secondly, they always fail whenever the anaemia is moderate in degree, and when it is particularly necessary to be sure of the character of the anaemia with which we have to deal if successful measures are to be taken in time to arrest its progress.

Infective Criteria.

On the other hand, the outcome of the study of the infective and clinical features presented by cases of severe anaemia has yielded me the following information, which I summarize in five paragraphs, and shall afterwards amplify in the course of my address:

1. Two forms of severe anaemia are to be recognized. The one is the great haemolytic disease, *sui generis*, termed idiopathic or pernicious anaemia. The other is a very common anaemic condition—non-haemolytic in its nature—which I have differentiated and term septic anaemia (1900). It is these two classes of severe anaemia with regard to which I propose to-day to describe the final outcome of my studies.

2. That outcome reveals that the patient who presents the picture of desperate anaemia—termed pernicious, as it was presented and as it is still presented when first seen—is really in the grip of both the above forms of anaemia, each of them capable of killing him, and the two combined absolutely mortal. The chief one that gives his illness its main characters and clinical features and course is the haemolytic disease termed pernicious anaemia; the other complicating one is the above-mentioned non-haemolytic septic anaemia.

3. The practical outcome of this recognition and differentiation which I propose to describe to you to-day is that the two anaemias can be torn apart by removing completely the septic anaemia and its causes from the pernicious anaemia patient. On doing this the great haemolytic disease which remains shows itself for the first time in its history in its true uncomplicated characters and course; and these prove to be much milder in severity and with a much better prognosis than were ever formerly presented.

4. The further outcome of these studies has been to reveal certain simple and easily recognizable clinical diagnostic features which enable the haemolytic disease "pernicious anaemia" to be recognized in its very earliest stages—even within a few weeks of its first contraction, long before the existence of this anaemia has been ever dreamt of, and on an average about two years before it generally comes under treatment.

5. The infective and clinical features here referred to, that help so much in diagnosis and treatment of both classes of anaemia, are connected with observations, not on the blood, but of lesions connected with the mouth. These lesions are combined in the case of the pernicious anaemia patient, but are perfectly distinct from one another, and have a totally different pathological and etiological significance.

The infective lesions connected with, and diagnostic of, the haemolytic disease "pernicious anaemia" are those connected with, and manifested by, the peculiar sore tongue which this disease presents as one of its earliest features. The lesions concerned with the "septic anaemia" are septic lesions connected with chronic and overlooked dental and nasal sepsis, especially the former, to which I have given the name "oral sepsis."

The foregoing being a brief summary of the general outcome of my studies, I now pass on to consider some of the chief facts in the following three sections of my address; Part I: Pernicious anaemia. Part II: Septic anaemia, as an independent anaemia, and as an intense complication of pernicious anaemia. Part III: Great powers of recovery of pernicious anaemia on removal of the sepsis and septic anaemia associated with it.

I.—PERNICIOUS ANAEMIA.

Sore Tongue as the Earliest and Chief Diagnostic Feature of Pernicious Anaemia.

The particular lesion which more than any other I find to be most distinctive of the haemolytic disease "pernicious anaemia" is the presence or history of a peculiar form of "sore tongue" in a patient suffering from an anaemia. Such a history, associated with the clinical features of increased blood destruction (haemolysis), is, in my observations of the past thirty years, since I first described it in the first case I ever studied (1890), the most important infective and diagnostic feature of this great haemolytic disease. So much is this the case that the name which would, in my judgement, most clearly connote this disease, help in its early recognition and subsequent control, and at the same time get rid of the brutal, ill-omened, prognostic, and confusing name of pernicious, would be the title "Glossitic haemolytic anaemia," or, more shortly, "Glossitic anaemia." After many years of perplexing consideration given to the matter, it is that name I now give this disease, and by which I shall henceforth refer to it. I do so in the hope that I may thereby free future observers and future sufferers from this disease from some of the difficulties which for thirty years and more I have experienced in connexion with the name "pernicious"—the worst name ever given in medicine, and a cause of confusion not associated with any other disease in medicine.

The name "glossitic" which I now give it will at least make clear the exact identity of the haemolytic disease, with which my work for thirty years has been concerned—the disease which alone I have ever had in view under the name "pernicious anaemia," or the more distinctive name of idiopathic anaemia of Addison, or the historical name I gave it in my work in 1910 of Addisonian anaemia, or the latest name given to it in an important Continental work in Holland of Addison-Hunterian anaemia.

The great haemolytic disease to which I thus give the name of glossitic anaemia is the disease referred to throughout its history by the following names:

"Anaemia in its most idiopathic form" (Combe, 1822).
"Idiopathic anaemia" (Addison, 1855).
"Progressive pernicious anaemia" (Swiss and German and other observers, 1870-88).
"Idiopathic pernicious anaemia" (Pye-Smith, 1878).
"Pernicious anaemia" (all observers).
"Idiopathic haemolytic anaemia" (Hunter, 1890).
"Addisonian anaemia" (Hunter, 1910).
"Addison-Hunterian anaemia" (two chief Dutch writers, 1921).
Idiopathic "Glossitic anaemia" (Hunter, 1921).

* Delivered before the Devon and West Somerset Branch at Taunton, November 15th, 1921.

In bringing to an end my long series of studies on this disease and giving it now this final name, may I note that by an interesting coincidence the disease this year celebrates the centenary of its first case recorded in any language—namely, that recorded by Combe of Edinburgh in 1822.

May I note further that the very first words he applied to the disease were: "A very peculiar disease, which will doubtless be viewed in different lights and receive different appellations. If any train of symptoms may be allowed to constitute anaemia a generic disease, the following may be considered an example of it in its most idiopathic form."

May I add, further, the final opinion of the oldest observer who had followed its story for a period of nearly sixty years—from its earliest beginnings in English medicine in the late "forties" of the past century to the final termination of my own work upon it in 1903. The observer referred to was Professor Sir William Gairdner of Glasgow (1903), who said, writing a year or two before his death:

"My earliest acquaintance with the disease dates from the late 'forties,' when I reviewed the first paper in which Addison introduced his idiopathic anaemia idea. All I have seen makes generally for your view of the case. I wish I had taken note of the glossitic phenomena you describe, but I am afraid I am among the number of those who have passed over very much within my view. If you can make that point (the glossitis) clear as being of the frequency you describe, you will have won your case against all gainsayers."

In introducing this name, may I, to save time, anticipate the criticism which I know from past experience of everything connected with the name "pernicious" will assuredly be raised. That criticism is that I have described a "new form" of pernicious anaemia, thereby only making confusion worse confounded. To anticipate this may I repeat that, apart from the disease to which I now give the name of "glossitic anaemia," I have never seen a case of "pernicious anaemia" in my life, or a case of "idiopathic anaemia of Addison," or a case of "Addisonian anaemia," or a case of "Addison-Hunterian anaemia."

What I have done is to obtain the great haemolytic disease in a pure form such as rarely, if ever, previously existed; to find that this disease when freed from sepsis has milder characters and a more benign and better course than it ever before had, and that it deserves some name that will help in its diagnosis and treatment, instead of the name "pernicious," which does neither.

May I also anticipate another kind of criticism which it may at once receive. It was one I heard recently from a student. He had evidently been taught to attach no importance to it, because, as he said, a similar sore tongue could also be found in sprue, scarlet fever, and leucoplakia! Sprue, a disease of which most people have never seen a case; leucoplakia, a condition which is of no vital importance to anyone; and scarlet fever, of which I have seen many thousands of cases, and with whose tongue conditions, it may be presumed, I am well acquainted. The sore tongue to which I attach importance is that found in combination with the twenty-one characteristic clinical features of the disease I term glossitic anaemia.

Sore Tongue Features in Ten Cases.

The sore-tongue lesions I refer to are those I described for the first time in the first case of the disease I ever studied (1890). Their histological characters are illustrated in my work on *Severest Anaemias* (1910), in plates which I now show you. Their constancy is such that I have seen them in every case—150 or more—of which I have full records. Their characters when marked are shown in the coloured plate from the last case under my observation. Their relation to the disease from its origin onwards may be illustrated by the following cases selected almost at random from my records.

CASE I. (*The Original Case, 1889.*)

Illness dated from the autumn of 1887. While on holiday in the country he was exposed for a time to unhealthy sanitary conditions—drain smells. He suffered at the time from sore tongue and sore throat, and never afterwards regained his health.

1887. He continued to suffer at times from an inflamed tongue—red spots on the tongue.

1888 (June). His tongue troubled him very much, tenderness on eating, extending down the throat into his stomach. Tongue extremely flabby, indented by the teeth, presenting a red fiery appearance, with scattered patches of a more inflamed character. Portions of the mucosa being smooth as if devoid of papillae. The redness extended to anterior pillar of fauces.

May, 1889. Tongue much the same as before, not quite so raw; along edges there are patches of more fiery redness. Some of these under tip of tongue show small inflamed vesicles full of serum. (Death took place in May, 1889.)

CASE XII (1901).

About September, 1900, very bad inflamed tongue, deep red. Swelled so that he could hardly get it out of his mouth, and had to take everything cold—anything warm gave him pain. Tongue always more or less tender for some years before—always on the same spot, the right side; with sometimes little vesicles. They came and went, but were never severe till September, 1900, when the attack lasted six weeks. Has not been troubled with it much till now (May, 1901), when it became sore all over and is still sore. It is now smooth and glazed. (Death, 1901.)

(Illustrations of this tongue in *Severest Anaemias* (1910), Plate 2, Fig. 4; Plate 5, Figs. 9 and 10. The changes were extreme in character, nearly all the muscle substance being destroyed, and the epithelial covering reduced to a mere line of cells.)

CASE XV (1901).

A gentleman, an eminent member of the profession, living retired in a large old country house with sporting estate attached. He was fond of gardening. In the autumn of 1900 he spent much time in watering his roses with sewage obtained from an old cesspool, the stench of which was very bad. His tongue became very sore, and at the same time he began to feel very weak and tired at the end of the day. He had formed a small sitting-room from a former gun-room, with which an old lavatory was connected. He used to sit, feeling very wearied, by the fire in this room, between the fire and the lavatory. He then found that there was an old cesspool under his lavatory floor, so that, unknowing, he had again exposed himself to very marked drain infection. He became very ill and anaemic during the autumn (stage of invasion). He had all the features of pernicious anaemia the following spring when I saw him, accompanied by the recurrent sore tongue. He made a remarkably good recovery three months after I saw him, and enjoyed excellent and robust health over a period of eight years, when he died.

He wrote me that he still from time to time had feelings of intense illness, which gave him concern, and a feeling that he still had his old disease on him. I saw him only once, some six years later, in robust health. His tongue was beefy red and very characteristic. He died two or three years later, but I never got any further details.

CASE XIX (1901).

Mouth becomes sore every three or four weeks with what appear to be little "canker spots" on sides; tongue swells and cracks. This lasts about a week, then goes off for a time.

January, 1902. Tongue much better, sores on sides healed, but surface shows a sodden appearance.

February. Patches on side of tongue returning.

March. Tongue better and clean. (Death. Illustrations of tongue, op. cit., Plate 2, Fig. 3.)

CASE XX (1901).

Ill health began in 1898 when she went to stay with friends and slept in an insanitary room for a month. On returning home complained of a sore tongue (incubation period of disease, three to four weeks). It was swollen and raw, so that she could not bear to touch it, a number of ulcers—eight on one side alone—extending all round edges of the tongue, inside the cheeks, and on the throat. She has had this condition off and on ever since about every two or three weeks. Tongue now soft, with angry red patches on sides and tip; at other parts shows atrophy. At two parts, small white patches, like sodden blisters, very tender. Tongue at times swells up almost to teeth.

February, 1902. Tongue very clean.

March, 1902. Three red spots on tongue at tip. On left edge two yellow vesicles about size of a barley seed. Later on improvement and no redness.

CASE XXV (1902).

For last two years "she has always had a sore tongue, so that she could not take wine without a feeling of scalding as far as the stomach." It comes and goes; no vesicles, but little cracks appear on edges and on dorsum. Tongue has now a singularly inflamed look, with cracks all over the edges; great tenderness.

CASE XXVIII (1903).

Tongue became sore about three months ago (September); soreness seems to go right through to back passage. It appears perfectly well for a time, then a relapse occurs once in two to three weeks. It has now a smooth and fissured appearance.

CASE XXXIV (1905).

Ill health began some four years ago (1901), when he had a bad attack of anaemia. Tongue has been sore off and on since 1901. Always noted at the times he is ill. Then the pain goes down to pit of stomach, causing retching and indigestion; then he gets so weak he has to go to bed.

CASE XLIV (1907).

Good health till spring of 1903, when she came in contact with a very foul drain. Tongue at this time began to be sore and red, varying in intensity and distribution; and this has continued up to present time with periods of intermission.

CASE XLVII (1907).

Since 1905 tongue has been very sore—very beefy-looking. Sometimes blood raw. Comes and goes every few weeks. Soreness extends down into stomach, with severe diarrhoea.

1908. Tongue remarkable—bright, fiery red, with cracks on sides and bright red papillae all over.

September. Run down in health and had a bad tongue. Tongue gets inflamed at tip every three weeks, accompanied by some discomfort in stomach and lower down, as if he were inflamed all the way down.

Summary.

I have found a history, similar to the preceding, in all cases I have seen.

It may be summed up as a sudden onset, with a seasonal time of onset (July to September), marked by periodic "sore tongue," periodic "sore stomach," periodic "sore bowel," followed by periodic sore haemolysis, periodic sore anaemia.

The first three features occur singly or combined, varying in intensity at different times; sometimes quiescent, at other times active. This periodicity is very marked in the tongue lesions. At times this looks quite normal; but at other times, generally at intervals of two to three weeks, it becomes tender, and shows patches of redness, or vesicles; or it may become extremely inflamed, looking like raw beef. When the patient is extremely anaemic these tongue lesions are least obvious, since the patient has not sufficient blood in his body to cause redness or inflammation; and in some cases they may be quite absent or quiescent for months at a time.

They are therefore often best seen when the patient is comparatively well or in the stage of recovery. Their recurrence from time to time during the stage of recovery is a most valuable guide in the treatment of the case, since it denotes renewed activity of the disease at different times. These recurrences are always accompanied by evidences of haemolysis—for example, lemon colour, high colour of urine, and some fall in the number of red cells—as observed over a period of fifteen years in a case under my care, which I shall later refer to.

I show you the actual changes in the tongue (and stomach and intestine) as represented in plates in my work, *Severest Anaemias* (1910). The intrahepatic changes of catarrh of the smaller bile ducts associated with the jaundice (haemolytic) occasionally presented by the disease I have also been able to study in a case which died in the acute stage.

Clinical Features and Course of the Haemolytic Disease "Glossitic Anaemia," ushered in by the above Symptoms of Recurrent Sore Tongue.

The disease thus ushered in is the anaemia termed 'pernicious anaemia." Apart from the disease marked by the sore tongue above described, I have never seen a case of pernicious anaemia in my life. As regards the individuality and identity of this disease, I draw special attention to two great outstanding etiological characters distinguishing it from all other anaemias.

Individuality and Identity of this Disease.—The first is its most peculiar sex and age incidence in the 150 cases—no fewer than 71 per cent. of the cases being in men, in whom all other anaemias are least common; and 85 per cent. over the age of 40, the age at which all other anaemias are least common. This feature is a hard statistical one, which can be expressed in actual figures as above stated. The haemolytic and glossitic features which, from 1890 onwards, I have described in connexion with this disease I have now called glossitic anaemia, have lifted the identity of this anaemic disease far above the level at which it stood thirty years ago under the title of "pernicious anaemia." The sex and age incidence originally given for the anaemia called by this name (in 1871) was 20 per cent. in the male sex (as compared with my 71 per cent.); and 16 per cent. above the age of 40 (as compared with my 85 per cent.): obviously a totally different class of cases. Nevertheless, in spite of this extraordinary difference, the name I have to give the unique type of disease which forms my group of cases is the same name "pernicious" as that given to a totally different class of case. Hence my resolve now—after thirty years of difficulties connected with the above fact—to give this great haemolytic disease a name that will accurately connote its identity as I find it, and also incidentally connote the disease to which all my work on this disease refers.

The second great outstanding feature of this disease is the last one I described in connexion with it—in 1913. This is the extraordinarily marked seasonal character of its onset and of its periodic relapses—namely, July to September for its onset, and approximately the same months, July to September, for its relapses. I know nothing in connexion with any chronic disease so remarkable or so constant. It places this disease within the category of specific infective diseases in such a striking way that this character of it can be no longer in doubt. No other anaemia known to me has such a character. It is notably absent in the anaemic condition which, when severe, most closely resembles it, and is most frequently mistaken for it—the anaemia which I have differentiated and term "septic anaemia."

All my cases show the same characters and course as the original one. But many show certain other features to which I draw special attention. The first of these is the occurrence of fever as one of the first features in the onset of the disease—fever of obscure nature, generally termed "influenzal" by the patient. This feature is quite a common one. Its chief character is that it is followed by such a surprising degree of weakness and by the lemon colour which denotes the haemolysis of the disease.

Another feature shown in other cases is one of great importance—the surprising degree of anaemia which accompanies this first attack, down to 40 per cent., a fact of importance since it is very seldom that the blood is examined at this period. The same applies to the second attack, which is often also passed through without the question of a severe anaemia having been raised; and yet the blood may be as low as 23 per cent. The recovery from this attack is not so rapid or complete as after the first attack, the blood only rising to 50 or 60 per cent. as compared with 80 to 90 in the first attack.

It is generally only when the third attack occurs that the anaemia becomes so marked as to be a matter of real concern. The question of it being "pernicious" is then raised often for the first time—that is to say, two years after the original attack. It is quite astonishing, indeed, to see from one's reports how often the patient's statement begins that his "illness began about two years ago." It is this important hiatus in the observation and possible control of the disease that can now be bridged over by the diagnostic feature of the sore tongue which I have described. For the patient can often recall, even to within a month, the exact date at which he first began to be troubled with a "sore tongue," and that occurrence marks approximately the first period of onset of the disease.

Lastly, a constant feature is the existence of nervous features in slighter or severer degree in all cases of the disease—visceral pains (in tongue, stomach, or intestine), peripheral, cerebral and mental.

II.—SEPTIC ANAEMIA:

(*a*) AS AN INDEPENDENT ANAEMIA;
(*b*) AS A COMPLICATION OF PERNICIOUS ANAEMIA.

Interesting and informing as the foregoing facts may be regarding the great haemolytic disease, an even greater interest and practical importance attaches to the second outcome of my studies regarding anaemias. That outcome is the complete differentiation of another form of anaemia which I have termed septic anaemia; and the discovery of the great part it plays not only as an anaemia existing by itself, but even more as a frequent accompaniment and complication of other forms of anaemia, and indeed of other diseases.

Its discovery arose out of my studies (in 1900) regarding the presence of the common septic conditions I termed oral sepsis as an intense complication—not the causa causans (*pace* many erroneous statements)—of the great haemolytic disease pernicious anaemia marked by sore tongue, as I have described in the previous section. I find, namely, that this oral sepsis itself can and often does cause a form of anaemia quite different from the haemolytic anaemia of the sore tongue disease. The anaemia so caused is not an anaemia *sui generis* as the former is; it is an anaemic condition produced by long-standing sepsis—chiefly streptococcal—such as accompanies dental disease, or may be found from time to time in adjacent parts, especially the antrum and nasal air sinuses.

This septic anaemia is, in my experience, the commonest form of all anaemias. It varies much in degree, often mild, but at times very severe, simulating and approaching even that of the sore tongue, haemolytic anaemia—for example, down to 20 per cent. of red cells. But it differs totally in its pathology from the above-mentioned glossitic (or pernicious) anaemia in being non-haemolytic, and in owing its character to deficient blood formation, just as much as the haemolytic anaemia owes its character to excessive blood destruction. The cause of it in nine-tenths of cases is, as I have just stated, unrecognized and very common sepsis, connected with bad teeth and periodontal disease (pyorrhoea)—"oral sepsis"; in other cases it is overlooked sepsis in the antrum and nasal sinuses.

But, as I have stated, the intense clinical interest of this anaemia is that it may not only exist alone. Far more frequently it exists along with and complicates other anaemias in which similar conditions of oral sepsis are present, and herein lies part of the great importance of oral sepsis in connexion with the disease called pernicious anaemia.

"Glossitic Anaemia" plus "Septic Anaemia" in the same Patient: Importance of Oral Sepsis as a Complication.

In addition to the history or presence of sore-tongue lesions, which I regard as of utmost diagnostic importance, the mouth in glossitic anaemia patients generally presents when first seen another class of infective lesions connected not with the tongue but with the teeth. There are the septic conditions which I term "oral sepsis" (1900). I have kept them apart from the glossitic lesions because they are of a different character and significance. However bad they may be they do not in the absence of sore tongue or its history point to the diagnosis of the idiopathic haemolytic disease, glossitic anaemia. On the other hand, any history of sore tongue, however slight it may be, in an anaemic patient should raise the suspicion of this haemolytic disease, even if little or no oral sepsis is present.

In most cases, however, the conditions of oral sepsis presented when the patient first comes under notice are very bad. Thus to quote only one case:

"Many of his teeth are quite loose, both in the upper and lower jaw; they are all very septic, showing periodontitis, pyorrhoea, and calcareous tartar deposits, and much septic gingivitis, and there are in addition a number of carious teeth and septic stumps. He has neglected his teeth, and has been in the habit of himself pulling them out as they became loose."

A pretty septic story is thus presented by such cases—a story prior to 1900 invariably present in all cases throughout the history of the disease, and still presented in some degree or other by every case when it first comes under notice.

What is the importance of these septic lesions around the teeth? It is, I find, of a threefold character, to which I draw your special attention.

1. *Power of Producing Septic Anaemia.*—The one to which I am specially drawing your attention to-day is the power of chronic streptococcal sepsis *per se* in producing a definite and sometimes extreme degree of the anaemia I have termed "septic anaemia." But important as this is in connexion with the prevalence of oral sepsis and the part it is thus playing in causing all sorts of degrees of anaemia—for example, in young children, young adults, and especially in young girls who are already so liable to anaemia of non-infective nature—this power *per se* of producing anaemia by no means exhausts its special importance as a complication of the haemolytic disease, glossitic anaemia. For in this latter disease the tongue is the seat of lesions which cause cracks and fissures and abrasions of its covering epithelium, exposing it therefore in special degree to any septic infection in the mouth. And when one remembers how constantly the tongue is in movement, expanding and contracting, it must act like a sponge in absorbing the intense streptococcal sepsis present in many cases, thereby favouring the production of septic anaemia. Furthermore, the action of septic infection is to retard blood formation in the bone marrow (a pale bone marrow). It thus counteracts the action of the haemolytic infection, which is to stimulate blood formation (red bone marrow). The removal of the sepsis therefore frees the bone marrow from a markedly depressing influence, and allows the full compensatory powers of the bone marrow free play. The result is shown by the remarkable and increased powers of recovery of the haemolytic disease on removal of the sepsis.

2. *Power of Producing "Septic Gastritis" and "Septic Enteritis."*—In this latter disease oral sepsis plays another important part—the one which first drew my attention to it, and the one which I endeavoured to describe in my first account of this subject in 1900. That part is the power of oral sepsis in inducing unhealthy conditions of catarrh in the stomach and intestine ("septic gastritis" and "septic enteritis," as I termed them)—in the alimentary tract. It is these that constitute the class of "certain favourable conditions" which in my first studies in 1890 I concluded to be necessary for the contraction of the haemolytic infection (a specific one) underlying the haemolytic disease and glossitic anaemia. My studies have fully confirmed the importance of this action of oral sepsis. Prior to 1900 the most distressing features of that disease were the frequency of gastric and intestinal symptoms: the loss of appetite, the distaste for food, the nausea, recurrent sickness and vomiting, the looseness of bowels, or the recurrent and oftentimes persistent diarrhoea which marked the progress of this disease—for example, vomiting every day for two or three months. While symptoms of gastro-intestinal disturbance are still definite features of the disease, I never see nowadays this class in the severe degree I formerly witnessed in every case. All the patients recently under my care have indeed been singularly free from them, except from time to time in slight degree. I attribute this happy result to the removal of all oral sepsis—all teeth from the cases—and to the consequent removal of that factor as a potential cause of gastric and intestinal trouble, or as a potential complication and adjuvant of the action of the specific haemolytic lesions that may be, and in all cases are, present in some part or other of the gastric or intestinal mucosa.

3. *Septic Lesions around the Teeth as Seats of the Haemolytic Infection of Glossitic Anaemia.*—But a third (and in my judgement the most important) part, from a pathological point of view, played by oral sepsis in connexion with the haemolytic disease, glossitic anaemia, is the one I have now indicated. This is that the lesions around septic teeth, the open wounds connected with septic gingivitis—for example, especially under calcareous masses of tartar—the pyorrhoea, the carious roots, the presence of gold caps or bridges, *et hoc genus omne*, are lesions in which the haemolytic infection of the disease also takes root and by which its persistence in the body is favoured. So important is this that in my observation the first seat of that infection is in all probability in most cases such open septic lesions around the teeth. It incubates itself there, thence spreads to the tongue, which afterwards becomes its special seat, and thence spreads to the mucosa of the stomach and intestine.

In short, the exact pathogeny of this disease—its mode of spread—could not be better described than in the words used by one patient regarding it:

"His illness began with sore tongue; his tongue always got inflamed every three weeks, accompanied by some discomfort in the stomach and lower down, as if he were inflamed all the way down."

Or as another equally well described it:

"Tongue became sore about three weeks ago. The soreness seems to go right through to back passage. It appears to be perfectly well for a time; then a relapse occurs every two or three weeks."

Or as another described it:

"His illness began with sore tongue, quickly followed by yellowish complexion (haemolysis) and great weakness (anaemia). He told several doctors that he thought the sore tongue had something to do with it, but they attached no importance to it."

If this be the character of the haemolytic infection—namely, located in the tongue, mucosa of stomach and intestine, and wakening into activity every two or three weeks—the importance of open septic wounds around the teeth, in the sockets of the teeth, and in the bone around the sockets, as the seats of the haemolytic infection becomes extreme. For this infection is undoubtedly present in the tongue, and must invariably be passing from the lesions of the tongue to the sockets of the teeth. Or, conversely, if preserved in the lesions around the teeth, it must constantly be passing to the tongue (stomach and intestine), grievously aggravating the amount of the haemolytic infection already present.

A *circulus vitiosus* is thus created between the tongue lesions and the oral septic lesions. Therefore this oral sepsis in this great haemolytic disease glossitic anaemia, already characterized by the great persistence of its own infection, is of altogether supreme importance. So great is the part it plays that in my judgement there is no safety from it in this disease except by the radical measure of removing every tooth—whether bad or apparently good—in order to remove all the potential haemolytic infection which may be present in the septic lesions around teeth already diseased, or that may subsequently find root in teeth which, although apparently good at the time, may later on become diseased. I have never failed to see immediate benefit follow the removal of even one or two bad teeth, and great benefit follow the removal of as many as seemed bad or doubtful. But I have never failed to regret, in every case I have seen, when watching its subsequent course—and seeing how persistent the haemolytic infection is—that I have not been allowed to remove all the teeth in the first instance, in order to get rid once and for all of the important potential complication of new seats of infection being formed around teeth as they subsequently become bad.

Frequency of Oral Sepsis in "Glossitic Anaemia."

On this point I have, since I first announced it in 1900, had no manner of doubt—such as many, including not a few teachers, seem apparently to have, judging from what I sometimes hear. Their furthest admission regarding the matter does not go beyond the very guarded and non-committal one that "I am inclined to think there may be something in it, although, of course, not as much as you believe. Why, I have seen cases of pernicious anaemia without any teeth!" (Many such cases are now being seen—since 1900, when the importance of removing septic teeth was first drawn attention to. Further, pernicious anaemia is far more common in hospitals than formerly was the case, for the reason that far more chronic cases are now alive.)

My own doubts have long been dispelled, as theirs also would have been, by the painful and tragic experience I had shortly after 1900 of seeing several scores of private patients in rapid succession in the course of a few years, all of them presenting features of sepsis in the teeth and mouth that were perfectly lamentable. The majority of them were found at death's door, literally sodden with neglected sepsis, in addition to their real severe disease, although on an average they had had their disease on them for about two

years before I saw them. So bad was it that I found it impossible to carry out the measures of antisepsis and removal of septic teeth which were clearly indicated, albeit at that time doubtfully regarded alike by the doctor and still more by the patient. ("It beats me to understand what my teeth have got to do with my disease," as one patient in a desperate state remarked.)

The worst experience was of seeing the great majority of these earlier patients die within an average of three and two-third months from the time of my seeing them. Thus, out of my first group of 44 private cases, death occurred in 35 cases: 14 in less than a month (most of them within a few days), 16 within two months, 21 within three months, 25 within four months, 27 within five months, 28 within six months, 31 within seven months, and 35 within eight months.

That picture represents the severity and character of the great idiopathic anaemic disease which throughout my studies I have designated "pernicious anaemia"—the disease which I find to be distinguished by its glossitic and haemolytic features, the disease to which I therefore now give the title of "glossitic anaemia." Such, however, is not the picture which that disease may, since 1900, present if it be freed from sepsis and the septic anaemia which complicates it. It remains the same disease *sui generis*. But when thus freed from sepsis it presents milder clinical features and a much better clinical course than anything it was ever capable of showing prior to 1900, before the era of antisepsis in anaemia which then commenced.

Increased Powers of Recovery after Removal of Sepsis.

When sepsis is removed what is the result? Are the powers of recovery of this haemolytic anaemia thereby increased? Are the features or course of the disease when freed from sepsis and septic anaemia in any degree modified from that presented by the disease previous to 1900, when I first formulated my conclusions?

My own experience is that they are notably modified. The full true features of this idiopathic haemolytic disease, when thus freed from sepsis, have been presented to me time and again during the past twenty years, as they never were seen and never existed before. The dreadful, hopeless pictures which it formerly presented I never now see in any of my cases in whom I have been able to carry out the full measures of antisepsis I consider necessary. However severe the disease may be—and it is always severe; however sharp its individual attacks may be—and they can be of the severest character (for instance, the patient lying in a state of unconsciousness and coma for a whole week, the doctor giving no hope, and stating that the patient could not last till the morning, as in one of the last cases seen): I have time and again seen the patient recover, as if by a miracle, and restored in two or three months, sometimes even in a month or two, to an appearance of robust health and vigour, with high colour, high blood count (90 per cent.), declaring that he had never felt so well in his life. (In the case above referred to the patient came and reported herself, apparently a picture of perfect health with beautiful complexion and colour, two months after she had been at death's door.)

These results, indicating better powers of recovery of this disease, may possibly, it may be said, be due to improved methods of treatment of the disease—for instance, to the use of salvarsan, neo-salvarsan, novarsenobillon, transfusion, excision of spleen, better methods of giving arsenic, etc., of which one reads from time to time in connexion with the treatment of such cases. But in the group of 150 cases under my care during the thirteen years 1900 to 1913 I have used no new method of treatment other than the antiseptic treatment against gastro-intestinal sepsis, which I recommended for the first time in 1890, and the measures of oral antisepsis which I recommended in 1900. I have only on one occasion injected salvarsan; I have never used the other arsenical drugs of this character; I have never injected arsenic hypodermically; and finally, as regards arsenic, I have never given a dose of more than 5 minims at a time, and my usual dose has been 2 to 3 minims given by the mouth in the form of liquor arsenicalis. If my cases have shown the increased powers of recovery I have above described, as they undoubtedly have, the only new measure of treatment with which their improvement can be associated has been the great, and to my mind the all-important, one of strictest antisepsis above referred to, thereby enabling the *disease to manifest its own great powers of recovery* when freed from complicating sepsis.

III.—POWERS OF RECOVERY IN GLOSSITIC ANAEMIA.

The outcome as regards the nature of severe anaemias being as I have above stated, the results of the measures of treatment directed to the removal of sepsis may be briefly summed up as follows:

The results show a rapidity, degree, and increasing permanence of recovery of "pernicious anaemia" patients under my care of a very striking character, far exceeding anything that I ever saw before 1900, and much more common now than I ever saw up to 1900.

The rapidity and degree of immediate recovery are indeed most remarkable. Formerly I used to be quite pleased when I got a recovery up to 60 per cent. of red cells in the course of four or five months. Now I am accustomed to see rises of from 20 or 30 per cent. up to 60, 70, 80, and 90 per cent. in periods varying from one month up to three months. I show you a few of these results in eight cases of pernicious anaemia selected almost at random—seven of them from cases under my care during the past year of my hospital work. All the cases show a very immediate and striking degree of blood improvement, as will be seen by the rises set out in the following table:

34 per cent. to 76 per cent. in seven weeks, and then to 88 per cent. four weeks later.
25 per cent. to 78 per cent. in eight weeks, and then to 90 per cent. two weeks later.
38 per cent. to 76 per cent. in nine weeks.
21 per cent. to 78 per cent. in four months.
28 per cent. to 84 per cent. in two months.
27 per cent. to 67 per cent. in four weeks, then up to 90 per cent. four months later, at which level it remained (with three short breaks) for three years, and then continued for fifteen years, when the patient died of another disease.
18 per cent. to 71 per cent. in four weeks, and 102 per cent. in eight weeks.
38 per cent. to 105 per cent. in four weeks.

In comparison with the foregoing I give my experiences in the first 18 private cases I saw (1890–1901) prior to the period of oral antisepsis which I introduced in 1900:

Course of 18 Cases observed, 1890-1901.

Fatal within	1 month	8 cases.
,, ,,	4 months	13 ,,
,, ,,	8 months	15 ,,
,, ,,	1 year	16 ,,

Increasing Chronicity of the Haemolytic Disease ("Glossitic Anaemia") as shown by Percentage of Red Cells in 171 Blood Counts in 13 Cases at Various Stages up to 15 Years.

Percentage of Red Cells.	No. of Counts.	Percentage of Counts.
105–90	18	10
		— 10
89–80	14	8
79–70	22	13
		— 21
69–60	25	14
59–50	26	15
		— 29
49–40	18	10
39–30	24	14
		— 24
29–20	18	10
19– 8	6	3
		— 13

I bring out in the foregoing table the most remarkable fact regarding blood changes, probably new to you, to which I draw your special attention. That fact is the increasing chronicity of the disease as shown by the degree of its blood changes. In the mind of everyone the disease called "pernicious anaemia" is specially associated with extraordinarily low blood counts. When we think of it, we think of low percentages of 20 or 30 per cent. causing, as I have had frequent occasion to observe, most extreme alarm. These low counts are undoubtedly presented at some period or other in the course of the disease. But what is not generally known is that these low counts only occur during the acute attacks which characterize the disease, and that these attacks occur generally only once a year. They last a varying period of two to three months. But the acute stage in which the blood count is as low as 20 to 30 per cent. may last only about a month or two; and during the latter part of that period, as I have time and again seen, the patient may be feeling well and on the high road to recovery, even although his blood count remains only 30 to 40 per cent. Moreover, it is during these attacks while the patient is under observation that most blood counts are made.

Bearing the above facts in mind, the most remarkable

result that appears from the above table is that only 13 per cent. of the total counts were below 30 per cent.; 24 per cent. were between 30 and less than 50 per cent.; 29 per cent. were between 50 and less than 70 per cent.; no fewer than 21 per cent. were between 70 and less than 90 per cent.; and finally no fewer than 10 per cent. were 90 up to as high as 105 per cent.

An anaemic disease, in which 31 per cent. of the blood counts in its various stages are over 70 per cent., and 29 per cent. are between 50 and 69—a total of 60 per cent. with over 50 per cent. of red cells, including no fewer than 10 per cent. with percentages between 90 and 105 per cent.: such is the haemolytic disease termed "pernicious anaemia." One might almost say: "Even if one calls it anaemia on account of the degree of anaemia which, when active, it does undoubtedly show, why call it by the ferocious prognostic title 'pernicious,' if, as stated, it may run a course as long as ten to thirteen years, or even longer? Why saddle the sufferer with the unnecessary misery of such a name?"

The facts, in my experience of the disease, are those I have just stated, and the question thus put is one which I think is fully justified. I only know the result—namely, that the dreadful name "pernicious," having been foisted upon English medicine about fifty years ago from German sources, and given to this anaemia, to which English medicine had given the title of "idiopathic" (1855), or still more definitely "most idiopathic" (1822), is still retained, with the result that "it makes the flesh creep" whenever the name is mentioned. It hangs like a gravestone round the neck of the sufferer, not only when he is ill, but also during long intervals when he may not only feel, but actally be, very well.

If this disease throughout its entire course be not characterized by an excessive degree of anaemia, and if the degree of anaemia actually present does not prevent the patient from feeling and being very well, what other name than pernicious can be given to it to indicate that even at the times when blood counts are high (for example, 80 to 100 per cent.) the disease is still present, and may in all probability recur if not continuously watched—some name that in the absence of blood changes may indicate its presence or its possible recrudescence? A name that would in the intervals of recovery give this information and help would indeed be a godsend to the sufferer and the observer. Such a name could in my judgement be given to it—a name connoting one of the chief seats of the haemolytic infective lesions underlying this great haemolytic disease. That lesion is the curious and recurrent sore tongue—one of its earliest and one of its most persistent features—"a most peculiar glossitis," first described by me thirty years ago (1890), characterizing "a most peculiar and idiopathic anaemia."

"Glossitic anaemia" would be the name that would of all others in my experience best connote this great haemolytic disease, help in its early diagnosis even within a few weeks of its onset and in its control by treatment throughout its course, by directing continuous attention to one of its earliest and most constant, most characteristic, and most easily recognized features.

The name "pernicious" which it bears fulfils, on the other hand, not a single purpose connected with the art, science, or practice of medicine. It is false, misleading, hurtful, and harmful; it is mischievous, prejudicial, disadvantageous, disserviceable; it is unlucky, sinister, obnoxious, oppressive, burdensome; it is inauspicious, destructive, and venomous; it is bad, as bad as can be, ill-contrived, ill-conditioned, grievous, deplorable, lamentable, and pitiable; it is wrong, shocking, hateful, detestable, and confounded; it is inadvisable, unprofitable, inexpedient, useless, unskilful, and hopeless.

The measure to which it is all these is such that one of the requests I constantly receive from doctors is not to mention the name of his disease to the patient, as it would unduly alarm him!

If I might be allowed, I would make an urgent appeal to all teachers and writers, in the interests alike of clinical medicine, scientific medicine, the art of medicine, and the practice of medicine, to drive the accursed name out of the nomenclature of diseases, and substitute for it the name which I have finally suggested, which is the opposite of "pernicious"—namely, beneficial, valuable, serviceable, advantageous, profitable, edifying; propitious, hope-giving, fair, genuine, and true; unexceptionable and unobjectionable.

"Pernicious" Traditions.

Such briefly are the features of this disease as revealed to me by my studies for the past thirty-three years—one-third of the total history of the disease. In the case of any other disease of an obscure nature, new facts concerning it would be welcomed, and at once assimilated and incorporated in the body of knowledge regarding it. But in the case of this disease, it may be said that "in vain is any new information supplied." For the whole ground is already occupied—not by facts, but by firmly rooted traditions, associated not so much with the disease as with the name "pernicious"—pernicious traditions, as they may indeed be correctly termed. These traditions are that the anaemia so called is a mystery: that nothing definite is known about it; that its chief character indeed is that nothing definite can be known about it; certainly that nothing definite can be done for it; that there is little or no hope for its recovery—so little, indeed, that if it does recover it cannot have been the disease. In connexion with it more than with any other disease the current teaching was, and apparently from some recent experiences in examining students still is, expressed in the succinct formula: "Very little is known about this disease"; "Its pathology is not at all known." This teaching has sunk deep into the minds of the profession, and is equally well known to the unfortunate sufferers.

Nevertheless, the actual facts in my experience are that I know of no disease in medicine more clearly defined in all its features from start to finish than this disease; none whose pathology has been more fully worked out in all its many relations (in the blood, liver, spleen, bone marrow; in its striking infective lesions in the tongue; in its neurotoxic lesions and manifestations); none whose mode of onset, features of invasion, and clinical features and progress from day to day, month to month, and year by year, have been made more clear, or can at any time be more clearly and certainly predicted by me. Lastly, I know of no disease whose study has directly or indirectly led to the introduction of new measures of prevention, treatment, or control, applicable not only to itself but to all other forms of anaemia, and to a whole range of other general diseases.

BIBLIOGRAPHY.

The literature of the disease termed "pernicious anaemia" will be found fully detailed in chronological order in my work on *Severest Anaemias* (Macmillan and Co., 1910). It dates from 1822, when the first case was described.

1822. Combe, J. S.: History of a Case of Anaemia. *Trans. Med.-Chir. Soc. Edin.*, May, 1822.
1849. Addison: Anaemia: Disease of the Suprarenal Capsules. *Lond. Med. Gaz.*, March, 1849.
1851. Barclay: Death from Anaemia (2 cases). *Med. Times*, 1851, p. 480.
1855. Addison: *Idiopathic Anaemia: On the Constitutional and Local Effects of Disease of the Suprarenal Capsules.* London, 1855.
1872. Biermer: *A Form of Progressive Pernicious Anaemia Complicated by Fatty Degeneration.* Swiss, 1872.
1874. Unknown Writer: Pernicious Anaemia: A New Disease. *Med. Times and Gaz.*, ii, 1874. (A brief paragraph which first introduced the name "pernicious anaemia" into English medicine, and was based on ignorance of the existence of "idiopathic anaemia.")
1875. Pye-Smith: Two Cases of Idiopathic Pernicious Anaemia. *Virchow's Archiv*, lxiv, 1875, pp. 507-512.

The following references (1886-1922) are solely to my own work, on which the address is based:

1886. The Physiology and Pathology of Blood Destruction and Transfusion. M.D. Thesis, Univ. of Edin., 1886.
1887. On the Pathology of Blood Destruction within the Liver. *Trans. Med.-Chir. Soc. Edin.*, 1887.
1887. The Life Duration of Red Corpuscles as Ascertainable by Transfusion. BRITISH MEDICAL JOURNAL, 1887.
1888. Is Pernicious Anaemia a special Disease? *Practitioner*, August, 1888.
1888. An Investigation into the Pathology of Pernicious Anaemia. *Lancet*, October, 1888.
1889. Haemolytic Changes in the Urine in Pernicious Anaemia. *Practitioner*, August, 1889.
1839. Arris and Gale Lectures on Transfusion, BRITISH MEDICAL JOURNAL, ii, 1889.
1890. The Causation and Treatment of Pernicious Anaemia; with Notes of a Case. BRITISH MEDICAL JOURNAL, January, 1890. (A Historical Case.)
1892. The Physiology and Pathology of Blood Destruction. *Lancet*, 1892.
1899. Dental Diseases in Relation to General Diseases. Odont. Soc., Lond., January, 1899.
1900. Pernicious Anaemia: Its Relation to Infection from the Mouth and Stomach. Serum Treatment. *Lancet*, January, 1900.
1900. Oral Sepsis as a Cause of Disease. BRITISH MEDICAL JOURNAL, July, 1900; *Clinical Journal*, 1900.
1900. Oral Sepsis as a Cause of Septic Gastritis, Toxic Neuritis, etc. *Practitioner*, 1900. Cassell and Co., 1900.
1900. Histology and Infective Nature of Intestinal Lesions (a case). *Lancet*, ii, 1900.
1900. *Pernicious Anaemia.* Griffin and Co., London, 1900.
1902. The Etiology of Pernicious Anaemia (25 cases); with Historical Account. *Lancet*, i, 1903.
1902. A Case of Pernicious Anaemia: Its Infective Features and Antiseptic Treatment. *Trans. Med.-Chir. Soc. London*, January, 1902. (A Historical Case, treated in 1900; Recovery; observed for eighteen years.)
1905. Oral Sepsis as a Cause of Disease in General Medicine. BRITISH MEDICAL JOURNAL, ii, 1905.
1907. The Specific Nature of Addisonian Anaemia: Its Course and Treatment. BRITISH MEDICAL JOURNAL, ii, 1907.
1910. *Severest Anaemias.* Macmillan and Co., London, 1910.
1911. The Rôle of Sepsis and Antisepsis in Medicine. *Lancet*, January, 1911.
1913. On Haemolysis in Medicine. (The Seasonal Incidence of the Disease.) Internat. Cong. of Medicine, London, 1913.
1914. Oral Sepsis in Relation to Septic-Anaemia. *Practitioner*, 1914.
1907-21. Treatment of Anaemias. *Index of Treatment*, Wright and Co., Bristol.

STERILITY WITH REFERENCE TO THE STATE.*

BY

R. A. GIBBONS, M.D., F.R.C.S.E.,

GYNAECOLOGIST TO THE GROSVENOR HOSPITAL FOR WOMEN.

ALTHOUGH sterility is naturally of keen interest to the individual who is anxious to have a child, it is of more vital moment to the millions constituting the State. The question becomes one of national concern, for upon a good average birth rate depends the maintenance of the race. The population of a country is estimated by the balance of births over deaths, and immigration over emigration to other countries. It is quite evident that if there is a declining birth rate in any nation, and it is persistent, nothing really matters as to its wealth, ability, or accumulation of art treasures, for it is decadent, and must be considered doomed. Therefore everything which science can do to produce healthy bodies, sanitary surroundings, abundance of good food at a cheap rate, and labour with proportionate rest, should be supported by the State. We know that healthy men and women living in wedlock should "be fruitful and multiply" if in hygienic surroundings, because congenital sterility or unavoidable sterility is rare, both in men and women. Therefore it has been truly said that the percentage of sterility is the index to the morals of a nation.[1] As we know that of late years the number of children born in each family has steadily declined from its former average it is evident that this matter becomes one of State importance.

I have taken the following from the annual report of the Registrar-General, and, without producing all the figures, may state that in England and Wales, from 1897, when there were 921,693 births, with a rate of 29.7 per 1,000, the numbers have gradually fallen to 668,340 births, with a rate of 17.8 per 1,000, in the year 1917. In 1918 the birth rate was 17.7 and the civilian death rate 17.6,[2] and in 1919 the birth rate was 18.5.

Between 1840 and 1880 the birth rate of England and Wales may be regarded as having been stationary at about 35 per 1,000, so that, compared with the above, the descent to 17.8 per 1,000 is serious. In London alone, from 133,616 births, with a rate per 1,000 of 30 in 1897, there was a fall to 80,554, with a rate per 1,000 of 17.5. Even between 1877 and 1909 there was a reduction of the birth rate in England of over 28 per cent.

The tables of the present official census show that as regards natural increase—that is, the balance of births over deaths—the numbers recorded from 1911 to 1914 may only be compared with those of earlier years, but not later. The fall in the birth rate during 1915 to 1918 was from 20 to 25 per cent. below what might have been expected in normal circumstances, and can therefore be attributed to the war, but the actual amount of the figures during the intercensal period is not nearly sufficient to compensate for the deficiencies of the preceding years.[3]

The quarterly official return of births registered during the June quarter of 1920 for England and Wales shows 22,417 fewer births than for the March quarter, and of these births 12,132 were illegitimate. In the September quarter of last year there were 15,017 fewer births than in the same quarter of 1920, and 10,466 less in number than in the previous quarter of 1921. Of the births 9,876 were illegitimate.

I do not consider that we are one whit better morally than other nations, although there can be no question about our wishing to appear so in the eyes of those nations. In the case of our illegitimate children we are eager to hide them away, and, in most cases, to allow them to be brought up quite regardless of the future, so that they cannot be in later years claimed by the State, to which they might be of great use.

The following figures will appear rather startling with reference to illegitimate children. From 1897 to 1916 there were in England and Wales 72,443 illegitimate births, the proportion varying from 39.9 to 48 per 1,000 births. It is also interesting to note that from 1910 there has been a steady rise in the proportion of these illegitimate births to the 1,000 of all births, and during the same period there were 174,919 illegitimate births in Scotland, with a percentage varying from 7.04 to 7.1, and 54,801 illegitimate births in Ireland, with a percentage varying from 2.6 to 3.1.[4]

* Read before the Section of Obstetrics and Gynaecology of the Royal Society of Medicine, March 2nd, 1922.

The proof of how little care is bestowed on illegitimate children is afforded by the mortality. Dr. Stevenson found from his record that 45 per cent. of all illegitimate children were the children of domestic servants, and that, whereas the death rate for legitimate children was 0.99 per cent., it was for illegitimate children in general 9.1 per cent., and for the illegitimate children of domestic servants 8.5 per cent. during the first year of life. Dr. Amand Routh[5] states that the death rate of unmarried mothers and their offspring during pregnancy and the lying-in period is about twice as much as that of married women and their children, which shows how much could be done by better nursing and skilful obstetric help.

In Russia, before the war, I was much struck by the very large foundling hospital which they have in Moscow, admitting yearly about 15,000 children. There any newborn illegitimate child is taken and admitted without any question being asked, except, Has the child been baptized, and if so, by what name? If the child does not possess a name one is given, and although the mother may be nameless, and never known, she has the power of following up the child there by his registration number and claiming him at any time should she be in a position to do so. Thus the children are educated and cared for until the boys go into the army or navy, or are taught various trades, and the girls are trained as nurses or midwives. Hence these lives are saved to the State, whereas in this country, where we have no such institution, for our foundling hospital is not similar, the poor mother, as I have known more than once, has thrown her child on the dust heap to die, or disposed of the offspring in other ways than would have been the case had there been a similar institution where the infant would be cared for.

On discussing the possibility of starting such a foundling hospital, with its excellent clinical work, in this country on my return, I was assured that I could not get any support, that it was a premium upon vice, etc., and so my scheme fell to the ground.

Although the birth rate is falling here, it may be of interest to remark that England is not the only country in which this occurs, as the following table will show:[6 7]

Country.	Decade of Highest Rate.	Highest Rate.	1891–1900.	1912.
Denmark	1851–1860	32.5	30.2	25.6 (1914)
Norway	,, ,,	33.0	30.4	25.2 (1914)
Finland	,, ,,	35.9	32.1	27.1 (1913)
Germany*	1871–1880	39.1	36.1	14.3 (1918) 27.5 (1913)
Belgium	,, ,,	32.7	28.9	22.6 (1912)
Netherlands ...	,, ,,	36.4	32.5	28.2 (1914)
Austria	,, ,,	39.0	37.1	31.3
Italy	1881–1890	37.8	35.3	17.9 (1918)
Hungary	,, ,,	44.0	44.4	36.3
Serbia...	,, ,,	45.4	41.9	38.0
France	1801–1810	32.3	22.1	12.1 (1918)†

* Less Mecklenberg-Schwerin and Mecklenberg-Strelitz.
† 77 non-invaded departments.

France may be considered as the best example of a pathological birth rate,[8] but France does not stand alone in showing an abnormally low birth rate.

This general decline in the birth rate cannot be attributed to the postponement of marriage, decrease in the number of those who marry, decrease in the proportion of the total female population which is of child-bearing age, or to diminishing fertility. When all the facts bearing on the matter are carefully considered, we must come to the conclusion that the voluntary limitation in the number of children born is the chief cause of this decline.

As a result of a voluntary confidential census among "intellectuals" it was found that of 120 marriages, 107 were "limited," and 13 "unlimited," and that the average number of children of each marriage was considerably under 2.[9]

A book called *The Fruits of Philosophy*[10]—an essay on the population question, published about 1874, which was withdrawn from circulation, and republished by Bradlaugh and Mrs. Besant, explaining so-called Malthusian methods of preventing conception—was the beginning of these practices being taken up and adopted by a certain number of the

educated classes. At first these methods, it may be safely said, were exclusively used by these classes, but as they became more known the directions for their use gradually percolated through the various social grades, until at the present moment very few newly married women exist who do not know all about them. The proof of this is that in a friendly society giving "lying-in benefits"[11] from 1866 to 1880, the proportion of lying-in claims rose slowly from 217 to 247 per 1,000, and then steadily declined from 1881 to 1904, when it reached only 117 per 1,000 members.

These methods are the result, in my opinion, of the increased indulgence and ever-growing luxury which existed before the war, and because those who wanted to keep in the rush of continued social engagements could only do so by curtailing expenses, and one way was to avoid having children, with the necessary expenditure attached to them. In others, to whom money was not perhaps of such immediate value, the duties and responsibilities of motherhood were too exacting to allow of thorough social enjoyment, and therefore the chance of conception must be avoided by every means in their power, with the result that if even only one child was born into the world it was a mistake, and if by chance these matters were not immediately discussed after marriage and a child was born, every care was taken that a second must be prevented.

When Malthus advanced his thesis that the constant tendency of all living beings is to increase faster than the food supply, he pointed out the immediate checks to population, as epidemics, war, pestilence, famine, etc., but that the preventive checks were moral restraint and vice—the former peculiar to man through the use of reason, the latter full of injury to general and domestic happiness. He defines moral restraint as restraint from or postponement of marriage from prudential reasons, with conduct strictly moral while unmarried; and he considered that the period of celibacy should be extended until there is a prospect of being able to feed and maintain children.

The whole question, apart from morals, is a very difficult one, for we know that if certain marriages did not take place with the distinct understanding that the birth of children was to be prevented, only on account of financial reasons, these marriages would not occur at all, and those concerned would suffer much unhappiness. But we have only to consider what is best from a physiological point of view, and what in the end leads to healthy men and women for the State.

Undoubtedly the origin of the whole trouble is the cost of living at the present day—a cost which does not seem likely to decrease for some time; and this is a matter which could only be dealt with by the State.

Many years ago, when life was much more simple than at present, there was not the same desire on the part of those marrying to prevent the advent of a family, and the more children a woman had the prouder she became of the number. Now, however, it is all changed, and the main point apparently for a couple about to be married is how they can be most comfortable on their income. In fact, the source of the decline of the birth rate is not increased poverty but the propagation of the "gospel of comfort," which has become the ethical standard for all civilized nations. Therefore the presumption is that the fall in the birth rate is due to conditions within the control of the people.

The following is an interesting table (compiled by Dr. Jacques Bertillon) as to the annual birth rate per 1,000 between the ages of 15 and 50 in four cities:

Classification.	Paris.	Berlin.	Vienna.	London.
Very poor quarters	104	157	200	197
Poor quarters	95	129	164	140
Comfortable quarters	72	114	155	107
Very comfortable quarters ...	65	96	153	107
Rich quarters	53	63	107	87
Very rich quarters	34	47	71	63
Average	80	102	153	109

The table on the correlation of the birth rate with the social and physical characteristics of the population for the year 1901 shows that the wives in the districts of less prosperity and culture have the largest families, and the morally and socially lowest classes in the community are those which are reproducing themselves with the greatest rapidity.[12]

The relation of income to birth rate has been studied in several European countries. The result of this investigation shows that the birth rate falls as income increases, and our national statistics point in the same direction.

The conclusion is obvious, that as the decline seems almost universal, and people do not change their morality in a large number of different countries at a given time without some definite cause, the determining one—a strong economic factor—is the "gospel of comfort."

Now, the test of fertility in a woman is the rapidity with which she conceives; ideal fertility would imply immediate conception after marriage, perfectly normal pregnancy and labour, and, again, rapid conception during the whole of the sexual period of life. This, however, rarely occurs. Making allowances for sources of error tending to diminish the average amount of fertility, ten is about the average fertility of fertile marriage during the whole of the child-bearing period of life.[13]

This shows how important the study of sterility becomes with reference to the State, for we know that on an average one marriage in ten is sterile, which means that during the whole of the child-bearing period there is a loss to the State of 1,000 children for every 100 marriages.

From the point of view of advantage to the State there is another matter which deserves attention, and that is the vitality of the children born. This is of the highest importance, because a woman who habitually brings into the world children who survive only a few hours or days, or are stillborn, is of no service to the State, and therefore infant mortality under one year calls for more attention than has hitherto been paid to it. Important reforms, however, take a long time to mature, and we must hope that with the Ministry of Health many beneficial changes will be brought about with reference to child life.

It is difficult to state accurately how many infant deaths, or what proportion of them, are due to congenital causes. Herbert M. Rich found that in 6,866 deaths under one year of age 23.2 per cent. were due to malformations, congenital debility, and premature birth. According to Henoch,[14] for every 1,000 children born, 200 die in the first year of life. Dr. Amand Routh[15] estimates that there are four times as many abortions as stillbirths—that is, 2.2 stillbirths and 8.8 abortions to 100 live births—which means that in England and Wales 76,000 fertilized ova die annually before they are born.

Priestley said there is one abortion for every three or four full-time deliveries, and that from three to six out of every ten women abort at least once during their married life.[16]

There is another matter which has a serious bearing on the diminishing population, and that is the attempts to procure abortion, either criminally or by the use of drugs. With regard to the latter, the information given by Sir Thomas Oliver as to the use of diachylon by pregnant women in the North of England is important. It is evident from the statistics already prepared that contraceptives or limitations of the occasions of sexual intercourse, which are extensively employed, must account for the fall in the birth rate, and that this cannot be attributed to any possible decline of natural fertility. With reference, however, to both these matters, it is quite obvious that it would be impossible to collect sufficiently accurate data to be of any real value; but it may be here remarked, it has been stated that in a large Continental town, where there was strong neo-Malthusian open propaganda, one-third of the pregnancies were aborted.[17]

There is a factor which is of the highest importance with reference to the State—that is, the amount of nutriment available. Abundance of nutriment increases the number of births, and this applies to the whole of the animal world, although we know that this does not imply excessive feeding, which has an injurious effect on breeding. It is known how great is the influence of nutrition upon fertility by the results of famine, which leads to decrease of the population. It may be said, generally speaking, it is believed that the effect of comparative freedom from anxiety leads to the increase of fertility, and that the reverse conditions are followed by diminution in childbirth.

It will be interesting for those who compare the statistics of to-day with those compiled, say, twenty years hence, after the establishment of the Ministry of Health. It will be essential for that department to see that the poorer classes are provided with sanitary and well-ventilated houses, and that those in existence not entitled to come under this

description shall be swept away. This means that factory girls and those doing regular daily work in mills and warehouses will be able to be in a healthy atmosphere during the hours they are at home. Everything which is done to improve the general health of girls, and to keep it at the highest level possible, will ensure that, when they marry, they will have the best chance of conceiving, and, if the husband be sound, of bringing into the world healthy offspring.

It cannot be too strongly emphasized that, from the point of view of the State, it is not conception alone which counts, but the bringing forth of healthy children who are capable of surviving and becoming useful members of the community; and as we are on this subject, I may say that whilst there is nothing to prevent men and women marrying whilst in indifferent health, according to our present laws, I am strongly of opinion that every man and woman should, before marriage, be compelled to be medically examined. This at least would be the means, in many cases, of discovering direct evidence of syphilis, gonorrhoea, tubercle, or of insanity, or of obtaining such information as would lead to the suspicion of the existence of one or other of these diseases. Gonorrhoea may be said to be the commonest cause of absolute and relative sterility in women, probably 50 per cent. of all cases. With such a percentage this disease must have an important bearing with reference to the State.

The influence of gonorrhoea and syphilis on the birth rate is exerted in different ways: gonorrhoea lessens the birth rate by preventing conception; syphilis influences the birth rate and infantile mortality in a different and much more serious way. We know from the figures of Hochsinger [18] and of Veeder and Jeans [19] that about 40 per cent. of pregnancies in syphilitic women end in abortions or stillbirths, and of the infants born alive about one-quarter die. Dr. Amand Routh considers that about 25 per cent. of abortions and stillbirths are due to syphilis in city populations, and in rural districts the proportion is probably from 15 to 20 per cent.[20]

Elsewhere I have called attention to the influence of the gonococcus on the female pelvic organs,[21] and when I wrote that paper there were over 71,000 cases of gonorrhoea in the British army alone. Therefore the prophylaxis should be studied closely, and ought to be dealt with from a practical point of view. It ought to be our aim to stamp out this disease, and although in the light of our present knowledge total eradication is at present beyond us, we shall do most good by encouraging in every possible way any means to the end in view, and notification comes first of all.

As we are now certain that every case is a potential means of not only spreading the disease, which may be mild or severe, but of practically crippling a healthy woman for life, as well as possibly rendering her sterile, it is our duty to leave no stone unturned to accomplish our object. Doubtless there are many arguments against compulsory notification of syphilis and gonorrhoea, but we know that, owing to these diseases, the loss to the State is enormous. If we are to have healthy men and women, individual susceptibilities ought to be swept aside, and the State should have control of the treatment. The public will soon be educated to the fact that State registration can be done with the greatest privacy, and that no one will be concerned with any name but the doctor entering it, whilst officials have only to deal with figures. Therefore, all these communications will be treated as confidential State papers, open for statistics to the Registrar-General alone.

The extreme importance of registration is in order to know when a patient is pronounced to be cured. My strong opinion is that when once the name has been entered by a doctor the individual should be obliged to consider himself or herself under treatment until medically certified as well, and that he or she shall be penalized if it can be proved that intercourse has taken place before receiving a certificate of health or of having been entered in the registry as cured. By no other means can this scourge be eradicated.

Moreover, I am strongly of opinion that no marriage should be considered legal until both the man and the woman about to enter upon it have been passed as fit for the responsibility of the possible procreation of children. This may seem a harsh condition at the present time, but the people would soon be educated to the knowledge that the State would not recognize a marriage between individuals unfit for matrimony. Parents, therefore, would know that, before allowing any girl to become engaged, they must be sure that the man she wished to marry was healthy in all respects. In this way unsuitable marriages from a State point of view could be avoided. This means that a medical certificate must be obtained by each, but considering that every man and woman desirous of obtaining life assurance must be examined medically, no hardship is entailed.* Not only would this preclude the possibility, so far as our knowledge would permit, of having any sort of venereal disease, but it would safeguard the race from other affections.

Doubtless at first such an idea may be resented, but when on reflection it is considered that it is only to ensure as far as possible healthy children for our country, there is no weighty argument to be advanced against it. As it is of the utmost importance to the State to have children born into the world vigorous and healthy, it is to be hoped that the time will come when no marriage will be allowed to take place unless sanctioned from a medical point of view.

At the present moment we have no law to prevent any marriage, whatever be the circumstances or religion, in any country. If in certain cases there is strong evidence on either side to lead to the opinion that only infants likely to be mentally deficient, tuberculous, or otherwise diseased, can result from the union, then there ought to be no hesitation in asking for the consent of the man or woman, or both, to be sterilized, which would in no way prevent them living an ordinary married life. This would avoid the unhappiness likely to follow an order forbidding a marriage undesirable from every point of view to the State, and would prevent the legalizing of such unions as can never benefit the State.

No laws can ever prevent the advent of illegitimate children, but if legislation were to be passed with reference to marriage, men and women of education would not face the social consequence of running counter to the law, especially as marriage would only be denied in those cases in which sterilization was not agreed to.

It would be difficult to estimate the loss in numbers of idiots and other undesirable individuals which such legislation would produce, but such a lessened number of births would surely be received with satisfaction by those who are anxious to control the birth rate.

War will go on as long as human passions remain; pestilence may arise at any time, as witness the terrible scourge of influenza which affected practically the whole world, carrying away thousands—the deaths in England and Wales, to say nothing of shattered health, amounting to 112,329, only comparable to the mortality of the terrible epidemic of cholera in 1849; and famine must occasionally rear its head, as in the awful visitations of Russia and India. Therefore there need be no fear that there will be any dangerous increase in the population.

It is for the political economist to point out in what manner the population is to be fed, and for statesmen to follow any advice which is sound; but, from our point of view, we have to do our best to secure the birth of vigorous children, and everything in our power to make arrangements for their upbringing in such healthy surroundings as will give them the best chance of survival.

Whilst we have no power to interfere with the private lives of individuals, I consider that our profession ought to let it be known that contraceptives and anything which interferes with physiological laws cannot have our approval, and I think that, as regards the Obstetric Section of the Royal Society of Medicine, the expression of opinion of those who took part in the discussion following the paper of Dr. Arthur Giles in May last on sterility makes this clear.

I may say that I am fully aware that such a proposal as mine of a State marriage certificate means an Act of Parliament, and probably much opposition. But is there any commendable reason why we should bring into the world so many idiots to be supported by the State or otherwise, especially when the country is taxed almost beyond its capacity for paying, and when we know that there are means at our disposal to prevent their advent?

Dr. Stansfield says that heredity is one of the great factors in the production of our C3 population, and the trend of modern civilization, by its Poor Law system, and by its treatment of the unfit during childhood, tends to foster the growth of this class. The care given to physically and mentally unfit children may reduce the degree of unfitness, but if their improvement is such as to enable them to escape incarceration under the Mental Deficiency Act, they are turned out mental, moral, and physical weaklings, to return to an environment which was associated with the development of their unfitness.[22]

According to the seventh annual report of the Board of

* It is not suggested that medical examination should exceed that for ordinary life assurance, for which the family physician can give a certificate.

Control there were over 12,000 registered mental defectives, including criminal and non-criminal.

Certainly my suggestion is more humane than that of Plato, who, whilst not being opposed to marriages, wished that the offspring of the least worthy should not be reared; or of Aristotle, who was in favour of allowing children in excess of those required to die from exposure, and that all deformed children should not be permitted to live.

In conclusion, I may say first, that, as the mortality amongst illegitimate children is so great, it would be an advantage if an effort were made to save some of their lives, and if philanthropic arrangements could be inaugurated for bringing them up in healthy surroundings, so that they might eventually become of service to the State.

Secondly, that looking to the amount of sterility, and the enormous loss of life caused respectively by gonorrhoea and syphilis, it is urgently desirable that notification of these diseases should be rendered compulsory.

Thirdly, that, as I have pointed out, we have a distinct fall in the birth rate; that by the widespread adoption of contraceptives, which from a physiological point of view cannot be approved, but which we are certain will be ever increasingly used, we must not expect an average of more than two births from each marriage—possibly only one; that, as we know from a most conservative estimate there must be at least four children per marriage amongst families who can produce children, allowing for infantile mortality, those who never marry, and those who are unfit to produce children, we cannot anticipate a real increase in the population.[23] It follows, therefore, that our country is faced in the future with the problem of race suicide.

And lastly, should my suggestion of the granting of a State certificate of marriage be adopted, we should have the satisfaction of knowing that in future our profession would be the means of helping to compensate for loss of numbers by ensuring for the State the advent of healthy children—the best and surest evidence of a virile race.

REFERENCES.

[1] *Med. Gynaecology*, Kelly, page 329. [2] *International Journal of Public Health*, April, 1921. [3] *Times* Official Census Figures, August 24th, 1921. [4] Annual Reports of the Registrar-General. [5] "Motherhood," Amand Routh, *Victoria Institute Transactions*. [6] *The Declining Birth Rate, its Causes and Effects*, 1916, page 27. [7] *International Journal of Public Health*, July–August, 1921, page 425. [8] *Declining Birth Rate*, Arthur Newsholme. [9] Sydney Webb, *Tracts for the Times*, October 16th, 1906. [10] Knowlton, Essay on Population. [11] Sydney Webb, *Tracts for the Times*, October 11th, 1918. [12] David Heron, On the Relation of Fertility in Man to Social Status. [13] Matthews Duncan, *Sterility in Woman*. [14] Henoch, Lectures on Children's Diseases. [15] Amand Routh, Royal Commission on Venereal Diseases, 1914. [16] Priestley, Royal Commission on Venereal Diseases, 1914. [17] International Birth-rate Commission, 1916. [18] Hochsinger (1910), *Wien. klin. Woch.*, xxiii, 881, 932; (1898) *Studien über die hereditare Syphilis* (A. Holder, Leipzig). [19] Veeder and Jeans (1916), *Amer. Journ. Dis. of Children*, xi, 177. [20] Amand Routh, Ante-natal Syphilis, *Lancet*, January 12th, 1918. [21] R. A. Gibbons, Influence of the Gonococcus on Female Pelvic Organs, *Practitioner*, 1917. [22] Knowles Stansfield, BRITISH MEDICAL JOURNAL, December 17th, 1921. [23] Hunsberger, *Journ. Amer. Med. Assoc.*, August, 1907.

THE DIGESTIBILITY OF BACTERIA.

BY

C. E. DUKES, O.B.E., M.D., D.P.H.,

BACTERIOLOGICAL LABORATORY, UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL.

ALTHOUGH nitrogenous substances form the basis of bacterial cells, yet bacteria are not digested by powerful proteolytic ferments, and are capable of living and multiplying in a solution which would split up those proteins of which, by chemical analysis, bacteria have been shown to be composed. That this resistant faculty is not dependent on the fact of life is demonstrated by the experience that bacteria are also not digested when killed by weak antiseptics or at low temperatures. Owing to this property bacteria are enabled to continue their existence when surrounded by the digestive juices of the intestinal canal, and also continue to thrive in a culture medium into which enzymes have been excreted by other bacteria.

Kantorowicz[1] noted that after heating at 70° C. Gram-negative bacilli are less resistant to digestion than Gram-positive bacilli, and he assumed the presence of an intracellular antiprotease which holds the proteolytic activity in check. Kruse[2] attributed differences in survival after heating to differences in permeability of the organisms. Jobling and Peterson[3] are of the opinion that bacteria resist digestion because of the lipoids with which they are surrounded, and that this resistance is proportional to the content of unsaturated lipoids.

The following experiments were undertaken for the purpose of studying the conditions under which bacteria resist digestion, and under what conditions this protective property can be destroyed. The first stage of enzyme action is considered to be an adsorption of the enzyme on to the free surface of the substrate. The question as to whether or not bacteria are capable of adsorbing ferments was therefore first studied.

Adsorption Experiments.

It is well known that bacteria are capable of adsorbing both opsonins and agglutinins from the serum, but this action is specific and cannot be regarded as an example of simple adsorption. Porter[4] claims that membranes such as collodion sacs and egg-white films are capable not only of adsorbing but also of inactivating ferments, and suggests that living bacteria may protect themselves by the same neutralizing process.

Technique.

To test for adsorption a technique similar to that used in the agglutination saturation test was devised—namely, a dilute solution of the ferment was saturated with a heavy dose of bacteria, the tube centrifuged to deposit the bacterial mass, and the titre of the supernatant fluid compared with a similar ferment solution which had not received a saturating dose of bacteria. The ferment employed was trypsin (Burroughs, Wellcome and Co.'s "injectio trypsini" and Fairchild's "zymine"), and the titre tested by the digestion of 4 per cent. gelatin by Sorensen's method.[5] In this the degree of digestion is measured by the quantity of amino-acids formed. These are estimated from the carboxyl group liberated after treatment with 33 per cent. formalin solution, the acidity being determined by titration with N/100 NaOH. The twenty-four hours' bacterial growth from thirty large agar plates was washed off with saline and centrifuged, and again washed with saline. The bacterial deposit was suspended in as little fluid as possible, usually about 50 c.cm.

Thirty tubes were employed in each test. The first ten were used for determining the strength of the trypsin solution, and into each of them was placed 1 c.cm. of saline, followed by graded quantities of trypsin solution varying from 0.1 in the first tube to 1.0 c.cm. in the tenth tube, the total quantity of fluid in each tube being made up to 2 c.cm. with saline. The second series of ten tubes contained the same ingredients except that instead of 1 c.cm. of saline there was first placed in each tube 1 c.cm. of bacterial suspension. In the third series of ten tubes the trypsin acted on a suspension of fibrin or animal charcoal, which was used as a control to show the effect of adsorption. In some experiments the bacteria were left in contact with the ferment for only a few minutes, in others for as long as twenty-four hours. But the period of contact made no difference, nor did it matter whether the mixtures were left at room temperature or in the incubator. All the thirty tubes were centrifuged at high speed until the supernatant fluid was clear. One c.cm. of the supernatant fluid from each tube was now transferred to a sterile test tube containing 10 c.cm. of 4 per cent. gelatin, and placed in the water bath at 37° C. After thorough mixing a sample of 5 c.cm. was withdrawn from each tube and tested as above described. Digestion of the remainder was allowed to proceed, and another sample of 5 c.cm. gelatin removed after a definite period of time. The quantity of N/100 NaOH required to neutralize the first sample subtracted from the amount required to neutralize the second sample indicated the extent of digestion of the gelatin. A comparison of the figure obtained in each tube of the second and third series of tubes with that obtained in the first series of ten tubes indicated the loss sustained by the ferment after having been saturated by bacteria or fibrin or charcoal.

Several organisms were used, but the majority of the tests were made with *B. typhosus*, *B. coli*, and sarcinae. It was found that living bacteria did not adsorb trypsin at all, a result which is shown diagrammatically in Fig. 1, in which the quantities of trypsin employed are plotted against the titration readings. On the other hand, charcoal and fibrin adsorbed trypsin readily, the degree of adsorption being more pronounced in dilute than in stronger solutions. A series of experiments were made to see if organisms which had been in contact with specific immune serum could adsorb ferments. Typhoid bacilli, sensitized with antityphoid serum, were used, but were found to have no effect on ferment titre. Bacterial suspensions were made of organisms which had been boiled, autoclaved, killed with antiseptics, and others defatted with acetone, alcohol, and ether. In no case was any adsorption process observed when the supernatant fluid was tested on gelatin. It was, however, found in the case of bacteria extracted with acetone, or after boiling or autoclaving, that the trypsin after saturation, although showing no adsorption when tested on gelatin, yet showed a reduction in titre when tested on a substrate of acetone-extracted or boiled bacteria.

As will be pointed out subsequently, treatment with acetone and the process of heating renders bacteria capable of digestion by trypsin. It would seem, therefore, that adsorption does take place when bacteria are so treated as to be rendered

digestible by trypsin, but to demonstrate this adsorption it is necessary to employ digestible bacteria as substrate. This may be due to the fact that another fraction of the trypsin enzyme is required to attack the digestible bacteria from that required for gelatin. There are many who hold that trypsin is a compound of many proteolytic ferments.

It is perfectly clear, however, that bacteria in their natural condition do not adsorb the ferments with which they are in contact as do other foreign particles.

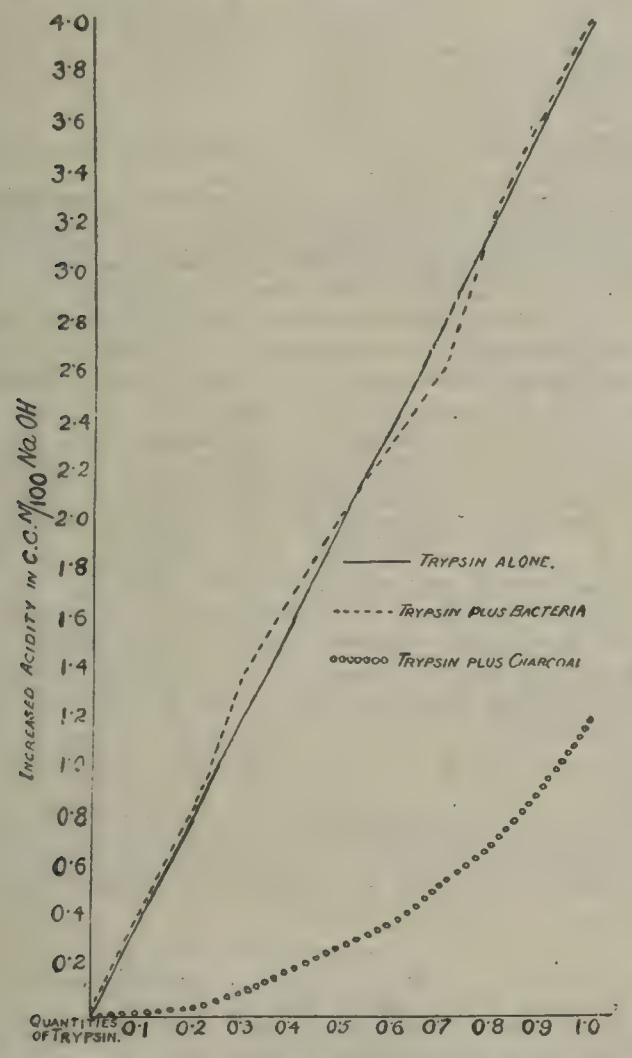


FIG. 1.—Showing effect on titre of trypsin by saturating with bacteria and charcoal.

Digestion Experiments.

Although unaltered bacteria are resistant to trypsin, yet by the application of certain chemical substances or physical processes this normal resistance may be overcome. To study the digestion of bacteria directly various methods may be employed. The simplest is to look for clearing in a turbid suspension, but this procedure is open to the objection that it does not distinguish between bacteriolysis and proteolysis, two very different processes; nor does it lend itself to exact measurement. In the experiments about to be described bacteria were digested with trypsin, and the degree of digestion estimated by the same method as that already described under adsorption experiments—namely, the rate of formation of amino-acids as the result of the digestion of the bacterial mass.

A large mass of bacteria was obtained from agar plates, the organisms centrifuged and washed and distributed in sterile tubes. Trypsin was added, a sample of the mixture removed for immediate testing, and the remainder examined after definite periods in the water bath at 37° C. Living bacteria and bacteria killed by heating for an hour at 60° C. showed no digestion whatsoever.

Effect of Higher Temperatures.—As a result of being autoclaved at 115° C. for twenty minutes all the organisms experimented with were found to be rendered capable of digestion by trypsin. Boiling for ten minutes had very little effect on the Gram-positive cocci, but the Gram-negative bacilli, *B. typhosus*, *B. coli*, and *B. pyocyaneus* were rendered easily digestible by this process. A temperature of 70° C. applied for thirty minutes was sufficient to destroy the ferment resistance of *B. coli* and *B. typhosus*.

Effect of Treatment with Acids and Alkalis.—To test the effect of alkalis and acids on bacterial antitrypsin NaOH or HCl was added to the bacterial suspension distributed in test tubes, so as to make the resultant fluids of a strength of N/2, N/4, N/8, N/16, N/32, N/64. After five minutes' contact the acid solutions were neutralized with alkali and vice versa. The tubes were allowed to stand for half an hour and then tested with trypsin. It was found that this short contact with acid had no effect on bacterial antitrypsin, whereas alkali of higher concentrations than N/10 completely destroyed the resistance of bacteria, and concentrations as low as N/30 alkali resulted in some digestion. In such experiments it is necessary to allow the alkali only to act for a short period of time because, although clearing of the solution occurs when bacteria remain in contact for a long time with weak solutions of alkali, alkali albumin is slowly formed, and this substance is not digested by trypsin. Not all bacteria behave alike when treated with alkaline solutions. Gram-positive organisms are much more resistant to alkalis than are Gram-negative.

Effect of Treatment with Fat Solvents.—Contact with acetone, alcohol, chloroform, or ether completely destroys the resistance of bacteria to trypsin. The bacterial mass may be extracted with the fat solvent in a Soxhlet apparatus, or the same result may be achieved by precipitation from an aqueous solution and allowing the bacteria to remain in contact with the fat solvent for twenty-four hours. Amino-acids are rapidly produced by digesting the dried bacterial mass with trypsin. The rate of digestion of such organisms is shown in Fig. 2.

Effect of Drying.—The bacterial suspension obtained from washing off the growth from sixty agar plates was dried *in vacuo*, and the dry powder obtained resuspended in saline and digested with trypsin. Partial proteolysis was found to take place. Similar experiments were made in which, after drying, the powder was divided into two equal parts. One half was digested with trypsin without further treatment; the other half was treated with absolute alcohol at −14° C. and dry ether at −8° C. for the purpose of extracting the fats without coagulating the protein. This was the method adopted by Teale and Bach[6] in their work on serum antitrypsin. This extraction of the fats made no difference to the extent of the subsequent digestion.

Effect of Sensitization, etc.—A number of experiments were now undertaken for the purpose of determining how it is that bacteria are split up in the body, either when injected subcutaneously or intravenously. Since the results were all negative it will be sufficient to record them briefly. Bacteria sensitized with specific agglutinating serum were not split up by proteolytic ferments. Washed agglutinated *B. coli* treated with fresh complement were not digested by trypsin. Acetone-extracted typhoid bacilli were agglutinated with antityphoid serum, and after centrifuging the supernatant fluid was tested and it was found that practically all the agglutinins had been removed. Such sensitized acetone-

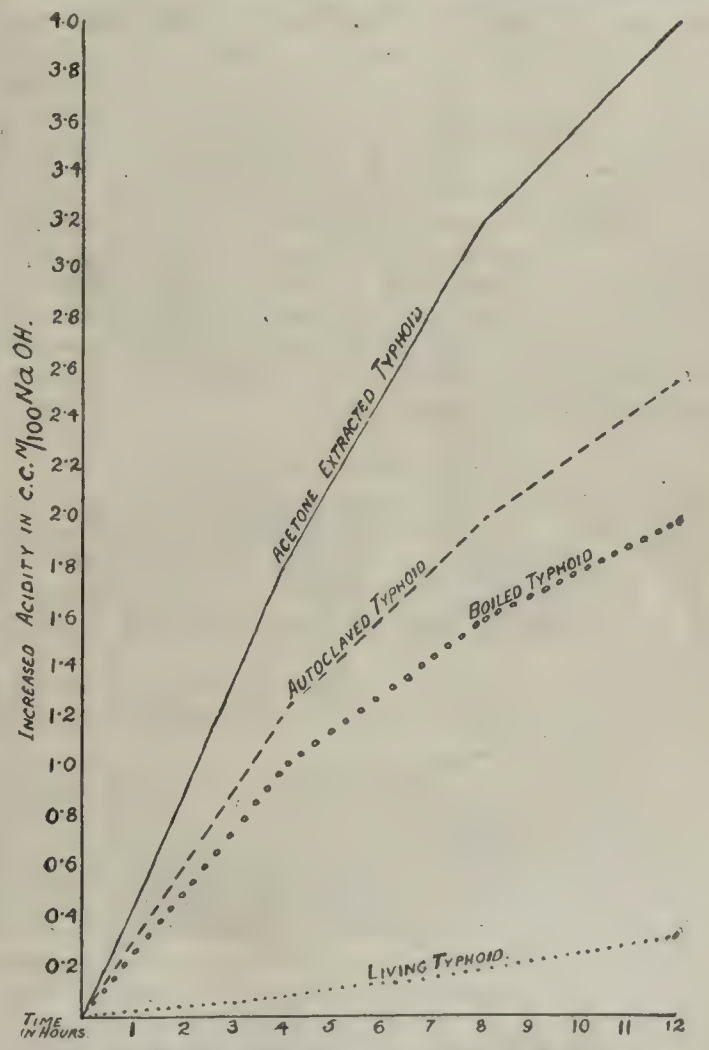


FIG. 2.—Showing digestion of *B. typhosus* by trypsin.

extracted typhoid bacilli were not digested any more rapidly than unsensitized acetone-extracted typhoid bacilli. Finally, a quantity of sterile inflammatory lymph was obtained by injecting 5 c.cm. peptone (5 per cent.) into the peritoneum of a rabbit and after eight hours washing out the peritoneal cavity. The leucocytes were removed by centrifuging. Prolonged contact with this sterile inflammatory exudate made no difference to the digestibility of the organisms employed.

Discussion.

The facts above recorded are of interest from two points of view. In the first place it is seen that those agencies which most readily destroy the bacterial antitrypsin are all fat solvents—namely, alcohol, acetone, ether, chloroform, and

alkalis. The lipoids contained by bacteria, because of their effect on surface tension, are probably concentrated round the periphery of the bacterial cells, and form a protective covering to the organism. This fatty envelope protects them from proteolytic ferments, but once this has been removed active proteolysis takes place. High temperatures and drying cause a redistribution of the lipoid-protein complex, and thus, for physical reasons, disturb the protective mechanism. Therefore the antitryptic property of bacteria depends on totally different factors from the antitrypsin of egg white and blood serum.

Teale and Bach[7] showed that the antitryptic power of egg white was due to the presence of a non-diffusible protein substance which is not affected in the dry state by treatment with lipoid solvents. The same observers showed that the antitrypsin of blood serum was not dependent on the lipoids present.

Although lipoid solvents appear to destroy the antitrypsin of blood serum, they do this by coagulating the proteins. Drying had no effect on the antitrypsin of blood serum, nor was it destroyed by lipoid solvents when precautions were taken to prevent protein coagulation.

The greater resistance of Gram-positive bacilli to lipoid solvents and heat is also capable of explanation on the basis of the physical dispersion of the lipoids.

Eisenberg[8] found that staphylococci became Gram-negative after extraction with ether and that *B. coli* could be made Gram-positive on treatment with lecithin. Benians[9] observed that crushed Gram-positive organisms are promptly decolorized, and concluded that the condition of the cell wall is the factor determining resistance to Gram's stain.

In Gram-positive organisms it would appear, therefore, that the lipoids are more intimately bound to the protein of the bacterial cell, thus rendering them more resistant to lipoid solvents.

In the second place, it is important to note that exposure to specific agglutinating serum or inflammatory lymph does not alter the protective mechanism of bacteria against proteolytic ferments. It is claimed by Jobling and Peterson[10] that bacteria treated with immune serum and complement are so altered as to be made more digestible by trypsin. They state later that bacteria treated with an excess of immune serum and complement become more resistant to proteolysis. In my experiments with *B. typhosus*, *B. coli*, and *B. pyocyaneus* it was not found possible to render these organisms more digestible by trypsin through sensitization and complement action, although many attempts were made by increasing and decreasing the sensitization and varying the quantity of complement.

Conclusions.

1. Bacteria do not adsorb proteolytic ferments.
2. The protein of bacteria is protected from the action of proteolytic ferments by the lipoidal envelope with which they are surrounded. The agencies which destroy this protective mechanism act by disturbing the lipoid distribution.
3. The antibodies present in immune serum do not in any way render bacteria more digestible by trypsin.

REFERENCES.

[1] Kantorowicz: *Muench. med. Woch.*, 1898, 45, 1040. [2] Kruse: Ibid., 1900, 57, 685. [3] Jobling and Peterson: *Journ. Exper. Med.*, 1914, 20, 452. [4] Porter: *Quart. Journ. Exper. Physiol.*, 1910, 3, No. 4. [5] Plimmer: *Pract. Organ. and Biochemistry*, 1920, p. 425. [6] Teale and Bach: *Proc. Roy. Soc. Med.*, Path. Section, 1920, vol. xiii, p. 16. [7] Teale and Bach: Ibid., p. 41. [8] Eisenberg: *Cent. f. Bakt.*, 1910, 56, 193. [9] Benians: *Journ. Path. and Bact.*, 1920, 23, p. 401. [10] Jobling and Peterson: *Journ. of Exper. Med.*, 1914, 20, 321.

THE third International Neurological Congress will be held at the Salpêtrière Hospital, Paris, on June 2nd and 3rd.

THE City of Paris has authorized an expenditure of 2,500,000 francs for the purchase of radium to be used in the public hospitals for the treatment of cancer.

THE seventh French Congress of Medical Jurisprudence will be held in Paris from May 29th to 31st under the presidency of Dr. Thibierge, when the following subjects will be discussed: (1) Laboratories of criminal anthropology and psychiatric departments in Belgian prisons, introduced by Professor Héger-Gilbert and Dr. Vervaeck of Brussels. (2) The spectroscope in medical jurisprudence, introduced by Professor Zanger of Zurich and Dr. de Laet of Brussels. (3) Bone and joint tuberculosis and workmen's accidents, introduced by Dr. Robireau. Further information can be obtained from Professor Étienne Martin, 10, Rue du Plat, Lyons.

SLIPPING RIB.

BY

R. DAVIES-COLLEY, C.M.G., M.Ch., F.R.C.S.,

SURGEON, GUY'S HOSPITAL.

ABNORMAL mobility of the lower intercostal joints, causing painful symptoms, is probably not a rare condition, and it is curious that it should receive no mention in the modern textbooks of surgery—at least, I have failed to discover any reference to it in the numerous volumes that I have consulted. It is for this reason that I venture to report the following two cases which have come under my observation during the past year.

Slipping rib, as it may be called, is a trivial enough complaint in itself, but it gives rise to the most irksome symptoms, and my two patients were quite incapacitated by the excruciating pain which followed any attempts to do manual work. The pain is described as of a sharp, stabbing nature, giving place after a few moments to a dull ache, which lasts for a considerable time, and may, indeed, persist throughout the day, only disappearing after the night's rest. In its position at the costal margin it resembles that due to so many deeper lesions, both of the abdomen and the thorax, that I think it is quite likely that many cases occur in which such an apparently unimportant cause as a movable rib cartilage is unsuspected, and the diagnosis is missed. It was so in one of my cases, but the difficulty here was partly due to the fact that the patient, a woman, was known to have had definite abdominal disease in the past, and to the natural tendency to attribute subsequent symptoms to this disease: still, had I been acquainted before with slipping rib as a cause of abdominal pain I think I might have arrived at a correct diagnosis somewhat sooner than I did.

The treatment is simple, and consists in resection of the loose terminal portion of the rib cartilage. In both of my two cases this was followed by immediate and lasting relief of the symptoms.

CASE I.

A single woman, aged 42, employed as a domestic servant, was admitted into Guy's Hospital in September, 1921, for right-sided subcostal pain. This had first troubled her four years before, when she fell and bruised her side, and from that time it had been present more or less constantly, being most severe when she walked much or attempted to do heavy work. Recently any effort to use her right arm had brought on such severe pain that she was quite unable to work at all, and she said that when she lifted anything heavy one of her ribs seemed to jump out of place, and that frequently a painful swelling appeared at the lower margin of the ribs. This exact description was not elicited during the earlier stages of her illness, and the diagnosis was rendered less easy by the fact that in 1918 the appendix had been removed for a basal-celled carcinoma, which led to the suspicion that her pain was due to post-operative adhesions.

In August, 1920, when I first saw her with Dr. E. P. Poulton, we decided to explore the abdomen, but at the operation the stump of the appendix was found to be healthy, and the only abnormality discovered was prolapse of the caecum and ascending colon. I performed colopexy, but this naturally enough failed to relieve the symptoms, and it was only when, a year later, she volunteered the information about the slipping rib that the real cause of her pain became apparent. It was now obvious on palpation that the tip of the tenth rib cartilage could be freely moved upwards in front of the ninth, and that this movement produced the pain of which she had for so long been complaining. Removal of the terminal three inches of the rib cartilage effected a complete cure.

CASE II.

A girl, aged 17, complained of sudden acute pain in the left side whenever she bent forward or attempted to lift anything heavy. She stated that one of her ribs had been "out of place" for some months, and on examination it was clear that the tip of the tenth left costal cartilage slipped over the lower border of the ninth rib and jutted forward beneath the skin when she flexed her body. This slipping movement of the rib was accompanied by an acute twinge of pain, which left a dull ache under the rib margin for several minutes after the rib had fallen back into place. In this case, too, removal of the terminal portion of the cartilage was followed by complete relief of the symptoms.

Very definite conclusions cannot be drawn from two cases, but it is noteworthy that both of the patients were of the female sex, and that one gave a definite history of an injury as the starting point of her symptoms. In both the pain was referred to the exact position of the affected rib, the undue mobility of which could easily be demonstrated, and in both the symptoms tended to increase as time went on.

THE RESTRICTION OF INFLUENZA EPIDEMICS IN SCHOOLS BY THE USE OF "LOCAL" PROPHYLACTIC VACCINES.

BY

A. I. SIMEY, M.D.CANTAB., M.R.C.P.,

MEDICAL OFFICER TO RUGBY SCHOOL AND PHYSICIAN TO THE HOSPITAL OF ST. CROSS, RUGBY;

AND

JOHN W. H. EYRE, M.D.DUNELM., F.R.S.EDIN.,

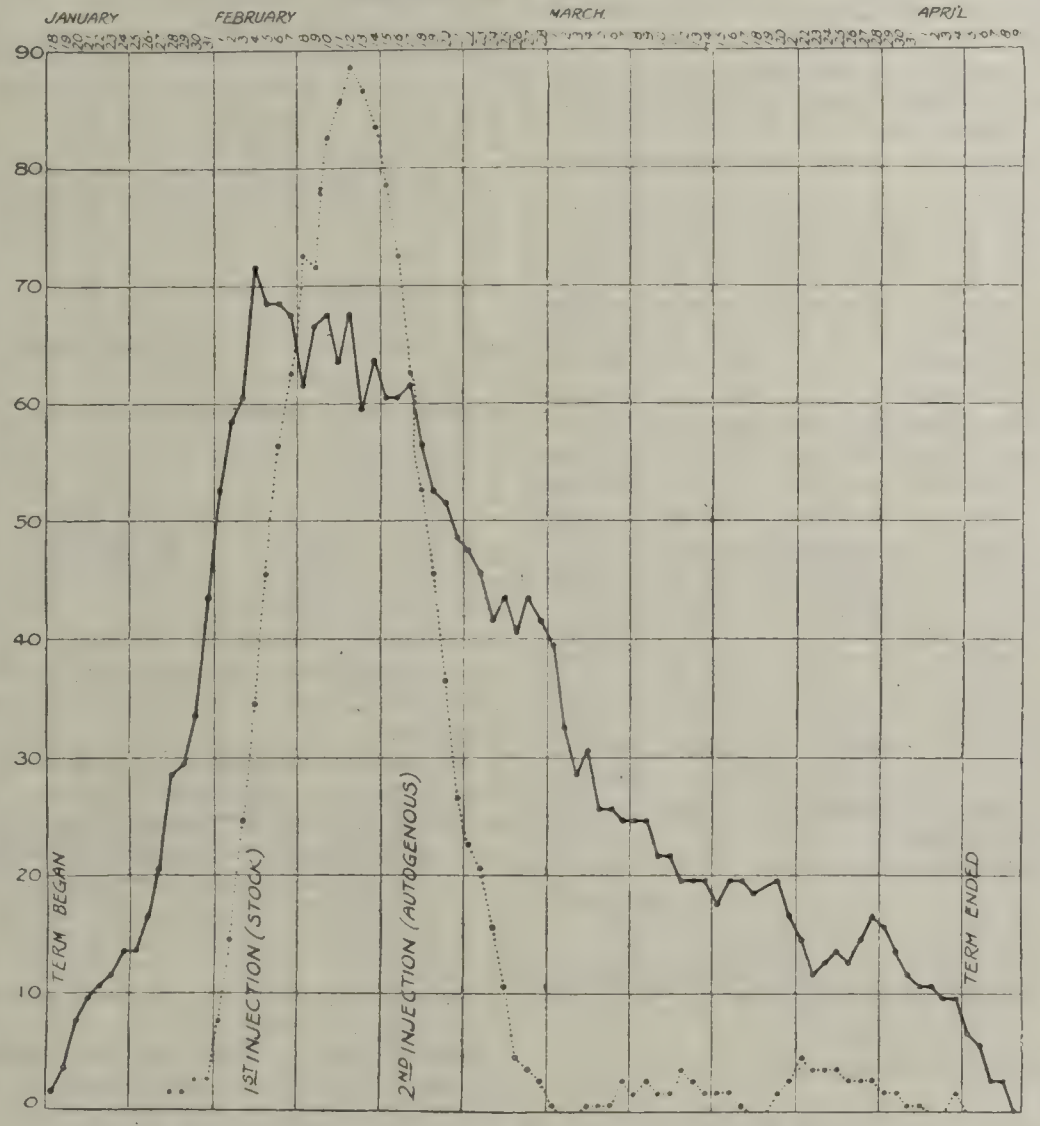
PROFESSOR OF BACTERIOLOGY IN THE UNIVERSITY OF LONDON, AND BACTERIOLOGIST TO GUY'S HOSPITAL.

IN a recent communication one of us (A. I. S.[1]) described and discussed in general terms the catarrhal complex which so frequently attacks in epidemic form aggregations of adolescents such as are found in all public schools, and which causes the loss of so many school hours. In this communication we wish to refer to a particular outbreak of this character, and the means adopted to control and limit its spread.

During the summer term of 1920 an epidemic of febrile disease of severe influenzoid type occurred at Rugby School. Out of a total of nearly 600 boys 260 were attacked, causing the loss of about 5,000 school days to the patients themselves, as well as interfering with the work, games, and social life of those who escaped. Many of the boys were seriously ill, and suffered from manifold complications such as those described in the paper already referred to.

It originated probably from one or two boys who were sent back to school in a catarrhal condition, not technically "ill," but probably carriers of the micro-organisms which caused this outbreak; and it spread rapidly, first by houses and then by forms, until most of the susceptible succumbed.

It is not our intention to describe this epidemic but rather the subsequent train of events, in the hope that certain definite points may be established as to the cause and prophylaxis of this serious infliction, which disturbs the health of our boarding schools more than any other single factor.



Curves showing the progress of the "influenza" epidemic, Lent Term, 1921. Black continuous line = cases admitted to sanatorium. Dotted line = cases ill in "houses."

During the following Advent term (1920) only 40 to 50 cases, mild in type, occurred, doubtless because the immunity of the school was high, such immunity lasting probably three to six months in average cases.

As it seemed more than probable that another outbreak was to be expected in the following Lent term of 1921, a circular was sent to parents asking them to have their boys inoculated during the Christmas holidays with suitable doses of vaccine, no special brand being specified or advised. This request was complied with in the case of only 123 out of about 570 boarders; the remaining 450 came back uninoculated and susceptible. Trouble soon began, and the infection spread so rapidly that it was thought advisable to attempt to limit its incidence by inoculating all those who had not been so treated in the holidays—if they had not already succumbed. To this end nearly every boy who had not been vaccinated at home or contracted the disease was inoculated with a stock vaccine prepared from those strains of micro-organisms that had been used in the prophylactic inoculations carried out among the New Zealand Expeditionary Force during 1918–19,[2] and which had the following composition:

Dose No. 1.

Pneumococcus	50 million.
Micrococcus catarrhalis	25 ,,
Streptococcus	10 ,,
Bacillus pneumoniae	50 ,,
Bacillus influenzae	10 ,,
Staphylococcus aureus	200 ,,

In view of the urgency of the situation no exhaustive bacteriological examination of this epidemic was possible, but ten recent cases of the acute and subacute types, which had been admitted into the sanatorium on February 10th, 11th, and 12th, 1921, were selected for examination. The throats and nostrils were swabbed and cultures instituted upon blood agar from these swabbings. After incubation the resulting cultures showed that in four of the acute cases the *Bacillus influenzae* of Pfeiffer was the predominating organism, and it was also present in three of the remaining six acute and subacute cases. The organisms in the remaining cases comprised *Bacillus septus*, *Micrococcus catarrhalis*, *Staphylococcus pyogenes aureus*, *Staphylococcus pyogenes albus* (haemolytic type), *Streptococcus lanceolatus* (pneumococcus), and *Streptococcus pyogenes longus*, this last-mentioned organism being represented by two distinct types, *haemolyticus* and *viridans*. All the different strains of each of the above-noted bacteria were isolated in pure culture.

From the material thus obtained a special "local" vaccine was prepared, and the vaccine was polyvalent in the sense that all the strains available of each of these organisms were utilized in the vaccine. Strains from other sources were also incorporated in the vaccine whenever necessary, so that ten strains of each species were present, this polyvalency being of special importance in our opinion in respect of the influenza bacillus itself. In addition, strains of the *Bacillus pneumoniae* were included as a precautionary measure, although this organism had not been actually demonstrated in any of the Rugby cases.

The actual composition of the vaccine employed for the second dose, which was injected fourteen days after the first dose, was as follows:

Dose No. 2.

Pneumococcus	100 million.
Micrococcus catarrhalis	75 ,,
Streptococcus	50 ,,
Pneumobacillus	100 ,,
Bacillus septus	100 ,,
Bacillus influenzae	30 ,,

The dosage of the various components of this prophylactic vaccine will no doubt be regarded as exceedingly small when contrasted with those recommended by the Ministry of Health in connexion with the anticatarrh vaccine supplied by that body. It is, however, dependent upon the selection of strains and the distance from the human host of the particular cultures furnishing the antigen, in accordance with principles already laid down,[3] and need not, therefore, be discussed here.

The accompanying diagram shows the daily case incidence throughout this epidemic, under the two headings: those admitted to the sanatorium (black continuous line), and those ill in their respective boarding houses (dotted line); so that to obtain the number of cases under treatment on any given day it is necessary to add together the sum total of both groups.

The general results may be briefly summarized in tabular form, and the following statistics, showing the percentage of those who succumbed, more or less speak for themselves:

(*a*) Those who received both vaccines at school ...	7.3
(*b*) Those who were inoculated at home	41.0
(*c*) Those who were not inoculated at all	81.0
(*d*) Those who received only the initial stock vaccine at school	84.0

The number of individuals comprised in these four different classes totalled 565. Class (*a*) comprised 232 individuals, of whom 19 became infected. Class (*b*) comprised 123 individuals, and yielded 52 cases. Class (*c*) contained 160 boys, and no less than 130 cases came under treatment. Only 50 boys fell into category (*d*); out of these 42 succumbed. These figures show a total of 243 cases infected.

Grouping classes (*a*), (*b*), and (*d*) together we arrive at a total of 405 boys who received one or more inoculations, from whom the combined number of cases totalled 113—in other words, an incidence of 27.9 per cent., as opposed to 81 per cent. among the uninoculated.

By way of comment it must be recognized that Class (*a*) probably includes many of the naturally least susceptible cases, whereas Class (*c*), on the other hand, consists almost entirely of those who, being very susceptible, contracted the disease before the first inoculation was given at school. Class (*d*) represents the well-known fact that susceptibility to infection is temporarily increased by the first of two such inoculations, and this constitutes the "factor of danger" when preventive inoculations have to be undertaken in the presence of an epidemic. In the case of Class (*b*) various vaccines were used—one, two, or three doses being administered according to the varying home circumstances.

During the following summer holidays parents were again requested to have their boys inoculated before their return to school with the special "local" vaccine referred to. In some instances this was done, but in many instances the second dose was given after the boys' return to school, and again many received no prophylactic treatment. The total number of cases that occurred during the subsequent Advent term of 1921 was 21 only. Of these, 8 occurred in boys who had received prophylactic inoculations, whilst the remaining 13 occurred amongst the uninoculated.

We are indebted to W. W. Vaughan, Esq., M.V.O., Headmaster of Rugby School, for permission to record these results and figures.

REFERENCES.
[1] BRITISH MEDICAL JOURNAL, January 28th, 1922. [2] *Lancet*, October 12th, 1918, and April 5th, 1919 [3] BRITISH MEDICAL JOURNAL, November 9th, 1912, and *Proc. Roy. Soc. Med.*, xii, 1919, 93–97.

ALUMINIUM THROAT SWABS.

BY

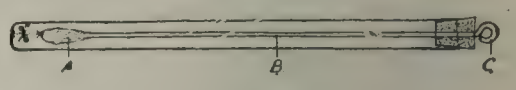
LACHLAN GRANT, M.D., C.M., D.P.H.EDIN.,
F.R.F.P.S.GLASG., J.P.,
BACTERIOLOGIST, DISTRICT COMMITTEES, ARGYLL COUNTY COUNCIL; MEDICAL OFFICER, FEVER HOSPITAL, LORN.

A FEW years ago[1] Dr. William Murdie and the writer drew attention to an improved throat swab made from aluminium wire. Since then inquiries regarding it have come in to this laboratory from time to time, and its further extensive use by us and others have confirmed the claims made for it.

The ordinary types of swabs now in use have several serious drawbacks and disadvantages, and a more efficient kind of instrument seems to be called for. Those made of copper, iron, steel, or thin nickel wire are somewhat easily tarnished, and if left lying in a climate the least damp are very liable to become discoloured and unsuitable for use. Copper and nickel are apt to develop verdigris or a green colour from the soluble copper and nickel salts, and brown discoloration is also likely to happen with those made of iron, which develop "rust" or ferric oxide. Such swabs, after being in use or laid aside for a time, acquire an unattractive and unhygienic appearance, and are not the sort of thing to ask a patient to admit to his throat. The pledget of sterile wool is also likely to be stained, and as the soluble copper and nickel salts are germicidal, these may more or less invalidate the bacteriological diagnosis.

By the use of the aluminium wire these and other undesirable accompaniments are obviated. It is easily moulded to shape and yet is sufficiently rigid for swabbing purposes, and it keeps bright and clean. No matter how often used, or even if kept for a considerable time, the aluminium swab never has the soiled or discoloured appearance of those made from other metals. It stands boiling well and is easy to clean and redress. Again, aluminium contains in its composition no harmful bactericidal elements.

The addition of the safety ring (see illustration) avoids the holding of the cork and gives a more complete control over the movements of the swab, thus minimizing the risk of introducing organisms other than the patient's own. In the ordinary one, as usually made, there is always the risk of the metal slipping from the cork, which is avoided by this firmer type. Aluminium being so light, the cost of the wire is very small. The best thickness to use is that known on the aluminium wire gauge as E 14 S.W.G. As there is no fear of "rusting" or "greening," the cotton-wool pledget may, if desired, be held under the running tap before swabbing the patient's throat, thus ensuring a good sample of the infected secretion, and also retarding the drying effects of transmission through the post, etc.



A, Flattened and grooved end to grip wool. B, Aluminium shaft—never tarnishes. C, Ring to grip and guide the swab.

The throat swab is a useful item in the practitioner's armamentarium, and the aluminium wire swab holder, well made, will be found helpful in the diagnosis, prognosis, and treatment of some of the diseases met with in everyday practice. We know it is practically impossible, without a bacteriological examination, to make sure whether a patient who complains of a sore throat is suffering from diphtheria, "mixed" throat infection, Vincent's angina, follicular tonsillitis, or an infection by the *Tryponema pallidum*. Complete tests thoroughly carried out from start to finish are invaluable in speedily determining or in eliminating certain or all of these diseases and so removing the anxiety attached to an undecided clinical diagnosis. In attaining this, a hygienic, safe, clean, light, and easily handled swab is an important adjunct.

Of course, whatever kind is used, it is important to take the necessary precautions to avoid its contamination. The pledget of wool for conveying the suspected material is necessarily small, and in gently rubbing the infected surface care must be used that the wool on its introduction or withdrawal does not get soaked with saliva or other oral secretions. One has also to remember that the use of antiseptic gargles prior to use may interfere with the results to be obtained from the cultural tests when the swab reaches the laboratory. It may be further mentioned that the aluminium swab can also be made longer for special uses, as, for example, in the taking of material from uterine infections.

I am indebted to Mr. I. H. MacIver for the sketch illustrating the points described.

REFERENCE.
[1] *Caledonian Medical Journal*, April, 1913.

Memoranda:
MEDICAL, SURGICAL, OBSTETRICAL.

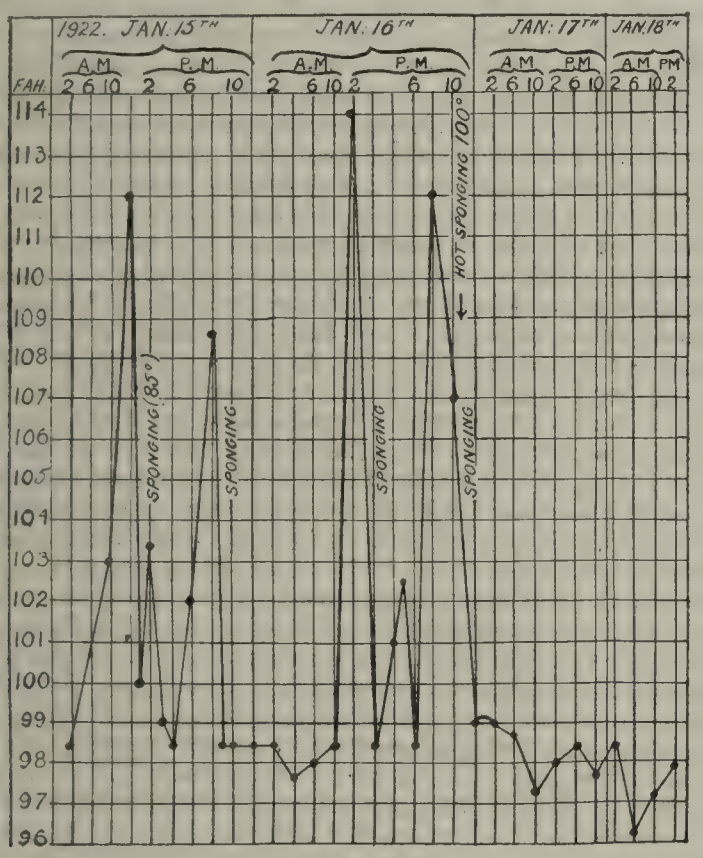
INFLUENZA WITH EXTREME HYPERPYREXIA.

PUBLICATION of the following case of influenza accompanied by extreme hyperpyrexia (temperature 114° F.) may be of interest, especially as some mention of it has been made in the lay press:

On January 15th I was called to see a maid who had been exposed to influenzal infection on January 9th and developed the usual symptoms of malaise, backache, headache, and slight fever, January 12th. On the morning of the 15th she felt worse, with excruciating pain in the back and a temperature of 103° at 9 o'clock. I examined her at noon. She was very pale, the skin moist but not excessively hot, the pulse of good volume and regular, the rate 120. The heart was normal. Great tenderness was present in the left lumbar region. She had vomited several times, felt faint, and had not passed urine for nearly twenty-four hours. The abdomen was soft except for faecal masses, and there was no evidence of a distended bladder. When I took the temperature the thermometer registered 112° in the axilla. She

was too delirious to take it in the mouth. Thinking there must be a mistake I shook the thermometer down and took it again, with the same result. I then used two other thermometers with the same result, after excluding any other source of error, such as a hot-water bottle. I held the thermometer in the axilla and the girl kept still during the process. She was at once sponged with cold water (85°), and the temperature rapidly fell to 100°. After a small rise at 2 p.m. it fell to 99°.

Dr. Carey Coombs examined the case with me. The maid had a few spots on the chest, intense pain in the back, and transient rashes on the arms and legs. The heart was not enlarged, but the recurrent faintness made me fear a fatal collapse at any time. Nativelle's digitalin, gr. 1/240, was given two-hourly, and the patient encouraged to take brandy and milk with soda. The intense pain in the back continued, but the temperature remained down till 7 p.m., when it rose to 105°. Sponging was recommenced, but the temperature reached 108.6° before it was brought down to normal. The patient passed an extremely restless night with frequent vomiting. Next morning a turpentine enema was given, with small result of almost stony hard scybala, the patient passing urine at the same time. At 2 p.m. the temperature rose rapidly to 114°, the patient looking extremely ill, and a fatal result appeared imminent; but sponging at once brought down the temperature (which had been carefully confirmed by secondary readings on other thermometers). This was again taken in the axilla. The pulse was regular, the rate 120, but poorer in volume and tension



than previously. In view of the sickness the digitalin was withdrawn and camphor in olive oil was given intramuscularly in its place. The pain in the back was decreasing and vomiting thenceforth became steadily less. At 8 p.m. the temperature again went up to 112°, but as soon as the face and arms were sponged, and before their effect could have been produced, the temperature fell to 107° and to 99° an hour later.

So far no antipyretic drugs had been given for fear of their action on the heart. Cryogenin 0.5 gram was then commenced four-hourly. The patient passed a good night and appeared much better in the morning. A turpentine and olive oil enema had a large result, and from this point on the patient made uninterrupted progress. On January 27th the patient commenced normal menstruation, which lasted four to five days. A week later, when it had been arranged for her to go to a convalescent home, she twice walked in her sleep—on February 1st and 3rd—going downstairs to the rooms of the ladies of the house and asking irrelevant questions about household duties. On being taken back to her room she at once continued apparently normal sleep, instead of waking, as so many somnambulists do on being returned to bed. These nocturnal peregrinations may have been caused by excitement in the preceding day, in spite of every effort to avoid such a condition. The girl is aged 22, one of a family of seventeen, not robust, of a markedly hysterical temperament, and distinctly lacking in mental balance and restraint, though not sufficiently so to be classed as mentally deficient.

That the girl recovered I attribute to the fact that the high temperatures were of short duration, that cardiac tonics were given before the heart showed signs of collapse, and that throughout I had the help of two invaluable nurses who acted with commendable promptitude. As to the accuracy of the temperatures, I certainly doubted, but after every possible source of error had been eliminated I was compelled to accept what I had previously regarded as the impossible.

Clifton, Bristol. ELLIOTT T. GLENNY, M.B., B.S.Lond.

Reports of Societies.

RELAPSING FEVER IN INDIA.

THE problem of the epidemiology of relapsing fever, as it occurs in India, was the subject of a paper read on February 16th before the Royal Society of Tropical Medicine and Hygiene by Major F. W. CRAGG, I.M.S., of the Central Research Institute, Kasauli, whose observations were largely based on personal investigation and experiment. He drew attention to the fact that overcrowding and dirt were almost universal from long-established custom amongst the peasant populations of India, and by favouring the spread of pediculosis presented many difficulties in dealing satisfactorily with the question of relapsing fever. Moreover, the harbourage of lice, as a normal condition, in Major Cragg's opinion, robbed this important factor in the transmission of the disease of much of its significance. Louse infestation among the warmly clad races of Europe and Asia was highest in winter, but with the scantily clothed natives of Northern India, where the disease was endemic, relapsing fever reached its highest during the hottest months of the year. Its distribution, most marked in the United Provinces and endemic in the Punjab, was by no means general, for it did not prevail in Bengal, Assam, and the southern part of India, largely rice-growing districts, whereas its greatest prevalence was found in the wheat-growing tracts of Northern India, coinciding with the ripening of the spring crop. In contrast to other parts of the world typhus and relapsing fever were not associated in India, and Major Cragg was puzzled to explain the apparent absence of typhus. The origin of the epidemic of 1917 was attributable to some common cause affecting numberless foci in the northern districts where the disease had previously been prevalent. By means of a "relapsing fever index," derived from the study of seasonal prevalence and special age incidence, the disease was defined as occurring more heavily in certain districts than others, with a duration of epidemic conditions amounting to about two years. The outbreaks, in Major Cragg's opinion, could not be explained by changes in the conditions of the people at the time of onset, such as exceptional poverty or movements of the population. An underlying cause, therefore, had to be sought for in some additional and hitherto unrecognized factor. Towards the solution of this problem and to confirm the work of French investigators, the aid of experiment was brought to bear. Emulsified preparations of lice, collected from relapsing fever cases, were injected into five monkeys without producing any obvious illness. However, injections of 2 c.cm. of infective blood, containing the spirochaetes, into a fresh monkey proved more successful, and the animal became definitely ill; 10 c.cm. of its heart blood withdrawn under an anaesthetic provided material for further experiment; 5 c.cm. were injected into another monkey subcutaneously and 1 c.cm. into each of the five monkeys previously inoculated with emulsified lice. All showed rises of temperature, two having definite two-day fever, and in three spirochaetes were found in film preparations of their blood. Dissection of lice at intervals of two to seventeen days after being fed on cases of relapsing fever and on an infected monkey resulted in the finding of spirochaetes only in those fed on the seventh to the eleventh days.

Major Cragg, having succeeded in confirming the results of previous workers, which established the louse as the vector of Indian relapsing fever, turned his attention to the bionomics of the insect host. He made a number of observations in the habits and activities of the louse under conditions comparable with those in an Indian dwelling and amid the climatic changes of temperature and humidity occurring from month to month on the Indian plains. His experiments showed that, corresponding with rises in atmospheric temperature, and as it approximated to that of the human body at the end of March and in April, so the temperature and humidity of the average Indian house provided optimum conditions for the insect. Its movements and productivity became accentuated, but as the season advanced and hot weather set in lice tended to die off and become scarce. The seasonal activities of the insect, therefore, closely corresponded with the period of greatest prevalence of relapsing fever. Explanation of the epidemic in 1917, a year of abnormal climatic conditions in India, was to be found in the fact that the months of April, May, and June experienced temperatures below the normal and high atmospheric humidity, and therefore conditions favourable to the prolonged life of the louse.

In consequence the normal period of its activity was much extended, and with it there occurred a great increase in prevalence of relapsing fever, attaining to a formidable epidemic in the early months of 1918, when optimum conditions returned. Similar abnormal climatic conditions recorded in 1877, Major Cragg argued, would explain the severe epidemic which developed in that year, and was the subject of Vandyck Carter's classic report. The low temperatures of the first six months in 1877 were ascribed to heavy snowfall in the winter, and in 1917 to great rainfall in the spring. In each of these two years there was a failure of rains in the following autumn, and with it famine occurred. Therefore, famine and relapsing fever appeared attributable in some measure to a common cause and did not stand to each other in the relationship of cause and effect. The value of this conclusion, it was observed, pointed to the importance of appreciating the effect of climate on the prevalence of the disease. In the event of an unusually cool summer a study of the monthly vital statistics for a rise in the death rate of young adults should lead to local investigation and examination of blood films, and thus to possible timely discovery of the disease before the epidemic became serious.

The high incidence among young adults, in Major Cragg's opinion, was perhaps due to their habit of crushing the louse between the finger and thumb nail, thus setting free the spirochaetes, which may penetrate the soft tissues under the nail; whilst sex incidence was probably explained by the greater liability of males to skin abrasions, whereby the spirochaetes might obtain access to the blood stream.

REMEDIAL EXERCISES IN SCOLIOSIS.

A DISCUSSION on "Remedial exercises as applied to scoliosis" took place at a meeting of the Section of Orthopaedics of the Royal Society of Medicine on March 7th, when Mr. E. LAMING EVANS presided over a very large attendance, including many lady instructors in gymnastic exercises in schools and clinics. It was noteworthy that throughout the discussion the scoliotic subject was referred to in the feminine gender, although one speaker said that the worst cases of curvature he had ever seen were in some Eton boys of a generation ago, when the youth who did not of his own initiative enter into sports was apt to be neglected.

Mr. MCCRAE AITKEN, in opening, described the two main uses of exercises in scoliosis as being (1) to increase mobility by stretching tight structures, and (2) to establish good positions by teaching the patient to use her muscles properly. No surgeon or gymnast ever cured a case of scoliosis, though a patient might cure herself under a gymnast's guidance. If the deformity was at all rigid, so that the patient could not by voluntary effort improve her position, the first stage of treatment must be a series of active movements designed to loosen the joints and secure more mobility. If the patient could voluntarily correct herself and could hold the correction it was time to begin re-education. The patient must understand the nature of the deformity, and by the use of mirrors get accustomed to see herself corrected. She must be shown how, by taking certain positions, the deformity could be modified; her attention must then be directed to her own muscle sensations on assuming the correct position, and following upon this certain exercises must be employed, of which thigh movements, influencing the lumbar region, were the most useful, and the patient should be taught, having gained the muscle sense, to apply these movements to the ordinary occasions of her everyday life; without such application no amount of exercise was of any real use.

Mr. E. B. CLAYTON divided scoliosis into three groups postural, borderline, and fixed. In postural cases, while there was no fixed curve, the patients required individual attention until they learned to stand and sit properly. Young children were very likely to relapse into the scoliotic posture, no matter on how many occasions they might visit the hospital clinic; therefore adequate treatment necessitated re-examination at intervals during school life. In borderline cases, where there was a slightly fixed scoliosis, he found the trouble liable to recur whenever treatment was stopped, so that here it seemed necessary to go on inspecting the children's backs until they reached adult years. In the severe cases, with fixed curvature, not much improvement could be obtained in posture, but the back could be strengthened and the general health improved. Therefore he advocated remedial exercises in scoliosis (1) to relieve backache, (2) to improve the general health, chest development, and posture, and (3) to prevent the fixed curve from increasing, even though it could not be eradicated.

Dr. FLORENCE BARRIE LAMBERT said that in orthopaedic surgery the British nation was pre-eminent, but as regards remedial gymnastic exercises we had scarcely advanced during the last twenty-five years. The same exercises were still being taught as were taught a generation ago in Sweden, based on the knowledge of orthopaedics then available. How many orthopaedic surgeons and physiotherapists believed nowadays in the so-called pressure exercises? Yet the teaching of these exercises took up very nearly half the time occupied in teaching remedial gymnastics. She classified scoliosis into postural, structural, and intermediate conditions. The postural was due to imperfect balance and, as a rule, was better treated by educational gymnastics given daily in schools, with proper attention to hygiene and general physique, than by remedial exercises. As for the structural condition, nobody advocated that the fixed curve should be treated by remedial exercises only. There remained the intermediate class, and here the speaker was uncertain whether the right kind of exercises were being given. Some agreement ought to be reached on this question, and she suggested that a committee of orthopaedic surgeons and physiotherapists should be formed to inquire into the present syllabus of the Chartered Society of Massage and Medical Gymnastics, because she thought that there was at present a great waste of children's time through useless and ill-directed treatment. The adult who was given ineffective treatment had his remedy, but not so the child, especially when the treatment was provided by the local authority. She wondered at times at the psychology of some of the people who were working in clinics—whether they were not the victims of self-hypnotism. Usually no notes were taken, yet they spoke of wonderful results, while all that the visitor could see was a mass of derelict cripples. A large percentage of the children treated in clinics should not be there. At one clinic which she had officially inspected a well-known orthopaedic surgeon, on taking it over, ruled out 60 per cent. of the children as not suitable cases for the treatment. She urged that surgeons should not advise the sending of children for remedial treatment which was not part of a hospital orthopaedic scheme.

Mr. PAUL BERNARD ROTH described a system of exercises which had been introduced by his grandfather and modified by his father and himself. It consisted in putting the patient in the best possible position and exercising her in it. The standard exercises were twelve in number, and were given daily—exercises twice a week were almost useless—for from one to three months, and the re-education of the muscle sense of the patient was carried out coincidentally with the strengthening of the muscles. The exercises were: (1) Deep breathing, lying; (2) arm movements, lying; (3) thighs opposite bar, standing; (4) leg circling, lying; (5) head movements, lying; (6) astride, sitting; (7) arm circling, lying; (8) leg circling forwards, lying; (9) half forwards, lying, heels fixed; (10) arm flexion, lying; knees bent, and head extension, lying; (11) long sitting, heels fixed; (12) standing back to ladder, also hanging back to ladder. He believed that the system of exercises as taught in England to-day and carried out by masseurs was based on a wrong principle, and should be given up, and that in its place there should be such a simple set of exercises as he had described, carried out under the direct daily personal supervision of the surgeon, who must himself take part in the treatment.

Dr. R. T. TIMBERG stood by his old faith in Swedish gymnastics, whose foundations had stood the test of time for the treatment of spinal curvature. He admitted that the varying aspects of a complex problem like scoliosis must be taken into consideration, and he was not such a slavish follower of the Swedish system as to claim its sufficiency for all forms of scoliosis; but he believed it to be the most judicious scheme yet devised, and the one which adapted itself to the greatest number of conditions. He thought that correcting jackets were less enthusiastically advocated in this country than was the case ten years ago, but the use of such jackets rendered exercises more, not less, necessary.

Dr. CARL WESTMAN referred to the extraordinary variance of opinion recorded in the textbooks with regard to certain mechanical factors in spinal curvature, and urged that much more research work was required to find out exactly how curvatures began. This subject had not been sufficiently studied, so far as the beginnings of the condition were concerned, in infancy. The electrical department might be of

assistance in discovering which muscles should be re-educated and which muscles taught to relax.

Dr. J. B. MENNELL said that very few of them could affirm that they were satisfied with the present treatment of scoliosis; at the same time there was a good deal to be said for existing methods. Although many of the attempts to alter curvatures or to correct deformities might lamentably fail, there were certain pleas to be urged for the treatment commonly given, even for that form of it which was generally decried—namely, manual correction of deformity. There must be something in such manual correction. The Americans were not a people of ill-balanced mind, yet vast numbers of them had their pet osteopath, to whom they went at intervals to be "limbered up." It was not the deformity to which people objected, but the symptoms. No possessor of a flat foot—which might be regarded as analogous to scoliosis—objected to the flat foot itself, but to the rigidity and the symptoms which it provoked. By manipulation of the foot, pain and discomfort could be relieved, and it was the same with the manipulative measures for the relief of the back symptoms and the maintenance of mobility. He insisted, as other speakers had done, that it was the patient who cured herself, not the physiotherapist who cured her; and in this connexion he suggested that elaborate instrumentation was a disadvantage, because it gave the patient the notion that cure would not depend upon her own efforts. The simpler the appliances, therefore, and the greater the challenge to the patient's own exertion, the better.

Mr. R. C. ELMSLIE said that he always classified his cases into postural and structural. He asked himself in the presence of any curve whether he could produce that curve in a normal child of the same age by manipulating the spine; if he could, it was obviously a postural condition, which could be completely corrected, and if he could not, there was a structural abnormality. His examination of children in secondary schools showed 17 or 18 per cent. of them to have postural curves, and this proportion was lower than figures given in literature; some Continental investigations showed a proportion as high as 25 per cent. Was individual remedial treatment to be advocated for all of these? He believed that in these cases the call was for physical education, not for remedial exercises. As for the structural curve, the thing of first importance was to find what produced it, and to catch their cases early. It was necessary to weed out from remedial gymnastics the things that were useless, or that were liable to be misunderstood and therefore wrongly applied, and to add to the treatment all the lessons which could be gained from general educational gymnastics.

Mr. T. H. OPENSHAW also referred to the inclusion of two distinct conditions under the name of scoliosis: one in which the spine was quite movable, and the other in which the bones had become altered and the curvature fixed. In Germany and Sweden one never saw such fearful cases of scoliosis as were presented among East End children in London, so that the treatment which was quite proper and efficient for scoliosis as defined by Swedish writers was not efficient in these severe cases. Many bad cases of scoliosis were due to pathological softening of the bone or to caries, and the co-operation of the orthopaedic surgeon should be more constantly sought. One method of treatment in severe scoliosis which ought to be emphasized was the provision of the spinal plaster bed, which ensured—what could not be ensured in the case of any person by voluntary effort alone—that the patient would lie flat on his back throughout the night. Without this fixed support, exactly fitting the back, every person, whether his spine be normal or abnormal, would turn on his side in sleep.

After some further discussion it was agreed that an endeavour should be made to bring about a conference between the Councils of the Chartered Society of Massage and Medical Gymnastics and of the Orthopaedic Section, with a view to the possible revision of the syllabus of remedial exercises.

EXPERIMENTAL PATHOLOGY.

AT a meeting of the Section of Pathology of the Royal Society of Medicine held at University College Hospital Medical School on March 7th, Professor A. E. BOYCOTT presiding, the first paper, read by Dr. LAZARUS-BARLOW, described further attempts at the experimental production of carcinoma in rats by means of radium. In order to lower the resistance of rats to cancer before subjecting them to radium, they were given a course of treatment by potassium, since it has been found that patients with cancer have more potassium salts circulating in the blood and that rats have been found to be more susceptible to carcinoma after the administration of potassium. Irradiation also was carried out for the purpose of lowering the resistance. During the course of this treatment tubes of radium were introduced into the rats and certain inflammatory lesions followed, which had many resemblances to cancer. Dr. Lazarus-Barlow called attention to four changes which he regarded as possible criteria of malignancy—namely, the presence round the tube of radium of tissues resembling those of a neoplasm; a cystic condition of the lungs, possibly due to metastases; the permeation of the lymphatics between the muscle layers of the stomach by collections of endothelial cells; and endothelial proliferation. One or more of these signs was present in 39 out of 48 rats experimented on, but attempts at propagation of these growths by inoculation were not successful.

In the subsequent discussion, in which many members of the Section took part, some criticism was expressed of these criteria of malignancy, but Dr. Lazarus-Barlow in his reply pointed out that he was only reporting on attempts to produce malignant growths, and did not claim he had already achieved his object, but suggested that the lesions he had produced had many resemblances to malignant growths.

Dr. C. E. DUKES read a paper on adsorption of ferments by bacteria. He described experiments which were designed to ascertain whether it was possible to lower the titre of a solution of trypsin by saturating the ferment with large doses of bacteria. Charts were shown illustrating the fact that animal charcoal and powdered fibrin adsorb ferments, but it was demonstrated that bacteria even in massive quantities have no effect in lowering the ferment titre. No physical change resulting in fixation of the ferment occurred as the result of sensitizing the bacteria with specific agglutinating serum, nor did bacteria rendered digestible by the action of heat or fat solvents show any capacity for adsorbing ferments.

A paper was read by Dr. EMBLETON on work carried out in co-operation with Dr. Teale on the subject of intestinal infection. Tables were shown illustrating the fact that bacteria injected into the stomach are destroyed and do not cause infection. Organisms injected into the intestinal tract were never found at a higher level than the point where introduced. It was shown that the gastric juice is a powerful germicide, killing off bacteria in a few minutes; but if the hydrochloric acid of the stomach is neutralized then bacteria are not killed; 0.3 per cent. HCl behaves in a similar fashion. When bacteria are inoculated intravenously they are found in the blood, mouth, and intestines, but never in the stomach, unless the contents of that organ are alkaline. The conclusions to which the authors have arrived are: (1) That the gastric juice and intestinal mucous membrane are very good barriers against the passage of bacteria into the body; (2) that when bacteria are taken into the mouth they may be absorbed through the buccal and pharyngeal mucous membrane, but the exact point where absorption takes place has not been definitely established; (3) that bacteria introduced into the body by any route are always excreted into the intestinal tract.

A paper was read by Professor BOYCOTT on the restoration of blood volume after haemorrhage and anaesthesia, embodying experiments carried out with the collaboration of Dr. Price Jones. In unanaesthetized animals they showed that even after severe bleeding the blood volume is restored after about three hours, fluids passing back from the tissues into the blood. If, however, the animal was bled when anaesthetized by ether and urethane, then the blood volume was not restored. Attempts were made to induce the restoration of blood volume during anaesthesia by such means as tetanizing and administration of carbon dioxide, but they were not successful. It was shown that with ether alone and urethane alone the same results were obtained, and also with gas and oxygen anaesthesia, but with the latter it was not found possible to anaesthetize laboratory animals in a satisfactory manner, some degree of asphyxia always being produced. Even without bleeding the blood volume is reduced during anaesthesia, and the authors arrived at the conclusion that anaesthetics have the effect of causing a redistribution of fluids in the body, the blood becoming more concentrated and the tissues containing more fluids. Experiments were described in which the blood volume was increased by transfusion and the animal subsequently anaesthetized. The blood volume of such an animal returned to

the original level more rapidly when under an anaesthetic than when not, from which it was concluded that anaesthetics diminish the permeability of the vessels from without inwards.

STERILITY AND THE STATE.

AT a meeting of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine on March 2nd, with Professor HENRY BRIGGS, President, in the chair, Dr. R. A. GIBBONS read a paper on sterility with reference to the State, which is printed in full at p. 427. In the discussion that followed Dr. T. W. EDEN said that he was not prepared to admit that a higher birth rate was necessarily an advantage to the State. He saw no advantage in producing more babies than could be provided for by their parents or employed later in the business of the country. In the war the two countries in Europe with the highest birth rate were now in the sorriest plight of all, while the two nations with the lowest birth rate, France and England, won the war. In reply to Dr. Gibbons's fears that France was on the way to committing "race suicide," he pointed out that before the war she was economically one of the strongest nations in the world, and never had the acute crises of unemployment which occurred in England. The idea that the proposed medical examination before a marriage could be made legal filled him with amazement, and he thought it might have the effect of discouraging marriage.

Dr. AMAND ROUTH agreed almost entirely with Dr. Gibbons that the main cause of the lowered birth rate was voluntary limitation of conception, which he believed led to much harm in both potential parents. It was unnecessary, for this country had to defend its dependencies all over the world, and the need for immigration into those lands was almost illimitable. The diminishing birth rate, due to voluntary limitation, was especially amongst classes which are best able to afford it. Malthus's original plan was the postponement of marriage and abstention for varying periods afterwards if necessary. Neo-malthusianism connoted early marriage, or no marriage, with the use of contraceptives. If limitation was necessary the doctor should decide upon its methods. Dr. Gibbons's proposals to check national sterility could only be adopted if pressure of public opinion demanded it. Health certificates before marriage, again, bristled with difficulties, especially as regards women, and might perhaps be met as an alternative by the life insurance of both partners to a marriage, the medical fee for examination to be paid by the State if need be. Voluntary sterilization of the unfit by vasectomy or salpingectomy could not yet be encouraged by the State, and compulsory sterilization, even of imbeciles under State control, was not yet possible. Confidential death certificates, which were in use in every other European country, would enable more reliable statistics of infantile deaths to be available. Stillbirths should be registered, not merely notified to a medical officer of health as now, and the cause of the deaths should be investigated by experts.

Dr. LAPTHORN SMITH called attention to the overcrowding and bad housing conditions in many of our large cities and towns; an increase of population would make matters worse. There were two million women who could never marry in this country, because there were not enough men. These should go overseas, where they could meet an equal number of unmarried British men.

Dr. ARTHUR GILES said that Dr. Gibbons's paper appeared to him to be very opportune and most suitable for discussion in the Section, because those interested in State medicine did not interest themselves overmuch in questions of sterility: the general practitioner and gynaecologist were chiefly consulted in this matter. If only those who could not afford to bring up children controlled their families little could be said against it; but control was chiefly exercised by people who could well afford the care of children, and this was a real loss to the State. It was necessary to distinguish between what the State could do and what was dependent upon public opinion. The State could certainly take steps for the care of illegitimate children, and could legitimize children whose parents married after their birth. Public opinion, on the other hand, could do a great deal in other directions. A better teaching could be spread abroad showing the drawbacks of restricting childbirth. He doubted whether State regulations requiring a medical certificate before marriage would be practicable, but he thought public opinion might do much in this direction.

Decidual Reaction in an Extrauterine Adenomyoma.

Mr. C. D. LOCHRANE read a communication on a small irregular tumour in the recto-vaginal septum of a pregnant nullipara, which proved on section to be a typical adenomyoma. The cellular mantle surrounding the gland spaces showed a very extensive and complete reproduction of decidua compacta exactly similar to that seen in the uterus during normal pregnancy. The gland epithelium was chiefly of the flattened columnar type, and showed evidences of hyperplasia in places. The patient gave a previous history of painless menstruation without excessive loss, and there was no family or personal history of tubercle or gonorrhoea, but a small fibro-adenomatous polypus hung from the external os uteri. There had been temporary difficulty on defaecation, with melaena, on two occasions before pregnancy began. The specimen, he believed, was unique, as the only other reported extrauterine case showing similar appearances was not definitely circumscribed nor dissociated from the uterus as was the tumour in this case. The Müllerian theory of origin of uterine and extrauterine adenomyomata received the strongest support from the following facts: (1) Though a great number of extrauterine adenomyomata had been reported at various times, these were the only two reported in association with pregnancy, and they had shown an associated decidual reaction in the tumour in 100 per cent. of instances. (2) There was no reported case, unassociated with pregnancy, of decidual reaction in an adenomyoma wherever situated. (3) Of eight uterine cases of adenomyoma in association with pregnancy collected from the literature by Lockyer, all but two showed definite decidual reaction in the connective tissue stroma of the associated tumour, and these two were open to doubt as they did not appear to have been sectioned serially. It was probable that adenomyomata owed their inception to an antecedent inflammatory condition in the tissues of origin.

Mr. T. G. STEVENS considered the specimen a most important one, as it served as a link in the chain of evidence in support of the theory that all adenomyomata were in reality derived from the endometrium. Although a decidual reaction was occasionally seen in tissues not derived from the Müllerian duct, such as the stroma of the broad ligament, such specimens were exceedingly rare, and then only occurred in immediate relationship to a tubal pregnancy which had ruptured between the layers of the broad ligament. On the other hand, any tissue directly derived from the Müllerian duct would be expected to share in the decidual changes which normally occur in the endometrium.

GROWTH OF THE FACE IN MAN.

A JOINT paper on the growth of the human face was read before the British Society for the Study of Orthodontics last December by Sir ARTHUR KEITH and Mr. GEORGE CAMPION and discussed at its meeting on March 6th. Mr. CAMPION contributed a series of measurements showing the vertical and sagittal increase from childhood to full growth. The vertical measurements were made from nasion to submental point, with intermediate measurements, and the sagittal from the transmeatal line to the nasion, upper central incisor, and submental point. The number of individuals measured was thirty. Sir ARTHUR KEITH contributed a detailed comparison of immature with mature skulls, designed to show the areas where growth takes place. The interesting observation was made that in the modern Englishman the nasion moves forward and upward with growth, whereas in primitive native races and in prehistoric English skulls it moves forward or forward and downward. It was demonstrated that concurrently with growth of bone there is absorption and remodelling, as in the cutting back of the base of the anterior nasal orifice, and the absorption of the anterior surface of the malar process of the superior maxilla. Sir Arthur Keith was convinced that the modern British face was becoming longer and narrower. Increase of width was found to be largely dependent on growth at the malo-maxillary and intermaxillary (palatal) sutures. The modern narrow-faced English skull was found to be wanting in growth at both these areas. Special attention was drawn by the authors to growth at the intermaxillary and internasal sutures—a point they believed to have been hitherto overlooked. A comparison of acromegalic with normal skulls showed that the acromegalic face was enlarged by a process of true growth, the growth changes being found in the same areas and being of the same nature as those seen in normal

subjects. The authors thought that the narrow English face with the accompanying adenoid and tonsillar enlargements was the expression of an underlying pathological condition, which might result from a nutritional disturbance—perhaps a deficiency of vitamins in the dietary of youth.

The adjourned discussion brought together a large meeting of the society and visitors, including the president of the Japanese Dental Association. Professor JOHNSON asked whether a standard could be established. In answer to a question by Mr. RUSHTON, Professor KEITH said he thought deflected nasal septum might be due to a failure of forward growth of the face. Mr. J. G. TURNER thought that observations on the growing dental arches showed that growth at the intermaxillary suture was of but limited extent. Much criticism was levelled at the remarks on causation of the "adenoid face," and the PRESIDENT, in summing up the debate, pointed out that the important point was that the authors of the paper had shown where and how to look for the normal factors in the growth of the human face, thus establishing a sound basis for the study of orthodontics.

In reply, Mr. CAMPION said that though the number of measurements was few they were made on individuals with entire dentitions, and Professor KEITH urged that the number of different growth centres showed that there must be a co-ordinating mechanism. He added that he and Mr. Campion regarded the paper as a preliminary study and almost as showing the extent of our ignorance.

DIFFERENTIAL DIAGNOSIS OF THE EXANTHEMATA.

A DISCUSSION took place at the Medical Society of London on March 13th, Mr. JAMES BERRY presiding, on the differential diagnosis of the common exanthemata.

Dr. E. W. GOODALL, in introducing the subject, said that in certain of the communicable exanthemata the diagnosis could often be made on a single symptom—for example, the buccal exanthem of measles; but in others it was a combination of symptoms which was the deciding factor, especially in scarlet fever, enteric fever, and occasionally even in measles. Enteric fever was the only one of these diseases in which the pathologist, represented by the bacteriologist, had come to the assistance of the clinician. In typhus the pathologist had still to establish his claim, and if they were to judge by the confusion introduced into the diagnosis of diphtheria by the discovery of the Klebs-Loeffler bacillus, on account of its ubiquity and protean nature, he confessed he looked forward with no little apprehension to the bacteriologist's success in establishing the cause of scarlet fever. The eruptions of chicken-pox, small-pox, and enteric and typhus fevers were pathognomonic, and were never forged by other affections, or by one another, with such accuracy that the forgery could not be detected. But this was far from being the case with scarlet fever, measles, and rubella, the rashes of which were not pathognomonic. The rash of scarlet fever was an erythema, more or less punctate, evenly spread over the trunk and limbs, but avoiding face, forehead, scalp, palms, and soles. Similar rashes might occur as the second stage of rubella or measles, as the prodromal rash of measles and chicken-pox, as the result of an enema or a drug, and in the disease known as recurrent scarlatiniform erythema. Rubella was the most difficult condition to distinguish from scarlet fever. He had known, in measles, a diagnosis of scarlet fever to be superimposed because the discrete, macular erythema of measles had become merged into a confluent, punctate erythema, an event by no means unusual. He had known also a scarlatiniform rash which had been produced by quinine and belladonna to be mistaken for scarlet fever. In nearly 600 instances of serum rashes occurring at the North-Western Hospital, the rash could only be described as scarlatiniform in 7 cases, and in 6 of these it was strictly limited to the skin around the site of injection. Great importance seemed to be attached to peeling as evidence of an attack of scarlet fever, but for his own part he declined to admit that a case was scarlet fever unless there was satisfactory evidence that peeling had been preceded by an illness of which sore throat and rash at least had been symptoms. Any erythema or dermatitis might be followed by peeling which was quite indistinguishable from that of scarlet fever. Pinhole desquamation, held by some to be characteristic of scarlet fever, might occur after measles, rubella, urticaria, serum rashes, and other febrile erythemas. There was no single symptom which was characteristic of scarlet fever; the diagnosis must be made on the combination and sequence of signs and symptoms. Morbilliform eruptions did not give so much trouble as scarlatiniform. Fortunately in measles, if seen early, the buccal exanthem known as Koplik's spots was a pathognomonic sign. In measles also there was usually a febrile period with catarrhal symptoms for three or four days before the rash. Serum rashes were frequently morbilliform; but while with these there might be a good deal of constitutional disturbance, there were none of the signs of measles beyond the rash and pyrexia. The differentiation between small-pox and chicken-pox must depend upon the distribution of the lesions and their individual character. The eruption of small-pox affected the face and scalp, the distal parts of the extremities rather than the proximal, and the back of the trunk more than the front. As for enteric and typhus fevers, in his experience the most valuable clinical sign in these diseases was the eruption, which in each disease was pathognomonic. Dr. Goodall concluded by showing epidiascope illustrations of the various conditions.

Dr. W. McC. WANKLYN spoke on the diagnosis of small-pox, which he said had a national as well as a clinical and professional interest, because this country, unlike every other in Europe, elected to keep the dreaded scourge at bay not so much by protecting all the inhabitants by vaccination as by reliance upon the instant recognition of small-pox as soon as it appeared. Four-fifths of the population of England and Wales were liable to take small-pox if freely exposed; only eight out of thirty-six millions of people were protected by vaccination. The late Dr. Ricketts placed the diagnosis of small-pox upon a scientific basis by his demonstration of the rash distribution, making it a simple matter, in the great majority of cases, to differentiate between chicken-pox and small-pox. Dr. Ricketts had pointed out that the rash of small-pox favoured the areas of skin which were specially liable to irritation, such as the hands and face, the extensor rather than the flexor surfaces, and so on. Looking back over something like 15,000 cases of small-pox and suspected small-pox, the speaker was able emphatically to bear out Dr. Ricketts's contention. In very many cases complete certainty in diagnosis could be arrived at by the simple plan of counting the spots and seeing whether they fell in with the usual distribution of the rash of small-pox or of chicken-pox. The rash of chicken-pox was centripetal, that of small-pox was centrifugal. The method of making an actual count of the spots in mild cases and of plotting them on a diagram form was used with much success in a recent outbreak in the North of England. Dr. Butterworth's report on the outbreak in Lancashire showed that the prompt diagnosis of cases, aided by this means, was one of the factors which operated in speedily bringing it to an end.

Dr. A. F. CAMERON remarked that scarlet fever was one of the most difficult of infectious diseases to diagnose, and small-pox one of the easiest. In small-pox the most constant and least variable sign was the rash distribution. This had the advantage of being a sign which in no way depended on the patient's testimony or the previous history of the case. Small-pox was capable of producing three kinds of eruption: an erythema, a purpura, and a focal lesion, essentially a vesicle. He could not remember seeing an erythema in small-pox which resembled the rash of scarlet fever or measles in any particular except its colour. He believed that the haemorrhagic small-pox was only an exaggeration of the inherent purpuric tendency of the disease.

Sir JOHN BROADBENT said that it was by no means easy to distinguish a mild case of scarlet fever from a case of rubella, or a severe case of rubella from scarlet fever. It was important to examine the whole body and note the distribution of the rash. The throat in scarlet fever would generally show a little more congestion than in rubella, and the tongue was characteristic as a rule, though it must be admitted that there were cases in which it was almost impossible to make a certain diagnosis as between the two conditions. Another perplexing problem was the scarlatiniform rash in diphtheria. One must not trust that this was a serum rash; the patient should be isolated instantly.

Dr. C. R. Box did not agree with Dr. Goodall that the rash of scarlet fever never appeared on the palms and soles, although it was certainly rare in these positions. If attention were paid to glandular enlargement a clue might be obtained to the differentiation between scarlet fever and rubella. Serum rashes might be scarlatiniform, but if the patient were examined thoroughly it would generally be found that the

rash was not uniform and that there was marginal erythema or some sort of discrepancy which would enable one to attribute the rash to the proper source. He did not believe in influenzal rashes; all cases of so-called influenzal rash which he had seen proved to be undoubtedly something else.

Dr. FREDERIC THOMSON said that in the small-pox epidemic of 1901–2 fully 50 per cent. of the mistakes in diagnosis were due to a confusion between small-pox and chicken-pox. In the course of that epidemic Dr. Ricketts said to him that he would be prepared to make a diagnosis between the two conditions over the telephone if there was a good observer at the other end to describe the distribution of the rash. The differentiation of scarlet fever from rubella was often difficult, sometimes impossible. The glands were not always enlarged in rubella. The only help that he had found was the colour of the eruption; rubella very seldom lost its pinkish tinge, which was practically never found in scarlet fever.

Sir J. DUNDAS GRANT raised the question of post-operative scarlet fever, and whether the rash seen after operation was due to drugs. Some people had a rash of an erythematous kind after potassium bromide, quite apart from the ordinary bromide rash. Dr. W. STOCKER said that vomiting was one of the greatest diagnostic points in scarlet fever, differentiating it from measles and rubella. The glands in the neck, which were nearly always tender and enlarged in rubella, were a valuable sign in that condition. Dr. J. H. STOWERS said that for a number of years he had observed—not an original observation—that the vesicles of varicella were very frequently ovoid rather than oval, and with their long axes always across the axis of the body. It was important to study drug eruptions, which were extremely common; he believed there were 150 of them.

Dr. GOODALL, owing to the lateness of the hour, was unable to make a detailed reply. He could only say that in his belief surgical scarlet fever was scarlet fever pure and simple. Rashes after operation were not generally scarlatiniform.

REPAIR OF BONE INJURIES.

A MEETING of the Sheffield Medico-Chirurgical Society was held on February 16th at the University, Sheffield, with the President, Dr. GODFREY CARTER, in the chair. Mr. E. W. HEY GROVES read a paper on "The repair of bone injuries," and referred to his experiments with metal plates on fractures in animals, which showed that the presence of metal was not prejudicial to new bone formation. It was to the methods of dealing with gaps in bone and the principles involved in filling them that Mr. Hey Groves mainly directed the remarks of his paper. He pointed out that powdered bone put between a gap was not useful, and that comminuted bone was satisfactory provided there was no interference with its blood supply. The use of a dead graft was almost as good as a living one. The importance of firm fixation of grafts was emphasized and of wide contact between the bone of the host and of the graft as being factors which promote and stimulate osteogenesis. The paper was beautifully illustrated with lantern slides, showing some of the methods used by the lecturer. In the discussion which followed, Professor CONNELL, Mr. GRAHAM SIMPSON, Mr. FINCH, Mr. GARRICK WILSON, Mr. COUPLAND, and others took part.

AT the annual dinner of the Odonto-Chirurgical Society, held at Edinburgh, Mr. A. E. Millar, in proposing the toast of "The Royal College of Surgeons of Edinburgh," suggested that the creation of a fellowship in dental surgery would be an incentive to those who had time to spend in dental research. Mr. George Mackay, F.R.C.S.E., in reply, said that diplomas were multiplying in all directions, and there was a tendency to too much specialism; it did not do to allow men to get into too narrow grooves. Mr. A. Miles, F.R.C.S.E., in proposing "The Edinburgh Dental Hospital and School," said that the dental profession was in a transitional period. The passing of the Dental Act last year meant that the college and school would have certain additional duties. Whatever its features the Act was on the Statute Book, and it was for the college and school to carry it out to the best of its ability. Edinburgh was fortunate in being well represented on the Dental Board.

THE Society for the Advancement of Clinical Study in New York announces that the principal hospitals of New York are joining in a plan to provide daily medical clinics open to all members of the medical profession. Dates will be arranged so that at each hospital at least one clinic will be held daily, and subjects of importance will be covered at regular intervals.

Reviews.

THE SURGERY OF PERIPHERAL NERVE INJURIES.

IN *The Surgery of the Peripheral Nerve Injuries of Warfare*[1] Mr. HARRY PLATT has given an admirable summary of the subject, and almost the whole of the views expressed would be endorsed by those who have had much experience of the injuries of peripheral nerves resulting from gunshot wounds. His personal experience embraces some 500 operations for such injuries, and the value of his conclusions is greatly enhanced by the fact that the clinical and pathological aspects have been worked out in collaboration with Professor Stopford and others. These conclusions will be found to harmonize in all essential respects with those of other workers in the same field.

Anatomical and physiological considerations receive due emphasis, and the practical methods of clinical examination which have crystallized from the more elaborate and detailed methods of research are well summarized.

Mr. Platt's classification of the gross injuries which may be found as the result of gunshot wounds is perhaps too elaborate, and is of little practical use, since it rests upon an anatomical rather than upon a physiological or functional basis. The same criticism is applicable to the well-known grouping of Benisty, which he quotes.

In regard to the repair of divided nerves, Mr. Platt emphasizes the fact, now generally recognized, that the only method which offers any prospect of restoration of function is direct end-to-end suture; and the various manœuvres for overcoming the difficulties presented by a wide gap are discussed. His experience of nerve grafts coincides with that of most other surgeons. There is no doubt that a few meagre fibrils can sometimes be found in an excised graft, and it is equally beyond doubt that close examination has sometimes revealed evidence of conduction through a graft; but no unequivocal facts have yet been adduced to prove that useful function can be restored by nerve grafting.

Mr. Platt's analysis of results deserves very careful attention. He has tabulated those of end-to-end suture in 150 cases in as fair a manner as possible, since he specifies the nature and, to some extent, the degree of the recovery. He does not, however, give the criteria by which recovery of the muscles was judged, whether by the standard of function or merely that of electrical tests. It is noteworthy that in 77 cases in which either the median or the ulnar nerve was sutured recovery in the muscles of the hand was observed in only 23 instances.

With regard to sensory recovery Mr. Platt's experience fully justifies the pessimistic view to which other surgeons have been driven—namely, that "in very few cases has there been more than a slight recession of analgesia or incomplete restoration of protopathic sensibility." His general conclusion is that "in the whole series (of 150 end-to-end sutures) there are no examples of absolutely complete and perfect recovery, excepting possibly in five of the musculo-spiral and two of the external popliteal sutures."

It is perhaps a little surprising that so few cases of causalgia are included in the series, and that Mr. Platt should not have encountered a single instance of the severe type of case in which no surgical procedure, not even section of the posterior roots, gives any relief. The only serious criticism which must be made in this connexion concerns the preference expressed for resection and suture as against the "equally or even more destructive method of alcohol injection." Alcohol injection cannot be more destructive than resection, and may be much less so. If properly controlled, pain may be abolished without causing total loss of conduction, and even if such total loss is occasioned recovery is much more rapid and satisfactory, since the anatomical continuity of the nerve has been less disturbed.

The book contains a large amount of information in a small compass; it is well arranged and clearly written, and deserves careful perusal by all who are interested in the subject.

PERCY SARGENT.

---

[1] *The Surgery of the Peripheral Nerve Injuries of Warfare.* Being the Hunterian Lectures delivered before the Royal College of Surgeons of England on February 7th and 9th, 1921, by H. Platt, M.S. Lond., F.R.C.S. Eng. Bristol: J. Wright and Sons, Ltd.; London: Simpkin, Marshall, Hamilton, Kent, and Co., Ltd. 1921. (Cr. 4to, pp. 49; 12 figures. 4s. net.)

THE WASSERMANN TEST.

As Colonel CRAIG is an acknowledged authority on the technique of the Wassermann reaction the appearance of the second edition of his book[2] on this subject was to be expected. While it corresponds in plan and matter to the first edition care has been taken to add any new or recently observed facts. It is thus thoroughly up to date.

Venereal diseases and the problems, both social and scientific, which they present are at the moment receiving considerable attention. This work will serve those interested in the subject well, since it expresses in a manner both lucid and thorough the latest information on a large part of the various aspects of syphilis. But it does more than this: it embodies some things not generally known, such as that the strength of the Wassermann reaction undergoes marked daily variations. This observation must have considerable point when a comparison between the technique of different workers is being made, or when a series of observations are being carried out on the same individual. Again, the author advises that if a human blood cell suspension is employed, only blood from Group IV should be used.

While the subject matter will appeal especially to pathologists, there is also much useful clinical information. Colonel Craig's position as a leading authority on the subject adds to the value of his statements, for the reader is assured that only carefully tested facts have been recorded. The book is a most valuable contribution to an important subject.

HYPERPIESIA.

SIR CLIFFORD ALLBUTT defined hyperpiesia as a malady in which at or towards middle life the blood pressure rises excessively—a malady having a course of its own, and deserving the name of a disease, but without any organic associations other than cardiac hypertrophy and altered blood vessels, the raised blood pressure or hyperpiesis being a sign of the disease hyperpiesia. It is therefore most appropriate that Dr. BATTY SHAW should dedicate to him this careful clinical, pathological, and experimental study of *Hyperpiesia and Hyperpiesis (Hypertension)*,[3] which is obviously the result of years of thoughtful work, and indeed embodies ideas incidentally introduced into some of his previously published papers. The basis of this finely got up volume is the record of fifty cases of hyperpiesis clinically and pathologically investigated at University College Hospital, the clinical diagnosis depending on a systolic blood pressure, taken on the upper arm in the recumbent position, of 150 mm. Hg or more. But three of these cases did not show cardiac hypertrophy at the necropsy, and are therefore excluded from the detailed analysis, the high blood pressure being due to intracranial haemorrhage in two instances, and to excitement in the third. Three-quarters of the patients were males, but as boys and young adults may be affected laborious occupations can be held to be not responsible. The largest number of deaths occurred between 40 and 49 years of age, and the view that hyperpiesis is a function of age is erroneous, for the blood pressure of vigorous old men may be constantly below 150 mm. The most frequent symptoms were cardiac, such as dyspnoea on exertion, dropsy, and palpitation; almost as common were renal manifestations, and it is noteworthy that granular kidney was found after death in about half of the cases; nervous symptoms came next, and then those referable to the gastro-intestinal tract. The clinical analysis is followed by some histological remarks, illustrated by a number of figures, on renal atrophy by Mr. T. W. P. Lawrence, and then the microscopic changes in the 47 cases are considered in two groups: in 26 cases a kidney was injected with a preservative fluid as soon after death as possible, whereas in the remaining 21 cases this was not done; as degenerative changes in the renal tubules were found in 80 per cent. of the second group as compared with a 60 per cent. incidence in the first group, the question arises whether this difference was due to *post-mortem* autolysis. The causation of the raised blood pressure is discussed at length, and the view that it is due to widespread obliteration of the small blood vessels is controverted; the influence of some pressor substance or substances is tentatively accepted. On this subject Dr. Batty Shaw has carried out some experimental injections of tissue extracts into animals on the lines adopted by Swale Vincent and Sheen and by Tigerstedt and Bergman; it appears that a pressor substance—rennin—is present in the normal kidney, especially in the cortex, and it is suggested that in cases with definite changes in the kidneys the hyperpiesia may be due to nephraemia or to the entrance of rennin into the circulation. But in cases with unaffected kidneys pressor substances from sources other than the kidneys, such as the intestinal tract, must be considered. It is indeed admitted that all cases of hyperpiesia may be due to toxins of extrarenal origin and that changes in the kidneys may be caused by their influence. The possibility of anaphylaxis in this connexion is cautiously raised, and the resemblance of the hypopietic crises—characterized by a sudden fall of blood pressure, convulsions, and even collapse—to histamine shock is pointed out; formerly ascribed to metabolites retained as the result of renal inadequacy, these attacks may, it is suggested, be due to histamine-like bodies derived from cells deprived of their blood supply, and be analogous to protein shock. This careful clinical and pathological investigation will appeal to others engaged on similar problems.

PHYSIO-THERAPEUTICS.

THE effects of the experiences of the last seven years on the practice of surgery and medicine have been great and manifold. We are reminded by the appearance of the second edition of Dr. T. D. LUKE'S *Manual of Physio-Therapeutics*[4] that that department of treatment has benefited as much, probably, as any other. The great number of men whose physical apparatus has been damaged, and of whom many at the same time have experienced disturbances of their psychical endowments, has offered a great field of work for massage, muscular training, electro-therapeutics, hydropathy, and the like.

In all medicine when we attempt to study the effects of treatment we are met by the difficulty of distinguishing between the actual physical results of a remedy or the actual physical changes produced, and the results suggested to the patient by the physician and his assistants, which are often duly experienced by him, without perhaps any physical change having taken place. In no department of medicine and surgery is this difficulty more obvious than in that treated in the work now under notice.

But although this may be annoying to the scientific investigator it is of little moment to the patient, who does not care how he is cured so long as he feels that he is. As the anonymous writer who is quoted on the title-page says, "Most folks like being healed by magic." Without attempting to estimate how much magic and how much physics there may be in physio-therapeutics, we can recommend Dr. Luke's book to all who wish to obtain an insight into the many methods of treatment which are so largely employed at spas and hydropathic establishments. The book is not one on war injuries, and thus very little is said about the orthopaedic treatment of war disabilities. The section on thermotherapy is particularly good, and hydrotherapy, massage, and medical gymnastics are adequately discussed. The author is moderate in his claims for massage, and his remarks on the effect of exercise on the heart and on the metabolism of the body are sound. We must confess, however, that we have found it as difficult to estimate the difference between one professor's set of physical jerks and another's as it notoriously was to tell the difference between Tweedledum and Tweedledee. The movements taught by Jones-Brown seem to us of about equal merit to those of Smith-Robinson, or any professor with a Teutonic surname.

Dr. Luke includes a wide range of methods of treatment in physio-therapeutics, including sea voyages, the open-air treatment of consumption, climate, electro-therapeutics, and diet, to which last subject a whole section is devoted.

We venture to doubt the accuracy of his statement that the Chinese and Japanese are strict vegetarians. We believe it is a fact that flesh and fish enter into the diet of these peoples whenever they are able to obtain them. The chapters on the dietetic treatment of obesity, diabetes, and rheumatism are likely to be useful to the practitioner.

We have failed to find any reference to the sun-rays treatment of surgical tuberculosis by the brothers Rollier, which

---

[2] *The Wassermann Test.* By C. F. Craig, M.D., M.A., F.A.C.S. Second edition, revised and enlarged. London: H. Kimpton. 1921. (Med. 8vo, pp. 279; 3 plates. 25s. net.)

[3] *Hyperpiesia and Hyperpiesis (Hypertension): A Clinical, Pathological, and Experimental Study.* By H. Batty Shaw, M.D., F.R.C.P., Physician to University College Hospital. Oxford Medical Publications. London: Henry Frowde, and Hodder and Stoughton. 1922. (Cr. 4to, pp. 191; 11 figures, one coloured, 53 charts. 21s.)

[4] *Manual of Physio-Therapeutics.* By Thomas Davey Luke, M.D., F.R.C.S.Ed., etc. London: William Heinemann, Ltd. New and revised edition. 1922. (Demy 8vo, pp. xvi + 480; 210 figures. 25s. net.)

is carried on at Leysin, or any mention of the melted hard paraffin baths which have proved useful in the military orthopaedic hospitals.

The book is printed in clear type on good paper, is well illustrated, and has an adequate index.

COLLOIDS.

HATSCHEK'S *Introduction to the Physics and Chemistry of Colloids*[5] is a textbook dealing with the scientific knowledge of the subject acquired down to the present time. Many of the facts depending on colloidal properties are among the most familiar of everyday life, yet of the subjects of common experience few received so little scientific attention as these for long after the foundation for their study had been laid by Thomas Graham more than fifty years ago.

The reason for past delay in the pursuit of investigation in the phenomena of colloids was apparently that the suggestion which leads to experiment was then lacking through the want of subsidiary information relating to the causes concerned. With the growth of science in other branches of molecular physics came the needful suggestions, and more recently direct appeals to experiment have been frequent and fruitful of results. The information derived from experimental work has, however, been rather inaccessible to the reader who could not devote time to the study of original memoirs or work out for himself the inferences deducible from different workers' achievements.

That defect is now repaired in the admirable little volume under review. It treats the subject in the easy manner that captivates interest; it describes the qualities of colloidal matters and their behaviour under experiment with quite vivid effect, enabling the reader easily to visualize the experiment even if a stranger to the materials concerned; the explanations of theory are equally lucid. The brevity of expression with which this is accomplished adds to the meed of praise which is the author's due. A great and varied range of facts are treated, and nothing of especial or even ordinary interest appears to have been omitted; the discussions of fact and theory are rendered in such order as best to facilitate a grasp of the whole subject and to give connected ideas of related phenomena. Throughout the text proper recognition is paid to those who have done the scientific work, and references to original publications are sufficiently numerous to meet the needs even of the specialist reader.

No one who is interested in the study of colloids owing to their importance in biology and industry or other relations should neglect to become acquainted with the contents of this book. It should be no less appreciated by elderly students than by their juniors, and among the latter there should be many to whom it will prove a strong incentive to research.

AGRICULTURAL AND INDUSTRIAL BACTERIOLOGY.

THE activities of bacteria are being studied by agriculturists, dairy farmers, and manufacturing chemists with as much enthusiasm as has been shown by medical bacteriologists since the days of Pasteur. Professor R. E. BUCHANAN'S book on *Agricultural and Industrial Bacteriology*[6] discusses the science of bacteriology from the industrial point of view. The medical bacteriologist frequently encounters organisms used in industrial processes, and from the public health point of view the medical man should have some acquaintance with the bacteriological questions involved in dairy work, and in the baking, bottling, and canning of food.

Professor Buchanan's book is not a manual of laboratory practice so much as an exposition of the bacteriological topics of fundamental importance in everyday life on the farm and in the industries. The first section is devoted to a classification of bacteria, yeasts, and moulds. The second section deals with methods of study, and contains a useful chapter giving tests for the determination of microbial activity. The physiology of bacterial processes forms the subject matter of the third section, and in it the chemistry and physics of these reactions are discussed in the light of present-day knowledge. The fourth section deals with such practical questions as the preservation of food, alcoholic fermentation, bread making, the manufacture of cheese, vinegar, and citric acid, and the fermentation of starch. Considerable space is devoted to soil bacteriology and the nitrogen cycle, a subject of vast importance to agriculturists. When the author comes to the question of micro-organisms and disease he is not quite so much in his element: the short description he gives of pathogenic organisms is insufficient for the recognition of species, and the illustrations of bacteria surrounded by flagellae might lead the novice to imagine that such morphological appearances are of value in identification. The last section of the book gives a clear exposition of the bacteriology of water, sewage, and milk.

The nomenclature adopted is slightly different from that followed in most English books. For instance, the author describes the Gram-negative cocci under the name of Neisseria, the fluorescent bacilli under the name of Pseudomonas, and all the anaerobes under the title Clostridium. Apart from the nomenclature the classification adopted is very involved, and it would take almost as long to place an organism in the particular group to which the author wishes it to be assigned as it would to identify it. In the opinion of most bacteriologists it is unwise to attempt too strict a classification in the present state of our knowledge of bacterial species. What is chiefly required is accurate description and ease of identification. There can be no question, however, that the information with which this book is so closely packed will be received with gratitude by those who, either for practical or theoretical reasons, are interested in the manifold activities of our bacterial enemies and friends.

[5] *An Introduction to the Physics and Chemistry of Colloids.* By E. Hatschek. Fourth edition, entirely rewritten and enlarged. London: J. and A. Churchill. 1922. (Cr. 8vo, pp. xiii + 165; 20 figures. 7s. 6d. net.)

[6] *Agricultural and Industrial Bacteriology.* By R. E. Buchanan. New York and London: D. Appleton and Co. 1921. (Post 8vo, pp. xviii + 468; 67 figures. 15s. net.)

NOTES ON BOOKS.

STARTING from the thesis that tuberculin contains a curative principle, the action of which is masked and generally rendered impotent by undesirable protein impurities evolved in its production, Professor GABRILOVITCH of Finland, in a monograph written in French,[7] sets out to convince the reader that he has discovered a tuberculin of considerable efficacy in the treatment of tuberculosis. This tuberculin is referred to as T.P.G.—"tuberculine pure Gabrilovitch"—and has been deprived of the protein impurities which, according to the author, produce the general and the toxic phenomena. How this purification is obtained is apparently a secret which he prefers to keep to himself. It is true that he mentions the fact that he has solved the difficult problem by laborious investigations (the phrase is familiar) and by the use of "appropriate" reagents, such as "xylol, ether, chloroform, caustic soda, hydrogen peroxide, etc.," but such a statement conveys little information. For a hundred pages he tells us over and over again the various beneficial effects that follow the use of T.P.G., citing names of professors and doctors in various countries (alas! there is not a solitary one from this sea-girt isle) who have found in T.P.G. a boon and a blessing to man. But we are afraid that those who look for a sign will not be convinced.

The second edition of Dr. LYLE'S *Manual of Physiology*[8] has been brought up to date and extended. The author has had the co-operation of Dr. DE SOUZA throughout. The book is quite a good example of a short manual of the subject, concise and well arranged. The authors have succeeded in giving a good general review, without unduly stressing any particular phase. The facts presented have, on the whole, been well selected, and, considering the size of the volume, there are but few omissions of any great importance. In view of the number of references in current medical literature to hydrogen ion concentration a somewhat fuller explanation might have been included with advantage. The authors throughout have managed to present the physiological data with their medical or clinical bearings. It is too often forgotten that the majority of students attending classes in physiology are going to be, not specialists, but practitioners of medicine. The book contains 3 plates and 139 figures in the text.

[7] *Recherches sur le "Principe Curateur" contenu dans la Tuberculine.* By Professor J. Gabrilovitch. Preface by Professor Gabriel Petit of Alfort. Paris: Masson et Cie. 1922. (Cr. 8vo, pp. xiv + 112. Fr. 5 net.)

[8] *Manual of Physiology for Students and Practitioners.* By H. Willoughby Lyle, M.D., B.S., F.R.C.S., and D. de Souza, M.D., D.Sc., F.R.C.P. Second edition. London: H. Frowde, and Hodder and Stoughton. 1921. (Cr. 8vo, pp. 837; 139 figures, 3 plates. 21s. net.)

Dr. WALTER P. BOWERS, secretary of the Massachusetts Board of Legislation in Medicine, has been appointed editor of the *Boston Medical and Surgical Journal.*

MEDICAL AND SURGICAL APPLIANCES.

A Combined Anaesthetic Apparatus.

DR. FRANCIS E. SHIPWAY (London, W.) sends an account of a combination based upon the apparatus for administering warm anaesthetic vapours. It consists of five principal parts mounted on a wooden base—namely, an ether bottle (E), a Dudley Buxton's chloroform bottle (C), a mercury safety valve (S), a sight-feed mixing chamber (M), and a thermos flask of quart capacity for warming the issuing vapour. The ether and chloroform bottles stand in metal jackets partly filled with warm water in order to prevent excessive cooling of the anaesthetic. A regulating tap (T) directs the flow of air or gas, either straight to the patient, or through the anaesthetic in any desired proportion; it passes then to a double metal tube (D) immersed in the hot water of the thermos flask. A tap (F) is provided for replenishing the ether supply during intratracheal insufflation (Dr. Shipway expresses his indebtedness to Dr. Stanley Rowbotham for permission to use this excellent device). When the apparatus is to be used for the insufflation of ether or nitrous oxide-oxygen-ether, or the inhalation of nitrous oxide-oxygen-ether, the chloroform bottle should be detached, and the efferent limb of (T) joined direct to (D). For intratracheal insufflation of ether, a foot-bellows or motor pump is connected to the efferent limb of (T). By opening the tap (F), the pressure is reduced when desired. For the inhalation or insufflation of nitrous oxide-oxygen-ether the tubes of the mixing chamber, which are marked N_2O and O_2, are attached to the nozzles of their respective cylinders, which are three in number—namely, two N_2O cylinders of 50 or 100 gallons capacity, and one O_2 cylinder of corresponding size; they are placed vertically in a three-ringed holder screwed to an upright rod; the lower end of this upright is fixed to a wooden base, and the upper end carries a metal plate, which supports the combined apparatus at a convenient height from the ground. A spirit lamp is used to keep the nitrous oxide valve warm; this ensures a steady flow of the gas. In all cases the vapour is administered warm. A further advantage is that induction can be carried out with nitrous oxide-oxygen-ether, the intratracheal catheter passed, and anaesthesia continued if desired by the insufflation of these gases. The apparatus has been made by Messrs. Mayer and Phelps, New Cavendish Street, W.

BISMUTH IN THE TREATMENT OF SYPHILIS.

NUMEROUS attempts have been made, and no doubt others will be made in the future, to obtain chemical substances which are improvements on, or substitutes for, the arsenical compounds introduced by Ehrlich in the treatment of syphilis. Apart from the efficacy of the drug, which is of course the first consideration, simplicity of preparation, stability of the substance, facility of administration, and absence of toxic effects are the chief desiderata. Recently attention has been directed to the promise offered by the use of salts of bismuth.

Sazerac and Levaditi[1] recount their essays with various bismuth preparations employed in the treatment of experimentally produced spirochaetal lesions of rabbits. The animals were infected with two races of *Spirochaeta pallida*, one derived from a syphilitic chancre and the other obtained from the blood of a general paralytic, and with a spirochaete of a different order—*Spirochaeta cuniculi*, which is the organism found in the spontaneous spirochaetosis of rabbits. Of the various bismuth salts tried (bismuth citrate, lactate, subgallate, oxyiodogallate, and other linkages) the one found to be best supported and to give the speediest results was the tartrobismuthate of potassium or sodium. This salt, containing approximately 50 per cent. of bismuth, was prepared according to the method given by Cowly,[2] and it was found to be well supported by the rabbit to the extent of 50 to 60 mg. per kilo of body weight when administered subcutaneously or intramuscularly. Intravenously the salt was much more toxic, as less than a tenth of that dose was fatal to the animal. A suspension of the drug in olive oil, sterilizable in the autoclave without decomposition, was found to be less toxic than an aqueous solution. When this was injected subcutaneously or intramuscularly into infected animals the spirochaetes disappeared from the lesion on the second or third day, and rapid cicatrization followed. Administration by the mouth or rectum gave poor results. Applying the results to the therapy of human syphilis the authors soon discarded the use of aqueous solutions, as they caused pain and local reactions. The same salt, however, in oily suspension was much better tolerated when given intramuscularly, and though the action may perhaps have been slower they believe it to be more constant, more profound, and more lasting. As the result of the treatment of a few cases in various stages of syphilis, Sazerac and Levaditi state that there is a rapid disappearance of spirochaetes from the open lesions, and a cicatrization of these lesions in a few days. The tartrobismuthate acts on the primary and secondary adenopathies and favourably influences the tertiary lesions. In none of the cases treated was there any sign of relapse after some seven months of observation. The treatment had the minor drawbacks of producing a slight dark line on the gums comparable to the blue line in plumbism, and of inducing sometimes a stomatitis which easily yielded to local treatment.

The time has been too short and the cases too few to permit of a definite conclusion being drawn regarding the permanence of the cure, but the authors believe that in bismuth we have a spirillicide of remarkable potency, comparable to that of the best antisyphilitic medicaments known. It seems to act better and more profoundly than mercury, though in some cases less rapidly than the most active arsenical derivatives. The stability *in vitro* of the bismuth salts used is certainly a notable advantage from the point of view of therapeutic practice. Sazerac and Levaditi are now engaged in the preparation and testing of more complicated bismuth derivatives.

Meanwhile Fournier and Guénot have made a more extensive study of the effects of the bismuth treatment in human syphilis, clinically and serologically, endeavouring to define the dose and to appraise the possible disadvantages as well as the benefits of the drug. Having treated about 200 cases, they state that the results the treatment has given in their hands absolutely confirm those of Sazerac and Levaditi, and show that bismuth deserves to be considered as one of the most powerful antisyphilitic agents at our disposal. The effect of the tartrobismuthate on the primary lesion is to cause a disappearance of the spirochaetes from the surface of the chancre, sometimes on the day after the first injection, more usually on the second day, and rarely after the third day. Small erosive chancres cicatrize completely in a few days, medium-sized chancres take a week to a fortnight, and very large or ulcerating chancres heal entirely in about three weeks, though they lose their specific characters at an early period. The chancrous induration and the accompanying adenopathy are more rapidly influenced by the bismuth than by any other treatment whatever, and generally have completely disappeared in a few weeks. Spirochaetes have been sought in vain in the glands after the third injection—that is, about a week from the commencement of treatment. The clinicians report that in all the primary cases they treated the results were uniformly good, from both the clinical and serological points of view.

In cases where treatment was not begun until the secondary manifestations were evident no less striking results were obtained. The spirochaetes disappeared from mucous plaques after the first or the second injection, and these lesions might heal completely in four or five days. The erosive genital plaques healed almost as rapidly. If caught at its commencement the roseola was arrested, perhaps after an exacerbation of twenty-four hours. The Herxheimer reaction might be apparent also at the site of the papular syphilides. The simple roseola was generally effaced entirely in five to ten days, though the papules endured a little longer. Indeed, the authors have seen the total disappearance in fifteen days of a generalized miliary eruption and of palmar syphilides—manifestations which are notoriously rebellious to specific treatment. The general secondary phenomena, such as headache, lumbago, and pains in the bones, always disappeared with the first injections. In particular they draw attention to eight cases which, in spite of prolonged arsenical and mercurial treatment, were subject to recurrent lesions, and which were permanently cured by bismuth; and to another case of acute syphilitic meningitis where all the symptoms—headache, rigidity of the neck, and Kernig's sign—disappeared after three or four injections, whilst the lymphocyte count of the cerebro-spinal fluid fell from 400 to 7 on the fifteenth day.

With regard to tertiary lesions, Fournier and Guénot report that most usually the bismuth treatment acted in a remarkably rapid fashion in those forms commonly met with, such as gumma, osteo-periostitis, and ulcerated cutaneous sores; lingual leucoplakia was improved though not cured; and the time has been too short to enable a judgement to be formed on the results of treatment of cases of visceral and nervous syphilis.

In brief, as far as the authors have gone, they have not yet encountered any case which presented new lesions after the commencement of treatment; no chancre treated before the appearance of roseola, even if it had been in existence for over a month, was followed by secondary lesions.

The Wassermann reaction has been the guide for the duration of the treatment; in primary and secondary cases

one course of treatment is not usually sufficient to bring about a negative serological reaction. The tartrobismuthate (10 per cent. in olive oil) is administered intramuscularly twice or three times a week, beginning with a quantity corresponding to a dose of 20 cg., which is repeated once or twice and then followed by a dose of 30 cg., so that a first course of treatment taking a month means the injection of a total of 2 to 3 grams of the salt. After this has been completed a single weekly injection of 20 to 30 cg. may be given, or the treatment may be suspended for a month and then started over again. All the time the condition of the Wassermann reaction is noted, and when this becomes negative a few more injections may be given as a precautionary measure.

No serious phenomena have resulted from the use of bismuth, but there are two inconveniences on which Fournier and Guénot dwell. The first of these is the local reaction. Though well borne by most patients, yet in some instances the injections provoked sharp pains at the site which might last for two or three days, sometimes accompanied by local redness and swelling and in exceptional cases by local oily collections, which were spontaneously and rapidly absorbed. These occurrences were practically confined to patients who had walked shortly after being given an injection. The other drawback noted was the almost constant impregnation of the buccal mucous membrane with bismuth. This was manifest by the appearance of a dark line on the gums, sometimes by black patches on the inside of the cheeks and a slight bluish tint of the tongue; in certain cases a mild stomatitis appeared, easily prevented and easily curable. Chemical examinations showed the presence of bismuth in the blood, cerebro-spinal fluid, bile, sweat, saliva, faeces, and urine. It is found in the urine in eighteen to twenty-four hours after the first injection, and persists for twenty to thirty days after treatment is suspended. If the urine is examined in a vessel a black deposit of bismuth will be found on the sides, due to the fermentation of the urine.

In the same number of the *Annales* Marie and Fourcade report a trial of tartrobismuthate on twenty cases of nervous syphilis. Not much can be expected from the treatment of such conditions, but sensible improvement resulted in a few cases where the lesion was localized and not diffuse.

The experimental and clinical records of this bismuth treatment show a welcome degree of restraint that should serve as a model to those who may follow up the observations.

REFERENCES.
[1] Sazerac and Levaditi, *Annales de l'Institut Pasteur*, January, 1922.
[2] *Chemist and Druggist*, vol. 82, 1913, p. 212.

A CONTRIBUTORY SCHEME FOR THE HOSPITALS OF LONDON.

ON February 27th the Secretary of King Edward's Hospital Fund for London addressed a circular letter to the chairmen of the various metropolitan hospitals reminding them of the two money-raising schemes submitted at the close of last year to the London Regional Committee of the British Hospitals Association.

The Regional Committee, after consulting the constituent hospitals, submitted to the King's Fund on January 12th two schemes unanimously approved in principle by that committee, with a proviso in the case of the contributory scheme that before contributions were collected under it counsel's opinion should be obtained that it contained no contract for treatment, express or implied. The scheme was then redrafted, after consultation with Mr. Douglas Hogg, K.C., with a view to meeting apprehensions expressed by the medical members of the Council of the King's Fund. The revised scheme, together with counsel's opinion, is as follows:

KING EDWARD'S HOSPITAL FUND FOR LONDON.

London Hospitals Contributory Scheme.

Objects of the Scheme.—To enable wage-earners by means of an organized system of moderate and continuous contributions (i) to give voluntary assistance to the hospitals of London in carrying on their work of curing disease and alleviating suffering, and (ii) to be relieved, together with their dependants, from all hospital charges when receiving hospital services.

Need for the Scheme.—The expenditure of the hospitals has grown enormously in recent years, partly owing to the rise in wages and in the price of provisions, fuel, etc., and partly owing to the costliness of the equipment needed to fight disease by modern methods. The result is that very many of the hospitals are overwhelmed with debt, and in some cases they have had to close many beds. While they will continue, in accordance with the principles on which they were founded, to care for the necessitous poor without payment, they can no longer exempt from payment persons in receipt of good regular wages or income. Many hospitals are already making charges towards the cost of maintenance, but such charges represent only a fraction of the cost, and even so are frequently too heavy for patients to pay when incapacitated by illness. It is only reasonable, therefore, that the classes from which the majority of hospital patients are drawn should save while in health for the hospitals, and that the savings should be pooled, so that when a contributor has been admitted to hospital treatment a fund may be available to lighten the burden of the hospital.

Scope of the Scheme.—It is not intended that hospitals should afford any facilities other than those already provided by them, or that any alteration should be made in the arrangements now in force at individual hospitals for the admission of persons as in-patients or out-patients, or for their treatment by the medical staffs: the hospital will continue to decide what cases are suitable for hospital treatment, and the order of priority in which applicants are to be admitted. The scheme has nothing to do with National Health Insurance, and leaves untouched the position and responsibility of the general practitioner; it does not cover ordinary maternity cases or any treatment for which provision is made by the State or local authorities.

Who may Join the Scheme.—In order to avoid abuse by those who can afford to pay for treatment outside the hospital, it is necessary to fix a strict income limit. Accordingly, the scheme is confined to persons whose individual income does not exceed £4 a week for a single man or woman, £5 a week for a man and wife with no children under 16, £6 a week for a man and wife with children under 16. Such persons being employees in a factory or other unit of employment, or members of societies established for mutual benefit, will join in groups.

Organization.—All contributions will be collected within the factory or other group and will be paid over to a central organization distinct from the King's Fund and from any individual hospital, but so composed as to secure the co-operation of all interests concerned. This organization will, unless and until hospitals otherwise arrange, distribute the funds collected under the scheme, after deduction of expenses of collection and administration, as payments towards the cost of patients after admission to hospital.

Conditions.—Regular contributors of 12s. per annum paid in one sum in advance, or 13s. per annum paid in weekly instalments of 3d., will, together with their wives and children under 16, when accepted for treatment by a hospital, be relieved, by payments made on their behalf by the central organization, from contributing to their cost of maintenance as in-patients and from any charge in all out-patient departments.

7, Walbrook, E.C.4, February 25th, 1922.

Opinion of Counsel.

I have carefully considered the above scheme. In my opinion it is quite clear that the scheme creates no contract of any kind with a contributor to give him treatment.

(Signed) DOUGLAS MCGAREL HOGG.

Temple, February 24th, 1922.

At a special Council meeting of the King's Fund held at the House of Lords on March 8th, with the Earl of Donoughmore in the chair, Lord Somerleyton presented a report of the Management Committee, and moved the adoption of recommendations on the subject of the proposed contributory scheme and the combined public appeal. The motion was seconded by Sir Cooper Perry. Amendments proposed by Sir William Collins and the Speaker of the House of Commons having been accepted, the resolutions were passed in the following form:

(i) That the scheme as redrafted be accepted in its main lines by the General Council as removing the reason for postponing the contributory scheme.
(ii) That the King's Fund should not itself administer a contributory scheme, but should, through its propaganda for the combined public appeal, assist all hospitals in their efforts to secure support from the classes whose members are treated in hospital; and should assist such hospitals as, after consultation with their medical staff, desire to initiate mass contributions in various forms.

AN anonymous gift of 100,000 dollars has been made to Yale University for the establishment of a professorship in honour of Dr. William H. Carmalt, who retired a few years ago after fifty years of distinguished service in surgery.

AT the recent annual meeting of the New York Tuberculosis Association Mr. G. J. Drolet, statistician of the Association, stated that in New York City the coming into the population of a large Jewish stock, noted for their immunity to the diseases of congested city life, had been a considerable factor in reducing the death rate from tuberculosis. The lowest mortality prevailed in the districts which were largely Jewish, whereas in the districts where the poorer immigrants of Irish and Italian stock lived, as well as in the artist and Bohemian colonies of Greenwich Village, the tuberculosis death rate was very much larger.

British Medical Journal.

SATURDAY, MARCH 18TH, 1922.

INSANITY AND THE REPRODUCTIVE GLANDS.

PSYCHIATRISTS have long recognized the intimate relation between disordered sexual function and insanity. It is in adolescence, when new and disturbing forces surge into activity, that this relation is observed most clearly. At this time the process of development is subjected to a severe strain, and the individual has to adjust himself to unaccustomed feelings and needs; it is then that any tendency to instability is apt to find manifest expression in forms which vary from the milder neuroses to the graver psychoses. The Morison Lectures and the Maudsley Lecture for 1921, both delivered by Sir Frederick Mott, constitute a notable addition to our knowledge of this aspect of psychiatry.[1] The Morison Lectures are concerned with the psychopathology of puberty and adolescence, and Sir Frederick Mott points out that the lecturer of 1890, Sir Thomas Clouston, made it one of the objects of his lectures to show the relation between the physiology and pathology of reproduction to the neuroses and psychoses. At this time our knowledge of the reproductive endocrine system was only in its infancy, but the recent researches on the pathological changes found in cases of dementia praecox have served to demonstrate the organic conditions which find expression in this grave form of mental disorder. Feeling convinced that certain forms of mental disease were correlated with morbid changes in the reproductive organs, Sir Frederick Mott has made histological examinations of these organs obtained from patients of both sexes dying in asylums. The research is all the more valuable as it was controlled by an exhaustive study of the human testis and ovary, at various ages from birth onwards, of individuals dying from various injuries or disease. A full account of this investigation was published in the BRITISH MEDICAL JOURNAL, November 22nd, 29th, and December 6th, 1919, and on the last date comments were made on the research in a leading article. It thus suffices to state briefly that demonstrable changes were discovered, which definitely indicated the existence of regressive atrophy in the testes and ovaries in cases of dementia praecox. In the male, spermatogenesis had largely ceased, and in the female the ova had failed to mature. Parallel with this regressive atrophy in the reproductive glands certain changes occur in the central nervous system. These consist essentially of decay and degeneration of the neurones, the nucleus and cytoplasm of the nerve cell being involved without any notable change in the vessels or supporting tissues. The consideration of these facts, together with those known in regard to the biochemistry of the grey matter, leads Sir Frederick Mott to formulate the hypothesis "that the failure of function in dementia praecox may be correlated with a failure of oxidation processes in the grey matter, owing to a deficiency of the vital energy of the nucleus, as shown by morphological and biochemical changes in the nucleus and a failure in the production of the substance which is the antecedent of the Nissl granules."

[1] *Journal of Mental Science*, vol. lxvi, No. 279.

In estimating the significance of these pathological changes in the reproductive organs and the brain respectively, the view is taken that they are manifestations of one and the same morbid process. It is suggested that dementia praecox is the expression of a failure of vital energy of the cells of the whole body, manifesting itself more especially in the sexual organs and brain, particularly in that part of the brain which constitutes the highest or psycho-physiological level. The biochemical changes in the reproductive organs and the nervous system are primarily of nuclear origin and dependent upon an inborn germinal defect. These researches throw much light on the course and symptoms of dementia praecox, and the views formulated by Sir Frederick Mott are largely in harmony with the clinical facts. It is true that a certain number of cases diagnosed as dementia praecox tend to recover, but the clinical investigations of Kraepelin, in which cases have been followed up for a number of years, make it clear that a more or less unfavourable outcome is probable, and in many instances severe and definite deterioration occurs. And not only the course of the disorder, but the symptoms as well are readily understandable as a premature failure of that vital energy of the organism which derives its main source in adolescence from the activity of the reproductive organs.

If it be the case, then, that the dementia praecox group—in a clinical sense somewhat vaguely delimited—is explicable on the basis of an inherent lack of durability of vital organic functions, the question arises as to how far mental breakdown is inevitable in the subjects of this inborn germinal deficiency. It must be admitted that a large number of these cases have the appearance of complete inevitability; the onset of the disorder cannot be correlated with any external or removable stress, and its course is uninfluenced by any known form of therapy. This, however, is not invariably the case, and a precipitating factor may often be found in some situation which makes unusual demands on the predisposed individual. Dr. J. S. Bolton emphasizes this fact in his work on *The Brain in Health and Disease*. He shows that many cases are especially prone to break down under the mental stress involved in the general change in the function of the cerebrum from the mere acquisition of information to the performance of the higher processes of mind, which change occurs about the period of puberty. This is clearly seen from the fact that overstudy and intense application at this epoch often leads to overstrain of unstable cortical neurones which finds expression in a temporary or permanent attack of insanity. It is also no doubt true, as Bolton further points out, that many mild cases of dementia praecox (premature dementia) are to be found in the outside world. He includes amongst these those individuals who overstrain their mental capacities in youth—both the brilliant student and the one of inferior capacity who obtains a degree by dint of exceptional perseverance—and who in after-life fail to maintain their early promise and lead an ordinary and stereotyped existence. It is probably necessary, therefore, to take a very wide view as to what is included under the heading of dementia praecox, and to recognize that a diminished durability and vitality of biological functions exist, in varying degrees, in a greater number of individuals than is generally supposed.

Observations such as these are not without significance for the clinical psychiatrist; they would seem to indicate, that though dementia praecox has an organic basis, the development of actual insanity in predisposed individuals is not entirely inevitable. If it were more generally recognized that (as is actually the case) many subjects of dementia praecox have since childhood exhibited abnormal personality traits of a type well known to psychiatrists, special measures might be taken to prevent

an actual mental breakdown. As it is, the superficial brilliance which these children are apt to display is exploited by their parents and teachers, and they are submitted to the evil effects of intellectual overstrain. It is probably true, also, that many patients in whom the diagnosis of dementia praecox is quite properly made not only make good social recoveries but remain well for a number of years if they lead a life suitable to their physiological disabilities. Unfortunately it often happens that the subject of an attack of adolescent insanity, who makes a good recovery associated with no more than a slight and almost indefinable degree of permanent deterioration, is found to break down again as a result of marriage or pregnancy. In view of the changes which are now known to occur in the reproductive organs in these cases it is readily understandable why such a relapse should take place, and no doubt a number of individuals who eventually become inmates of asylums might remain socially productive for many years if they submitted themselves to a life suitable to their diminished biological capacities. These and other clinical matters are considered throughout the lectures with which our comments are concerned, and more particularly so in a section devoted to the correlation of the morphological, micro-chemical, and chemical changes discovered in the brain and reproductive organs in cases of dementia praecox with the fundamental symptoms of this disorder. It is to be hoped that Sir Frederick Mott will continue these researches at the Maudsley Hospital, since they do much to illuminate one of the most obscure problems in medicine. The conclusions reached in these lectures are the outcome of an enormous amount of skilled and patient research, and the results of further investigation cannot fail to be of great value and interest.

QUACKERY IN RELATION TO DISEASES OF THE EYE.

IN his presidential address at the opening of the forty-eighth session of the Bristol Medico-Chirurgical Society[1] Mr. Cyril Walker gave a racy account of the activity of the quack in the treatment of eye diseases. Scarcely any branch of medicine has been more invaded by advertising charlatans. The term "quack" or "quack-salver" came into common use in the reign of Charles I; it is supposed to have been derived from the noisy, reiterated chatter of the medicine vendor at fairs. The word and its synonyms are common in seventeenth-century works. A quack is defined in the *New English Dictionary* as "an ignorant pretender to medical or surgical skill . . . an empiric or impostor in medicine," but probably Dr. George Gould of Philadelphia puts it better thus: "A quack is a man more interested in himself than in his healing art; caring more for his patent than his patient."

During the Middle Ages treatment of disease of the eye was very largely in the hands of itinerant quacks, who went from fair to fair selling nostrums to the credulous, and couching cataracts when occasion offered. In the time of James I these were first called "oculists," and the term has in consequence never found much favour with members of the medical profession, though the public still cling to it. Certain cures for all sorts of diseases were advertised broadcast in the eighteenth century, and Oliver Goldsmith in his *Citizen of the World* observes, "There must be something strangely obstinate in an English patient who refuses so much health upon such easy terms." Queen Anne, whose weak eyes were a source of much profit to the quack oculists, indulged in quackery on her own account by reviving the very old superstition of "touching" for the King's evil. As there was no scientific ophthalmology in her day she was the natural prey of quacks. She appointed as her oculists two charlatans: one, William Read, received a knighthood; the other is mentioned by Addison as notorious for "putting out eyes with great success." Read's praises were sung in a hack poem entitled *The Oculist*. With these worthies began the now much coveted and respected title of "Surgeon-Oculist to the King." By far the greatest quack of those times was "the Chevalier" Taylor. He had some claim to be looked on as a qualified surgeon, and was certainly a man of immense energy and ability; but Samuel Johnson, who was well acquainted with John Taylor, described him as the most ignorant man he ever knew. He was appointed "Ophthalmiator Pontifical" to the Pope and oculist to the Kings of England, Denmark, Poland, Norway, and Sweden. His entry into towns was a sensational affair. In what he calls "the crisis of his grandeur" he travelled "with no less than two coaches and six, above ten servants in livery, besides gentlemen, my companions in my own pay." Gibbon was among his patients, and he operated on Handel for cataract, "but on drawing the curtain we found the bottom defective."

Beside Taylor the quacks of to-day may seem unenterprising; for anything like his audacity one has to go to America. But, as has often been remarked, the love of mystery is deeply implanted in the human breast, and this gives quackery a great advantage over science. Even in France, where the pharmacist is discouraged from selling secret remedies, quack treatments abound. Some are vastly amusing, such as the "cure" investigated by Dr. Darier. It was based on Bier's suction apparatus. Darier submitted himself to treatment with a machine of much splendour, and had demonstrated to him that his vision had been doubled in acuity by suction on his temples. But the patient observed that the test card had two faces, and the marks exposed on the one side were double the size of those on the other. A German developed a system of ocular signs of disease: the markings of the irides corresponded with certain organs and their diseases. As Mr. Cyril Walker states, "palmistry is credibility itself in comparison," yet the vogue lives to-day; we heard of it as a novelty last year from a most intelligent man, and several inquiries came to us from ingenuous persons who had read of "ocular diagnosis" in the newspapers. At a certain well-known clinic in Germany many sufferers from hopeless conditions used to congregate before the war: all seemed to have had one treatment—the wet pack and mercurial inunction; sufferers from pituitary tumour and from alcoholic amblyopia each got the same.

In England a good deal of humbug is associated with the prescription of spectacles by opticians. Some sight-testing opticians who visit country towns are distinctly amusing. One warns "the *in*credulous public against unscrupulous imitators," another states that "unless there is a reasonable hope of the patient being benefited he is told so, but should the case present any diminution of hope it is undertaken, and in almost every instance successfully so." The temptation to the optician to order spectacles whether they are needed or not is strong, for he lives by his sales. Mr. Cyril Walker concludes that the best check to quackery is the provision of a sufficient number of capable practitioners able and willing to undertake ophthalmic work. When the doctors do not do this work it is inevitable that the people will drift to the advertisers. He points to the provision made by the State for the treatment of the children in elementary schools, and considers that the parent may reasonably claim the same advantages as his children enjoy. Lastly, the general practitioner should be able at least to decide when to persuade his patients to seek advice, rather than allow them to drift to the sight-testing optician or the quack.

[1] *The Bristol Medico-Chirurgical Journal*, vol. xxxviii, No. 144, December, 1921, p. 129.

THE CENTENARY VOLUME OF THE ACADÉMIE DE MÉDECINE OF PARIS.

To celebrate its centenary on December 20th, 1920, the Académie de Médecine de Paris extended its hospitality to thirty-one countries, from which ninety-one delegates were entertained and presented with a beautiful centenary medal designed by Dr. M. P. Richer. The Académie de Médecine has now brought out a sumptuously illustrated and printed volume [1] in commemoration of the centenary. After reciting the original charter granted at the Château des Tuileries on December 20th, 1820, by Louis XVIII, the volume records the proceedings and addresses of the celebration, commencing with the address of M. Laveran, the President, who pointed out that the Académie de Médecine was founded to continue the work of two societies—of medicine and of surgery—which had been dissolved by the convention in 1793, probably because they were suspected of tendencies hostile to those in power. In addition there was a short-lived Académie de Médecine, started in 1804, in the presidential chair of which the well-known Dr. J. I. Guillotin once sat. The first president of honour of the present academy was Baron Antoine Portal, of whose bust there is a fine reproduction. Among the congratulatory addresses presented by the delegates those of the Royal College of Physicians of Edinburgh, the University of Padua, and the Carolin Institute of Medicine and Surgery of Stockholm are artistically reproduced. The other formal addresses by the Secretary-General, Professor O. Achard, M. Honnorat, Drs. Richelot, D'Espine of Geneva, Vaillard, A. Chauffard, E. Delorme, M. Hanriot, Meillère, and Camus follow; in connexion with Dr. Camus's account of the Academy's activities in vaccination there is a full-page plate containing four portraits: of Le Duc de Larochefoucauld Liancourt, Fondateur de la Société Centrale de Vaccine; H. M. Husson, Secrétaire du Comité Central de Vaccine; E. Jenner; and William Woodville, who imported vaccine into France in 1800. The record is made especially interesting by the inclusion of fourteen well-executed photographs of the members of the Academy in 1920, arranged in groups representing the various sections.

SURGICAL DISCUSSIONS AT THE GLASGOW MEETING.

THE scientific sections at the ninetieth Annual Meeting of the British Medical Association, to be held in Glasgow next summer, under the presidency of Sir William Macewen, will meet in the University buildings on Wednesday, Thursday, and Friday, July 26th, 27th, and 28th. The names of the officers of sections were printed in the SUPPLEMENT of February 18th, and the provisional programme of the meeting in that of March 4th. The officers of the Surgical Section, of which Professor Alexis Thomson is president, have chosen the following subjects for discussion:—First day: The diagnosis and treatment of cholelithiasis. Second day: The treatment of tuberculous glands. Third day: The surgical treatment of non-malignant affections of the colon. We are asked to say that the secretaries of this section will be glad to receive the names of those desirous of taking part in the discussion of the above subjects, and also the titles of their papers from those desirous of reading papers. The honorary secretaries of the Section of Surgery are Dr. J. A. C. Macewen, 3, Woodside Crescent, Charing Cross, Glasgow; Dr. John Patrick, 9, Newton Place, Glasgow; and Mr. H. S. Souttar, 59, Queen Anne Street, London, W.1. The local honorary secretary of the Annual Meeting is Dr. George A. Allan, The University, Glasgow.

ROMAN SURGERY IN THE FIRST CENTURY.

As Sir Clifford Allbutt points out in his masterly review of *Greek Medicine in Rome*, it was from the intellectual and agile Greeks that Rome obtained the ideas directing medicine, science, and philosophy; and in the course of this book, which was founded on the FitzPatrick Lectures he gave to the Royal College of Physicians of London, he shows that, as contrasted with internal medicine, the surgical descriptions and procedures were more direct, definite, and accurate. In a recent article Mr. A. Don has taken up the theme from the more limited aspect of Roman surgery in the first century,[1] and for this purpose relies mainly on the works of the encyclopaedist Celsus, who has been called "the Roman Hippocrates," and also, though with less laudatory intent, "Hippocrates's ape." Celsus also wrote on rhetoric, philosophy, law, and the art of war; but as he was a Roman citizen, and probably a patrician, it would have been beneath his dignity to have practised the healing art, which was in the hands of Greeks and slaves. According to Mr. Don, however, a critical examination of his works proves not only how well versed in surgery he was but that he must have watched very closely the operations of others and occasionally operated himself. Celsus divided medicine into pharmacology, dietetics, and surgery, and remarked, "surgery does not reject the other branches, but it effects most by the hand." Physicians had a broader field of, at any rate superficial, activity at this period than now, for it included inflammation, ulcers, and in fact all diseases except those in which the surgeon had to make the first wound or where manual operation would be more efficacious, and lastly diseases and injuries of bones. The physicians were the bleeders, blood-letting being a reputed panacea, sometimes beneficial, seldom dangerous, and always lucrative. Mr. Don brings forward examples to show that surgical practice in the first century was often on the lines now approved; thus the Roman method of extracting weapons and other foreign bodies was practically the same as our own, and cysts were excised without opening the sac if possible; the tonsils were enucleated according to the method employed in our best clinics; catheterization was performed in a manner that would do credit to a modern professor. After pointing out that trephining was practised in almost all fractures of the vault, the dura mater being left intact if possible, as was the procedure in the recent war, Mr. Don remarks: "Celsus would have made a model surgical specialist in a team 'head' hospital in France; he advocated trephining on the opposite side in *contrecoup*, and was well acquainted with hernia of the brain and with depressed fracture." Only a few of the more common dislocations are well described by Celsus, who generally follows the teaching of Hippocrates in this respect, though he differs from the Father of Medicine in recommending that no attempt should be made to reduce dislocations of the spine, on the ground that in complete dislocation the cord will have been severed and the nerves torn, and in incomplete dislocation the bones will not stay in position when reduced. His symptomatology of dislocations of the head of the femur is nearly as accurate and full as the well-known signs given by Sir Astley Cooper.

THE NEW SCHOOL OF HYGIENE.

IN the JOURNAL on February 25th (p. 325) and on March 4th (p. 361) we announced and discussed the gift of the Rockefeller Foundation of two million dollars (approximately £400,000) for the establishment and equipment of an institute or school of hygiene in London. The Minister of Health, in informing the House of Commons of the acceptance of this generous offer, said that the Government would provide the annual expenditure for staff and maintenance, estimated at some £25,000 a year. Sir Alfred Mond added that he would set up a committee to advise him on the preliminary steps to be taken in regard to the site and planning of the school of hygiene. The Ministry of Health now announces the composition of this committee. The chairman is Sir Arthur Robinson, First Secretary of the Ministry; the other members are Sir Frank Baines, Director of Works, H.M. Office of Works; Dr. H. H. Dale, F.R.S., Head of the Department of Biochemistry and Pharmacology under the Medical Research Council; Sir Walter Fletcher, M.D., F.R.S., Secretary of the Medical Research Council; Major General Sir William

[1] *Centenaire de l'Académie de Médecine*, 1820–1920. Publié par les soins du Bureau de l'Académie. Paris: Masson et Cie. 1921. (12 × 8; pp. 278; 24 illustrations. No price.)

[1] A. Don, *Caledonian Med. Journ.*, Glasgow, 1922, xi, 350–359.

Leishman, F.R.S., Director of Pathology, Army Medical Service; Sir George Newman, M.D., Chief Medical Officer of the Ministry of Health and the Board of Education; Sir Cooper Perry, M.D., Principal Officer of the University of London; and Sir Herbert J. Read, Assistant Under-Secretary of the Colonial Office. The secretary of the Committee is Dr. H. Meredith Richards of the Ministry of Health.

PROHIBITION AND THE MEDICAL PROFESSION.

SOME time ago the *Journal of the American Medical Association* issued a set of questions on the use of alcohol in the practice of medicine to 53,000 medical practitioners (37 per cent. of the practitioners in the United States), and answers were received from 31,115, or 58 per cent.; 25,819, or 83 per cent., of the medical men were general practitioners, 2,401 were engaged in surgical specialities, and 2,825 in non-surgical specialities. The total number who expressed an opinion on the question whether whisky was necessary in the treatment of disease was 30,843; of these, 15,625, or 51 per cent., answered in the affirmative, and 15,218, or 49 per cent., in the negative. The question whether beer was a necessary therapeutic agent in the practice of medicine was answered in the negative by 74 per cent., and in the affirmative by 26 per cent. To the question whether wine was a necessary therapeutic agent the answer was in the negative in 68 per cent., and in the affirmative in 32 per cent. The North Atlantic and South Atlantic States gave a majority affirming that whisky was necessary as a therapeutic agent, while in the North Central, South Central, and Western States the majority thought otherwise. Thirty-two of the fifty largest cities affirmed that whisky was necessary as a therapeutic agent, seven gave a majority vote favouring wine, and only two gave a majority vote favouring beer. Of the medical practitioners who replied, 22 per cent. stated that instances had actually occurred in their own practices in which unnecessary suffering or death had resulted from the enforcement of prohibition laws, but the remainder stated that they had not seen such cases. The reply to the question whether medical men should be restricted in prescribing whisky, beer, and wine was in the affirmative in 58 per cent., and 42 per cent. believed that there should be no restrictions; practitioners in the rural districts were more inclined to favour restrictions than those in the cities. An editorial note suggests that the inquiry has definitely shown that the present regulations in the United States governing the use of alcoholic beverages are not satisfactory. Many practitioners who were convinced that these drugs were not necessary therapeutically were emphatic in stating that others who believed them necessary were entitled to have their views respected, and were warranted in their efforts to have the drugs made available without incurring the odium attaching under the present regulations.

THE EFFECT OF ALCOHOL ON GASTRIC DIGESTION.

THIS would at first sight appear to be a well-worn line of research, and indeed this is shown by the list of 182 references attached to Aksel O. Haneborg's thesis in English on the effects of alcohol upon digestion in the stomach,[1] which contains the results of work carried out in the Physiological Institute of the University of Christiania and in the hospitals of that city. Much of the physiological work in the past has been carried out with commercial pepsin *in vitro*, and hence Haneborg's experiments performed on healthy persons and patients with various disorders approach much more closely to those of ordinary practice. These show that 75 per cent. of alcohol, taken in the proportion of 0.5 c.cm. per kilo of body weight, is absorbed from the stomach in half an hour, and that after the lapse of an hour from the time of taking it, alcohol has practically disappeared from the stomach. Very little alcohol when taken in this amount passes into the small intestine. The alcohol undergoes combustion within three or four hours, and only 0.1 to 0.5 per cent. of that consumed is excreted in the urine. It is rather surprising to find that chronic gastritis does not interfere with the absorption of alcohol from the stomach. By giving alcohol in test meals on patients with gastric disorders an attempt was made to determine the indications and contraindications for alcohol in these diseases; but as the secretion of gastric juice depends on a number of factors, the effects of which at any given moment it is difficult to control, final conclusions require a very large series of observations. Alcohol increases the secretion of gastric juice probably by its action on the nervous system after absorption, but the psychical effect of alcoholic drinks, produced by sight, smell, and taste, appears to be less important than might be expected. There is a difference between the action of pure alcohol, on the one hand, and of beer and wine, on the other; thus, beer and wine retard digestion because their salts neutralize the free hydrochloric acid; but later, when absorption into the blood has occurred, there is an increased secretion of gastric juice, as in the case of pure alcohol. Indirectly, by increasing the amount of hydrochloric acid, alcohol in certain cases increases the rate at which the stomach is emptied. In hyperchlorhydria and ulcer alcohol is clearly contraindicated, but in conditions with deficient secretion it is of use, though not in complete achylia. After the age of 50 years there is deficiency of free HCl in 30 to 50 per cent. of ordinary persons, and though with suitable food no symptoms of discomfort should arise, an unsuitable diet readily has this effect, which may be alleviated by alcohol. Haneborg, however, considers that his observations tend to lower the former reputation of alcohol as a stomachic, and insists that there should never be more than 10 per cent. of alcohol in the gastric contents, otherwise the pepsin is affected. This is surely so large a proportion that it can seldom be reached if the alcohol be taken at a meal. In carcinoma of the stomach alcohol may relieve pain by its narcotic action, and retard fermentation in patients with pyloric obstruction; better results, he says, are obtained with whisky and brandy than with wines and beer.

[1] The Effects of Alcohol upon Digestion in the Stomach. By Aksel O. Haneborg. *Acta Medica Scandinavica*, Supplementum I. Christiania: Grondahl and Son. 1921. (Pp. 128. Price not stated.)

SKIN EFFECTS OF ULTRA-VIOLET AND RADIUM RADIATION.

IN a communication to the Röntgen Society on March 7th Mr. L. H. Clark and Mr. B. D. Watters, of the Physics Department of the Middlesex Hospital, gave the comparative results of exposures of the skin to ultra-violet radiation and to the beta rays of radium. The object of the experiment was to find out whether there was any connexion between the effect of these radiations on the skin and the photographic action and ionizing effects to which they also give rise. One interesting fact revealed in the course of the experiments was that the erythema resulting from exposure to ultra-violet radiation can be made to disappear completely by simply stretching the irradiated skin. When the tension upon the skin is relaxed the erythema reappears. Such an action can be shown with ease on the day of irradiation, though later on it is not so clear. It was also discovered within what range of wave lengths of ultra-violet the skin reaction to exposure is most intense, and from these studies it would appear that very considerable portions of the radiation emitted by arcs of mercury, tungsten, and iron are relatively ineffective in their action upon the skin. It is the more refrangible ultra-violet radiations which are most effective in exciting skin reaction, and this fact suggests the need for care when taking photographic action to indicate the skin response. A tint method for indicating the skin reaction, which is based upon the photographic action of the whole radiation from a given source of ultra-violet light, is liable to fail, although the tint method is quite efficient in the case of beta radiation. The photographic plate, sensitive as it is to the whole range of visible light and ultra-violet radiations, fails to discriminate between those radiations which excite an erythema reaction and those which are inactive so far as the skin is concerned. It is clear that there is no accurate method of measuring the therapeutic activity of the ultra-

violet radiations from a quartz mercury arc. Neither the photographic nor the ionization method is trustworthy here, although both may be applied in measuring the action of the beta rays of radium. Another point noted by the authors was that the time which elapsed between irradiation and the appearance of the reaction was much shorter in the case of exposures to the mercury arc than in the case of exposures to beta rays. Some accurate method of measuring the efficiency of sources of ultra-violet radiation when used for clinical purposes is clearly called for.

THE GROWTH OF THE HUMAN FACE.

THE paper entitled "A contribution to the mechanism of growth of the human face," a report of which we publish on another page, is of more than passing interest. The desire of the authors (Sir Arthur Keith and Mr. George Campion) was to furnish a description of the normal growth of the human face which should serve as a basis for the orthodontist to work from, and they have given an account which, if not final (and it is not claimed as such by the authors), at least merits the close attention of all anatomists, and must always remain a conspicuous contribution to the literature of the subject. We know of no other work in this line which compares with it. The method of superposing sectional plans in order to compare growing with adult skulls is also employed by Sir Arthur Keith in this paper to compare modern with neolithic faces, and normal with "adenoid" and acromegalic faces. He concludes that the neolithic face was longer than that of the modern well-developed Englishman, which in turn is both longer and broader than the adenoid face. He also shows that the acromegalic face increases by a process of true growth. The paper thus becomes interesting not only to the anatomist, but to the biologist and to a large number of specialists beyond the orthodontists to whom it was originally presented. The British Society for the Study of Orthodontics is to be congratulated on having secured so valuable a communication, and we trust it will make its reprints available to all who are interested in the subject.

THE IMPORTANCE OF CARBOHYDRATES.

IF prehistoric ages can be described as stone or bronze, the present age, with even more justification, might be called the carbohydrate age, for not only do men rely upon carbohydrates for food and for a large part of their clothing, but they use nitro-cellulose to make war, and disseminate their news upon a web of vegetable fibre, and in both instances they are dependent upon the carbohydrate productiveness of plants. Dr. P. Haas, lecturer on plant chemistry at University College, London, in an address to the Pharmaceutical Society on March 9th on the importance of carbohydrates in present-day economy, described much recent work which has been done with the object of increasing the carbohydrate activity of the vegetable kingdom. In Germany attempts have been made to stimulate carbohydrate production by increasing the carbon dioxide in the atmosphere, either by applying waste fuel gas to the plants in hothouses (the gas being freed from poisonous constituents) or by assisting fermentation of the fertilizer or manure strewn on the ground. It is said that a 50 per cent. increase in the yield of tomatoes and beetroot has been obtained by these methods. In the case of sugars, the lecturer referred to recent attempts to place the beet industry, both in this country and on the Continent, on an economic footing; so far as starches are concerned, much has been done to render both wheat and potatoes immune from the diseases to which they are liable, and to cross wheat so as to secure a greater yield of flour; while cellulose, the most widely distributed organic compound on the planet, although of no use as a food material for human beings, has lately had its food value for herbivorous animals increased, for the treatment of straw by alkali has made it much more digestible to horses. Another great field for carbohydrate economy is timber. Dr. Haas mentioned that in this country every year our timber consumption represents a forest equal in area to the counties of London and Middlesex, and that one of our daily newspapers eats up two acres of mature pine forest every day. There is practically only one carbohydrate—lactose—which man can obtain from the animal kingdom: for all the rest he is dependent on plants.

MEDICAL SOCIETY OF LONDON.

A SOCIAL guide-book to the medical institutions of England would certainly place three asterisks, in the manner of Baedeker, against the annual dinner of the Medical Society of London. The Society was founded in 1773, "to give the practitioners of the healing art frequent opportunities of meeting together and conferring with each other concerning any difficult or uncommon cases which may have occurred, or communicating any new discoveries in medicine which have been made either at home or abroad." Another object always kept in view has been the promotion of good-fellowship among the members. The 149th anniversary dinner held on March 8th at the Wharncliffe Rooms, with the President, Mr. James Berry, F.R.C.S., in the chair, was in line with its many predecessors, and as usual the Society entertained a number of distinguished guests. The toast of prosperity to the Medical Society of London was proposed by Sir Humphry Rolleston, who recalled to his hearers the two patron saints of the Society—John Coakley Lettsom and his friend, John Fothergill—and James Sims, its President for twenty-two years. He congratulated the Society on having now as President so eminent a man as Mr. Berry. The President, in his reply, gave some entertaining extracts from old minute books, with appropriate digressions. In submitting the health of kindred societies and guests, Mr. V. Warren Low introduced, with a light touch, the names of the principal visitors: Sir Anthony Bowlby, P.R.C.S., Sir Dyce Duckworth, and Lord Knutsford, Chairman of the Research Defence Society; the Presidents of the Medico-Psychological Association (Dr. Hubert Bond), the Harveian Society (Sir William Willcox), the Medico-Legal Society (Lord Justice Atkin), the West London Medico-Chirurgical Society (Sir Lenthal Cheatle), and the Chelsea Clinical Society (Dr. David Barcroft); also Surgeon Vice-Admiral Sir Robert Hill, Medical Director-General R.N., Lieut.-General Sir John Goodwin, D.G. Army Medical Services, and Air Commodore David Munro, Medical Administrator R.A.F. The toast was responded to by Sir Robert Hill and Sir Richard Atkin, and the President's health was proposed in warm terms by Dr. Walter Carr.

THE King, by the advice of his Privy Council, has appointed Sir Nestor Tirard, M.D., F.R.C.P., to be for five years a member of the General Medical Council, in place of Mr. Norman G. Bennett, M.B., B.Ch., L.D.S., resigned.

MR. T. EASTHAM, M.B., Ch.B., lately a member of the Northern Circuit, has been appointed by the King, on the recommendation of the Lord Chancellor, a King's Counsel. On behalf of the medical profession we offer him congratulations on this honour.

A PSYCHIATRIC congress will be held in Paris on May 30th and 31st, to commemorate the centenary of the thesis in which Bayle, in 1822, for the first time defined general paralysis. The congress will be international in character, and Dr. Toulouse will be president. A banquet will be held on May 31st, at which French alienists will entertain their colleagues from allied and friendly countries. Further information may be obtained from M. Raymond Mallet, 284, Boulevard Saint-Germain, Paris.

THE thirty-third congress of the Royal Sanitary Institute will be held at Bournemouth from July 24th to 29th. Delegates from Australia, Tasmania, Canada, South Africa, Singapore, and Ceylon have already been appointed, as well as from China and Denmark. The Lord Mayor of London is honorary president of the Conference of Representatives of Sanitary Authorities, and the Lady Mayoress of the Section of Personal and Domestic Hygiene.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

The Orthopaedic Hospital, Shepherd's Bush.

SIR HENRY FOREMAN asked, on March 9th, whether the Minister of Pensions was aware that the time for vacating the Orthopaedic Hospital at Shepherd's Bush was drawing near; if he could report whether fresh negotiations had been entered into with the guardians on the question of rent; if not, was he prepared to facilitate those negotiations by withdrawing the expression "blackmail" which he used in reply to a question on this subject recently. Major Tryon said that Mr. Macpherson was willing to withdraw any expression he had used, provided he was assured that the State would have the opportunity of continuing to maintain its disabled men in this hospital at a fair and reasonable rent. He was still prepared to stand by the offer of an increased rent which he had already made, and in order to avoid any possible doubt he was so informing the guardians. Sir H. Harris inquired whether disabled men would suffer if this hospital were closed. Major Tryon answered that according to his information the alternative hospital was a very good hospital, and in better surroundings. He was so informed by the highest medical authority the Department had, but they were prepared to allow the patients to remain on reasonable terms. The Ministry had been paying £8,000 a year since they took over the hospital up to the end of last year. They were now willing to give £12,000, but the guardians were asking £14,000. Captain Bowyer asked whether the question had been considered of letting the matter go to arbitration. Major Tryon responded that the simple solution was for the guardians to accept the reasonable and largely increased rent offered to them. Colonel Wedgwood put it to the Minister that the alternative hospital was extremely unsuitable for those who had to attend for treatment. Major Tryon said that was a perfectly good point. It was obvious that provision would have to be made for the out-patients, but he had found on inspecting both this hospital and the hospital at Roehampton that the Roehampton authorities would regard the removal from Shepherd's Bush as bringing out-patients nearer to the work being done at Roehampton. Questioned by Lady Astor whether the equipment was not far better than in any other, Major Tryon said that the equipment could be moved.

Ministry of Health.

Supplementary Votes.

On the vote on account for £148,300,000 for Civil Service and Revenue Departments, on March 14th, Mr. Clynes moved a reduction of the vote for the Ministry of Health in respect of housing; he did this to ascertain the further policy and administrative action of the Government in this matter. Mr. Rhys Davies afterwards turned the debate from questions of housing to those more immediately of health.

Mr. Davies complained of a paragraph in Circular 257, which was issued last November by the Minister, wherein he said that local authorities should require a contribution towards the cost of residential treatment of persons suffering from tuberculosis. Very few authorities had adopted this suggestion, which he held to be a violation of pledges given to persons suffering from consumption. The issue of the Circular was without precedent, because, when the Insurance Act came into operation, insured persons were entitled by law to receive sanatorium treatment under it free of charge, because they paid for it in their contributions. To require that an insured person who was consumptive should pay as a condition of entering a sanatorium would act as a deterrent against entry.

Mr. G. H. Roberts called attention to reduction in the Estimates under the heading of "Grant for the Welfare of the Blind," the sum being £20,000 less than last year's estimate. He thought that any reduction in this work would be false economy and contrary to humane ideals. He mentioned that there were 34,894 blind persons under the control of the Ministry of Health, and of these 17,228 were returned as unemployable. He urged that even in these days of stringency we should develop our plans for the treatment of the blind. Of the total number mentioned, 1,383 were mentally defective, and their case was particularly hard. He was presiding over a committee which was inquiring into the causes of blindness and defective vision, and there it had been ascertained that a good deal of blindness was preventable, and this was an additional reason for his plea for greater development in this direction.

Mr. Evans, after relating the work done by the Welsh National Memorial Association for the promotion of health, and especially to prevent the spread of tuberculosis, said that the association was in the fortunate position of being able to acquire a house called St. Bride's, in Pembrokeshire, the residence of Lord Kensington, who had spent £100,000 on this property. He was willing to sell it to the association for a very small sum—about £10,000—and with the resources that the association had they could provide beds at an average cost of £220, whereas, taking hospitals in the country generally, the cost worked out at £600 a bed. But because they had acted in a businesslike way and had not pushed forward the matter earlier, they were threatened with the loss of any grant at all from the Government. He appealed that they should be allowed the small sum they asked.

Mr. Godfrey Locker-Lampson criticized the reappointment a fortnight ago of the Chairman of the Welsh Board of Health which had been made, notwithstanding the recommendation of the Geddes Committee that the Welsh Board should be abolished. Referring to the recommendation of the Geddes Committee that unemployment and health machinery should be amalgamated, Mr. Locker-Lampson said he was aware that a Departmental Committee had been appointed to consider the subject. But the important point was this: there were only a few days in which to make the decision. Unemployment and Health Insurance cards would have to be printed in a few weeks at latest, because they had to be dispatched by the end of July.

The Minister's Reply.

Sir Alfred Mond, replying to various speeches, said that the question of tuberculosis administration was occupying the very serious attention of his department. A careful investigation was being made of the money spent by local authorities. He had been much struck by the inequality of expenditure in various localities for apparently similar services. He quite sympathized with the statements made at various times as to the value of after-care treatment. If there were more funds at disposal that would be a very useful matter in which to employ them, but at present the department could only keep going those services which were already running. He thought he could promise that in spite of reductions no health service would go back. The amalgamation of Health Insurance and Unemployment Insurance was a subject full of technical difficulties, but he believed that the Committee would be able to arrive at a solution.

Sir Alfred Mond next defended the continuance for the present of the Welsh Board of Health and said that in any case, if the work were ultimately transferred to London, the Chairman would have to be transferred with it, and therefore the reappointment was sound. With regard to the grant to the blind he said it had been found that the estimates for 1921–22 were not expended, and they were taken as the basis for the coming year, the question of what else might be necessary being deferred pending the report of the committee over which Mr. Roberts presided. He was going personally into the appeal for the grant for a tuberculosis hospital in Pembrokeshire, referred to by Mr. Evans, and so far as he had any influence he would be glad to see the work undertaken. In reference to housing he claimed that the Ministry were carrying out a large programme and believed that with a little patience they could induce private enterprise to come in again. The price for a cottage had been brought down to £400. Coming to the question of slums the Minister mentioned that when we had 400,000 empty houses in the country the figures for overcrowding were about the same as now: that demonstrated that this was not merely a question of providing houses. Indeed, they all knew that a certain number of people would not move out of a slum if provided with fresh houses. Sometimes this was because of convenience of position; sometimes because people did not care what kind of house they lived in; and sometimes because they had got so used to their surroundings they did not realize how bad they were. Slums would not be got rid of solely by providing houses. Two things of the utmost importance that could be done were being done. Local authorities should use their powers for the repair of individual houses. The reports of medical officers of health for 1920 showed what could be done under statutory powers. Over 1,000,000 houses had been inspected and notices for repair had resulted in the repair of 218 houses by owners and 1,900 by local authorities. The other step being taken was for wholesale demolition and clearing where no other course was possible.

Mr. Myers drew attention to the extensive sale in this country of milk below the standard quality. He referred especially to separated milk. He regretted to find in the estimate a reduction for the coming year of £359,000 under the heading of tuberculosis. There was a new item of £175,000 for the provision of sanatoriums, but that meant a net reduction of a little under £200,000. The country, in his opinion, was not getting value for its expenditure on tuberculosis, partly because the consumptive person was not got hold of early enough. There was actually a greater proportion of deaths from tuberculosis in proportion to the number notified in 1920 than was the case in 1913. He agreed with a remark made by Lady Astor earlier that overcrowding had a great deal to do with consumption.

The Debate Continued.

Dr. F. E. Fremantle, in an admirable examination of the housing problem, drew attention to the value of "zoning" for industrial centres as tried in New York. In regard to the prevention of venereal disease, he expressed the hope that the Minister might be able to reconcile the two voluntary associations to work together on common lines. Speaking of medical officers of health he deprecated the appointment of whole-time men when there were local men specially suited from knowledge of conditions and local advantages. He urged that Poor Law officers in their own domestic work should be associated with the health side of the Ministry of Health. Why the Poor Law medical officer was not, as he should be, the foundation of public health was because hitherto the ordinary education of the ordinary medical man had not included work on public health. The curriculum was ordained by the General Medical Council, and it could well rearrange the

curriculum to meet needs. The subject was now in the melting pot, and he suggested that the Minister of Health should offer advice to the Council in this regard.

Dr. N. Raw regretted that there had been some reduction in the amount to be devoted to the treatment of tuberculosis. The sum which the Minister had put down represented a little more than £1 a head a year in the treatment of this great disease, over a million persons being affected with it in Great Britain. He agreed, of course, that the question of housing was at the very root of the prevention of tuberculosis. He did not agree, however, with some members who argued that the money now being spent on the treatment of tuberculosis was wasted; but he agreed that a great amount of effort was wasted because the work was not continued. It was useless to devote several months to treatment in a sanatorium and allow the man to go home to living conditions in which he was almost certain to relapse. Therefore he urged the Minister to consider the importance of training in the sanatoriums and of providing tuberculosis colonies in which a man could be taught an occupation and remain.

Sir Watson Cheyne touched on the importance of preventive work in regard to tuberculosis. He referred in the first place to the need for segregation, and secondly to the danger of infection from tuberculous milk. He believed that about 60 per cent. of the various forms of disease in children were due to infection from tuberculous cattle by means of milk, and he had never been able to understand why stronger measures were not in force against this source of infection. He had received a circular which led him to fear an agitation was being started to prevent the Minister from bringing in another Milk Bill. The circular stated that it was understood that the Minister had an agreed bill. He did not think there would be an agreed bill of any use. The Government with their large majority should have no trouble in passing any measure they liked, but he was not sure that it would not be well for them if they could not arrange to be defeated on such a measure. Then they could go to the country on a "Save the Children" issue.

Lord Robert Cecil reiterated the importance of good housing for the prevention of tuberculosis.

Sir Alfred Mond, in his final reply, said that the sale of skim milk as whole milk (to which Mr. Myers had referred) was nothing less than a robbery of the people, and he cited the section of the Food and Drugs Act, 1871, under which it could be dealt with. He agreed with Sir Watson Cheyne that it was most undesirable that tuberculous milk should be sold at all, but the question of how to stop the sale was not quite so easy. There was the problem of the farmer, who might be in a difficult position.

Coming next to the matter of venereal disease, the Minister said representations had been made to him from more than one quarter whether something could not be done to get the societies dealing with this subject to combine. Nothing would give him greater pleasure than to bring this about; but it was a subject giving rise to considerable controversy. He had tried to obtain the assistance of the Medical Council and of Lord Dawson to get together a body of medical men who would look at this question from a medical point of view and advise him. He could not overlook the fact that there was also a moral aspect, and on that point he would never be a party to some of the propaganda which was being carried on. Sir Alfred Mond explained that the reason he had issued a circular of inquiry as to supplying dinners to nursing mothers instead of milk was that some very competent medical authorities thought it would be more valuable.

On a division 52 members voted for the reduction of the vote and 156 against.

Licences for Morphine.—Mr. Gilbert asked, on March 9th, what was the form of licence issued under the Dangerous Drugs Act, 1920, permitting the manufacture of morphine in Great Britain and for some further particulars as to its manufacture. Mr. Shortt said that the form was an authorization to carry on the manufacture of morphine at certain premises specified in the licence, and subject to certain conditions. The conditions were not necessarily the same in each case, but, in general, they provided for adequate supervision, exclusion of unauthorized persons, keeping of records of production, and the like. The number of firms and premises licensed was three. The amount of British-made morphine exported during 1921, as shown in the Customs Returns, was 81,098 oz., but this did not include the amount exported through the parcels post. The total amount of morphine licensed for export, including export by post, was 112,681 oz. Morphine was exported to all parts of the world, but over one-half of the amounts shown in the Customs returns went to France. Other countries which received more than 5,000 oz. were Sweden, Belgium, and Canada.

Diphtheria in London.—Sir A. Mond, on March 9th, stated that there was still considerable prevalence of diphtheria in the metropolis, the number of cases notified during each week of the present year being over 300. This, however, represented a considerable improvement as compared with the last three months of 1921.

Tuberculosis Statistics.—Sir Alfred Mond, on March 8th, said he could not accede to a request by Mr. Rhys Davies to obtain from the local authorities detailed statements of the number of persons, male and female separately, suffering from various forms of consumption in England, Scotland, and Wales. He appreciated that the information could be taken from the reports of the medical officers, but remarked that it would mean a great deal of work.

Ear Affections in Pensioners.—In answer to Mr. Alfred T. Davies, Mr. Macpherson, on March 8th, said ear affections were pensionable under the Royal Warrant according to the degree of disablement found to exist, the rate of 70 per cent. being fixed for complete deafness. In addition, skilled medical and surgical treatment appropriate to the individual circumstances was provided in ear hospitals or at special aural clinics established by the Pensions Ministry. At the present time approximately 5,500 men were receiving treatment for some form of aural disease, and those who were prevented by their treatment from working were drawing the usual allowances. Facilities for acquiring facility in lip-reading were also provided in suitable cases.

Clearing Houses and Pensions Clinics.—Mr. Alfred T. Davies asked, on March 8th, on what date it was hoped to establish clearing houses for patients seeking admission to hospitals; when the new clinics would be established and at work; and what arrangements had been made for these clearing houses and clinics. Mr. Macpherson said that the clearing-house system had been in actual working operation in all regions for some time past. It was proposed to establish 160 general clinics, 56 of which were at present in process of being set up in some of the larger towns. The remainder would be proceeded with as rapidly as possible.

Liquor Traffic: State Management.—Mr. Shortt announced, on March 8th, on inquiry by Sir A. Holbrook, that he had appointed an Advisory Council at the Home Office to deal with questions of the State management of the liquor traffic. It consisted of the Secretary for Scotland and himself, the two departmental representatives (namely, Sir John Pedder and Mr. T. J. Rose), and four others, Mr. Waters-Butler, Mr. S. E. Neville, Sir John Sykes, and Sir William Towle.

Dentists Act Regulations.—Mr. Seddon, on March 8th, moved for the annulment of the Dentists Act Regulations, which, according to the terms of the measure, had been placed on the table of the House of Commons on February 7th. He alleged that ex-service men had a grievance in the restriction of enrolment on the *Register*. Mr. Acland, who is Chairman of the Dental Board, explained the position. The Act said that to be entitled to admission to the *Register* persons ought to have practised five out of the last seven years; but the Board were also directed to take special thought and care for ex-service men if satisfied that they could safely practise. The Act contemplated that there should be some continuity of practice, but where owing to war service that continuity had been broken, some allowance should be made. Therefore the Board resolved that if a man had practised for five years, partly before and partly after war service, even though the period were not in seven years, he should be admitted automatically. Where an ex-service man had not completed five years' practice, regard must be had to the question whether he was qualified to serve the public. Unless the question of his having practised dentistry during the war arose, the Board held that he must submit to one of the examinations. No fee would be charged. In judging practice of the profession during the war the difficulties were great. Mr. Acland instanced claims by men who had carried a pair of forceps and extracted teeth from men suffering in their squadron. The conclusion reached was that unless a man had some official engagement during the war, such services as he had rendered could not be taken into account. Coming next to the complaint as to the fee of £5 charged for registration annually, he pointed out that the Board were required by the Act to raise money for dental education and research. If after a few years they had enough money to give sufficient help for education and scholarships, it might well be possible to reduce the fee to £3 or even to £2. There had not been a single protest by a dentist. Sir A. Mond, replying for the Government, covered much the same ground that Mr. Acland had done, and mentioned incidentally that the income received was between £35,000 and £40,000. He thought that at the end of a couple of years the amount of the fee might be brought under review. Mr. Acland promised that this should be done; and Mr. Seddon, after regretting that he had not obtained the explanation without raising the matter in the House, as he now recognized he could have done, withdrew his motion.

Leprosy in Great Britain.—Replying to Sir C. Yate, on March 8th, Sir A. Mond said that the question of making leprosy notifiable in this country had been carefully considered from time to time, but he was not satisfied that there was sufficient justification for this course to be taken.

Deaths from Starvation.—Mr. Robert Richardson asked, on March 8th, in what way the returns of deaths from starvation made before 1919 were unsatisfactory; whether they could be made satisfactory; whether, in fact, the Local Government Board up to 1919 did, on receipt of information from the coroner of a death from starvation or accelerated by privation, call upon the guardians for information; whether during the three years 1919–21 the usual communications had been addressed to the coroners; and if not, what steps had been taken to see whether such deaths might have been prevented by more effective Poor Law administration. He further wished to know whether any inquiry of the guardians was made by the Registrar-General. Sir A. Mond said that the selection of cases for inclusion in the old returns depended upon the terms of the verdict of the coroners' juries and on the classification of those verdicts by the several coroners. No uniform or scientific principle was followed; the return was consequently both useless and misleading. He could not see that any useful purpose could be served by a revival of the return even in an improved form. The general inspectors of the Ministry of Health were instructed to take immediate steps to investigate any suggestion made at an inquest or otherwise that a death had been due to some fault in Poor Law administration. This practice, which was instituted before 1919 and still operated, was far more effective than any steps that could have been taken on an annual return. The Registrar-General was not concerned to make any inquiry.

Paris.

(From our Correspondent.)

SCHOOL CHILDREN.

"AND they can't go on strike!" These words of pity and of revolt resounded the other day through the conservative halls of our Academy of Medicine. They were the concluding words of Dr. Linossier's denouncement of the present condition of the schools; in the name of hygiene and of common sense he called upon the Academy to protect the school children of France.

Dr. Linossier, the type himself of an indefatigable worker, found himself one day called upon to cultivate what Victor Hugo called the "art of being a grandfather." On leaving his laboratory he bent over the table of his grandson, a child of 9 years, and was horrified to find this boy, under the pretext of natural history (department of "carcinology"), trying to commit to memory the terminology of the different classes of crustaceans: "*crustacés planctoniques, nectoniques et benthiques*"; the weather was fine, and there was a football sleeping in the garden! The grandfather made inquiries, and found that the child worked nine and a half hours each day. His school gave him twenty-four hours of instruction each week, of which gymnastics occupied one hour—that is to say, he had twenty-three hours of mental exercise against one hour of muscular exercise. Since the pedagogues so seriously misunderstood the hygiene of children, it was time for the doctors to intervene. This is the reason why the Academy of Medicine was called upon to discuss, on January 17th and on February 14th, the courses of public instruction in our country.

You may well say that the quarrel is of old standing, has always been with us, recurring periodically on the order of the day. The last reform ended in an attempt to draw a distinction between classical instruction, including Latin, and scientific instruction (*sic*), with two modern languages obligatory. Greek was an optional language, but few took up the option. The results, however, were not brilliant. Recently an attempt was made to reconcile the humanists and the scientists and bring the quarrel to an end; as always happens, it was the schoolboy who ran the risk of having to pay the cost of the reconciliation. The humanists threw upon his back the extra load of a modern language, and the scientists benevolently admitted that Latin should be piled on top of his already badly balanced burden. At the present moment the Superior Council of Public Instruction is deliberating. It is a council of specialists, with immutable traditions, already too far from their childhood to remember it. For one of them there could be no complete man without a knowledge of Cicero's moralizings, for another knowledge of the phenols is indispensable before life can be begun. The result is that the brains of our children are "forced" as flowers in a hothouse. Brilliant flowers, but fragile ones. In the open air they are disappointing.

Happily the child has a wonderful gift of inattention, which allows him to shake himself free from all intellectual harness. He is believed to be in the class, but he is playing truant. His imagination laughs at regulations which impose the double torture of silence and of immobility. Inhibition is his intellectual defence. Oh, blessed and salutary idleness! It is intriguing to find our academicians upholding a similar thesis, which they set out in the following resolution: The time required to be given to classes and study ought not to exceed eight hours a day for children under 14 years of age. (In a secondary school—*lycée*—in Paris at the present moment the elder pupils have thirteen hours' work each day. The headmaster has lengthened the hours of sleep to nine. Two hours are left for meals and for exercise. The régime for prisoners is healthier than this.)

The Academy asks for organized games. This is difficult in the overcrowded schools of Paris, where the school yards are small and cannot be enlarged, and the majority of pupils play by proxy. And yet what an awakening of enthusiasm for sport there is among our young people! Besides games there is the teaching of manual work, carpentry, locksmith's work, and so on. In the present state of society the hour seems to have struck for training of this sort.

All this demands time. But an authority so eminent as the director of the Institut Pasteur, Dr. Roux, has declared himself in favour of the suppression of afternoon classes. The classes should be more homogeneous, and should consist of thirty pupils only, chosen according to their abilities. Those whose negative gifts keep back their schoolfellows would be rapidly eliminated; very often if sent to a technical school they will find their bent. Finally, in regard to method, the Academy proposes that less attention should be paid to the memory of the child, and puts forward as its own the suggestion of that pioneer of genius, Jean Jacques Rousseau: "*Que l'enfant invente la Science.*"

Such are the results of the recent deliberations of our highest medical authorities; they are attracting the attention of the whole country. There is nothing wiser or more urgent. It is indeed a duty to pass on the torch to the young, yet how necessary is it not to burn our fingers. It is essential to decide against that *boutade* of a cynic when a mother was worrying: "The little one is too precocious for his age, too intelligent. . . ." "Send him to school," said the father.

England and Wales.

THE LEEDS GENERAL INFIRMARY.

THE statistical tables of the Leeds Infirmary for the year ending December 31st, 1921, show an increase in the amount of work carried on at this great charity and school. The number of patients treated in the wards as in-patients was 9,702, an increase of 222 over the previous year. The daily average of in-patients was 518; of this 87 represented the daily average at the two convalescent hospitals at Cookridge. This increase of work has only been rendered possible by the opening of the new wards. There yet remains one large ward which is approaching the completion of its *modernizing*, a process to which all the original wards have been subjected during the last few years, but it must depend on the state of the funds of the institution whether this can be opened in the near future. The average stay of each patient in the infirmary was sixteen days; it would not be possible for this number to be kept so low were it not for the use which is made of the semi-convalescent hospitals at Cookridge which enables the treatment to be carried out during that period when, after operations, patients require skilled attention and are not ready for ordinary convalescent treatment. The number of deaths at the hospital, including three at the semi-convalescent hospitals, was 680; of these 217 occurred within forty-eight hours of admission; if these are deducted the percentage mortality of cases admitted to the infirmary works out at 4.9. The out-patient figures show in some cases an increase and in others a decrease; thus there were 1,401 fewer casualties dealt with, the figures being 15,969 for 1920 and 14,568 for 1921; probably this must be taken in connexion with the amount of unemployment which prevails; ordinary out-patients show an increase of 683, the numbers being for each year between twenty and twenty-one thousand. The number of cases attended to in the out-patient maternity department shows a diminution in respect of the transference of this work to the Leeds Maternity Hospital and next year will show no figure referring to a maternity department, which has now been wholly transferred to the Maternity Hospital. There has been some decrease in the number of cases of venereal disease, the figures being 2,599 for 1920, and 1,804 for 1921.

In mentioning these figures one cannot but reflect upon the immense amount of work which has been done by the infirmary since the present building was opened by the late King Edward, then the Prince of Wales, in the year 1868; 415,669 patients have been treated in the wards, irrespective of about 6,000 soldiers treated during the great war. The finances of the infirmary are a source of much anxiety to the board, and have been for many years. It is earnestly to be hoped that none of the aspirations of the board will be permanently frustrated by monetary considerations. The opening of the remaining ward, which will give full effect to the plan of redistribution of beds amongst the different departments, the building, and more especially the maintenance, of the new infants' ward, and other minor but very important additions and improvements alike call loudly for more support to this great infirmary. The annual general meeting will be held towards the end of this month under the chairmanship of the new treasurer, Mr. T. L. Taylor, who has already won the confidence of the members of the board and staff, and who will prove a worthy successor to Mr. Charles Lupton, who happily still remains a member of the board.

PLYMOUTH PUBLIC HEALTH CONGRESS.

The Royal Institute of Public Health will hold its congress at Plymouth from May 31st to June 5th. The Section of State Medicine and Municipal Hygiene will be presided over by Dr. D. Llewelyn Williams, of the Welsh Board of Health, and a discussion will take place on tuberculosis, opened by Professor S. Lyle Cummins and continued by Dr. Nathan Raw and others. Another discussion will take place on the prevention of venereal disease, which will be opened by Dr. Mearns Fraser of Portsmouth and Mr. Kenneth M. Walker, and will be continued by Dr. Otto May, Mr. Wansey Bayly, and others. Dr. E. W. Hope of Liverpool will read a paper on "The unification of local health administration," and Sir Thomas Oliver will speak on "Some medical and social problems of industrial hygiene." In the Naval, Military, and Air Section, of which Surgeon Rear Admiral Sir Daniel McNabb is president, papers will be read by Colonel A. B. Soltau, Lieut.-Colonel T. S. Dudding, Surgeon Commander Digby Bell, Surgeon Commander D. H. C. Given, and others; one afternoon will be devoted to a visit to the Royal William Victualling Yard, Plymouth. Professor J. Martin Beattie is president of the Section of Bacteriology and Biochemistry, in which a number of discussions will take place on streptococci and their infections, on syphilis, and on toxic jaundice; Dr. Hideyo Noguchi will read a paper on his researches in yellow fever; Dr. W. G. Savage another on botulism and canned fruit; and other papers will be read by Professor Walker Hall of Bristol and Professor W. G. Wilson of Belfast. Lady Astor is president of the Section of Women and Public Health, in which Dr. J. W. Ballantyne will speak on "New responsibilities of the maternity hospital," Professor Louise McIlroy on "The care of the expectant mother," and Miss Frances Ivens on "The organization and the care of maternity." The other subjects dealt with in this section will include infant welfare work, crippled children, and the racial and industrial aspects of maternity. The Harben Lectures will be delivered on June 1st, 2nd, and 5th, by Professor T. Madsen of Copenhagen. The meetings of the congress will be held in the Municipal Buildings, and general meetings, receptions, etc., will be held at the Guildhall.

MEDICAL INSPECTION OF SECONDARY SCHOOL PUPILS AND INTENDING TEACHERS.

The London County Council has decided, for an experimental period of one year, to reduce the number of occasions on which medical inspection is necessary in the case of secondary school pupils. At present pupils attending secondary schools are inspected on admission, again at 12 years of age (if they were not older than that when admitted), and each subsequent year during attendance. It is now proposed to examine as a rule only at the ages of 12 and 15 years; examination at other ages will be made only in cases in which the health of the pupil appears to call for it. Candidates for the teaching profession are medically examined on five occasions—namely, when they become candidates for a probationer bursary, for a bursary, or for a student teachership, and when they enter and leave the training college. They will now be examined only three times—namely, on entering the secondary school, on entering the training college, and on leaving the training college. There may, however, be further examinations if the previous examination showed the desirability of keeping the case under review, or if the parent or headmaster has doubts about the candidate's health.

Scotland.

GLASGOW ROYAL INFIRMARY CLUB.

THE twenty-fifth annual dinner of this club was held in the North British Station Hotel on the statutory date, the second Friday of March. The President, Professor W. K. Hunter, was prevented through family bereavement from being present, and in his stead Dr. J. B. Mackenzie Anderson occupied the chair. The company numbered sixty-five, including a number of ladies. At the business meeting preceding the dinner the secretaries, Drs. W. A. Sewell and O. H. Mavor read the minutes, and presented the financial statement showing a credit balance. Mr. Henry Rutherfurd was elected president for next year, and the secretaries and committee were reappointed. The toast of the "Royal Infirmary" was given by the chairman, who recalled his own former chiefs, and compared the almost homely conditions under which he watched Lister work in King's College, London, with the elaborate aseptic ritual he found established by Macewen in Glasgow in 1890. In his able reply, Dr. Freeland Fergus drew largely upon the ancient lore of the Infirmary from 1794 to 1832, the period covered by the history written by Moses Buchanan. Dr. Fergus thought the time was ripe for a complete history to be written up to the present day. Such a record would be a history of one of the greatest institutions of its kind in the world, as in it modern surgery under the presiding genius of Lister had its birth. The toast of "Past and Present Presidents" was proposed by Dr. G. Balfour Marshall, and replied to by Dr. J. Paton Boyd and Dr. Leishman in veins reminiscent and anecdotal. The enjoyment of an evening of camaraderie and reunion of old friends was artistically supplemented by song and story contributed by Drs. Wallace Anderson, George Dalziel, Wright Thomson, Charles Read, Annabella Reid, James A. Adams, and Sewell. The box for contributions to the Medical Benevolent Fund was circulated as usual, and was found to contain £5 10s. 6d.

GLASGOW WESTERN INFIRMARY.

An interesting function in connexion with this institution took place last week in the Central Station Hotel, when a large and representative assembly gathered to do honour to Lord Glenarthur on the occasion of his retiral from the post of chairman of managers. Colonel J. A. Roxburgh, the new chairman, presided, and in the name of the managers presented to Lord Glenarthur a handsome piece of silver plate. In making the presentation the chairman reviewed the history of the institution from its inception in 1874, and paid tribute to the long and honourable record of service of his lordship over a period of thirty-four years, during seventeen of which he acted with great acceptance as chairman of the board. Sir Hector Cameron, on behalf of the staff past and present, expressed their high sense of privilege in being associated with the managers in honouring Lord Glenarthur. In acknowledgement, Lord Glenarthur thanked all his co-workers for the hearty co-operation all through his term of office, which had in large measure contributed to the success and development of the infirmary into the great institution and teaching centre which it was to-day. He referred to the important fact, in these days of enormous expenditure on maintenance, that their infirmary was still solvent. It was to the credit of Glasgow that, although the Government had agreed to give £500,000 for the assistance of voluntary hospitals whose expenditure exceeded their income from all sources, practically nothing would come to the three large infirmaries of the city. They still retained what the Scottish national poet called "the glorious privilege of being independent," upon which they set a far higher value than on any share of Government aid, if that were coupled with any control.

EDINBURGH SURGICAL APPLIANCE SOCIETY.

The annual meeting of the Surgical Appliance Society was held at Edinburgh, with Sir Montagu Cotterill, president, in the chair. The Honorary Superintendent, in submitting the report for 1921, said that during the year 291 appliances had been supplied, 225 going to ex-service men in Craigleith and Tynecastle orthopaedic centres; the celluloid leg splints sent to the Sick Children's Hospital had also been found very beneficial. Mr. Henry Wade, who moved the adoption of the report, called attention to the display of work in the society's rooms. This type of surgical appliance was not peculiar to Edinburgh, but was an outcome of the war, differing from the commercial form. The splints were light, practical, and well made. He was glad to think that Miss Malcolm and her helpers were continuing their excellent work done during the war, keeping up the standard of excellence and carrying on in peace time the high ideals of service. There were many patients who required these appliances, but who could not afford to pay highly for them, and this work could not be put on a sound commercial basis, as the time required for making these appliances would make them too costly. It would be regrettable if the work had to stop for lack of funds, and he hoped it would be found possible to continue. He might mention that a dorsal splint in celluloid, which he had just seen made, enclosing the whole body, weighed two pounds, while a similar splint in plaster-of-Paris would weigh eighteen pounds. Professor Lorrain Smith seconded the adoption of the report, saying that there was often a difference of opinion about carrying on war charities, but such a society as this, which provided surgical comforts, was altogether good.

Correspondence.

A DIPLOMA IN TUBERCULOSIS.

SIR,—With reference to the letter of Sir Robert Philip in your issue of March 4th, p. 370, referring to the diploma of tuberculosis and describing the excellent courses arranged for the teaching of this disease at the University of Edinburgh, I am obliged to him for the friendly tone of his letter, and he will, I feel sure, pardon me if I differ from him as to the advisability of calling the new diploma by the name of Diploma in Public Health. The D.P.H. has become indissolubly associated in the minds of the general public with preventive medicine pure and simple. It is, I think, a very fine diploma, and the courses for it, if carefully pursued, form an excellent training for appointments such as those of medical officers of health, whose functions are as important as any in our common work of fighting disease. But the work of the medical officer of health is largely on administrative lines and involves an enormous variety of activities covering the whole field of hygiene. I am not one to belittle the importance of administrative medical work. On the contrary, I regard it as of the greatest possible value and as impossible to carry out efficiently unless based upon sound scientific knowledge.

But the Diploma in Tuberculous Diseases, which has been brought into existence in Wales, is not a diploma in hygiene. It is a diploma designed for those about to devote their lives to medical and surgical work in connexion with tuberculosis, and who are prepared to undergo advanced study of the fundamental problems underlying this disease. Why, then, should the issue be confused by calling it a Diploma of Public Health?

I have less to say in replying to the eloquent letter of Dr. A. Neville Cox. If the assumption is wrong that specialization in this disease is necessary—and this assumption underlies the appointments of tuberculosis physicians—then the granting of a special diploma is wrong also. In my opinion both are right, and it is this belief which has led me to advocate a Tuberculous Diseases Diploma.

No one who has served in the tropics can fail to have noticed the great improvement in the standard of medical work since the creation of the Cambridge, Liverpool, and London Diplomas in Tropical Medicine.

We have at our doors a disease which still very largely defies our methods of treatment and prevention, and which invites closer and more intelligent study. I am not without hope that the new diploma may bear good fruit in the future.—I am, etc.,

S. LYLE CUMMINS,
Professor of Tuberculosis, University College of South Wales and Monmouthshire.

Cardiff, March 13th.

THE RECOGNITION OF AORTIC INCOMPETENCE.

SIR,—I have read with great interest the paper in your issue of February 4th by Dr. E. M. Brockbank on the recognition of aortic incompetence. While quite agreeing with the writer on the frequency with which a diastolic murmur is heard down the left side of the sternum without the usual signs of aortic regurgitation, such as a water-hammer pulse, a large pulse pressure, a capillary pulse, etc., being present, I am not so sure about his interpretation of the origin of this murmur. Some years ago I gave a paper before the Association of American Physicians[1] under the heading of "Passing leakage of the pulmonary valve," in which a number of just such cases as Dr. Brockbank describes were recorded, where a soft diastolic murmur was present down the left border of the sternum without any signs of aortic disease, and which I thought were probably of pulmonary rather than of aortic origin. A feature of these cases was that the murmur tended to come and go, being present now and again absent. I note that in several of Dr. Brockbank's patients this variability occurred. He assumes that the bruit must have been missed at medical boards. This is quite possible, and far be it from me to insist upon the infallibility of such boards; but in some of my cases the same observer found the murmur there on one occasion and absent on another, which suggests that it was the bruit and not the examiner that varied.

My hypothesis was, and is, that in certain weakened states the pulmonary muscular ring is occasionally so relaxed that it fails to support the fibrous ring of the orifice, and thus permits of leakage there. If the pressure in the pulmonary artery happen to be high, as is most apt to be the case in mitral stenosis, such leakage often occurs, as was pointed out by Graham Steell.

In some experiments done in 1911 I found that in a bullock's heart a water pressure of 6½ ft. was sufficient not only to cause the pulmonary artery to balloon out in a remarkable way but also to so stretch the pulmonary orifice as to cause leakage. If, while a much higher pressure than this was being applied, one supported the pulmonary orifice with the fingers, no leakage occurred. The same experiment repeated upon a number of human hearts showed that a water pressure of 11 to 18 inches was sufficient to cause leakage at the pulmonary orifice. Such a pressure is much less than what occurs during life, but in our experiments the tissues were dead, and hence more easily stretched. If a previously adjusted ligature prevented the distension of the opening, the pressure could be greatly raised without causing leakage.

Dr. Hugh Stewart in 1909 demonstrated before the Association of American Physicians the importance of the muscular ring below the aortic orifice in preserving the integrity of that orifice, and in the same way Dr. Arthur Keith and the late G. A. Gibson[2] showed that a loss of tone in the muscular fibres surrounding the mouth of the pulmonary vessel allowed of stretching of the fibrous tissues there. The normal pressure in the normal pulmonary artery will not, of course, cause leakage, because the tone of the muscle below the orifice is good; but if the artery be relaxed from any cause (and the muscular support of the orifice may share in the relaxation), or if the pressure in the artery be raised, then leakage is apt to occur, and will be evidenced by a diastolic murmur down the left border of the sternum and in the tricuspid area. If this leakage be considerable, the right ventricle will dilate, and such dilatation will, amongst other things, tend to shift the cardiac apex towards the left. True hypertrophy of the left ventricle not only causes the apex to shift to the left but also downwards, which did not seem to be the case in any of Dr. Brockbank's patients.

Thus, while agreeing that a diastolic murmur heard down the left border of the sternum is in very many cases due to aortic leakage, I think we must conclude that such a murmur is not necessarily of this origin in the absence of all the classical signs of aortic regurgitation except the murmur, but rather remember that an increased pulmonary pressure or a relaxed pulmonary artery (and especially both these factors combined) may be sufficient to cause leakage of the pulmonary valve, which will produce just such a murmur as Dr. Brockbank describes.

When such a murmur tends to be present at one examination and absent at another the likelihood of its pulmonary origin becomes greater.

In supporting the hypothesis that this diastolic murmur is often of pulmonary orifice origin I say nothing original, but am merely echoing the views of R. B. Preble, W. S. Thayer, the late G. A. Gibson, and many others.—I am, etc.,

R. D. RUDOLF.

Toronto, Feb. 23rd.

[1] *Amer. Journ. of the Med. Sciences*, September, 1911.

PROSTATIC ENLARGEMENT.

SIR,—Perhaps you will be good enough to allow me space in which to reply to the two letters published in the BRITISH MEDICAL JOURNAL of March 11th referring to my Hunterian lecture on prostatic enlargement.

In the first place I would like to thank Mr. F. T. Paul for calling my attention to his extremely interesting article published in the *Lancet* of July 30th, 1910. In this paper Mr. Paul refers to the parallel existing between enlargement of the prostate and the changes in the female breast that occur at the climacteric. The article contains ten illustrations of sections of the prostate and of the breast, and the similarity of the histological changes in the two organs is beautifully demonstrated.

I regret that Mr. Paul's paper had escaped my notice until reading his letter. However, the fact that working along independent but converging lines of thought we have both arrived at conclusions on the subject of prostatic enlargement that are so similar surely adds strength to our observations. The parallel existing between the prostate and the breast has been noted by several observers, and it is rather remarkable that so little emphasis has been laid on the possibility of prostatic enlargement having a similar pathology to that of involutionary changes in the breast.

[2] Arterial pressure, *Edin. Med. Journ.*, March, 1911.

In reply to Dr. A. F. Martin's letter, so far from "giving the lie direct to the position in which he finds himself," my observations on the prostate are such as to encourage efforts to deal with minor degrees of enlargement by means of organotherapy. I am interested to hear that he has had success in treating certain cases by means of prostatic extract. Although I have not used this preparation in a sufficient number of cases to justify any general statement, I can certainly recall several cases of minor degrees of enlargement in which the exhibition of prostatic extract appeared to afford relief. At the present moment I am collecting all available evidence on that subject, and shall be grateful to Dr. Martin and to any other practitioners who have used the preparation if they would furnish me with particulars of their experience.—I am, etc.,

London, W., March 11th. KENNETH WALKER.

HOLLOW VISCERA AND VESSELS: CURVATURE AND PRESSURE.

SIR,—I have been much interested in the paper on the relation of curvature to pressure in hollow viscera, published in the BRITISH MEDICAL JOURNAL of February 18th by Dr. Cranston Walker; as I also was, many years ago, when Sir Robert H. Woods sent me a copy of his communication to the *Journal of Anatomy and Physiology*, vol. xxvi, on the same subject.

I think, however, for practical purposes that the explanation I gave in your issue of February 5th, 1921, is likely to be more useful, as it shows more graphically the mechanical advantage which the heart and other hollow viscera may have when their chambers are small compared with when they are large.

My purpose, however, in now writing is to call attention to some of the physiological consequences, in the case of the heart, of the physical principles which Sir Robert H. Woods, Dr. Cranston Walker, and I have endeavoured to elucidate, of which perhaps the most striking is the greatly enhanced importance of the auricle.

The auricle begins its contraction before the ventricle, and becomes small as the ventricle becomes large and full. If their contractions should overlap, the auricle not having finished its contraction when the ventricle begins to contract, the auricle by its small size at the time might easily be more than a match for the large full ventricle. Suppose the auricle to be empty and contracting hard, a thick muscular mass would then be guarding the auriculo-ventricular orifice, and regurgitation could not take place even though the valves had not fully closed when the ventricle began its systole. That the auriculo-ventricular valves have not normally fully closed till nearly the moment of the opening of the aortic valves was always maintained by Professor Potain, probably the greatest French cardiologist of the last century. The apex beat (*choc du coeur*) Potain found fully developed before the occurrence of the sound indicating the valve closure.

Professors Roy and Adami, in their classical paper published in the *Practitioner*, vol. xliv, gave on page 251 a series of graphic curves showing the relation in time of the principal cardiac events. They show that the papillary muscles commence to contract only when the aortic valves open. They also show that the auricular contraction is normally maintained till the aortic valves open.

One is compelled, on reflection, to suppose that the auricle guards the auriculo-ventricular orifice during the first phase of the ventricular contraction, and its ability to do so is a consequence of the physical advantage it has over the ventricle, due to their relative sizes at the time.

In cases of severe mitral stenosis the overlap of the contraction of the hypertrophied auricle on to the contraction of the ventricle is almost certainly increased. It takes more time for the auricle to empty its contents through the narrowed mitral orifice, and the so-called presystolic murmur goes into ventricular systolic time in harmony with the prolonged auricular contraction. Often the mitral valve, as indicated by the autopsy, must have been incompetent for years, yet the history of the case shows that there was no regurgitation or systolic murmur till late in the illness, when, on account of auricular dilatation, the auricle could no longer guard the orifice and prevent regurgitation.

Such possibilities for the auricle as I have indicated are the normal consequences of the physical principles which Sir Robert Woods and I in the past, and Dr. Cranston Walker lately, have endeavoured to explain.

In my paper "Cardiac peristalsis and mitral stenosis" in the BRITISH MEDICAL JOURNAL of April 2nd, 1921, I have entered more fully into this subject.—I am, etc.,

Mentone, France, March 8th. D. W. SAMWAYS.

SIR,—I feel sure Dr. E. E. Laslett is right, and that variation in effort due to varying lengths of the contracting muscle would enter, to some extent, into the equation; but its influence would, I should think, be small, and perhaps negligible, in comparison with that of the diminished radius of curvature.—I am, etc.,

Dublin, March 13th. ROBERT H. WOODS.

HAEMATO-PORPHYRINURIA.

SIR,—In the account, published in the BRITISH MEDICAL JOURNAL of this date, of an address given by me to the Oxford Medical Society, the reporter has omitted to state that the case of congenital porphyrinuria to which I referred was shown at the meeting of the Association of Physicians in Birmingham by Dr. Leonard Mackey, by whose kindness I was enabled to show a specimen of the urine. I hope that Dr. Mackey will, before long, publish a full account of his case. May I also correct two errors in the report—namely, there are cases of porphyrinuria which are not congenital and not due to sulphonal drugs, and even among the congenital cases there are some without hydroa.—I am, etc.,

Oxford, March 11th. ARCHIBALD E. GARROD.

ASTHMA AND THE MENOPAUSE.

SIR,—The explanation given by Dr. Kark in your last issue (p. 416) as to how the case of asthma (quoted by Dr. MacBean Ross) which occurred subsequently to an artificial menopause was cured by ovarian extract is very interesting. But I am afraid that it will not hold water when a large series of cases is considered.

The interactions of the hormones of the various endocrine glands is a most difficult question, and especially so in asthma. I do not think we can compare, as Dr. Kark does, the conditions existing, as far as hormones go, in a woman who has had an artificial menopause with those in pregnant women; nor do I agree that a hyperpituitarism occurring in both is the cause of asthma. One would rather imagine that there was a shortage of pituitrin in pregnancy, if we note its common favour in the midwifery bag.

But even if we allow that there is a deficiency of the ovarian hormone in pregnancy and after an artificial menopause, and that this leads to hyperpituitarism, and this to asthma, the whole basis of the argument falls to the ground in my experience that whereas asthma commencing *de novo* in pregnancy is extremely rare, the exact opposite is quite common. Numbers of one's patients will state that the only free time they have had from asthma for years has been during the times when they have been pregnant. With one patient recently this had occurred regularly during six pregnancies; she, by the way, had a nose that was full of polypi too. Further, although dozens of patients are worse as regards their asthma or other anaphylactic symptoms just before their periods I have not noticed any difference one way or the other, for better or worse, to occur at the menopause.—I am, etc.,

London, W., March 12th. FRANK COKE.

PROTECTIVE INOCULATION AGAINST TYPHUS.

SIR,—In the BRITISH MEDICAL JOURNAL of August 13th, 1921, the experimental work done in this direction in Japan on monkeys was quoted from the *Japan Medical World*. Employing small quantities of the diluted blood of typhus patients, immunity was produced in monkeys without any preceding febrile reaction. No information upon the inoculation in men was given.

The following observation of a colleague (Dr. Muzeffer Bey) of the inoculation practised among the medical men in Baghdad during an epidemic of typhus in 1916, before the British occupation, may be interesting to others:

The blood of a case of typhus in fresh development was withdrawn, defibrinated, sterilized, and 5 c.cm. of the serum injected hypodermically at one time. Many of the doctors of the military medical service in Baghdad were inoculated, and no case of typhus occurred among those inoculated. There was no pain and no other reaction from the injection.

I should be glad to know of other experiences in this direction.—I am, etc.,

T. B. HEGGS,
Baghdad, Feb. 10th. Medical Officer of Health.

HAEMORRHAGE IN TONSIL OPERATIONS.

Sir,—Recently there has been much correspondence in the Journal concerning haemorrhage following operations upon the tonsils. To me it seems there has been too much unnecessary explanation as to the occurrence and as to the counteracting of this fault in operative technique. So far in the correspondence not a writer has, I consider, really hit the point, and I am therefore drawn into the discussion much against my wish, for I would have preferred a throat surgeon of more repute to have detailed experiences similar to mine.

I think that we must acknowledge that we owe a good deal to the American throat surgeons for improvements in operations on the tonsils. I have been following their procedures for some four years and more, and I am forced to the belief that general anaesthesia is, except in rare instances, unjustifiable in the performance of the operation of enucleation of the tonsil in the adult. This operation can be very satisfactorily performed under local anaesthesia, and it is without question in my opinion the method of choice. When considering the advisability of enucleating tonsils it is essential to inquire into the question of the coagulability of the blood. In any patient whose history suggests, even in the slightest degree, the occurrence of "bleeding," I make it a rule to do a blood time-test. Should this not be satisfactory the blood is improved in its coagulability. I find that haemostatic serum of Parke Davis is superior to any other method, and I have never yet failed to bring the patient's blood to a satisfactory state with this drug.

In all cases of tonsil operations I give, as a routine in both private and public hospital cases. 2 c.cm. of the serum three hours before the operation and a hypodermic injection of morphine q.s. at the commencement of the operation. I always perform these operations in a hospital. The essential point to aim at in injecting the solution is to bring about "block" anaesthesia. After swabbing the fauces and soft palate with 10 per cent. solution of cocaine, the needle is inserted into the anterior pillar of the fauces about 5 mm. from its border at the junction of the upper and lower two-thirds. The needle is directed upwards, outwards, and backwards for an inch and 1 to 1½ c.cm. of a 1 per cent. of cocaine or 2 per cent. novocain is injected, the tonsil being avoided by the needle as it is advanced. An injection of a few minims is made in the region of the lingual nerve about the level of the base of the tongue. A similar small injection I make into the palate immediately above the tonsil. Previously, when I used the infiltration method of anaesthetizing the tonsil region, I had frequent cases of bleeding. With this latter method of "block" anaesthesia I have had no troublesome cases whatsoever. In public hospitals I use a sharp guillotine and perform the operation by a quick method, following the procedure of Sluder. There is usually an immediate sharp haemorrhage, but this ceases in a short time. In my private work I either do the quick method or more often a slower method, using a blunt guillotine and crushing the tonsil out much after the method of La Force, and in rare cases by dissection, using a blunt guillotine as a fixation forceps and dissecting with a blunt Dan McKenzie dissector. I am convinced that there is really no necessity for any elaborate procedures in performing these operations. I have myself only once had to sew up the pillars of the fauces, and this was when I had used general anaesthesia. I have come to the conclusion that the more damage done to the tonsillar bed the more likelihood of post-operative haemorrhage. It is only reasonable to believe that, with a patient under ether anaesthesia, the bleeding may be severe. Under local anaesthesia, by the slow crushing method one can almost always enucleate the tonsils with as little loss of blood as one teaspoonful for both tonsils.

I do not wish to imply that I am using any methods other than those which are already practised by many throat surgeons.—I am, etc.,

R. Graham Brown,
Honorary Surgeon-in-Charge, Ear, Nose, and Throat Department, General Hospital, Brisbane, Queensland.

December 28th, 1921.

X-RAY DEPARTMENTS.

Sir,—In the British Medical Journal on February 18th appeared a very interesting letter from Dr. C. H. Ross Carmichael on *x*-ray departments, interesting as containing an important suggestion, but still more interesting as indicating the growing spirit of dissatisfaction with the general practitioner's opportunities of diagnosis and treatment. This dissatisfaction is, I think, to be welcomed, for there can be little doubt that at the present time, for the general practitioner dealing with middle-class patients of small means, these opportunities are far too restricted.

However, if those who think like Dr. Carmichael will unite in pressing their views that there should be public *x*-ray departments, I do not think they need wait long for the realization of their plans; but "public" need not necessarily mean State or municipal, nor should treatment be gratis. It is also very important that nothing should be done to interfere adversely with the interests of those already engaged in *x*-ray work. Such a public *x*-ray department should and, I believe, can be run on entirely business lines, although assistance from some generous philanthropists may be necessary at first.

The Kensington Division, British Red Cross Society, as already announced, has started a clinic for physico-therapeutic treatment at 14, Prince of Wales Terrace, Kensington, in the running of which attention is given to these considerations. Whether the B.R.C.S. will ever be prepared to establish in co-operation with the medical profession such public *x*-ray departments I have no knowledge; but, if not the B.R.C.S., some other body of public-spirited citizens may be persuaded to take up the work.—I am, etc.,

Harold H. Sanguinetti.

London, W., March 9th.

SUN OR AIR?

Sir,—A question of great interest has been opened up by Dr. Leonard Hill by his research on "Metabolism of children undergoing open-air treatment, heliotherapy," etc. (February 25th, p. 301).

He shows that he—the laboratory worker—is clearly at variance with Sir Henry Gauvain, the clinician. Professor Hill attributes most of the beneficial effect of the treatment carried out at Lord Mayor Treloar's Homes at Alton and Hayling to the effect of the cooling power of the open air in the exposed body of the child under treatment. Sir Henry Gauvain attributes the benefit mainly to heliotherapy. Each of course recognizes the importance of other factors.

Which is the more potent agent in treatment is important from the practical point of view. The figures in Dr. Hill's article are all in favour of open air *per se* being the more active agent, and in a climate like ours it is well for us it is so. A decision on the relative merits of heliotherapy and open air *per se* in improving general "tone" may possibly be reached by an investigation which is immediately to be undertaken by the Medical Research Council. The workers are to investigate the biological action of light, and doubtless data will be obtained from clinicians, for the subject is too complex for us to rely on laboratory findings alone.

In the meantime we must go to work with the knowledge at our disposal at present, and it is this—the cooling power of the open air stimulates metabolism and cures disease. It doesn't matter a great deal whether the sun is shining or not.

The profession owes much to Dr. Hill for giving us a scientific explanation of the manifest advantage of the open-air treatment of cases of surgical tuberculosis, and it is a line of treatment which is often the only one at our disposal in those prolonged cases of suppuration we all have to care for.—I am, etc.,

A. C. Devereux.

Ripon, Feb. 28th.

REPEATED TREPHININGS.

Sir,—Referring to Sir Charles Ballance's request for further particulars with regard to Philip of Nassau, I think he may be interested in the following details. Solingen says (*Manuale Operatien der Chirurgie*) that Philip of Nassau, Lord of Grimhuyse, was the son of Justinus de Nassau, and grandson of William I of Orange. He was trepanned twenty-seven times, and the surgeon who operated on him was Mr. Hendrick Chadborn of Nymegen. The patient gave a certificate, dated August, 1664, saying that he was well on that date, and this certificate was given to Solingen by Amos Chadborn, a schoolmaster, and brother of the surgeon. Solingen died in 1687, so that he may have met Philip of Nassau, although he does not say so, and the name is not again mentioned.

The story seems to be authentic. The injury was a comminuted fracture of the skull, and probably required the removal of pieces of bone on many occasions, but it is unlikely that the use of the trephine was always necessary. Apart from his surgical experiences this Philip of Nassau does not seem to have had any special claim to fame, and I do not find his name recorded elsewhere. He must, how-

ever, not be confused with Philip of Nassau, who died in 1595, and who was the son of John of Nassau-Dillenburg, and nephew of William the Silent. He was cousin to the Justinus above mentioned, and cousin once removed to Solingen's Philip. He was a brilliant cavalry leader under the command of his cousin Maurice of Orange, and was killed in a skirmish with the Spaniards.—I am, etc.,

London, N.W., March 5th. H. A. CLOWES.

CLINICAL ASPECTS OF ABDOMINAL TUBERCULOSIS.

SIR,—The interesting and excellent lecture by Mr. John Morley (p. 383) opens up a wide field for discussion. The questions arising out of this lecture are, first, can we diagnose a bacterial condition clinically? secondly, are we justified in *naming* a condition without a thorough bacteriological examination? My answer to both these questions would be in the negative.

It is so much easier to "repeat the tales of yesterday" than it is to work out new ones for ourselves that we are prone to go taking what we have been taught or read as "gospel."

I have so often proved my own clinical diagnosis wrong that I am now very slow to put a name to a condition without a full investigation. The correctness of a diagnosis depends upon its completeness, and a complete diagnosis cannot be made without using all the means at our disposal.

This letter is the result of the stimuli received from reading Mr. Morley's lecture, and is in no way a criticism.—I am, etc.,

Belfast, March 11th. J. S. RENTCUL, M.B.

MEDICINE IN ASSAM.

SIR,—Dr. W. A. Murray, writing on the above subject in the JOURNAL of January 28th (p. 165), commences his letter by admitting that he "was never a tea-garden doctor." The value of his opinions may therefore be safely left to your readers. The statements made by me regarding the conditions of tea-garden practice in Assam are founded on actual personal experience—not on hearsay—and are fully corroborated by the letter of "Experienced" in the same issue of the JOURNAL in which Dr. Murray's letter appears.—I am, etc.,

Bombay, Feb. 25th. W. G. FORDE.

PREVENTION OF VENEREAL DISEASE.

SIR,—Is it not full time that the talented scribes who contribute so largely to your correspondence columns should cease quibbling over calomel cream and Condy's fluid, which have led to Babylonic confusion? What really matters—namely, the wiping out of venereal disease—has been practically lost sight of in the whirlpool of statistics which have been advanced in support of and in opposition to preventive measures. Such contradictory statistical evidence is not worthy of a moment's consideration, and should be abandoned once and for all, and replaced by united action in endeavouring to find ways and means to check the spread of a disease which is undermining the constitutions of our most vigorous youths. The question is of national importance, and its proper handling concerns chiefly the medical profession, who should investigate the subject without puritanical bias or interference from outsiders having neither knowledge nor experience of the disease. The responsibility of bringing about a healthier state of affairs rests entirely with the profession, that deals with the material side of man and his functions, and whose duty it is to publish broadcast the best-known methods of preventing disease. Although not certain in their action, they might lessen its prevalence. There is no time to spare for the tardy and probably futile operation of moral persuasion: the passion of man is too strong to be controlled even by the knowledge of the dire effects of venereal disease. The attempt to establish continence by moralizing is but a poor reed to rely on, and will in future have no better results than those produced by the admirable lessons of temperance and chastity contained in Proverbs, Deuteronomy, Leviticus, Solomon, and St. Paul, which prove that the purifying influence of Christianity has failed after a lengthy trial. It therefore behoves the profession (although with regret) to seek a more expeditious method of saving our youths, without in any way detracting from the possible good which might accrue from the well-considered advice of those whose duty it is to watch over our spiritual lives. We cannot lose sight of the fact that the natural passions of man are as difficult to change as it is to change the Ethiopian's skin or the leopard's spots. The wise course, then, is to neutralize as far as possible the evils which are caused by the consummation of such passions by the best-known methods of prevention. There is no reason why we should pin our faith to calomel cream and Condy's fluid, neither is there to warrant their disuse, whilst seeking something better, which should be in the nature of a prophylactic applicable to both sexes. So far, the nearest approach to general utility is the sheath, which, if properly made of good material, affords a safeguard to the parties. The subject of "the prevention of venereal disease" is not a savoury one, but its importance is sufficient justification for plain speaking.—I am, etc.,

T. D. HARRIES, F.R.C.S.Eng., M.R.C.P.Lond.

Aberystwyth, Feb. 23th.

*** We are compelled to hold over a long letter on this subject, received this week from Mr. E. B. Turner and Mr. Charles Gibbs.

MUCOCELE OF THE FRONTAL SINUS.

SIR,—Mr. J. Acomb's case of mucocele of the frontal sinus (March 4th, p. 344) is of considerable interest, but if I might differ with the author on two small points, I would submit—

1. That such conditions are not so rarely due to previous trauma as he seems to suggest; in fact, by some of the leading authorities, this is held to be one of the commonest causes. If the fronto-ethmoidal region be examined in a number of cases, either in the dry cut specimen or at operation, there is frequently found what may be described as an abnormal encroachment of the anterior ethmoidal cells upon the fronto-nasal duct and the floor of the frontal sinus. It is in these cases that an injury, perhaps forgotten, and possibly much less severe than that described by Mr. Acomb, may produce a definite obstruction to normal drainage, and so give rise to the morbid condition under consideration.

2. With regard to the precautions adopted for securing drainage. In my experience this is the most important part of the operation, from the point of view of ultimate results, and cannot be too thoroughly undertaken. I have found that it needs considerably more than a gauze drain (however large) left for twenty-four hours to establish permanent drainage in the newly formed duct, which is only too apt to close up with granulations and scar tissue. I now make a practice of inserting as large a piece of thick rubber tubing as is possible, and leave this *in situ* for ten days; even after this has been done I find the periodical passage of sounds is necessary until the drain has become "consolidated" and permanently efficient. Without these careful, if tedious, measures I should greatly fear a recurrence sooner or later.—I am, etc.,

Worcester, March 6th. J. B. CAVENAGH.

GERMAN-MADE X-RAY APPARATUS.

SIR,—The letter signed "A Manufacturer of British Apparatus" in your issue of February 25th (p. 331) raises a question of very great importance at the present time. The apparently casual manner in which certain people and institutions place their orders for electro-medical apparatus—often of a substantial nature—with German firms is disconcerting, when it is considered that English manufacturers are able to compete in price, quality, and time of delivery.

When the war broke out, manufacturers in this country were begged to produce certain indispensable electro-medical apparatus, which, owing to the previous attitude of the home consumer, had been imported from abroad. As might have been expected, the necessary apparatus was produced, and before long in such quantities that the medical services were never at a loss for a single article of this nature. Not a penny of subsidy in any shape or form was paid to these manufacturers, nor was the financial result of the war demand sufficient to place any of these firms in a favourable position to meet post-war depression. It is therefore much to be regretted that these same manufacturers do not now receive from British consumers that support to which the quality of their products would appear to entitle them.—I am, etc.,

London, March 6th. ANOTHER BRITISH MANUFACTURER.

PROFESSOR MOURE, the well-known oto-laryngologist of Bordeaux, has been made a Commander of the Legion of Honour.

A GOLD medal has been presented to Professor Arnold Netter on the occasion of his retirement from hospital service in Paris. He was *chef de service* at the Hôpital Trousseau for twenty-five years.

Obituary.

AUGUSTUS D. WALLER, M.D., LL.D., F.R.S.,

Director of the Physiological Laboratory of the University of London.

ON March 11th Professor Augustus D. Waller died from cerebral haemorrhage after twelve days' illness. He was born on July 12th, 1856, the only child of Dr. Augustus Volney Waller, F.R.S., whose name, in adjectival form, has become part of the terminology of physiology through his observation that nerves when separated from their cells of origin undergo degeneration; he used the method for tracing the course of nerve fibres especially in connexion with the spinal nerve roots then recently investigated experimentally by Magendie. The writer of these lines, who knew the younger Waller for some forty years, only remembers to have seen him really aroused to anger on a few occasions, and then almost invariably it was because he considered his father's work was being misrepresented or depreciated. In a brief dedication to his father's memory of his *Introduction to Human Physiology* the son summarized the elder's work in the following words: "Emigration of leucocytes, 1846; degeneration and regeneration of nerve, 1856; cilio-spinal region, 1851; vaso-constrictor action of sympathetic, 1853."

Augustus Désiré Waller was born in Paris, where at the time his father was engaged in physiological research, and received his early education at the Collège de Genève; the ease with which he spoke and wrote French had a considerable influence on his scientific career, and he usually communicated the result of his researches to French as well as to English societies. His father died in 1870, and his mother took the son to Aberdeen, where he graduated M.B., C.M. in 1878, and M.D. three years later. He studied in Edinburgh also, and soon after graduation went to University College, London, to work in the physiological laboratory under Burdon-Sanderson. In 1880, and again three years later, he received scientific grants from the British Medical Association, and in 1884 was appointed a research scholar. His first independent appointment was that of lecturer on physiology at the London School of Medicine for Women, where he met the lady who became his wife and life-long comrade and helper. Afterwards he was appointed lecturer on physiology in the medical school of St. Mary's Hospital, a post he retained until when about twenty years ago the physiological laboratory of the University of London was formed, mainly through his efforts.

Waller's name became known to physiologists chiefly through his investigations of the electric phenomena of the nervous system and of the heart. The rise of electrocardiology as a branch of medical science was largely due to his pioneer work. He at first used the mirror galvanometer, then the capillary electrometer, and finally the string galvanometer. In these researches, as in all he undertook, he showed remarkable originality in the devising of experiments and great ingenuity in the designing and construction of apparatus, which sometimes looked rough but were always efficient. He gave a general account of many years' work in the Oliver-Sharpey lectures on the electrical action of the human heart delivered before the Royal College of Physicians of London in 1913. The other work in which he was particularly engaged in his earlier days was the investigation of the electric currents in living structures, especially in nerve and muscles, but also in the skin and retina, and in plants. He published numerous papers on these subjects, and in 1903 summarized the results in a book entitled *Signs of Life from their Electrical Aspect.* The high estimation in which his work was held was shown by the fact that he was elected F.R.S. in 1892 at the relatively early age of 36.

During his investigation of the electric currents of nerve and muscle he made observations on the effects of gases and anaesthetic vapours on the irritability of these tissues; it was in this way that he became interested in practical anaesthetics. In the Croonian lecture delivered before the Royal Society in 1896 he related his observations on isolated nerves, and in the following year, when President of the Section of Anatomy and Physiology of the Annual Meeting of the British Medical Association at Montreal, he opened a discussion on the relative efficacy of ether and chloroform; in this address he insisted on the paramount necessity for careful dosage in the administration of chloroform, a subject to which he recurred in a paper in our columns in 1898. In his view the risk depended mainly on the percentage of chloroform vapour in the air, and he contrived an apparatus for controlling the proportion. He continued to occupy himself with the methods for the estimation of the quantity of chloroform in mixtures with air, and in the practical application of his own experimental observations and those of others. He was seriously disturbed by the number of deaths under chloroform, believing that the majority of them might be avoided, and on May 20th, 1901, addressed a letter to the Council of the British Medical Association urging that it should give consideration to the question of accidents during anaesthesia. It was not a new question for the Association, which had appointed a committee on chloroform in 1877, and another on anaesthetics generally in 1891. In 1901 the Council decided that the question should be attacked along a different line of approach—the experimental. The special chloroform committee appointed consisted of Dr. (now Sir James) Barr, Dr. Dudley N. Buxton, Sir Victor Horsley, and Professor Waller. The committee subsequently co-opted Mr. A. Vernon Harcourt, F.R.S., and Professor Dunstan. It was instructed to investigate methods of quantitatively determining the presence of chloroform in the air and in the living body, and to determine if possible what is the minimal dose of chloroform which will secure an adequate anaesthesia for operations and at the same time not endanger life. Professor Waller at first acted as chairman of the committee, but retired before the report of the committee was published in 1911. The volume, which was edited by Dr. Buxton, contained among the appendices to the report two papers by Professor Waller, both dealing with the quantitative estimation of chloroform; they had been published in our columns in 1902.

During the last years of his life Waller was particularly interested in two subjects—the cost of muscular work as measured by the amount of carbon dioxide exhaled, and the emotive response of man to pain or the threat of pain. Both afforded evidence that Waller's originality of mind and ingenuity in contriving experiments were in no degree diminished, and illustrated his curious power, due to the fascination of his personality, of inducing men voluntarily to submit to experiments not wholly agreeable. Some of those on the cost of muscular work were carried out in the physiological laboratory of the university on ex-soldiers he engaged to do measured work, others in London printing offices, among his willing subjects being members of the printing staff in the composing room of the BRITISH MEDICAL JOURNAL. His results were communicated to various societies and many of them were published in a series of papers published in our pages during 1920 and 1921. The other inquiry was carried out on friends he inveigled into his laboratory at the university, or into the private laboratory he had fitted up in his roomy old house in Grove End Road, St. John's Wood. It was certainly a weird experience to find that one reacted more strongly to the threat of a match than to the actual burn. The observations contain a lesson for surgeons—that the fear or apprehension of pain may be worse than its realization.

Waller's contributions to medical and physiological science were very numerous; a large part of them is to be found in our volumes, in the *Transactions* of the Royal Society, and in the *Journal of Physiology.* His *Introduction to Human Physiology*, to which reference has already been made, reached its third edition in 1896, and in the same year he published *Animal Electricity.* His academic distinctions, honorary memberships, and degrees were many. In 1889 he became a Lauréat of the Institute of France for his discovery of the electromotive action of the human heart, and its record by electrocardiogram, and in 1892 the Royal Academy of Science of the Institute of Bologna awarded him the Aldini prize. He was a corresponding member of many foreign learned societies and academies, and an honorary member of the Council of the University of Tomsk.

Professor Waller married Alice Mary, daughter of the late Mr. George Palmer, M.P. for Reading, and had three sons and a daughter. The house in St. John's Wood, scarcely less than his laboratory at South Kensington, was a centre of inspiring work and fertile ideas, for his wife shared in all his labours; her recent illness no doubt precipitated the stroke from which he died. The Physiological Laboratory of the University of London was established in an upper floor of the Imperial Institute building, and Waller was its unpaid director. It was equipped by gifts made by himself and some of his friends. The research and teaching carried out there had great influence upon physiological progress; but a year ago there was an unfortunate proposal to close the laboratory, on grounds of economy. Happily, wiser counsels prevailed,

and the Senate resolved to continue the laboratory until the end of 1923, and to increase its grant for upkeep.

He took up motoring in the early days, and was never without one or two cars, not always of the newest patterns, but capable in his experienced hands of serving his daily needs, and of doing long journeys in which he and his inseparable companion and aid Mrs. Waller found much pleasure. When he went to Paris, as he did pretty frequently, either to attend meetings or to work at the Marey Institute, of which he was free, he shipped his car from Southampton to Havre and drove the remainder of the journey. Recently when he was investigating the physiological cost of muscular work measured by the exhalation of carbon dioxide he and his assistant, Miss de Decker, a Belgian lady, obtained leave to make observations on Belgian soldiers during route marches at various paces. Here again his car came in handily. Few men got more work and more fun out of a motor car. He loved fun as much as work, and entered into both with the same zest. But he was a physiologist first and last; he thought it and talked it. He was a good talker, eager, emphatic, sometimes a little brusque and impatient with slower-witted folk. But if some flying dart wounded he was quick to make amends, a little puzzled sometimes to understand why anyone should mind a prick which he took himself as part of the fun of the game—a generous and loyal friend.

SIR THOMAS LEWIS, M.D., F.R.S., writes: May I add a few words of tribute to the memory of Professor Waller, whose death will be much regretted by both physiologists and physicians in this country and in many other lands. He was a man of unusually keen intellect, and has been for very many years a notable figure in British physiology. His brilliant powers of exposition will long render his demonstrations at the Physiological Society memorable. His early work on electro-physiology, extensive and thorough as it was, and his observations upon chloroform, are well known. Waller was the first to show that currents set up by the beating of the human heart can be recorded; he was the first to obtain a human electro-cardiogram. Considering his work in the light of its development, this has been perhaps the main, though by no means his sole, contribution to the science of experimental medicine. The discovery long preceded the introduction of the string galvanometer, and was the more remarkable in that it was accomplished in the eighties. It will remain a milestone in the history of this branch of knowledge. Although those who explored the same field could not always see eye to eye with Waller in his later views, nevertheless they fully recognized that in this field he was a pioneer, and that his early observations went far to prompt further developments along similar lines.

HENRY KINGSMILL ABBOTT, M.D.,

Medical Superintendent, Hants County Asylum.

WE regret to record the death of Dr. Henry Kingsmill Abbott, Medical Superintendent of Hants County Asylum, Fareham, on February 27th, 1922. Dr. Abbott was born at Monkstown, co. Dublin, in September, 1863, and was the eldest son of the late Rev. Thomas Kingsmill Abbott, Litt.D., D.D., Senior Fellow of Trinity College, Dublin. He entered Trinity College in 1881, and having obtained term honours in natural science and logic, he graduated B.A. in 1885. He obtained the degrees of M.B., B.Ch. in 1887, and of M.D. in 1889. He took the D.P.H., Conjoint Board, Ireland, with honours in 1898. His professional career was almost entirely devoted to asylum work. He obtained the position of Junior Assistant Medical Officer to the Hants County Asylum in 1890, and in 1906 he was appointed Medical Superintendent. Dr. Abbott was for some time Stewart Lecturer in Mental Diseases at Trinity College, Dublin, and also Examiner in Psychiatry at the university. He was a man of wide culture, but unobtrusive and retiring in disposition. He was extremely conscientious, and administered his asylum with conspicuous ability and scrupulous fairness. He bore his last illness with extreme fortitude, he scarcely ever referred to the subject even to his most intimate friends, and he carried out his work until shortly before his death. He was buried in the asylum cemetery, as he had wished, and the funeral service was attended by his brother, the Rev. Canon Abbott, B.D., and other relatives, members of the visiting committee, the staff, and a large gathering of his personal friends. His loss will be severely felt in the institution, which he had served faithfully for thirty-two years.

THE LATE PROFESSOR BENJAMIN MOORE.

SIR EDWARD SHARPEY SCHAFER, F.R.S., Professor of Physiology in the University of Edinburgh, writes: There is an error in your obituary notice of the late Professor Benjamin Moore which ought not to pass uncorrected. Dr. Moore was never a pupil of Sir William Ramsay, nor was he ever on the staff of the Chemical Laboratory at University College. Ramsay was, however, well aware of his attainments and, as he told me himself, was struck with his profound knowledge of chemistry. This knowledge Moore obtained from the late Professor Edmund Letts of Belfast, of whose teaching he always spoke with enthusiasm. Moore came from Belfast to University College to study medicine, and after obtaining his qualifications was for five years my assistant in the department of physiology there. During that time he published important work, alone and with others, on the chemistry of the suprarenal capsules, on the physiological action of certain alkaloids, on the absorption of fats, and on the innervation of the spleen; building up so fine a reputation not only in biochemistry but also in experimental physiology that he was invited to occupy the Chair of Physiology in the Medical School of Yale University. The rest of his career is correctly given. By his premature death physiology has been deprived of one of its most distinguished exponents; and British physiologists have to deplore the loss of an able fellow worker, whose loyalty and modesty of character endeared him to his many friends, and not least to myself.

WE regret to record the death of Dr. WILLIAM HOLDER, J.P., which took place at Hull, in his 74th year. He was born at Hull, where he was apprenticed to a surgeon, and received his medical training at the then Hull and East Riding School of Medicine. He obtained the diploma of M.R.C.S. and the L.S.A. in 1872, and established himself in practice in Hull. He took a great interest in sanitary reform, and was elected in 1888 to the Town Council, being elected an alderman in 1905, a position which he resigned in 1910 owing to ill health. He was chairman of the Sanitary Committee, and played a leading part in securing the removal of many of the city's worst slums; and he was an ardent advocate of cremation, inducing the Corporation to erect a municipal crematorium, the first of its kind in the country. He was also chairman of the Electricity Committee, and persuaded the Town Council to embark upon the building of a power station and the installation of electricity. For over forty years he was an active member of the British Medical Association; he was a former chairman of the East York Division, and president of the East York and North Lincolnshire Branch. For many years Dr. Holder was one of the most energetic and prominent public men of Hull, held in high regard for his strength of character and his impartial mind. He is survived by his widow, two sons, and three daughters.

DR. JAMES HURLEY died on March 5th at Newport (Mon.), where he had practised for the past thirty years. He was a native of co. Cork, studied in Queen's College, Cork, and qualified L.R.C.S. and P.Ed. in 1890. After he settled in Newport he soon attracted a large number of patients, and had one of the most extensive general practices in the district. He held the appointments of medical officer and public vaccinator under the Newport Board of Guardians and medical officer to the Shipping Federation. Dr. Hurley was a member of the British Medical Association, but did not take an active part in medical politics. He was much devoted to sport, was a great lover of horses, and on more than one occasion obtained awards at the trial for hunters in connexion with Lord Tredegar's show. A colleague writes: Hurley's death occurred with tragic suddenness. He attended as usual to his patients on Saturday, and was found dead on Sunday morning. One may reflect with the poet Horace on the uncertainty of life (Odes iv, 7):

> "Quis scit an adjiciant hodiernae crastina summae
> Tempora di superi?"

IN a note contributed to this column of March 4th, p. 372 Dr. Herbert E. Friend said that the Rev. Dr. James George "must surely have been the last of the old army surgeons who saw service in the Crimean war." A correspondent writes: A War Office *Quarterly Army List* of last year shows six retired officers of the Army Medical Department, who served in the Crimea, as alive less than a year ago. Two of these have since died, but apparently there are four still

living—Deputy Surgeon-General A. D. Gulland, Brigade Surgeons C. A. Innes and W. C. Roe, and Surgeon-Major A. E. T. Longhurst. Innes and Longhurst served in the Indian Mutiny also. Probably there are still others who, like the Rev. Dr. George, either retired early, before they had earned a pension, or who only served temporarily for the Crimean war, and whose names are therefore not included in the lists of retired (pensioned) officers. The last Crimean veteran who served in the I.M.S., Surgeon-Major Robinson Boustead, died on October 8th, 1916, over five years ago.

The Services.

ROYAL ARMY MEDICAL CORPS.

IN reply to a recent question in the House of Commons, the Secretary of State for War (Sir L. Worthington-Evans) stated that the present strength of the Royal Army Medical Corps is 1,321 officers and 4,990 other ranks. The establishment estimated as required for April 1st, 1923, is 1,045 officers and 4,516 other ranks.

Universities and Colleges.

UNIVERSITY OF OXFORD.

Appointment of Litchfield Lecturer in Surgery.—Edward Cecil Bevers, B.M., M.A., St. John's College, F.R.C.S., has been appointed Litchfield Lecturer in Surgery for two years from January 5th, 1922, in succession to A. P. Dodds-Parker, B.M., M.A., Magdalen College, F.R.C.S.

UNIVERSITY OF CAMBRIDGE.

AT a Congregation held on March 10th voting took place on a Grace proposing that mathematics should rank *pari passu* with the existing subjects in the schedule for Part I of the Natural Science Tripos. The Grace was carried by the narrow margin of 8 votes, 74 voting *placet* and 66 *non-placet*.

The following medical degrees have been conferred:

M.CH.—R. St. L. Brockman.
M.B., B.CH.—R. A. Olphert, S. J. Cowell, W. S. Gross, E. I. Lloyd, P. R. Boswell.
M.B.—W. H. Marshall, A. J. Copeland.
B.CH.—E. Donaldson.

F. N. Sidebotham has been approved for the degree of M.D.

UNIVERSITY OF LONDON.

A MEETING of the Senate was held on February 22nd. The following were appointed Fellows of University College: Mr. C. J. Bond, C.M.G., F.R.C.S., member of the Medical Research Council, Dr. F. M. R. Walshe, O.B.E., Assistant to the Director of the Medical Unit at University College Hospital, and Colonel Sir Arthur Lisle A. Webb, K.B.E., C.B., C.M.G., Director-General of Medical Services at the Ministry of Pensions. Mr. Somerville Hastings was recognized as a teacher of oto-rhino-laryngology at Middlesex Hospital Medical School.

Part B (ii) of regulation 4 for the examination for the diploma in psychological medicine was amended by an addition of words requiring the candidates to state at the time of entry which of the alternative sections in psychological medicine he will take: (*a*) a higher knowledge of mental diseases and a less advanced knowledge of mental deficiency, or (*b*) a higher knowledge of mental deficiency and a less advanced knowledge of mental diseases.

Professor H. R. Dean has been admitted to the Faculties of Medicine and Science as from June 21st, 1922.

A graduation dinner will be held on Presentation Day, May 4th, in the Guildhall at 7.30 p.m. Applications for tickets (one guinea each, including wine), should be made to the Secretary to the Establishment Committee.

UNIVERSITY OF MANCHESTER.

Dr. E. J. SIDEBOTHAM, acting Director of the Public Health Laboratory, has been appointed a member of the Board of the Faculty of Science. The University prize in medicine has been awarded to Hilda M. Linford.

UNIVERSITY OF DUBLIN.

ON the proposal of the Board of Trinity College, the Senate of the University has decided to confer the honorary Degree of Master of Surgery upon Dr. George E. Armstrong, Professor of Surgery at McGill University, Montreal.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

An Ordinary Council was held on March 9th, when Sir Anthony Bowlby, President, was in the chair.

The Licence in Dental Surgery was granted to sixty-five candidates found qualified at the recent examination.

Revised Curriculum.—A report was received from the Committee of Management, submitting a copy of the new regulations of the Conjoint Board, setting forth a revised course of study and examination for the L.R.C.P. and M.R.C.S. diplomas, which it is proposed should be made applicable to candidates who have not passed the required preliminary examination before January, 1923. These new regulations were approved provisionally, and will be circulated to the various other examining bodies.

Election of Three Fellows to Council.

The Secretary of the College has forwarded to the Fellows the usual address informing them that a meeting of the Fellows will be held at the College on Thursday, July 6th, at 2 p.m., for the election of three Fellows into the Council in the vacancies occasioned by the retirement in rotation of Sir Charles A. Ballance, K.C.M.G., C.B., M.V.O., Sir William Thorburn, K.B.E., C.B., C.M.G., and Mr. William McAdam Eccles. Nomination forms, duly filled up, should be received by the Secretary not later than Monday, March 20th. A voting paper will be sent by post to each Fellow whose address is registered at the College, on Tuesday, April 4th next. Fellows are requested to give notice, without delay, of any change of address, so that their voting papers may not be mis-sent.

Constitution of the Council.

The composition of the Council of the College is, at present, since July, 1921, as follows:

President.—Sir Anthony A. Bowlby, K.C.B., K.C.M.G., K.C.V.O., C. (1) 1904, (2) 1912, (3) 1920; Pres. 1920.

Vice-Presidents.—Sir Charles Ballance, K.C.M.G., C.B., M.V.O., C. (1) 1910, (2) 1914; Sir D'Arcy Power, K.B.E., C. (1) 1912, (2) 1920.

Other Members of Council.—Sir Charters J. Symonds, K.B.E., C.B., C. (1) 1907, (2) 1915; Mr. W. H. Haslam, C. (1) 1903, (2) 1916; Sir J. Bland-Sutton, C. (1), 1910, (2) 1918; Sir Berkeley G. A. Moynihan, K.C.M.G., C.B., C. (1) 1912 (substitute), (2) 1919; Mr. H. J. Waring, C. (1) 1913, (2) 1921; Sir W. Thorburn, K.B.E., C.B., C.M.G., C. 1914; Mr. W. McAdam Eccles, C. 1914; Sir C. Ryall, C.B.E., C. (1) 1914 (substitute), (2) 1915; Mr. Walter G. Spencer, O.B.E., C. (1) 1915, (2) 1918; Mr. F. F. Burghard, C.B., C. (1) 1915 (substitute), (2) 1921; Sir Herbert F. Waterhouse, C. 1915; Mr. T. H. Openshaw, C.B., C.M.G., C. 1916; Mr. E. Raymond Johnson, O.B.E., C. 1915; Mr. V. Warren Low, C.B., C. (1) 1916 (substitute), (2) 1917; Mr. J. Sherren, C.B.E., C. 1917; Sir J. Lynn Thomas, K.B.E., C.B., C.M.G., C. 1918 (substitute till 1925); Mr. E. W. Hey Groves, C. 1918; Sir C. Wallace, K.C.M.G., C.B., C. 1919; Mr. F. J. Steward, C. 1920; Mr. W. Thelwall Thomas, C. 19.1; Mr. C. H. Fagge, C. 1921.

The medical schools are represented as follows:

London:	
St. Bartholomew's	4
Charing Cross	1
Guy's	3
King's College	1
London	2
Middlesex	1
St. Mary's	1
St. Thomas's	2
University College	1
Westminster	1
Special London Hospital	1
Total London	18
Provincial:	
Birmingham	1
Bristol	1
Cardiff	1
Leeds	1
Liverpool	1
Manchester	1
Total Provincial	6
Total Council	24

ROYAL FACULTY OF PHYSICIANS AND SURGEONS, GLASGOW.

THE following have been admitted, after examination, as Fellows: E. M. E. Cumming, H. K. Rowntree.

Medical News.

AT a meeting of the Royal Society of Edinburgh, on March 6th, Dr. Francis A. E. Crew, Dr. W. Osborne Greenwood, and Professor J. C. Meakins were elected Fellows.

THE Cantor Lectures before the Royal Society of Arts will be given by Mr. L. G. Radcliffe on "The Constituents of Essential Oils," on Monday evenings, March 20th and 27th, and April 3rd, at 8 p.m.

DR. ANDREW BALFOUR, C.B., C.M.G., will give a lecture at the Royal Sanitary Institute, 90, Buckingham Palace Road, S.W.1, on Wednesday, April 26th, at 5.30 p.m., on "The Outlook in Tropical Medicine."

AT the first annual meeting of the National Institute of Industrial Psychology, it was announced that a public meeting, arranged by the Institute, will be held on March 27th at the Mansion House, London. The report for 1921 was presented by the Chairman of the Executive Committee, Mr. H. J. Welch, and among the speakers was Dr. C. S. Myers, F.R.S., who has resigned the Directorship of the Psychological Laboratory at Cambridge in order to devote his whole time to the work of the Institute.

MISS KATE C. GARRICK, daughter of the late Sir James Francis Garrick, K.C., for ten years Agent-General in London for Queensland, has by her will bequeathed £10,000 to the Senate of the University of Queensland to found a James Francis Garrick professorship of either law or medicine, as may seem best to the University, in memory of her father.

THE Board of Control has, with the approval of the Minister of Health, appointed the following Committee to consider the nursing service in county and borough mental hospitals, and in what directions it can be improved: Dr. C. Hubert Bond, Commissioner of the Board of Control (chairman); Dame Louise Samuel, Mrs. How-Martyn, Mr. E. A. Medus, Dr. H. Wolseley-Lewis (Medical Superintendent, Kent County Mental Hospital, Maidstone), and Dr. G. F. Barham (Medical Superintendent, London County Mental Hospital, Claybury). The name of a matron of a mental hospital is to be added.

A POST-GRADUATE course in obstetrics will be held at the Clinic Baudelocque, Paris, from April 25th to July 13th. The subjects will include the pathology of gestation and parturition, pathology of the newborn, obstetrical operations, gynaecology, and syphilis and its relation to the functions of reproduction. The fees for the different parts of the course and further information may be obtained from the secretary of the Faculty of Medicine, Rue de l'École de Médecine, Paris.

THE thirty-fourth annual meeting of the American Pediatric Society will be held at Washington on May 1st, 2nd, and 3rd.

THE College of Ambulance can supply a motor ambulance equipped with *x*-ray apparatus and staffed by a radiographer, nurse, and bearers for use where a patient cannot be transported. It is free to the poor, and the fees charged to others can be obtained, together with all other particulars, on application to the College of Ambulance, 56, Queen Anne Street, Cavendish Square, W.1.

LOUVAIN University has received a legacy of £20,000, which is to be used for erecting a special building for cancer research.

AN epidemic of alastrim is reported to have spread all over the island of Jamaica; 2,300 cases have been reported during ten months, the epidemic having started in Kingston. Alastrim resembles a mild form of small-pox, and is thought to have originated in Brazil. Its occurrence has been reported in Cuba, Australia, and Canada during the past ten years.

THE Council of the Royal Sanitary Institute has established an examination in tropical hygiene for sanitary inspectors, the syllabus of which has been prepared to cover the special duties, including mosquito prevention, sanitation of native quarters, tropical conditions on health, tropical diseases, and has received the general approval of the Colonial Office and the London School of Tropical Medicine.

RECRUITING has been opened for the 8th (London) Sanitary Company, the establishment of which embraces a large proportion of N.C.O.s as inspectors. The course of training includes instruction in theoretical and practical sanitation, in addition to ordinary Territorial Army training, which includes fifteen days in camp annually, but the camp training may be excused. Application should be made to the O.C. 8th (London) Sanitary Company, Duke of York's Headquarters, Chelsea, S.W.3, any Monday or Wednesday between 6 and 8 p.m.

DR. H. S. COOPER, on the occasion of leaving Yaxley, where he has practised for twenty-two years, has been presented by his friends and patients with an illuminated address, a gold-mounted umbrella, and a tortoiseshell-handle walking stick. At the same time Mrs. Cooper was given a gold and amethyst brooch.

A GENEROUS gift has enabled the authorities of the Western Infirmary, Glasgow, to nominate a member of the nursing staff to take the course of training at King's College for Women (University of London) to qualify as a sister tutor.

AT Keighley West Riding Court, on March 4th, an iron-worker was summoned by Dr. J. C. Wilson, of Haworth, for assault. Dr. Wilson had attended the man's child, who died of diphtheria, and a week or two later Dr. Wilson was stopped in the street by the man, who used abusive epithets to him and assaulted him. The defendant, in court, withdrew the allegations of negligence, and was bound over to be of good behaviour for twelve months. The chairman said that the magistrates thought Dr. Wilson had acted very generously in the matter.

AT their last meeting the governors of the Royal Bucks Hospital, Aylesbury, accepted with regret the resignation of Dr. Horace Rose from the position of surgeon-in-ordinary. Dr. J. Steele of Aylesbury was elected in his place, and Dr. Rose, in view of his length of service, was elected honorary consulting surgeon.

THE number of deaths from influenza in the week ending March 11th in the 105 great towns was 201, against 306, 525, and 670 in the preceding three weeks; in London the figures were 30, against 49 in the week ending March 4th. Thus the number of fatal cases from the disease continues to decline.

Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.*

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2630, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2630, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin;* telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

DIET AND GALL STONES.

DR. F. D. SPENCER (Wolverhampton) asks whether anything is known of a special diet for a patient who is constantly making gall stones. The suggestion is that as all gall stones are composed of cholesterin it should be possible to eliminate from the diet food that is likely to produce cholesterin.

TREATMENT OF TREMOR.

"W. G. W." desires suggestions as to any medicinal or other means for the alleviation of tremor of the right hand and foot in a lady, aged 77, who has been subject to the condition for some six or seven years. It is thought to be due to very slowly advancing paralysis agitans. There is no tremor elsewhere, nor other signs of the condition, and beyond some senile degeneration of the myocardium she is in good health and unduly active for her age.

CATHETER LUBRICANTS.

"X. Y. Z." would be much obliged if any member would inform him of the proper and safe strength of a cocaine lubricant or ointment (or allied preparation) to be used to smear on a catheter or bougie which has to be retained in the bladder for hours and causes great irritability. The case is one of stricture—where immediate dilatation or operation is not advised.

MEDICAL BOOK-KEEPING.

"SEEKER" writes to inquire if any medical practitioner who has evolved a complete but labour-saving system of keeping accounts and medical records of private work in general practice would describe it. He states that in looking for a practice he has seen many varieties of system, or lack of system, from the most meagre to an elaborate card-index system which apparently required far too much time and attention; moreover, the latter did not yield quickly a record of the work and income for a short period.

TREATMENT OF BROKEN CHILBLAINS.

DR. G. H. WAUGH (Rugby) writes: In answer to "J. B." (p. 420), the best treatment is sterilized gauze soaked in a mixture of equal parts of liq. plumbi sub. fort. and glycerin, changing the dressing as often as necessary on account of the discharge from the raw surfaces.

INCOME TAX.

"COUNTRY PHYSICIAN" lodged a claim to repayment of income tax with the local inspector of taxes. Later he was informed that a fire had occurred in the office in which the claim and documents had been destroyed, and more recently has been told that the duplicate claim which was then sent in had not been received.

*** We suggest that our correspondent should request the inspector to obtain if possible special authority from the Board of Inland Revenue to repay the amount due without a formal claim, but after production by the solicitors who dealt with the claim of their record of the particulars. It might possibly save some further delay if the request was made direct through the Head Office of the Inland Revenue in Dublin. We have not heard of a similar case, but seeing that two claims have been destroyed or lost in transit we think that in the special circumstances repayment might be made without further expenditure of time and labour on preparing formal statements and vouchers.

"P. R." bought a 14.3-h.p. Austin car in 1915, sold it for £400 in 1921, and bought a 15.9-h.p. Wolseley for £930. What can he claim as an expense for income-tax purposes?

*** The amount that can be claimed is the cost of replacement—that is, the expenditure incurred in obtaining a car of similar grade and power. Suppose, for instance, that a reasonable estimate of the cost of a 14.3-h.p. Austin car of 1921 (if there had been such a car) is £700, then the amount to be claimed is £700−£400=£300. The crux of the whole question is the fixing of the estimate for which £700 has been taken in the illustration above.

"FOREIGN" is living and domiciled in Egypt but has an income of £70 from shares in the United Kingdom, which is taxed by deduction at 6s. in the £.

*** He is entitled to such repayment as will result in his receiving a proportion of the normal income tax allowances, that proportion being determined by the ratio of his taxed income to the whole of his income whether liable to tax or not. Claims should be addressed to the Chief Inspector of Taxes (Claims), Cecil Chambers, Strand, London, W.C.2.

LETTERS, NOTES, ETC.

INTESTINAL DISINFECTION IN ENTERIC FEVER.

PROFESSOR JOHN EYRE, M.D., writes from the Bacteriological Department, Guy's Hospital: I am interested in a memorandum by Dr. Francis in the JOURNAL of March 11th (p. 388), regarding "dimol" in enteric fever, as for some time past I have been observing the results following the administration of this preparation upon the streptococcus found in the faeces (on the whole very satisfactory results have been obtained); but I have noted that in cases where pancreatic secretion was deficient the *coated* tabloids were not dissolved and were passed intact per rectum. The inference to be drawn from the last sentence of Dr. Francis's letter is that coated tabloids were used. Assuming that the intestinal haemorrhage was *propter* and not merely *post hoc*, is not the effect probably a purely mechanical one—congested areas (for example, Peyer's patches) being actually injured by the passage of the unaltered tabloids? Whereas the administration of 1/2-grain doses, which would involve the cutting in half of a tabloid and so enable solution to take place, was without effect.

DR. RONALD E. FRENCH (Burgh Heath, Surrey) writes: In your issue of March 11th, p. 388, Dr. T. E. Francis suggests that dimol may not be as free from irritation as the advertisement states; he got intestinal haemorrhage in two out of five cases of enteric within forty-eight hours of starting the administration of the drug, and found that the haemorrhage quickly ceased on discontinuing it. I have had a large experience in giving dimol to a considerable variety of cases, including one of enteric and one of acute streptococcal colitis with haemorrhagic stools, with, so far, no indication of its causing discomfort or irritation of the intestinal mucous membrane. I have always used the sugar-coated pulverette A or the syrup of dimol. It would be interesting to know if Dr. Francis used the keratin-coated pulverette B. If he did, I would suggest that the haemorrhage in his cases was much more likely to be caused by injury from the passage of the partially dissolved husk of the pulverette than by irritation from the dimol.

DR. DAVID WALSH (London, W.1) writes: The communication of Dr. Francis describing five cases of enteric fever treated by a new antiseptic is of interest. Among other things it probably indicates the ideal method of the future in attacking that curiously localized infection *in situ*. Dr. Francis's report, however, appears to me inconclusive as a clinical experiment, inasmuch as (1 it deals with too small a number of cases; (2) the selected cases are those of relapse after crisis, where one might reasonably expect haemorrhage; (3) details of the haemorrhage are not given. A sounder clinical experiment, I venture to suggest, would be to treat a large number of cases with the given antiseptic from the outset of the disease and to compare results with control cases under ordinary treatment. In that way it is possible that clinical conclusions of great value might be arrived at.

"THE DROPPED SHOULDER SIGN."

"S. M. I." writes: At a recent school medical inspection a boy of 8 years was brought before me by the teacher on account of "dropping" of one shoulder of one or two months' duration. The attitude was evident at once, and a request to walk up and down showed a well-marked "drop" of one shoulder with inversion of the arm and hand (the latter held close to the body), somewhat suggestive of Erb's paralysis. The boy looked healthy, although of the lowest class socially, and I requested that he be stripped for closer examination. Removal of the jersey at once revealed the cause of the abnormality; the nether garment had for its only support a single brace-strap over one shoulder, fixed at either end with a safety-pin. One limb of the garment was left to look after itself, and the peculiar, and at first sight morbid, attitude and gait had been adopted owing to a feeling of insecurity. The sartorial outfit comprised jersey, pants, cotton shirt, and socks (this in February), and not a button amongst them.

RESUSCITATION AFTER APPARENT DEATH.

DR. P. VERNON DODD (Hythe) writes: The interesting article by Dr. Armstrong in the BRITISH MEDICAL JOURNAL of January 28th, 1922, p. 141, with notes on the heart beating under stimulation for some time after (apparent) death reminds me of a somewhat similar occurrence in the heart of a fish after death. I was sea-fishing in an open boat on a rough winter day, with a freezing east wind blowing and sleet falling. I caught a good-sized whiting which had swallowed the hook. As there was some difficulty in extracting it I cut the fish open, and on wrenching out the hook the heart was forced out with it and fell on the snow on the seat in front of me; although it was separated from the body I watched the detached heart beat regularly for twenty minutes. I suppose the exciting cause was the stimulation of the cardiac ganglia by the cold wind. In the case of the woman referred to by Dr. Armstrong could not the heart, which is stimulated into action and kept going by the blood during life, have been stimulated into action and kept going after death by the direct action of the drugs (which in this case were injected into the left ventricle) stimulating the cardiac ganglia? It is quite possible that lives may be saved, in healthy persons who have collapsed and become apparently dead after an anaesthetic, by the immediate and systematic injection of adrenaline or some other drug into the left ventricle even before resorting to artificial respiration.

UNUSUAL FECUNDITY.

DR. J. R. WATSON (Hamilton, Lanarkshire) writes: This week I attended a twin birth in the case of a Mrs. A., whose present age is 34. She was married sixteen years ago, and in that time has given birth to 19 children. The sequence of the births is as follows: four single male children; twins, both male; twins, both female; triplets, two male and one female; three single female children; one single male; twins, both male; and lastly, twins, both male—a wonderful record for a woman of 34. All the multiple births were premature. Only four remain alive, one boy and three girls, all four being particularly fine children. There is a history of twin births in both the father's and the mother's family.

FREE INSURANCE.

AN ingenious skit, entitled "Our Free Insurance Scheme," appears in the March number of the *St. Bartholomew's Hospital Journal*. "Doctors," it begins, "are liable to suffer from many complaints; we cannot insure against all of them. We have thought it out carefully, and have picked out the following diseases, which can be insured against in *no other journal*. All ages do not suffer from the same complaints, and we therefore divide our readers into three classes: (1) The very young (aged 1 to 12); (2) the middle-aged (aged 13 to 50); (3) the very old (aged 51 to infinity). *Class 1.*—The very young will receive £5 on dying from, and 5s. a week (up to three weeks) if suffering from, any (or all) of the following: Angina pectoris, carcinoma of the prostate, hydatidiform mole, Parkinson's disease, alcoholic neuritis, and pseudocyesis. *Class 2.*—The middle-aged will receive £2 on dying from, and 2s. a week (up to two weeks) if suffering from, any of the following; Amyotonia congenita, psammoma of the left kidney, Rocky Mountain fever, Recklinghausen's disease, fracture of the bundle of Vicq d'Azyr, and weaver's bottom. *Class 3.*—The very old receive 2s. 6d. on dying from, and 3d. weekly (up to a maximum of one week) if suffering from, any of the following: Teething convulsions, anencephaly, congenital stenosis of the pylorus, von Jaksch's anaemia, intussusception, and para-mumps. It will be seen that these diseases have been chosen with two ends in view: (1) The diseases must look very well on paper. (2) There must be no chance of this journal's having to pay out any money (which would be a most wasteful proceeding)." We commend the idea to our contemporaries.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 28, 29, 32, 33, and 34 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 30 and 31.

THE following appointments of certifying factory surgeons are vacant: Friockheim (Forfar), Huntingdon (Huntingdon).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Six lines and under	0	9	0
Each additional line	0	1	6
Whole single column (three columns to page) ...	7	10	0
Half single column	3	15	0
Half page	10	0	0
Whole page	20	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

A British Medical Association Lecture

ON

THE REPRODUCTIVE ORGANS IN RELATION TO MENTAL DISORDERS.*

BY

SIR FREDERICK W. MOTT, K.B.E., M.D., LL.D., F.R.S.,

DIRECTOR OF THE PATHOLOGICAL LABORATORY OF THE LONDON COUNTY COUNCIL MENTAL HOSPITAL, MAUDSLEY HOSPITAL, DENMARK HILL.

[*With Special Plate.*]

MR. PRESIDENT AND GENTLEMEN,—Allow me first to thank the East Yorks Division of the British Medical Association for the honour they have done me in asking me to give this address upon the reproductive organs in relation to mental disorders, a subject to which I have recently given much attention. Before proceeding to discuss the facts bearing upon this subject let me call attention to the inborn characters of mind in relation to personality.

The Inborn Characters of Mind.

The furniture of the mind is the memory store of our experiences and the bonds that unite them. The quantity and quality of the furniture of the mind depend firstly upon the inborn germinal raw material begotten with the body and derived from species, sex, race, and ancestry, giving each individual a special predetermined plasticity to receive and store impressions and react to them. This raw material of inheritance upon which psycho-physical energy, durability, educability, imagination, temper, emotivity, moral and aesthetic sense—personality, in fact—so largely depend, is inborn. These fundamentals of mind are begotten with the body and predetermine character and conduct, as was clearly proved by Francis Galton's inquiry into the history of similar and dissimilar twins, which proved that dissimilar twins remained dissimilar in mental and bodily characters when brought up in the same environment, while similar twins brought up in different environment remained similar in mental and bodily characters. This is a convincing proof of the fact that the organic basis upon which the quality of the mind depends is begotten with the body. If inborn good qualities are deficient or absent there will be, in spite of favourable environment after birth, intellectual, aesthetic, or moral feeble-mindedness of various forms and gradations. Again, if there be inherited a disproportion and a lack of harmony and integration of the inborn factors of the raw material upon which mentality is based, an unbalanced mind is likely to develop which will show itself in various departures in conduct from that of the normal stable individual: it may be in the form of eccentricity, mysticism, fanaticism; or the psychoneuroses—for example, hysteria, neurasthenia, psychasthenia, epilepsy, megrim; or the psychoses (the true insanities)—amentia, confusional or toxic psychoses, dementia praecox, manic depressive or periodic insanity, dementia presenilis, and involutional melancholia, as distinct from acquired organic brain disease, such as general paralysis of the insane.

That this tendency to departure from the normal well-balanced mind is largely a matter of inheritance is shown by the study of family pedigrees for several generations, where many or all of these variations from the normal may generally be found in different members of the ancestral stocks. This neuropathic inheritance is often mingled with a streak of genius, especially of the artistic or aesthetic nature.

Photographs of patients showing different forms of insanity were exhibited, including two pairs of sisters with a marked family history of insanity, who were admitted to asylums in early adolescence suffering with dementia praecox, and who are still living and are over 40 years of age. Prior to the war there were 10,000 of the 20,000 odd inmates of the asylums who had been resident for over ten years and 5,000 over twenty years. A considerable proportion of the chronic cases are these cases of dementia praecox.

Neuropathic and Psychopathic Predisposition in Relation to Psycho-physiological Stress.

The study of relatives in the London County asylums by a card system, and by the method of systematic inquiry and construction of a large number of pedigrees, and the investigation of statistical data relating to the age of onset of insanity in the offspring of insane parents, afford to my mind conclusive evidence of three facts in relation to the causation of mental disease:

1. The importance of a neuropathic and psychopathic heredity.
2. The special liability of the neuroses and psychoses to occur in adolescence and the involutive periods of both the male and female sexes, when the sexual function matures and wanes.
3. The influence of child-bearing and lactation in women, acting as exciting causes.

That the inborn predisposition is the most important fact in the development of neuroses and psychoses is also shown by the frequency with which these various psychoneuroses and psychoses occur at periods when normal physiological changes occur in the body—for example, adolescence, when the sex instinct is aroused and matured, and the involution period, when it wanes. Again, in women, pregnancy, parturition, and lactation are normal physiological processes of the sex instinct, yet a number of cases of insanity in women designated puerperal mania or lactation mania occur as a result of a normal physiological process. Even in cases of septic origin predisposition cannot be excluded. For many women have puerperal septicaemia but do not become insane. The term "puerperal mania" is a misnomer in a way, for the cases belong to three groups: (1) Exhaustion psychosis or toxic psychosis, (2) manic depressive insanity, and (3) dementia praecox.

1. The greater the influence of the extrinsic cause, especially if it be pathological—for example, toxic conditions—the more probable is the recovery by treatment removing the source of the sepsis, and less the liability to a recurrence.

2. Emotional shock, worry, anxiety, insomnia, and exhaustion are also regarded as important exciting factors. But the war has shown that these are not of such primary importance as was suspected, for it was observed that there was no great increase of insanity among the women in Galicia and East Prussia when they had to flee on account of the invasion by the Russians in the great war. Moreover, Bonhöffer found only five insane among 10,000 Serbian prisoners who had been subjected to every form of stress of war and disease.

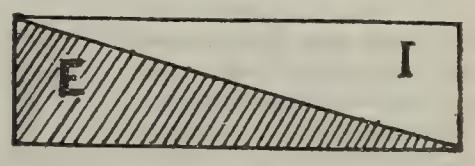


FIG. 1.

If "E" (Fig. 1) represents mental and bodily extrinsic factors, and "I" inborn predisposition, the more of "E" that we can find as a causal factor the more favourable is the prognosis.

Statistical Data Relating to Inheritance and Insanity in the Periods of Adolescence and Involution.

The importance of these physiological states of adolescence and involution in the incidence of the onset of insanity is shown by two graphs (Figs. 2 and 3), based upon an investigation of the age at the time of first attack in 508 pairs of parents and offspring, from records of 464 insane parents of 500 insane offspring.

These curves in the offspring show 47.8 per cent. of 500 offspring who became insane in adolescence at or before the age of 25. The 47.8 per cent. of cases of adolescent insanity may be divided into four groups:

1. Exhaustion psychosis, confusional insanity, or amentia, who were discharged recovered.
2. Recurrent insanity—manic depressive—discharged but readmitted on one or more occasions; as a rule the length of the period of asylum detention increases upon each attack, some cases finally passing on to dementia and detention till death.
3. Primary dementia of adolescence or dementia praecox. In the vast majority of cases progressive and permanent detention till death; these cases make up a large proportion of the chronic lunatics in asylums.
4. The imbeciles are relatively few in number, as they are sent to the asylums of the Metropolitan Asylums Board. A few are admitted to the London asylums on account of the onset of acute symptoms. There are also a few cases of juvenile general paralysis, but the great bulk of the cases belong to 1, 2, and 3, and especially 3.

These statistical data were prepared in 1911.

In 1917 I made a further analysis of relative cards since 1911, a period of six years. This analysis was limited to

* Delivered to the East Yorks Division of the British Medical Association on February 10th, 1922.

insane parents of offspring, of which a diagnosis of dementia praecox was made, and instead of 47.8 per cent. there were 75 per cent. of the 69 cases diagnosed as dementia praecox admitted at the age of 25 or under (Fig. 4). Seeing that a great many of these cases were either insane before certification, or by their conduct had given prodromal evidence of oncoming dementia, it is highly probable that all the cases really commenced in the adolescent period.

Prior to the war the two sexes were about equally represented in the admissions. During the war the male cases of dementia praecox were diminished by one-half. This may easily be accounted for by the fact that a number were conscripted in the undiagnosed early stages of the disease, or the disease developed after their admission to the army. It was found that 14 per cent. of the total insane who had served in the army were cases of dementia praecox, which proves the truth of the assumption I have made in respect to the great fall in the admissions on the male side during the war.

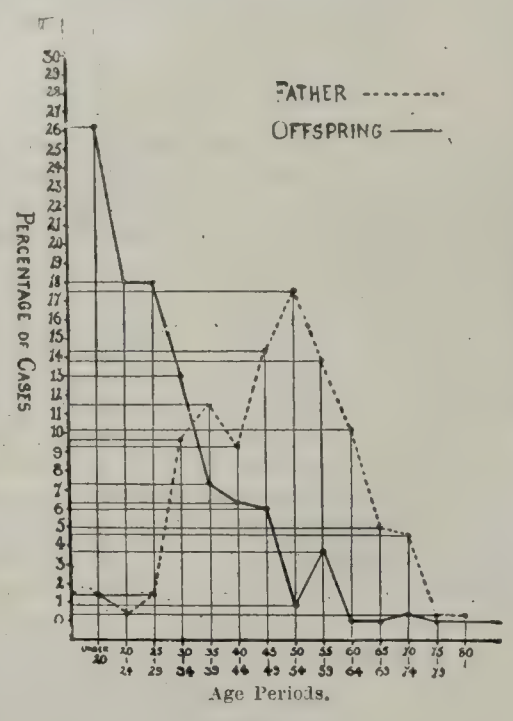


FIG. 2.

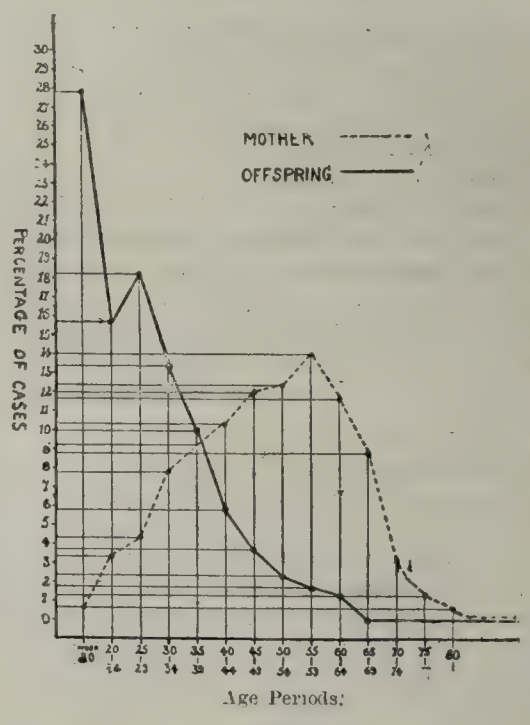


FIG. 3.

A comparison of the two curves of the parents shows a notable difference. The curve of the fathers does not commence to rise till after 25, and the 30–40 peak corresponds with the incidence of general paralysis of the insane (Fig. 2). It may here be remarked that males suffering with general paralysis are four to five times as numerous in the asylums as females, but this does not account for the main difference in the curves of fathers and mothers. This is due to the incidence of child-bearing and lactation, which causes a steady continuous rise to the climacterium in the maternal curve (Fig. 3). The 50–60 peak corresponds to the involutive period.

It was also computed that only 7.9 per cent. of the children were born after the first attack of insanity in the parent.

Recurrent Insanity in Women and Childbirth.

An analysis of 642 female admissions to three London County Council asylums during the year 1911 showed 148 recurrent cases, of whom 32 (21 per cent.) had children between their respective dates of admission. The inference that can be drawn is that rather less than one-fifth of the recurrent cases have children after their first attack of insanity. This may be explained by the adoption of contraceptive methods, but my investigations suggest another important cause—namely, early involutional changes in the ovaries in all the psychoses.

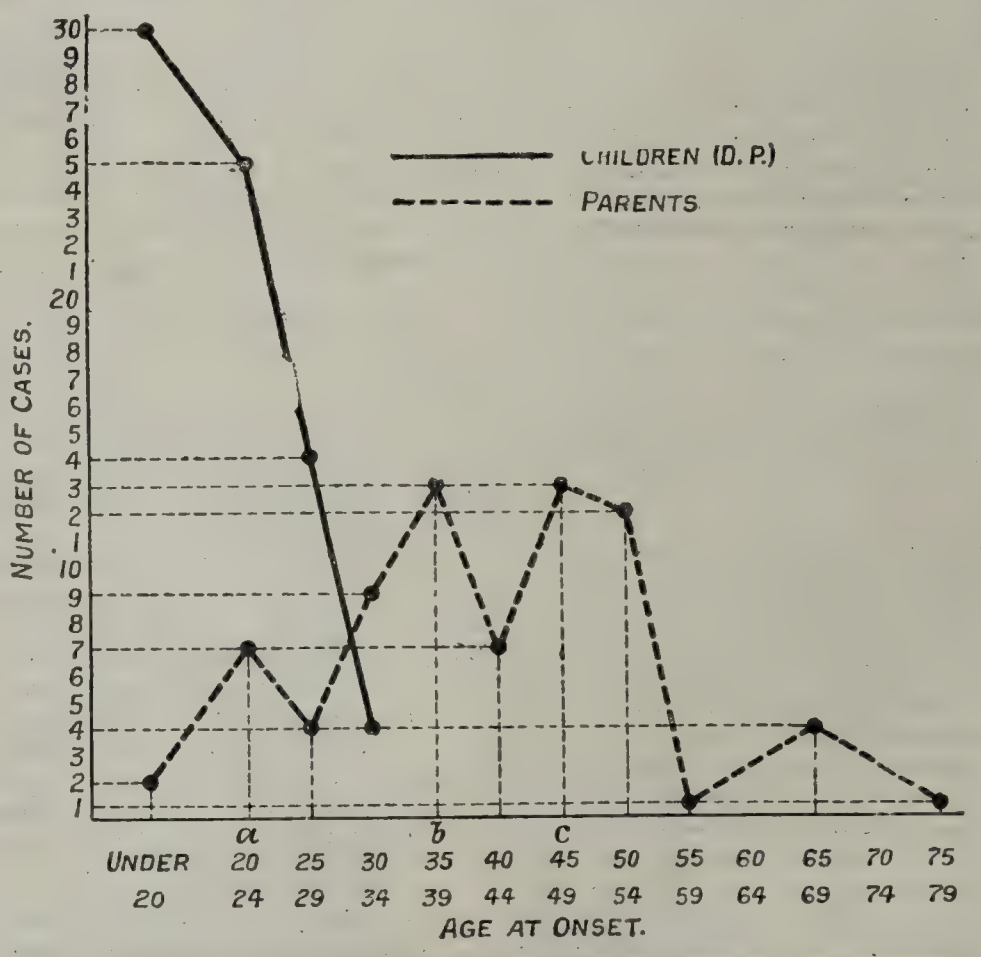


FIG. 4.—Broken line = ages of parents upon first attack of insanity. Uninterrupted line = ages of offspring upon admission to asylums.

Two Schools of Thought in Relation to Dementia Praecox: the Psychogenic and Physiogenic.

There are two schools of thought—one physiogenic, the other psychogenic; the former attributes the mental disorder to a bodily pathological condition, the latter to a non-adaptable psychological function. The frequency with which psychoses and psychoneuroses follow emotional shock connected with the sex impulse, the character of the dreams and their interpretations, the nature of the hallucinations and delusions in a great number of the cases suggest an origin in excitement or repression of the sex instinct.

Because by the aid of the microscope we cannot show an organic cause in epilepsy, neurasthenia, or hysteria, and other psychoneuroses, it does not follow that the deranged mental function is not due to deranged bodily function. It was thought, and is still, by the psycho-analyst school that in the primary dementia of adolescence—dementia praecox, as it is called—there were no bodily changes sufficient to account for the signs and symptoms of mental disease. The physiogenic changes that are met with, it is stated by Jung, are the result, not the cause, of the psychogenic disorder. Thus this author in his work *Analytical Psychology* states:

"The difference between us is as to the question whether, in relation to anatomical basis, the psychological disorders should be regarded as primary or secondary. The resolution of this weighty question depends upon the general problem as to whether the prevailing dogma in psychiatry—'disorders of the mind are disorders of the brain'—presents a final truth or not. This dogma leads to absolute sterility as soon as universal validity is ascribed to it."

And—

"Such an idea is only incomprehensible to those who smuggle materialistic preconceptions into their scientific theories. This question does not even rest upon some fundamental and arbitrary spiritualism, but upon the following simple reflection. Instead of assuming that some hereditary disposition, or a toxaemia, gives rise directly to organic processes of disease, I incline to the view that upon the basis of predisposition, whose nature is at present unknown to us, there arises a non-adaptable psychological function which can proceed to develop into manifest mental disorder; this may secondarily determine organic degeneration with its own train of symptoms. In favour of this conception is the fact that we have no proof of the primary nature of the organic disorder, but overwhelming proofs exist of a primary psychological fault in function, whose history can be traced back to the patient's childhood."

But when doctors speak of psychogenic, what do they mean? The furniture of the mind is made up of past

experiences and the bonds that unite them, but there can be no mind without memory, and there can be no memory without body. All psychical processes are subordinate to physiological processes, and all physiological processes are associated with, and dependent upon, oxidation processes. That the mind reacts on the body and the body on the mind is certain, and that the bodily symptoms of many functional neuroses, such as hysteria and anxiety neurosis, can be cured by suggestion and persuasion is certain. In the former of these conditions we have a perseveration of an idea, brought about by auto-suggestion or hetero-suggestion; in the case of the conscript it was an unconscious defence mechanism connected with the instinct of self-preservation; in civil life it is connected with the sex instinct in the majority of instances. The anxiety neuroses are, in a number of instances, dependent upon a wound of the *amour-propre*.

Time, however, will not permit me to do more than refer to the psychoneuroses, and I shall devote my attention to mental diseases which may be directly associated with the function of reproduction.

The Insanity of Adolescence.

The insanity of adolescence was first described by Clouston, who recognized two types—a curable, and an incurable which went on to progressive dementia. To this latter type was given the name "dementia praecox" by Kraepelin, who divided it into three clinical groups: the katatonic, the hebephrenic, and paranoidal. Whether such a classification is justifiable or not on these lines is open to question; it is certainly of less value to know what a thing is called than to know what it is, and to find out how it has come about that an individual's mind is deranged. This can only be effected by careful investigation to ascertain what an individual was born with and what happened after birth, and in this respect psychological inquiry to ascertain the development of the mind is as necessary as to know the development of the body. It may be, as Jung says, that a primary psychological fault in function, whose history can be traced back to childhood, will be found in most of these patients. This fault, he would say, is a predisposition of which we know nothing. I would urge that there is evidence to show that, at any rate in dementia praecox, there is an inborn genetic lack of durability and reproductive formative activity. Kraepelin discusses and discards the idea that this disease is due to masturbation, and does not, as Clouston did, recognize a "masturbational insanity." Onanism, according to Kraepelin, is a symptom; but it may be a contributory cause of the mental disorder. Most psychiatrists recognize the association of the disease with the sexual functions. Kraepelin, Urstein, and other authorities suggest toxins from the sex glands as a probable cause of the mental disease.

Morbid Histological Changes in the Brain.

Most psychiatrists accept the findings of Nissl, Alzheimer, and those who have followed them in associating the mental symptoms with the microscopic changes in the ganglion cells of the cortex, mainly affecting the nucleus and causing thereby a defective metabolism and function of the ganglion cells with pigmentary or lipoidal degeneration, akin to that met with as a result of senile change.* Jung, as we have seen, takes an entirely different view of this question.

The Physiogenic Explanation of the Vital Impulse in Relation to Mental Disorders.

I have endeavoured by my researches to show that the mental breakdown in adolescence, in the puerperal and lactational states in women, and in the involutive period in both the male and female sexes, is due to a failure of the vital impulse (*élan vital*) or libido of the psycho-analysts. But this vital impulse is an inborn character, and, like longevity and durability, it is due to bodily conditions. Up to puberty, this vital impulse is manifested in the psycho-physical reactions for self-preservation by nutrition for the growth of the body and for its defence against injury. But Nature is unmindful of the individual, mindful only of the species, and the body is, after all, but the vehicle for the germ cells, so that all the vital energy over and above that which is necessary for the functional activities of the somatic tissues is in adolescence available as psycho-physical energy for the formative productive energy required for reproduction. In adolescence a complete mental revolution occurs peculiar to each sex, and the vital impulse is now directed mainly towards the fulfilment of the instinct of propagation, as well as, and even more than, self-preservation. The vital impulse to psycho-physical activities is manifested in new emotions, passions, and sentiments, and the reactions are peculiar to each sex. If these sex activities are not frustrated and repressed, which so often happens, owing to the taboo of society, and the disharmony which exists between physiological sex relations and social customs, usages, and traditions, the sex impulse to propagate is accompanied by a *joie de vivre*, "a new and unaccustomed spirit," an *élan vital*, so admirably expressed by Shakespeare in *Romeo and Juliet*:

> "My bosom's lord sits lightly on his throne;
> And all this day an unaccustomed spirit
> Lifts me above the ground with cheerful thoughts."

Now what will happen if there should be a suspension or suppression of this libido or vital (love*) impulse due to an inherent potential deficiency or owing to physiological stress or pathological conditions? In what structures of the body should we expect to find evidence of functional organic deficiency? We should expect to find a deficiency of organization in the germ cells, for it is by them that the vital energy is genetically transmitted. This energy, characteristic of every living organism, to build itself up according to a certain inherited type or pattern, is embodied in the nuclear substance of the fertilized ovum derived from the male and female gonads, in virtue of which it can turn to account both the food and the force which it derives from without. The productive energy, which in the normal male is manifested by an almost unlimited nuclear formative spermatogenic activity for more than two-thirds of a man's life, and in the normal female by a fertility and capacity of bearing and nourishing offspring, the mother remaining in good mental and bodily health during the reproductive period, denotes an inborn endowment of formative vital energy.

It follows that evidence of a primary regressive atrophy of the spermatogenic functions, and of a regressive atrophy and failure of the primordial follicles of the ovary to develop Graafian follicles, is indicative of an hereditary deficiency of the genetic vital impulse. Now I have shown in a large number of cases of dementia praecox, in both the male and female sexes, that a primary regressive atrophy of the reproductive organs occurs. In the female the disease is often manifested after the birth of the first child. Thus the woman suffers with puerperal mania which terminates in dementia, from which the patient never recovers, although she may with care live a vegetative existence for a number of years in an asylum. Can anything more tragic happen to a young husband than this? Yet I have investigated not a few such cases of puerperal mania, terminating in dementia praecox, affecting a young married woman after the first confinement. Some few of the cases occurred in unmarried women, sometimes of the imbecile type. Emotional shock and social degradation may in such cases act as exciting factors in the production of the mania. In these cases of post-puerperal dementia I have found in the ovary macroscopic and microscopic evidence of failure of reproductive power. The organs are small, shrivelled, and densely fibrous, showing no Graafian follicles, a totally different appearance from the ovaries of a young woman dying of acquired organic brain disease—for example, general paralysis of the insane. Microscopic examination shows a few old corpora albicantia or corpora lutea, but no recent follicle formation; the primordial follicles are greatly diminished in numbers and are seen in all stages of degeneration and replacement by the fibrous stroma. Examination of the nucleus (germinal vesicle and germinal spot) of the ovum shows a deficiency in the chromatin substance, consequently indicating a failure of the productive vital energy necessary to stimulate the development of the zona granulosa cells and formation of the Graafian follicles. This nuclear defect in the female germ cell has been said to be due to the effects of chronic disease—for example, tuberculosis, from which so many of these patients die; but we know that tuberculous women are not infertile and do not develop mental symptoms—indeed, the tuberculous woman while pregnant seems to put forth a supreme effort of the body to resist the disease, and thereby enables the child to develop and be born alive, afterwards to be followed by a "rapid decline" and frequently death of the mother, which to my mind affords a proof that every cell of the body has an organized impress—or, if you like, a pre-organized mneme—that its great mission is the preservation of the species. A more direct argument, however,

* Lantern slides were shown illustrating these changes, for a full account of which the reader is referred to "Studies in the Pathology of Dementia Praecox."

* Used in the broad sense of Jung.

against chronic disease being the cause of the ovarian regressive atrophy is that occasionally I have had a case of dementia praecox in a female who was in good bodily health, and died of acute disease after a few days' illness. I have found the same atrophic changes and fibrotic substitution as in the cases dying of chronic disease. In the ovaries of a general paralytic woman, dying before the involutive period of life is reached, although she may have suffered with chronic disease for years before death, yet we shall find evidence, especially if she is a married woman, of numbers of corpora albicantia and of corpora lutea, a history of having had a number of children, in some instances miscarriages or abortions, or children born dead—the result of the syphilis. The evidence of an inborn germinal defect is, in the greater number of cases, absent in general paralysis. There is no primary regressive atrophy of the ovaries. In spite of the mental and bodily disease from which she suffered, the ovaries usually show follicles undergoing development in all stages; most of them, however, become atretic. In the dementia praecox cases there is usually no sign of atretic follicles, although there are old corpora atretica (see Plate, Fig. C, 1, 2, 3, 4).

Dr. Iris Fox has been good enough to abstract the notes of my observations upon a large number of ovaries in various forms of insanity. The conclusions are highly suggestive of the fact that all forms of insanity are associated with a tendency to failure of reproductive power and early involution, yet we know that chronic disease will produce the same effects. Still there can be no doubt that dementia praecox, an inborn disease, shows this loss of reproductive power to a far greater degree than general paralysis of the insane, an acquired disease, which accords entirely with my observations on the testes in these two diseases.

Summary of Results from Examination of Clinical and Pathological Data of 97 Cases of Patients under 50 Dying in Asylums and of 8 Dying in Hospital.

I.

(*a*) Diminished follicles occur in most types of mental disease and in many controls. The details suggest that this diminution may be a more constant feature of dementia praecox than of the other forms of insanity.

(*b*) Sclerosis (which has been assumed to be absent when not noted) is also common, but is remarked in a much higher proportion of the dementia praecox cases than in any other disease.

(*c*) Vascular thickening may accompany sclerosis, or occur independently (for example, in general paralysis of the insane).

II.

Degeneration of follicles is found in a very high proportion of all the ovaries examined. No deduction can therefore be drawn from it here.

III.

The nuclear condition of ovum has been noted in 44 cases. The figures show a high proportion of cases of nuclear degeneration in dementia praecox. The other figures are too small for generalization, but suggest a special freedom from degeneration of the nuclear chromatin in general paralysis. With regard to other mental diseases there is no evidence here to show that they differ in this respect from dementia praecox. The figures suggest that the nuclear degeneration is probably unrelated to circulating differences, since the general paralysis of the insane cases show a fair number with vascular degeneration. The figures, however, are too small to establish this point.

IV.

(*a*) Some degree of maturation of the follicles is present in the great majority of cases, *the exceptions being almost always cases of dementia praecox, or (?) dementia praecox.*

(*b*) No clear deductions seem possible from either the corpus luteum content or the menstrual history—from the former because the type of corpus luteum is not generally noted, and, if it were, its dating would be somewhat empirical; from the latter because of the possible inaccuracy of the record.

(*c*) Shows a connexion between the duration of the disease and ovarian change as a rule. But this does not establish any special relationship beyond that existing between other chronic and acute diseases and ovarian function.

I am at present pursuing the investigation by an intensive study of the ovaries and endocrine glands in a number of cases in which adequate clinical data have been obtained. So far as the investigation has proceeded, regressive atrophy of the ovarian functions is a marked feature of dementia praecox.

Now if we turn to the male adolescent who develops dementia praecox—and I have investigated now the testes in thirty fatal cases, and in many of these the brain and endocrine glands—we find evidence of a primary regressive atrophy. The first account of these investigations was published in the BRITISH MEDICAL JOURNAL, vol. ii, 1919, pp. 655, 698, 737, under the title "Normal and Morbid Conditions of the Testes from Birth to Old Age in 100 Asylum and Hospital Cases," and subsequently in "Studies in the Pathology of Dementia Praecox," *Proceedings* of the Royal Society of Medicine, vol. xiii, 1920, Section of Psychiatry; "The Psycho-pathology of Puberty and Adolescence," Morison Lectures, 1921; "Second Maudsley Lecture"; published in the *Journal of Mental Science*, July, 1921.

I will briefly summarize the results of these investigations together with the results of a further investigation on dementia praecox and other psychoses, especially in relation to the interstitial cells of Leydig, which is now in the press and will be published in the next number of the *Proceedings* of the Royal Society of Medicine. There is, generally speaking, a correspondence between the degree of regressive atrophy of the testes and the duration of the mental symptoms. The atrophic process may result in all stages of failure of nuclear formative activity of the spermatogenic epithelium terminating in a complete disappearance, leaving only the Sertoli cells. There are also profound nuclear and cytoplasm changes in the interstitial hormone cells. This primary atrophy resembles the changes met with in the testes of cases of involutional melancholia, post-adolescent dementia praecox, and terminal dementia and manic depressive insanity. Besides the failure of spermatogenesis, there is pigmentary degeneration of the interstitial cells in 25 per cent. of the cases of dementia praecox dying in adolescence, a sign of senile decay. This regressive atrophy was not found as a rule in general paralysis and other forms of organic brain disease. These investigations appear to show that in the male and female suffering with these various psychoses there is a failure of the vital formative impulse of reproduction, especially marked in cases presenting the clinical signs and symptoms of dementia praecox. Lantern slides were exhibited in illustration of these facts, and the reader is recommended to consult the communications referred to for further precise and detailed information.

In conclusion, it may be noted that these observations on regressive atrophy of the male reproductive organs have been confirmed by the researches of Tiffany.

DESCRIPTION OF SPECIAL PLATE.

FIG. A.—Ovary of G.: dementia praecox. Age at first attack, 25; pregnant seven months; died eighteen months later. Weight of ovaries, 3 grams and 2 grams. Old corpora lutea vera; thickened vessels indicative of involutional change; no maturing Graafian follicles; one small degenerated immature follicle on the surface; very few primordial follicles left (Fig. C). (Magnification 10 × 1.)

FIG. B.—Portion of cortex of ovary, showing complete absence of follicles—sclerosed fibrous irregular surface with dense stroma beneath. (Magnification 100 × 1.)

FIG. C.—Four primordial follicles. These were in a group and show: (1) Lining epithelial cells intact containing ovum with oval swollen nucleus; the epithelial cells of the zona granulosa have already separated from the theca interna, a sign that further maturation will not proceed. (2) Lining epithelium degenerated. (3) The same more marked. (4) Commencing ingrowth of stroma. This group was the best that could be found. (Magnification 800 × 1.)

THE Medical Faculty of Vienna has issued a programme of a special post-graduate course beginning on June 19th. The course is in medicine and the diseases of children, and will have special reference to treatment. There will be two sessions on each day—in the morning from 8 to 11 and in the afternoon from 3 to 6. The course will be conducted by the professors, privatdozents, and assistants in the medical faculty; it will consist of lectures, clinical demonstrations, and demonstrations in the pathological laboratory, and will range over a wide field. The last day, Saturday, July 1st, will be chiefly occupied by a visit to the neurological and psychiatric clinic. The registration fee for foreigners is 10,000 kronen. A supplementary course on radiology will be given in the following week; it will begin on Monday, July 3rd, and end on July 9th, when a visit will be paid to the special lupus institution in Vienna. The fee to be paid by foreigners will be 100,000 kronen. Full particulars of both courses can be obtained from Dr. A. Kronfeld, Porzellangasse 22, Wien; the Editor of the BRITISH MEDICAL JOURNAL has a few copies of the programme; one will be sent to applicants on receipt of postage.



FIG. A.

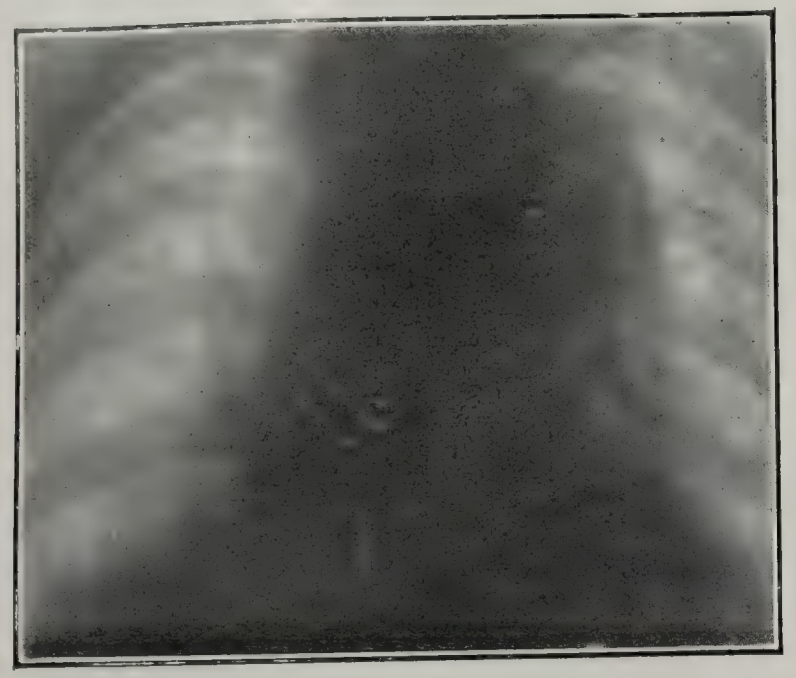


FIG. B.



FIG. C.

DAVY AND GATES: CASE OF DISSECTING ANEURYSM OF THE AORTA.



MARTIN AND KNOX: PNEUMOTHORAX IN A BOY.

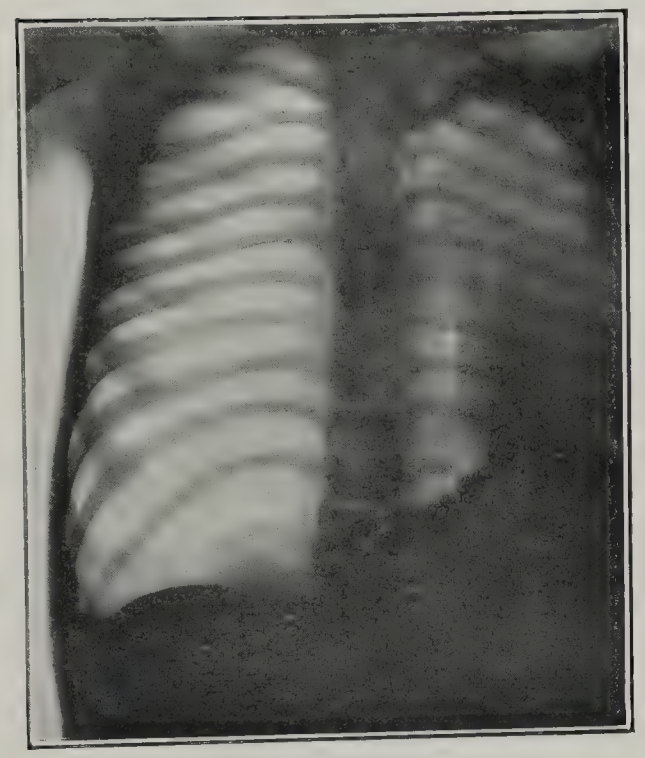
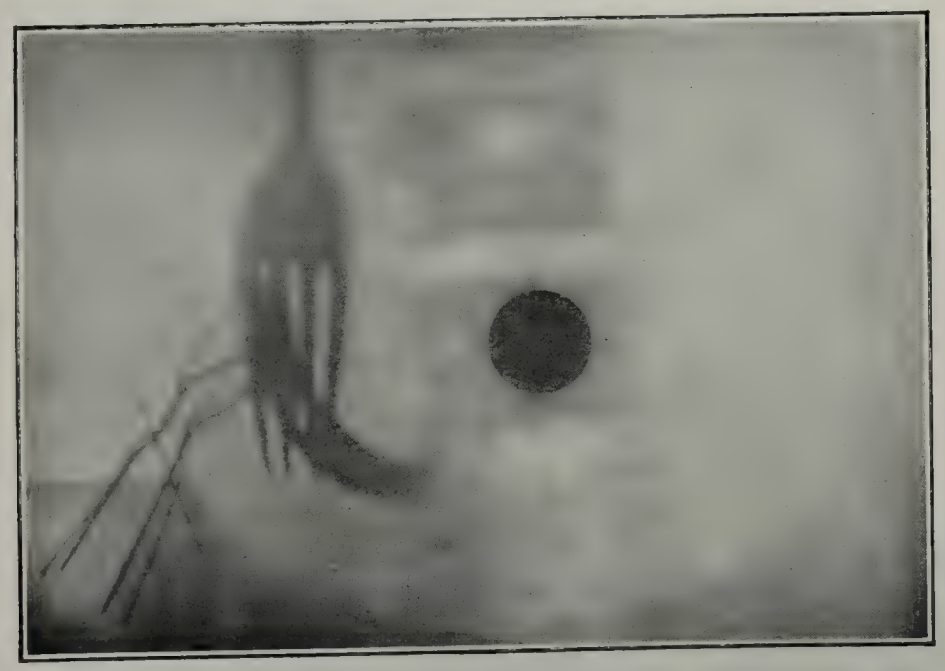


FIG. 1.—Posterior.



FIG. 2.—Anterior.

ALLARDICE: FOREIGN BODIES IN THE GASTRO-INTESTINAL TRACT IN APPENDICITIS.



Skiagram taken after first operation, showing fork, hairpins, etc., still in the abdomen.

FARQUHAR: TRAUMATIC ARTERIO-VENOUS ANEURYSM.



FIG. 1.—Showing appearance of the patient on admission to hospital.



FIG. 2.—Showing improvement three weeks after operation.

THE ETIOLOGY OF PRIMARY CATARACT.

BY

HENRY KIRKPATRICK, M.B.,

LIEUT.-COLONEL I.M.S. (RET.).

DESPITE the fact that primary cataract has a strong personal interest for so many of us, its causes have been, and still are, veiled in a mist of uncertainty which all our efforts have failed to pierce and which even now shows little signs of lifting. Nevertheless, it may prove profitable to review our knowledge of the subject and to consider it in the light of discoveries made in other branches of medicine. So long as we remain in ignorance of the causes of the disease we shall be unable to prevent its occurrence or to bring it to a standstill once it has commenced to develop, and the treatment is likely to remain, as hitherto, mainly surgical.

It is not proposed to consider here forms of cataract caused by purely local conditions, such as those varieties which follow trauma, detached retina, intraocular tumours, retino-choroiditis, and inflammatory exudations on the lens capsule, or such as are due to developmental defects in the lens vesicle, but only those progressive and non-progressive forms which may be considered to be primary in nature.

Amid the general obscurity certain known facts stand out clearly. These are:

1. *A cataract is the result of a degeneration of the fibres or cells of the lens.*

This degeneration may be due to a cause which is active for a limited period only. In this case the cataract is likely to be non-progressive—for example, punctate cataract, lamellar cataract, etc. In the case of a non-progressive cataract the opacity resulting from the degeneration becomes buried in the substance of the lens by the subsequent growth of healthy fibres around it. The cause may, on the other hand, be one the action of which is continued; a progressive type of cataract—such as senile or presenile—is then produced. It is likely that, if a large portion of the lens fibres have degenerated, the degenerative process may continue, even though the primary causes have ceased to be active.

2. *Primary cataract is nearly always bilateral.*

This indicates that the cause of the disease must be sought for in some constitutional and general change or defect. The cataract may grow more rapidly and may be more advanced in one eye than in the other, but it is exceedingly rare to find the occurrence of uncomplicated primary cataract limited to one eye. When the cataract is further advanced in one eye than the other it will often be found that the more affected eye is the subject of an uncorrected error of refraction of long standing. In some cases it will be found that a correcting lens has been worn in a faulty position. An eye which is the subject of an uncorrected error of refraction and strain appears to be specially liable to the ocular complications of diabetes, nephritis, syphilis, and focal sepsis; it is natural, therefore, to expect that such an eye may be exceptionally susceptible to cataract formation should a constitutional cause of the disease be present. Asthenopia, due to refraction error, is occasionally associated with a bubble-like opacity situated in the anterior cortex very close to the capsule. When examined with an electric ophthalmoscope, in the aperture of which a *plus* 12 D lens has been placed, the opacity is found closely to resemble a bubble of gas seen at the bottom or on the sides of a tumbler containing soda-water. These opacities may, on rare occasions, disappear after the error has been corrected.

3. *Certain conditions are generally admitted to predispose to the development of cataract.*

Senility, diabetes, pellagra, the ingestion of certain poisons, and rickets are the most prominent of such conditions; but cholera, gastro-intestinal disturbances, focal infections, and debilitating general conditions are considered by many to be factors in the causation of cataract.

4. *An hereditary predisposition to the disease exists.*

The lens cells of some persons, therefore, suffer from an inherited susceptibility to certain noxious influences, or the organs and tissues of their bodies inherit a defect which allows disturbances in their function to occur with unusual facility; such disturbances injuriously affect the nutrition of the lens fibres.

5. *Convulsions of the type found in tetany have frequently been followed by the development of cataract.*

The observations of Noël Paton and Findlay suggest that tetany is due to a defective action of the parathyroid glands; these ordinarily detoxicate a guanidine compound derived from muscular metabolism; tetany occurs if this process is interfered with. Fischer and Triebenstein claim to have found evidences of tetany and latent tetany in 88.2 per cent. of cases of senile and presenile cataract, whereas such evidences were only found in 8.3 per cent. of control cases free from cataract.

6. *Cataract has been observed to follow the removal of the thyroid*, either for experimental purposes or for surgical reasons. Thyroidectomy is not, however, always followed by cataract, and, assuming the operation to be complete, some additional factor must be present to cause the disease in such cases. In this connexion it must be remembered that it may be difficult to avoid injury to or removal of the parathyroids in the execution of a thyroidectomy. The writer has seen cases of cataract associated with hypothyroidism, the history and course of which strongly suggested that the ocular condition was dependent upon deficient endocrine function.

7. *Excessive glare may be a contributing cause of cataract.*

A peculiar form of slowly progressive cataract is found amongst bottle-makers and furnace workers. Its frequent occurrence among such workers suggests that the rays which emanate from a furnace may, in some cases, be capable of inducing a degeneration of the lens fibres; the fact that they do not invariably do so suggests that additional factors, possibly of a constitutional nature, may be present in those workers who become affected by the disease. Exposure to excessive heat and glare may also be one of the reasons why cataract occurs with such frequency amongst natives of India. The disease, however, does not appear to be unusually common amongst well-nourished Europeans of middle age who are resident in the country, so that such exposure is probably no more than a minor cause of cataract. It is of interest to note in connexion with this subject that Elliot states that he has met with a proportion of cataract amongst retired Anglo-Indians, which strongly suggests that residence in the East influences the liability to the disease. It has been stated that the opacities of commencing cataract are most commonly found in the lower part of the lens, and it has been suggested that this is due to the fact that the bulk of light rays come from above and, falling upon the lower portion of the lens, affect it injuriously. The writer is not at all convinced by his experience in India that, in that country at all events, the lower portion of the lens is much more frequently attacked by early cataract than other areas. Elliot has pointed out, however, that a great part of the light entering the eye in the tropics is reflected chiefly from the ground, and that the eyes are often protected by a solar topee or turban from the light which comes from above. In the tropics, therefore, one would expect to find that injurious rays affect the upper part of the lens at least as commonly as the lower.

8. *Cataract occurs more commonly in India than in most other countries.*

After making due allowance for the fact that the proportion of competent surgeons to the size of the population is small, the vast numbers of cases of cataract dealt with by individual surgeons in India leads one to the irresistible conclusion that the disease is extraordinarily common in that country. The great number of persons, blind from cataract, met with on the roads and streets is confirmatory evidence. All classes of the native population appear to be affected, but the disease seems to be more prevalent among the poorly fed lower classes than among the well-to-do. Cataract also seems to be most common in the hotter, drier, and more arid districts.

The differences between the Indian and the European, which bear on the subject, may be divided into three groups: (*a*) constitutional; (*b*) dietetic; (*c*) general surroundings.

(*a*) *Constitutional.*—The average Indian matures at an earlier age than the average European and, as a rule, he pays the penalty for this by an earlier occurrence of the retrogressive tissue changes due to senility; these changes are shown in the lens by a comparatively early appearance of presbyopia and by the fact that the accommodative power of a

middle-aged Indian is rarely equal to that of a European of the same age. Gastro-intestinal troubles afflict most residents in the tropics, whether Indian or European, but the European is usually in a better position to deal with these than the Indian is. Helminthiasis is extraordinarily common amongst Indians: at least 70 per cent. of the general population in the south of India suffer from hookworm disease.

The prevalence of pyorrhoea, in a very advanced degree, amongst better-class Indians is a most striking feature in the south of India, and probably in other parts of the country too. The disease is very common among the lower classes also, but these do not appear to be so generally affected as those who are more wealthy. The soft nature of the diet, the habit of betel chewing, and a fondness for sweets seem important factors in the causation of the condition.

A large number of Indians suffer from diabetes. The disease appears specially to affect those of the well-to-do and upper classes, and it is interesting to note that it sometimes has an undoubted connexion with pyorrhoea. The writer frequently found that the urine of a patient suffering from glycosuria rapidly became free from sugar when his pyorrhoeic teeth had been extracted and he had been rendered free from oral sepsis. Patients have often told him that they had formerly suffered from glycosuria, but that they were then free from the disease. Such patients were found on examination to be edentulous, the pyorrhoea from which they used to suffer having undergone a natural cure. A large proportion of Indian patients operated upon for cataract in private practice suffered from glycosuria.

(*b*) *Dietetic.*—The diet of Indians varies greatly in different parts of the peninsula, and is also influenced by circumstances of caste and religion. Despite these differences, the fact that the bulk of the diet is composed of a dry grain is a feature common to all. A lack of fresh vegetables exists in the diet of most Indians, especially those of the lower classes. During many months of the year fresh vegetables are only obtained with difficulty in the more arid parts of the country —even by the well-to-do. The dietary of Indians is consequently poor in essential food factors, and this deficiency is accentuated by the probable paucity of such substances in the vegetables, etc., grown in the hot season. McCarrison has found that the milk of cows fed upon dry fodder lacks essential factors which the milk of cows fed upon fresh green stuffs contains; long-continued hot, dry weather is thus likely to exert some influence upon the occurrence of diet deficiencies. His observations also show that the endocrine glands are injuriously affected by a deficiency of vitamins in the food, and that the harmful effect is likely to be enhanced if the diet is badly balanced and contains an excess of carbohydrates. This lack of essential food factors is frequently shown in India by the occurrence of beri-beri, scorbutic conditions, and keratomalacia.

(*c*) *General Surroundings.*—Exposure to heat and glare and a life passed in bad hygienic surroundings are the characteristics of the general conditions under which most Indians live. As stated above, exposure to glare may have some influence upon the causation of the lens degeneration from which they so often suffer, but other additional factors are likely to be required to produce cataract. Bad hygienic surroundings may sometimes cause constitutional conditions which favour the occurrence of cataract, but their influence in this connexion is probably slight. The tropical sun is a powerful ally of the sanitary officer in the rural districts, and, owing to its influence, many villagers escape punishment for their hygienic errors.

It has been suggested that the sclerosis of the lens fibres, which normally occurs with advancing age, is the cause of cataract. Magnus considered that the resistance to the flow of nutritive fluid, offered by the sclerosis of the nucleus, was an important factor, and Becker supposed that an unequal and irregular sclerosis produced a stress and strain upon the cortical fibres which led to the formation of clefts and spaces between them. When considering the consequences of sclerosis it must be remembered, however, that although opacities are present in the lenses of very many people who are advanced in years, yet the proportion of old people affected by progressive cataract is not very high. Obviously, since sclerosis of the lens almost invariably occurs with the advance of age, and progressive cataract does not do so, this hardening of the lens cannot be considered to be the chief cause of senile cataract. Sclerosis of the lens cannot account for those cases of presenile cataract which occur at an age when the hardening of the nucleus is negligible. In discussing the causes of primary cataract it is important to consider all forms of the disease together, and to avoid concentrating the attention upon one particular variety.

The lens epithelium, owing to its ectodermic origin, might be expected to react injuriously to influences towards which allied ectodermic structures display a special susceptibility. Some evidence exists that this occasionally occurs in the case of conditions associated with a deficiency of thyroid secretion; but, when one remembers that the lens is a purely passive structure, and that the nutritive requirements of its fibres are very limited, one would expect its response to noxious influences to be small and tardy. The difficulty of tracing the cause of a cataract in any particular instance is considerably enhanced by this fact.

A consideration of the conditions which are generally admitted to predispose to cataract shows that most, if not all, are such as are likely to be accompanied by marked disturbances of the endocrine organs. Senility is, perhaps, the condition which is most often associated with cataract. Failure of the generative glands to function fully is a leading feature of senility, and, owing to the delicate balance that exists between the activities of the internal secretory organs, such failure must require a compensatory effort on the part of the other endocrine glands. Satisfactory compensation occurs in most cases, but its establishment may sometimes be rendered difficult, or may be prevented by the existence of other factors, such as infections, food deficiencies, and hereditary influences.

Diabetes is generally recognized to be associated with a disturbance of the endocrine organs, and it is possible that such a disturbance may be a more powerful factor in the production of a diabetic cataract than the presence of a minute quantity of sugar in the aqueous humour. This latter may, however, be a contributing cause of the lens degeneration. Pellagra is a disease considered by many to be due to a food deficiency. Considerable disturbance of endocrine function occurs in it, and symptoms of hypoparathyroidism, such as "Chvostek's sign" (mechanical irritability of the facial nerve) and brittleness of the nails, are common.

Gastro-intestinal disturbances, infections, and the food deficiencies and conditions of malnutrition so common in India, are also causes of defective endocrine function, and may in this way affect injuriously the nutrition of the lens and render its fibres liable to degeneration.

It has been suggested by Peters that the cataract which follows tetany may be due to an irregularity in the supply of lymph, caused by a cramp of the ciliary muscle during the fits; tetany, however, is a manifestation of defective endocrine function—in this instance of the parathyroid—and it is possible that the cataract may be caused by a defect in the quality of the lymph rather than by a defect in its quantity. In any case the number of cataracts, the cause of which can be ascribed to convulsions, is by no means great and only represents a very small proportion of the primary cataracts met with; it is quite possible, however, that minor degrees of parathyroid deficiency, insufficient to cause convulsions, may be comparatively common, and that such may have an important influence in causing the disease.

It will thus be seen that a fair amount of evidence exists which suggests that a defective function of the endocrine organs may be one of the essential causes of primary cataract. From clinical observation, and from the known effect of thyroid and parathyroid deficiencies upon tissues allied to the lens, it might be expected that disturbances in the function of these glands would most likely prove determining factors; such disturbances, however, need not necessarily occur primarily in these glands, but may be dependent upon a failure in the function of other endocrine organs.

Whilst it must be admitted that it is not possible to state with certainty the cause of primary cataract, the following conclusions appear to be legitimate:

1. The cause of primary cataract is probably a constitutional one.
2. Most of the morbid conditions which are associated with the development of primary cataract injuriously affect the action of the endocrine glands.
3. Primary cataracts sometimes follow thyroid and parathyroid deficiencies, and are almost certainly then caused by a disturbance of endocrine function.
4. Exposure to injurious heat and light rays and the existence of an uncorrected error of refraction are likely to determine the formation of a cataract in the eye of a person who is predisposed to a degenerative change in his lens fibres by a constitutional defect.

PNEUMONIA NEONATORUM.*

BY

FRANCIS J. BROWNE, M.D., CH.B.ABERD.,
F.R.C.S.EDIN.,
RESEARCH PATHOLOGIST, ROYAL MATERNITY HOSPITAL, EDINBURGH.

(Working under the Medical Research Council.)

OUT of the 80 cases of infantile death there were 21, or 26.25 per cent., in which the cause of death was found to be pneumonia.

Eleven of these occurred in premature and 9 in full-time infants, the ages varying from 8 hours to 5 weeks. The very large proportion occurring in premature infants is to be noted, and illustrates the increased liability to infection on the part of the premature infant. Thus, if we take the proportion of premature to full-time infants as 1 to 10, we arrive at the conclusion that the premature infant is about fourteen times as liable to die from pneumonia as the infant born at full time.

Associated Conditions.—Five of the infants were syphilitic, another was probably so, while another had fracture of the supraorbital plates with extradural haemorrhage overlying them. One of the syphilitic cases showed an extradural haemorrhage in the spinal cord. In many of the cases, especially amongst the premature infants, there were atelectatic areas in the lungs, and in some cases these involved part of one lung and a large part of the other. It is, therefore, probable that atelectasis is a predisposing factor in the causation of pneumonia.

Premature Rupture of Membranes and Pneumonia.

A consideration of some of the cases would seem to show that premature rupture of the membranes can allow ante-natal infection to occur, and that a child may be born not only infected, but even suffering from pneumonia in an advanced stage.

In one case the mother was admitted to hospital after a long delay at the patient's home. The membranes had been ruptured for some time before admission. Forceps were applied in hospital and a blue baby, breathing badly, was born, which died eight hours afterwards.

At *post-mortem* examination the child was found to be at full time and 3,800 grams in weight. The lower lobes of both lungs were of solid consistence, and on squeezing the cut surfaces they exuded a yellowish frothy fluid. The lower lobe of the right lung sank in water, and each pleural cavity contained about two ounces of thin blood-stained serum. Microscopically the lungs showed an advanced degree of catarrhal pneumonia in the stage of grey hepatization. Granular débris was the main content of the alveoli, but some pigment-containing endothelial cells, a few polymorphs, lymphocytes, and an occasional disintegrating red cell with some fibrin could still be made out. At other parts no cells whatever could be found, and the whole appeared to be a necrotic mass, in which even the alveolar walls could scarcely be distinguished.

Cultures from the lung on blood agar yielded an organism of the pneumo-bacillus group. It is impossible that such an advanced degree of grey hepatization could have been reached in the eight hours during which the child lived, and its blueness and difficulty in breathing at birth are strong evidence in support of ante-natal pneumonia.

A second case was a four-para with contracted pelvis. The first two children had been born dead at full time (craniotomy). The third labour was induced, and the child is alive and well. The present labour was also induced by packing the lower uterine segment with gauze; the packing was removed in twenty-four hours, when the membranes were found ruptured. Labour pains did not start, however, for three days, during which the patient received hot douches. Labour was in the end rapid, the child being "shot out." It required resuscitation, and breathing was wheezy and rapid. It lived three days, and during this time it was blue, its breathing difficult, and the abdomen distended.

At *post-mortem* examination the weight was 2,690 grams, length 20 inches, and therefore it was very near, or actually at, full time. The cord was dry and healthy. In the right pleural cavity there was about an ounce of brownish-yellow purulent fluid containing flakes of lymph. The right lung was quite solid except for a small part at the apex. On section it resembled grey marble, greyish and reddish-brown areas alternating, and on squeezing it exuded a brownish purulent fluid. The left lung was crepitant and oedematous, and at its lower margin there were a few well-defined abscesses 1 mm. in diameter. The heart showed marked dilatation of the right auricle and ventricle. The tricuspid valves were puckered and covered with vegetations and dark-coloured blood clot. The mitral valve presented a similar appearance, but less marked, while the aortic and pulmonary valves seemed normal. Microscopically the lungs showed typical grey hepatization with large areas of necrosis, and the liver cloudy swelling and fatty change. Cultures from lung, heart, and pus in the pleural cavities gave a pure growth of *Bacillus coli*.

The condition was therefore pneumonia and empyema with septic endocarditis, and the short duration of illness, the condition of the child at birth, and the finding of the *B. coli* as the infecting organism, seem to point to the infection being an ante-natal one, due to premature rupture of the membranes allowing infection of the liquor amnii. It should be stated that the mother's puerperium was perfectly normal, and there was not the slightest rise of temperature throughout. These two cases seem to prove the possibility of ante-natal infection and even of ante-natal pneumonia.

Condition of the Lungs.—The following tabular statement shows the condition of the lungs in the 21 cases, determined after naked-eye and microscopic examination:

Ordinary catarrhal pneumonia (1 with pleural effusion, 2 with empyema)	11
Interstitial pneumonia with catarrhal pneumonia superadded	2
Catarrhal pneumonia (patchy) *plus* haemorrhage into alveoli and bronchi	1
Acute congestion and oedema of the lungs with haemorrhage into alveoli and bronchi	5
Interstitial *plus* catarrhal pneumonia *plus* haemorrhage into alveoli and bronchi	1
Interstitial pneumonia *plus* congestion and haemorrhage into alveoli and bronchi	1
Total	21

All the catarrhal pneumonias were in a fairly advanced stage—red or grey hepatization. The alveoli contained chiefly large flattened endothelial cells, generally phagocytic and containing pigment, probably derived from red blood cells, red blood corpuscles, or even a complete polymorphonuclear leucocyte. There were generally exceedingly few polymorphs present, and this applied to all stages, though in the early cases they were slightly more plentiful. This absence of polymorphs shows that in the young infant there is little or no defence against the infecting agent. Red blood cells, generally with pigment, an occasional lymphocyte, a little fibrin and granular débris, were the only other contents. To the naked eye the lung in many of the cases of catarrhal pneumonia presents a somewhat deceptive appearance—namely, it may seem on removal from the chest to be well aerated, be crepitant, float buoyantly in water, and on section appear to be only slightly congested and oedematous. It is only on microscopic examination that the true state is discovered and a patchy catarrhal pneumonia revealed.

There were two cases of interstitial pneumonia with catarrhal pneumonia in patches superadded. The thickened alveolar walls of the former, with the poorly distended alveoli containing catarrhal cells, make it very difficult to distinguish, even microscopically, from the patches of catarrhal pneumonia, but in the former the cells in the alveoli are phagocytic endothelial only, derived from the lining of the alveoli, with the addition of a few red cells. The cells are comparatively few in number and are loosely arranged, while in the latter there are in addition to the endothelial cells many red blood corpuscles, fibrin, with a few polymorphs and lymphocytes, and the mass fills the alveolus more completely, giving to the part a much more solid appearance.

Signs and Symptoms.

In none of these cases of pneumonia had its existence been suspected before death and *post-mortem* examination. There was no rise of temperature, no notable degree of cyanosis, nor rapidity of breathing except in the case of No. 5, where blueness and rapidity and difficulty of breathing had been present from birth, and was naturally ascribed to atelectasis. In this case, too, the abdomen had been somewhat distended, though it is not clear if this sign was also present from birth. A history is generally obtained that the child seemed to be slightly blue and its extremities cold, and did not cry strongly or feed well. In one case where such symptoms were present I was able, on examining the bases of the lungs behind, to find well-marked tubular breathing, and thus a tentative diagnosis of pneumonia was made, though the child at that time was only 30 hours old. It died six hours later, and at *post-mortem* examination both lungs were found to be consolidated. This, however, was an unusually favourable case, and it is probable that in the usual type of patchy catarrhal pneumonia no definite physical signs could be made out even if most carefully looked for.

Acute Haemorrhagic Pneumonia of Infants.

There were, it will be noticed, six cases in which there was congestion with more or less oedema of the lung associated

* This paper formed part of a report on "Stillbirth, its Causes, Pathology, and Prevention" to the Medical Research Council, May, 1921.

with haemorrhage into the alveoli and bronchi. Five of these occurred in previously healthy lungs, while in one there was a precedent interstitial pneumonia. The blood in these cases is invariably fresh, and has evidently been poured out just before death. Its amount varies, sometimes tightly filling the alveoli and bronchi over a large area of lung, in other cases filling the alveoli more loosely. There is always a corresponding amount of blood extravasation in the alveolar walls. There is at the same time a certain amount of catarrh of the endothelial cells lining the alveoli, so that the latter contain a few large flattened endothelial cells, generally containing pigment, and similar endothelial cells are found in the alveolar walls. Very rarely is there any actual catarrhal pneumonia in these cases. Sometimes the congestion is accompanied by intense oedema. In 4 of these cases death occurred suddenly: in 3 of these 4 it was preceded by epistaxis; the fourth occurred at the patient's home and no observation was made. The course of events seems to be as follows:

The first stage is that of lung congestion—general, or limited to certain areas. The fragile foetal vessels are unable to stand the strain of the sudden inrush of blood and consequently give way, and blood is poured out into the alveoli and bronchi. The child has generally up to this point appeared to be perfectly well, or at least is so till within an hour or less of death. Death occurs suddenly, probably due to the haemorrhage, and is immediately preceded by epistaxis. The child is blanched; there is no cyanosis, therefore the blood is of different origin from that found in cases of catarrhal pneumonia, where the blood comes from the congested nasal mucous membrane. In the haemorrhagic cases the blood comes from the lung itself, and traces of it may be found on examining the upper air passages. The presence of blood in the alveolar walls of the lung precludes the possibility of that in the alveoli and bronchi having been swallowed; besides, on careful examination one can find some capillaries that have been ruptured and from which blood had been flowing when death occurred.

Neither syphilis nor prematurity seems to be a necessary factor in the causation of these intrapulmonary haemorrhages. One of the six cases was syphilitic and four were premature; therefore it is probable that both of these conditions predispose to it, though in the case in which the haemorrhage was most marked the child was at full time and non-syphilitic.

Naked-eye Appearance of the Lung.—The lung appears congested and oedematous and feels rubbery and semi-solid. On squeezing the cut surface frothy bloody fluid exudes. It generally contains still enough air to enable it to float, though poorly. In the more severe cases, however, the lung or part of it (not necessarily the lower lobes, though these more frequently than the others) may be solid and of liver-like consistence, containing no air and consequently sinking in water if separated from the rest of the lung.

The Cause of the Congestion.—In only three of these cases were cultures made: in one there was a pure *Bacillus coli* infection, in one *Staphylococcus aureus*, while in the third there was no growth on blood agar, and Gram-stained sections of the lung failed to show any organism. In the last case the thymus was enlarged, and the cause of the acute congestion and oedema with resulting intrapulmonary haemorrhage may possibly be put down as anaphylactic. This case was the first which drew my attention to the condition, and, on account of its representing what appears to be a distinct type of pneumonia with certain unique clinical and pathological features, seems worthy of being reported in full. The case occurred in the practice of Dr. R. W. Johnstone, by whose permission I am able to report it. The clinical history in Dr. Johnstone's words was as follows:

"The child was the first of two healthy parents. The mother had a perfectly normal pregnancy and the infant was born exactly at full time. Labour was not difficult, and forceps were employed only to improve the flexion of the head and bring it on to the perineum. The actual delivery was spontaneous. The child, a male, was lusty at birth and weighed 8 lb. 3 oz. He made quite normal progress and put on weight satisfactorily on his mother's milk. At the end of three weeks he was circumcised. Dr. Torrance Thomson gave the anaesthetic and there were no signs of anything abnormal. At 4½ weeks he was vaccinated. The vaccination took mildly and satisfactorily, and the arm never gave any trouble. When he was exactly 5½ weeks old the night nurse found him lying dead in his cot with a little frothy blood exuding from his nose and staining the pillow. She had lifted him to change the napkin half an hour previously and had noticed nothing wrong, nor had he presented any symptoms during the preceding day or evening. During the half-hour since she had lifted him the nurse was sitting within a few feet of his cot and he had made no sound. It was only accidentally that she discovered his condition when she rose to attend to another infant and saw that he was lying slightly more over on his face than was usual. She then drew aside the curtain of his cot to alter his position and found the condition described.

"I saw the body a quarter of an hour later. The infant was quite dead, and the body *rather white;* there were still traces of blood in the nostrils.

"As I could offer no explanation of the tragedy I asked Dr. John Thomson to see the body with me early next morning. He likewise could offer no explanation. The parents therefore willingly consented to a *post-mortem* examination, which was made by Dr. F. J. Browne about twelve hours after death."

The following was the *post-mortem* report:

The body was that of a well-nourished male child of average size and weight. There was one healthy and dry vaccination scab on the left arm, and the circumcision wound was quite healed. The body was rather white, and there were traces of blood about the nostrils.

The *brain* showed no injury or congestion, and the tentorium cerebelli was uninjured.

On opening the chest the large thymus at once attracted attention. Its increase in size was not from above downwards but *antero-posteriorly*, in which diameter it appeared to be almost twice the normal thickness. It was slightly congested, and weighed 17 grams. *Microscopically* no abnormality was found. The corpuscles of Hassal were few, reticulum scarce, and lymphoid tissue very pronounced. The thyroid was normal in size, and showed no abnormality on microscopic examination. The colloid seemed normal in amount, and there was no evidence of hyperplasia.

The *lungs* were well expanded and generally bright pink in colour; they floated buoyantly in water, with the heart attached. The right showed slight congestion of all its parts; it was pink in colour and was well aerated. The upper lobe of the left lung had a *rubbery feel* and was *dark red in colour*. On squeezing the cut surface frothy bloody fluid exuded. The rest of the lung was slightly congested, thus resembling the right. The upper lobe contained air and floated in water when separated from the rest of the lung. There was no subpleural haemorrhage and no pleural effusion.

Microscopically.—The upper lobe of the left lung showed intense congestion and oedema, so that the alveolar walls were much thickened. The alveoli and bronchioles contained fresh blood, in many cases completely filling them, in others leaving still a small round, air-containing space in the centre of the alveolus. In most of the alveoli and bronchioles there were a few large endothelial cells containing pigment. There were no other cells present except an occasional polymorph. Many of the alveolar walls also contained extravasated fresh blood, and here also there were numerous endothelial phagocytic cells. Sections from other parts of the lungs showed a fair amount of oedema and congestion, but far less intense; all sections examined showed well-marked *emphysema*, which was as noticeable in the less affected parts of the lung as in those parts where congestion and oedema were very marked.

The *heart* was normal; it showed no sub-epicardial haemorrhages, and microscopically showed nothing unusual.

The *liver* was slightly congested; cells were swollen, granular, and pale, but there was no evidence of cirrhosis.

The *spleen* was not enlarged, but was somewhat diffluent on section.

Microscopically.—The Malpighian bodies were very well marked, but could not be definitely said to be abnormal in extent. The pulp was very oedematous and in consequence details were difficult to make out.

All the other organs were normal and the epiphyseal lines were healthy. Levaditi stained sections of the organs failed to show spirochaetes. There was thus no evidence of syphilis, though the Wassermann test was not carried out upon either parent. Except for the thymus enlargement, which was quite definite, there was no other evidence of hyperplasia of the lymphoid tissue either in chest or abdomen, neither was there the least evidence of asphyxia.

Cultures from the left lung and from the liver on blood agar were sterile, and Gram-stained sections of the lungs failed to show any organism.

The presence of the large amount of oedema in this case was noteworthy; in no other case was it anything like so marked. It was a yellowish opaque fluid that could easily be seen in the stained section by the naked eye. The other cases showed none of this, but congestion and haemorrhage only. In none of the other cases was the thymus enlarged, nor was there evidence of hyperplasia of the lymphoid tissue elsewhere. In two, however, there were peculiar appearances in the thyroid. The child in the former case had been found dead in bed with the mother at the age of 10 days. It had been born at full time, had always seemed perfectly healthy, and had been in its usual good health the night previous to its death. Suspicion of overlaying naturally arose. Of this, however, there was no evidence, and the lung showed intense congestion and haemorrhage into the alveoli and bronchi. The thyroid contained no colloid, and the cells lining the acini were shed into the lumen. A similar appearance was found in another case, where there was also, however, fairly

well marked though patchy fibrosis of the thyroid, though there was no other reason to suspect the case as syphilitic, and the other organs showed no syphilitic change.

It would seem, therefore, that where—especially in a premature or syphilitic infant, in which the vessels are particularly apt to give way under strain—a fairly acute congestion of the lungs occurs, the capillaries in the alveolar walls may give way and suddenly flood the air passages (alveoli and bronchi) with blood, invariably causing sudden death, the only preceding physical sign being the blanching of the skin and epistaxis. The congestion may be due to an organism of normal or increased virulence, or it may occur in the absence of any organism and may then be possibly of the nature of an anaphylaxis. The condition is not limited to premature or syphilitic infants, but may also occur in full-time and previously healthy infants, though in these the congestion probably requires to be more acute and of greater degree. This "acute haemorrhagic pneumonia of infants" forms a distinct clinical and pathological entity and accounts for many of the sudden deaths occurring in infants previously apparently healthy.

Summary.

1. Pneumonia is a common cause of death amongst infants during the first week after birth, and accounted for 21 deaths out of 80, or 26 per cent.

2. It is sometimes due to ante-natal infection from premature rupture of the membranes, and the infant may be not only infected but also suffering from an advanced stage of pneumonia before its birth.

3. In the infant there is little defensive reaction as compared with the adult against the infecting agent.

4. Pneumonia in the first few days of life is an extremely insidious disease, generally presenting no characteristic symptoms which might lead to its presence being suspected and the carrying out of physical examination.

5. Even at *post-mortem* examination the presence of the disease *may* be missed if microscopic examination of the lungs is not carried out.

6. "Acute haemorrhagic pneumonia of infants" forms a distinct clinical and pathological entity which gives rise to sudden death in children who may be apparently previously healthy, either full-time or premature. It follows acute congestion of the lungs, the fragile vessels in the alveolar walls rupturing and flooding the alveoli and bronchi with blood. The sudden death is preceded by epistaxis and blanching of the skin, and the etiological factor may be organismal or possibly of the nature of an immediate anaphylactic reaction.

7. The importance of avoiding premature rupture of the membranes during labour, and of taking every precaution to safeguard the newly born infant against infection, cannot be over-emphasized.

A CASE OF DISSECTING ANEURYSM OF THE AORTA.

BY

SIR HENRY DAVY, K.B.E., C.B., M.D., F.R.C.P.,

AND

MABEL GATES, M.D.LOND.

[*With Special Plate.*]

THE patient, a man aged 55, had usually enjoyed good health. He was a married man with three grown-up healthy children, and had led a very active life as a master baker; he frequently lifted heavy weights (large baskets of loaves, etc.) in his business. Once a month he went to London and back in the day to attend a meeting as a director.

He first consulted Sir Henry Davy in June, 1914, for papular eczema on his right leg and left arm; the papules in many places formed small sores, but were easily cured with ordinary treatment. In 1915 and 1916 he was seen twice with two attacks of slight influenza. In 1919 he had a rather severe bleeding from the nose, and was attended by Dr. Andrew. A few months after this he had another attack, when he was sent to Mr. Worthington, who found and speedily cured an ulcer on one of the nostrils. He was seen twice in 1920 with a return of his rash, and then it was noted that he had a rather high blood pressure (180 and 183), but he quickly got rid of the rash and was under no medical attendance from December, 1920, until November, 1921.

History of Attack.

On October 31st, 1921, he felt quite well, and went to London, leaving Exeter by the 7 a.m. train, and returning at 9.30 p.m. He went to bed, slept well, and got up and went to business the next morning as usual. There is no clear history of what work he did that morning.

About 10 a.m. on November 1st he felt discomfort in his chest and stretched his arms backwards. Almost immediately he was seized with intense pain in the region of the heart and became very ill indeed. Dr. Mabel Gates, who attends his wife and daughter, saw him almost immediately. She found him "with intense pain in the region of the heart, collapsed and sweating, with a quick irregular pulse, and apparently dying." Sir H. Davy joined Dr. Gates just before 11 a.m., and found that the patient had somewhat recovered under her treatment with amyl nitrite. His pulse was very quick, but regular. He was pale and somewhat collapsed. He complained of a sharp intense pain, which he said started from the nipple in front and passed straight to almost the same level of the spine behind. This pain prevented his keeping still for a minute. He was constantly up and down in bed, and in and out of it, trying by change of position to get ease.

As the pain continued in spite of nitroglycerin and amyl nitrite, he was given an injection of morphine gr. 1/5 at about a quarter to 12, after which the restlessness nearly ceased, although he still said he was in pain. When we saw him again together at 9 p.m. he was quiet, his pulse had recovered considerably, and was 64 to the minute, and his temperature was subnormal, 97°. He still, however, complained of pain. Up to this time we could not examine him at all thoroughly: he was too restless and too ill. But on superficial examination of the heart and lungs there was nothing very definite to be found. We ordered another injection of morphine gr. 1/4, to be repeated after six hours if necessary.

Discussing the condition together, we could not arrive at any definite conclusion. The pain in the region of the heart, the quick irregular pulse, together with the collapse and sweating, might have gone very well with angina. But the restlessness was altogether unlike it. At our next visit the following morning we found the conditions entirely changed. He had passed a fairly good night, sleeping at intervals, and taking a fair amount of milk and water as nourishment. The pain had not been so severe and no second injection had been needed. Examination showed—

1. The area of cardiac dullness was much increased, extending upwards to the second rib on the left side, downwards about 2½ or 3 in. below the nipple line and outwards to about 3 in. outside the nipple line.

2. The heart was visibly displaced in accordance with these measurements, being pushed downwards and outwards. The area of pulsation corresponded with the areas described, and the apex beat was in a line with the axilla.

3. There were no adventitious heart sounds, and there was no bruit over the aorta, either back or front. The blood pressure was 180.

4. On turning the patient on his side a small area of dullness was found at the base of the lung; there was a want of entry of air all over the back of the chest, and an impaired note of resonance over a much greater area than the dullness.

It was evident that we had not to do with an ordinary case of angina, and, after discussing all the symptoms carefully, we came to the following conclusions:

1. That the heart had been displaced downwards and outwards by the formation of an aneurysm in the neighbourhood of the arch of the aorta.

2. That this had developed more or less slowly with intense pain, and that therefore it was probably due to a dissecting aneurysm.

3. That the dullness at the base of the left lung showed that there was a leakage of blood into the left pleura.

The intense pain I have described led us to diagnose a dissecting aneurysm. Once before one of us had had an opportunity of observing the sudden formation of an aortic aneurysm.

A delicate lady with a very bad family history, who was accustomed to no muscular work, decided to roll her own lawn with a rather heavy new roller. After doing so for some little time she was suddenly seized with a pain in the back. Both she and her husband, who was a doctor, thought she had just strained her muscles or had rheumatism from the unusual work. I saw her ten days after, as the pain continued. Careful examination revealed a small pulsating tumour in the abdominal aorta, just above its bifurcation into the iliac arteries. In my opinion the pulsation was distinctly expansile, and I diagnosed an aneurysm which had suddenly developed during the rolling. The pain was

never very intense, but it continued. Abdominal, or for that matter any, aneurysm is so rare in a woman that neither the husband nor any of his medical friends believed in my diagnosis. Eventually the patient saw by my wish an eminent London surgeon, who scoffed at the idea of an aneurysm, and promised immediate relief by removing an ovary adherent to the aorta. However, at the operation he found no such adherent ovary, but a well-marked aneurysm, and the patient has continued to suffer pain ever since.

But this case and other recorded cases did not suffer from the intense pain and restlessness displayed in our case. Dr. Gates and I thought, therefore, that we were dealing with a dissecting aneurysm, and that the separation of the coats of the aorta was the cause of the intense pain described. A dissecting aneurysm would also more probably account for a small leakage of blood into the pleural cavity, and so for the dullness found at the base of the left pleura.

Having, then, made our diagnosis, we thought we might get confirmation of it by an *x*-ray photograph, and Dr. Hodgson, head of the electrical department at the Royal Devon and Exeter Hospital, having a movable apparatus that he can take to patients' houses, we asked him to take a radiogram of the chest. This he did three days after the onset, and this radiogram (see Special Plate) clearly shows an aneurysm arising near the arch of the aorta.

The patient lived for nineteen days after the onset of the symptoms, being kept quiet in bed, and his pain kept in abeyance by an injection of 1/4 grain of morphine night and morning. On two occasions during this time he had severe attacks of pain with collapse, caused once by his getting out of bed against orders, and once by his getting excited about something. The temperature was at first slightly raised (99° to 100°) for four days, it was then normal for three, and then there was a rise to 101° every evening, falling to about 99° in the morning. His systolic blood pressure was at first 200 to 195, but towards the last week it varied between 162 and 159. The physical signs on the left side of the chest varied, owing to an increasing amount of fluid forming in the chest, due, as it turned out, to increasing pleuritic effusion. No bruit was to be heard over the heart or over the aorta until the day before his death, November 18th, when a well-marked humming bruit was heard over the aorta behind at the level of the fourth dorsal vertebra. On November 19th he was quiet and free from pain all the morning, but at about 4 p.m. he said he felt faint and died almost immediately. A *post-mortem* examination was performed by Dr. Solly, pathologist to the hospital, the next day, and his account is as follows:

The left pleural cavity was sealed by adhesions, and on opening this blood-stained fluid was seen, and a large amount of blood clot, mostly recent, but some of some days' standing, was removed. The heart was enlarged and showed hypertrophy, particularly of the left ventricle, but there was no valvular disease present. There was a definite dissecting aneurysm, about the size of a small orange, at the apex of the transverse arch of the aorta, caused by the rupture of the inner coat of the aorta at this situation, where it was definitely weakened by calcareous patches of atheroma. This dissecting aneurysm had ruptured into the left pleural cavity and so caused death from haemorrhage.

TRAUMATIC ARTERIO-VENOUS ANEURYSM.

BY

GEO. G. FARQUHAR, M.B., CH.B., F.R.C.S.ENG.,

HONORARY SURGEON, DARLINGTON HOSPITAL.

[*With Special Plate.*]

IN October, 1918, a man aged 49 fell from a bicycle, receiving a severe blow on the right side of the crown of the head. He was unconscious for several hours. A fortnight afterwards the left eye became prominent and its vision defective. Within another week the right eye began to protrude, and he was sent into Darlington Hospital by Dr. Williams of Richmond (Yorks).

On admission his appearance was as shown in Fig. 1 (see Plate). Both eyes were in a state of extreme proptosis, the conjunctivae chemosed, oozing a bloody serum and projecting in thick rolls between the lids and the corneo-scleral junction. Both corneae had lost their lustre, and their ground-glasslike surface prevented a clear view of the fundus. The pupils were slightly dilated, and vision in each eye was only 6/60. Speech was slow and the mental condition sluggish and depressed. The patient complained of a confused sensation in the head but no real headache. The temperature was normal, and there was no obvious sepsis about the nose or jaws to suggest cavernous sinus thrombosis. No pulsation could be detected about the orbits.

Suspecting arterio-venous aneurysm, I listened over the left temple and heard a loud systolic bruit. This was equally well heard over the right temple. Pressure over the left carotid tubercle silenced this bruit; pressure over the right had no effect.

The injury had evidently caused a fracture of the base of the skull, wounding the left internal carotid artery as it lay in the inner wall of the left cavernous sinus, and producing an arterio-venous aneurysm. Through the circular sinus the arterial pressure had reached eventually the right cavernous sinus, and then proptosis became bilateral.

On October 24th I tied the left common carotid, and the intracranial bruit ceased immediately. In a few days there was less oedema of the conjunctivae, and this improvement continued steadily, the proptosis diminishing *pari passu*. In three or four weeks all oedema had disappeared, and vision in the right eye had improved to 6/6. Vision in the left eye was still only 6/60, and this cornea remained "steamed." The left eye now developed an internal squint, due probably to injury of the sixth nerve by the fracture or by the subsequent arterio-venous aneurysm. As both eyes had been immobilized by oedematous surroundings this paralysis of the sixth nerve was only evident on subsidence of the swelling and return of the mobility.

Ligature of a common carotid is said to be followed by mental symptoms in some cases. In this case no ill effect resulted; on the contrary, the patient became more alert and cheerful.

One of the photographs in the special plate shows the distressing appearance of the man on admission, and the other shows the improvement three weeks after operation. The slight swelling of conjunctiva still visible above the right lower eyelid disappeared entirely during the following week. After leaving hospital the patient was lost sight of, and no information could be gathered about the final result as regards vision of the left eye and strabismus. I am informed that a year after operation he was apparently well and engaged in his usual occupation.

PNEUMOTHORAX IN A BOY AGED 7: RECOVERY.

CLINICAL AND X-RAY REPORTS.

BY

WILLIAM B. MARTIN, M.R.C.S., L.R.C.P., D.P.H.,

TUBERCULOSIS DISTRICT OFFICER, KENT COUNTY COUNCIL;

AND

ROBERT KNOX, M.D.,

RADIOLOGIST, KING'S COLLEGE HOSPITAL.

[*With Special Plate.*]

PULMONARY tuberculosis as it occurs in the adult is comparatively rarely found in children. In them thoracic tuberculosis more usually manifests itself as an enlargement of the lymphatic glands at the root of the lung, a condition which can be recognized by physical examination and by radiography. The relationship between pulmonary and glandular tuberculosis and age is not yet by any means clear, and is a very wide subject which lends itself to endless discussion. Some Continental writers, quoting the findings of hundreds of autopsies, assert that tuberculous enlargement of the glands at the root of the lung in children is always secondary to a lung focus or foci.

They describe such a focus in comparison with the adult pulmonary lesion as being usually very small, and state that often in children past infancy it is found to be in a state of arrest, cavity formation having sometimes taken place before this has come about. These foci are usually situated subpleurally, but on account of their relatively minute size it is not surprising that clinically, or even radiographically, their presence cannot be often demonstrated, and of course this would be all the more difficult in the case of a focus situated on the diaphragmatic or mediastinal surface. I recently came across a very interesting case of pneumothorax in a boy, aged 7, who had signs of intrathoracic glandular tuberculosis without any evident pulmonary lesion which would appear to be quite possibly an illustration of such a condition. He came under notice as a "contact" to his brother, who was already attending one of the tuberculosis dispensaries under my charge for tuberculous cervical glands, and I first examined him on February 18th, 1920.

His father had an enlarged gland removed from his neck in his youth, but since that time has not shown any evidence of tuberculosis. His mother died in childbirth; she is stated to have usually been in "poor health," for which apparently no definite cause had ever been assigned. There is no other history of tuberculosis in the family.

He was said to have attended school regularly, to be generally full of life and mischief, and rarely complained of anything except

occasional mild attacks of abdominal pain and distension, sometimes accompanied by diarrhoea. Occasional cough had been noticed, but no dyspnoea or sputum.

He gave me the impression of being of an unusually excitable disposition. His chest and arms were thin, but he was not much under weight for his age. It was noticed that the venous network was unusually apparent under the skin of both temporal, upper frontal, left cervical, and anterior thoracic regions. The abdomen was slightly distended, but no definite thickening, dullness, or tenderness could be made out. Two small glands were to be felt in the left anterior triangle of the neck and one in the right. Both tonsils were moderately enlarged. Paravertebral areas of comparative dullness were elicited on light percussion in both upper interscapular regions, more particularly on the right. The breath sounds were relatively harsh over the same areas and over both upper apices, especially the right. No moist sounds were heard except an occasional rhonchus, clearing on coughing, at the left base behind. D'Espine's sign was present.

A 50 per cent. solution of old tuberculin gave a positive von Pirquet reaction. I made a diagnosis of tuberculosis of the mediastinal glands with a preponderance of infection on the right. A skiagram of the chest was not taken at the time, but Fig. 2 (see Special Plate) confirms my diagnosis and demonstrates the apparent absence of definite pulmonary disease of the usual adult apical type. I considered that the mesenteric and cervical glands were also infected.

He attended the dispensary again three weeks later, and there was then apparently no change in his condition. On the occasion of his next visit—four weeks afterwards—he was obviously suffering from dyspnoea, and his face and ears were slightly cyanosed. His aunt gave a history that she first noticed the dyspnoea two weeks previously, that it appeared to come on suddenly after he had been crying hysterically in a fit of "temper" for some time and that he had complained of pain in the abdomen and chest and had vomited several times. She had called in a doctor, who, she said, made a provisional diagnosis of appendicitis, and advised rest, since when the breathlessness had improved and vomiting ceased.

On examination it was seen that the previously noted subcutaneous venous engorgement had become more apparent, and the apex beat of the heart was plainly visible in the right mid-axillary line. There was no heart dullness discoverable on the left side and the whole of that side, back, and front gave out a tympanitic note on percussion.

The right supra- and infra-clavicular regions were also tympanitic. On auscultation tubular breathing was heard in the right supra-clavicular fossa, and over the other areas of abnormal resonance the typical signs of pneumothorax were found—amphoric breathing (with the metallic quality well marked) and "bruit d'airain." The boy's chest was *x* rayed by Dr. Knox at the King's College Hospital, Denmark Hill, and my diagnosis of pneumothorax confirmed (see Fig. 1).

As the respiratory distress appeared to be becoming less, and as there was no ana-area or evidence of fluid in the pleural or abdominal cavity, I decided not to attempt artificial release of the imprisoned air, even though it was evidently still exerting considerable pressure. In addition to the displacement of the heart this was indicated by the bulging of the intercostal spaces on the left side, slight convexity of the dorsal spine to the right, and the evident encroachment of the upper portion of the left pleural sac over the uppermost anterior surface of the right upper lobe.

Within a few weeks the boy regained his normal appetite and mental vivacity, and could walk about quietly without apparent respiratory embarrassment, but the physical signs showed no alteration whatever for three months, when it was first noticed that the amphoric breathing was losing its metallic quality and was not so intense.

At the end of six months after the "accident" amphoric breathing had almost disappeared, but "bruit d'airain" could still be demonstrated all over the left side, but not over the right clavicular regions as before. There was no apparent change in the position of the heart. The boy could walk about now quite easily, but still had to refrain from "playing" outside.

Nine months after the accident his chest was screened again, when it was found that the heart was still situated entirely to the right of the sternum and the left lung still appeared to be quite collapsed.

Six weeks later the amphoric breathing was found to have given place to diminished breath sounds of a normal type, and it was clinically clear that the lung was functioning to a certain extent. The apex beat of the heart was at that time seen to be just to the left of the sternum; it kept moving more and more to the left until, twelve months after the date of onset of the pneumothorax, it had practically resumed a normal position.

At the present time the breath sounds on the left are almost as full as on the right, and judging from his general condition it would never be suspected that he had been through such a severe complication. He runs about now, has tales to tell of his prowess at boxing, and evidently finds my veto against football irksome.

The condition of the chest sixteen months after the "accident" is shown in Fig. 2. The left lung and heart are seen to have almost returned to their normal positions, and—I wish to repeat—the absence of a gross pulmonary lesion, such as would almost certainly precede such a complication in an adult, is very noticeable.

The determining cause of pneumothorax in the adult is usually the rupture of a superficially placed cavity, and an explanation of the "accident" in this case might be the rupture of a small dry inactive cavity, such as that described at the beginning of this article. Another cause might have been the caseation and cavitation of a bronchial gland and contiguously placed lung tissue resulting in the formation of a sinus between the pleural cavity and the lung. Though children as a rule bear the toxaemia of active tuberculosis well, one would have expected more definite evidence of activity before and after the "accident" if this had been the case. Nor at any time has there been the slightest evidence of pus or fluid in the pleural sac, nor any sputum.

The pneumothorax would appear to have been of the valvular variety, the "flap" of the valve eventually becoming effectually closed. It is easier to conceive of the permanent closure of such a flap if it was composed of a piece of the free visceral pleura (evidently there were no old adhesions, as the pneumothorax was so complete) than of the efficient blockage of a sinus running through the tissues at the root of the lung, which must be involved in much chronic thickening and consequent loss of vitality and elasticity.

There is undoubted evidence of the spread of tuberculous infection by the blood stream and by direct continuity of tissue, and some apparently believe that it may spread along the lymphatics against the direction of the lymph flow; but, after all, it is an academically accepted fact that infection of a lymphatic gland is secondary to a focus situated in the area drained by that gland, a condition which in children is markedly exemplified by early enlargement of the gland.

This is the main theoretical argument in favour of the doctrine of the existence of a primary pulmonary focus in all cases of tuberculosis of the glands situated at the root of the lung.

Dr. Knox has kindly interpreted the main points shown on the excellent radiograms he has made as follows:

In Fig. 1 (posterior position) is seen the chest of a child showing complete pneumothorax on the left side. The heart and mediastinal contents, including the collapsed left lung, are displaced to the right of the dorsal spine. The right lung is somewhat compressed, the trachea is situated well over to the right side, and is oblique in direction. The diaphragm is fairly high in position on the right side and very much depressed on the left. On the fluorescent screen the movement of the diaphragm in respirations was irregular. The condition depicted is one of complete pneumothorax of the left side of the chest, with total collapse of the left lung, displacement of the heart, and the mediastinal contents to the extreme right of the thorax.

On July 19th, 1921, the patient was again examined and a very marked change observed (Fig. 2, anterior). The left lung has expanded, the right side of the diaphragm moves freely, the left side is more circumscribed in deep inspiration. The heart has not yet recovered its normal position, the apex being somewhat tilted upwards to the left. The left lung does not appear to have fully recovered its functional activity. The heart is somewhat enlarged; the right lung has expanded well. There is evidence of increased density of the roots of the lungs, particularly the right, where the glands are enlarged.

The condition revealed by the *x* ray examinations at various dates is extremely interesting. The duration of the symptoms extended over several months and there was no obvious improvement in the condition. The prevalence of the pneumothorax was strongly in favour of a valvular inlet into the pleural sac. The expansion of the lung seen in the later picture made it possible to determine the cause of the pneumothorax, the right root showed a considerable increase of density, and there is also evidence of a peribronchial thickening. There is evidently tuberculous infiltration of the root of the lung. This, however, could not be detected in the earlier pictures on account of the collapse of the lung upon the root.

FOREIGN BODIES IN THE GASTRO-INTESTINAL TRACT IN ACUTE APPENDICITIS.

BY

WILLIAM C. ALLARDICE, M.D., F.R.C.S.E.,

SURGEON, NORTH STAFFORDSHIRE INFIRMARY.

[*With Special Plate.*]

CONSIDERABLE interest having been lately displayed as regards the presence of foreign bodies in the gastro-intestinal tract, the following case seems worthy of record:

A woman, aged 35, was admitted under my care as a case of acute appendicitis. The only history given by her husband was that she had been ill for a few days, and that she had recently been in an asylum. As she had severe pain with marked rigidity in the right lower quadrant of the abdomen, operation was arranged for. When under the anaesthetic the nurse informed me that the patient said she had swallowed

a spoon and fork. It was then too late to take an *x*-ray photograph, so the operation was proceeded with. An incision was made in the right linea semilunaris, and on opening the peritoneum the caecum was exposed with a teaspoon impacted in the ileo-caecal valve. An incision was made in the small intestine, the spoon was extracted, and the aperture closed with two layers of catgut suture. The appendix was acutely inflamed and perforated at the apex, but was not adherent. This was removed and the stump dealt with in the usual way; the appendix contained no foreign body. The pelvis contained very offensive purulent fluid; a coil of the ileum was adherent to the back of the uterus, and more foreign bodies could be felt in this portion of the intestine. The abdominal incision was enlarged down to the pubis to gain access to this loop of bowel. This was separated from the uterus, and was brought up to the surface and packed off from the rest of the abdomen. The intestinal wall was acutely inflamed, covered with lymph, and perforated in several places. With a pair of scissors a 5-inch incision was made to include all visible perforations, and through this the following foreign bodies were removed: three pennies, three halfpennies, three pieces of spoon, the handle of a fork, one screw, one darning needle (broken), two tacks, one trouser button, one pen nib, one hairpin, four needles, three pins, and one half of a boot tip. The incision in the bowel was closed with two layers of catgut suture and two large drainage tubes were inserted, one into the pelvis and the other towards the caecum.

The patient stood the operation well and was given morphine to quieten the intestines. Rectal salines were administered, and nothing was given by the mouth except sips of water until forty-eight hours after the operation. There was profuse offensive discharge from the drainage tubes but no faecal fistula formed. Ten days after the operation she was sufficiently recovered to be taken to the *x*-ray department to be photographed. The accompanying plate shows the prongs of the fork in the stomach, a needle in the abdomen, three hairpins and the larger portion of the boot tip in the pelvis. Although the patient still had acute abdominal pain, and was obviously in great danger, it was not considered advisable to open up the abdomen again until her general condition had improved and the discharge from the tubes had ceased. She was kept strictly on fluid diet, and the bowels were opened every other day with enemata; she passed two hairpins in the motion, accompanied with great pain. Three weeks after the operation, the drainage tubes having been removed, and the wound being quiescent, a further operation was done. The original wound having been isolated, the abdomen was opened in the middle line below the umbilicus. A hairpin was removed from the small intestine in the pelvis, and the heel tip of the boot was found in a coil deep down in the pouch of Douglas, the latter being difficult to isolate and remove satisfactorily. The abdominal incision was enlarged up to the ensiform cartilage and the needle was felt lying between the stomach and transverse colon close to the large vessels. The point of the needle was pushed outwards and the needle extracted, a catgut suture being inserted at the point of exit. It was difficult to say exactly where the needle lay, as it seemed to have escaped from the stomach into the retroperitoneal tissues. The fork was eventually located in the cardiac end of the stomach with the prongs entangled in the mucous membrane. It was impossible to remove it from this situation, so it was turned over on itself and pulled down towards the pyloric end of the stomach. This was opened, the fork removed, and the opening closed with two layers of catgut sutures as in the removal of the other foreign bodies. The abdomen was closed with a drainage tube in the pelvis, but, as no discharge followed, this was removed in forty-eight hours. The after-treatment was similar to that employed in the first operation, and the patient made an uneventful recovery.

The history of the actual swallowing of the different articles is, of course, unreliable; it is impossible to say how long these were in the intestinal tract. The patient said she had to break the fork and darning needle to swallow them, but managed the teaspoon whole, and had no great difficulty with the heel tips. She states that she first complained of severe pain in the abdomen one week after her discharge from the asylum, and this caused her to consult a doctor.

The onset of acute appendicitis with a teaspoon impacted in the ileo-caecal valve, the tolerance of the intestinal tract to this extraordinary collection of articles, and her eventual recovery are somewhat remarkable.

NASAL DIPHTHERIA AFTER ENUCLEATION OF THE TONSILS.

BY

B. SEYMOUR JONES, F.R.C.S.,

SURGEON, EAR AND THROAT HOSPITAL, BIRMINGHAM.

IT is an interesting coincidence that the writer has seen five cases of nasal diphtheria at the out-patient department of the Birmingham Ear and Throat Hospital during the last year, in which the tonsils had been perfectly enucleated and the adenoids removed. It is not desired to indicate that the removal of the tonsils renders a patient more susceptible to infection by diphtheria, but that, through the removal of the *locus minoris resistentiae*, the tonsils, infection may be diverted to a situation where it escapes prompt recognition by a practitioner with appropriate serum treatment; hence the patient becomes a carrier and propagates disease.

In the cases seen the initial symptoms appeared to have given rise to such little constitutional disturbance that no doctor had been consulted. Close questioning in each individual case elicited that the child had been "out of sorts" from periods ranging from one month to three. They were brought to the hospital because, as the parents expressed it, "they were getting a lot of rubbish from the nose."

In three cases the margin of the anterior nares was red and excoriated and covered with dried secretion resembling dark-brown sugar. In the other two there was no excoriation. The nasal chambers in four cases appeared dark red, with engorgement of the lower turbinates, and were covered with light-brown crusts of dried sero-fibrinous exudation. On detachment of a crust in some cases, or even on introducing the speculum into the nose, bleeding occurred. In one case the upper lip was covered with a crust below the nostrils, which on separation revealed a superficially ulcerated area. The nasal cavities in this case were profusely purulent.

A short time back the writer saw in his consulting room a boy, aged 7, who had been operated upon two years previously for tonsils and adenoids. The parents brought him because they thought that the operation had not achieved all they expected as he was still unable to breathe through the nose freely. His symptoms had been markedly aggravated the last three weeks. When examined with a nasal speculum a condition resembling lupus of the nasal septum was seen; the latter was very swollen and oedematous, with some cloudy gelatinous secretion on it, and a fibrinous membrane was seen gumming the lower turbinates to the septum. The alae were reddened in patches, and also swollen. The throat manifested no suggestive signs and appeared perfectly healthy, but there was an accompanying slight adenitis and glands could be palpated below the parotid on either side. A swab was taken and the report stated: "Klebs-Loeffler bacillus found in profusion." It is evident from this that the membrane will persist for three weeks in the nasal cavity.

The local treatment ordered in all cases was a spray of collosol argentum, 1 in 2,000, six times daily. The cases were notified and it was suggested that at least 6,000 units of antitoxin should be administered.

Nasal diphtheria may exist, however, in adults without giving rise to any discomfort and to few or no symptoms.

A long-suffering and slightly resentful officer was referred to the care of the writer at the 2nd Southern General Hospital, Birmingham, as a carrier. Swabs taken at intervals from his nose showed persistence of Klebs-Loeffler bacillus, in spite of antitoxin and recent vaccine treatment. His nasal cavities on examination presented no departure from the normal, except that the mucous membrane appeared drier and, if anything, slightly atrophic. In his case the writer suggested enucleation of the tonsils, a spray of collosol argentum, and continuation of the vaccine injections.

There is ground for the presumption that nasal diphtheria may be a considerable factor in the causation of atrophic rhinitis, owing to its occurrence in children when the nose is growing, the turbinal bones in process of development, the arteries thin-walled, and the mucous glands immature. The diphtheritic toxins may act on the olfactory, sensory, and vasomotor nerves of the mucous membrane, paralysing them, and consecutively inducing trophic changes by inhibiting the central impulses which govern growth. The atrophic changes and lack of development appear evident later with concomitant ozaena. It is within the bounds of possibility that the toxins of other infections, such as influenza, may cause local atrophy of the mucous membrane by acting on the nerves, while other toxins derived from pneumococcus, staphylococcus, etc., cause stimulation of nerve fibres and overgrowth—local hypertrophies.

SARCOMA OF AN UNDESCENDED (ABDOMINAL) TESTICLE.*

BY

G. H. EDINGTON, D.Sc., C.M., F.R.F.P.S.G.,

VISITING SURGEON, WESTERN INFIRMARY; LECTURER IN CLINICAL SURGERY, UNIVERSITY OF GLASGOW.

THE specimen exhibited was an example of malignant disease of an undescended testicle.

The patient was a labourer, aged 49, sent to see me at the Western Infirmary in July, 1920, with a complaint of pain, of several months' duration, in the left side of the abdomen. The pain, dragging in character and coming on after strenuous work, followed and was attributed by the man to an operation in another hospital two years previously for varicose veins in the left lower limb.

First Operation.

On one occasion swelling was observed in the left groin. On examination no hernia was found, but the left scrotum was empty and there was a small scar in the left groin. There was also an operation scar in the middle of the inner aspect of the thigh.

The inguinal region was exposed by incision, and a small fatty inguinal sac was found projecting from the external ring. The sac and some accompanying vessels were drawn down, ligated, and removed. There was no trace of vas deferens or of testicle.

Second Operation.

The man was readmitted in October, 1920; he complained of persistence of pain on working, extending from the left groin downwards as far as the foot, and upwards into the lumbar region. It was thought that the pain might be originating in the undescended testicle, and transverse laparotomy was performed through the outer part of the left rectus, with splitting of the internal oblique and transversalis muscles. An adherent epiploic appendage from the sigmoid colon led to a mass in the pelvis, firmly seated between the bladder and rectum. This mass was enucleated after the peritoneum over it had been opened. It had two pedicles: one, fatty and fibrous, attached it to the pelvis; the other was from the spermatic vessels, about half-way along the pelvic brim. He was discharged, with the wound healed, in three and a half weeks.

The mass was a flattened ovoid, measuring 5.3 cm. × 4.3 cm. × 3 cm. It bore a general resemblance to a testicle with faintly indicated epididymis along one side. The smooth convex surface showed several bosses of soft consistence which suggested cystic formations. No trace of vas deferens was seen. A histological examination of the specimen was made by Dr. Ernest Dunlop, who reported that it consisted of a highly cellular malignant tumour of sarcomatous type, with considerable areas of necrosis. In one part the remains of atrophic testicular substance were seen.

After-History.

The man reported at the infirmary in November, 1921. There were no signs of any extension of the tumour, but he stated that he still suffered from pain in the whole length of the lower limb, and that it had not yielded to counter-irritants. The pain did not trouble him when resting, but walking brought it on. Its distribution corresponded with that of the internal saphenous nerve.

Malignant disease of the testicle, whether normally descended or not, is comparatively rare. Eccles[1] gives its frequency as 1 in 2,100 of all male admissions to a large London hospital.

The liability of undescended testicle to malignant change has long been known, and the opinion has from time to time been expressed that such liability is greater than in normally descended organs. This opinion has not been received without question. Thus, Eccles expresses the view that a greater frequency of malignant disease in imperfectly descended testicles "cannot be substantiated." When sarcoma of the arrested testis does occur it is "a disease of middle life" (loc. cit., p. 53). "In most instances an infection of the lumbar lymphatic glands takes place before any attempt at removal can be carried out . . . death occurs within one year of the removal of the diseased organ" (loc. cit., p. 58).

Thomson Walker,[2] writing in 1914, quotes the figures of various observers which support the opinion that there is greater comparative frequency of malignant disease in undescended than in descended testicles. The various series comprised all the cases of malignant disease, in both descended and undescended organs. Of Russell Howard's 57 cases, 9 were in retained testes (16 per cent.); in the Massachusetts General Hospital series of 54 cases, 6 were in retained testes (11 per cent.); and of Schadel's 41 cases, 5 were in retained organs (12 per cent.). W. B. Coley's figures[3] show an even higher incidence in undescended organs. He found that the ratio of malignancy in undescended to descended is as 1 to 5.5. When these ratios and percentages are compared with the ratio of non-descent to the normal—namely, 1 to 50 (2 per cent.)—it will be seen that the case for greater frequency of malignant growth in undescended organs is strong.

The situation of the malplaced organ calls for notice. It cannot be looked upon as arrest of the testis at any point in its normal course. No vas deferens was identified in the inguinal canal at the time of the operation on the hernia, and it might be supposed that an abnormally short vas had anchored the testicle down to the base of the bladder. Here again, however, although there was a fibro-adipose pelvic pedicle, there was no definite structure corresponding to the vas found in it, nor was any seen in the vascular pedicle. I am therefore unable to offer an explanation of how the testis came to occupy this situation.

The tacking down of the epiploic appendage to the testicle appeared at the time to be purely inflammatory, and this is borne out by the absence, thirteen months later, of any signs of malignant disease in the region.

In the absence of any signs of enlargement of the lumbar glands, the pain complained of in the lower limb must be attributed to implication of nerve twigs in the scar of the operation for varicose veins.

The patent processus vaginalis calls for no comment. It is to be expected in all cases of departure from the normal descent of the testicle.

REFERENCES.

[1] McAdam Eccles: *The Imperfectly Descended Testis*, London, 1903. [2] Thomson Walker: *Surgical Diseases and Injuries of the Genito-Urinary Organs*, London, 1914, pp. 765-6. [3] W. B. Coley: *Surgery, Gynecology, and Obstetrics*, vol. xxviii, May, 1919, p. 452.

* Communicated to the Royal Medico-Chirurgical Society of Glasgow, January, 1922.

BILHARZIA HAEMATOBIA IN INDIA.

BY

A. H. HARKNESS, M.R.C.S., L.R.C.P.,

HONORARY MEDICAL OFFICER TO THE VENEREAL DISEASES DEPARTMENT, ST. PETER'S HOSPITAL, LONDON.

IN September last I was consulted by a man, aged 26, who complained of a urethral discharge, noticed for the first time on the previous day. It is possible that he was exposed to infection a fortnight before.

He complained of itching of the penis, and gave a history of pains in the back and frequency of micturition during the last two months. He had had a similar discharge and frequency of micturition two years earlier when on active service in India, where he was stationed for three years. This discharge persisted for two days and then disappeared completely without treatment.

I found him to be suffering from a slight greyish-white viscid urethral discharge. A smear was taken which showed a fair number of pus cells but no organisms. Rectal examination revealed an apparently normal prostate, but both vesiculae seminales were very distended. These were easily stripped, and in the urine passed after this examination bilharzia ova were first seen. A similar specimen was taken on the following day, and the presence of ova was confirmed by Mr. N. H. Johnson, who kindly made the following report: Urine, sp. gr. 1015, reaction acid; microscopic blood present, also trace of albumin and few pus cells; large numbers of spermatozoa were present; four live bilharzia ova found (*Schistosoma haematobium*).

The urethral discharge lasted two days and disappeared without local treatment. The patient was given intravenous injections of sodium antimony tartrate, in accordance with Dr. Christopherson's observations. They were given three times a week, beginning with gr. 1/2, the dose being increased by gr. 1/2 at each subsequent injection to a maximum of gr. 2½, which was continued until the patient had had in all 30 grains. During the course of injections the patient remarked on a great improvement in his general health, the frequency of micturition having completely disappeared after ten grains had been administered; since then nothing abnormal has been found in the urine. After the eighth injection he complained of a feeling of nausea, and had a paroxysm of coughing after the last injection. In no other way did he experience any inconvenience during treatment.

It is considered that the patient was infected during his stay in India, and therefore that India must be an infected country. His previous trouble two years ago was really a manifestation of bilharzia.

There are very few cases recorded of undoubted bilharzia infection in India. Neumann,[1] Sanfelice, Loi,[2] and Frank Milton[3] consider that India is an infected country. Montgomery,[4] in 1906, stated that bilharziasis was an established disease amongst the domestic animals of northern India, and that parasites had been obtained from the horse, donkey, cattle, and sheep. He also considered that the human parasite could live in India, and that India was suitable for the propagation of the parasite. Arthur Powell[5] reported

a case in a native of Bombay who had never left the Bombay Presidency. He stated that Major Childe, I.M.S., had also seen a few cases in Bombay, but that his patients were Iramis or Persians. Sewell[6] describes a case of bilharzia haematobia occurring in a private of the 1st South Wales Borderers. The man had been four years in India and had never been in Egypt or South Africa. Lieutenant-Colonel D. Wardrop[7] describes two cases of British soldiers who developed bilharzia in India six months after leaving England. Christophers and Stephens[8] mention the case of a native infected in Madras. Most, if not all, the other cases recorded have been imported from South Africa or Egypt.

It seems clear from the case which I have reported and from the cases which have before been recorded, that bilharziasis is endemic in India, and can be contracted by Englishmen and others who sojourn in the country.

REFERENCES.

[1] Neumann, *Parasites and Parasitic Diseases of Domesticated Animals.* [2] Sanfelice and Loi, *Centralbl. f. Bact.*, Abt. 1, Bd. xx. [3] Frank Milton, Does Bilharzia Exist in India? *Indian Medical Gazette*, 1914. [4] Montgomery, Observations in Bilharziasis among Animals, *Journal of Tropical Veterinary Science*, vol. i, 1906. [5] Arthur Powell, BRITISH MEDICAL JOURNAL, 1903, vol. i. [6] Sewell, *Journal R.A.M.C.*, vol. ii. [7] Lieu enant-Colonel Wardrop, *Journal R.A.M.C.*, vol. vi. [8] Christophers and Stephens, Proceedings British Medical Association, Leicester, 1905.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

RUPTURE OF THE EXTENSOR LONGUS POLLICIS TENDON.

DR. NORMAN DYKES'S communication on this subject in the JOURNAL of March 11th (p. 387) has suggested to me the propriety of recording a case of this rare condition which I came across recently, and which presents some features of additional interest.

Mrs. I., aged 54, came to see me on November 29th, 1920, with a sprained right wrist. There was no fracture. It was treated upon the orthodox lines of bathing, massage, and movement.

She again consulted me on January 5th, 1921, because, while the general condition of the wrist was satisfactory, a fluid swelling of small size persisted over the line of the extensor longus pollicis tendon opposite the ulnar side of the proximal end of the metacarpal of the thumb. It was tender on pressure, and I advised inunction with collosol iodine oil.

A week later, on January 12th, after a morning's washing, she was seated at her midday meal and in the act of conveying food to her mouth in a spoon when a sudden and most violent "cramp" took place in her right hand—so severe as to reduce her to tears. The thumb and all the fingers were rigidly clenched and bunched in the palm, and the hand was strongly flexed on the forearm.

It was not until four or five hours had elapsed that this spasm of the flexor muscles relaxed sufficiently for her to be able to pull her hand and fingers out straight. Then she made the discovery that the thumb refused to "stay put" in the position of extension, and that she was powerless to lift it from the palm by voluntary effort.

I sent her to see Sir Robert Jones, who advised fixation in hyperextension with massage. This failed to secure return of function, and I have been unsuccessful, so far, in persuading the patient to have a tendon transplantation done.

The thumb to-day is *in statu quo* as far as extensor movements are concerned.

The points which strike me as of special interest in this case are:

1. The antecedent injury was a sprain and not a Colles's fracture as in Dr. Norman Dykes's case and in the ten cases collected by Stapelmohr.
2. The immediate cause of the rupture of the tendon was a muscular spasm of unusual violence and duration, affecting all the flexors of the hand and fingers, and not a slight voluntary movement as in the previously recorded cases.
3. The persistence of a local teno-synovial swelling after the general swelling and pain of the sprain had disappeared, which almost appears to support Stapelmohr's ingenious theory of a slow necrosis of the tendon following trauma by kinking.

A. STUART MACTAVISH, M.B., Ch.B.

Penrith, Cumberland, March 13th.

THE case of rupture of the extensor longus pollicis tendon reported by Dr. Dykes reminds me of a similar accident which came under my notice some years ago.

In the temporary absence of her own doctor I attended a lady, aged about 35, who had fallen on her outstretched hand while skating. The wrist was painful, but there was no marked deformity. I came to the conclusion that I had to deal with a Colles's fracture. This was subsequently verified by *x* rays. I applied a pistol-shaped splint and her usual medical attendant took charge. I did not see the patient again till some months later, and on inquiring as to her condition she told me that when the splints were finally removed and she attempted voluntary movements "something gave way" in the thumb and she, from that time, had lost the power of extending it properly, though flexion was not impaired. What happened afterwards I cannot say, as I heard no more of the matter.

In this connexion I may mention another case of rupture of a tendon which occurred without any previous injury.

A healthy lady of middle age while making a bed felt something snap in her right ring finger. Subsequently she was quite unable to extend the distal phalanx, which was flexed to a right angle. I applied a straight gutter splint, but as no improvement took place I asked a surgeon to give his opinion as to further treatment. He advised an operation. On cutting down to the extensor tendon over the last phalanx it was found, as expected, to be torn across. The torn ends were sutured and the finger was again put on a straight splint. Healing took place at once, but there was no improvement in the condition at the time or later. So thin was the tendon at the point of rupture that failure to unite was not surprising.

This accident, like the previous one, is fortunately rare, and an instance of it seems to be worthy of record.

Oxford. F. G. GARDNER.

A SELF-RETAINING TOURNIQUET FOR CRANIAL SURGERY.

HAVING used the various head tourniquets recommended by surgical authors and illustrated in surgical textbooks, I have found them more or less troublesome and often inefficient.

The usual tourniquet type needs control by a sagittal tape band to prevent its slipping downwards over the face. It is not too easily applied and the controlling band is often in the region of the intended scalp incision. The common black elastic band I have found easier to use, though too often, after its complete sterilization, it has shown a tendency to break when strained. It certainly does not require a control band, but more than one turn round the head interferes with its snugness.

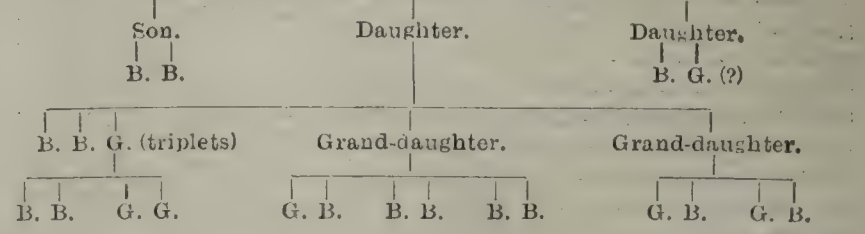
The tourniquet I now use is a length—2 to 2½ feet—of the thin rubber tubing used commonly with Paul's intestinal glass tube for bowel drainage. As is well known, it is of the glove rubber variety, is easily sterilizable, and does not readily deteriorate. It can be applied very easily and firmly, and several turns round the head lie neatly superimposed.

It is very efficient, it has no tendency to slip, and does not cause damage to the integument. After taking two complete turns, as a minimum number, round the head, the free ends need not be tied; they may be simply crossed. At the point of crossing a piece of sterilized gauze (small swab) is used to envelop it, and the fixation is completed by the bite of a haemostat. The gauze prevents injury to the rubber. Needless to add, the fixation is arranged on the side opposite the operation field.

GEORGE ROBERTSON, F.R.C.S.Ed.,
Honorary Surgeon, Dunfermline and West of Fife Hospital.

TEN CASES OF MULTIPLE BIRTH IN THREE GENERATIONS.

ONE of my patients, who has had twins three times, told me recently that her sister had had her second set of twins, and, knowing that her mother had had triplets, I made further inquiries into the history of the family. As a result I have



discovered that there have been ten cases of multiple births in the family in three generations. I have attended various members of the family for the past seventeen years, and have not the slightest reason to doubt their veracity.

Grays, Essex. S. G. FLOYD, M.D.

Reports of Societies.

PRIMARY EPITHELIAL CARCINOMA OF THE SKIN.

DR. J. DARIER, the distinguished French dermatologist, delivered a lecture before the Royal Society of Medicine on March 16th on primary epithelial cancer of the skin. The chair was taken by Dr. H. G. ADAMSON, President of the Dermatological Section, who, in introducing Dr. Darier, referred to the great work which he had done on the tuberculides, and said that his book, *Anatomie et Physiologie de la Peau*, was, or should be, the constant companion of every dermatologist.

Dr. DARIER, who delivered his lecture in French, said that the etiology of skin carcinomas, their experimental production, and their treatment by intensive radiotherapy, were all matters of great interest at the present time, but the point of supreme importance in practice was to be able to recognize such a carcinoma at once, and to determine its category, because both prognosis and treatment depended upon the species to which the tumour belonged. He would not concern himself that evening with sarcomas or with epitheliomas characterizing precancerous affections, dyskeratosis, naevi, and similar conditions, but would deal only with the two main groups of primary carcinomas of the skin—spino-cellular carcinoma and baso-cellular carcinoma—together with a third condition, combining elements of both of these, on which he wished to lay special emphasis.

Dr. Darier proceeded to describe the formation in each of the two recognized groups. Spino-cellular (or prickle-cell) carcinoma, or squamous epithelioma, was characterized by lobules or tumours composed of cells of the Malpighian layer with connecting strands, which underwent cornification and gave rise to epidermic prominences. This was very commonly found at the mouth, and followed hard papilloma. Its clinical appearance at first was chancroid, afterwards showing large irregular ulceration. This carcinoma often rapidly affected the lymphatic glands, and caused death in less than three years. It was very resistant to *x*-ray treatment. The second type, that of baso-cellular carcinoma (rodent ulcer), showed certain differences in its manner of spreading, and was frequently deeply ramifying. It was composed of basal cells, without true cornification. Clinically, its appearance was extremely variable (epithelioma pagetoid, rodent ulcer, "epithélioma bourgeonnant," etc.), and its evolution was very slow. It might go on to ulceration and horrible mutilation, but it did not become generalized, and its malignancy was entirely local. Unlike the other variety, it was extremely sensitive to *x* rays.

In addition to these generally recognized species, Dr. Darier described a third, which he called "l'epithélioma métatypique" (spino-baso-cellular epithelioma). He said that he had studied this variety of recent years, and he thought that although it was comparatively rare it was a variety to keep in mind in dermatological practice. The clinical appearance was very like that in baso-cellular carcinoma, but the evolution was more rapid, and the lymphatic glands might eventually be affected and the condition become generalized. The histological structure sometimes showed what appeared to be the juxtaposition of baso-cellular and spino-cellular elements, with prominences, and at other times it seemed to present an intermediate appearance, consisting clearly neither of the cells of the one variety nor of those of the other. It was very important to be aware of this mixed condition, which accounted for about 10 per cent. of the primary carcinomas of the skin. It yielded not very well to *x* rays, and was much less radio-sensitive than the pure baso-cellular carcinoma.

The treatment of these conditions should never be undertaken without an exact determination of the class to which a given case belonged. The spino-cellular carcinoma should be treated by surgical excision, either preliminary or complete. Recent experience had shown that this condition might occasionally clear up under massive doses of carefully selected *x* rays. Baso-cellular carcinoma, when seen in time, was curable by *x* rays or radium in large doses. The "epithélioma métatypique," treated by ordinary doses of *x* rays, appeared to yield at first, but later resumed its ordinary evolution. It called for treatment either by surgical excision or by intensive radiotherapy. Altogether, the treatment varied according to the variety of condition: it was governed by the histological character of the tumour, and could frequently be determined only by a preliminary biopsy. Dr. Darier showed a number of lantern views, illustrating cases and histological appearances, which latter he carefully described. One case at least was brought forward in which *x* rays had been of use in spino-cellular epithelioma, but in others intensive radiotherapy had had to be abandoned for surgery. One case of epithelioma in the cheek, treated by intensive radiotherapy for six weeks, showed that the *x* rays did not avail to deal with extension in the depth of the epithelium.

Sir JAMES GALLOWAY, in expressing the thanks of the Society, said that most of those present had happy recollections of meeting their dermatological colleagues in France during the war, and, even at that time, of engaging in dermatological discussions. But of them all the most distinguished and the one to whom it was the greatest pleasure to listen was Dr. Darier. They all recognized that in the special domain of dermatological histology he was a prince. Dr. Darier influenced the school of English dermatologists in this histological direction as no other Continental or American authority had done. That evening he had brought forward a new conception in his metatypical variety of skin carcinoma. Many of them were familiar with the histological appearances to which he had drawn attention. The spino-cellular type and the baso-cellular type they knew, but the difficult cases in which there was basal-cell formation together with some indications of transition between that and a spino-cellular formation certainly gave them pause. The difficulty of this mixed type of epithelioma very commonly arose, and he was sure that whatever considered criticism of the theory there might be in the future, for the present they were all willing to adopt Dr. Darier's classification.

The vote of thanks was warmly accorded, and, in response, Dr. DARIER assured British dermatologists of the most cordial welcome in Paris.

THE PSYCHIATRIC CLINIC.

THE discussion in the Psychiatric Section of the Royal Society of Medicine on the subject of "The ideal psychiatric clinic," which was opened by Dr. HELEN BOYLE at the February meeting (BRITISH MEDICAL JOURNAL, February 25th, page 312) was continued on March 14th. Dr. Boyle's principal points were that the clinic was better situated in the town than in the country; that patients should be asked to pay according to their means, providing no one was excluded for lack of money; that without compulsory detention co-operation of the patients could be more readily obtained; and that great care should be taken to avoid confusion of the clinic with an asylum.

Dr. BEDFORD PIERCE, the President of the Section, said that he had been somewhat reluctantly convinced by Dr. Boyle's arguments. He thought that she had made out her case that if there was any detention at all the whole character of the clinic would be altered. Perhaps, however, she had hardly done full justice to the opposite position; at all events there were one or two difficulties arising out of this question of voluntaryism with which she did not deal. He would like a closer definition of the "voluntary patient." If it meant only the patient who was willing and anxious to co-operate, this would exclude large numbers of people who ought to have the advantages of the clinic, and to be kept out of mental hospitals. If the term was used in a loose sense to cover confused persons who remained where they were placed, and had not sufficient volition to exercise the wish to leave, then her clinic would require a considerable alteration of the law before it could be established, because she would be receiving persons of unsound mind for profit, and he thought that the provisions of the Act would apply even if the persons paid nothing for their maintenance. It would be a very sad thing if some of the milder forms of acute cases could not be treated in the clinic. It was exceedingly vexing to have patients leave a voluntary home of this kind on account of the present state of the law, and go to a mental hospital and recover very shortly after admission. The clinic ought to provide a place of observation for doubtful cases such as these; but how could it do so if the patients were not voluntary? Another question was with regard to depressed patients, those who were cheerful one day and suicidal the next. If a person's mental state changed suddenly so that he was no longer willing to co-operate, was he to be immediately removed? Dr. Boyle, in emphasizing the cheerful character of her clinic, surely could not mean

that all patients were co-operating all the time. He was not quite convinced that through the institution of clinics such large numbers of people would be prevented from going on to asylum insanity as Dr. Boyle appeared to think. If it could be proved that the clinics would be preventive on any large scale it would go far to justify a large expenditure of public money upon them. Expense was, he feared, going to be a very serious consideration. Nevertheless, he would like an acute case to have observation without being certified.

He recalled the case of a business man who, distressed in mind about his affairs, showed some signs of mental unsoundness, and was certified. He recovered within a week of being received at the mental hospital, but he was persuaded to stay a month, and on his discharge he found that he was no longer managing director of his company because the articles of association provided that when a person became insane he ceased to act as a director; a self-seeking partner had taken his place, and he had no remedy.

Such things could be prevented if there was provision for temporary observation. He hoped that a more enlightened public opinion would grow up, and that less fuss would be made on the subject of detention, and that the more purely medical considerations would prevail.

Dr. R. G. Rows said that if cases were to be treated in clinics it was necessary to take risks and to suffer a certain amount of anxiety. He instanced one case at the Special Neurological Hospital, Tooting, where he was Director of the Section of Mental Illnesses, of a man who came in with hallucinations of sight, hearing, and smell, as well as a general confusion, and undoubtedly gave great anxiety at first, but was now better and completing his professional training as an engineer. American experience suggested that patients were willing to enter and to remain in what was practically an asylum where they would encounter every type of psychosis. He understood that at the Bloomingdale Mental Hospital, New York, in 1920, 75 per cent. of the admissions were voluntary. It was very important to have the clinic attached to a general hospital and not to an asylum. In Wisconsin a new general hospital was lately built, and it was proposed to have a psychiatric clinic in a separate building, but, funds falling short, a floor was assigned for this purpose in one of the blocks, and great benefit had followed from this arrangement, both to the psychiatrists and the general hospital staff. It was necessary that the officers should be engaged on the whole-time principle, so that a patient who felt an emotional state approaching could go to his doctor straight away. If an officer attended only on certain days, his patients had the feeling that they were deprived of all means of consultation in the intervals.

Dr. T. S. GOOD said that the clinic question resolved itself into the question of certifiability, and the stumbling-block was Section 315 of the Lunacy Act, which practically made it impossible to treat a certifiable patient anywhere except at a mental hospital. He recounted the cases which he had treated at his Ministry of Pensions Hospital, Oxford, since 1918. Of the 355 war pensioners treated, only six had to go into a mental hospital, and all these six had some organic disability. Of the remaining 349, some could have been certified, but about half of them at least were now known to be in full work. He had also treated 200 cases of civilians, and had had to recommend three for certification, though he might certainly have certified a larger number.

Dr. JOHN CARSWELL described the arrangement in the observation wards of the Mental Department of the Eastern District Hospital, Glasgow, where he was engaged until 1914, when he became Medical Commissioner of the General Board of Control, Scotland. The wards consisted of 50 beds, and between 600 and 700 patients were received in a year, out of about 1,000 cases which were intimated annually to the local authority as requiring treatment on account of mental unsoundness. The certifying physician in lunacy had complete control, and decided whether any patient should be removed to the mental hospital. The patients went into the wards voluntarily, though the term should not be too strictly interpreted; but if any of them showed hostility or insisted on leaving while they still seemed to require asylum care, they were certified immediately. During the ten years ending 1914 the annual average of those discharged recovered was 261, of those improved 111, and of those sent to the asylum 228, and the death rate was something like 5.5 per cent. All this work was done in a large modern hospital abutting on to a main street of Glasgow.

Dr. MARJORIE FRANKLIN gave some account of American clinics. Several psychopathic hospitals had been established in the United States, working more or less in contact with the universities on the one hand and with social organizations on the other.

Of the private clinics the most important was that founded and endowed by Henry Phipps in 1913, and made an integral part of the Johns Hopkins University at Baltimore. It was under the direction of Dr. Adolf Meyer, with a staff of four resident psychiatrists and four internes. Laboratories were attached to the clinic, also provision for psychotherapy, gymnastics, and instruction in handicrafts. The beds numbered 65; the maximum charge was 35 dols. a week, but most patients paid less, and some local residents were admitted free. Above the clinic proper were rooms for twenty-five private patients who paid high fees. All the patients were uncertified, and could leave on three days' notice. They came mostly through the out-patient service, on their own initiative, at the suggestion of doctors, or through social agencies. Another type of institution was the State Psychopathic Hospital at Boston, which, when she was on its staff, had 110 beds, with an out-patient department, and was supported by the State of Massachusetts. Admission was free, and the patients usually remained ten days, except in some cases of short duration and a few chronic cases. The majority of these patients came in under some legal commitment; only 17.6 per cent. were voluntary. They were classified according to their mental state on admission, and the accommodation did not allow of social classification. Not many of the educated classes nor many sufferers from slight instability took advantage of the hospital. The administrative and clinical departments were managed separately, though both were under medical control.

Dr. E. MAPOTHER, who has recently returned from visiting psychiatric clinics on the Continent, gave an account of some of them, though he thought that in most cases their reproduction in this country would not be possible without an alteration of the law.

The prototype was at Munich, where the clinic was a section of the university—one, in fact, of a number of special hospitals constituting the medical school. Treatment to recovery was only carried out when this could be expected in a short time. A polyclinic for out-patients was open daily for free consultations; it was frequented by cases of neurosis and organic nervous disorders. A few cases were brought in by the police, largely for the determination of criminal responsibility. Voluntary entrance to the clinic was not equivalent to voluntary departure. He was told that the recognition of such a principle as three days' notice on the part of the patient would make the system unworkable. Once having entered the clinic the patient surrendered himself to the control of the medical officer, who decided what should be done with him. The clinic was frequented by patients of every social class; one of the patients at the time of his visit was a niece of the rector of the university. The number of beds was 160, and the admissions about 2,000 annually; of these cases about 900 were transferred to asylums and 1,100 returned to their homes. The asylums which were in relation with the clinics derived 85 per cent. of their admissions therefrom. No case was refused admission to the clinic on the ground of severity, though some were refused for the opposite reason. The medical staff consisted of director, deputy director, and sixteen assistants.

At Cologne there was a similar institution, but its in-patient department appeared to act as a clearing house for the asylum at Bonn. He saw two clinics in Holland—at Utrecht and Amsterdam. These were informally recognized by law, which tacitly waved in their favour the requirement that not more than two such patients should be kept in one house. At Utrecht there were 90 beds and a medical staff of 16.

Dr. HELEN BOYLE, in replying on the discussion, said that she did not think a very strong case had been made out for compulsory detention as opposed to the voluntary clinic. She disagreed with Dr. Bedford Pierce's contention that the clinic system would make no appreciable difference to the ultimate admissions to asylums. She thought that egocentric personality and various other forms of insanity began in such an insidious and apparently insignificant way that it was very long indeed before they reached a certifiable stage; certainly this was the case with paranoiacs. She was quite sure that some of these, if taken in the early stages, could have their commencing condition postponed indefinitely, or could be alleviated to the extent of getting on in life fairly well if some method of sublimation could be found which suited them. Certain obsessional cases, of course, had sometimes to be certified.

THE CAUSE OF DEATH IN ELECTRICAL SHOCK.

IN the Section of Electro-therapeutics of the Royal Society of Medicine on March 17th a discussion took place on "The pathological changes produced in subjects rendered unconscious by electrical shock." Dr. E. P. CUMBERBATCH, President of the Section, reminded the audience that in 1913 Jellinek of Vienna read a paper in the Section, in which he argued that the cause of unconsciousness was cessation of respiration, and that treatment should be by artificial respiration. During recent years these conclusions had been challenged by Boruttau of Berlin, who maintained that in

nearly all cases the unconsciousness was due to arrest of the circulation caused by ventricular fibrillation. It was of importance to decide what was the actual cause of unconsciousness, how to recognize death, and how to treat shock cases.

Dr. T. M. LEGGE (Medical Inspector in the Factory Department of the Home Office) said that one of the official regulations governing the generation, transformation, and use of electricity on factory premises was that there should be displayed a notice giving instructions for first aid in the event of accident. Long before this regulation came into force, however, the *Electrical Review* had issued certain notices stating what the first aid should be, and it was felt in his department that so long as they had nothing material to add to this non official recommendation it need not be replaced by any other. But they did want to know whether anything fresh had been elicited since the classical experiments of Prevost and Battelli in Geneva in 1899—experiments which were admirably summarized by Dr. Jex-Blake in his Goulstonian lectures in 1913.[1] The protagonist of the "apparent death" theory was Jellinek, whose views seemed to be, on the whole, contrary to those borne out by the experiments of Prevost and Battelli. Jellinek was supported in this country by Dr. Reginald Morton, then President of the Section of Electrotherapeutics, and by a letter in the *Lancet* Dr. Morton caused widespread publicity to be given to the view that electrical shock was only an apparent death at first, and whatever the conditions or severity of the accident there was practically always a time during which it was possible to resuscitate the victim by artificial respiration if resorted to at once. In 1918 Professor Boruttau of Berlin attacked the "apparent death" theory, basing his argument on the statistics of deaths in which artificial respiration had been unavailingly employed, as given in the German factory inspectors' reports. Although the statistics in this country did not yield information enabling one to speak definitely, such as they were they supported the views of Boruttau rather than those of Jellinek. In 79 fatal accidents between 1914 and 1920, in which the current was of 500 volts or less, artificial respiration was mentioned as having been tried in 48, and in 41 of these cases the duration was stated: in 17 it was carried on for thirty minutes, in 22 for more than thirty minutes, and in 6 of these for over an hour and a half without recovery. In 64 non-fatal accidents artificial respiration was tried in 6, and in the 3 in which the duration was stated it was ten, fifteen, and twenty minutes. Boruttau's view was not that artificial respiration should be abandoned, but that it should be practised the moment after the accident had occurred, and continued for such time as there was evidence that there might be some result, but that it should not go on under the supposition that the death was only apparent, and the condition merely due to arrest of the respiratory centre. It appeared that the alternating current was more dangerous than the continuous (and in practice nearly all currents were alternating); that low pressures (under a voltage of 500) were more dangerous, or at least caused more deaths, than high pressures; that long contact was more dangerous than short, and a large surface of contact more dangerous than a small one; that the point at which the current entered the body, and in consequence the relative quantity passing through important organs like the medulla oblongata, was a material factor in increasing the danger of death; and that high-tension current, on the experiments of Prevost and Battelli, caused death by paralysis of the nerve centres, and low-tension current by ventricular fibrillation.

Mr. SCOTT RAM (Electrical Inspector in the Factory Department of the Home Office) said that the *Electrical Review* placard was first issued in 1894, in which year there was a report from France of the resuscitation after artificial respiration of a man who had been apparently killed by electricity. In his view the placard had been the means of saving a number of lives. In 1897 the Home Office recommended that all persons engaged in electrical works should be acquainted with the method of artificial respiration. The early public supplies of electricity were limited by Board of Trade Regulations to a pressure of 125 volts, as delivered to the consumer. About 1896 the introduction of incandescent lamps caused an alteration of the Regulations to admit of higher voltages, up to 200 and 240; also 650 volts were allowed for power purposes. Then the three-phase, alternating-current system was introduced, and in 1909 all limitations as to pressure of supply were removed. During the last ten years there had been a great development in the use of three-phase alternating current, in the direction of increasing use and at higher pressures. In the three-phase systems of 400 volts or thereabouts between phases the neutral point was earthed, so that a person touching one conductor could not receive more than a 250-volt shock. Nearly all the fatal accidents were due to the victim touching one conductor while standing on ground which was not insulated. During the last ten years, up to 1921, the number of fatalities from low-pressure alternating current (250 volts or less) was 150. From direct current only six fatalities were recorded, and only one of these was a shock accident, the other deaths being due to extensive burns. During this same ten-year period the fatalities from higher pressures were as follows:

250 to 650 volts	...	...	...	29 deaths.
650 to 3,000 volts	...	...	...	17 ,,
Above 3,000 volts	...	...	...	31 ,,

Two-thirds of the fatalities (156 out of 233) were, therefore, due to low-pressure accidents. The percentage of recoveries in shock cases reported was as follows:

250 volts or less	...	...	39 per cent. recoveries.
250 to 650 volts	...	...	20 per cent. recoveries (about).
Above 650 volts	...	...	62.5 per cent. recoveries.

Last year there were only twelve fatalities; in four artificial respiration was carried out for over an hour, in seven for a shorter period, and in one not at all. One curious fact he had noticed was that recoveries seemed more frequent when the victim suffered a counter-shock. Even after a severe and prolonged shock there was recovery when at last the switching off of the current released the victim and he fell from a height. Extremely small contact might give rise to a fatal issue. He exhibited an ordinary thumb-switch which had been the cause of death, also a flexible lamp-holder. The reason why such accidents did not often happen in private houses was on account of the protection of dry wooden floors; the dangerous parts of a house were the stone-floored kitchen, scullery, and cellar. He also referred to the grave risks run by so called "medical electricians," who knew as little about electricity as they did about medicine. In one case he found an arrangement such that if the wire were in the least faulty the whole 240 volts would go right through the person under treatment.

Dr. GOODMAN LEVY described some experiments on cats in which he had produced ventricular fibrillation by direct application of the faradic current to the heart. When a single induction shock was applied to the ventricle it produced a responsive contraction; a series of such shocks, if sufficiently slow, produced a corresponding series of responses. By gradually increasing the rate of shock, responses could be obtained in the cat's heart up to between 450 and 500 per minute. With a further increase, the ventricles responded only to alternate shocks or the heart passed into fibrillation. The onset of fibrillation might be very rapid in some cases, and in others delayed for several seconds, but it was never instantaneous—it was always preceded by a succession of responses. A single shock would cause fibrillation if thrown in at the exact refractory period of the heart. At any other phase in the cycle it would be ineffective, producing only a single extra-systole. Ventricular fibrillation was generally regarded as necessarily a fatal condition. Spontaneous recovery, however, was very frequent in some animals—not infrequent in the cat—and he believed it was not unknown in man, but it could not occur later than two minutes after the onset of the fibrillation. Artificial respiration was of no avail in stopping fibrillation, but cardiac massage was effective in the cat, although of course this was out of the question in ordinary cases of electric shock in man, and even when it could be applied it must be done immediately—within ten minutes. There was some reason for proceeding with artificial respiration, although no doubt its efficacy had been exaggerated. It was as well in obvious primary syncope to practise artificial respiration in view of the possibility of spontaneous recovery of the heart without recovery of the respiration.

Dr. BERNARD SPILSBURY said that he had made about a dozen *post-mortem* examinations in electrical shock, and had tried to trace the path of the current through the body. In almost all cases there were indications of entrance and exit by injuries and burns, and he found very constantly haemorrhages in or beneath the skin. In the majority of cases also

[1] BRITISH MEDICAL JOURNAL, 1913, i, 4–5, 432.

there was haemorrhage into the muscles of some part; in one case he found partial rupture of the muscle on account of the violence of the current, but he had never found injuries to bone or even haemorrhages into the periosteum of the bone. What struck him was the usual absence of any indication that the current had passed through the deeper structures of the body. In one case, an engine-driver, the current went through the head, and the meninges of the brain and spinal cord showed profuse haemorrhage; but even in this case the other viscera of the body failed to show any indication of the discharge. He thought that in many cases, at any rate where the current had not been of high voltage, the discharge might go mainly through the skin, and the shock and death were the result of the effect upon the sensory nerves of the skin. In other deaths from sudden shock, not electrical, he had found a diffuse blush-like haemorrhage over the inner surface of the left ventricle, denoting a very superficial bruise of the heart muscle. That could only be attributed to a violent contraction of the heart at the moment of shock. But he had failed to find any such appearance in death following electrical discharge. He had not been able to find any haemorrhages in the substance of the cardiac muscle, and only in one case had he seen petechial haemorrhages on the surface of the lungs, while he did not recall any indication of the passage of the discharge through the abdominal viscera. There were many parts of the body where a sudden stimulation of the sensory nerves might produce instantly fatal results. Cases had been recorded of death following stimulation of the nasal mucous membrane, and he had himself seen a case in which death immediately followed a stimulation of the laryngeal membrane (a child swallowing a crumb which got into the air passages). A comparatively slight blow on the upper part of the abdomen had been followed by death, and there were a number of cases in which some stimulation of the sensory nerves in the female genital tract had been fatal. Instant death had followed very sudden and unexpected immersion in cold water, which compared very well with electrical shock. Time after time he had verified this form of death in persons taken out of water. During the war a special constable walked into the New River on a cold dark night. He was taken out some time afterwards, and it was evident that his respiratory functions were arrested at the instant of immersion. These deaths must be due to an instant arrest of the respiratory centres at the base of the brain. The sudden contact with cold water over a large area of the skin caused such an overwhelming sensory stimulation to be conveyed to the base of the brain as to produce immediate paralysis. The most reasonable explanation of deaths occurring from electrical shock was a sensory stimulation, chiefly through the skin, though to some extent through the deeper tissues, bringing about instant paralysis of the respiratory centre. That was the justification for the use of artificial respiration. He was not prepared to say that in all cases death was only apparent, but certainly when the discharge was of low or medium voltage there must be some cases—and there might be many—in which death was at first only apparent, and went on to real death failing some active means of carrying on the essential functions of the body.

Professor J. MACWILLIAM, Regius Professor of Physiology, Aberdeen, sent a communication in which he said that there were two modes of death by electrical shock, and possibly a combination of the two: (1) arrest of respiration by paralysis of the respiratory centre; (2) overthrow of the heart's action by sudden development of fibrillation. The relative incidence of these two forms depended on circumstances, the locality of application of the current, its strength, character, and duration. In the second variety, as well as the first, artificial respiration should be carried out in order to be ready for the possible recovery of the cardiac system. Certain agencies which operated successfully in opposing the development of fibrillation were often effective in restoring normal action after fibrillation had been established. A full account of his experiments with those on animals was published in the *Proceedings* of the Royal Society for 1918. The substances were urethane, strontium chloride, adrenaline, hirudin, and pilocarpine. These were commonly injected into the cavity of the left ventricle through the apex by means of a slender needle.

After Dr. JOHN BRUCE had described a curious case in which an electrician in a Grimsby hospital had been the subject of shock, Dr. CUMBERBATCH summed up the discussion. He said that it was evident that artificial respiration must be undertaken and continued for an hour or more. It was possible that the application of very strong vibration over the pericardium by some form of mechanical vibrator might be useful in some cases. As for an absolute sign of death, Lewis Jones's *Medical Electricity* gave it as the absence of electrical excitability of the muscles.

CAESAREAN SECTION AND ALTERNATIVE TREATMENT.

AT a meeting of the Edinburgh Obstetrical Society, held on March 8th, the President, Dr. J. LAMOND LACKIE, read a communication on Caesarean section and alternative treatment. The Edinburgh school, he said, had been conservative in extending the list of indications for Caesarean section. He considered induction of premature labour unsatisfactory before the thirty-sixth week, and in a pelvis with a conjugata vera of more than $3\frac{1}{4}$ in. In a patient with a conjugata vera of $3\frac{1}{4}$ in. Caesarean section should be recommended, each case, however, being considered on its merits, and the age of the patient, her surroundings, and previous history being carefully studied before coming to a decision. Such circumstances as a previous craniotomy, an unsuccessful induction of premature labour, or advanced age in a primiparous patient should assist in making up one's mind in favour of Caesarean section. Induction of labour at full time was not carried out as often as it should be, and there was an enormous difference between the size and development of a head at full term and one that had gone a week or two beyond it. In Caesarean section for obstruction due to uterine fibroids either myomectomy or hysterectomy should be done at the same time on account of the risk of the tumour becoming infected. In eclampsia the ideal conditions for the operation were an elderly primipara with an undilated and undilatable os, whose condition did not rapidly improve under medical treatment. He had not yet met with a suitable case. As regards placenta praevia, while marginal cases did well with ordinary methods of treatment, in the lateral or central variety Caesarean section gave a much lower foetal and maternal mortality, and it was probable that in future more and more of these cases would be treated by section. In concealed haemorrhage where in spite of treatment by the ordinary methods the patient became progressively worse, Caesarean section or hysterectomy was the last resort, the former giving a mortality of only 11 per cent. as compared with 46 per cent. from the latter. He did not consider prolapse of the cord sufficient indication for Caesarean section, while impacted shoulder presentation was a very rare indication, though he had carried it out in one case in which it was impossible to deliver the child by any means—even though he knew the child was dead.

Contraction of Bandl's ring preventing delivery was sometimes best treated by Caesarean section; and rigid cervix and rigid vagina were very rare indications; while hydrocephalus, hydramnios, or varicose veins never justified it. Neither ventrofixation of the uterus nor the interposition operation for cystocele should ever be indications, as these operations should not be done till after the menopause. Serious diseases endangering the mother's life—for example, heart disease or advanced tuberculosis—sometimes justified the operation, while breech presentation in primiparae, delayed first stage of labour, and albuminuria should never be looked upon as indications. He had never been convinced of the advantage of waiting till the patient was in labour, but tried to choose a day near but not quite at full time, the advantage of a dilated cervix being more than counterbalanced by proper preparations. He favoured the lower uterine segment incision, considering it an improvement on the classical operation, and had been struck by the fact that a smaller uterine incision was required, the muscles of the lower segment stretching readily and without tearing. For stitching up he used chromic catgut, and had seen no reason to change it, as he had no experience of rupture of scar. He thought that the imperfect scar depended on septic healing rather than on the suture material used. In "suspect" cases it was important to carry out thorough disinfection of vagina and cervix, not only by douching but by swabbing. After removing placenta and membranes he swabbed the interior of the uterus with eusol and then pushed packing, also soaked in eusol, through the cervix into the vagina. This was removed per vaginam at the end of the operation. Indeed,

he now carried out this procedure in every case of Caesarean section, suspect or not. In septic cases pubiotomy and craniotomy were the alternatives to Caesarean section. The maternal mortality in pubiotomy was somewhat lower than in the Caesarean operation. The patient must be a multipara, and the operation was never one of election, but should be employed only after forceps had failed. The maternal mortality in craniotomy being only 6 per cent., compared with 27 per cent. in Caesarean section in "suspect" cases, it would always hold a strong position in the treatment of such cases. Our object must therefore be to recognize the conditions present and determine early upon a proper line of treatment. Thus the number of infected or suspect cases would be reduced and craniotomy reserved entirely for cases of hydrocephalus and those in which the child was already dead.

Induction of Premature Labour.

Dr. OLIPHANT NICHOLSON next read a communication on the induction of premature labour in cases of disproportion. He said that it was important that the public should be educated to realize that difficult labour could in most cases be prevented. More important than the size of the pelvis was the relative sizes of the pelvis and the foetal head. He had for many years induced labour at from the thirty-sixth to the thirty-eighth week in practically all primiparae of between 35 and 45 years of age. In all obese women where the pelvis was slightly contracted or when children had been previously lost owing to excessive size, thyroid extract 7½ to 10 grains daily was given in the last two months of pregnancy. In this way an easier labour was obtained, the thyroid possibly reducing the weight of the foetus or the tissues of the mother's pelvis. He did not consider external pelvic measurements of much assistance as a guide to the best method of treatment in any particular case. The diagonal conjugate was more important but was difficult to measure without an anaesthetic. An occipito-posterior position might also prevent the head engaging even when there was no actual disproportion, and, before attempting relative measurements, these cases should be rectified by external manipulation. As to the method of inducing labour, he had found separation of the membranes for some distance around the internal os either by the finger or by a large-sized Fenton's dilator act satisfactorily. The membranes should be separated extensively enough to cause a definite "show" of blood. Quinine hydrochloride in 5-grain doses every four hours for twenty-four or thirty-six hours previously, and continued after the membranes were separated, assisted in stimulating uterine action. Painless dilatation of the internal os occurred, and it was then usually advisable to accelerate matters by separating the membranes still higher up. In primiparae the best method was to pack the lower uterine segment with gauze. For this purpose the author's packer—a curved metal cannula through which ribbon iodoform gauze is passed by means of a stylet—was the best method. As the gauze was passed in it mechanically lifted the membranes from the lower uterine segment.

Dr. J. W. BALLANTYNE thought that the ante-natal department had been largely responsible for diminishing the number of high forceps operations and craniotomies and increasing the number of Caesarean sections in the Edinburgh Royal Maternity Hospital. He did not remember in any previous discussion on Caesarean section the life of the foetus being put forward so prominently. It had always been the welfare of the mother that had been considered.

Dr. HAIG FERGUSON considered that indications for Caesarean section in contracted pelvis depended less upon actual pelvic measurements than upon the relative sizes of head and pelvis. In eclampsia occurring about the seventh month, especially where the woman's condition was very serious with a rigid undilated cervix, he had saved several patients by vaginal Caesarean section, which had the advantage that it could be done safely in almost any surroundings.

Dr. R. W. JOHNSTONE thought that the bad results of Caesarean section in eclampsia were due partly to the operation being done too late, and partly to the toxic condition of the patient. To get a correct idea of its value in eclampsia the operation should be done as soon as the condition is diagnosed.

Dr. KEPPIE PATERSON thought that in borderland cases of contracted pelvis great experience was necessary in order to determine the proper line of treatment. The size of the father was an important factor in estimating the probable size of the child.

TREATMENT OF UNUNITED FRACTURES.

A MEETING of the Royal Medico-Chirurgical Society of Glasgow was held on March 3rd, 1922, when Mr. DONALD DUFF made a communication on the treatment of ununited war fractures, with special reference to bone grafting, illustrated by lantern slides. Mr. Duff's points may be summarized as follows: (1) At least four months should elapse after all sinuses have healed to enable the tissues to deal adequately with any encapsuled micro-organisms. During the waiting period massage must be applied and suitable apparatus used to prevent deformity. Immediately before operation a short course of deep massage should be given as a test whether there is still latent sepsis. (2) Scar tissue should be ionized, or if extensive excised, and the gap filled by pedicled or tubed skin grafts. (3) Deformities should be corrected by plaster or apparatus before operation. (4) The most rigid aseptic technique must be adopted in operating. (5) Bone scar and interposed fibrous tissue must be removed thoroughly, in one piece if possible. (6) The inlay graft gives the best results, and must be large and have good contact. (7) Stepping or comminution gives the best results in humerus cases. (8) The limb should be kept rigid in the optimum position as regards strain on the graft for two or three months, followed by physiological work to develop growth of new bone.

Treatment of Myelogenous Leukaemia.

Dr. ADAM PATRICK read notes on two cases of myelogenous leukaemia treated by *x* rays. The first case was treated twice weekly for six weeks by application over the spleen. The dose given was 3/4 Sabouraud pastille through a 1 mm. filter. Between April 5th and June 1st the leucocytes had fallen from 500,000 to 50,000. A further course was given from July to August and again from September to October. From October to November the thighs were treated with two exposures weekly and from December to February a further course was given over the spleen. The leucocytes varied from 50,000 to 90,000. About six weeks after the last course the patient became less well and deterioration of his blood was observed. He died towards the end of May. The second case showed 560,000 leucocytes before treatment was begun. On November 20th rays of a hardness equalling a 9-inch spark-gap, one dose 3 H., were applied over the spleen only through a filter of 4 mm. of aluminium. Six applications were made over the front and seven over the back of the spleen in the course of six weeks, and by January 28th the leucocytes were reduced to about 6,000. In the first case the large size of the spleen persisted, but in the second case there was a great diminution in size.

EMPLOYMENT OF MARRIED WOMEN.

A MEETING of the London Association of the Medical Women's Federation was held on March 15th at the Elizabeth Garrett Anderson Hospital, with Dr. MARTINDALE in the chair, when Mrs. CHALMERS WATSON and Dr. GLADYS MIALL SMITH spoke on the position of women as disclosed by the working of the Sex Disqualification Removal Act. The former described the recent action of the Glasgow Corporation in dismissing married women whose husbands were in employment, and the protest that had been made by various societies against such action, while the latter dealt more particularly with her own struggle with the St. Pancras Borough Council when that body asked her to resign her appointment on her marriage, although no condition to this effect had been included in her contract. In this protest Dr. Miall Smith was backed up by the Medical Women's Federation, the British Medical Association, and the Society of Medical Officers of Health. She was, however, dismissed from the service, though it is possible that her protest bore some fruit, as no further dismissals of married employees have since occurred in London. Dr. Chalmers Watson pointed out that the original idea of dismissing married women who were able to be supported by their husbands appeared to be a genuine attempt to alleviate the existing circumstances of general unemployment, but that actually the movement was an antifeminist one, since dismissal should be aimed at in all cases of persons, male or female, married or single, who are capable of being supported by other earners, if it were to be generally fair. The resolution recently passed in Derby by the Women's Co-operative Guild, and the report adopted at the meeting of the Executive Committee of the Labour Party on February 7th last, gave the main points against the principle of dismissal of married women whose husbands are earning a livelihood. An interesting discussion followed.

Reviews.

VENOMOUS ANIMALS AND THEIR POISONS.

IN his preface to a beautiful book in two volumes[1] on venomous animals and their poisons, recently published by the firm of Masson of Paris, Professor LAVERAN explains that the work was projected by M. Césaire Phisalix, and was commenced by him in collaboration with his wife; after his premature death in 1906 it was carried on and completed by her. The book therefore presents the result of many long years of work of both compilation and original research. The volumes have been produced in an exceptionally fine style; the paper and type are excellent, and the whole work is lavishly illustrated by drawings, a large proportion of which are original. The coloured plates deserve special mention, for they are works of art of a high order, and represent the minutest details of the animals they portray.

The volumes give a complete descriptive account of all animals known to secrete poisons, together with detailed descriptions of the poison apparatus of each animal mentioned. The chemical constitution and physiological action of the different venoms is also described.

The first volume deals with invertebrates and fishes, the chief groups described being the coelenterates, the insects, the arachnids, and the fishes. The second volume deals with amphibia and reptiles, and the greater part of it is, naturally, devoted to snakes; one of the last chapters contains a description of that zoological curiosity, the duck-billed platypus, which amongst its other oddities possesses a poisonous spur. The anatomical description of the various animals and of their poison apparatus is both full and exact. Most readers will probably be very surprised to learn how large is the number of species of animals that produce poisons.

The accounts of the chemical constitution and the physiological action of venoms are very full. Our knowledge of these difficult questions is scanty, but the available information has been collected from a very wide range of sources.

It is only possible to indicate the general scope of this truly monumental work. A vast mass of facts has been brought together, and all who are interested in any way in poisonous animals or in animal poisons will have reason to be grateful. The work involved in the preparation of these volumes is indicated by the statement that their material has been gathered from the literature of the following subjects: comparative anatomy, biological chemistry, physiology, pharmacology, pathology, immunology, tropical medicine, and parasitology.

Numerous references are given in each chapter and have been taken freely from foreign as well as from French literature. We desire to emphasize the point that this book is unique, in that no work on anything approaching this scale has previously appeared giving a general account of animal poisons. The book will be of chief value probably to workers in tropical medicine, for whom it will be most valuable for reference. It will be of great interest also to all who are studying the action of poisonous proteins, for in these volumes they will find collected the very scattered and fragmentary knowledge that exists concerning animal poisons.

AN ENCYCLOPAEDIA OF UROLOGY.

THE appearance of the fourth volume of the *Encyclopédie française d'Urologie*[2] has been delayed by the war, and French urology has suffered the loss of the eminent man who presided at the birth of this great work—Professor Guyon. It is therefore fitting that as a frontispiece to the fourth volume there should appear an excellent engraving of the father of the French school of urology. There has also been added a short character sketch of Professor Guyon written by two of his disciples, Drs. POUSSON and DESNOS.

This French encyclopaedia is undoubtedly the completest work that has yet been published on urology. Volume IV, which is entirely devoted to diseases of the bladder, is a bulky volume; it is divided into two parts: the first deals with methods of examination, and the second with the etiology, morbid anatomy, diagnosis, and treatment of lesions of the bladder. The technique of cystoscopy naturally forms an important part of the chapters devoted to diagnosis, but we are glad to see that the matter has been treated in a simple way and that the reader is not distracted, as in some works on the subject, by the introduction of difficult mathematical formulae and advanced optics. The authors of the chapter on the radiographic exploration of the bladder, by means of the injection of opaque fluids, prefer a 10 per cent. solution of collargol.

The first chapter of Part II contains a very full description of traumatic lesions of the bladder, by Drs. Rouvillois and Ferron, a chapter which has undoubtedly profited from the great experience of bladder wounds afforded by the late war; to it has been appended an extraordinarily complete bibliography that must contain some hundreds of references. Inflammations have been dealt with in the same lavish manner in the following chapter by Heitz-Boyer, whilst Drs. Desnos and Minet are responsible for the subject of calculi. In the portions of the work devoted to foreign bodies in the bladder, a most extraordinary list is given of objects found in the female bladder, ranging from a crucifix to a china doll.

Amongst the means of diagnosing vesical growths mentioned by Dr. Verhoogen is radiography. Although its range of utility is small, radiography is in certain cases undoubtedly of great service. For this purpose a 10 per cent. solution of collargol is injected, and the growth appears as a clear area infringing on the normal dark outline of the bladder. The only confusion that can arise is that due to the presence of a calculus, a large stone producing an appearance similar to a neoplasm. As a method of treatment for growths that cannot be otherwise dealt with, Verhoogen speaks hopefully of radium; he considers introduction through a suprapubic opening preferable, in the majority of cases, to cystoscopic methods. The results of total extirpation of the bladder are shown to be discouraging. Out of 69 cases, 35, or more than 50 per cent., died of the operation. Of 34 survivors 12 died during the course of the first year, 2 in the second year, and one at the end of two years. One case recorded by Hogge and Winiwarter survived six years. In 7 cases the subsequent history could not be obtained.

With regard to the treatment of papillomata the conclusions are (1) that electro-coagulation or sparking should be considered the treatment of choice in the vast majority of cases; (2) that for growths inaccessible to the operating cystoscope, or in cases of intolerance, treatment should be carried out through a preliminary suprapubic opening; (3) that when there is a doubt as to the nature of the tumour an open operation is preferable to operative cystoscopy; (4) that when several papillomata are localized in one region an open operation with excision of the whole area affected is the surest measure; and lastly, (5) that when the whole bladder is covered with vegetations, cystectomy may have to be considered; as an alternative extirpation of the mucosa, conserving the rest of the bladder wall, may be considered. The bibliography at the end of this chapter fills eight pages.

Operations on the bladder, ranging from simple lavage to total extirpation, are described, and the volume concludes with a chapter on lithotrity, which can best be described by saying that it is as complete as the other chapters of the work.

Altogether the volume is a remarkable achievement. It is essentially a work of reference; among its greatest merits is the complete bibliography appended to each chapter. The 505 illustrations and the twelve coloured plates have been very well chosen. Drs. Pousson and Desnos, under whose direction the *Encyclopédie française d'Urologie* has appeared, are to be congratulated on the accomplishment of what cannot have been an easy task.

GUY'S HOSPITAL REPORTS.

THE first of the four quarterly parts of vol. lxxi of the *Guy's Hospital Reports*[3] opens with Part I of an historical appreciation of Sir Astley Cooper by Sir Charters Symonds; this article contains interesting accounts of the old system of apprentices and dressers, who were in a different position from "the pupils" of the medical school, and of the education of a surgeon at the time when Astley Cooper was Cline's apprentice at St. Thomas's Hospital, which was then on the

[1] *Animaux Venimeux et Venins.* By Dr. Marie Phisalix; with a Preface by Professor Laveran. Two volumes. Paris: Masson et Cie. 1922. (Roy. 8vo, pp. 1600; 521 figures and 17 plates. 120 francs for the two volumes.)

[2] *Encyclopédie française d'Urologie.* Tome Quatrième: *Maladies de la Vessie.* Published under the direction of A. Pousson and E. Desnos. Paris: G. Doin. 1921. (Imp. 8vo, pp. 1151; 505 figures, 12 plates. Fr. 60.)

[3] *Guy's Hospital Reports*, vol. lxxi (vol. ii, Fourth Series), No. 1, January, 1922. Edited by Arthur F. Hurst, M.D. Issued quarterly. London: Henry Frowde, and Hodder and Stoughton. (Pp. 127; 27 illustrations, 3 charts. Price: Subscription, 2 guineas post free for volume of four numbers; single numbers, 12s. 6d.)

opposite side of the street to Guy's Hospital. The accounts are appropriately preceded by a sketch of the rise of William and John Hunter as teachers at the Windmill Street school, where they succeeded Samuel Sharp, the founder of this—the first—extra-mural school. There are also thumbnail sketches of Astley Cooper's contemporaries, and an analysis of the sterling qualities that led to his remarkable success. Dr. A. A. Osman contributes a discussion of splenic anaemia and chronic splenomegaly, based on a review of the literature and of the cases, about forty in number, in Guy's Hospital during the last twenty years; he concludes that splenic anaemia is not a specific disease but a clinical syndrome, probably always the result of a chronic infection in the spleen, which is sometimes self-limited so that spontaneous cure occurs, and is sometimes secondary to an infective focus elsewhere, removal of which may cure the disease. In his critical and independent discussion of the nature of summer diarrhoea Dr. H. C. Cameron argues that the important factor is not entirely or chiefly infective enteritis, the result of contamination of the milk supply, but is in great part the prejudicial effect of heat in lowering the need and tolerance for food, in diminishing the efficiency of the digestive secretions, and in encouraging the overgrowth and migration of bacteria which are normal inhabitants of the colon to other parts of the bowel. The injurious effects of long-continued heat on infants are considered, and four groups of clinical manifestations are described, practical measures to enable the infant to withstand the physical effects of excessive heat being recommended at the end of the article. Dr. Hugh Barber of Derby, who has done much in connexion with renal dwarfism, returns to the subject in a note on two cases of adolescent knock-knee: (1) A typical renal dwarf, (2) late rickets without obvious cause; in connexion with the first case he has unearthed an example recorded in 1883, nearly thirty years before the condition was otherwise recognized by the late Mr. R. Clement Lucas. Mr. R. P. Rowlands describes the causation, prevention, and treatment of the "vicious circle" or regurgitant vomiting after gastro-jejunostomy, and illustrates his remarks by four diagrams. The concluding article of this instalment of the reports is "The heteromorphoses in the human body" by Dr. G. W. Nicholson; it occupies fifty pages and shows much thoughtful investigation of the borderland between pathology and biology; he considers that the chief interest of the anomalies of differentiation that he has collected is the light they throw on development and growth; they suggest that differentiation is, within wide limits at all events, the result of external stimulation, of environment in fact, and that for these anomalies it is unnecessary, if not wrong, to assume an inherent vicious predisposition until all the numerous possibilities of the influence of environment have been exhausted.

LABORATORY DIAGNOSIS.

THE *Essentials of Laboratory Diagnosis*,[4] by FRANCIS FAUGHT, M.D., of Philadelphia, was first published in 1909, additions were made in subsequent editions, and the author says that for the new seventh edition the text has been practically rewritten.

Its popularity depends on the concise and definite manner in which the information is presented. Methods are described for the examination of sputum, faeces, and urine. There are three chapters on blood examination, including one on newer methods of analysis, in which is described the measurement of blood viscosity and the determination of the chemical composition of the blood. There is a chapter on sphygmomanometry and sphygmography also. A valuable chapter is devoted to determinations of the functions of the stomach, and a certain amount of information is given in the last two chapters on bacteriological methods and sero-diagnosis. The book is essentially a chemical and not a bacteriological handbook, but the author gives a little bacteriological information also. It would have been better to have said nothing at all than to have written the sentence which appears on page 281: "Colon bacillus decomposes sugar solutions; typhoid does not"! In a book of 500 pages it is a mistake to try to do justice to every possible branch of laboratory investigation. Those subjects which cannot be dealt with thoroughly should be omitted. For instance, the author dismisses the subject of amoebic dysentery without a word of reference to *histolytica* cysts, so that the student would be led to suppose that there is no method of diagnosing amoebic dysentery if the free living amoeba is not found. What, again, is the value of descriptions of intestinal worms, to which ten pages are given, if no illustrations of their ova are provided?

The parts of the book which deal with chemical reactions are well written and well illustrated. In perusing these pages the English reader will meet with many familiar friends under the new titles by which they are known on the other side of the Atlantic. But he will also come across useful methods of analysis not commonly practised in this country, and will find them clearly explained and accurately appraised. There is very little which is not practical in the book, the only explanatory matter consisting of a few sentences stating the deductions which can be drawn from the several tests. In the majority of cases more than one method of analysis is described, and references to original articles are given. The author adds to the value of his book by embodying many personal observations and instancing technique employed in other laboratories than his own; in particular the chapter on analysis of the urine is well written, generously illustrated, and admirably arranged. An appendix contains information as to stains and chemicals, and also some tables.

It is always useful to have such a book as this at hand, and those who possess it will probably find themselves turning to it frequently.

[4] *The Essentials of Laboratory Diagnosis.* By F. A. Faught, M.D. Seventh edition, revised and enlarged. Philadelphia: F. A. Davis and Co. 1921. (Med. 8vo, pp. xii + 523; 77 figures, 11 plates. 4.50 dollars net.)

PUBLIC HEALTH.

A SMALL textbook on medical jurisprudence, toxicology, and public health was published in 1908 from the pen of Dr. AITCHISON ROBERTSON, and the work passed through two subsequent editions. The author has now adopted the wise course of issuing a *Manual of Public Health*[5] as a separate volume. The general arrangement is similar to that of textbooks of a like character, and the author has succeeded on the whole in carrying out his aim to include all that the average student may be expected to know. The short chapter on dietetics and foods contains a mass of accurate information, and the section on vitamins is clear. Industrial hygiene is another subject which is dealt with in an exceptionally able manner. Although the additional matter in this edition cannot be criticized, some of the older parts seem to have escaped revision. For example, on page 80 the long hopper closet is described as a cheap and good form of closet. It may be cheap, but it is a long time since it was considered good. On page 77 advantage is said to be taken in earth closets of the "deodorant" action of dry earth, but it is surely the nitrifying action which comes into play, and for this reason it is not now usual to recommend, as on page 76, fine ashes (which are sterile) from the kitchen range to be thrown over excreta in privies. The differences in the public health laws and administration in Scotland and England always seem to be a stumbling-block with the writers of public health textbooks who live beyond the border. On page 222 it is stated that "the country is divided into (1) urban, (2) rural sanitary districts. In boroughs the mayor and aldermen and burgesses; in the Improvement Act district, the Improvement Commissioners; and in a local government district, the local board form the local authority." Improvement Commissioners and local boards have been abolished in England and Wales for a generation at least, and the sanitary authorities are now the county borough councils, metropolitan and municipal borough councils, urban and rural district councils. We have no desire to be hypercritical, but we cannot refrain from referring to page 119, where some Acts of Parliament are referred to as Acts and others as bills. This must be very confusing to the student, who may also wonder why, on page 150, scarlet fever should sometimes be referred to by that name and sometimes as scarlatina. These may seem small matters, but they ought not to appear in the fourth edition of a textbook.

AN AFRICAN NATIVE MEDICAL CORPS.

THE conditions produced by the war called forth all the capacity of adaptation our countrymen possessed. Not least was this so in campaigns in outlying parts of the empire. An interesting account of one of these adaptations is given in an account of the work of *The African Native Medical Corps in*

[5] *Manual of Public Health.* By W. G. Aitchison Robertson, M.D., D.Sc., F.R.C.P.E., F.R.S.E. Fourth edition. London: A. and C. Black, Ltd. 1921. (Cr. 8vo, pp. 260; 25 figures. 10s. 6d. net.)

the East African Campaign.[6] The outbreak of hostilities found the Uganda Medical Department deficient in and unable to obtain suitable European personnel capable of performing the duties of R.A.M.C. rank and file. Experience of the educated native suggested that the Baganda tribe might provide an excellent substitute, since this class of native speaks and writes English, and is unusually quick at learning. At first the administration furnished men of the peasant class, who did not prove adaptable. Later on offers of service were received from the Mengo High School (Church Missionary Society) and from other missionary colleges. The boys showed marked aptitude, and very quickly became efficient in elementary first aid, nursing, and stretcher drill. At the field force headquarters the Uganda boys quickly asserted themselves on the football field; they easily defeated other native teams, including the Union Labour Corps, Cape Boys, the West India Regiment, the Indian Y.M.C.A., and also several scratch European teams. The boys were distributed throughout the force, some proceeding as far north as Abyssinia and others as far south as Durban. Reports received as to their work were very favourable, in some cases enthusiastic. The improvement in the speedier service of food, cleanliness of hospital buildings, and in the nursing and general comfort of the sick and wounded Africans, after the arrival of the corps in the field, was admitted on all sides. It was not unusual for a senior N.C.O. of the corps to be in the immediate control of 500 native staff. This was a singularly successful attempt to make use of the ability of a native ruling class in European work. The Baganda has a curious notion of what is manly, especially in regard to menial work, all forms of which he instinctively looks down on as degrading; hence considerable difficulty was experienced in inculcating the fact that all service for the sick, no matter how menial, was of a high order. As Carl Peters once said of this race: "This gift of authority is, as it were, in the blood of the Waganda, and this superiority is nowhere denied."

In a foreword to the book Sir Robert Coryndon, Governor of the Uganda Protectorate, describes the great possibilities of the country inhabited by this tribe. It is very fertile, and has a sufficient and even rainfall. Education to stimulate the intelligence of the native race and to encourage the industry and breadth of view is lacking, but valuable work is being done by the three great missionary societies. At present "thousands of Indians are employed in Eastern Africa in the lower grades of medical work—vaccinators, dispensers, inspectors, and so on—and as artisans in the building trade, and on the Uganda Railway and marine; and their work generally is both costly and inefficient. . . . The work accomplished and the capacity for craftmanship and knowledge shown by the members of the Native Medical and Mechanical Transport Corps in East Africa indicate a strong promise that its own natives will play a prominent part in the development of the Protectorate."

DISEASES OF THE STOMACH.

THE *Manual of Diseases of the Stomach*,[7] by Dr. MACLENNAN and Dr. CRAIG, gives a sound and practical account of the subject that may be recommended to the attention of the medical student and practitioner, for whom it has been written. It is divided into four sections. The first of these deals with the anatomy, physiology, and chemistry of the stomach, and with the various methods of physical examination to which it is amenable, whether at the bedside, in the *x*-ray room, or in the pathological laboratory. The second and third sections deal with the organic and the functional diseases of the stomach respectively; in the fourth section the relation of gastric symptoms to diseases in other abdominal or thoracic organs receives consideration.

The authors are concerned throughout the volume with the practical and commonplace, rather than the scientific and recondite; the result is that their manual will be found a very useful guide by those who have to diagnose and treat the lesion in patients with gastric disorders. It is well turned out and illustrated, and has a good index; the word "apparati" on page v we take to be a slip of the pen for "apparatus."

[6] *The African Native Medical Corps in the East African Campaign.* With a foreword by His Excellency Sir Robert T. Coryndon, Governor of the Uganda Protectorate; compiled by Major G. J. Keane, D.S.O., M.D., Ch.B., D.P.H., D.T.M., R.A.M.C., Uganda Medical Service, and Captain D. G. Tomblings, Assistant District Commissioners, H.M. Colonial Civil Service, Uganda Protectorate. Privately printed. 1921. (Demy 8vo; pp. 63, illustrated.)

[7] *A Manual of Diseases of the Stomach.* By W. MacLennan, M.B., with the assistance of J. Salisbury Craig, M.B., Ch.B. London: E. Arnold. 1921. (Demy 8vo, pp. x + 392; 31 figures, 4 plates. 21s. net.)

SCHOOL HYGIENE.

THE Bradford School Board was very much in advance of the times when, in 1893, Dr. James Kerr was appointed Bradford's first school medical officer, following a similar appointment two years previously by the London School Board. Dr. Ralph Crowley, who succeeded Dr. Kerr in Bradford, having the advantage of intimate access to the Bradford records, was thus peculiarly well qualified to express authoritative opinions on school hygiene, and when the first edition of his *Hygiene of School Life* was published in 1909 it at once took a foremost place in the literature of the subject. In the same year the author left Bradford for an official position in the medical department of the Board of Education, so that he could not take part in the revision of later editions of his work. The publishers were, however, extremely fortunate in securing for this purpose Dr. C. W. Hutt, who has edited three subsequent editions. The fourth and latest,[8] while adhering to the lines originally laid down by Dr. Crowley, contains the revisions and additions necessitated by the developments of the past ten years. We are especially glad to find that the original introductory chapter has been retained, for it gives a lucid account of the history of medical inspection in schools and of its objects and character. This is particularly valuable at the present time, when there is a tendency in some quarters to belittle the school medical service on the plea of economy. Those who are called upon to resist this disposition cannot do better than refer to this chapter for powder and shot. The principal additions to the fourth edition include chapters on nursery schools, on the employment of children, and on the medical inspection and treatment of pupils in secondary and continuation schools. All these subjects are treated on the broad lines that might be expected from an official with the varied administrative experience of Dr. Hutt. He considers that, while there may be local circumstances which point to the necessity for providing a nursery school as a separate establishment, on the whole there are many advantages in making it an integral part of existing infants' schools, not the least being that there are so often older children from the same family in attendance in one of the other departments. Juvenile employment is now regulated by statute, and the various Acts of Parliament concerned are outlined very clearly in a chapter which school medical officers will find helpful and informing.

NOTES ON BOOKS.

THE modern school teacher is expected to be something more than a good teacher and a good disciplinarian. He should have some knowledge of psychology, and be reasonably familiar with the underlying causes of action, good or bad. If he is not possessed of this knowledge it is argued that he cannot be a good teacher or disciplinarian, for he is ignorant of the very foundation of his work. Yet untold numbers have made themselves good teachers by the exercise of sound common sense, long before psychology began to be talked about in this connexion. Still we can conceive that the trials and errors of the youthful teacher may be mitigated by a preliminary grounding in a well thought out explanation of motives. In *The Education of Behaviour*[9] is a very fair attempt to set out in reasonably simple phraseology present-day views of these causes of action; it is based mainly upon Professor McDougall's *Social Psychology*. The aim of the teacher is to make an efficient citizen, able and willing to keep himself in good physical condition, to do his share of the world's work, to give his children necessary care and training, to do his duty to his neighbours, and to occupy his leisure in such a way as to provide a desirable outlet for those of his longings which would otherwise remain unsatisfied. The natural endowments of the child present, it is said, the sum total of his possibilities, and it is maintained that their development depends on the environment, far more failing through lack of right environment in youth than through lack of inborn ability. The conclusion is that the community is at fault, should the growing boy or girl fail to form ideas of social value. If the environment fosters a social ideal of the "self," the youth will try to be unselfish; if it fosters an ideal of self-seeking, he will as readily grow selfish. That environment is not a wholly satisfactory explanation of action is felt by the author, for in discussing impulsive activity, we find, "individual differ-

[8] *Crowley's Hygiene of School Life.* By C. W. Hutt, M.A., M.D., D.P.H.Oxford. Fourth edition, revised. London; Methuen and Co., Ltd. 1920. (Crown 8vo, pp. 465; 20 figures. 6s. net.)

[9] *The Education of Behaviour: A Psychological Study.* By I. B. Saxby, D.Sc. London: University of London Press, Ltd. 1921. (Cr. 8vo. pp. 248; 5 figures. 6s. net.)

ences are, of course, partly due to differences in environment, but they must be partly innate, for they are observable in quite young children. It is difficult to account for these phenomena unless we assume that impulses can in some way become surcharged with energy from the self-preservative and race-preservative centres, and that this energy will then expend itself on any object, however unpromising, if it cannot find an outlet through an established sentiment."

Professor WEYGANDT's book on psychiatric diagnosis [10] is characterized by the variety and excellence of the photographic pictures and coloured plates of lunatics of all sorts which it contains. The pictures are helped out by a clearly written and comprehensive text; full details of the methods of examination employed are given throughout. The volume may be recommended to the attention of alienists.

The *Medical Register* [11] for 1922 shows that the gradual increase in the number of registered practitioners, which has been noted in previous years, is still maintained. The total number on the *Register* at the end of 1921 was 45,408, as compared with 44,761 in 1920, and 44,510 in 1919. Of the total 49.52 per cent. were registered in England, 31.41 per cent. in Scotland, and 14.51 in Ireland; 4.34 per cent. of the names appear in the colonial list, and 0.22 per cent. in the foreign list. The *Register* contains for the first time the provisions of the new Dentists Act, 1921. The *Dentists Register* [12] for 1922, which has also just been published, shows that the number of dentists, 5,831, has increased from the previous year, when it was 5,610. The numbers and the qualifications of those on the *Dentists Register* will, however, be very considerably affected in the next *Register* by the provisions of the Dentists Act, 1921, which are included in this year's *Register*.

The Minutes of the General Medical Council [13] for 1921 contain an account of the proceedings of the Council, the three branch councils, and the various committees, including the Dental Committee; appendices are added consisting mainly of reports of certain special committees, accounts, and the president's memorandums on Indian universities and the teaching of midwifery. *A General Index to the Minutes* [14] has also been published.

[10] *Erkennung der Geisterstörungen (Psychiatrische Diagnostik).* Von Dr. phil. und med. W. Weygandt. München: J. F. Lehmann. (Sup. roy. 8vo, pp. 251; 318 figures, 18 plates. M. 34.)

[11] *The Medical Register for 1922.* London: Published for the General Medical Council by Constable and Co., Ltd. 1922. (Sup. roy. 8vo, pp. xclv+1283.)

[12] *The Dentists Register for 1922.* London: Published for the General Medical Council by Constable and Co., Ltd. 1922. (Sup. roy. 8vo, pp. xxvi+146.)

[13] *Minutes of the General Medical Council and of its Various Committees for the Year 1921, with Fourteen Appendices.* Vol. lviii. London: Published and sold for the General Medical Council by Constable and Co., Ltd. 1922.

[14] *General Index to the Minutes of the General Medical Council, of its Executive and Dental Committees, and of its Three Branch Councils, 1903–1921.* Vols. xl to lviii. London: Published and sold for the General Medical Council by Constable and Co., Ltd. 1922.

ROYAL MEDICAL BENEVOLENT FUND.

AT the meeting of the Committee held on February 14th 30 cases were considered and £314 voted to 27 applicants. The following is a summary of some of the cases relieved:

Daughter, aged 76, of M.R.C.S.Eng. who died in 1855. Applicant's sole income is derived from investments which bring in £21 per annum. Up to quite recently she was taken care of by her own sister, aged 74, but owing to helplessness has had to have a nurse, who is provided by friends. Voted £18 in twelve instalments.

Widow, aged 34, of M.B.Lond. who died in 1921. Applicant and two children left totally unprovided for, and when late husband's estate is realized it is only expected that there will be enough to pay the creditors. She has received £20 from the Officers' Families Fund and £20 from friends. At present staying with father. Voted £15 in three instalments.

Widow, aged 44, of M.R.C.S.Eng. who died in 1921. Applicant left with five children; husband's estate is not yet settled, and up to the present the creditors have only received 15s. in the £. Applicant's share of the estate amounts to a share of the furniture only. Mother has only a home to offer, as she is entirely dependent on her married sons. Voted £15 in three instalments.

Widow, aged 59, of L.R.C.P.Lond. who died in 1903. Applicant had a home for children, but failed during the war. She received £7 7s. for looking after a small boy during the holidays and £15 from investments. Now lives with married daughter. Voted £18 in twelve instalments.

Subscriptions may be sent to the Honorary Treasurer, Sir Charters J. Symonds, K.B.E., F.R.C.S., at 11, Chandos Street, Cavendish Square, London, W.1. The Royal Medical Benevolent Fund Guild is overwhelmed, in these days of exorbitant prices for clothing and household necessaries, with applications for coats and skirts for ladies and girls holding secretarial posts, and suits for working boys. The Guild appeals for second-hand clothes and household articles for the benefit of the widows and children who in happier times would not have needed assistance. The gifts should be sent to the Secretary of the Guild, 43, Bolsover Street, W.1.

MOTOR NOTES FOR MEDICAL MEN.

BY H. MASSAC BUIST.

LEGISLATION AND TAXATION.

ABOUT the time these notes are published the Government will issue the recommendation of the Ministry of Transport's Departmental Committee on the Taxation and Regulation of Road Vehicles. As regards the main points under consideration, the issue lies between two alternatives: the raising of the speed limit from 20 to 30 miles an hour, or the abandonment of any restrictions as to speed and the substitution of a system of regulations under the heading "driving to the danger of the public."

In face of the long proved fact that none can determine safety in terms of miles an hour, in that there are many circumstances in which it would be dangerous to travel at even 5 miles an hour, it is not surprising that the conclusion arrived at, and recommended to the Department as a result of this investigation, is against the use of any speed limit whatsoever. Therefore the abolition of the 20 miles an hour law is recommended. The alternative proposition, that of prosecution on the ground of driving to the danger of the public, has the theoretical disadvantage that no two individuals, or even groups of individuals, would agree as to what constitutes driving to the danger of the public. There would be prejudice in certain cases, either for or against motoring as such; altogether apart from which there is the very great difficulty of weighing evidence under this head. Therefore, very few motorists would look forward with pleasure to a bald change of conditions whereby they would become liable to be proceeded against on anybody's word as to their having driven at a certain time at a given place to the danger of the public. This point has been appreciated by the committee, and the result is that, when its report is published, it will be found that it has striven to define, otherwise to limit, what constitutes danger to the public. The matter will be gone into after the official publication. Nor is there any urgent hurry for the public to rush to conclusions on the subject, since even if the matter were proceeded with during this session, still the new law would not come into operation before the autumn at the earliest. There is even a possibility that the existing motoring laws will continue in force until New Year's Day, 1923, when the new rules will become operative. The existing laws, though they were passed in the summer of 1903, did not come into force until January 1st, 1904. Consequently precedent would be followed were the enforcement of any new regulations delayed until next New Year's Day.

MOTOR OWNERS AND THE BUDGET.

Meantime, the imminence of the Budget is causing a stir of activities among motoring bodies. Those concerned more particularly with the ownership of private vehicles are aiming to secure some change in the method of taxation. An instance of this is afforded by the set of questions sent out by the Automobile Association and Motor Union to its 150,000 odd members, each of whom is the owner either of a car or of a motor cycle. This organization has always objected to the current system of taxation on the ground that it is a levy on ownership, not on road use. It is therefore desirous of a return to the fuel tax. But, as I have pointed out in these columns on previous occasions, it seems to be impossible for a large number of reasons to revert to that. The prime reasons are that the Excise authorities could not guarantee its collection; that any such tax would have to make a differentiation in favour of home-produced motor fuels; that any such differentiation would result inevitably in some motorists escaping the payment of at least part of the tax, whereas others would pay in full, and that nobody is yet in a position to define what constitutes motor fuel. Nor is the proposition of the Automobile Association, which is carefully phrased to indicate that it is desired to substitute for the current horse-power taxes a tax on petrol, anything else than an evasion of the question. If petrol alone among motor fuels is taxed, then such a system would be most unfair to such motorists as used it, because those who ran their motor vehicles on benzol or any alternative spirit which has been, or may be, evolved and marketed for use in the liquid fuel internal

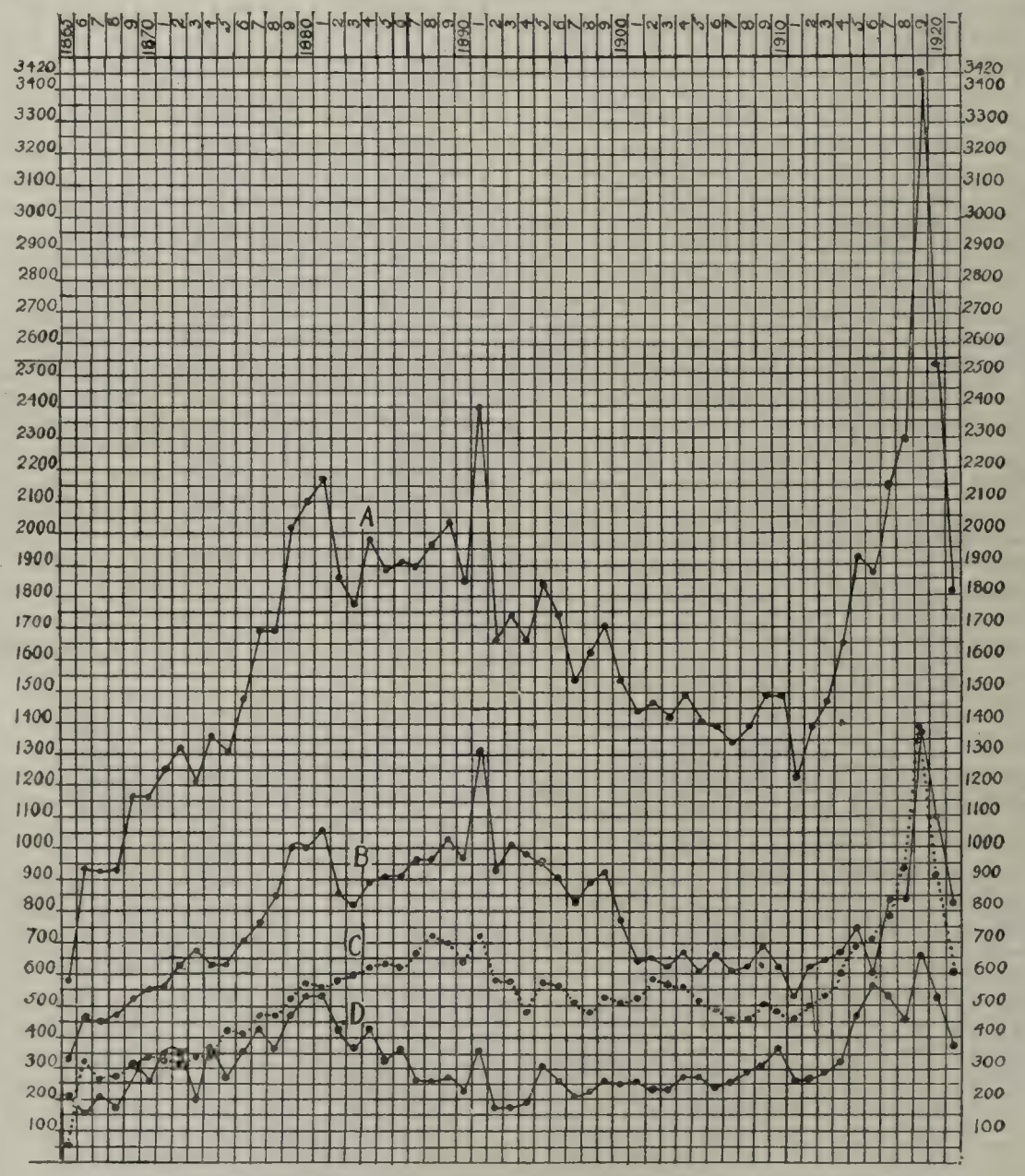
combustion engine, would escape the levy. It is therefore for those who desire a change in the principle of levying the motor tax to suggest some alternative to the horse-power tax other than a fuel tax. Representatives of the movement were, in fact, invited by the Government to do so at the time the law now in force was in the making. The only alternative so far suggested is a tax on tyres. But no motorist would consent to that because, whereas when he buys a pint of motor spirit he buys a pint of power, when he buys a tyre he may secure a perfect or a faulty one. The man who has bad luck with his tyres would never be willing to pay an extra proportion of taxes on that account as well as the necessary extra sum of money to get substitute tyres. That would be multiplying his injuries.

But the questions issued by the Automobile Association are, nevertheless, of interest in that the aim is to obtain from every motorist the results of his practical experience on the road during 1921. Thus he is asked to make a return of his total annual mileage, average fuel consumption, amount of tax paid, the net period during which his car or motor cycle was out of use, and the difficulties, if any, experienced in obtaining his registration book, or licence, or both; and an expression of his personal opinion as to whether the present system of taxation "should be superseded by a petrol tax," and so on. In order to make the results of the inquiry as representative as possible, owners of private motor vehicles who are willing to assist by filling up a form, and who are not members of the Automobile Association, are nevertheless asked to send a postcard to the Secretary, 66, Whitcomb Street, London, W.C.2, asking for a form. All this information will be collated at the association's head offices and utilized in the representation it will make to Parliament.

THE MEDICAL STUDENTS' REGISTER.

REFERENCE is made elsewhere (p. 485) to the issue by the General Medical Council of the *Medical Register* and the *Dentists Register* for 1922. With them we have received a copy of another publication issued annually by the Council—*The Medical and Dental Students' Register*.* This gives lists of the students registered during the year 1921, together with statistical tables and other information. A note is appended to the present edition drawing attention to the fact that on January 1st, 1923, important changes in the regulations for the registration of students will come into force, and a list is given of preliminary examinations in general knowledge which were formerly recognized but are no longer accepted. Copies of the regulations of the General Medical Council in regard to the registration of medical and dental students can be obtained from the Registrar, 44, Hallam Street, Portland Place, London, W.1, price 1s. 2d. post free.

An interesting feature of the *Students' Register* is the analytical summary of the medical students registered during each year in each of the three divisions of the United Kingdom from the commencement of students' registration in 1865 to the end of 1921. It records in tabular form the fluctuations in the size and distribution of the medical student body during the past fifty-seven years. We have given graphic form to these figures in the accompanying chart, which brings before the eye the remarkable disturbances of the past few years. It should be mentioned, however, that as registration of students is not enforced by all the licensing authorities, the totals shown throughout the chart probably fall short of the actual number of students entering in any year.



A = United Kingdom. B = England. C = Scotland. D = Ireland.

The establishment of a *Students' Register* in 1865 was one of the direct results of the Medical Act of 1858, which set up a General Council of Medical Education and Registration for the United Kingdom. It will be observed that whenever a sharp rise occurred this was soon followed by a fall, probably reflecting some apprehension about an overstocked profession in the minds of parents and guardians. For very many years the "record" entry was that of 1891, which was generally put down to the announcement of the forthcoming compulsory five years' curriculum, whereupon there was a rush of young men anxious to register as students under the old regulations. The total for that year, 2,405, was, however, exceeded by more than a thousand in the demobilization year, 1919. That year, with an entry of 3,420, represented the high-water mark of the recent flood. In 1920 the total fell to 2,531, and last year to 1,808—"a more manageable number," to use the expression of the President of the General Medical Council.

The medical schools of England, Scotland, and Ireland have all shared in the decline since 1919. In that amazing year 1,375 students were registered in England, the largest ever recorded; but in Scotland the total was 1,387, which had never been approached in any previous year by any of the three kingdoms, and was 445 more than the "record" Scottish total of the previous year.

In all, during the fifty-seven years of students' registration 92,746 medical students were registered in the United Kingdom, the percentage for England and Wales being 46.86, for Scotland 33.38, and for Ireland 19.76.

It is interesting to observe a correspondence in recent years in the figures of dental students registered. The total entry of dental students in 1919 was 612, as against the previous highest figure of 361 recorded six years earlier; in the past two years the totals have been 560 and 371. Altogether since the beginning of dental students' registration in 1878 there have been rather more than 9,000 entrants.

* *Lists of Medical and Dental Students Registered during the Year 1921.* London: Constable and Co., Ltd.

British Medical Journal.

SATURDAY, MARCH 25TH, 1922.

COMPARATIVE PATHOLOGY.

THOSE who have watched the changes in medical practice in Great Britain during the last forty years are in a position to contrast the widespread disapproval of specialism in its initial stages with its tacit acceptance for many years past. The advice to "specialize early," against which those with a broad outlook on the science and art of medicine wisely issued a warning in the eighties, is still heard, but it is now probably more generally recognized that it has the serious disadvantage of cramping the mental horizon of the observer. There is, however, a great difference in the influence of specialism as it affects the individual observer on the one hand and the advance of medical science on the other. Increased knowledge in special directions cannot but broaden and, by providing the key to the explanation of certain problems, sometimes correct the conception of the subject as a whole. These considerations bear in some degree on the questions involved in the study of comparative pathology.

In his far-seeing address on Elemental Pathology to the Pathological Section of the British Medical Association at Cambridge in 1880 the late Sir James Paget pointed out the advantages that human pathology and medicine would gain from research into the diseases of plants and animals; this opinion was supported at the time by the late Sir Henry Acland, then Regius Professor of Medicine at Oxford, and Sir Clifford Allbutt since the address on Medicine he gave at the Annual Meeting of the Association in Glasgow, and indeed before that, has continued to plead for the recognition of the principle and to insist on the need for practical measures to carry it into effect. In his Presidential Address at the Annual Meeting of the Association at Cambridge in 1920 he pointed out once more that this path of research was neglected, and urged constant co-operation on systematic lines between the veterinary and medical professions.

Recent realization of the urgent economic needs of the empire for the prevention of animal disease led to the appointment in November, 1920, under the Development Commission, of an Advisory Committee on Research into Diseases in Animals, "To report on the facilities now available for the scientific study of the diseases of animals, to indicate what extension of those facilities is desirable in the immediate future in order to advance the study of disease whether in animals or man, and to advise as to the steps which should be taken to secure the aid of competent scientific workers in investigating diseases in animals." Sir David Prain, Director of the Royal Botanic Gardens, Kew, was Chairman of the Committee, which included among its members Sir William Leishman, Sir John McFadyean, Sir Walter Fletcher, and Dr. C. J. Martin of the Lister Institute. It held fifteen meetings and heard twenty-three witnesses, including Mr. Sheather, recently in charge of the Imperial Bacteriological Laboratory of India, at Muktesar. The annual monetary loss from diseases of animals in the United Kingdom is unknown, but it must be very large; in Scotland it is estimated to be a million sterling, and in South Africa several millions. But the importance of the matter is not limited to the actual loss of wealth due to preventable diseases among live-stock, nor to the existence of animal infections communicable to man, for the problems of health and disease in man and in animals or plants all really belong to the same category. The report of the Committee has recently been issued.[1] It states that there is at present in the United Kingdom only one independent institution wholly devoted to the investigation of animal disease which is worthy of the name of a research institute—namely, the Research Institute in Animal Pathology at the Royal Veterinary College, London. That the state subsidy to the five veterinary colleges, which should occupy a place in relation to veterinary research similar to that enjoyed by the medical schools in relation to medical research, was no more than £3,696 in the year 1920–21 is stigmatized by the Committee as a national disgrace when regarded either from the point of view of this country's position in the stock-breeding world or from that of scientific research. It contrasts very badly with the expenditure (£123,447) upon veterinary education and research by the Government of the Union of South Africa during the same year.

The recommendations of the Committee are somewhat hesitating, and the majority of the members have clearly felt themselves hampered by the present financial stringency. They recognize that an essential part of any scheme for the improvement of veterinary research is the gradual creation of a cadre of research workers with definite prospects of tenure, pay, promotion, and superannuation benefits. The Committee advises the establishment of a Diseases of Animals Research Committee (or Board), one of the duties of which would be to establish such a cadre, but recognizes that it will be necessary to proceed with caution, keeping the needs of the whole situation under review. A number of witnesses examined by the Committee laid stress on the importance of creating chairs of comparative pathology (or comparative medicine) attached to a university, but situated neither in a veterinary nor in a medical school. Two schemes, based on the Universities of Cambridge and London respectively, were, in fact, submitted. Their promoters pointed out truly that association with a university, in addition to affording opportunity for a direct inquiry into veterinary problems and into the comparative aspects of disease as a whole, whether in man, animals, or plants, would also tend to bring into association workers in different branches of the subject, and so gradually build up a new centre for post-graduate training.

One of the members of the Committee, Mr. F. B. Smith, C.M.G., who after being professor of agriculture at the Agricultural College, Wye, became Director of Agriculture for the Transvaal (from 1902 to 1910) and for the Union of South Africa from 1910 to 1920, when he became reader in estate management at the University of Cambridge, has attached to the report a reservation in which he strongly advocates the establishment of a chair of comparative pathology at Cambridge. His experience in South Africa convinced him of the necessity for studying animals living under the conditions in which they are usually kept, and for enlisting the sympathy of farmers. In South Africa large farms are attached to the laboratories and temporary field experiment stations are established when necessary. Owing to its situation in the midst of an agricultural district largely concerned in live-stock and light horse breeding, Cambridge is well adapted for bringing laboratory investigators into touch with the industry. During the past ten years a considerable area of land close to the town has been acquired by the university and well equipped with field laboratories, animal houses, and

[1] Report of the Advisory Committee on Research into Diseases in Animals. Development Commission, 1922. Published by H.M. Stationery Office, London. (Pp. 19. Price 1s. 6d. net.)

other conveniences for experimenting with horses, cattle, sheep, and pigs; further land could be acquired. Mr. Smith then goes on to point out the facilities for all-round study of the problems of comparative pathology that Cambridge already affords in its medical school, which has devoted attention to the study of tuberculosis in animals as well as in man; in its agricultural school, which has specialized in the physiology of the nutrition and reproduction of farm animals; in its institute of parasitology, its biochemical school, which has successfully investigated deficiency diseases, and its institutes for the study of the principles of plant and animal breeding. Cambridge already possesses many distinguished workers in various branches of science, whose collaboration would be of the greatest assistance; and, finally, the science schools turn out every year two or three hundred honours graduates, some of whom, if opportunities were forthcoming, might be attracted to veterinary research.

The Committee, however, sets aside for the present any proposal to establish a research institute in comparative pathology, owing to the cost; but expresses the opinion that when financial conditions become easier assistance from State funds towards the creation of such an institute, to serve the needs of the United Kingdom and possibly of the empire, would be justified. It says further that opportunities should be afforded on a far larger scale than at present for co-operation between veterinary and other investigators and for the free interchange of workers in medical, veterinary, botanical, and other laboratories. For England it confines itself to recommending that financial assistance should be given to the Institute of Animal Pathology attached to the Royal Veterinary College, London. In Scotland the Development Commission has already given financial assistance to the Scottish Animal Diseases Research Association to secure the maintenance of two teams of workers based on the veterinary colleges at Edinburgh and Glasgow; but the main purpose of the association is to bring to the aid of investigators the knowledge of the agricultural community, to furnish facilities for work in remote districts, and to secure that full use is made of any remedies discovered.

The Committee advises the Development Commissioners to set aside an annual sum for special researches into animal diseases; it suggests that facilities for research should be placed at the disposal of the Royal Army Veterinary Corps, and that there should be closer collaboration between officers of that corps and of the Royal Army Medical Corps.

Having rejected the proposal to establish an institute of comparative pathology in connexion with a university the Committee was rather embarrassed to know how to constitute a board to allocate grants and to supervise the research work to be carried out with them. It recommends the establishment of a mixed committee of scientific workers and stock-owners, and that this committee (or board) should for the present be dependent on the Development Commission; the hope is, however, expressed that the India Office and the Colonial Office will be willing to accept the proposed research board as an advisory body with regard to problems of research into animal diseases. In this way the board might, it is thought, come to act as a co-ordinating agency for all Government departments having interests, actual or potential, in research work of this kind.

The labours of the Committee have unquestionably advanced the subject and improved the prospects of getting established in this country a school of comparative pathology on a sufficiently wide basis and provided with adequate funds, but its recommendations do not go so far as many had hoped.

THE OPENING OF THE FOURTH SEAL.

"And when he had opened the fourth seal, I heard the voice of the fourth beast say, Come and see. And I looked, and behold a pale horse: and his name that sat on him was Death."

WE have received from the London office of the League of Nations a Report on the Health Situation in Eastern Europe in January, 1922, which is painful reading. It seems that the famine area, which includes the whole of the Don district, part of Southern Ukrainia, and some of the Crimea, Georgia, and Armenia, supported a population of between 30 and 33 millions, of whom several millions are now, whether funds be or be not provided, beyond the reach of help owing to inadequate transport. The famine has developed in a region previously ravaged by epidemic disease—not less than 20 million cases of typhus occurred in 1919–20 in Soviet Russia and Ukrainia Relapsing fever and typhus are now increasing throughout Soviet Russia and in every part of Eastern Europe to which those leaving the famine stricken districts can penetrate. "The following figures," says the report, "illustrate eloquently the health conditions of the repatriated people when they reach the frontier. Of the 50,981 repatriated through Baranowicze in October, 804 had to be transferred to hospital and 497 died, 368 of them before admission. In November, when winter had set in in earnest, of the 59,843 repatriated, 1,227 were transferred to hospitals, while, of the 1,406 dead, 1,131 died outside the hospital. In the first week of December, of the 540 who arrived at the station, all had to be admitted to the hospital; 179 of them died—120 of them died in hospital and 59 were brought in dead. Of the 400 members of the personnel, 114 at present are down with typhus. Such is the situation in surroundings where some sanitary organization set up for the purpose does exist. It is easy to realize the state of things in the open country where no facilities of any kind are available."

The situation will, it appears, become worse, for the famine does not reach its culmination before April. Such pressure naturally made a breach in the Polish sanitary cordon, and both typhus and relapsing fever have considerably increased in that country. In Warsaw itself the notifications of typhus in December, 1921, amounted to 143 (there were 45 in November), and the first eleven days of January provided 123 cases. A centre has been discovered as far west as Bydgoszck (Bromberg). Typhus has now made its appearance in localities which had formerly been free from it. "For example, it has extended into Lithuania, where the Government has been obliged to mobilize all the medical profession for a campaign against it. German colonists, repatriated to the eastern districts of Prussia, have introduced it in the neighbourhood of Frankfort on the Oder."

Such was the condition of Eastern Europe three years after the conclusion of the great war to end war. The rate of dissemination of typhus in Western Europe will depend upon two things: the rapidity of the decline in the standard of living and the efficiency of the sanitary cordon. The standard of living in Germany, France, and this country is declining; the great and growing volume of unemployment here is naturally correlated with dwindling individual purchasing power, less food, worse clothing, more domestic overcrowding. After the last great war—that of the Napoleonic age—the misery of the working classes here was probably greater than anything they have so far experienced in our time, and epidemic typhus duly made its appearance. We think, however, a somewhat longer latent period is to be expected, because the infestation with lice of even the unemployed populations is far less than it was a hundred years ago, and a high degree of infestation is a necessary condition of epidemic or pandemic typhus.

A CENTURY OF MEDICINE AT PADUA.

SIR GEORGE NEWMAN dedicates to the students of St. Bartholomew's Hospital, where Harvey, the most famous English scholar of Padua, was physician from 1609 to 1643, a charming address on *A Century of Medicine at Padua*.[1] The golden age of Padua was at the end of the sixteenth and beginning of the seventeenth century; with the appointment of Andreas Vesalius as Professor of Anatomy in 1538 the revival of medicine was born of observation and the study of Nature, and the incubus of authority and of the long reign of fourteen centuries of Galenic precedent was removed. The renaissance of medicine spread in the direct line from Padua to Leyden, from Boerhaave in Leyden to Edinburgh, and thence in the eighteenth century to the great medical schools in America—Philadelphia, Columbia, and New Haven. Sir George Newman describes the four Paduan pioneer teachers: Vesalius, the anatomist, who revealed morphology as the bedrock of systematic medicine; Fracastorius, a physician of Verona, the first of the moderns in the sciences of infection and epidemiology; Fabricius, the successor of Vesalius, not only in time but as one of the greatest of the early exponents of the elements of physiology and embryology who practised as a surgeon; and Galileo Galilei, the discoverer of the true laws of motion and initiator of the physical measurement of physiological processes. It was from Fabricius that Harvey learnt comparative anatomy, physiology, and embryology; the discoverer of the circulation must also have attended the lectures of Galileo, who was professor of mathematics, and lectured in the aula magna which adjoined the anatomical theatre. Harvey thus obtained the grounding that enabled him to apply the principles of mechanics with such good effect to the problems of physiology. But Galileo did much more than teach mathematics at Padua—he enlarged the field of man's mind, he taught the balance, so Sir George Newman reminds us, between induction and deduction as a scientific method, and advanced the far-reaching truth that all physical forces within the human body and outside it are measurable. Sir George Newman has a feeling for the picturesqueness of dates. We are reminded that Caius was born in 1510 and Vesalius, in whose house in Padua he lived, in 1515; that Vesalius died in the year Shakespeare was born, 1564, and that Shakespeare died in 1616, the same year as Cervantes, when Harvey was giving his Lumleian Lectures at the Royal College of Physicians of London on the circulation of the blood. Sir George Newman summarizes the influence of Padua as threefold: First, it called men's minds back to Nature; secondly, it rendered inestimable service in extending the boundaries of learning while keeping ever in view the principle that to construct a true method is a larger gift to mankind than to discover items of knowledge; and thirdly, that at Padua in its wonderful century there was in science co-operation and integration of the one into the many and of the many into the one. The essay, which is imbued with the spirit and atmosphere of Padua, caught during a visit in 1921, contains two well-produced portraits of Vesalius and Harvey, and gives a picturesque reconstruction of the life and quarters at Padua of the wandering students in that far-off time.

[1] *A Century of Medicine at Padua*. By Sir George Newman, K.C.B., M.D., D.C.L. London: British Periodicals, Ltd. (Pp. 28; 2 plates. Price 1s.)

THE MICROSCOPE IN MEDICAL RESEARCH.

MR. JOSEPH E. BARNARD, who directs the inquiries with regard to applied optics carried out for the Medical Research Council at the National Institute at Hampstead, gave an account of the work at a meeting on March 15th of the Royal Microscopical Society, of which he was at one time president. He said that fourteen microscopes were in use, and that the first problem had been to secure stability by using a heavy type of instrument and mounting it rigidly. An interferometer method was employed to test the relation of the various parts of the microscope and to obtain a quantitative expression of any movement of the objective. No matter what the quality of the optical system, its value was thrown away by slight interferences, and accordingly it was very important to know exactly how, after any displacement, the parts could be brought back to a predetermined point. He employed a mercury-vapour lamp, with an arrangement of screens for modifying the intensity, but he had also a "Pointolite" lamp, so that a preparation could be examined in a light approximating as closely as possible to daylight. The bench was so arranged that the worker had his back to the window, for although a darkened room or any violent alteration of the general lighting was not necessary in microscopic observation, the worker should be shielded as far as possible from direct light. It was advantageous also for the wall to be covered with dead-black material and for the bench itself to be black. His mercury-vapour lamp incorporated an automatic regulating arrangement for keeping the intensity constant and preventing flicker. He believed that this lamp was of the greatest importance in microscopical work in medicine, because the dominant wave-length was short. With the carbon filament the dominant wave-length was at the red end of the spectrum, and therefore comparatively long; in the Pointolite and half-watt systems it was in the green and blue region, but with the mercury-vapour lamp it was shifted into the violet and ultra-violet. This was important with such objects as filter-passing viruses, whose diameter was really below the resolving limit of any microscope at present available for direct observation by ordinary light. Here the ordinary staining methods could hardly give a differential result, and their only effect was to decrease the transparency. The dark-ground method, in which the light was allowed to impinge on the object so that it became self-luminous, was really complementary to the other method, that of transmitted light, in which the object had to be stained or reliance had to be placed upon differences in transparency or selective absorption. But the setting up of the apparatus in dark-ground illumination had to be more finely accurate than was essential for the transmitted-light image, for, as he showed by examples with anthrax and other organisms, very slight alterations in the direction of the illumination might give most misleading appearances in the dark-ground image; an object which was really continuous, for instance, might appear as a series of points. Until quite recently the shortest radiation it had been found possible to use was one of 275 $\mu\mu$ (a line in cadmium), but some photographs had lately been obtained with a shorter wave length, of 220 $\mu\mu$, permitting an effective numerical aperture of over 3. He believed that the future progress of the microscope in medicine was bound up with the use of radiation of shorter and shorter wave-lengths.

DISAPPEARANCE OF MALARIA IN DENMARK.

THE issue of *Nature* for March 9th, the appearance of which was delayed owing, as we are informed, to labour troubles, contains an interesting note on a paper on Danish mosquitos by Dr. C. Wesenberg-Lund, who has made a long and very careful research into the biology of mosquitos in Denmark. In dealing with the three species of anopheles—*A. plumbeus*, *bifurcatus*, and *maculipennis*—found in Denmark, particular attention is given to the biology of *A. maculipennis*, which is regarded as the chief carrier of malaria in Europe. The author states that in Denmark this species sucks blood from domestic animals, pigs, cattle, and horses, that it is seldom seen in the open, but is found, often in incredible numbers, hanging, sluggish and blood-filled, from the ceilings of pigsties, cowsheds, and stables. Only exceptionally does it suck the blood of man, whereas in Mediterranean countries it is an outdoor species feeding largely on human blood. He considers that in Denmark *A. maculipennis*, which is there living near the northern limit of the range of the species, has ceased to be an outdoor species sucking the blood of man, and has taken to an indoor life and restricted its attacks to farm animals. This change in habits has, he thinks, been the main factor in the disappearance of malaria,

the last great epidemic of which took place in Denmark in 1831. The change in the habits of the mosquito followed, he says, an alteration in agricultural methods about a hundred years ago. Whereas previously the swine had been driven to the woods to feed on mast, they and other farm animals were thereafter housed, and the stables form so many traps which attract mosquitos by the odour and heat of the animals within; once within the stable the mosquitos find all they need until the time arrives for pairing and egg-laying. Thus the connexion between man and *A. maculipennis* has been broken in Denmark, and malaria was therefore bound to disappear. The author remarks that if the measurements of the length of this mosquito given by Meigen (1818), when the species presumably fed in the open and largely on man, are correct, there has been an increase in size during the intervening century, in spite of the fact that in Denmark the species is living near the northern limit of its range.

THE EDUCATION OF THE DEAF.

THE annual meeting of the National College of Teachers of the Deaf was held in the Examination Hall, Queen's Square, on Saturday, March 18th. Mr. A. J. Story, the retiring chairman of the college, presided, and the proceedings commenced by the installation of Mr. G. Sibley Haycock as chairman, amidst warm expressions of approval from the audience. A short address was delivered by Sir Squire Sprigge, in which the necessity for greater co-operation between medical men and the teachers of the deaf was insisted upon. He pointed out that it would be impossible to enlarge the medical curriculum in any way so as to make it compulsory upon medical students to undergo intensive training in such matters as the psychology of hearing and the technical education of the deaf. Medical education, he said, was devised to form a solid foundation of general medical knowledge, upon which the structures of different specialisms could later be erected by post-graduate training. He asked whether it would not be possible, in cities where large populations supplied alike the pathological material and the educational facilities, to form post-graduate clinics at which medical men who were anxious to undergo a special course of training in the education of the deaf could meet not only medical experts but practical and accomplished teachers of the deaf. In this way he thought a considerable number of medical men would gain an acquaintance, which they did not now possess, with the problems which are presented. Throughout the speaker dwelt upon the potential value to the population of a class of persons whose intellectual capacities were almost always normal, and in many cases extraordinarily good, but who were unable through a physical accident to enter closely into relations with society unless they could obtain special training. Mr. Frank Barnes welcomed the suggestion for proper co-operation between the medical profession and the teachers of the deaf, regretting that in the past there should have been any obstacles to such a union of effort. He emphasized the need for educating the deaf subject at the early stages, pointing out that children frequently came to schools for the deaf too late to benefit by the training; he inquired whether there should not be the same compulsory tests for hearing in elementary schools as prevailed in regard to sight. As regards medical co-operation, he approved of everything that could be done in this direction. The teacher had the child in observation year by year, gaining full information as to the mental make-up of the subject which could not possibly be in the possession of a medical man, with whom, and with whom alone for the present, it rested to decide whether the child was mentally deficient. Mr. Sibley Haycock then delivered a presidential address, in which he spoke eloquently as to the possibilities of the expert and sympathetic education of the deaf subject, insisting upon the admirable results that could be obtained if only the training was commenced at the earliest possible date and punctiliously persevered with. In the annual report, which was adopted unanimously by the meeting, it was stated that so many graduates from the schools for the deaf were found to be competent to proceed to higher forms of education and training that the National College of Teachers of the Deaf was preparing a scheme of training which could be run in co-operation with existing polytechnics.

MR. MONTAGU.

THE causes which led to Mr. Montagu's resignation of the office of Secretary of State for India were not in any way related to medical affairs, and we are therefore the more free to refer to the enlightened interest he showed in medical questions and in the welfare of the medical services and institutions of India. He was Under-Secretary of State for India from 1910 to 1914, and Secretary of State from 1917 till the other day. During his tenure of the senior office he on many occasions showed his determination to ensure fair and considerate treatment for the Indian Medical Service, his desire that selection for appointments should be governed by merit and not by colour, and his anxiety that the British officer and civil servant in India should have a white doctor for his wife and family. When he took office as Secretary of State the position of the Indian Medical Service was unfortunate and there was widespread discontent. The British Medical Association, after a thorough examination of the facts, came to the conclusion that the complaints it received were well founded and took up the matter vigorously. Mr. Montagu received several deputations from the Association, always with courtesy and always with the obvious desire to remedy the grievances which the Association was enabled to convince him were real. Having once made up his mind he acted with vigour, and on at least one occasion showed that he had the unusual strength of mind to realize the necessity of modifying a course he had originally intended to pursue. Throughout all the discussions he displayed an anxiety to deal fairly with the profession. In addition to adjusting many other difficulties, some of them financial and others relating to administration, he insisted on reforms designed to ensure that high medical authorities should have direct access to governors, and that their reports should not be burked or bowdlerized by the secretariat. It is not too much to say that he was the first Secretary of State for India who gave serious attention to hygiene and the prevention of disease in that country, and ever showed himself willing to give ear to suggestions on these subjects. His departure in these respects is a real loss, and we can only hope that his successor, Viscount Peel, will show a similar openness of mind and strength of character. It will perhaps not be out of place, since Mr. Montagu himself in addressing one of the deputations referred to the matter, to recall that his readiness to consider proposals affecting the scientific work of medicine and its application to practical affairs may be traced to the existence of a strong school of science in Cambridge. When an undergraduate Mr. Montagu took advantage of his opportunities in this direction, giving particular attention to the study of the sciences on which medicine rests. As to medical affairs in India, for what he desired and what he carried out Mr. Montagu deserves, and has, the thanks of the medical profession.

HUNTER AND JENNER.

JOSEPH FARINGTON, a landscape painter of considerable repute, kept a diary from 1793 to 1821, the year of his death, and the *Morning Post* is publishing a series of extracts from it. He was a son of the vicar of Leigh, in Lancashire, was born in 1745, and in 1785 became a full member of the Royal Academy, in the administration of which he took an active and influential part. He appears to have known almost every notable person of the period, including, in addition to statesmen, men of letters, artists, and society folk, John Hunter and Edward Jenner. On October 17th, 1793, Farington made the following note on the death of John Hunter: "Much concerned at an account in the newspaper of the death of John Hunter, the eminent Surgeon, to whom I was greatly obliged in the course of last summer for his advice, etc., on account of an incested tumour on my back, which he

removed. Mr. Hunter was in the Council Room at St. George's Hospital and was suddenly taken ill, and being carried home in a closed chair expired about two o'clock. He mentioned to me once that he had some obstruction or complaint about his heart which he was well assured would cause his death suddenly at some period." The instalment of the diary published on March 17th contains the following reference to Edward Jenner, dated September 13th, 1796: "Dr. Jenner was some years ago with John Hunter, and, had He preferred a town life, might have been connected with him in business. He knows Loutherburgh, and observed that He does not receive remarks on his work graciously. While Loutherburgh was painting one day John Hunter remarked that a certain part was *too green;* 'Not green enough,' said Loutherburgh, and dipping his pencil in the strongest green colour, put it on the canvas. Foote, the surgeon, became rancorous against John Hunter, because the latter had seemed to describe a bougie which Foote had invented as not necessary. To revenge himself He wrote of Hunter with much malignancy and asserted many falsehoods. Dr. Jenner has a great opinion of the Cheltenham Waters, but they may be drank imprudently, which He sees in the countenances of many Young Ladies at the well. Above 3,000 people have drank them this Season; not one who came for the benefit of them has died. September 24th: Dr. Jenner has found that in *insane patients* He has moderated their violence by keeping them sick with tartar emetic. He observed that a person is more liable to take cold who suddenly removes from *cold* to *heat* than from *heat* to *cold*. Camphor water is an excellent medicine for nervous complaints."

IRISH MEDICAL SCHOOLS' AND GRADUATES' ASSOCIATION.

THE forty-fourth annual general meeting of the Irish Medical Schools' and Graduates' Association, which has now 604 members on its roll, was held on March 16th at Pagani's Restaurant, London, when Major-General Wallace Kenny, C.B., resigned the Presidential chair to Dr. James A. Macdonald, LL.D. The Council presented the annual report, which alluded to the loss by death during the past year of two very distinguished members, Major-General Sir George Evatt, K.C.B., and Sir Peter Freyer, K.C.B., who had both taken great interest in the Association after leaving India. Sir Peter Freyer had been for several years honorary secretary of the Society before becoming chairman of its Council. He was one of the first to be awarded the Association's Gold Medal. Allusion was made in the report to the effort being made by the Development Committee to bring the number on the roll up to a thousand. To the festival dinner which followed the annual meeting 117 members and guests sat down. When the usual loyal toasts were proposed the entire company stood up and sang, with marked fervour, "God save the King." The toast of "Our Defenders" was proposed by Dr. James Stewart, who said that the toast included the great number of ladies who gave their services during the war, as well as the Navy, Army, and Air Force. He coupled with the toast the names of Sir Havelock Charles, G.C.V.O., and Colonel Young, both distinguished Irishmen. Dr. Douglas proposed the health of "The Guests," which was responded to by the Home Secretary, the Right Honourable Edward Shortt, K.C., M.P., who mentioned one or two interesting experiences he had in Ireland when he held the office of Chief Secretary to the Lord Lieutenant. Sir Arbuthnot Lane, who proposed the health of the President and continued prosperity to the Association, said that the society by its forty-four years' experience of bringing together medical men and women of different religious and political opinions without the semblance of a quarrel showed what a calmative influence was the *mens medica*. The President, in his reply, alluded to the fact that theirs was the first medical society in this country to admit women to membership, and that their example had done much towards inducing the British Medical Association to do likewise. The Arnott Memorial Gold Medal of the Association was presented during the course of the banquet, by the President, to Lieut.-Colonel Robert McCarrison, I.M.S., for his scientific work, especially in connexion with deficiency disease. Squadron Leader Wm. Tyrrell, D.S.O., M.C., Royal Air Force, Miss Grace Best, and Mr. Gerald Murphy added to the attractions of the evening by several songs.

THE MAUDSLEY COURSES IN PRACTICAL PSYCHOLOGY.

IN the account published in our columns on December 17th, 1921 (p. 1051), of the course of lectures and practical instruction for the diploma of psychological medicine at the Maudsley Hospital, Denmark Hill, S.E., it was stated that the course would consist of two parts, and details of Part I were given. The details of Part II, which will commence on April 3rd, have now been published. Sir Frederick Mott will give six lectures on the pathology of mental diseases, including brain syphilis, its symptomatology and treatment, on Mondays, at 2.30 p.m., commencing on April 3rd. Dr. Bernard Hart will give eight lectures on the psychoneuroses, on Mondays, at 4.30 p.m., commencing on the same date. Sir Frederick Mott and Dr. F. Golla will give twelve clinical demonstrations in neurology on Tuesdays, at 2.30 p.m., commencing on April 4th; the first six demonstrations will be given by Dr. Golla at the Hospital for Paralysis and Epilepsy, Maida Vale. Dr. F. C. Shrubsall will give eight lectures on the practical aspect of mental deficiency, on Wednesdays, at 2.30 p.m., commencing on April 5th. Dr. W. C. Sullivan, medical superintendent of Broadmoor Asylum, will give six lectures on crime and insanity, on Wednesdays, at 4 p.m., commencing on April 5th. Dr. C. Hubert Bond and Dr. E. Mapother will give a course of lectures on the differential diagnosis and treatment of mental disorders and the legal relationships of insanity, on Thursdays, at 2.30 p.m., commencing on April 6th. Inquiries regarding the courses should be addressed to the Director of the Pathological Laboratory, Maudsley Hospital, Denmark Hill, S.E.5.

"FROM GRAVE TO GAY."

THE house the General Medical Council owned and occupied so long at 299, Oxford Street, close to Harewood Place, where Sir James Paget lived and practised, was given up at the end of 1915, when the new premises in Hallam Street, not far away, were taken into use; it was shortly afterwards pulled down, and the site, which went back to Hanover Square, has been vacant and an eyesore ever since. Huge placards now announce that on it will presently be erected the "world's largest super-cinema," with place for 10,000 people, a ballroom, concert hall, and winter garden. The old building, familiar to many generations of the newly qualified, who went there with mingled pride and reluctance—pride at having achieved the right to register, and reluctance at having to part with five pounds for the privilege—was originally built for the Royal College of Chemistry. It was designed in a mid-Victorian imitation of the Italian Renaissance style; it had come to be dwarfed by its neighbours, and both in appearance and purpose seemed wholly out of place amid the drapery emporiums and hat establishments of one of the most frequented stretches of one of the busiest shopping streets of London.

AN OPERATION CIRCLE IN LONDON.

IN 1913 a scheme was inaugurated to promote the interchange of visits of the surgical staffs of certain of the London hospitals. During the war the plan was naturally in abeyance, but at a recent meeting of the representatives of the various hospitals concerned it was decided to restart the circle formed by those hospitals which have not undergraduate medical schools, and Mr. Herbert J. Paterson was asked to act as honorary secretary as before the war. The first operation afternoon will be held at the London Temperance Hospital, at 1.30 p.m., on Thursday, March 30th.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

Cruelty to Animals Bill.

THE bill entitled Cruelty to Animals Bill, which was introduced in the House of Lords on March 7th by Lord Lambourne, has now been printed. The memorandum states that the object is to carry out the recommendations made by the Royal Commission on Vivisection and embodied in their report of March, 1912, including those contained in the reservation memorandum signed by Colonel Lockwood (now Lord Lambourne), Sir William Collins, and Dr. Wilson. There are eighteen clauses and a schedule:

Clause 1 lays down that no person shall perform, on a living animal, any experiment except under the restrictions imposed by the bill.

Clause 2 sets forth the restrictions:

(*a*) That the experiment must be performed with a view to the advancement by new discovery of (1) physiological knowledge, or (2) knowledge useful for saving or prolonging life or alleviating suffering.
(*b*) That the experiment may be made only under licence from the Secretary of State.
(*c*) That the animal must during the whole of the experiment be under the influence of an anaesthetic.
(*d*) The animal must be killed while under the influence of the anaesthetic.
(*e*) The experiment shall not be performed to illustrate lectures in medical schools, hospitals, or elsewhere.
(*f*) It must not be performed for the purpose of obtaining manual skill.
(*g*) The substance known as urari, or curare, shall not be used. And
(*h*) An inspector shall be present throughout the experiment.

The section is not to apply to an animal whose brain has been completely destroyed; but if this operation be performed by way of an experiment on any animal it shall be conducted in accordance with the provisions of the section so far as applicable.

Clause 3 enjoins that where pain supervenes on an experiment not calculated to give pain initially the restrictions already mentioned shall apply, except that it shall not be obligatory to give an anaesthetic for the experiment or to perform it in the presence of an inspector, or to kill the animal until pain occurs. The animal must then be painlessly killed, and it is required that all places where such experiments take place shall be frequently visited by an inspector.

Clause 4 declares that there shall not be applied to the eye of any animal by way of experiment any matter or substance calculated to give pain for the purpose of absorption through the conjunctival membrane or through the cornea.

Clause 5 prohibits the public exhibition of painful experiments.

Clause 6 states the terms of grant of licence for experiments. The Minister may insert a provision that the place is to be registered as he may direct by general or special order. A licence shall not authorize the performance of more than one experiment, or one series of not more than six connected and consecutive experiments. There shall be specified on every licence the nature of the experiment or experiments to be performed, and the time and place shall also be stated. Every licence shall be granted by the Secretary of State on his own personal responsibility, and he shall not delegate the granting to any other person; and in making the grant he shall pay special regard to the applicant's reputation for humaneness. A licence may be revoked or suspended at any time.

Clause 7 enables the Secretary of State to refer applications for licences to an advisory body selected by him from lists of persons nominated by the Royal Society and the Royal Colleges of Physicians and Surgeons in London. In the event of the bill applying to Ireland, the Royal Irish Academy and the Royal Colleges of Physicians and Surgeons in Dublin are to be substituted for the authorities named.

Clause 8 provides that in the appointment of inspectors special regard shall be had to the reputation of the persons in question for humaneness.

Clause 9 allows the powers of granting a licence to be exercised by an order by any judge of the High Court, or in Scotland of the Court of Sessions, in a case where the judge deems it essential for the purposes of justice in a criminal case.

Clause 10 requires reports of experiments to be made, and Clause 11 provides that reports shall be open to inspection by the public.

Clause 12 makes the maximum penalty for an offence against the Act, on summary conviction in the case of a first offender, a fine not exceeding £50, and in the case of a second or subsequent offence, a fine not exceeding £100, or imprisonment for a period not exceeding three months.

Clause 13 permits right of entry to the police to a place where a justice on information on oath has ground for believing that experiments contrary to the Act are being performed.

Clause 14 permits of a prosecution at any time within a period of two years from the time when the matter of complaint arose, provided that the prosecutor deposit £50 as security for costs.

Clause 15 allows of appeal to Quarter Sessions in England.

Clause 16 would, on application of the Act to Ireland, construe Secretary of State to mean the Chief Secretary.

Clause 17 deals with definitions. Animal, under this Act, does not include invertebrate animals; anaesthetic means a general anaesthetic of the nature of a respirable drug or gas; experiment includes all processes for obtaining serums or vaccines for commercial or other purposes.

Clause 18 would repeal the Cruelty to Animals Act, 1876.

The Cost of Medical Benefit.

In reply to Colonel Burn, on March 15th, Sir A. Mond said he was proposing to introduce at an early date a bill under which the cost of medical benefit hitherto met by a direct Exchequer grant over and above the normal statutory proportion would be transferred to approved societies in respect of the period ending on December 31st, 1923, and would be met out of their accumulated funds, in which were included the surpluses disclosed at the first valuation and not used for the provision of additional benefits. The bill would not entail any changes in the control of medical benefits. Mr. Walter Smith, on March 15th, inquired whether amounts standing to the credit of the National Health Insurance funds investment account could not be used to meet the economies suggested in the Geddes Report rather than that additional demands should be made on individual societies. Sir A. Mond explained that this could not be done.

Sir A. Mond said, in reply to Sir F. Hall on March 14th, that it was not intended to modify in any way the provisions of the subsection of the Insurance Act under which the arrangements for medical benefit in any area had to be made between the Insurance Committee for the area and the medical practitioner in accordance with regulations of the Ministry of Health.

The Army Estimates.

On the motion for going into committee of supply on the Army Estimates, on March 15th, Sir L. Worthington-Evans stated that the net total for next year would be £62,300,000, including £7,000,000 terminal war charges and £3,550,000 for charges arising out of reductions of strength, including compensation to officers and men whose services were prematurely cut short. It would be seen that, subject to the necessary adjustments, the Estimates were reduced by £16,500,000 as against the £20,000,000 recommended by the Geddes Committee, though in point of fact the definite recommendations of that Committee amounted only to £5,500,000. The reductions of strength contemplated would carry correspondingly heavy reductions in administrative services such as the Royal Army Medical Corps, the Dental, Ordnance and Veterinary Corps. When all these cuts had taken place, the establishment of the British troops, exclusive of those upon the Indian establishment, would come down to 152,836 of all ranks, a reduction of 48,000 compared with last year's estimate, and of 20,000 compared with 1914. He was proposing, however, to strengthen the reserve by the special enlistment of key men, and to restart the militia. He had taken in the Estimates £1,000,000 for the latter purpose. The Irish Command would go, and the troops in Northern Ireland would become an Area Command and form part of a British Command. The London District would cease to be a separate Command, its administrative work in future being done by the Eastern Command. Medical and dental services had decreased by 189 officers and 1,909 other ranks. Of these medical officers 180 were serving in garrisons which did not exist before the war. The health of the army continued very good; the number of admissions to hospitals for preventable diseases during the present year had reached a lower level than during any time in the history of the army; in December last it reached the remarkably low figure of 2.5 per thousand. The Dental Corps establishment was not being filled up with regular officers until the department could be sure what establishment was required in present conditions. The number of equipped beds in hospitals in Great Britain had been reduced by 4,000, but owing to conditions in Ireland the hospital beds there had been increased by over 1,000. Steps were being taken by joint action with the Admiralty, the Air Force, and the Ministry of Pensions to concentrate patients where economies could be effected, and so reduce the number of hospitals. In order to bring the general Army Estimates within the totals assigned to them it would be necessary to reduce the cost of the Territorial Army from an expenditure of £7,250,000 provided for in 1920 to £5,600,000. Some of the units contemplated had never been raised, and this saved nearly half a million, but the balance had to be found. The greater part would fall on the Signals, Medical, Veterinary, and Royal Army Service Corps. Twenty general hospitals and seven casualty clearing stations would be disbanded, and each Territorial Division would have one field ambulance instead of two. The divisional trains and the casualty divisional trains of the Royal Army Service Corps would be organized on a mechanical transport basis, which would afford a considerable reduction in personnel. A part would be obtained by lessening the pay and bounty allowances to officers and men.

The discussion at first turned on an amendment by Lieut.-General Sir Aylmer Hunter-Weston to the question of the possible co-ordination of sea, land, and air forces which he advocated, his motion being that the Government should set up a commission or committee of inquiry into the

subject. Lieut.-Colonel Fremantle, in supporting the proposal, remarked that the recruiting for the medical service, both men and officers, was much the same for all three forces. The supply of medical stores and the provision of hospital ships were similar also. Hitherto the army and navy had each had its hospital ships. What had been said applied still more to the services overseas. There could be a good deal of saving if the officers and men could be interchanged. The naval service as a rule was one particularly for the younger men, and the flying corps also, as regards the medical service, and it would obviously be an advantage if men could be exchanged from one to the other when they had passed the requirements of fitness and agility necessary to the more mobile services.

Sir L. Worthington-Evans, in his reply, referred to a remark by Major-General Seely to the effect that there was an overlapping of chaplains and doctors. That, said the Minister, was a matter which would be looked into at once with a view to economizing. He could not, however, accept Sir Aylmer Hunter-Weston's proposal, as there was not time for the staff to go into questions of this class. The subject, however, did come within the orbit of the Imperial Defence Committee, and he would make representations at once that the feeling of the House was that further steps should be taken in the matter. On this assurance the amendment was by leave withdrawn.

Brigadier-General Colvin, noticing that the field ambulance would be one of the chief sufferers in the proposed reduction, submitted that the Voluntary Aid Detachment might be told off to supply the material for some of these field ambulances.

Lieut.-Colonel Nall (Hulme) regretted the decision to have only one ambulance for a Territorial division. Many men with wide experience believed that three very small cadres for ambulances would be better than the proposed single ambulance. The same number of men could be divided into three instead of being collected into one body. The really serious point in the reduction of the medical establishment arose, however, in the case of the general hospitals. The general hospitals of the Territorial Army did a great work in the war, and in the present vote the proposal was to reduce no fewer than twenty-three hospitals down to three, and to put these on reduced establishment. He suggested that instead of the establishment of ten officers and 100 other ranks in a general hospital it would be sufficient to have five officers—namely, one commanding officer, one registrar, one officer commanding surgical division, one officer commanding medical division, and one quartermaster, with twenty-five or thirty other ranks; one general hospital at least ought to be established in each university town, because it was in the university towns that the best surgical and medical skill could be got. At the present time in these places the Territorial Medical Service had the sympathy of the profession, and it would be a profound pity to cut down these twenty-three hospitals to three—they should be maintained on the basis of one for each divisional area—that was to say, there should be fourteen. Possibly a further reduction could be made, but there should be one cadre for each divisional area.

The motion to go into Committee was then agreed to, and progress afterwards reported.

The Naval and Air Estimates.—Mr. Amery, in introducing the Naval Estimates on March 16th, stated that the total reduction on the net estimates would be £17,595,000, mainly as the result of the Washington Conference. The abolition of the Scottish and Western Approach Commands would save £73,000. The Admiralty was also abolishing a hospital ship, and making other reductions in medical establishment to the extent, apart from the effects of Washington, of £58,000. The Atlantic Fleet could not be reduced, but capital ships would be reduced by nearly 16 per cent. below the establishment laid down as the result of war experience. Speaking later on the intended reduction of 20,000 officers and men in the navy, Mr. Amery said they hoped to get rid of a very large proportion of their ratings by ordinary wastage and by stagnation of recruiting. He thought that three-quarters could be dealt with in that way. Mr. Chamberlain afterwards announced that the Government was convinced that it would be a retrograde step to abolish the Air Ministry, but had decided to appoint a Committee or Subcommittee of Imperial Defence to examine carefully the system of naval and air co-operation.

The Schick Test for Diphtheria.—Mr. Mills asked, on March 14th, whether certain medical men in the Ministry of Health were pressing boards of guardians to use a new method of dealing with diphtheria which consisted in testing workhouse children by the Schick test, and inoculating those who reacted; whether qualified doctors disapproved of the composition used in the Schick test; whether the antitoxin employed for immunizing purposes had had fatal results in America; and who was responsible for introducing this process. Sir A. Mond said the answer to the first two parts of the question was in the negative. Information as to the Schick test had been published by the Ministry (BRITISH MEDICAL JOURNAL, December 10th, 1921, p. 994, and February 4th, 1922, p. 200), and a number of local authorities had taken advantage of it, but no attempt had been made to press any to adopt it. He knew it was said that fatal cases had occurred in Texas, but he was unaware whether this was the cause of the deaths. Accidents were always liable to occur with any form of treatment not properly carried out. He had urged the importance of seeing that when the test was adopted it should be under expert supervision. This method of diagnosis had been before the medical profession since 1913, and had been successfully applied on a large scale in this and other countries. It marked a great advance in methods of prevention and control of diphtheria. On a further question by Colonel Wedgwood, on March 15th, Sir A. Mond said that at a conference held in his department a promise was made that it should bear a portion of the cost in a limited number of cases in which local authorities desired to use the test and wanted to secure reliable material. Mr. Gilbert asked whether children attending the Norwood schools of the Lambeth Board of Guardians had been subjected to the treatment without the consent of the guardians. Sir A. Mond said he understood that in the presence of an outbreak of diphtheria in these schools the medical officer thought it necessary to ascertain, by the application of the Schick test, the extent to which the children were liable to infection, and this was done as a measure of urgency without the consent of the Board of Guardians. Mr. Ammon asked whether the helpless children of the poor were being used to experiment upon. Sir A. Mond replied emphatically it was no more a question of experiment than if Mr. Ammon went to his doctor and got a prescription. It was a question of applying an approved method of diagnosis for a very serious outbreak of diphtheria, a method which had proved of infinite value in other countries and in this country where it had been tried by the medical officer sof health.

Assessment of Pensions.—Major Tryon stated, in answer to Mr. Hurd, on March 16th, that during the last year the number of pensions made permanent as the result of reassessment was 13,500. Of the cases reassessed 76,000 were raised, 441,000 not altered, and 349,000 lowered. The general reduction in average assessment was 4.4 per cent., and was due mainly to improvement in the condition of men suffering from minor disabilities. In reply to Mr. J. Guest, on the same day, Major Tryon said that every decision on entitlement to pension represented the result of consideration by at least two specially selected officers, one of whom was a medical man. Cases presenting features of doubt or difficulty were submitted to headquarters for consideration by the Director-General of Awards; the latter occasionally availed himself of the technical knowledge of Lieut.-Colonel Roundell, M.P. for Skipton, but he was in no sense responsible for any decision reached. If a man were not satisfied with the decision he could appeal to the independent appeals tribunal, and instructions were given that every assistance should be afforded him. The Pensions Department in the first instance considered his case again because fresh evidence he might submit might enable the department to grant what he asked, and if it did not the appeal went on without prejudice. On further inquiry Major Tryon said that during the year ending January 31st, 1922, approximately 72,500 first applications for disablement pensions had been dealt with, and in about 17,500 of these cases entitlement was not admitted.

London University Site.—Mr. Young, in reply to Mr. Gilbert, on March 16th, said that the Bloomsbury site for the London University still remained in the possession of the Government, and was being administered by the Office of Works. A part of the site was, however, occupied by the University of London on a subtenancy from the Y.M.C.A., and the University had erected thereon with the consent of the Government an Institute of Historical Research. The Senate of the University, in accepting the Government's offer of the Bloomsbury site, stipulated, *inter alia*, that an agreement should be concluded between the Government, the Council of King's College, and the Senate of the University as to the terms of removal of King's College from the Strand to the Bloomsbury site. The Government accepted this condition, but such agreement had not yet been concluded. So far as the Minister was aware, no fund had yet been collected by the University for the erection of permanent buildings on the site. On further question by Mr. Gilbert, Mr. Young said the Government had not considered the disposal by public sale of the site in the interests of economy.

Medical Examination of Post Office Clerks.—Lieut.-Colonel Nall asked, on March 15th, whether, seeing that candidates for employment as sorting clerks were, if successful in the special Civil Service examination, required to pay a fee of £2 2s. for medical examination before they could be employed, and this regulation prevented otherwise suitable men being employed, he would inquire further into the matter. Mr. Kellaway said no fee was charged for the medical examination in normal cases, but in any case of doubt or appeal which involved reference to a specialist the Commissioners might require a candidate to pay £2 2s. The number of such cases was small.

Answers in Brief.

Since the beginning of 1921 the Board of Education have been obliged by financial considerations to suspend approval of proposals for the provision of twenty-eight open-air schools and nineteen schools for mentally defective children.

The composition of the committee to consider the amalgamation of the medical services of the Navy, Army, and Air Force has not yet been settled.

Sir A. Mond has stated that the Ministry of Health has laid it down that information relating to insured persons which comes into the possession of approved societies in the course of their administration of compulsory insurance should not as a general rule be used otherwise than for the purposes of such administration, except with the consent of the insured persons themselves. An exception to this general rule might, however, be made in special cases, where the department informed the society that it was necessary in the interests of justice in criminal proceedings that the information should be supplied.

PROFESSIONAL SECRECY.

DISCUSSION IN THE MEDICO-LEGAL SOCIETY.

A DEBATE on professional secrecy was opened at a meeting of the Medico-Legal Society on March 21st, when Lord Justice ATKIN presided over a very large audience. After Lord Dawson of Penn had opened the subject and three other speakers had taken part, two of them non-medical, it was unanimously resolved to adjourn the discussion until Tuesday next, March 28th. The Chairman remarked that the subject was the most important that had ever engaged the attention of the Society, and he suggested that it was preliminary to a discussion in a more august assembly. Three of the four speakers were members of the House of Lords.

Opening Remarks by Lord Dawson.

Lord DAWSON said that it was fitting that the subject should be discussed in friendly conclave by the two professions best qualified to know its importance and its difficulties. The general principle of professional secrecy was not in dispute. Even the lawyer most jealous of his unrestricted right to draw from a medical witness every secret which might benefit his client would not wish that there should be any failure, outside a court of justice, to protect the intimacies of life from discussion and gossip. The question was whether a medical witness should have the right to claim a measure of privilege. He believed that the position of the doctor was so special and the circumstances under which he gained his knowledge so peculiar that protection should be accorded to his evidence. This claim for privilege was not based on professional interests; the privilege was not for the doctor at all, but for his patient, just as the lawyer's privilege was in reality for his client. The public had believed that what was told the doctor was safe, and that the obligation in a general way would be respected in a court of justice, and accordingly the public was shocked by judicial rulings in recent cases, one by Mr. Justice Horridge, and another, shortly afterwards, by Lord Mersey. These rulings, in which privilege was refused to the doctor, were, Lord Dawson believed, contrary to public opinion and conscience, but there was no doubt that they were in accordance with the common law of England, where the requirement upon the doctor to disclose communications, however confidential, made to him by the patient had obtained ever since the case of the Duchess of Kingston in 1776. The doctrine then set forth by Mansfield, however, had from time to time been criticized by legal authorities as too uncompromising, notably by Lord Brougham in 1833, who said that the rule of privilege was limited to legal advisers, but it was not easy to discover why a like privilege had been refused to others, especially medical advisers; Best, in his work on evidence, described the ruling as harsh in itself and of questionable policy, and in recent years Lord Russell of Killowen had expressed himself even more strongly. In practice the courts had generally dealt tenderly with medical witnesses, but the two restatements from the bench in recent months took away any protection which the medical witness might have had in fact, even though he had none in law. There could be no objection to privilege *qua* privilege; it was granted by statute to the lawyer, and in practice to the priest, and was permitted or ordained in a large number of foreign countries. In the majority of the American States, including New York, the law granted privilege, though in varying degrees. In those States a doctor could not be required, though he was not unconditionally forbidden, to divulge information without the consent of his patient. In some of the States this privilege was limited to civil actions alone. In France, under Article 378 of the Penal Code, the doctor was forbidden to divulge professional secrets, save in certain specified cases, such as the notification of infectious disease. The Italian law which bore on this point was recent (1914), and was governed by Article 248 of the Code of Criminal Procedure, which laid it down that certain persons could not be compelled to disclose what had been confided to them or had come to their knowledge by reason of their status or office or profession. These persons included, in the first category priests, in the second lawyers, and in the third medical men and surgeons, chemists, midwives, and sanitary officers. Exceptions were made in cases in which the law expressly obliged information to be given to a public authority, and any who did not lend the assistance of his profession in cases which presented the character of a crime against the person were liable to be punished by a fine up to 50 lire. The Evidence Act passed in New Zealand in 1908 gave a certain amount of privilege to the medical witness; and in Canada, although the law itself was similar to the common law of England, he had it on the authority of one of the highest judges in Canada that in practice it was a very unusual thing for any judge to insist upon disclosure by a medical witness after the witness had made a statement and had been asked to testify as to what was given to him in a confidential relationship. In India, while protection was given to barristers and solicitors, no protection was given to the medical profession, and the same was true of South Africa. But the countries which had afforded a certain measure of privilege had not found it subversive of good government; rather had they found that it presented advantages which justified legal recognition. In this country the privilege of the lawyer, though limited by certain conditions, was in practice absolute. The law was the spoiled child of the professions, and it was only natural that the lawyer should object to anything which stood in the way of his freedom in cross-examination. But the law dealt with justice, and medicine with life and health, and surely medicine was not less important than law. With regard to the privilege of the Church, while it was possible to justify the privilege of lawyers on the ground that it was necessary for the administration of justice, there was no justification for giving a complete privilege to a priest which was denied to a medical man. Not even the priest's relationship was more confidential and intimate than that of the medical man. The doctor more often got at the truth than did the priest, and in Protestant countries he was often both priest and doctor too. English law since the Reformation had granted no privilege to priests whatever, but in practice their privilege was absolute. There was no instance on record of a judge successfully "squeezing" a priest into disclosing what had been told him at confession. If it was right to give the priest absolute privilege—and he thought it was—was it not fair to ask why the same measure of privilege should not be given to the medical man? Medicine was an art based on many sciences, but in its application to human needs the doctor required more than mere knowledge—he needed insight, understanding, and sympathy. The vast majority of doctors were general practitioners, and their investigation of disease depended very much upon what the patients told them. In the course of an illness the patient revealed many intimate things, some of them scientifically irrelevant. Was it to be contended that this knowledge was to be at the service of cross-examining counsel in courts of justice? A patient weakened by illness would sometimes unburden himself of secrets which he never would have told had he been well; often in convalescence a patient regretted what he had said in his illness, and begged the doctor to forget it. If the law was to have power to take advantage of those confidences, all professional honour was at an end.

Lord Dawson believed that public opinion was emphatically in favour of some measure of privilege. Within the profession the demand for a measure of protection was wellnigh unanimous. As a profession they had never accepted as just the unlimited right of the courts to enforce disclosure, and they resented the arrogant way in which those rights were sometimes demanded. Their traditions in this respect were deep-rooted, and went back for more than two thousand years to the Hippocratic oath. Certain confidences were given to them which no power this side of the grave would make them disclose. Far better that the ends of justice should be defeated now and then than that the care of the sick should be prejudiced always. (Applause.) At the same time he admitted that any privilege as between doctor and patient needed to be carefully defined as to its extent. Doctors did not forget their duties as citizens. His proposition was only that a measure of privilege should be granted to doctors in the interests of their patients over and above what was granted to a lay witness. The boundaries of that privilege could best be delimited at a round table conference between doctors and lawyers after the principle itself had been conceded. Without doubt there should be limits to the doctor's obligation to secrecy. When a doctor, in his professional relationship, learned that a cruel wrong was going to be inflicted on an innocent party, he should in no way be compelled to observe his obligation to silence. He should first urge his patient to put himself right and save the innocent party, but he should also give him due notice that if he failed to do this he (the

doctor) would do it for him. The vindication of the law was not on the same plane as the vindication of the individual. There were higher considerations than the furtherance of legal process which claimed the doctor's allegiance, and in this respect he was in the same position as the priest. If a doctor learned that a crime was about to be committed it was his duty to give information to the public authority. If, on the other hand, a crime had been already committed, it was a matter for discussion under what circumstances it was the doctor's duty to inform the authority. If a doctor found that an abortion had been performed, his own inclination was to say that the doctor should not tell the police, because he could not do this without inculpating his patient, and he was bound to protect that individual who had come to him in a confidential relation. Perhaps the difficulties might be met by limiting privilege to civil cases alone; he did not like that line of demarcation, but it might be the most practicable. Other conditions to be observed were that protection or privilege could be ended with the consent of the patient; that privilege might properly be waived when the patient was under 16 years of age or in a case of insanity; that no obligation to secrecy should extend to medical men in their capacity as skilled witnesses; and in cases of malpraxis and charges against a doctor involving his professional relationship, the obligation to secrecy might with propriety be set aside. In what doctors considered as a sacred trust they were not unmindful of their duties as citizens, and he appealed to members of the legal profession to understand the force of their plea and give them support. (Applause.)

Discussion.

Earl RUSSELL said that he had been interested in Lord Dawson's proposals for the working basis on which privilege might be granted. He appeared almost, but not entirely, to have thrown overboard the claim for privilege of doctors in relation to criminal proceedings. Under the law as it stood at present, if a doctor knew of a felony and did not give information about it, he was guilty of an offence for which he might be imprisoned. The speaker supposed a case in which some armed people had made an attack on a post office, and had escaped, but it was known that one of them had been wounded by a bullet in the thigh. Did Lord Dawson seriously claim that if, immediately after this occurred, a doctor was called upon to treat a person, apparently of the criminal class, who had been mysteriously wounded by a bullet in the thigh, he was to conceal the fact from the authorities because it was a case of a crime which had been accomplished, and not of a crime which was contemplated? An example of a civil case was that of a person who had had an accident and made a claim upon the insurance company, who contested the claim on the ground that it was exaggerated. Would it be altogether fair that the insurance company should be debarred from putting into the witness-box the doctor who treated that man immediately after that accident, who could speak as to the injuries the man had actually suffered, especially when this was the only evidence available or the best evidence? He wished to remind Lord Dawson that if a doctor had observed his Hippocratic oath—to which he took no objection, though he did not know that it referred to legal proceedings—and had been discreet in his general conversation, it would not be known that any revelations had been made to him, and there would be no one who would take him into court and ask him these questions. Counsel did not in practice call a witness who was prima facie a friend of the other side, especially if they did not know what he was going to say. He also pointed out that if protection was extended to doctors it must be extended to nurses, who frequently heard secrets disclosed in delirium, and similarly to relatives who, even more than the doctor, were the recipients of confidences. Lord Dawson, in speaking of the priest, had appeared to refer to all ministers of religion, but such a thing as the seal of confession was not recognized in any church except the Roman Catholic, and if one were to regard communications made to every minister of religion as privileged this would reach very far, and would have to be extended to Salvation Army captains, who probably received more confidences about criminal matters than any of them. As for Roman Catholic priests, why were they not compelled to disclose? Simply because everybody knew that the Roman Catholic priest would go to prison and stay there rather than break one of the rules of his church. To establish his privilege the doctor must be prepared to take the same risk and invite the judge to commit him. He thought it rather a dangerous rule, even in civil cases, to give absolute and unqualified privilege to medical men. Medical men were a large class of the community, and not all of them were actuated by the high ideals of the members of that Society. There were medical men who engaged in practices which their colleagues reprobated, and for which when discovered their governing bodies put them under penal discipline. It would be very dangerous to give a wide protection to medical men; far better leave the matter to the discretion of the judge. He thought, however, that some privilege might be given in the case of the director of a venereal clinic; here it was the question of the balance of public advantage, and he believed that the treatment of venereal disease was far more important than the obligation to give evidence about it afterwards. Possibly other cases might belong to the same order, but, generally speaking, he thought it would be a departure of much gravity lightly to accede to any demand for unqualified privilege.

Sir JOHN GOODWIN (Director-General of Army Medical Services) said that in his department the question arose constantly in connexion with discharged soldiers who were seeking civil positions, and whose previous medical history was asked for. When a soldier was discharged as physically unfit, nothing was put on his discharge certificate as to his physical disability, unless it was due to wounds or injuries in war, which, so far from precluding him from getting employment, rather assisted him. It was always entered on the certificate, when it could be conscientiously done, that though discharged on account of medical unfitness for army service, the man was fit for employment in civil life. Government departments offered a considerable proportion of their posts to ex-service men on the understanding that his department assisted them in deciding as to the man's physical and mental fitness. The medical history sheet was given in confidence to the medical officer of the department which was considering the candidate. A stringent rule was made that no abstracts or copies of medical history sheets were to be taken by other than medical men. Occasionally his department was asked for information in divorce cases. Such information was refused. His department declined to give the previous history of an officer or man as regards venereal disease, but if it was requested to do so it furnished the name of the medical officer who attended the case, and it was then open to the legal authorities to subpoena him. This medical officer was furnished with copies of his own notes on the case. In serious criminal cases, such as murder and manslaughter, copies of medical documents were furnished both to the defence and the prosecution if requested. Another obvious exception to the rule of secrecy was that, of course, copies of case sheets were forwarded to medical men who asked for them because they were continuing to treat the case. The speaker confessed that he could hardly exaggerate the number and the difficulty of the cases that constantly arose.

Lord RIDDELL, who spoke neither as a lawyer nor a doctor, said that he had come to the meeting as a strong adherent of Lord Dawson, and having heard what he had said, he had altered his own opinion entirely! (Laughter.) He thought that what Lord Dawson had had to say about civil cases was extraordinarily nebulous. Any proposals such as Lord Dawson had made, when reduced into the exact terms of an Act of Parliament, would prove absolutely unworkable. Lord Dawson had made a violent attack upon the lawyers, but at all events lawyers were precise thinkers and they understood how necessary it was to lay down regulations, as distinct from general principles, in words which would not admit of too wide an interpretation. He could see no such regulations issuing from what Lord Dawson had put before them. The privilege of lawyers was due to the fact that it was necessary for clients to consult them when about to engage or be engaged in litigation. The doctor was on another basis altogether: he was a witness as to facts, not merely as to statements which had been made to him in connexion with the case. He thought that the whole matter was capable of a fairly simple solution. Most of them in their daily lives, whether professionally or otherwise, found it necessary to forget a good many things, and if a doctor was told certain matters he would, if he were a decent professional man, have forgotten all about them before any question arose publicly. (Laughter.) He was sure that such a little lapse would not be visited with penalty on the day of judgement.

The discussion was adjourned until March 28th.

England and Wales.

THE AUTUMN EPIDEMIC OF SCARLET FEVER AND DIPHTHERIA IN LONDON.

A REPORT of the Infectious Hospitals Committee of the Metropolitan Asylums Board relative to the autumn epidemic of scarlet fever and diphtheria in 1921 has just been issued. It appears from an earlier report (February 12th, 1921) that on November 23rd, 1920, the patients under treatment numbered 8,669, the maximum with which the Board had had to deal on any one day. The decline from that date was very gradual, and the number of patients under treatment on September 3rd, 1921, was still 5,423; the minimum number of patients under treatment on any one day had exceeded the corresponding maximum figure in nineteen out of the last twenty-five years. It is not surprising to learn, therefore, that with its provision of beds already taxed to so high a degree at the period of minimum occupancy, the Board should have experienced some difficulty in coping with the demands made upon its resources when the usual autumnal rise of scarlet fever and diphtheria attained its full dimensions. In point of fact this occurred within eight weeks, when a maximum of 9,599 was reached. This was the highest maximum of any previous epidemic, the preceding records being 8,669 in November, 1920, and 7,158 in November, 1907.

The diseases from which the patients under treatment in the Board's hospitals mainly suffer are scarlet fever and diphtheria. The relative proportion of cases under treatment at the maxima experienced in 1921 and 1920 were approximately the same; scarlet fever accounted for about 65 per cent. and diphtheria for about 30 per cent. of the total number of patients in hospital. In 1907 scarlet fever accounted for nearly 80 per cent. of the cases under treatment, and diphtheria for only 15 per cent. The report states as follows:

> "Towards the end of October it was clear, in view of the unprecedented rate at which applications for admission were being received, that, when every bed at the Board's disposal was occupied, there would still be some cases outstanding. Accordingly, after conference with representatives of the Ministry of Health and of the metropolitan medical officers of health, arrangements were made for all applications for the admission of cases of scarlet fever to be made in the first instance to the medical officer of health, and for him to select the most necessitous cases and advise the Board thereon, preference in admitting cases to be given to the poorer and more crowded districts, especially to cases coming from homes where there was unemployment."

The Board endeavoured, and as the event proved successfully, to avoid imposing any restrictions on the selection of cases of diphtheria. That this decision was wise is shown by the mortality rates during the last four months of 1921: for diphtheria the rate was 7.12 per cent. and for scarlet fever 1.04 per cent.

The report is of interest in relation to the question of infectious hospital provision for the metropolis. As already stated, the extent of this provision has been a factor in determining the numbers of cases of infectious disease to be admitted to the Board's hospitals. While it will be generally admitted that the Board exercised a wise discrimination, yet the interests of public health require that ulterior considerations should not determine whether a case of infectious disease should or should not be admitted to hospital. The decision should be governed by the needs of the individual considered in relation to the preservation of the public health.

It would be interesting to know to what extent cases otherwise deemed suitable for admission to hospital were treated at home under the pressure of the circumstances dealt with in the report, and the extent, if any, to which the public health suffered in consequence. We would not be understood to impute blame for an event which in an ideal perfection of government with unlimited funds would not arise, and it is true that for many years past the severity of scarlet fever has notably declined. Had the extraordinarily low fatality rate of 1 per cent. observed at the height of the recent epidemic been characteristic of the disease at the beginning of the movement for hospital isolation, it is safe to say that the provision then made would have been smaller.

But problems of public health administration are not static and it by no means follows that what is right in one phase of epidemic experience will be right in another. It may well be that the decline in severity of scarlet fever justifies a radical reconsideration of the methods adopted for its control. The epidemiological features of the disease are now very different from what they were assumed to be when isolation during a prolonged period after attack came first to be regarded as the best and most certain safeguard against its spread. It is now a disease of low mortality and usually of slight severity with a comparatively high degree of infectiousness during the early days of attack which rapidly subsides, though in exceptional cases it may be indefinitely prolonged. The measures devised for its control contemplated a disease of serious character, its infectiousness uniform during the period of a desquamation, but in the absence of complications ceasing definitely at the end of this period. The change of view which further knowledge has brought may well be ground for reviewing the whole practice with regard to the preventive measures adopted. Such a change, in fact, is gradually occurring. It is desirable, however, that modifications of practice should follow deliberate sanctions based on knowledge and not be imposed by foreign considerations such as the Board perforce had to obtrude during the autumn epidemic of 1921. It should be remembered that in London the adjustment of provision to requirements is made under favourable conditions. It is based on a large population, and one which, while the county boundary remains what it is, is subject to no increase. There is on this account the less excuse for any shortage of provision, but the provision is necessarily determined by prevailing practice. Modification of practice, so far as admissions are concerned, is not and should not be a direct function of the Board. It is obvious, therefore, either that the practice relating to the removal and period of retention in hospital of cases of scarlet fever should be modified, because it no longer conforms to the deliberate intentions of the authorities responsible, or that the Board should revise its estimate of the provision necessary to cope adequately with the cases which such a deliberate policy entails. These are important issues, and their solution calls for an informed and mature judgement. The time appears to be opportune for an inquiry into the established administrative practice which it has for some time been suspected may have survived the validity of the views on which it was based. It would be appropriate were the Ministry of Health to undertake such an inquiry.

THE LIVERPOOL VOLUNTARY HOSPITALS.

The annual meetings of the three large voluntary hospitals —the Royal Infirmary, the Royal Southern Hospital, and the Northern Hospital—have recently taken place. All three chairmen in their reports drew the attention of the public to the considerable deficits in the working of these charitable institutions, and this was emphasized by subsequent speakers; agreement was complete that if the hospitals were to carry on their beneficent work the public would have to come to their assistance much more effectively than had been the case in past years. The treasurers urged more especially that the number of subscribers, paltry in comparison with the population of Liverpool, should be increased. No means should be neglected to secure regular contributions from all classes, for as it was pointed out the nurses that were trained at these hospitals were those whose services were sought by many of the better classes who would naturally never become patients, and yet in time of sickness reaped the benefits of such institutions. The Lord Mayor of Liverpool at all three meetings remarked on the small number of subscribers, and mentioned that many other towns did much better than Liverpool in proportion to their population.

The Royal Infirmary showed a deficit of nearly £9,000 on the year's working. The chairman, Mr. H. Wade Deacon, said that increased subscriptions had been received from patients during the past year, but appositely remarked that when a man was in good health and fit that was the time for making a regular contribution. He ended on a note of hope that the local voluntary hospitals' committee now instituted as a result of Lord Cave's Committee would help to solve their difficulties now pressing, and so give them a brighter outlook for the future. Mr. Thomas H. Bickerton, consulting ophthalmic surgeon to the Royal Infirmary, was unanimously elected President for the ensuing year. Mr. Bickerton has served the Infirmary well for over thirty-six years, and the honour that has been conferred upon him will give pleasure not only to his friends but to the whole profession. The retiring president, Mr. George H. Melly, said that it was fitting that the hospital should have for its president a man like Mr. Bickerton, who had done such an immense amount of voluntary work for it.

The Royal Southern Hospital shows an adverse balance of £9,058 on the working year. This would have been greater

had the committee not found it necessary to lay violent hands, as the Lord Mayor expressed it, on £10,400 received as legacies in order to meet the expenditure. This is the jubilee year of the hospital, which was opened in 1872 by Prince Arthur, Duke of Connaught, when the late Queen Victoria graciously granted permission to prefix the title "Royal." A special appeal to the public will be made on the occasion of the jubilee. The treasurer, Mr. Lyon H. Maxwell, drew attention to the melancholy fact that the list of subscribers barely contained 1,000 names, and many of these were those of grateful patients. The almoner system last year brought in £1,700.

The Northern Hospital's balance sheet for the past year shows a deficit of £3,000. The chairman, Mr. W. H. Oulton, presented an excellent report of the work done in all departments, and made a powerful appeal to the community to help it to carry on efficiently its beneficent work. As chairman of the Joint Committee appointed in accordance with the proposal of Lord Cave's Committee, he expressed the hope that the voluntary hospitals being comrades in misfortune would in combination weather their difficulties and attain salvation by securing permanent financial support from all classes of the public which had derived in the past such signal benefit from these institutions. It was of the highest importance that employers should call the attention of their employees to the parlous condition in which the voluntary hospitals were. The Hospital Saturday and Hospital Sunday Funds should be largely increased. The contributions from these funds amounted only to about one-tenth of the total expenditure of the hospital. The contributions through the almoner's department recently instituted looked like providing the hospital with £500 a year.

THE LEEDS WORKPEOPLE'S HOSPITAL FUND.

The work of this fund, to which reference has been from time to time made in these columns, continues to be carried on with enthusiasm and success. It is indeed greatly to the credit of the various committees that, despite the sad amount of unemployment that prevails in the city, the main source of income—that, namely, which is derived from the weekly subscriptions of the employees in the different workshops of the city—showed a diminution of only £2,752, the figure for the year ending December 31st, 1921, being no less than £25,853. Other sources of income included collections in public houses bringing in £5,798, club collections £1,345, the annual hospital gala £1,132, and various smaller sources £1,707. The grants made to the medical charities of the city were as follows: General Infirmary £18,000, Leeds Public Dispensary £2,500, Hospital for Women and Children £2,500, Maternity Hospital £900, District Nursing Association £700, Jewish Hospital £200, and smaller sums, including a donation of 100 guineas, towards the Lord Mayor's Fund for the provision of a Princess Mary memorial ward at the General Infirmary. The other activities of the Committee of Management of the fund include the maintenance of three convalescent homes for the use of those who are subscribers; these have been much appreciated during the year, and the number of subscribers who have been accommodated at these homes was 1,372 during the year 1921.

Scotland.

THE OUTLOOK IN PREVENTIVE MEDICINE.

SIR LESLIE MACKENZIE, medical member of the Scottish Board of Health, delivered a lecture in Edinburgh on March 6th on the subject of the outlook in preventive medicine. He said that the new objective in preventive medicine was the production of fitness. The work of the last generation was concerned mainly with the improvement of the environment and the prevention of infectious disease. This work was of supreme importance in the community; but it was animated by the intention to make the environment better fitted to the individual and to fortify the individual against an unwholesome environment. The principal thesis of the lecturer was the standardization of fitness and the methods of testing fitness. Reference was made to the conclusions of the report prepared by Sir James Galloway and his Committee for the Ministry of National Service and on the physical examination of men of military age. He characterized it as the saddest blue book issued in his lifetime, and recommended the careful study of it by all concerned with the production of fitness. He showed a series of slides, specially prepared for the lecture by Sir James Mackenzie at the St. Andrews Medical Research Institute; the series of heart tracings indicated the type of work undertaken by that institute in the field of heart disease. He emphasized also the importance of the maintenance of sanity, the need for research in many fields, and stated that from the administrative standpoint the difference between the preventive medicine of to-day and that of thirty years ago was that now greater facilities were given for enabling parents and patients generally to discover when they were suffering from disease, and for bringing young children to the welfare centres with a view not to curing sickness but to maintaining health.

GLASGOW MEDICAL LUNCH CLUB.

At the last weekly meeting of this club the guest of honour was the Rev. H. S. McClelland, of Trinity Church, Glasgow, who after lunch related his experiences of the underworld of London, gained by a short stay there disguised as a tramp. Thereafter he gave a racy account of a journey to Palestine and his experiences there. He held the close attention of the members throughout, and was warmly thanked for his most instructive and interesting address. This variation from the usual medical topics was welcomed by the members as one which should be repeated at regular intervals.

Ireland.

ULSTER MEDICAL SOCIETY.

THE annual public health meeting of the Ulster Medical Society took the form this year of a discussion on the Education Act and public health. The president, Dr. Robert Hall, was in the chair, and Dr. H. S. Morrison, M.P., opened the discussion by proposing a resolution advocating the instruction of school teachers in elementary hygiene with the ulterior object of their giving reasonable instruction to their pupils; he thought that much could be done to prevent diseases, such as tuberculosis, in the future by training children, and urged that abnormal conditions of eyes, ears, throat, and teeth required especial attention. Mr. R. J. Johnstone, M.P., said that the Health Committee lately appointed by the medical societies had considered this question very thoroughly; he proposed as an amendment or modification of Dr. Morrison's resolution the conclusions to which the Health Committee had arrived under three headings:

1. That medical inspection of children attending elementary schools under the educational authority of Northern Ireland should be mandatory.
2. That schemes dealing with special defects found by the medical inspection should be initiated on lines laid down in the memorandum of the Local Government Board, 1920, modified to suit local requirements.
3. That provision should be made for the education of physically and mentally defective children.

He urged the meeting to pass strong resolutions and press them not only on the Ministry, but also on the public.

The discussion was continued by Dr. J. Campbell, Dr. Trimble, who entered a special plea for the "defective" school, Dr. St. George, Dr. Gardner Robb, who urged the necessity of the order being "mandatory," Mr. Anderson, Dr. Gillespie, Dr. Leslie, Dr. Calwell, who drew attention to the very large number of existing schools that violated every hygienic principle, Professor Wilson, Dr. Charlotte Warner, who advocated the employment of trained school nurses, and Dr. Rentoul.

The discussion was ended by Professor Lindsay, who said that he believed Ireland to be the only country still without medical inspection of children; he urged the necessity of bringing it to a decent level, and he gave statistics of the results of medical inspection elsewhere.

Dr. Morrison replied, and a resolution embracing both his proposals and Mr. Johnstone's modifications was unanimously adopted by the meeting, and copies ordered to be sent to the Prime Minister, to the Ministry of Education, Ministry of Home Affairs, and to the Departmental Committee of Education, all of Northern Ireland.

GENERAL NURSING COUNCIL.

The half-yearly meeting of the General Nursing Council for Ireland was held on March 9th at 33, St. Stephen's Green.

Sir Edward Coey Bigger, M.D., presided, and there were present: Sir A. Chance, Sir Wm. Taylor, Professor R. J.

Johnstone, Dr. P. T. O'Sullivan, Miss Curtin, Miss Bostock, Miss Walsh, Miss O'Flynn, Mrs. Blundon, Miss Huxley, Miss Reeves, Miss Michie, and Mr. W. O. R. Reidy, Registrar. An apology for non-attendance was received from the Countess of Kenmare.

The reports of the Rules, Finance, and Registration Committees were submitted to the Council and formally adopted.

The proposed establishment of a General Nursing Council for Northern Ireland was discussed by the Council, and the following resolution was unanimously passed, on the proposition of Sir Edward Coey Bigger, seconded by Professor R. J. Johnstone, M.P.:

> That the General Nursing Council for Ireland consider that the setting up of a separate council for Northern Ireland will seriously interfere with the interests of nurses; that the keeping of two separate sets of registers in this country will occasion much extra trouble for nurses who may be desirous of acting throughout the entire country and will mean that practically all nurses resident close to the boundaries will in all probability be penalized by having to pay double fees; that on the original passing of Nurses Registration Acts it was only intended that there should be three Nursing Councils for Great Britain and Ireland and that the setting up of an extra council will be confusing to nurses in England, Scotland, and Wales; and, lastly, that a fully representative meeting of nurses in Belfast has already formally protested against the establishment of a Nursing Council for Northern Ireland.
>
> We therefore believe that the proposed change in the present system of registration of nurses would be against the best interests of all classes of nurses in Ireland.

The Registrar was directed to forward copies of this resolution to the heads of Governments in Ireland. After the transaction of some further business, the meeting adjourned.

Correspondence.

ROUTINE PELVIMETRY IN ANTE-NATAL CASES.

SIR,—At a recent meeting of general practitioners the subject of routine pelvimetry in pregnant women was raised, and I was surprised to find that only two of those present adopted pelvimetry as a routine practice. After nearly a quarter of a century in general practice I cannot help comparing the distressing and anxious forceps cases of former years with my experience since I adopted routine pelvimetry. I am not writing this letter for gynaecological specialists, but to call the attention of my fellow general practitioners to the great advantage of routine pelvimetry in all cases of pregnancy. My practice is to rely principally on the measurement of the external conjugate; if under seven inches I watch the case during the last month of pregnancy, and as soon as the foetal head appears to fit tightly into the pelvis I induce labour by inserting a small rubber bag about the size of a cricket ball. However advisable and necessary the use of forceps may be at times there is no doubt that their habitual employment is a barbarous practice.

The advantages of induction in suitable cases are:

1. The risk to mother and child is less than in a difficult forceps delivery.
2. The memory of the confinement is not a nightmare to the mother, as so often is the case in a bad forceps delivery.
3. The practitioner can choose his own time, with all its advantages of aseptic preparations.
4. If properly managed an induction is as free from risk as a normal confinement.

I believe that routine pelvimetry is now taught at all the principal medical schools, but from my own experience among practitioners of some years' standing I know that it is the exception. I hope that this letter will convince them of its advantages, both to their patients and themselves.—I am, etc.,

Woking, March 20th. R. THORNE THORNE.

THE TOXAEMIAS OF PREGNANCY.

SIR,—In her excellent address (March 4th, p. 335) Professor Louise McIlroy endorses the toxaemic origin of the toxaemias of pregnancy, and presents the argument of those who believe in this hypothesis in all its apparent strength, but with its weaknesses still there. This argument, I submit, is fallacious; the conclusion, not only not proven, but improbable, and even erroneous. The argument, as I understand it, is this: Because with the advent of pregnancy certain changes take place in distant organs—in the breasts and endocrine glands—due to something getting into the blood from the living ovum, which acts on these distant parts, the toxaemias of pregnancy—which only occur in pregnancy, and are not to be explained in any other way—are also due to this something. This something is called an enzyme or ferment. Besides being beneficial (causing the breasts to develop) it is also toxic (causing necrosis of kidney and liver cells). Under normal conditions the toxic element is prevented from becoming operative because antibodies simultaneously arise which neutralize it. "In this way auto-intoxication is prevented, and the woman is immunized by her own serum."

Apart from the fact that certain toxaemias of pregnancy occur in the absence of pregnancy (for example, acute yellow atrophy), and apart from many other arguments not here adduced, one wonders why a ferment developed by the ovum in the normal should be toxic. The only admissible evidence I can think of warranting the assumption that the enzyme at its source is toxic, is that the syncytium erodes the endometrium; and even this is questionable, since such erosion is a *sine qua non* of the continued existence and development of the ovum. It is a natural, beneficial change, and not a process toxic to the host as an individual. To suppose from this that the enzyme entering the blood stream may also cause necrosis of kidney and liver cells, unless neutralized by antibodies, is, I think, rather a jump—and a jump in the dark. For if the enzyme is one enzyme, and not only causes the embedding of the embryo but also the changes in the breasts and other parts, and if in the normal antibodies arise neutralizing it, one wonders how it is that in such case the syncytium goes on growing and the breasts developing. To get over this difficulty we must posit at least two enzymes—the one beneficial and the other toxic—but only one antibody neutralizing in normal cases the toxic part. But whilst the assumption of a beneficial enzyme is justified by everything, the assumption of a toxic enzyme and its antibody in normal cases are only justified by the inability of obstetricians to explain in any other way the rise of the maternal visceral lesions in the toxaemia of pregnancy.

The discovery of emboli formed of syncytial fragments and villi in the lungs of women dead of eclampsia does not justify it. I believe I am right in stating that Schmorl found such fragments in the bodies of pregnant women dead from other causes than eclampsia or the toxaemia of pregnancy. And the fact that syncytial masses are wide spread in chorion-epithelioma shows beyond everything that similar fragments in pregnancy do not produce a toxin causing the toxaemia of pregnancy or eclampsia; for in chorion-epithelioma no such condition as the toxaemia of pregnancy arises. Malignant disease does not produce such a toxaemia, unless it directly affects the visceral organs concerned in dealing with the products of metabolism—a point which in this question has not been considered by the adherents of the toxaemic origin of eclampsia. Moreover, if a toxin arises from the syncytium, this should be more active in the early months of pregnancy. But the toxaemia of pregnancy is a late manifestation. This argument against the toxaemic theory is also turned aside. Since the severe toxaemias of pregnancy, "such as are found in eclampsia and accidental haemorrhage, occur in the late months of pregnancy," Professor McIlroy argues that it is "open to question" that the syncytial poisons are most active in the early months. I submit she should have argued that it is open to question whether they are poisons at all.

This evidence, clearly, is in line with that afforded by chorion-epithelioma; with the fact that placental changes often occur apart from and in the absence of any toxaemia of pregnancy—that the toxaemia of pregnancy does not occur in carneous mole, in retained placenta, and in many other conditions in which it ought to occur if a toxaemic origin of the disease exists. So also the association of accidental haemorrhage with eclampsia or the toxaemia of pregnancy is no evidence of a toxaemic origin. It is just the reverse. It is evidence of the mechanical cause of the maternal visceral lesions which lead to these metabolic aberrations. Young[1] himself has cited cases in which albumin was not present in the urine when the uterus had already become distended with blood, the result of concealed accidental haemorrhage. Albumin only showed itself after some hours had elapsed. It is not surprising that in many cases of accidental haemorrhage associated with eclampsia that albumin should be found in the urine before the occurrence of the bleeding. Albuminuria is not uncommon in pregnancy;

[1] Further Observations on the Etiology of Eclampsia and the Pre-eclamptic State. *Proc. Roy. Soc. Med.*, Obstet. and Gyn. Sec., 1920, vol. xiv, p. 24.

on the contrary, it occurs so frequently that it has been regarded as incidental to pregnancy—to be expected, not to be regarded with surprise.

The evidence, such as we have, of the toxaemia of pregnancy and of eclampsia points to the underlying condition being a disorder of general metabolism, and Professor McIlroy, in her paper, not only advances evidence that this is so, but advances no evidence to show it is otherwise. Thus we find the statement: "It is difficult to distinguish a toxaemia of pregnancy in a previously healthy individual from that of a pregnancy superadded to an already existing disease." If the toxaemia of pregnancy is a specific condition, such difficulty surely should not occur. All the changes in the urine and in the blood found in the toxaemia of pregnancy are adequately explained by the lesions of the liver and of the kidneys which we know exist in the toxaemia of pregnancy. Professor McIlroy herself states that "It is essential to examine the blood in order to determine the amount of retention of the various products of disordered metabolism." And all her treatment is directed to the elimination of these natural poisons (natural waste products), or to the staying of the fits, which their accumulation causes (morphine, etc.). With such evidence as this it is not necessary to adduce an unknown, an undisplayed, a purely hypothetical, toxin, and in the normal its antibody. The visceral lesions in the toxaemia of pregnancy and in eclampsia can be otherwise explained; and their existence explains all else in these conditions. I recently showed one remarkable factor associated with eclampsia[2]—its occurrence in women in whom there is reason to believe the pressure within the abdomen is higher than usual in pregnancy, indicating a physical cause. The incidence of eclampsia shouts this at every obstetrician, but nearly all turn a deaf ear. Yet we read that "the main work of the future lies in the investigation of the toxaemia of pregnancy." Does not the incidence of eclampsia indicate the incidence of the toxaemia of pregnancy, and its cause, the cause of the lesser, the preceding condition? In spite of the difficulties and doubts, and in spite of the urgent necessity of explaining eclampsia, the "toxaemic origin of eclampsia is now accepted." That is the trouble. Although "at present we only stand on the threshold of the subject and contemplate as if in a mist the difficulties and complications which confront us," observers and teachers of obstetrics have made up their minds. They are not uncertain—they are quite sure! Had they better not beware of the ditch, lest, being befogged (as they themselves admit), they lead unsuspecting people, instead of to the light, into the abyss?—I am, etc.,

London, W., March 5th. R. H. PARAMORE, F.R.C.S.Eng.

QUACKERY IN RELATION TO DISEASES OF THE EYE.

SIR,—The interesting short article on quack "oculists" in your issue of March 18th, p. 446, reminded me of Samuel Pepys's naïve surprise which he expressed under date July 3rd, 1668:

"To an alehouse: met Mr. Pierce the surgeon, and Dr. Clerke, Waldron, Turberville my physician for the eyes, and Lowre, to dissect several eyes of sheep and oxen, with great pleasure and to my great information. But strange that this Turberville should be so great a man, and yet to this day had seen no eyes dissected, or but once, but desired this Dr. Lowre to give him the opportunity to see him dissect some."

It is surprising that this discovery aroused no misgivings in Pepys's shrewd mind; perhaps the entry under June 23rd of the same year may explain, to some extent, his unshaken confidence:

"To Dr. Turberville about my eyes: whom I met with: and he did discourse, I thought, learnedly about them: and takes time, before he did prescribe me any thing, to think of it."

Even in the twentieth century it is useful, when we are ignorant, to be able to talk learnedly and to appear to reserve judgement on a case until we have had the opportunity of private thought concerning it, unless, perhaps, in cases when our knowledge of human nature tells us that a slapdash diagnosis is expected; even here the learned talk is an elegant trimming.—I am, etc.,

Falkirk, March 18th. GEORGE CLARK STEWART.

[2] "Eclampsia and its Incidence," *Lancet*, 1921, ii, p. 1147.

THE RECOGNITION OF AORTIC INCOMPETENCE.

SIR,—The importance of the subject must be my excuse for again troubling you. It seems to me that the difference between Dr. Brockbank and myself is one of prospective or proportion rather than fact. As the reason for Dr. Brockbank's article was the prevalence of faulty diagnosis I still think that the proportionate value of the signs is most important in teaching, otherwise if the student attaches equal importance to very rare conditions and common conditions he will have no sure light for guidance. A systolic murmur in the second right space is quite common in healthy persons; on the other hand, stenosis of the aortic valves without regurgitation is so rare that I still think the student should be taught to resist the temptation to diagnose stenosis in the absence of a diastolic murmur. I do not mean to assert that stenosis does not occur without a diastolic bruit, but the occasions are rare.

In the same way I think the student should be taught to attach great importance to the visible signs of aortic regurgitation, for they are present in many cases before the apex is much displaced outwards.

As regards aortic stenosis I think Dr. Brockbank, on consideration, will agree with me that we have both laid ourselves open to criticism in omitting all mention of a most important sign—namely, the anacrotic pulse.—I am, etc.,

Liverpool, March 13th. C. H. BROOMHEAD.

PREVENTION OF VENEREAL DISEASE.

SIR,—Your correspondents Sir Archdall Reid and Sir Bryan Donkin advanced the proposition that whenever certain methods of prophylaxis were employed, venereal disease was reduced to "vanishing point." We presumed that they had arrived at this conclusion after collecting figures and considering carefully all the factors affecting a venereal disease rate. We asked them to present for judgement by an expert statistician the facts on which they base their claim.

In so far as self-disinfection is concerned, we confess ourselves unimpressed by the data so far published; we think that an independent expert in statistics would judge that, considering the complexity of the factors involved in a statistical change in venereal disease rates, nobody would be justified in drawing such sweeping conclusions as those of your correspondents on the facts they have hitherto presented. We imply no bad faith on the part of those who collected the figures. We are not satisfied that the general rate for Portsmouth in 1917, the year when Sir Archdall Reid commenced his campaign, was 92. The rate of 92 was stated in the White Paper issued by the Ministry of Health to be inaccurate, like all rates for Portsmouth given in the same table for 1916 and after. It appears from the explanation in the White Paper to have been calculated on the same basis as resulted in a rate of 163 for Portsmouth in 1919. In any case it is not comparable with the rate of 1.5, claimed by Sir Archdall Reid, since the general rate included all cases, relapses, imported and fresh cases, while the rate of 1.5 appears to have been arrived at by excluding all cases where the patient stated on cross-examination that he contracted the disease in some other station.

Admissions to other hospitals for disease contracted in Portsmouth. Of course we assumed that men who reported venereal disease in Portsmouth were admitted there. But men remained in Portsmouth only a short time (we calculated an average of 2.8 months from Sir Archdall Reid's statement that 2,000 men were constantly under his charge for twenty-eight months and 20,000 passed through the barracks).

Syphilis is a disease with a fairly long incubation period and men do not report it by any means as soon as the primary sore appears; gonorrhoea is regarded lightly and is fairly easily concealed; and Sir Archdall Reid used to tell his men that, if they contracted venereal disease after hearing his lecture, it would look as though they were "funking the firing line." We think all of these are factors making for disease contracted in Portsmouth being reported only after leaving the station, and to our knowledge cases of disease contracted at Portsmouth which developed while there, and after leaving, were treated by private practitioners in London.

Our reference to the effect of salvarsan on the general rate is quite pertinent, since the general rate published by the army includes syphilitic relapses requiring readmission to hospital, which were considerable in number under mercurial treatment and have been reduced almost to vanishing point by salvarsan treatment.

We are amused to see that in their "score of English boroughs" who, "in scorn of the Ministry of Health," have adopted the teaching of "quick self-disinfection," seven borough and urban district authorities that are not responsible for the provision either of facilities for treatment or of instruction under the Ministry of Health scheme have been included, while in two of the county authorities claimed as supporting the Society for the Prevention of Venereal Disease the medical officers of health are members of the National Council and active supporters of its policy. With regard to the experiences of Sir J. Barrett, our opinions, based on his own writings, are unchanged.

We have carefully been through the evidence given before the Royal Commission. We fail to understand why continual statements are made that the question of prevention was not brought before that body. Evidence was given by several witnesses who were clearly cross-questioned, mainly by present medical members of the National Council. We can trace no questions drawing particular attention to this method of prevention being put by the medical member now known to sympathize with the views of the Society, nor is there any evidence recorded as given by that medical member of the Commission when he himself gave evidence.

We should be glad to know on what evidence the statement is based that "the question of self-disinfection in men had been excluded from the deliberations of the National Council." Anyone who will read through the published annual reports of the National Council from 1917 up to date will find in each report a full account of the discussions on this aspect of the antivenereal problem, showing that full weight and attention had been given by the Council to self-disinfection, and it is in accordance with the evidence laid before them that their present policy has been formulated.

In regard to personal instruction Sir A. Reid writes:

> "The orderly would say, 'Party joining station, sir.' Thereupon I would snatch a small bottle of permanganate solution and a swab of cotton-wool, go out . . . and then gabble off my little lecture. The one and only thing I tried to be impressive about was the urgent necessity for speed in disinfection."

He states in another part of his book that this was his procedure if only one man had joined. This we consider personal instruction.

The civilian question is, however, now much more pressing. Sir Archdall Reid says in his book:

> "It always seemed to me of the utmost importance that they should understand. It was not sufficient to tell them to do this and that. The reasons had to be explained. . . . Instructions alone are not sufficient. The men must be treated as reasonable beings. They must be told not only what to do but also the reasons for doing it."

Can he reconcile the statements in his book with the instructions by poster only recommended in his letter?

But to come to the point. From the lips of the honorary secretary for the Society for the Prevention of Venereal Disease at a meeting on March 10th, and from the letter of Sir Archdall Reid and Sir Bryan Donkin, we have now got the considered policy of that society. Put shortly it is as follows:

1. No instruction to any boy under 18.
2. No instruction to any woman except prostitutes over 21.
3. Disinfectant outfits (packets) only to be carried by intending fornicators.
4. Instruction to be given by posters in public lavatories (evidently quite different from those which the Derbyshire bill-posters refused to display) so worded as to make "the intending sinner" of 18 obtain and use *effectively* the disinfectant outfit, while the "innocent boy" of 17 is warned against scabies and sepsis!

We are very curious to see the draft of such a poster.

Thus all the pronouncements of the president of the Society for the Prevention of Venereal Disease in 1920 and 1921 with regard to "this knowledge" being accessible to boys and girls at the age of puberty, and the more logical demands of Miss Ettie Rout (made when she was a member of the Grand Committee of that society) are thrown overboard, and the utility of what is left must be considered infinitesimal, even by a believer in individual self-disinfection.—We are, etc.,

E. B. TURNER,
Chairman, Medical Committee, National Council for Combating Venereal Diseases.
CHARLES GIBBS,
Surgeon to London Lock Hospital and to Charing Cross Hospital.

London, March 14th.

*** We are loth to interrupt a correspondence upon this subject, the importance of which we fully appreciate, but it will not be possible to continue the publication of such lengthy letters as those both sides have addressed to us since the correspondence was opened by Sir Bryan Donkin and Sir Archdall Reid. We are prepared, of course, to receive any brief correction of matters of fact, but we cannot think that the prolongation of the correspondence will serve any useful purpose, more especially in view of Sir Alfred Mond's statement in the House of Commons on March 13th that he hoped "to get together a body of medical men who would look at this subject from a medical point of view and advise me."

HAEMORRHAGIC COLITIS.

SIR,—I was much interested in Mr. Lockhart-Mummery's comments on my report of two cases of haemorrhagic colitis. When I wrote this I unfortunately was unable to refer to Mr. Mummery's work on *Diseases of the Colon*, but I have now had an opportunity of so doing, and I find the description therein of this condition is exactly that of the two cases of Dr. Mitchell Stevens which I reported. It is evident from Mr. Mummery's letter that the condition is a very rare one.

Regarding the method of closure of colostomies, I appear to have conveyed a different impression from that which I intended. My experience is limited to about a dozen cases, some of which were done by the intraperitoneal method and others by the extraperitoneal. As far as that experience goes it is entirely in agreement with Mr. Lockhart-Mummery regarding the merits of the two procedures. I feel that the former is far the most satisfactory, and is the one I should always adopt in future. I closed a colostomy in a somewhat difficult case recently by the intraperitoneal method, which had been made for a stricture of the rectum, and obtained primary union and a very satisfactory result.—I am, etc.,

Cardiff, March 13th. J. W. GEARY GRANT.

ARTIFICIAL LIMBS.

SIR,—In the report of my demonstration of patients wearing artificial legs, which appeared in the BRITISH MEDICAL JOURNAL of March 11th, the following sentence occurs: "On the whole the best artificial legs now made were those of the American Rowley firm." This is incorrect. What I did say, and what has evidently been misunderstood by the reporter, was that at the Roehampton Exhibition of Artificial Limbs in July, 1915, the Rowley firm was awarded the gold medal for artificial legs, and further that the knee-control mechanism introduced by that firm has now been adopted by Government for the "standard limb" which all Government limb makers supply. Other portions of the "standard limb" have been adopted from other limb makers. I trust that you will find room for this correction in justice to the many other excellent limb makers who supply the "standard limb."

While writing I may add that the views attributed to me in the report as to the relative value of different stumps are in several instances incorrect. Those who may wish to know what these views are will find them in an article published in the *Edinburgh Medical Journal*, November, 1920.—I am, etc.,

Edinburgh, March 14th. CHARLES W. CATHCART.

FATS AND GOITRE.

SIR,—I should like to confirm Dr. C. R. Gibson's observations in your issue of March 11th on the prevalence of goitre in the Northwich and the south-eastern districts of Cheshire. In 1916 the army recruiting board at Warrington examined 2,200 men from these districts, and found 16 cases of goitre, a rate of 7 per 1,000. From Warrington and the Lancashire districts around it 23,300 men were examined and 34 cases of goitre were found, giving a rate of 1.5 per 1,000. These figures tend to show that goitre—simple goitre, for exophthalmic goitre was excluded from these observations—is four times more prevalent in these districts of Cheshire than in a Lancashire district some fifteen miles distant from them. These figures were published in the *Lancet*, 1920, vol. i, p. 909, in a paper on the congenital and hereditary defects in recruits.—I am, etc.,

Warrington, March 12th. J. S. MANSON.

CLINICAL FORMS OF INFLUENZA.

SIR,—O. Clayton Jones mentions in your current number various forms of influenza occurring during the recent epidemic. Here among the troops we have had very varied experience of very high temperatures with sudden crises and symptomatic pneumonia. Temperatures as high as 104° F.

were present at night, which dropped to 98° F. in the morning, without any other symptoms. Other cases showed all the distress of severe pneumonia, with typical rusty sputum, which cleared up during the next twenty-four hours without any ill result.—I am, etc.,

THEO. M. KENDALL, B.A., L.R.C.P.

Military Hospital, Parkhurst, I. of W., March 13th.

HOSPITAL POLICY.

SIR,—As you are desirous of this matter being fully discussed by the Divisions, perhaps you will allow me to present certain thoughts for their consideration.

It would be well if we could present a united front at Glasgow. Personally, I have read through the report and find myself in agreement with it, except in regard to II, 6 and 7. These paragraphs simply deal with the socio-political side of the question, about which, however much concerned we may be as private citizens, as an association of medical practitioners we do not seem to be called upon to express an opinion, especially if it cause dissension in the profession.

As an association, it seems to me that we are not so much concerned about how the hospitals are financed, as long as it be done so as to enable us to do the work efficiently. Nor is it a matter of importance to us how the governing bodies are formed as long as the administration does not prevent us doing the work efficiently. Why should we not confine ourselves to the really important things, such as:

1. That the profession is adequately remunerated for work done which cannot be called charity.
2. That there is adequate provision for medical education.
3. That the profession is adequately represented on the governing bodies.
4. That the staffing of hospitals be carried out in a manner fair to all properly qualified medical practitioners.
5. That the general practitioners obtain a proper place in the general hospital organization of the country.
6. That hospitals of all kinds, convalescent homes, ambulance associations, nursing associations, etc., be all linked up in an effective national organization.

Is there not enough work for us to do in the above without being dragged, as a profession, into the quarrel about whether it is better for the nation to finance the national lifeboat service out of the taxes or to let it rely upon the generosity of charitable individuals?—I am, etc.,

Helston, March 20th. FERDINAND REES, M.D.

PHYSICAL EDUCATION OF GIRLS.

SIR,—A joint committee of men and women representing the medical and teaching professions has been formed to inquire into the present physical education of girls, particularly as to its results, beneficial or harmful, either during girlhood or in later life. The term "physical education" is understood to include athletic sports and games, as well as disciplined exercises.

The committee will be grateful for any information which members of the medical profession may be willing to give as to their experience in this matter. Communications should be addressed to the Honorary Secretary, Joint Committee, College of Preceptors, Bloomsbury Square, W.C.1. All information will be regarded as strictly confidential. A form of questionnaire will be sent if desired.—I am, etc.,

GEORGE F. STILL,
Chairman.

London, March 17th.

SUN OR AIR?

SIR,—Dr. Argyll Campbell and myself are not at variance with Sir Henry Gauvain, as Dr. Devereux, in his kindly letter of appreciation of our work, suggests. We have brought forward the importance of cold, moving air in stimulating the metabolism, and of the evaporative power of cold air on the body, and particularly on the lungs, but we do not question the beneficial effect of sunlight combined with cold air. The time spent recently at the English sanatorium at Montana showed one of us how grateful and stimulating is the combination of Alpine sunshine and cold air.

Sir Henry Gauvain has no doubt that his patients do better in the summer than in the winter, and we do not question his clinical experience. Probably the summer spent in England and the winter in an alpine climate is the best possible combination, and it would be a most interesting experiment if Sir William Treloar could establish a branch hospital at Montana as he has at Hayling Island.—I am, etc.,

London, N.W., March 20th. LEONARD HILL.

CLAYDEN *v.* WOOD-HILL.

SIR,—I am enclosing the seventh list of subscriptions to the Wood-Hill Fund, and should be much obliged if you would kindly insert it in your next issue.

A noteworthy feature of this list and of the previous one which was published on March 4th is the large number of contributions from medical societies, honorary staffs of hospitals, Divisions and Branches of the British Medical Association, etc. In the two lists there are no less than seventeen contributions of this type. These contributions have been of material assistance to the Fund, and if similar bodies of medical practitioners in other parts of the country will follow suit the total amount required to reimburse Dr. Wood-Hill (£2,250) will certainly be obtained.—I am, etc.,

HAMILTON A. BALLANCE,
Honorary Treasurer.

All Saints Green, Norwich, March 18th.

Seventh List of Subscriptions.

Amount previously acknowledged, £1,071 4s. 10d.

£22 11s.

The Bedfordshire Division of the B.M.A., per Dr. E. R. Fasnacht, Hon. Sec.—£1 1s. from each of the following:
Dr. K. B. Bellwood, Bedford
Dr. G. T. Birks, Bedford
Dr. M. F. Bliss, Luton
Dr. A. Chillingworth, Bedford
Dr. A. J. Chillingworth, Bedford
Dr. R. Coates, Great Barford
Dr. E. R. Fasnacht, Bedford
Dr. R. F. M. Fawcett, Toddington
Dr. F. Garratt, Luton
Dr. B. Glendining, Aspley Guise
Dr. C. I. Harmar, Luton
Dr. H. N. Little, Dunstable
Dr. F. S. Lloyd, Luton
Dr. W. G. Nash, Bedford
Dr. W. K. Parbury, Sharnbrook
Dr. Kilham Roberts, Shillington
Dr. E. C. Roberts, Bedford
Dr. Colby Sharpin, Bedford
Dr. W. A. Sharpin, Bedford
Dr. A. E. Street, Cranfield
Dr. C. G. Welch, Bedford
Dr. C. K. Toland, Dunstable (10s.)

£21 15s.

The Members of the Derby Medical Society, per Dr. Charles E. Potter, Hon. Sec.

£21.

The Kensington Division of the B.M.A., per Mr. Howard M. Stratford, Hon. Sec.

£20.

The Hon. Staff of the Sheffield Royal Infirmary, per Dr. A. G. Yates, Hon. Sec.

£10 10s.

The Medical Board of the David Lewis Northern Hospital, Liverpool, per Dr. J. Murray Bligh, Hon. Treas.

£10 10s. (cont.).

Sir Charles Ryall, C.B.E., London (second donation)
The Nottingham Panel Committee, per Dr. George S. O'Rorke, M.A., LL.D., Clerk to the Committee
The Medical Staff of the Oldham Royal Infirmary, per Mr. William R. Cammock, Hon. Sec.

£7 13s.

The Hampstead Division of the B.M.A., per Mr. Sidney Boyd, Hon. Sec.

£6 10s.

The Rugby and District Medical Society, per Mr. Herbert E. Powell, Hon. Treas.

£5 5s.

Mr. James Berry, London

£2 2s.

Drs. F. P. Bush and W. Burton Marshall, Norwich
Mr. W. E. Ranson, Needham Market
Dr. A. Alan Forty, Shenington
Dr. T. Cuming Askin, M.B.E., Alderton
Dr. Gerald H. Davy, O.B.E., Hull

£1 1s.

Dr. C. C. Holman, Northampton
Dr. Arthur Perigal, New Barnet
Dr. Emily S. Cooke, Sutton
Dr. J. J. Johnstone, Tillicoultry
Dr. H. W. Teague, Sheringham
Dr. David Ferrier, Luton
Dr. Allan Porter, Gorleston-on-Sea
Dr. Robert Stirling, Perth
Dr. Charles C. Scott, Twickenham

£1.

Late subscription from Fife Branch of B.M.A. (see list published March 4th), per Dr. D. Elliot Dickson, Hon. Sec.
Mr. H. W. Webber, Tasmania

Universities and Colleges.

THE CHAIR OF MIDWIFERY AT EDINBURGH.

IT is announced that Dr. Benjamin Philp Watson, professor of obstetrics and gynaecology in the University of Toronto, has accepted an invitation from the curators of the University of Edinburgh to become professor of midwifery in the vacancy caused by the resignation of Sir Halliday Croom. Professor Watson will be responsible for the teaching of both midwifery and gynaecology. He is an Edinburgh student, and graduated M.B., Ch.B. with first-class honours in 1902, and M.D. with gold medal in 1905. He is joint author with Dr. Freeland Barbour of a well-known handbook, *Gynaecological Diagnosis and Pathology*. Professor Watson, who was lecturer on midwifery and gynaecology in the School of Medicine of the Royal Colleges, Edinburgh, for one session (1912–13), was appointed to the chair which he now vacates in Toronto in 1913; during the war he served with the Canadian Hospital at Salonica.

UNIVERSITY OF OXFORD.

Radcliffe Travelling Fellowship.—David George Turner Kerr Cross, B.M., St. John's College, has been elected to a Radcliffe Travelling Fellowship.

UNIVERSITY OF LIVERPOOL.

THE following candidates have been approved at the examination indicated:

FINAL M.B. AND CH.B.—*Part I*: J. S. Bradshaw, M. Cohen, W. R. H. Ellis, E. Fisher, D. Flenley, A. B. Griffiths, J. Hallam, G. M. Hughes, G. H. Mann, Phyllis Marsh, T. V. O'Brien, D. U. Owen, R. A. Roberts, Helen Standring, J. G. Thomas, H. Walker, A. E. Wall. *Part II*: J. O. Edwards, R. C. Gubbins, W. D. Jeans, T. Knowles, P. Madan, J. R. Parry.

Diploma in Public Health.—H. T. Hughes, H. E. Marsden, Nellie Wall.

Diploma in Tropical Medicine.—J. R. Bhatia, E. R. W. Gilmore, A. R. Jennings, S. H. Paul, J. Pinder, Gladys Rutherford,* Q. Stewart.

Diploma in Medical Radiology and Electrology.—J. E. Bannen, A. Y. Fullerton, E. S. Gawne.

*Recommended for the Alan H. Milne medal.

UNIVERSITY OF MANCHESTER.

A Delépine Fellowship.

A FELLOWSHIP for the encouragement of research in Preventive Medicine has been instituted in memory of Dr. Auguste Sheridan Delépine, M.Sc., Professor of Public Health and Bacteriology in the University from 1891 to 1921, by the addition of the emoluments of the former Junior Research Fellowships in Public Health to the interest derived from an endowment of £1,000 made by Dr. Charles Slater of Tunbridge Wells. The regulations provide for a Fellowship of £300 to be offered biennially and to be open to competition by candidates who are graduates in medicine of this or any other approved university, or who hold an approved registrable medical qualification.

The following appointments have been made: Lecturer in Ophthalmology, Dr. J. Gray Clegg, F.R.C.S.; Clinical Lecturers in Ophthalmology, Dr. H. H. McNabb and Dr. John Wharton.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN extraordinary comitia of the Royal College of Physicians of London was held on March 15th, when the President, Sir Norman Moore, was in the chair.

Licences were granted to the following candidates: Ruth W. Plimsoll (Royal Free Hospital), T. A. S. Samuel (London Hospital).

Communications were received from: (1) The Secretary of the Royal College of Surgeons, reporting proceedings of the Council of that College. These were received and entered on the minutes. (2) The executors of the will of the late Lady Clark, dated February 28th, 1922, asking whether the College will accept the bequest of a portrait of the late Sir Andrew Clark, formerly President of the College, by Frank Holl, Esq., R.A. This was received with thanks to the executors.

Reports of the Committee of Management were adopted recommending that the St. Dunstan's College, Catford, should be recognized for instruction in chemistry and physics, and the Boys' Intermediate School, Aberdare, for instruction in chemistry, physics, and biology.

Recommendations of the General Medical Council.

The following reports were then received:

(*a*) A recapitulation of the draft rules in respect of examinations for the Diploma in Public Health, proposed by the General Medical Council, and submitted to last College meeting, together with observations which it is suggested that the College should make upon them.

(*b*) A recapitulation of the draft recommendations in respect of (qualifying) Professional Examinations, propounded by the General Medical Council, and submitted to the last College meeting, together with observations which it is suggested that the College should make upon them.

(*c*) Provisional new regulations for candidates for the Licence of the College, and the Membership of the Royal College of Surgeons, based on the proposed course of study and examinations which was adopted at the last meeting of the College.

After some discussion, and some minor alterations in the reports, they were adopted.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Nominations for Councillors.

MONDAY last, March 20th, was the latest day for receiving applications from candidates for election on the Council next July. The three retiring candidates—Sir Charles Ballance, Sir William Thorburn, and Mr. W. McAdam Eccles—seek re-election. The other candidates are: Mr. John Herbert Fisher, Fellow 1893, Member 1891 (St. Thomas's, ophthalmic); Dr. Victor Bonney, Fellow 1899, Member 1895 (Middlesex, obstetrics and gynaecology); Mr. R. Pugh Rowlands, O.B.E., Fellow 1901, Member 1896 (Guy's).

Obituary.

DR. EDWIN DENING, who died on March 7th at Stow-on-the-Wold, Gloucestershire, was born at Comeytrowe, Taunton, in 1855, and qualified at University College Hospital in 1877. After an apprenticeship at Tetbury he commenced practice at Stow-on-the-Wold in 1879, and for forty-three years devoted himself unsparingly to the demands of a scattered Cotswold practice, winning the gratitude and love of a large circle of patients. He was the first local medical officer of health under the Urban District Council from 1894 until his death. He was a man of wide sympathies, taking a keen interest in all the affairs of the town, being chairman of the Charity Board, a keen volunteer, holding a commission as lieutenant in the Stow company, and also a prominent Freemason. During the war he acted as one of the medical staff of the local V.A.D. hospital. He was a very old member of the British Medical Association, and in 1899 he was President of the Oxford Branch.

The death is announced of DR. JAMES ERSKINE of Glasgow. He was a native of Paisley, and was educated at Glasgow University, where he graduated M.A. in 1877 and M.B., C.M. in 1882; he took the diploma of L.R.F.P.S.Glas. in 1881. He specialized in ear diseases, and had been lecturer on aural surgery at Anderson's College, Glasgow, aural surgeon to the Glasgow Central Dispensary, and assistant surgeon to the Glasgow Hospital and Dispensary for Diseases of the Ear. He took great interest in local affairs, and served several terms on the town council, from which he retired in 1920. For some years he was a member of the Glasgow Parish Council, and chairman of the District Hospitals Committee. He was a member of the Glasgow Central Division of the British Medical Association.

WE regret to record the death, after a long and painful illness, of DR. GEORGE WESTBY, of Liverpool. He was the son of the late Canon Westby, of Dublin, and was born in 1846. He received his medical education in Dublin, taking the diplomas of L.R.C.P.I. and L.R.C.S.I. in 1877; subsequently he took the M.R.C.P.I. in 1881. Dr. Westby took a prominent part in the volunteer movement, and held a commission for 25 years in what is now known as the 6th (Rifle) Battalion, the King's Liverpool Regiment, retiring with the rank of surgeon-lieutenant-colonel; he received the Volunteer Decoration for his services. For over forty years he had an extensive practice in Liverpool, and won the affection of all with whom he came in contact. He was an old member of the British Medical Association, and was also a Freemason.

THE death is announced of the Rev. WILLIAM STURDY BRAMLEY, rector of Beaworthy, Devon, in his 84th year. Before taking holy orders Dr. Bramley had become qualified as a medical practitioner, having taken the diplomas of M.R.C.S.Eng. and L.S.A., and graduating M.D. of St. Andrews. He was ordained deacon in 1872 and priest in 1875 in the diocese of Ripon. After two curacies in Yorkshire he became chaplain to Manchester Workhouse from 1880 till 1908, when he accepted the living of Beaworthy. He is survived by his widow, two sons, and two daughters.

DR. JOHN INNES of Aberdeen died on March 5th in his 53rd year after a long period of ill health. He was a native of Glenlivet, and after some years in business entered Aberdeen University, and graduated M.B., C.M. in 1896. He settled in Aberdeen and rapidly acquired a considerable practice by his devotion to his patients. He was a member of the Aberdeen Division of the British Medical Association, and had held the rank of major in the R.A.M.C.T. Dr. Innes is survived by his widow and two sons, of whom the elder was in partnership with his father.

HARRIS GRAHAM, B.A., M.D., for thirty years professor of pathology and practice of medicine in the American University of Beirut, died in his 60th year on February 27th at Beirut, Syria. He was born at Ottawa, Canada, educated in arts at Toronto University, and graduated B.A. at 20 years of age. He took his medical degree at Michigan University, and directly afterwards was commissioned by the American Board a missionary to Turkey and served four years in the Aintab Medical College until the Turks closed the school. Thence he was called to Beirut, where he served so brilliantly for a generation, coming to the American University of Beirut in 1889. In 1892 he had leave to study in Koch's laboratory, and at other times he worked in Berlin and Vienna. He advanced evidence that culex is the carrier of the dengue germ, and was the first to isolate that microbe. He had an extensive practice, and spoke all the principal languages of the Levant. He was a teacher of great force and inspiration, a remarkable diagnostician, and a most skilful therapeutist. Many an officer who was sick in the American hospitals in Beirut came under his care, and all such will mourn his passing away. He was the chairman of the Beirut Executive Committee of the Lebanon Hospital for the Insane, an Anglo-American charity in the suburbs of Beirut, the only institution of the sort in Syria.

Medical News.

THE conference of representatives of voluntary hospitals in England and Wales to discuss the report of the Council of the British Medical Association on hospital policy was held at the Wigmore Hall, London, W., on March 22nd, under the chairmanship of Sir James Galloway. The Association's recommendations were generally approved by the meeting. A full report of the proceedings will appear in our next issue.

SIR THOMAS OLIVER will give an address on alcohol in relation to industrial hygiene and efficiency before the Society of Arts, John Street, Adelphi, W.C., on Wednesday, March 29th. Sir Robert Armstrong-Jones will take the chair at 8 p.m.

AT a meeting of the Illuminating Engineering Society to be held at the house of the Royal Society of Arts (John Street, Adelphi, London), at 8 p.m. on Tuesday, March 28th, there will be a joint discussion with the Royal Institute of British Architects on the lighting of public buildings: scientific methods and architectural requirements. An account of experimental work and results will be given by workers at the National Physical Laboratory.

THE Central Association for the Care of the Mentally Defective has changed its name to the "Central Association for Mental Welfare." Its offices are at 24, Buckingham Palace Road, S.W.

THE President of the French Republic has awarded the gold "Médaille de la Reconnaissance Française" to Miss Ruth Nicholson, M.B., B.S., for her distinguished services to the French soldiers at Rougemont and Villers Cotterets.

UNDER the auspices of the National Institute of Industrial Psychology a meeting will be held at the Mansion House on Monday, March 27th, at 4.30 p.m., to consider the importance, in the present industrial and commercial situation, of eliminating wasteful and misapplied effort by a more systematic application of human energy. Mr. H. J. Welch will be in the chair, and among the speakers will be Lord Haldane, Mr. W. L. Hichens, and Dr. C. S. Myers.

THE annual meeting of subscribers of the Cremation Society of England will be held at 52, New Cavendish Street, on Wednesday, March 29th, at 3 o'clock.

THE name of Dr. R. W. Starkie, who, on September 16th, 1921, was sentenced, at the Central Criminal Court, to nine months' imprisonment for administering drugs with intent to procure abortion, has been removed by the Minister of Health from the medical list of the London Insurance Committee as from March 15th, 1922. Dr. Starkie appealed against his conviction, and the Court of Criminal Appeal recently gave a considered judgement, dismissing the appeal.

AT a meeting of the Association of Economic Biologists, to be held at the Imperial College of Science, South Kensington, at 2.30, on Friday, March 31st, Dr. W. Lawrence Balls will read a paper on the advantages and defects of team work in economic biology. Dr. Franklin Kidd will also read a paper on fruit storage.

THE King of Italy has conferred the Italian silver medal "Al Merito della Sanitá Pubblica" upon Major Myer Coplans, D.S.O., O.B.E., in recognition of services rendered during the late war.

THE Chadwick Public Lectures are this year being given between March and June. Already lectures have been given in London by Professor Van Loghen and Mr. H. E. Stilgoe, and another lecture will be given by the latter in the gallery of the Royal Institute of British Architects, 9, Conduit Street, W., on Thursday, March 30th, at 8 p.m., on "Water, its distribution and use." Sir Arthur Newsholme is giving a course of three lectures, on "Relative values in public health work," in the large lecture hall of Birmingham University, on March 27th, 28th, and 29th, at 7.30 p.m. On May 4th and 11th, at 5.15 p.m., Sir Lawrence Weaver will lecture on "Rural resettlement and its relation to public health," at the Royal Society of Arts, John Street, Adelphi. Mr. E. Augustus Bowles will lecture on "Superstitions of early herbalists," at the Chelsea Physic Garden, on May 25th; and Professor S. D. Adshead will lecture on "Housing and town planning," in Belfast, on a date not yet fixed. Full particulars of the Chadwick Lectures may be obtained from the Secretary of the Trust, 13, Great George Street, S.W.1.

THE Department of Scientific and Industrial Research has published a second edition of the English translation of Gleichen's *Theory of Modern Optical Instruments*. The price of the book, which is issued by H.M. Stationery Office, is 12s. 6d., and it can be obtained through any bookseller. The appendix on range finders has been omitted from this edition, as a book on the subject is about to be issued by a firm of publishers.

WE have received the first number of the *Safety News and Chronicle*, a new bi-monthly publication dealing more particularly with the use of respiratory appliances for work in poisonous or irrespirable air, diving, etc., but also with safety devices generally. The number contains excellent popular articles by Professor Leonard Hill on workshop hygiene, and by Wing Commander Martin Flack on safety in the air. An account by Mr. Walter Clifford, Superintendent of the North Staffordshire Mine Rescue Station, gives a vivid impression of the sort of work which has been done after great colliery explosions by mine rescue teams. Another article describes the organization and work of the London Fire Brigade's "Poison Gas" teams; and the concluding article contains a fascinating account of the early development of diving bells. There are numerous illustrations, one of which is a photograph of a mule loaded with the oxygen cylinders which are being taken out with the Mount Everest Expedition. To judge from this first number, medical readers will find much to interest them in this new publication.

MR. JUSTICE MCCARDIE gave judgement in the King's Bench Division on March 9th, in an action for damages for alleged negligence against Dr. E. C. Montgomery-Smith in the treatment of a fracture of the tibia and fibula in a married woman. His Lordship, according to the report in the *Times*, said that the case turned to a very large extent on the credibility of lay evidence. He could accept neither the evidence of the husband nor of the wife. He was satisfied that Dr. Montgomery-Smith had suggested the use of the *x* rays, whereas the case against the defendant was that according to the plaintiff he expressed a definite opinion against the use of *x* rays. He could find no reason why the defendant should not suggest an *x*-ray examination, as he realized that there was a serious fracture. He was satisfied that the defendant diagnosed the case with adequate care, that the foot was properly set, and that everything was done to put it right. He found that the injury was not due to the defendant's negligence, but to what the plaintiff did since the injury. The onus was upon the plaintiff to prove negligence and she had failed. There was, therefore, judgement for the defendant with costs. The defendant's case was conducted for the London and Counties Medical Protection Society.

STRATHPEFFER has joined the British Spa Federation, which now comprises Bath, Buxton, Cheltenham, Droitwich, Harrogate, Llandrindod Wells, Leamington, Woodhall, Strathpeffer, and New Zealand.

DURING December last 1,800 fatal cases of plague occurred in Java.

Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.*

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2630, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2630, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin;* telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

CATHETER LUBRICANTS.

DR. G. M. WILCOCKSON (Guildford) writes in reply to "X. Y. Z." (p. 461): I have a patient, aged 81, who has had to use a catheter himself for the past ten years. About six years ago it began to give him much pain. I prescribed the following ointment, which he has used ever since with great relief:

℞ Atropine sulph.	}	āā gr. ij
Cocaine hydrochlor.		
Vaseline		ad ʒ ss

The catheters should be kept thoroughly sterilized.

MEDICAL BOOK-KEEPING.

DR. R. C. WORSLEY (Topsham, Devon) writes in reply to "Seeker": For many years I have used three books only in my practice—a prescription book, for recording mixtures dispensed; a Burroughs-Wellcome visiting list; and a ledger. The visiting list is a day-book and cash-book, recording each week the visits, consultations, confinements, operations, mixtures supplied, and so on, by means of signs; the totals are made up each week. It is only necessary to carry over the names still on the visiting list each week. All cash payments are entered in the cash columns at the end of the book, which thereby becomes a cash-book, showing gross receipts. At the end of each quarter it is very simple to take out the bookings from the weekly pages of the visiting list and transfer them to the ledger accounts. This plan is much less trouble than any other I have seen, and does away with the cumbersome "day-book" of my early days.

INCOME TAX.

"E. M. J." inquires whether it is competent for an income tax inspector "to order an audit of a doctor's books"; inspection of the books has been offered.

*** The inspector has no such right. Where circumstances render the preparation of a correct statement of receipts and expenses a matter of difficulty it might be that an audit of the books would be required by the commissioners hearing an appeal, but normally no such difficulties arise in the case of a medical practice assessed on the basis of cash receipts and payments. "E. M. J." appears to have complied with any reasonable requirement, apart from special circumstances, if he has lodged a statement of receipts and expenses, and offered to produce his books as evidence.

"M. W. G." is assessed under Schedule E, and the local inspector of taxes refuses a claim to deduct expenses incurred in buying medical literature, quoting Charlton *v.* Commissioners of Inland Revenue in support.

*** The rule under Schedule E is very stringent (see reply to "Lapis" in our issue of March 4th). In the case quoted the expense of purchasing theological books was refused by the Scottish Court. It seems to us that the more pressing and obvious necessity of being up to date in medical as distinct from theological research provides a basis of discrimination between a medical man and a minister of religion, but admittedly the point is, on the construction of the statute, open to doubt. Of course expense incurred in getting together a set of medical books, as distinct from keeping such a library up to date, is clearly inadmissible.

"L. M. J." arrived in England from abroad in October, 1921, for a temporary purpose and will probably be leaving the kingdom in June next. He is receiving his foreign earnings in this country at the rate of £61 8s. 6d. a month. Is he liable for tax?

*** Assuming that he arrived in this country after October 5th, he will not have been here for six months in any one financial year and will be exempt, unless he was maintaining a residence in this country while he was personally abroad. If he does remain in the country for six months in a financial year he will be liable for tax on the amount of income received here.

"R. C." started in partnership in February, 1920, when he bought a car for the practice for £450; he sold it for £80 in 1921: each partner then bought a car, charging the practice account with so much per mile for professional use of his car. The new cars cost £425 each.

*** Assuming that the new cars were not superior in make, power, or quality to the old one, the amount to be deducted as a cost of replacement of the car is £425 – £80 = £345. "R. C." does not mention the mileage rate charged by each partner, but it may be worth while pointing out that for tax purposes the rate should be calculated exclusive of depreciation seeing that the renewal cost is specifically charged.

LETTERS, NOTES, ETC.

THE CLOTHING OF NATIVES IN RELATION TO TUBERCULOSIS.

DR. J. S. PEARSE (Plymouth) writes: At various times one comes across statements as to the effect produced on the health and condition of aboriginals by the introduction or enforcement of the wearing of clothing. Captain Edward Salisbury, the explorer, with twenty-five years' experience among the islands of the Pacific, states that the natives in the French-owned Marquesas group of islands, who numbered 80,000 about thirty years ago, now total less than 3,000. The introduction of clothes is stated to be responsible for the prevalence of tuberculosis, from which the natives die between the ages of 17 and 21. Have there been any medical reports on this subject? The usual medical statements are to the effect that the natives of these islands, being virgin soil, would be susceptible to infection by the tubercle bacillus introduced by outsiders. But, as Captain Salisbury says, the only place where the depopulation of the Pacific islands is not a serious problem is Samoa, where the natives are encouraged to retain their native ways. To increase the immunity of the natives the French are colonizing their islands with Chinese coolies, who are intermarrying with the Polynesian women, and thus are bringing a new race into being with a stamina such as the brown race never had. It would be of interest to know whether the wearing of clothes is responsible for the prevalence of tuberculosis among these natives; the lesson of Samoa would seem to support this view, and that the introduction of the tubercle bacillus is of less importance than the introduction of clothing.

DERMATITIS VENENATA IN THE TROPICS.

DR. J. LEVI, L.R.C.P. and S., writes: During a recent trip as ship surgeon to the Far East I had occasion to treat one of the ship's officers for a bruise on the anterior surface of the left leg, due to an injury received ashore at Singapore. I applied a weak solution of iodine to the affected area, and in the course of forty-eight hours a papular eruption, associated with severe itching, appeared on the area where the iodine was applied. On the homeward trip in the Indian Ocean the same patient complained of a "stitch" on the left side of the chest; a pleural friction rub was heard and fibrinous pleurisy diagnosed. I applied iodine from a fresh supply, which was purchased in Japan, to the affected area, and the eruption and itching followed here also. Of the drugs at my disposal I found calomel powder most efficacious in relieving the severe itching.

I consider this case of interest as the patient informed me that whilst domiciled in England he had iodine applied on various occasions, but it was never followed by an eruption. In my opinion it is due mainly to some idiosyncrasy formed by the patient whilst in the tropics.

INTESTINAL DISINFECTION IN ENTERIC FEVER.

THE Anglo-French Drug Company write as follows to call attention to a clerical error in the letter from Dr. Ronald E. French (page 462): "Our keratin-coated dimol pulverette is marked A, not B; the latter, sugar-coated and coloured yellow as a further distinction, is indicated in all cases, such as enteric, calling for rapid solution."

THERAPEUTIC USES OF ANTIMONY.

WE have received for publication the following communication from Messrs. Oppenheimer, Son and Co., Ltd., London, E.C.: By an unfortunate inadvertence a letter from Dr. F. G. Cawston of Durban, South Africa, intended by him as a purely personal one to ourselves, was reproduced *in extenso* in the 1922 edition of our *Ephemeris Pharmacologica*. This letter appears on page 127 of the book referred to, under "Oscol" Stibium, and we feel it only just to Dr. Cawston to acquaint you with this unintentional misuse of what was intended to be a confidential communication. Unfortunately, in addition, a printer's error gave "Microscopic parasites in man" where "macroscopic" was meant in the original. We think it only right to point out that through our own error Dr. Cawston's expression of opinion, given to us privately, has been published as a statement of fact, and we have duly expressed to him our apologies.

WORKING HOURS.

AN insurance practitioner recently got the following note from a working woman who enclosed her medical card: "Would you kindly except me on your book. I am sending the card, as my working hours do not cope with yours, and oblige." Our correspondent thinks this a good example of unconscious irony, but we read it as a tribute to the length of the doctor's working hours.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals will be found at pages 30, 31, 34, 35, 36, and 37 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 32 and 33.

THE appointment of certifying factory surgeon at Chagford (Devon) is vacant.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Six lines and under	0	9	0
Each additional line	0	1	6
Whole single column (three columns to page) ...	7	10	0
Half single column	3	15	0
Half page	10	0	0
Whole page	20	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

THE NATURE AND SIGNIFICANCE OF HEART SYMPTOMS.

BY

SIR JAMES MACKENZIE, M.D., F.R.C.P., F.R.S.

(From the Institute for Clinical Research, St. Andrews.)

I. STIMULI CONCERNED IN THE HEART BEAT.

INTRODUCTION.

IN 1905 I published in this JOURNAL a series of articles on "New methods of studying affections of the heart."[1] The articles were the outcome of a research in which I had been engaged for nearly twenty years. A basis was laid for the differentiation of abnormal rhythms, and the practical importance of the research was illustrated by the action of digitalis. The varied and seemingly capricious effect of digitalis on the human heart was demonstrated to be due to the fact that digitalis may act in one way on a diseased heart and another on a normal heart, and that the drug may act differently in different diseases. Although the methods have been greatly improved, especially since the introduction of the ink polygraph and the electro-cardiograph, and a great deal of light has been thrown upon the mechanism of abnormal rhythms, little real advance has been made in the understanding of matters essential for the intelligent practice of medicine, such as the significance of symptoms and the effects of remedies. It has long been evident that a new concept was needed if these essentials were to be acquired. At the Institute for Clinical Research at St. Andrews we have given particular attention to this aspect of the subject, and we have been able to recognize some of the fundamental principles concerned in the production of the symptoms of disease. The application of these principles to the interpretation of cardiac phenomena has shed fresh light upon the subject which enables us to present the symptoms of cardiac affections in a way that brings out their peculiar significance and opens up new fields for exploration.

The Development of the Heart.

At an early stage of development the heart is represented by a tube, which is pulsatile, the contraction starting at a definite part which in later development becomes the sinus venosus. In the course of development pouches are formed on the side of the tube which ultimately become the auricle and ventricle. Sir Arthur Keith has drawn for me a diagram (Fig. 1) which represents a stage of development. Here the heart is represented by the primitive cardiac tube (P.C.T.), with the auricle (A) and ventricle (V) as pouches on its sides. In the further course of development the contractile function of the tube is lost and taken over entirely by the auricle and ventricle; but the tube remains as the conducting system, the sinus venosus being represented by the cells of the sino-auricular node.

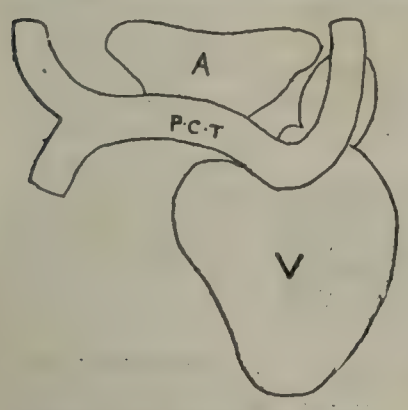


FIG. 1.—Diagram representing an early stage in the development of the heart. P.C.T. is the primitive cardiac tube, on the sides of which there develop pouches A and V, which become the auricles and ventricles. The primitive cardiac tube in the fully developed heart is probably represented by the conducting system, shown in Fig. 2.

Fig. 2 is a diagram of the fully developed heart; it shows that the primitive cardiac tube has been transformed into the conducting system (sino-auricular node, auriculo-ventricular node, and auriculo-ventricular bundle).

The cells from which the different parts of the heart have been evolved were originally identical, but as development proceeded the cells became modified to meet the functions imposed upon them. At first each cell could not only contract but could produce the stimulus which caused contraction. Thus it is that while originally the cells of the primitive cardiac tube were contractile as well as stimulus-producing, they gradually lost their power of contraction, but developed the function of stimulus production and conduction, to meet the requirements of the new arrangements for contraction.

The cells of the auricle and ventricle, on the other hand, did not in any special degree develop the stimulus-production or conductivity function, which remained primitive, but developed the contractile function. Though it is true that all cells of the heart have the power of stimulus production and of conductivity, they have them in a very unequal degree.

In the course of development some peculiar influence is acquired whereby the older tissues represented by the conducting system control the muscle cells of the auricle and ventricle, and it is the loss of this control that enables the muscle cells to show their peculiar nature, as in auricular fibrillation and the idio-ventricular rhythm.

The Constitution of the Heart.

From this way of looking at the matter we can recognize two main structures in the heart concerned in its action, differing widely in structure and in function:

(1) A conducting system, consisting of peculiar cells of two kinds:

- (*a*) The pale filiform cells constituting the sino-auricular and auriculo-ventricular nodes.
- (*b*) The large cells, known as the Purkinje cells, which constitute the auriculo-ventricular bundle, and are also found in the walls of the auricles and ventricles:

(2) A contracting system, consisting of the peculiar muscle cells of the auricular and ventricular walls.

There are also nerve cells and fibres, from the vagus and sympathetic nerves, which take part in regulating the sino-auricular node. The valve apparatus is, for the present, not considered.

The Manner of the Starting of the Heart's Contraction.

Before dealing with the features of the different rhythms of the heart it may be as well to indicate the view accepted as to the rôle each part plays in a cardiac revolution.

It is recognized that all the tissues of the conducting and contracting systems just mentioned have the power of starting a contraction. It is recognized that in the normally acting heart the contraction first starts in a collection of peculiar cells situated at the mouth of the superior vena cava—the sino-auricular node (S.A.N., Fig. 2). It is assumed that these cells have the power of obtaining material from the blood which, when a sufficient quantity has been stored, renders this node so susceptible to stimulation that it readily discharges a stimulus which causes the auricle to contract. The stimulus passes through the auricle to the auriculo-ventricular node (A.V.N., Fig. 2). Here the same process has been going on as that described in the sino-auricular node, and in response to the impulse from the sino-auricular node the auriculo-ventricular node discharges its stimulus. From the auriculo-ventricular node the impulse is conveyed by the auriculo-ventricular bundle (A.V.B., Fig. 2) to the ventricle, which responds by a contraction.

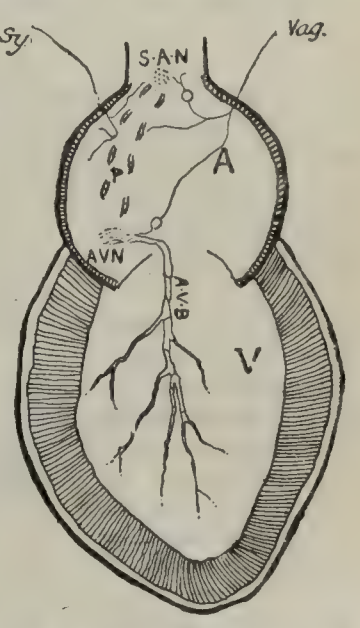


FIG. 2.—Diagram representing the two main systems concerned in the heart beat. (1) The conducting system, represented by the sino-auricular node (S.A.N.) and the auriculo-ventricular node (A.V.N.) and bundle (A.V.B.). In both auricles and ventricles are also Purkinje fibres which belong to this system, represented by the scattered cells (P) in the auricle. The vagus (*vag.*) and sympathetic (*sy.*) also belong to this system. (2) The contracting system, represented by the muscle cells of the auricle (A) and ventricle (V).

Such in brief is the view which the present state of knowledge enables us to give of the normal rhythm of the heart. It will be seen that the functions of the conducting system are (1) to originate a stimulus which excites the auricle and ventricle to contract — hence we speak of this function as stimulus production; and (2) to convey the stimulus by a special path—hence we speak of the function of conduction.

There are many abnormal rhythms, due to the fact that the cells, both of the conducting system and the contracting system, possess under certain circumstances the power of starting a contraction. The reason that these cells do not start independently in the normal state is that the sino-auricular node reaches the susceptible stage and "goes off"

earlier than the other parts of the conducting system, so that before they are ready to start off by a local stimulus they receive the stimulus from the sino-auricular node. The starting places in the conducting system lower than the sino-auricular node become stimulable later than the sino-auricular node; the auriculo-ventricular bundle, for instance, if it does not receive the stimulus from above goes off about thirty times a minute.

Under abnormal circumstances the heart beat may start from a stimulus arising in any part of the conducting system and also in the muscle cells of the auricle and ventricle. There is a marked difference in the heart beat which arises in any part of the conducting system from that which arises in the muscle cells of the contracting system (auricle and ventricle).

The Character of the Heart Beat Originating in the Conducting System.

The normal heart beat, starting at the sino-auricular node, sends a stimulus which affects in orderly sequence the parts below. It is well regulated and proceeds at a pace which leaves time for the cells in all parts to perform their function in a manner likely to be efficient—that is, with sufficient time for them to rest, and to accumulate a sufficient store of nutritive material for the efficient performance of their functions.

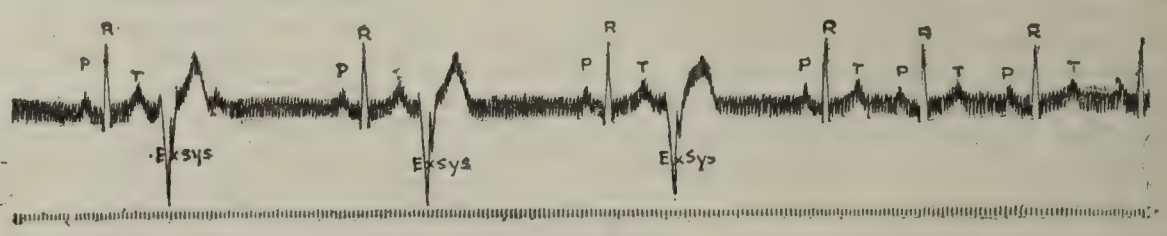


FIG. 3.—The electro-cardiogram of ventricular extra-systoles. In the first part of the record are three normal beats, P.R.T., followed each by an extra-systole (*ex.-sys.*). The beats (P.R.T.) at the end are normal. The type of radial pulse which the extra-systoles produced is seen in the latter part of Fig. 11, where the extra-systolic beats failed to reach the radial artery.

The normal beat takes place when all tissues have time to be completely restored. Moreover, the beats which originate lower down in the conducting system, in the auricle (in tissue which I hypothesize is present, as distinct from the ordinary auricular muscle fibres), in the auriculo-ventricular node and bundle, all result in a well-ordered, powerful contraction of the ventricle.

The Electro-cardiogram.

When a muscle contracts it generates a current which can be led from the body and made to activate a string galvanometer. The movements of the string or thread that result can be photographed. In such a photograph certain characteristic movements are recorded, due to the contraction of the auricles and ventricles, which permit some useful deductions to be made as to the place where the heart's contractions start.

The electro-cardiogram of the normal heart beat is distinctive. It is shown in the last part of Fig. 3, where each cardiac revolution is represented by the waves P.R.T.; P is due to the auricular systole, while R and T are due to the ventricular systole. In this record the beats marked P.R.T. are normal beats.

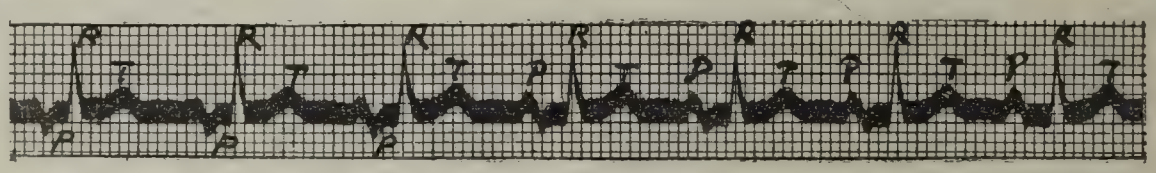


FIG. 4.—Electro-cardiogram of a rhythm starting in the conducting tissue of the auricle and passing to the sino-auricular node. This is shown by the inversion of the P wave at the beginning of the record, and the gradual change of the wave in the upright at the end of the tracing, where the record is normal. (Cohn.)

When the starting place of the heart's contraction is at some other place than the sino-auricular node the position and character of the P wave are altered. In the rhythm arising in the auricle the P wave is inverted. I suggest that in such an instance the contraction arises in some part of the conducting system in the auricles. Hitherto there has not been discovered a direct connexion between the sino-auricular node and the auriculo-ventricular node; but G. A. Gibson [2] pointed out thirteen years ago that Purkinje cells were to be found in the auricle, an observation confirmed lately by Holmes.[3]

Such cells must be there for a purpose, and that purpose is likely to be the same as in other parts of the heart. There is a great difference between heart beats which presumably start in these cells and the beats which start in the muscle cells (as in auricular flutter and fibrillation), as we shall see later. Moreover, such an electro-cardiogram as Fig. 4 shows an inverted P wave at the beginning, which gradually changes its character till it becomes upright and normal, suggesting that the stimulus arose at first outside the sino-auricular node, but gradually crept back along a path to the sino-auricular node.

Characteristic electro-cardiograms arise in the auriculo-ventricular node and bundle. All electro-cardiograph records of the ventricular contraction when the stimulus enters the ventricle by the bundle show the R.T. waves. When the stimulus for contraction arises in the ventricle the electro-cardiogram is different, representing usually the features shown by the extra-systole (*ex.-sys.*) in Fig. 3.

The Idio-ventricular Rhythm.

The term "idio-ventricular rhythm" is used here to describe the contractions that arise in the muscle cells of the ventricle. It has been used variously, as for the ventricular contraction in complete heart-block, but there the contraction does not arise in the cells of the ventricle but in the cells of the remains of the bundle, and the electro-cardiogram shows the usual ventricular R.T. waves, indicating that the stimulus entered the ventricle by way of the bundle. There are several kinds of ventricular rhythms, but one form only is dealt with here.

The occasional irregularity which goes under the term of ventricular extra-systole is due to a contraction which arises in the ventricle, and is quite independent of the stimulus coming down the bundle from the auricle, as shown in Fig. 3, where the large movement (*ex.-sys.*) is due to a ventricular extra-systole. In place of a solitary contraction, which is usual, a number of these ventricular systoles may occur and produce a persistent abnormal rhythm (the idio-ventricular rhythm). This rhythm, however, is rarely entirely composed of these beats, but is interrupted by a pause, followed by a beat arising in the normal way. The abnormal rhythm is therefore characterized by groups of small beats interrupted at varying intervals by one or two large normal beats, as shown in Fig. 5, where there are two groups of these idio-ventricular beats. The diagram (Fig. 6) explains the tracing, and shows that the auricle is pursuing one rhythm, and that for the most part the ventricle is pursuing another and more rapid rhythm, interrupted by a beat which comes down from the auricle in a normal manner, shown in the diagram by a line passing across the space of the A.C. interval. The electro-cardiogram of the idio-ventricular beat shows a series of large waves like those of the extra-systole in Fig. 3.

The Output of the Ventricles.

While the electro-cardiograms show characters distinctive of the places from which the heart's rhythm starts, there is other evidence which throws an unexpected light on the heart beat, the most important being the effect of the abnormal rhythm on the output of the ventricles. The consideration of this part of the subject gave rise to an inquiry into the cause of ineffective beats, which has led to a new field of investigation, and for this purpose we have to go back to the study of the sphygmogram of the radial pulse. We recognize that sphygmographic records give a somewhat imperfect conception of the output, but, imperfect as they are, they are the best we have and are of real value.

But these pulse records are of value also in that they throw light on processes going on within the heart whose recognition is essential to the understanding of the mechanism—such, for instance, as the part played by the conducting system and by the muscle cells of the left ventricle during abnormal rhythms. We will therefore consider the subject here from this point of view.

(a) The Output of the Ventricle in Beats arising in any Part of the Conducting System.

We expect that under normal circumstances the contraction of the muscle cells of the ventricle will be so organized that they will contract in such a manner as to facilitate the expulsion of the contents. This organized mechanism is dependent on the manner in which the stimulus enters the ventricle and on the nature of the stimulus. In the various electro-cardiograms the stimulus which arises above the ventricle, whether in the sino-auricular node, the auricle, the auriculo-ventricular node, or the auriculo-ventricular bundle, all produce the same type of ventricular electro-cardiogram. Moreover, in all the rhythms arising in the conducting system there is also an effective contraction of the ventricle. The size and force of the beat depend, within certain limits, on the rate, inasmuch as more blood will have accumulated in the ventricle, and consequently more will be expelled when the rate is infrequent than when it is frequent. The infrequent radial pulse in complete heart-block is strong and forcible.

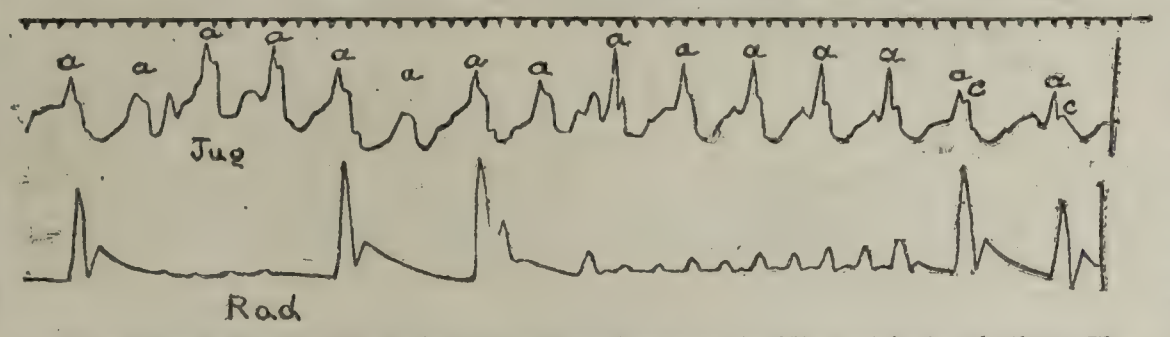


FIG. 5.—Tracings of the jugular and radial pulses showing the idio-ventricular rhythm. The jugular tracing shows the waves due to the auricle (*a*) occurring regularly unaffected by the rapid action of the ventricle—shown by the radial beats. There are two groups of these idio-ventricular beats separated by two normal beats of the heart. (See diagram, Fig. 6.)

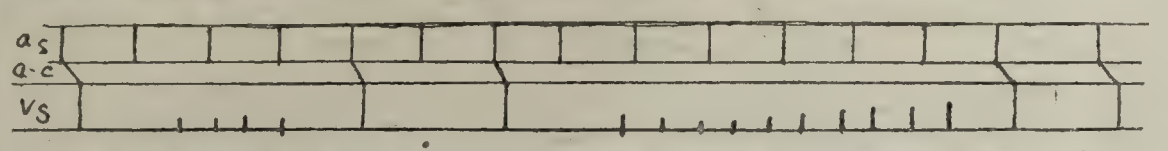


FIG. 6.—Diagram of Fig. 5 showing the relation of the auricle to the ventricle. The auricular and ventricular beats pursue independent rhythms except when the radial beats are large, and the diagram shows that the stimulus passes the *a–c* space and stimulates the ventricle.

(b) The Output of the Ventricle in Beats due to Extra-systole.

In extra-systoles of the auricle the impulse travels from the auricle by the bundle and enters the ventricle by the usual path, producing usually an effective output. Hence an extra-systole of the auricle may be of good size—smaller than the normal beat merely because it is premature, and in consequence the ventricle is not as full when it contracts in response to the premature auricular stimulus as it does to the normal.

Extra-systoles in the ventricle arise in some part of the muscle cells, and the wave of contraction therefore does not sweep through the walls of the chamber in the normal manner. This is seen in the character of the electro-cardiogram, as in Fig. 3. As the contraction spreads to the muscle cells in a way different from the normal the output is greatly diminished; this is well seen in the small beat which usually results from a ventricular extra-systole, or in the absence of a beat in the radial pulse, as in Fig. 11.

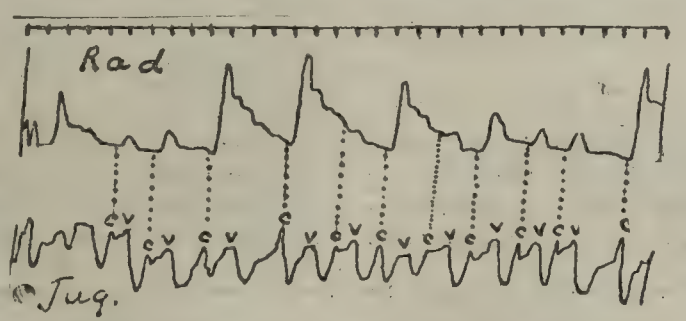


FIG. 7.—Simultaneous tracings of the radial and jugular pulses. The jugular pulse (*c.v.*) is of the ventricular type. The beats in the radial are very unequal, and there is no constant relation between the size of the beat and the preceding pause—a large beat sometimes following a short pause and vice versa. This kind of irregularity with a want of relation between the size of beat and the length of the preceding pause occurs only in auricular fibrillation.

(c) The Output of the Ventricle with the Idio-ventricular Rhythm.

As the idio-ventricular beats are of the same nature as ventricular extra-systolic beats, the output of the ventricle is greatly lessened, and the radial beats are in consequence very small. This is brought out in Fig. 5, where there are a series of small beats, due to beats arising from a stimulus in the ventricle, interrupted by large beats arising in the normal way. In the tracing from the jugular pulse it will be seen that the beats of the auricle (*a*) are regular, and undisturbed by the numerous small ventricular beats. These latter occur in groups, and at the end of a group there is a pause followed by a large beat, which (as shown in the diagram, Fig. 6) is due to the stimulus entering the ventricle in the normal way.

(d) The Output of the Ventricle in Auricular Fibrillation.

The ventricular beat in auricular fibrillation is started by a stimulus entering by the auriculo-ventricular bundle, and so we would expect a normal and efficient beat. Apparently when the rate is infrequent the beat may be efficient, but when the rate is increased the beats tend to become less efficient in a curious manner. When the rate is moderate or slow the rhythm is irregular and there is often a distinct relation between the size of the beat and the preceding pause. But with increase of rate this relationship may be lost, and we have beats of various sizes without any relation to the duration of the preceding pause. This is brought out in Fig. 7, which shows the features characteristic of auricular fibrillation—irregularity in force and rhythm, with the typical ventricular form of jugular pulse. The tracings sometimes have a superficial resemblance to those of the idio-ventricular rhythm, but there is no pause before the big radial beat, and there is no evidence of an auricular contraction preceding it. Moreover, it must be borne in mind that the stimulus for contraction in the idio-ventricular rhythm arises in the ventricle, while in auricular fibrillation the stimulus enters by the auriculo-ventricular bundle.

The radial tracing (Fig. 7) shows the characters peculiar to auricular fibrillation in that there is often no relation between the size of the beat and the preceding pause, the pause before a small beat sometimes being longer than the pause preceding the larger beats. The jugular tracing shows that the radial beats corresponded with the ventricular contraction, for each radial beat has a corresponding *v* wave.

The Interpretation of the Radial Tracing in Auricular Fibrillation.

This lack of correspondence between the size of beat and preceding pause seems to be peculiar to this abnormal rhythm. It is possible that the same influence is present in auricular flutter, but that awaits further investigation. At one time I suspected that the small beats might be due to ventricular extra-systoles, but the electro-cardiograph has shown that this is not the case. The only explanation seems to be that the variation in the size of the radial beats is due to differences in the contraction of the muscle cells of the ventricle. Probably they do not all contract at the same time—the varying size of the beat being due to the variation in the number of cells stimulated to contract.

In the patient from whom Fig. 7 was obtained the rhythm of the ventricle would suddenly pass from fibrillation to the normal, and the radial pulse would show the character of a good-sized regular pulse indicative of a good acting ventricle. In considering the reason for the peculiar effect one can only infer that there was some difference in the nature of the stimulus which entered the ventricle, and it is therefore necessary to inquire into the nature of the stimulus to see if it be the same in auricular fibrillation as in the normal rhythm.

The Effect of Auricular Fibrillation and Flutter on the Auriculo-ventricular Node and Bundle.

When the auricle is fibrillating it has been reasoned that each muscle cell throws out a stimulus in its contraction, so that there is an incessant shower thrown upon the auriculo-ventricular node. How many of these pass depends on the susceptibility of the node, and this is estimated by the number of ventricular responses. When the ventricular rate

is slow it is inferred that the auriculo-ventricular node is less susceptible to stimulation. When the rate is increased in frequency it is assumed that the auriculo-ventricular node is more susceptible. But there is more in the matter than that.

We note such facts as these. When bodily effort is made the ventricular contractions are more numerous than when the rhythm is normal. Thus a patient at rest with auricular fibrillation may have a ventricular rate of 70. On moderate effort it may readily rise to 130 to 150 beats per minute—the same effort raising a normal heart only 10 to 15 beats.

While there is this suggestion of undue susceptibility in a positive sense, we have more convincing evidence of an undue susceptibility in the contrary sense. A patient with a normal rhythm but with a slight delay in the passage of the stimulus from auricle to ventricle, as shown by an abnormally wide *a–c* interval, developed auricular fibrillation. His ventricular rate with the normal rhythm was wonderfully uniform, about 60 beats per minute. With the onset of auricular fibrillation it fell to 40 beats per minute.

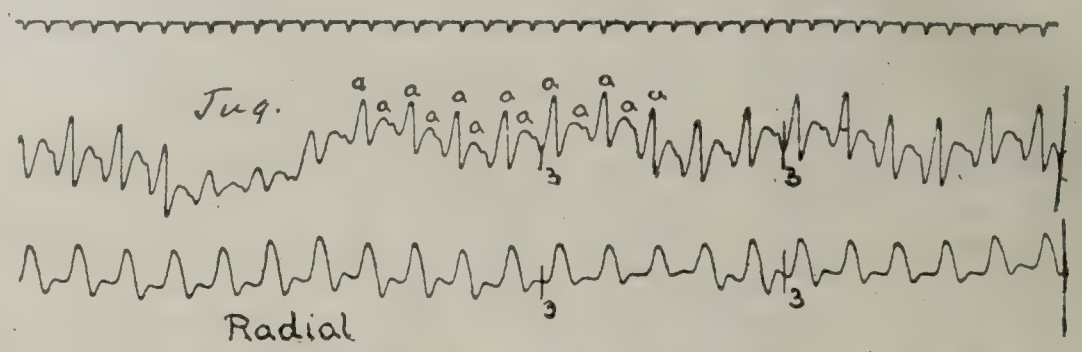


FIG. 8.—Tracing of the jugular and radial pulses during auricular flutter. (Auricular rate, 280; ventricular, 140.) The reason for the varying height of the *a* wave is that every second auricular contraction falls during ventricular systole, so that more blood is thrown back into the veins, and the *a* waves are therefore larger.

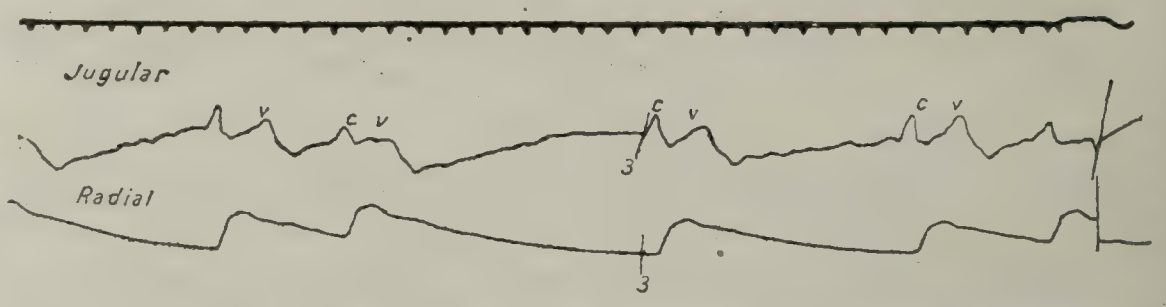


FIG. 9.—Tracing of the jugular and radial pulses from the same patient as Fig. 8 after digitalis Auricular fibrillation is present, and the ventricular rate is 40 per minute.

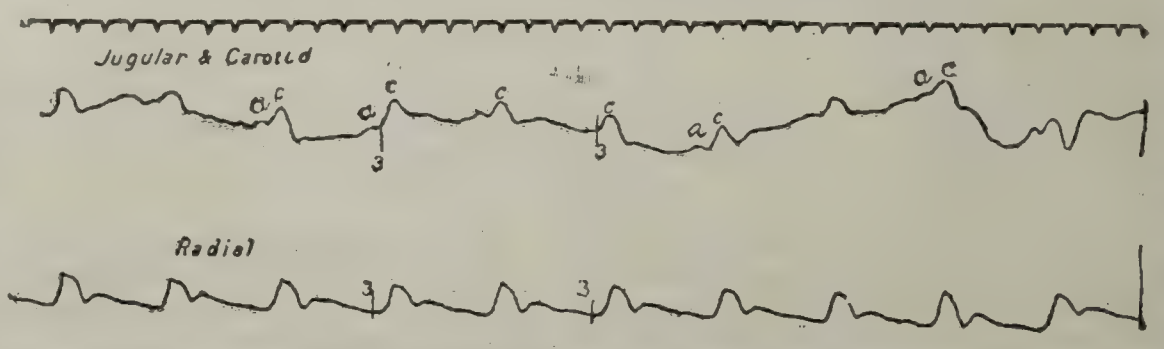


FIG. 10.—Tracings showing the normal rhythm, which varied with auricular fibrillation, as shown in Fig. 9. The heart rate is 70 per minute, and the *a–c* interval normal.

The Effect of Digitalis.

The most striking evidence of a difference in the nature of the stimulus is seen in the action of digitalis. The slowing that takes place in auricular fibrillation is much greater than can be produced in patients with a normal rhythm. Not infrequently, after a few doses, the rate would fall from 130 to 50 or 40 beats per minute. When the drug was stopped, in a few days the rate would rise again to 130.

The most dramatic evidence of the effect of digitalis is seen in certain cases of auricular flutter. In some patients with this condition digitalis speedily causes a great fall in the ventricular rate, accompanied evidently with the passage of the auricular flutter into auricular fibrillation. The record in Fig. 8 shows a pulse or ventricular rate of 140 and an auricular rate of 280. After 1 drachm of tincture of digitalis taken for five days the pulse rate fell to 40 beats per minute, as in Fig. 9, and the rhythm had altered to auricular fibrillation, as shown by the jugular pulse. On the sixth day, periods of the normal rhythm with a rate of 70 per minute (Fig. 10) varied with periods of auricular fibrillation with a ventricular rate of 40 (Fig. 9). It is manifest that the slow ventricular rate is not due to heart-block, for in the periods of the normal rhythm the stimulus was conducted at the rate of 70 per minute, while during the auricular fibrillation it was conducted at the rate of 40 per minute. Moreover, the *a–c* interval in Fig. 10 indicates a normal state of the conducting system (auriculo-ventricular node and bundle).

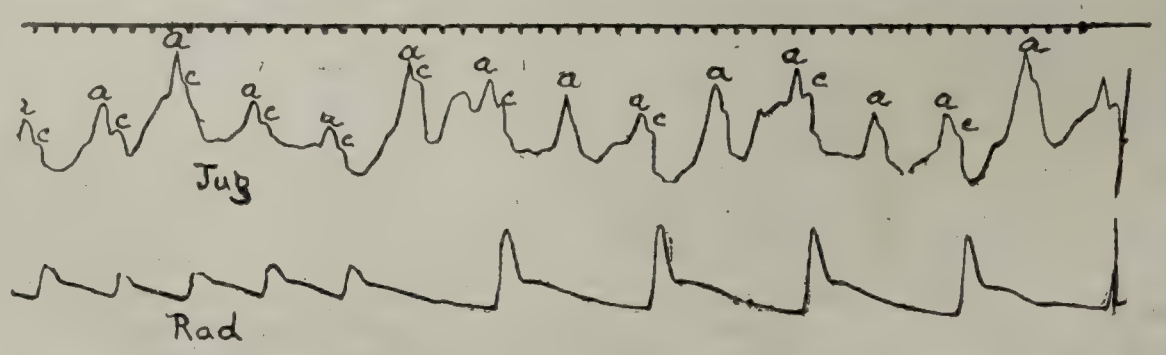


FIG. 11.—Shows the effect of digitalis on the idio-ventricular rhythm. Before digitalis the pulse was very irregular, as in Fig. 5. Digitalis caused the resumption of the normal rhythm, as in the first five beats of this tracing; the rate is halved in the latter part of the tracing, due to the occurrence of extra-systoles, which fail to affect the radial pulse. The auricular rate (waves *a*) is constant throughout. The character of the electro-cardiogram of these extra-systoles is seen in Fig. 3.

The Effect of Digitalis on the Idio-ventricular Rhythm.

The effect that digitalis has upon the idio-ventricular rhythm throws a little more light, and gives further evidence that it is probably not on the conducting system that the digitalis acts. This rhythm may be extremely sensitive to the action of digitalis, and as here the question of conduction by the auriculo-ventricular node and bundle does not arise we probably get nearer to the action of digitalis.

In a patient in whom this rhythm had been persistent for over a year digitalis had a very striking effect. He was very ill, with breathlessness and pain on exertion. Fig. 5 is a tracing typical of the radial pulse before the administration of digitalis. The response to the drug was very speedy, as after 3 drachms of the tincture the pulse became much slower and at times regular. This effect is seen in Fig. 11. At times the ventricle responds to each auricular beat, as in the first part of this tracing, while in the latter part of the tracing there is one radial beat to two auricular beats. This is due to the occurrence of ventricular extra-systoles so weak that they failed to produce a radial beat.

The digitalis was stopped, and in a few days the heart had increased in rate and resumed all the characters shown in Fig. 5, and the patient felt very poorly. The resumption of the digitalis had again the effect described, and he was told to continue the drug. Seen a year later, he was wonderfully well and had got so used to the digitalis that he could regulate the dose according to his necessity.

It is very likely that the effect of digitalis is the same in the fibrillating auricle as it is in the idio-ventricular rhythm. In both instances the auricle and ventricle have escaped from control of the conducting system, and a condition which is

susceptible to the influence of digitalis has been produced. Whether that is brought about by the direct influence of the drug modifying the stimulus or acting upon the muscle cells, or indirectly through the vagus, is not clear, but is a subject which awaits further investigation.

It is rare to get this form of idio-ventricular rhythm so persistent. In most of my cases it was transitory. In one other case I got a similar effect, but my opportunities were not sufficient for full observation. Dr. John Parkinson tells me that in one of his cases where this rhythm was persistent digitalis, though given in full doses, was without effect.

The Output of the Ventricle in Partial Heart-Block.

Further evidence of the difference between the two kinds of stimuli is found in what happens in partial heart-block. Here the bundle is damaged, so that the fibres are reduced in number, and the stimulus has a difficulty in passing from auricle to ventricle. However extreme the damage may be, and however weak the stimulus which manages to get through, the resultant contraction of the ventricle is always full and complete. In Fig. 12, where there is, as a rule, but one contraction of the ventricle to two contractions of the auricle, the radial beat is large and effective. In one instance the stimulus of the second auricular beat after some difficulty (as shown by the wide *a–c* interval) did get through to the ventricle, and here an efficient beat follows.

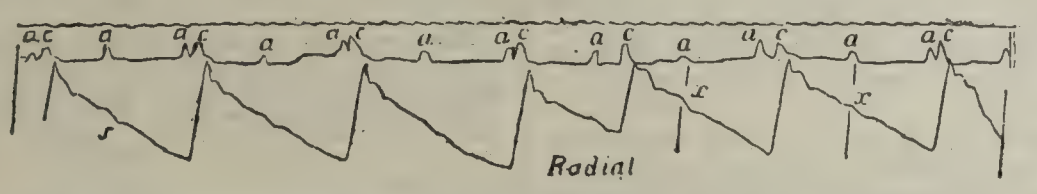


FIG. 12.—Simultaneous tracings of the movements in the neck (*a*, *c*) and of the radial pulse. There are two auricular waves (*a*) to one carotid (*c*) and radial beat, except in one instance where two successive *a* waves are followed by two *c* waves, and the distance between *a* and *c* is much increased in the last of these two beats. In this case the impulse from the auricle is hindered in passing to the ventricle, so that only the impulse from every second beat of the auricle reaches the ventricle except in one instance when the passage of the stimulus is delayed, as shown by the wide *a–c* interval. It is to be noted that the resulting radial beat is large and full, as compared with the radial beats in auricular fibrillation in Fig. 7.

The inference from these facts is that a stimulus weakened in passing through the conducting system, on reaching the ventricle, gives rise to an effective ventricular systole, in contrast to the stimulus arising in the contracting system, as in auricular fibrillation, where the stimulus may not provoke a full systole.

The Different Origins of the Stimuli.

The normal stimulus which arises in the sino-auricular node and passes by the auriculo-ventricular node and bundle to the ventricle is a stimulus of a peculiar kind which arises in cells evolved for this particular purpose. The stimulus which arises in auricular fibrillation is produced by cells which were not evolved for this purpose, the stimulus being merely incidental to the contraction of the muscle cells. It is not likely that the same character of stimulus would be produced by cells evolved for the special purpose and by cells evolved for a totally different purpose.

The stimulus which arises in the conducting system apart from the sino-auricular node—that is, in the auricle and auriculo-ventricular node and bundle—is of the same quality as that which arises in the sino-auricular node. We can therefore recognize two kinds of stimuli: (1) a stimulus A, which arises in the conducting system, and (2) a stimulus B, which arises in the contracting system.

Is the Difference in the Stimuli one of Quality or one of Strength?

Although it may seem that the difference between the two kinds of stimuli is one of strength, yet there are certain reasons which suggest that the difference is one of quality. We have seen, for instance, the peculiar effect of the stimulus on the contraction of the ventricle in auricular fibrillation. This peculiarity is more likely to be due to the quality of the stimulus than to its strength, for the presumably weak stimulus which reaches the ventricle in partial heart-block gives rise to an effective ventricular systole.

The suggestion that the quality of the stimulus is different when it arises in the Purkinje fibres in the ventricle from that when it arises in the muscle cells of the ventricle may account for some curious differences in other abnormal rhythms, as in auricular flutter, extra-systoles, and the idio-ventricular rhythm.

This presentation of the subject is of very real importance for the practice of medicine. The pulse rate and the character of the pulse are among the most instructive signs the doctor uses in estimating a patient's condition. The nature of pulse variations, even with the normal rhythm, is still imperfectly understood, and, as a consequence, only a small part of the information which they are capable of yielding is available. In the foregoing description some light is thrown upon the variations in rate and character which are due to abnormal rhythms, and we get a little nearer to understanding the action of digitalis, in that a factor hitherto unsuspected has been revealed. This aspect of the subject raises other questions, such as the nature of the stimulus in other abnormal rhythms—auricular flutter, the extra-systole, the idio-ventricular rhythm, etc. It also involves the question of stimulus conduction by nerves and the Purkinje cells. Can they convey and propagate from cell to cell stimuli of different qualities? The muscle cell to muscle cell stimulation in auricular fibrillation raises the question whether such intercellular stimulation occurs in other organs.

Summary of the Difference in the Heart's Contraction arising in the Conducting and Contracting Systems.

1. The stimulus for the normal rhythm of the heart arises in tissues specially evolved for the purpose. The stimulus in auricular fibrillation arises in tissue specially evolved for contraction, the stimulus production being merely an incident in the contraction.

2. There is a remarkable difference between the rhythms which arise in the conducting and contracting systems of the heart, due to the difference in the stimuli. These differences are shown especially in the response of the ventricle. The ventricular systole in the normal rhythm, as well as in those rhythms arising in any part of the conducting system, is complete and effective.

3. The ventricular systole, when the stimulus arises in the muscle cells of the auricle, is often partial and ineffective, and when it arises in the muscle cells of the ventricle it is always ineffective.

4. When the contraction starts in the muscle cells of the auricle, as in auricular fibrillation, the stimulus which arises is much more sensitive to agents which favour or retard its passage to the ventricle.

5. The effect of digitalis is strikingly different, it having a far greater effect on auricular fibrillation and flutter and on the idio-ventricular rhythm than on any rhythm arising in the conducting system.

REFERENCES.

[1] BRITISH MEDICAL JOURNAL, March and April, 1905. [2] Gibson, A. G.: On the Primitive Muscle Tissue of the Human Heart, BRITISH MEDICAL JOURNAL, 1909, Vol. i, p. 149. [3] Holmes, A. Hillyard: The Auriculo-Ventricular Bundle in Mammals, *Journal of Anatomy*, Vol. 55, pt. 4, p. 269.

THE VALUE OF THE COMPLEMENT FIXATION TEST IN THE EXCLUSION OF ACTIVE PULMONARY TUBERCULOSIS.

BY

A. LISLE PUNCH, M.B.LOND., M.R.C.P.LOND.,

ASSISTANT PHYSICIAN, BROMPTON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST; PHYSICIAN TO OUT-PATIENTS, ROYAL NORTHERN HOSPITAL;

AND

A. HOPE GOSSE, M.D.CANTAB., M.R.C.P.LOND.,

PHYSICIAN, BROMPTON HOSPITAL; PHYSICIAN TO OUT-PATIENTS, ST. MARY'S HOSPITAL.

A METHOD of performing the complement fixation test as a means of diagnosis in pulmonary tuberculosis has been published [1] by one of us (A. L. P.). By this method a positive result has been obtained in at least 98 per cent. of cases of definite pulmonary tuberculosis, while 140 cases selected as non-tuberculous controls gave a negative result in 137.

In all, the test has been performed in approximately 1,100 pulmonary cases or controls. Of these some 260 were definite cases of pulmonary tuberculosis, the criterion of a definite case being the undoubted presence of tubercle bacilli in the sputum. All save five of these gave a positive result. Of the five which gave a negative result three subsequently gave a positive. We do not propose here to enter into a discussion

of the possible explanation of these negative results, but we may mention in passing that we have formed the opinion that a negative result may occasionally be obtained in very acute cases of pulmonary tuberculosis due to the shortness of the interval between the invasion of the body by the tubercle bacillus and the onset of symptoms. Except in these rare cases the results of the test would suggest that a positive reaction is obtained by the time the infection gives rise to symptoms.

Some 140 presumably healthy people or patients suffering from non-tuberculous diseases were taken as negative controls. Three gave a positive result. These three cases have been considered in a previous publication. It is sufficient to mention here that in one definite evidence of enlarged, presumably tuberculous, glands in the neck was subsequently discovered; in another, on more careful examination, it was impossible definitely to exclude a tuberculous lesion in the lungs; while in the third no evidence of tuberculosis could be discovered. Of the remaining 700 cases some 220 gave a positive result and some 480 gave a negative. These were doubtful cases clinically, so that no definite conclusion could be drawn from them. All that could be said at the time without later investigation was that there seemed to be a reasonable correspondence between the clinical condition on the one hand and the negative or positive result on the other.

In many of the cases which gave a positive result the accuracy of the test has been proved by the finding at a later date of tubercle bacilli for the first time in the sputum, but it is not our intention to deal in this paper with the complement fixation positive cases.

The proof that cases giving a negative result are free from active pulmonary tuberculosis is a more difficult matter. It is only by the lapse of time that the practical proof of this contention can be firmly established.

It would be a very difficult matter to follow up all 480 of these cases, nor is it necessary in order to estimate the value of the test to attempt it. What is true of 50 unselected cases can be taken as approximately true of 500. Some 250 of these negative cases were at the time examined clinically by one or the other of us. Many of them have been examined by us at a later date. We only know of two cases of our own in which the test proved to be unreliable by the finding at a later date of tubercle bacilli in the sputum. Of the remaining 220 cases under our colleagues or other medical men, we know of three in which the test proved to be wrong by the finding of tubercle bacilli in the sputum. These three cases, with the two just mentioned, are the five cases referred to above. One was Sir John Broadbent's case and two were Professor Langmead's cases. If there are any other cases amongst these 480 in which the test has been proved to be unreliable by the finding of tubercle bacilli in the sputum we are unaware of them; and we may mention that we have been able to follow their course in a large number. We exclude a series of 50 cases which have been dealt with fully in a previous publication.[2]

The ultimate practical proof of the entire freedom from active pulmonary tuberculosis is the lapse of time, and we have taken an unselected series of fifty of our own cases in which the test was performed in 1920 with a negative result, and where possible repeated it from ten to twenty months later. A similar result was obtained in all except one. These cases were all patients at the Brompton Hospital in whom for various reasons pulmonary tuberculosis had been suspected. As the result of the first test we formed the opinion, and acted on it, that there was no active pulmonary tuberculosis. When the test was repeated from ten to twenty months later the greatest care was taken to have all bloods numbered by a third person, and included in series with known tuberculous bloods and unknown bloods, and the clinical condition handed to him. Thus if there should have been any doubt as to unconscious bias in the reading at the first test the numbering of the bloods at the second and the similar results amply prove the absence of bias at either.

Notes of Cases.

The clinical notes, taken before the tests were done, have been extracted, and as given below must serve as the evidence that we were dealing, in all the twenty cases,* with suspicious cases of pulmonary tuberculosis.

No. 1.—E. D. Haemoptysis, a teaspoonful on several occasions in previous three months. Loss of weight; weight 6 st. 2 lb. Sputum negative. Complement fixation test negative on May 31st, 1920. *Re-examination:* Feels better; slight cough and sputum; no crepitations; weight 7 st. No haemoptysis lately. Complement fixation test negative on April 22nd, 1921.

No. 2.—J. F. Complains of cough, sputum, night sweats; no crepitations; weight 9 st. 10 lb. Sputum said to have been positive once in 1919; negative since. Complement fixation test negative on June 4th, 1920. *Re-examination:* "Feeling fine." No cough, no sputum, no night sweats, no haemoptysis; no crepitations; weight 9 st. 10 lb. Complement fixation test negative on April 30th, 1921.

No. 3.—T. Haemoptysis streaks three weeks before; cough, sputum, and slight night sweats. Sputum three times negative. Dullness and crepitations at right base. Complement fixation test negative on June 16th, 1920. *Re-examination:* Cough, sputum, and dyspnoea, especially on exertion. Signs as before. Sputum negative. Diagnosis, fibrosis of right lung. Complement fixation test negative on May 6th, 1921.

No. 4.—I. B. Sent up for diagnosis. Pulmonary tuberculosis suspected. Pain in right chest; wasting. Pleurisy in February, 1920. No crepitations. Complement fixation test negative on June 18th, 1920. *Re-examination:* Feels quite fit; no symptoms. Complement fixation test negative on May 26th, 1921.

No. 5.—R. G. Cough; sputum copious; dyspnoea. Temperature 100.4°. Weight 9 st. 8 lb. Physical signs of cavity at right apex. Sputum repeatedly negative. Complement fixation test negative on June 18th, 1920. *Re examination:* Symptoms and signs as before; weight 10 st. 2 lb. Sputum still negative. Diagnosis, apical bronchiectasis. Complement fixation test negative on May 20th, 1921.

No. 6.—R. Cough; pain in right chest; pleurisy right base. Father, sister, and brother all stated to have died of pulmonary tuberculosis in previous three years. No sputum available. Complement fixation test negative on June 2nd, 1920. *Re-examination:* No symptoms now; no crepitations. Complement fixation test negative on April 30th, 1921.

No. 7.—W. O. E. Haemoptysis half a pint in November, 1919. Cough; loss of weight. Been to a sanatorium. Colour in sputum fortnight before. No crepitations. Sputum negative. Weight 8 st. 8 lb. Complement fixation test negative on June 14th, 1920. *Re-examination:* Some cough and sputum; negative for tubercle bacilli. No further haemoptysis; no crepitations. Weight 8 st. 5 lb. Complement fixation test negative on May 1st, 1921.

No. 8.—J. J. T. Cough; pain in left chest. In military hospital 1916. "T.B. lung." Weight 9 st. 1 lb. Clubbing of fingers. Physical signs of unilateral fibrosis of left lung. Complement fixation test negative on October 30th, 1920. *Re-examination:* Physical signs as before. No tubercle bacilli in sputum. Weight 9 st. Complement fixation test negative on May 4th, 1921.

No. 9.—F. F. Cough; sputum. Temperature 99.6°; night sweats. Sputum negative. No crepitations. Complement fixation test negative on June 24th, 1920. *Re-examination:* Cough and morning sputum; no crepitations. No sputum sent for examination. Diagnosis, chronic bronchitis. Complement fixation test negative on May 16th, 1921.

No. 10.—H. V. Cough; sputum; coarse râles over lungs. Weight 9 st. 1 lb. Sputum stated to have been positive once—in July, 1919. Frequent attacks of asthma. Complement fixation test negative on May 26th, 1920. *Re-examination:* Has been under treatment since for asthma only. Chest dry on examination. Weight 9 st. 6½ lb. Sputum negative. Complement fixation test negative on May 26th, 1921.

No. 11.—A. K. No cough. Patient stated she had coughed up one pint of blood a month before. Complement fixation test negative on June 29th, 1920. *Re-examination:* While an in-patient was diagnosed as gastric ulcer. No chest symptoms. Complement fixation test negative on May 28th, 1921.

No. 12.—J. H. War pensioner. Cough; slight sputum. Tubercle bacilli reported once only in sputum, December, 1919. Sputum negative since. No crepitations; weight 8 st. 7 lb. Complement fixation test negative on August 5th, 1920. *Re-examination:* Feels well; no cough; no sputum. Weight 8 st. 7 lb. Complement fixation test negative on June 1st, 1921.

No. 13.—W. E. W. Weakness; cough. Streaks of haemoptysis two years before. Coarse râles in both lungs. Weight 8 st. 13 lb. Sputum negative. Complement fixation test negative on December 1st, 1920. *Re-examination:* Cough and sputum present; no tubercle bacilli in sputum. Coarse râles in chest. Weight 9 st. 7 lb. Complement fixation test negative on June 1st, 1921, and again on November 15th, 1921.

No. 14.—E. S. Cough; sputum. Haemoptysis in streaks in past three weeks. Temperature 99.4°. No crepitations. Complement fixation test negative on July 8th, 1920. *Re-examination:* No more haemoptysis; no crepitations. Complement fixation test negative on June 2nd, 1921.

No. 15.—E. B. Cough; sputum. Haemoptysis (slight) three weeks before. Temperature 99°; pulse 104. No crepitations. The complement fixation test was negative on August 19th, 1920. *Re-examination:* Patient replied fourteen months later: "I am glad to say I am keeping in the best of health, and have done so for a long time past now; had I felt in any way bad I should have come up before."

* The authors originally forwarded fifty cases, reported as those here printed. At our request they have consented, in order to save space, to the reproduction of the first twenty only. The reports of all the fifty cases presented a great similarity, and the twenty here given are a fair sample.

No. 16.—L., aged 20. Pain in chest; cough. Temperature 101° each night for three weeks. Signs of pleural effusion; confirmed by exploratory needle. Complement fixation test negative on November 2nd, 1920. *Post-mortem* examination six weeks after above test showed malignant growth in left lung and effusion into pleural cavity. Primary growth in ovary.

No. 17.—G. H., war pensioner. Cough; sputum; pain in chest. Stated he coughed up four pints of blood in April, 1920. Weight 8 st. 3 lb. Sputum negative. No crepitations. Complement fixation test negative on December 1st, 1920. *Re-examination:* Pain in abdomen after food. No crepitations. Weight 8 st. 4 lb. Sputum negative. Complement fixation test negative on October 5th, 1921.

No. 18.—S. Cough; sputum; pain in back. Debility six months. Sputum negative four times. No crepitations. Complement fixation test negative on July 14th, 1920. *Re-examination:* No fresh symptoms. Has been at work since last seen. Complement fixation test weakly positive on June 4th, 1921. Examination of sputum seven months later positive. Brother died of pulmonary tuberculosis in October, 1921. Contact. Complement fixation test strongly positive on February 11th, 1922.

No. 19.—E. W. Cough; sputum. Haemoptysis (streaks) in May, 1920. Loss of weight; feels ill. Temperature 99.6°. Weight 8 st. 5 lb. Sputum negative. Complement fixation test negative on September 27th, 1920. *Re-examination:* Feels well; no cough. Weight 8 st. 5 lb. Temperature 98°. No crepitations. Complement fixation test negative on November 8th, 1921.

No. 20.—T. P. Cough; sputum; dyspnoea. Weight 8 st. 4 lb. No crepitations. Sputum negative. Complement fixation test negative on September 24th, 1920. *Re-examination:* Feels better; still has dyspnoea. Weight 9 st. 3 lb. No crepitations. Complement fixation test negative on April 22nd, 1921.

Comments.

A study of the above cases will show that the clinical condition at the time of the first test justified a strong suspicion of pulmonary tuberculosis. In all of them some combination of cough, sputum, fatigue, loss of weight, pyrexia, haemoptysis, and pain in the chest was present—in fact all the common symptoms of pulmonary tuberculosis. The frequency of haemoptysis is a striking feature.

A study of the re-examination notes will show an absence of any further evidence of the disease some ten to twenty months later. The too frequent absence of sputum reports when the patients were re-examined is due to the absence of any sputum. In no case did apical crepitations appear at the later examination, and almost all cases were examined by post-graduates as well as the writers. No. 18 had a weak positive complement fixation test at the re-examination, and the sputum was found positive seven months after the positive complement fixation test; but he had been a "contact" till four months after the second test was taken when his brother died, so the infection may have occurred between the first and second tests. Many patients had regained their normal health, some had improved, and others were unchanged. Two of the fifty cases died, and *post-mortem* examinations showed malignant growths of the lung or pleura as the cause of death. After the lapse of ten to twenty months or even longer forty-nine had not developed any definite evidence of pulmonary tuberculosis, nor, with a few exceptions, were they even under treatment.

It is the absence of the development of any more definite evidence of tuberculous infection in all but one of these suspicious cases in the course of ten to twenty months afterwards that would appear to us to offer striking evidence in favour of the accuracy of the test and to demonstrate its value in the exclusion of active pulmonary tuberculosis.

We wish to thank the Lady Almoner of the Brompton Hospital for her valuable help in tracing the patients.

The laboratory work has been done in the Institute of Pathology and Research, St. Mary's Hospital, under a grant from the Medical Research Council.

REFERENCES.

[1] Punch, A. Lisle, *Lancet*, vol. ii, 1920, p. 647. [2] Ibid., vol. ii, 1921, p. 497.

AT a meeting of the Manchester Pathological Society on February 8th, with Mr. Howson Ray in the chair, Dr. J. A. Murray, Director of the Cancer Research Fund, demonstrated the pathological anatomy of experimentally induced squamous carcinomata of the skin of the mouse following repeated and long-continued application of coal tar. Lantern slides were shown illustrating the growth of the tumours, their metastases and dissemination, and the invasion of the subjacent tissues. Reference was made to the application of autoplastic implantation of tumour fragments to bring out the powers of growth of the altered epithelium when removed from the direct irritating influence of the tar and of bacterial infection. By this method of artificial metastasis it was possible to demonstrate the malignancy of growths at a very early period. The relative advantages were discussed of other successful methods of inducing cancerous changes.

EVIDENCE OF PANCREATIC DISORDER IN RICKETS.*

BY

E. C. DODDS, M.R.C.S., L.R.C.P.,

CHEMICAL PATHOLOGIST AND LECTURER IN BIOCHEMISTRY, MIDDLESEX HOSPITAL; PATHOLOGIST TO THE ROYAL NATIONAL ORTHOPAEDIC HOSPITAL.

(From the Bland-Sutton Institute of Pathology.)

MANY observers have been working on the factors concerned in the production of rickets, and recently special prominence has been given to the view that the problem is intimately bound up with the question of diet, more especially with the amount and quality of the fats. It is urged also that carbohydrates play an important part, but as to the explanation of these two facts there is still considerable difference of opinion.

The well-known vitamin deficiency theory ascribes the production of rickets to a lack of the vitamin A, which is fat-soluble; but with regard to the carbohydrate part of the problem, no observer seems to have given a satisfactory explanation. In this communication the importance of both fats and carbohydrates is taken into account, but the conclusions to be drawn from the investigations made point in a different direction. As a result of the examination of cases of acute rickets in children, distinct evidence was found of pancreatic disorder, as determined by an increase (1) in urinary diastase, and (2) in faecal fat content.

1. *The Diastatic Power of the Urine.*

By means of its diastatic enzyme normal urine is able to hydrolyse starch solution to a mixture of products which give no colour with iodine solution. Wohlgemuth expressed this property of urine quantitatively by means of "units," the number of units of diastase being given by the number of cubic centimetres of 0.1 per cent. starch solution digested by 1 c.cm. of urine.

Method.

The usual method is to put up a series of test tubes, each being filled as follows:

Test tubes:	1.	2.	3.	4. - - - - - 12.
Starch 0.1%	2 c.cm.	2 c.cm.	2 c.cm.	2 c.cm. - - - 2 c.cm.
Urine	0.3 c.cm.	0.2 c.cm.	0.1 c.cm.	0.09 c.cm. - - 0.01 c.cm.
Saline... ...	0.7 c.cm.	0.8 c.cm.	0.9 c.cm.	1 c.cm. - - - 1 c.cm.

The starch solution is put in first, then the urine, and the saline is run in last, in order to wash the first two down to the bottom of the tube.

The tubes are incubated in a water bath at 37° C. for half an hour, are then cooled under tap water, and enough N/50 iodine solution to produce a permanent colour is added to each tube. The tube immediately preceding one with a mauve tint is taken as that in which the 2 c.cm. of starch solution is just digested by the urine. Suppose 0.1 c.cm. of urine digests 2 c.cm. of starch solution, then 1 c.cm. of urine would digest 20 c.cm. of starch solution—that is, there would be 20 units of diastase present.

Towards the end of this series of diastase reactions, I modified the original method so as to take into account the hydrogen-ion concentration of the urine. The diastatic enzyme works best at a hydrogen-ion concentration of P_H 6.1 (Michaelis),[1] and since the P_H of the urine varies normally between P_H 4.5 to P_H 7 it is obvious that unless the reaction of the urine is P_H 6.1, the diastatic power will be decreased. The newer technique is to bring the urine's hydrogen-ion concentration to approximately P_H 6.1 by diluting it with a buffer solution of phosphates and then determining the diastase as in the ordinary method. A description of this method will be given elsewhere, but it should be pointed out that it can only increase a low reading of the ordinary method, and can never decrease it.

The normal number of diastatic units in urine lies between 6 and 30. Any increase is said to indicate pancreatitis, with the possible exception of cases of eclampsia, in which the diastatic power is said to be high.

In Table I are given the figures from a series of cases of acute rickets; all are high enough to warrant a diagnosis of pancreatitis. The mean of 17 cases is 154 diastatic units.

These results were controlled by the examination of a series of normal children of about the same age as the rickety cases; as will be seen from Table III, the results were all low. As some observers maintain that there is a general infection in rickets, series of septic cases showing no rickets, and with and without fever, were examined (Table III). It was also thought advisable to make control observations on a series of cases where there was bone erosion (Table III).

* A report to the Medical Research Council.

All these cases gave low results. The diastase was found to be higher than normal in three cases of acute osteomyelitis —namely, 66, 50, 66 units—but this was very much below the mean of the rickety cases, which was 154. Convalescent cases of rickets, as will be seen from Table II, did not show this high diastatic power. They gave an average of 14.5 units.

TABLE I.—*Acute Rickets (17 Cases).*

Age.	Sex.	Diastase.	Fat in Faeces per Cent.	Age.	Sex.	Diastase.	Fat in Faeces per Cent.
2	M	100	65	2	F	150	78
3	M	200	80	4½	F	70	50
3	M	200	89	2	M	200	90
9/12	F	200	90	9/12	F	150	79
1	M	100	70	1	M	100	89
2	M	150	80	1½	F	100	60
2½	M	200	60	2	M	200	65
4	F	150	70	4	M	150	78
3	M	200	80				

Total diastatic units ... ... 2620. Mean ... 154.
Total fat in faeces per cent. ... 1273. Mean ... 75.

TABLE II.—*Rickets, Subacute or after Treatment (8 Cases).*

Diastase.	Fat in Faeces per Cent.	Remarks.
10	20	No. 1 in Table I, six months after.
25	25	No. 2 in Table I, six months after.
33	56	No. 3 in Table I, three months after.
7	25	No. 4 in Table I, two months after.
7	20	No. 5 in Table I, two months after.
7	28	No. 7 in Table I, twelve months after.
22	38	After six months' treatment.
20	30	After three months' treatment.

TABLE III.—*Controls for Diastase and Fat in Faeces.*

Condition of Cases.	No of Cases Investigated.	Average Diastase.	Average Fat in Faeces per Cent.
Normal children	10	16	20
Septic cases, with no fever ...	6	20	22
Septic cases, with fever	7	13	—
Bone erosion, mainly new growth involving bone	9	10	—

2. *The Fat Content of the Faeces.*

Normal dry faeces contain 25 per cent. of fat by weight at a maximum. Any increase above this is usually regarded as pathological. If the increase consists mainly of unsplit fats it is assumed that the pancreatic lipase is at fault, and pancreatitis is suspected. It is, of course, essential that there be no great increase in the fat diet, otherwise the high faecal fat content might be explained by a simple passage through the intestines of an excess of fat in the diet.

The rickety cases investigated were on ordinary diet, and the faeces were collected and dried very carefully. The fat content was then estimated by means of the Schmidt-Werner process. Table I shows that in all the faeces obtained from cases of acute rickets the fat content was greatly increased—a mean of 75 per cent. against the normal of 25 per cent.

Controls.—This result was controlled by examining a series of non-rickety children of about the same age and on the same diet; it will be seen from Table III that all the readings were low—an average of 20 per cent. As in the case of the diastase reactions, convalescent cases did not show this high faecal fat content (Table II).

3. *Acidosis in Rickets.*

The urine of 10 cases of acute rickets was examined for acetone bodies, and it was found that 9 cases gave quite a strongly positive Rothera's test. The other case only gave a very faint pink colour. Of the 9 cases, 6 gave a very faint ferric chloride test for aceto-acetic acid, but both the Rothera and ferric chloride tests became negative after a few weeks of treatment.

In a recent article Dr. Amy Hodgson[2] reported the results of a detailed analysis of the urine of 13 children with active rickets; she found marked evidence of an acidosis, as determined by the ammonia ratio—that is:

$$\frac{NH_3 \text{ per cent.}}{N_2 \text{ per cent.}}$$

The mean of her 13 cases was 14.3 per cent., as compared with 6.2 per cent. for a series of normal healthy children.

Without entering into a discussion of the exact pathology of the acidosis frequently found in children, it seems clear from these observations that rickets must be added to the list of diseases in which it occurs.

Consideration of Results.

The results obtained—namely, a high diastatic power of the urine and a high faecal fat content—suggest a diagnosis of a pancreatic lesion. The large amount of unsplit fat in the faeces shows that it must be associated with reduced secretion of pancreatic juice. Exactly what bearing these facts have upon the pathology of rickets it is difficult at first sight to say.

It has been taught for some long time past that the fatty acids, when liberated from the neutral fats by the action of the pancreatic lipase, form soaps with the metallic bases, especially with calcium; the resulting calcium soap, being soluble in bile, is absorbed. If this is the most important mode of calcium absorption, the importance of inadequate pancreatic secretion at once becomes obvious, because there would be poor fat digestion and, consequently, poor production of fatty acids. This would lead to deficient calcium absorption, and therefore to calcium starvation, which has been stated to occur in rickets.

This theory is being tested by noticing the effect of fatty acids on calcium absorption, both in rickety and in normal children. The experiments are in too early a stage yet to warrant a definite statement being made. Since there is a deficiency of pancreatic secretion a new line of treatment suggests itself—namely, that of giving a pancreatic extract which contains lipase. A number of cases are now being treated with this extract in the hopes that it will digest fats in the intestine, and thereby give an adequate amount of free fatty acids for the absorption of calcium.

It is interesting to note that in Germany cases have been treated with calcium soaps of fatty acids.[3] The scientific basis of this mode of treatment was not stated, but the views put forward in this paper seem to offer an explanation.

It is quite likely that this pancreatic lesion is the result of an intoxication, probably bacterial in origin. Investigations are now in progress to determine, if possible, the source of the intoxication and infection.

In conclusion, I have to express my thanks for much very valuable advice and criticism from Professor McIntosh and Dr. E. L. Kennaway, and also to acknowledge the kindness of the surgeons of the Royal National Orthopaedic Hospital for allowing me to investigate their cases.

Summary.

1. The diastatic power of the urine is greatly increased in rickets, the mean of 17 cases being 154.

2. The diastatic power falls to normal during convalescence.

3. The fat in the faeces is increased in rickets, the mean being 75 per cent., as compared with 20 per cent. for a series of non-rickety children.

4. From the above observations it is suggested that there is a pancreatic lesion in rickets, and a possible explanation of its bearing on the disease is given—namely, that there is a poor production of fatty acids, and consequently a poor absorption of calcium.

5. Attention is called to the acidosis of rickets.

6. In consideration of the above results cases of rickets are being treated with pancreatic extract containing lipase.

REFERENCES.

[1] Michaelis and Pechstein: Die Werkungsbedingungen der Speicheldiastase, *Biochem. Zeitschrift*, 59, 1914. [2] Amy Hodgson: Vitamin Deficiency and Factors in Metabolism, *Lancet*, 1921, ii, 945. [3] W. Stroeltzner: Zur Behandlung der Rachitis mit Lebutran, *Med. Woch.*, 1921, 68, 272-4.

SOME OBSERVATIONS ON POST-ANAESTHETIC COMPLICATIONS.*

BY

G. F. R. SMITH, M.B., B.S.LOND., M.D.LIVER.,

HONORARY ANAESTHETIST TO THE ROYAL INFIRMARY, LIVERPOOL, ETC.

OBSERVATIONS have been made upon 571 cases of general anaesthesia, drawn from the Hospital for Women and the Royal Infirmary, Liverpool, attention being particularly focussed on three common post-operative complications—namely, chest trouble, flatulence, and vomiting. In the series there have been four deaths—one from operative shock, one from bronchopneumonia, one from acidosis, and one, which occurred on the fifth day after a laparotomy for inoperable carcinoma, may be laid to the door of both surgeon and anaesthetist, as there were some symptoms of acid intoxication.

Among the gynaecological cases there were 221 major abdominal and 220 minor vaginal operations. Warm ether, with where necessary a small addition of chloroform, was given to the former, and open ether to the latter. The chest complications for both classes of case amounted to 22—that is, 4.5 per cent.; serious trouble, such as bronchitis and bronchopneumonia (including the death already mentioned), occurred five times—1.1 per cent.; the remainder, coughs without physical signs, soon cleared up when a mixture containing calcium chloride and liquor atropinae was given. The major operations showed a morbidity of 7.5 per cent., and the minor of 2.2 per cent. I think it will be admitted that 1.1 per cent. of serious pulmonary disease after operation is low, and it may be attributed to the use of warmed ether vapour, as prior to its introduction at the Hospital for Women lung complications were considerably more frequent. It does not, however, entirely prevent the likelihood of bronchitis if given to a patient already suffering from a "cold," and where there is any acute catarrh of the respiratory tract a general anaesthetic, except for emergencies, is contraindicated, though I would add that in such cases chloroform is justifiable.

The usually accepted causes of ether bronchitis, such as septic mouths, draughts, chills from sweating, etc., are guarded against as much as possible, and all masks, gauze, and face pads are sterilized at the Hospital for Women, so it is difficult to account for this 4.5 per cent., but in 11 out of the 22 cases the following possible factors were noted: pre-operative cough, some cyanosis during part of the operation, prolonged operation, the patient required more than the usual amount of ether, light anaesthesia, and pulling on the peritoneum.

To illustrate the possibility of prophylaxis I would mention the case of a very stout woman, aged 36, who, after an operation for removal of both appendages, had considerable bronchitis for a week; two months later it was found necessary to perform a total hysterectomy, but after three days' preoperative treatment with the mixture already mentioned she recovered from the anaesthetic with neither cough nor vomiting. A further practical point is that when morphine is used along with atropine, 1/150 grain of the latter is sufficient to prevent salivation, and does not cause the irritating dryness of the mouth so frequently complained of after 1/100 grain.

Flatulence occurred twenty-four times in the series, which gives a percentage of 5.4, but here it must be noted than an important alteration in the treatment prior to operation took place during the observations. To the first 266 cases 1 oz. of castor oil was given thirty-six hours before, an enema eight hours before, 1/4 grain morphine and 1/100 grain of atropine one hour before, and a very light liquid diet on the day preceding operation. Here the percentage of flatulence was 6. The following 175 cases were given castor oil as before, but the enema was omitted except for those requiring perineal repair, the dose of morphine was lessened to 1 6 grain, and a more generous diet allowed—ordinary food the previous day, and a breakfast of tea and toast, followed by 1 oz. of syrup of glucose one hour before operation. Under this régime flatulence occurred in 4.5 per cent. only. It should, however, be added that the ward sister, without whose most intelligent co-operation this note could not have been written, considers the improvement in this respect to have been greater than is shown by the figures, and her opinion is corroborated by a sister at the Royal Infirmary, whose experience after a similar change in preparation is that "the patients are much less distended and uncomfortable."

Vomiting, the commonest and most distressing complication we have to deal with, was met with 91 times in 441 cases, major operations showing 27.6 per cent. and minor operations 12.7 per cent., the percentage in all cases being 20.1. These figures include all grades of vomiting, and require modification; 350 women were not sick at all, which I must confess surprised me; of the remainder, 52 (11.7 per cent.) only brought up a little mucus once or twice directly after return to the ward, 17 (3.8 per cent.) vomited several times, but were comfortable within six hours of the operation, and 32 (7.2 per cent.) continued to vomit for periods varying from ten hours to three days. Here the change in preparation caused disappointment, as the total vomiting percentage increased from 17.2 to 25.1 instead of showing the decrease which had been hoped for. There is, however, one scrap of comfort in that the increase occurred in the slight and moderate forms of sickness; the severe class showed a decrease from 6 to 3.4 per cent.

There is not time to analyse completely the 130 cases on which notes have been taken at the Royal Infirmary, but a comparison may be made, as both "open" and "close" methods of anaesthetization were in use. Where ether was given on an open mask vomiting took place in 51.2 per cent. of cases; in 5 per cent. it was of a serious nature; Ormsby's inhaler, on the other hand, only produced 32 per cent., but in 10 per cent. the sickness continued for more than six hours. This is contrary to the generally accepted belief that "open ether" causes less vomiting than "close," but it bears out the opinion of many anaesthetists that in the hands of an expert the despised bag has much to commend it.

Whether the increased percentage at the Royal Infirmary, where the figures are more than double those at the Hospital for Women (43.8 per cent. compared with 20.1 per cent.), is accounted for by the fact that at the former an enema is given and no aperient, or that the anaesthetics are largely given by the students, I am not prepared to say, but the difference is rather striking.

The morbidity rates disclosed by this series of observations are, it must be confessed, disappointing, but they are brought forward with the idea of interesting others enough to find some alteration of technique which will eliminate these three common sources of trouble and further improve what may be called the handmaiden of surgery.

May I close by expressing my thanks to Dr. Gemmell and Messrs. Bickersteth and Jeans, from whose clinics these few facts have been extracted.

* Read at the Liverpool Medical Institution on October 27th, 1921.

THE DIAGNOSTIC VALUE OF THE PLANTAR EXTENSOR RESPONSE.

BY

E. L. FOX, M.D., M.R.C.P.,

PHYSICIAN TO THE SOUTH DEVON HOSPITAL.

FROM the time when this sign was first described by Babinski we have been taught and have reverently bowed the knee to its organic significance. From time to time some diffident suggestions have appeared that possibly it might be liable to variation, but I have never seen any definite statement impugning its reliability. I know the difficulty of sometimes obtaining it, especially if the foot is cold, but that its variability may be great at different times in the same patient I certainly had not seen before.

I have under my care, in the South Devon Hospital, a marine who was sent in by the pension authorities. He was first admitted in December, 1919, with a provisional diagnosis of spinal tumour.

He had over eighteen years' continuous service, with no history of any previous illness. His war service extended for nearly three years, with four months' service ashore at the Cameroons. He complained chiefly of intense pain in the back, with extreme rigidity of his legs which quite prevented him from walking. At night he frequently had "war dreams," in which he cried out and disturbed the ward.

The rigidity was very marked, and I could only flex his knees with the greatest difficulty. The patellar reflexes were very active; ankle clonus was present on both sides; the plantar response was always readily obtained, and was consistently extensor in type. He had anaesthesia extending equally and completely over both legs, but above that sensation

was normal. He seemed to me to correspond fairly well with the cases of astasia one met with during the war.

He gradually recovered, and was discharged in June, 1920, for treatment and training at a convalescent camp. There he remained until one day he had a fall, when all his old symptoms reappeared, and in March, 1921, he was readmitted to the South Devon Hospital. His condition then was by no means so severe as when first seen. The rigidity, however, was still extreme, ankle clonus just as readily obtained, and the extensor response the same as before.

His recovery this time was very slow, and he has only just reached a condition in which he is nearly ready to resume training.

The extensor response for a long time never varied, then as the rigidity of the legs decreased it also became less marked; then it would be present on one side and not on the other; then it would be absent on both sides in the morning, returning if he was tired in the evening.

Treatment has not availed him much. Electricity in all forms failed to help him. Hot-air baths certainly seemed to benefit him, as the rigidity was less after them, and his recovery has been more rapid since they were started.

His war history was not beset with any startling incidents; the only event which has probably had some bearing on his disorder was that once whilst coaling at sea a friend of his had both legs badly crushed.

Meanwhile the man has been discharged by the pension authorities as suffering from disseminated sclerosis, which was neither caused nor aggravated by war service, and I feel that this has been brought about because at one time the plantar reflex could always be obtained, and was consistently extensor in type.

ENCEPHALITIS LETHARGICA AFFECTING THE NUCLEI OF THE MID-BRAIN IN AN UNUSUAL MANNER.

BY

WILLIAM CALWELL, M.D.,

PHYSICIAN TO THE ROYAL VICTORIA HOSPITAL, BELFAST.

THE following case is of interest, for though the symptoms were obscure it seems probable that the acute illness in June was an attack of encephalitis lethargica.

A married woman, aged 54, under the care of Dr. McDowell, Belfast, had been healthy and had a healthy family. About the end of June, 1921, she had an acute illness, of which the chief symptoms were vomiting, dirty tongue, etc. This condition lasted a fortnight, and at first no nerve signs were evident. She became weak, giddy, with indistinct vision, which, however, varied. The vomiting stopped, but when she tried to stand she felt giddy, as if falling forwards or backwards. On October 21st the general clinical examination revealed nothing abnormal: the urine was normal; there was no high blood pressure; she was perfectly intelligent, even sharp; the motor and sensory systems were normal. She had no difficulty in finding a word, but considerable difficulty in articulation; she had to force her words, and said "wor" for worse, so that at times her speech was a little confluent, slurred and clipped, and at other moments slightly jerky and nearly explosive. There was a want of tone in the feel of the muscles of the limbs, which hardly seemed to be accounted for by the confinement; the plantar reflexes were absent, the knee-jerks were present but not exaggerated: no other muscle jerks were elicited.

In regard to the eyes, there was a slight droop of both upper lids, but this was said to be natural; the left pupil was larger than the right; both reacted to light and to accommodation somewhat sluggishly. When she looked to the left there was lateral nystagmus, when to the right vertical nystagmus, somewhat slow in character. On November 9th, when she looked to the left, the nystagmus was also vertical; but on looking to the left and a little upward a fine rapid lateral nystagmus was visible. With the ophthalmoscope the discs were found to be normal, but a constant slow, vertical, fine nystagmus was seen. The iris did not show the local shadow reaction test.

Her hearing was perfect; she thought that she heard at times "too much," meaning that she heard what was not intended for her to hear. When she got up she had to hold on to something, like the foot of the bed, and have her other arm taken; deglutition was normal.

The most probable explanation, as has been said, would appear to be that the original attack was encephalitis lethargica. There were no signs of cerebral tumour; she presented no signs of vascular degeneration; syphilis may be excluded by her previous good health, her healthy family, and a negative Wassermann test (blood). The site of the lesion is localized; the cortex down to the internal capsule can be excluded, also the two large basal ganglia, and the cord. The nuclei in the roof of the mid-brain, with their intricate and complicated ramifications, possibly the red nucleus, and Deiters's nucleus in the medulla, are involved. The connexions between the tectum nuclei, the cerebellum, the vestibular nucleus and so with the semicircular canals, and the many tracts to the cord, would seem to explain the vertigo, the loss of tone of the muscles, the nystagmus of the bizarre type, the unequal pupils, and possibly the ptosis. The speech could be explained by the cerebellar asynergy, and as part of the loss of control of the muscles showing itself subjectively in the vertigo. If Deiters's nucleus be affected the nuclei of the nerves for the muscles of articulation are not far off.

We have an analogy in the condition left by encephalitis lethargica in the globus pallidus, simulating paralysis agitans. In both instances all the cells affected are of the motor type, and so follow the rule.

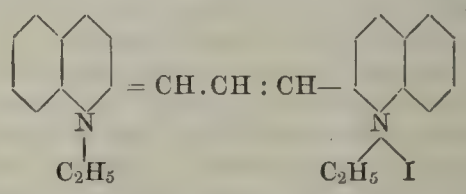
THE ANTISEPTIC PROPERTIES OF CYANINE DYES.*

BY

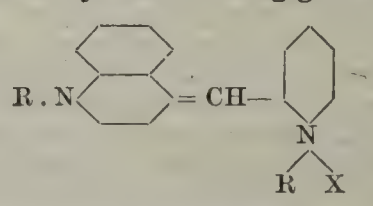
C. H. BROWNING, J. B. COHEN, AND R. GULBRANSEN.

(From the Department of Organic Chemistry, Leeds University, and the Pathological Department of the University and Western Infirmary, Glasgow.)

THE group of compounds, a few of which form the subject of the present communication, are known as isocyanines and carbocyanines, and are prepared by condensing a mixture of quinoline or quinaldine alkyl iodide with a quinaldine alkyl iodide in presence of an alkali with or without formaldehyde. These substances are used as photographic sensitizers. Thus the isocyanine known by the trade name of "sensitol green" is produced by the condensation of quinoline methiodide with p-tolu-quinaldine methiodide. "Sensitol red" is produced similarly by the condensation of two molecules of quinaldine alkyl iodide with one of formaldehyde under the influence of alkali. According to Mills and Pope[2] the constitution of "sensitol red" is represented by the following formula:



To this group of compounds, which have been studied by Mills and Pope and Mills and Wishart,[3] the generic name of "carbocyanine" has been given, whilst the "isocyanine" will be represented by the following general formula:



in which R stands for an alkyl group.

Antiseptic properties were determined, as previously described,[1] by adding to 1 c.cm. of culture medium varying amounts of the substances to be tested along with 0.1 c.cm. of a 1 in 1,000 dilution in saline of a twenty-four hour culture of the organisms (*Staphylococcus aureus* or *B. coli*) in peptone water. As test media (*a*) 0.7 per cent. peptone water with a P_H value of about 7.2, and (*b*) undiluted ox serum (previously heated at 56° C.). The mixtures were then placed at 37° C., and were examined after forty-eight hours for the presence or absence of growth, which was determined in each instance by the appearance of turbidity in the fluid, and also by subculturing a loopful on agar.

The compounds tested were "sensitol red," "sensitol violet," and "sensitol green." These names do not describe the colour of the dyes, but the part of the spectrum to which a photographic plate is rendered specially sensitive after treatment with the compounds in question. Owing to the relative insolubility of sensitol red and sensitol green, stock solutions of 1/2 per cent. of the dyes in 50 per cent. alcohol were prepared, and these were further diluted with water as

* This work was carried out with the support of the Medical Research Council.

required. The following figures represent the general antiseptic values obtained in repeated tests:

Substance	*Staphylococcus aureus* in		*B. coli* in	
	Peptone Water.	Serum.	PeptoneWater.	Serum.
Sensitol red	1 : 4,000,000 + 1 : 2,000,000 −	1 : 1,000,000 + 1 : 200,000 −	1 : 1,000 + * ? −	1 : 10 000 + 1 : 2,000 −
Sensitol violet	1 : 100,000 + 1 : 10,000 −	1 : 40,000 + 1 : 10,000 −	1 : 1,000 + ? −	1 : 4,000 + (1 : 1,000 inhibition)
Sensitol green	1 : 400,000 + 1 : 200,000 −	1 : 1,000 000 + 1 : 100,000 −	1 : 10,000 + 1 : 5,000 −	1 : 50 000 + 1 : 10,000 −

* Precipitation of dye.
\+ = Abundant growth visible to the naked eye.
− = Sterile, as shown by subculture.

Accordingly, the following conclusions may be drawn as regards the cyanine group of dyes, which, so far as we know, have not been examined hitherto for their antiseptic properties.

1. Certain of the cyanine dyes are extremely potent antiseptics—for example, sensitol red for staphylococci in watery medium.

2. Selective antiseptic action as between staphylococcus and *B. coli* is exhibited to a higher degree by certain of these dyes—for example, sensitol red—than by any other compound hitherto investigated, the ratios of the sterilizing concentrations probably being greater than 2,000 to 1 (with crystal violet the ratio is 500 to 1).

3. Sensitol green is the most active of these dyes both in serum and watery medium for *B. coli*. Also, in the case of *B. coli* the antiseptic action in serum is more intense than in watery medium.

Observations on the toxicity of these compounds for mammalian tissues and on the action of further members of the series will be recorded later.

REFERENCES.
[1] Browning and Gulbransen, *Journ. of Hygiene*, 1919, vol. 18, p. 33; Browning and Cohen, BRITISH MEDICAL JOURNAL, October 29th, 1921; see also Browning's *Applied Bacteriology*, London, 1918, p. 65. [2] Mills and Pope, *Photographic Journal*, 1920, vol. 60, pp. 185, 253. [3] Mills and Wishart, *Trans. Chem. Soc.*, 1920, vol. 117, p. 579.

THE INTERPRETATION OF SYMPTOMS IN DISEASE OF THE CENTRAL NERVOUS SYSTEM.

ABSTRACT OF THE GOULSTONIAN LECTURES, DELIVERED BEFORE THE ROYAL COLLEGE OF PHYSICIANS,

BY

ANTHONY FEILING, M.D., F.R.C.P.,
PHYSICIAN, HOSPITAL FOR EPILEPSY AND PARALYSIS, LONDON.

LECTURE I.

THE lecturer introduced his subject by saying that in conversation with many doctors he had been struck by the lack of comprehension of those main principles of neurology which were so essential to any accurate diagnosis of disease of the central nervous system. There was here a gap in knowledge, the more remarkable when contrasted with the appreciation of the symptoms and signs of disease in other systems of the body. It could only proceed from some defect in teaching, and therefore he would attempt in these lectures, which were based upon the general experience and the painstaking observations of many workers, to give an epitome of the general principles of diagnosis and an interpretation of some of the more important and characteristic symptoms of disease of the central nervous system. In the word "symptoms" he included those signs of disturbed function which were to be obtained only by the observer.

It had been pointed out by Head and others that every disease of the central nervous system manifested itself by disturbance of function, hence the absurdity of trying to classify such diseases as entirely either organic or functional. The observer was inevitably thrown back upon the disturbance of function as the basis of investigation. The first question which arose was as to the function or functions which were disturbed, and consequently the first endeavour must be to determine the physiological basis and anatomical situation of the disturbance. He took as an example a patient who had a useless arm; in such a case inquiry must be directed to determining at what level of the motor pathway between the cerebral cortex and the muscles the damage lay. Having established the physiological, and if possible the exact anatomical, diagnosis, the question of the pathological cause had to be settled.

The statement was sometimes made that one physical sign was worth many symptoms. While this might be true in many cases, exception should fairly be made in disease of the central nervous system, where it was sometimes possible to make a shrewd guess at the nature of the disease by a careful examination of the subjective symptoms described by the patient. Careful inquiry into the details of many subjective symptoms would provide a useful clue in the diagnosis. Students should be encouraged to inquire into their case histories. In many cases a diagnosis could be made on the history alone. The subjective symptoms of the patient were of great diagnostic value in many diseases of the central nervous system, of which disseminated sclerosis was but one example. It was hardly necessary to emphasize the importance of a complete physical examination of the case. Mistakes were more frequently made from inadequate examination than from any other single cause. The examination should not be confined to the nervous system but include other systems.

The Significance of Pain.

Pain, a symptom common to many diseases of the central nervous system, should be regarded as an exaggerated response by an irritated nerve. The grey and white matter of the central nervous system was insensitive to the ordinary forms of stimuli, and pain in this connexion was produced chiefly either by disease of the meninges of the brain or spinal cord, or by some pathological process which could compress or stretch them, or some lesion which directly related to the sensory afferent neurons in their course outside the spinal cord or brain and within the dural sheath, such lesion being usually of meningeal origin.

Increase of tension was a common cause of pain. Among the characteristic features of pain in increased intracranial tension, the first, generally speaking, was its paroxysmal character, the paroxysms being excited by any sudden form of exertion or change of posture. Mental activity would not uncommonly precipitate a paroxysm of pain. Even when the pain was constant paroxysms of intenser pain occurred. The position of the pain was variable. At first it might have a more or less close relation to the lesion which caused it, but more frequently such localization was lacking. The frontal and occipital regions were the parts of the head where the pain was most commonly felt. It did not generally have the throbbing character which was found, for instance, in arterial hypertension, and generally it was relieved by rest in the recumbent position and sometimes by lumbar puncture.

He dealt next with pain in the face due to intracranial tumours. He had seen two cases of pituitary tumour where the distinction between pain in the head and pain in the face was absolutely definite and perfectly well appreciated and described by the patient. Other characteristic forms of pain were those found in lesions in the posterior nerve roots, in cases of syphilis of the central nervous system, and especially in tabes dorsalis. In making an early diagnosis the exact character of the pain assumed great importance. Farquhar Buzzard had given a good description of the "lightning" pains in tabes dorsalis. The pain of tabes dorsalis or of syphilitic disease of the central nervous system did not as a rule radiate in the long axis of the body or follow the course of the nerve distribution. The pain was typically described as stabbing or cutting, and the sensation, as Buzzard said, was as if some sharp instrument were forced into the skin at a right angle to the long axis of the limb. Further, the actual area in which any one pain was felt was usually circumscribed. The lecturer also touched upon pain of central origin, and repeated Gordon Holmes's description of pain of central origin apparently arising from disease of the cervical part of the spinal cord, and also in disease of the posterior lateral part of the optic thalamus.

It had been his endeavour to show how a study of the character and distribution of the pain in disease of the central nervous system could help to localize the site of the lesion and also to elucidate the nature of the disease present. Obviously in this matter it was necessary to depend largely on the co-operation of the patient, which was sometimes difficult to obtain, especially if pain had existed for a long time. The longer the pain was experienced the wider became

its distribution and the feebler the patient's resistance. Even the most stolid and heroic person could not prevent the tendency whereby repeated attacks of pain or continuous pain produced this inevitable result. Hence the need to go back to the early symptoms which were unclouded by the process of auto-suggestion.

Other Subjective Symptoms.

While pain was the most urgent and most frequent subjective symptom for which advice was sought, there were others which had an importance not always adequately realized. To such subjective symptoms the useful but ugly term "paraesthesia" was generally applied. These abnormal sensations formed an important part in the symptomatology of many diseases of the central nervous system. Such symptoms might be called functional, but it was important not to be led, in the absence of other and more definite reasons, into confusing this diagnosis with one of hysteria. Increasing experience would render it possible to restrict more and more the number of cases in which the observer would be content with such a diagnosis. He did not need to speak of the facility with which subjective sensations, such as numbness and tingling, were ascribed, often correctly, to neuritis, whether peripheral neuritis or multiple neuritis of toxic origin. When it was remembered how lesions of the central nervous system itself could be responsible for severe pains it was all the more necessary to envisage the possibility of central origin for these other subjective symptoms. There were two diseases in which these symptoms were very important—namely, disseminated sclerosis and subacute combined degeneration of the spinal cord. He would emphasize the early occurrence of these purely subjective disturbances. There were, of course, many other conditions in which abnormal subjective symptoms formed the earliest indications of the disease, notably syphilis of the central nervous system.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

SLIPPING RIB.

In view of the interesting article by Mr. R. Davies-Colley on slipping rib (March 18th, p. 432) the following case, which I had noted as "recurrent dislocation with arthritis of costo-sternal joint," may prove of interest.

A Canadian soldier, a man of very good physique, came under my care in June, 1918. He complained that strong forward displacement of the right shoulder was frequently accompanied by pain alongside the sternum, and said that he believed the inner end of the rib slipped out of place. Physical examination demonstrated this beyond doubt; in addition to the dislocation, there were swelling and persistent tenderness, the joint in question being the third right chondro-sternal.

Resection seemed to me to be preferable to a fixation operation, particularly in view of a probable arthritis. The patient agreed, and three-quarters of an inch of the cartilage was resected under local anaesthesia. Villous fringes were found projecting into the joint. When seen nine months later the patient expressed himself quite cured; he was able to "get his full chest expansion again"—it had been prevented by the nagging pain he always experienced at the site of dislocation.

There is no statement in my notes as to preceding injury; it is difficult to be sure after this lapse of time, but my impression is that no such history was given. I personally have been subject to slipping forward of the ninth left cartilage on acute flexion of the trunk on three occasions and am positive the condition cannot be traced to a trauma in my case.

London, W.1. C. Jennings Marshall.

I read Mr. Davies-Colley's article on slipping rib with interest (p. 432), for it bore out precisely my own experience of these cases, of which I have seen several. They have all been in females, and I have failed to find any convenient reference to the condition, though I am sure that I had read of it somewhere and was thus able to recognize the lesion. The patients have, two of them, been unusually thin, with very flexible lower ribs, but not all of them were delicate women. One case interested me, because removal of the spleen had been advised. In this case the lesion had been originally produced by the patient, when in an almost squatting position, lifting a heavy box with both hands from the ground. The pain was instant and agonizing and a tumour was felt due to the hyperposition of the lower over the upper rib. For some days tenderness remained over the site of the injury. My three cases have all been left-sided. I have found that if the patient can lie quite flat on her back, take her courage in both hands, and a deep breath, the rib slips back. Abdominal massage to the muscles, and feeding up the over-slim ones, produced improvement; but the stronger patient I have not heard of again, for she left for abroad much relieved at keeping her spleen.

London, W.1. F. John Poynton, M.D., F.R.C.P.

The following case may be of interest in connexion with Mr. Davies-Colley's note on slipping rib:

Miss A. B., aged 30, worked in a munition factory during 1917 and 1918. It was customary there to carry shells with the weight supported by the left side. Since demobilization she had complained of pain in her left hypochondrium. The pain was constant, but varied in intensity; it was relieved by rest in bed, but never failed to reappear after exertion. In addition there was much constipation and frequent attacks of colitis.

As enteroptosis seemed marked a belt was ordered; this relieved the symptoms of ptosis, but the pain persisted. Being anxious to eliminate any bowel trouble before investigating the costal cartilages, I sent her to Dr. F. A. Roper of Exeter for his opinion and for an *x*-ray examination. He confirmed the enteroptosis, but could find no evidence of stricture. Moreover, he was much impressed with the definite localization of the pain to the tip of the eleventh rib. Resection of the end of this rib was done early in February, and has apparently removed the pain.

Although occurring in a floating rib, the condition seems analogous to Mr. Davies-Colley's cases.

Ilfracombe. H. K. V. Soltau.

PRIMARY COLECTOMY FOR ACUTE INTESTINAL OBSTRUCTION IN A PATIENT AGED 70.

M. F., a lady aged 70, had been suffering from constipation, with severe colicky pains and vomiting, since September, 1921. In February, 1922, she commenced to vomit, the vomit ultimately becoming faeculent. She was removed to a nursing home, and the condition subsided, but a week later acute intestinal obstruction supervened. The caecum could be felt to be greatly enlarged, but nothing more was found on examination. The abdomen was opened: the caecum was enormously distended; it could be easily lifted out of the abdomen, but midway to the hepatic flexure the mesentery was shorter, so that a certain amount of volvulus was produced. At the splenic flexure was a marked constriction due to malignant growth, the distal end of the colon being contracted to the size of the small bowel. Resection of the growth was decided upon; 8 in. of the colon were removed, and end-to-end union established by two rows of linen thread sutures; difficulty was experienced owing to the great difference in the size of the two ends; no glands were felt in the omentum, and the abdomen was sewn up without drainage.

She passed liquid faeces immediately after the operation, and subsequently made an uninterrupted recovery, leaving the nursing home in twenty-four days after the operation. The growth had so obstructed the bowel by contraction that it only allowed a probe to pass through.

I am indebted to Dr. Bruce, who saw the case in consultation, and to my partner, Dr. T. Murray Newton, for his skilful help.

C. L. Granville Chapman, F.R.C.S.Ire.,
Surgeon, Grimsby and District Hospital.

In New York 145,000 children have received preventive treatment against diphtheria. Coincident with this effort to confer immunity it has been shown that there is an actual decrease in the number of cases and of deaths in diphtheria. The latter six months of 1921, as compared with the same period in 1920, show a reduction of the number of cases of diphtheria by 1,852, and of the number of deaths by 155.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

METROPOLITAN COUNTIES BRANCH: HAMPSTEAD DIVISION.

A clinical meeting was held at the Hampstead General Hospital on March 9th, when Dr. Andrews showed (1) a case of syringomyelia in a girl aged 20, and (2) a case of cutaneous angeioma of the neck, which was being treated with trichloracetic acid. Dr. George showed a case of enlarged cervical glands of some years' standing, probably due to chronic tuberculosis. Mr. Clifford Morson showed a specimen of horseshoe kidney, in which the connecting band consisted of renal tissue and contained an accessory calyx. Pyelograms of the case were also shown. Mr. Sidney Boyd showed: (1) A case of congenital spastic paraplegia in a boy aged 6, in which laminectomy and posterior rhizotomy had been performed last June. Prior to the operation the boy had never walked. He now walked and ran without support, and his mental condition had markedly improved. (2) A case of dislocation of the shoulder-joint, with separation of the upper epiphysis of the humerus, in a girl, aged 16, treated by open operation. Full movement had been restored to the shoulder-joint. (3) A case of pseudo-coxalgia. (4) Specimens of diverticulitis of the colon removed by operation and of complete rupture of the kidney, also removed by operation. (5) Skiagrams showing positive evidence of a gastric ulcer in two cases. The findings at operation corresponded exactly with the *x*-ray appearances.

Reports of Societies.

THE AFTER-RESULTS OF COLECTOMY.

In the Subsection of Proctology of the Royal Society of Medicine on March 22nd a discussion took place on the after-results of colectomy performed for colon stasis. Sir C. G. Gordon-Watson presided.

Sir Berkeley Moynihan was announced to open the discussion, but illness prevented him from attending. He sent a list of his cases of partial colectomy, including all those operated on up to the end of 1920, numbering 60 cases of primary colectomy and 8 of ileo-sigmoidostomy. Two colectomy cases died as the result of operation, and of the remaining 66 cases replies were received as to 43 (37 of colectomy and 6 of ileo-sigmoidostomy). Among the 37 cases the results were described by the patients or their doctors as "good," "very good," or "excellent" in 15. In all of these there was a gain in weight, no indigestion, flatulence, or discomfort, normal action of the bowels, and full capacity for work and enjoyment. These were all cases in which there had been gross mechanical difficulties, the caecum full, blue, soggy, dependent, and obstructed. Not all patients who had had this condition improved, but all who improved had had this condition. In 16 other cases the result was fair, better general health, but occasional discomfort, in some cases diarrhoea and in others constipation as badly as before, and no substantial gain in weight in any. In 6 cases the results were poor or bad, the patients remaining ill, weak, and miserable. Of the 6 cases of ileo-sigmoidostomy the result was good in two, fair in one, almost unimproved in one, and poor in two. In one of these last complete colectomy was afterwards performed, and though the early result of the operation was good, the patient was no better than before her first operation. In 17 of the colectomy cases and 5 of the ileo-sigmoidostomy cases the appendix had previously been removed without benefit, and 7 of this first category and 2 of the second improved as a result of the later operation. In 20 of the total cases there were constricting bands across the colon, just below the hepatic flexure; in 18 there was common mesentery to the ileum and ascending colon, with very loose and mobile caecum and colon, and in 14 there were adhesions round the caecum, appendix, and ileum.

Mr. E. R. Flint of Leeds further described Sir Berkeley Moynihan's methods. Sir Berkeley Moynihan rarely practised complete colectomy; he held that the main seat of the disease was on the right side. Stasis was regarded in his clinic not as a disease in itself but as part of a nutritional disorder, probably arising from deficient or ill-balanced diet, the effect of which was felt by the colon. His successful cases were those suffering from mechanical interference, with thick, soggy colon and constricting bands. Stasis of this type could usually be differentiated from that seen in loose colon before operation. When this soggy type was present it might be expected that hemicolectomy would yield a good result, or, at the worst, that the patient would consider the operation had been worth while. When this type was not present he did not now perform colectomy. The mortality of hemicolectomy was about 2·5 per cent. If total colectomy gave good results they were no better than with hemicolectomy, while the unsuccessful results were worse than those after the partial operation.

Sir Arthur Keith said that he was a little disappointed with the way in which the statistics had been presented. He protested against results being described as "good," "fair," or "bad," for these terms meant nothing. What should be stated was the extent to which a man who had had a colectomy performed upon him was able to do his accustomed work. Twenty years ago, after Metchnikoff's teaching had gone abroad, the view was widely held that the big bowel was an anomaly, and that the human body would be better without the colon. If that were the case there could be no question about the good results that would follow the removal of the colon. The speaker believed, however, that a good working colon was of great advantage to the human body. The problem now under discussion was whether a man was better without a diseased colon than with it. He had had the opportunity of examining colons excised by Sir Berkeley Moynihan and other surgeons, and he could affirm that in a very considerable percentage of cases the disease was so severe that there could have been no recovery of a normal bowel, but only a bowel in a fibrosed condition, and that being the case he would prefer to be without such a colon than with it. The more he worked at the bowel, small and large, the more impressed he became with the fact that the really important coat was neither the mucous nor the muscular, but the submucous, which was a great laboratory wherein the food absorbed was turned into a condition fit to pass into the blood. Out of 15 colons excised by Sir Berkeley Moynihan which he had seen, 10 or 11 were of the soggy type in which the muscle coats were inflamed, and it was a problem which he would not attempt to answer as to what would have happened to the patient had such a colon, which was both paralytic and inflammatory, not been excised. There was no doubt that the alimentary canal from end to end had a greater capacity for repair than any other structure in the body; he knew of nothing else with such a plastic and spontaneous power of bringing about union. Another group of cases, distinct from soggy colon, was one of which he had had few examples from Sir Berkeley Moynihan, but many from other surgeons, and which showed pigment-cell changes. The problem here was with regard to the enormous pigmented cells. Not much information was available with regard to this condition, although experimental methods were now being applied to its elucidation, and some valuable work had been done on these lines by McCarrison. Another question of interest arising out of this discussion was the modification of the small bowel after colectomy. He had seen a case in which, ten years previously, the large intestine had been short-circuited, the small intestine opening into the sigmoid. He found that the large bowel had not been entirely thrown out of function by short-circuiting: it did not function in the ordinary way, of course, but it was evidently impossible to keep the large bowel from making the attempt to do its work. The most remarkable thing, however, was the marvellous changes which had taken place in the small bowel. Externally it had become like the large bowel. Its diameter was twice the normal, its coat twice the thickness, and its length one-third of what it was originally. The average length of the small bowel was 22½ feet; in this individual, who had had the large bowel short-circuited, it was 7¾ feet. Finally, he wished to know what happened in cases of colitis or intestinal stasis which the surgeon refused to treat.

Dr. A. F. Hurst said that the fact that intestinal stasis should be regarded as a subject for discussion in a section of surgery was something of a disgrace to medicine. He believed that colectomy was rarely, if ever, indicated for intestinal stasis in the absence of signs of gross organic disease. Certain statistics from Guy's Hospital showed that although 37

colectomies were performed from 1904 to 1908, and 50 from 1909 to 1913, the operation since then had become increasingly rare; only one such operation was done in 1920, and none at all in 1921. From these statistics the mortality of the operation appeared to be 16.5 per cent. He had never known a patient die from intestinal stasis, and therefore he thought it never could be justifiable to recommend complete colectomy, which had a mortality of somewhere between 8 and 33 per cent., even in the most experienced hands. He had often been appalled to see how light-heartedly colectomy was recommended. It appeared to be forgotten that medical treatment, including baths, dieting, and intestinal lavage, had its place in intestinal stasis. In some cases where colectomy was performed on patients suffering from such conditions as Raynaud's disease quite extraordinary immediate improvement was brought about, but there was an ultimate return to the old condition. He believed that this was due to the bacterial activity normally present in the colon and ascending colon spreading, after removal, into the ileum, which became practically a new colon, so that in a short time the old symptoms returned. The majority of cases of intestinal stasis which were treated with sufficient perseverance by non-surgical measures got well, and even in the small number in which no improvement followed medical treatment the high mortality of operation and the uncertainty of relief made it doubtful whether this operation should ever be resorted to in the absence of gross organic disease.

Dr. Victor Pauchet of Paris sent a communication in which, after describing total colectomy as "Arbuthnot Lane's operation," he said that if therapeutic progress was to be made it was not sufficient for experienced surgeons to point to splendid results achieved, but they must draw attention also to possible accidents and explain their causes in detail. Total colectomy was still a very serious operation, and its results were not uniform. He had himself performed 122 operations of short-circuiting, with 8 deaths; 52 total colectomies, with 6 deaths (4 due to parting of the suture and 2 to heart failure); and 22 right-sided colectomies, with one death. Of the total colectomies 20 were performed in two stages, 17 following short-circuiting and 3 following right-sided colectomy. He had never had a fatal result with the two-stage operation. It should be possible in future by eliminating avoidable accidents to reduce the mortality of operation to 4 per cent. At present out of 10 colectomies 9 operative successes might be reckoned on, and one death; and of the 9, 3 might be classed as very good results, 3 as average or satisfactory, and 3 as showing little or no improvement. For some months after total colectomy it was important to ensure regular evacuation of the intestinal contents by liquid paraffin.

Sir W. Arbuthnot Lane declared himself in entire agreement with Dr. Hurst that colectomy was due to the hopeless ignorance and incompetence of the physician, and he was glad that Dr. Hurst had recognized it. Colectomy should have no place in surgery. Colonel McCarrison's name had been mentioned that evening. Colonel McCarrison had served for nine years in the Himalayas. During that time he had done over 400 capital operations every year, and he had never seen one case of dyspepsia, one of ulcer of the duodenum, one of appendicitis, one of colitis, or one of cancer. He would like the physicians to think that over. There was no such thing as cancer in uncivilized communities, apart from the consequence of such surface irritations as the scraping of the head by the Chinaman. He wished to state emphatically that he had never laid himself out to obtain favourable statistics at the expense of the patient's interests. If he had tried to interest the medical profession in the beneficial results of operation by publishing records showing a large proportion of success with a minimum of mortality he would have confined colectomy to those cases which were commonly called good surgical risks, but such a course would have been fatal to his object. He had taken no chances. He had been careful not to be held blameworthy in this matter. They all knew that the cases calling for such a radical procedure as colectomy were usually very ill. The cases had been treated medically for a long period, frequently operated on for various end-results, and in a considerable proportion of cases there were other diseases complicating stasis. One case in which he had been called upon to operate was that of a Canadian soldier, seen by forty surgeons in Toronto who would not operate on him, told at the Mayo Brothers' clinic that Lane of England was the only man who could cure him, and sent over to London, accompanied by an escort, as a result of a fund raised on his behalf in Canada to pay the man's expenses and the surgeon's fee (which latter he did not accept). The man was operated on, returned to Canada well, accompanied by his escort, and was now doing work in the backwoods. It was all very well to tell him that people who were left alone did not die. Sometimes they died by their own hand. One lady came into his consulting room with a revolver, and said, "Are you going to take out my colon, or am I to blow out my brains?" He took out her colon. The risk of this operation varied inversely with the intra-abdominal tension. With a flaccid abdomen in an aged female the risk in colectomy was non-existent. The only great risk arose from adhesions. He was certain that when surgeons realized the immense benefit the patient derived from the operation colectomy would be resorted to more frequently and with greater safety than at present. Dr. Hurst had given the meeting the idea that the operation was obsolete. He himself was doing more colectomies now than he had ever done in his life. Some speakers did not seem to understand what chronic intestinal stasis was. In conclusion, he complained that since he began to do this operation he had received nothing but abuse, not direct, but indirect. Patients came and told him that a doctor had said, "For goodness' sake, don't go to Lane. Whatever is wrong with you, even if it is only a sore throat, he will take out your colon." Another doctor had said, "Don't call Lane in; he will kill you for a certainty." He wished that those whose temperaments led them to take different views from his own would substitute argument for abuse.

Mr. J. P. Lockhart-Mummery said that he had never been one of those who regarded the normal colon as a useless vestigial structure. A colon must have many functions which they did not seem to know much about. He had been struck with the fact that patients who had had a colectomy performed upon them were very subject to poisoning; certainly such people should be careful what drugs they took. There was no doubt that patients could survive a colectomy and become normal members of society, with certain inconveniences such as fluid stools. He had seen one case of intestinal stasis die without operation—a shocking case of auto-intoxication. He thought that colectomy should be done, but only in selected cases—namely, those in which the colon was completely degenerated. He agreed that when medicine came into its own colectomy would not be required.

Mr. E. G. Slesinger produced statistics relating to 50 cases of colectomy in female patients performed in 1911–12 and their after-history. He had lost the records of the male cases, but his impression was that the results were about the same, save that the mortality was higher. The mortality figures, of course, depended upon the operability figures, and by choosing cases it was easy to show a low mortality. All these 50 cases, however, were those of chronic invalids, their invalidism having lasted for years before operation, and a considerable number were extreme surgical risks. Out of these 50 patients, 2 died from operation, and one other died some months after operation from acute intestinal obstruction. Of the remaining 47 he could only trace 25, but he had every reason to believe that in the 22 untraced cases the results were at least as favourable as in the others. Eighteen of these 25 patients were perfectly well; 3 were definitely better, though still suffering in certain respects; 2 were no better, and 2 had died during recent years, both of them from acute intestinal obstruction. He considered that the results amply vindicated colectomy.

Other speakers in the discussion, who had to compress their remarks owing to shortness of time, included Mr. Tyrrell Gray, who argued that atrophic changes accounted for some of the symptoms which occurred after hemicolectomy, and described the manner in which venous stasis of the bowel occurred in visceroptosis where the normal supports of the intestine had failed, and the mesentery was called upon to support the large bowel, resulting in difficulty of venous return. If colectomy was done after this, it was important to remember that the original cause had not been tackled, and moreover that a piece of bowel had been removed. Dr. L. Gross gave an account of some experiments in which rats had been fed on vitamin-deficient diet, the results suggesting that vitamin deficiency might be quite important in a number of colonic and ileal stasis cases.

Sir Charles Gordon-Watson, from the chair, said that the Subsection might congratulate itself on the success of the discussion. It had not succeeded in reaching the solution of the entire problem, but it had gone a considerable distance towards it.

ANAESTHESIA IN INTRACRANIAL SURGERY.

AT a meeting, on March 3rd, of the Section of Anaesthetics of the Royal Society of Medicine, with Dr. H. J. SHIRLEY, C.M.G., President, in the chair, Dr. Z. MENNELL read a paper on anaesthesia in intracranial surgery. After referring to the effect of changes in intracranial pressure which come about quickly or suddenly Dr. Mennell briefly depicted the methods of anaesthesia in cranial surgery during the last twenty years at the National Hospital, Queen Square. The danger of chloroform, which was at the beginning of that time commonly employed, was explained by the much higher percentage necessary in the blood for anaesthesia when the intracranial pressure was raised. Directly the tension was relieved an enormous increase took place in the volume of blood flowing through the brain. A dangerous or even lethal dose might suddenly bathe the medullary centres. Anaesthesia deepened directly the dura was opened, whatever anaesthetic was being used. Ether was subsequently substituted for chloroform in the Vernon Harcourt inhaler, and later still it was given from a Junker bottle attached to an oxygen cylinder. Mechanical difficulties led to the substitution of infusion anaesthesia for these inhalation methods. The technique was tiresome and the method expensive. However, hedonal gave good results till the war rendered it unobtainable. Dr. Mennell drew attention to the deceptive rise of blood pressure due to the constant supply of fluid with infusion methods of anaesthesia. From these methods he passed to intratracheal ether, which he now considered the best method for all cerebellar, pituitary, or high spinal operations. The extreme flexion of the neck required for some of these operations can be permitted with no other method of anaesthesia. No sudden fall of blood pressure occurred if haemorrhage was properly controlled. The surgeon can operate without haste and the most formidable cerebral operations can be completed at one sitting. Vomiting, which led to protrusion of the brain and venous haemorrhage, can be more certainly avoided than by any other method. With temporal or parietal operations Dr. Mennell frequently gave ether and oxygen by means of a Junker inhaler. The intratracheal method was less necessary in these cases. Any attempt at swallowing was regarded as an indication to increase the strength of the ether vapour. A quickening of the pulse always preceded a fall in blood pressure. Removal of tumours from the cerebellum or lateral recess often caused serious trouble through direct disturbance of the medullary centres. A transitory severe fall in blood pressure commonly occurred. The method employed by Mr. Sargent of removing these tumours by a suction apparatus greatly lessened the danger. The radial pulse might be impalpable for as long as twenty minutes without serious harm resulting. The lighter the anaesthesia could be kept the better. Dr. Mennell next described the manner in which he used chloroform for an anaesthesia to permit the injection of alcohol into the fifth nerve, gave some statistics of his experience with intracranial operations, and demonstrated the apparatus which he employs.

Mr. PERCY SARGENT said that the variations in intracranial pressure were the most important factor during operations for cerebral tumour. The brain was singularly tolerant of changes of pressure provided that they were brought about gradually. The need of close co-operation between surgeon and anaesthetist was perhaps of greater moment in cerebral than in any other class of operation.

Mr. H. E. G. BOYLE stated that he had good results with endopharyngeal gas-oxygen-ether in cerebral cases. Dr. W. J. MCCARDIE, Mr. C. H. MOTT, and Mr. I. W. MAGILL also took part in the discussion.

EPIDEMIOLOGY OF SUMMER DIARRHOEA.

AT a meeting of the Section of Epidemiology and State Medicine of the Royal Society of Medicine held on March 23rd, with the President, Dr. A. K. CHALMERS, in the chair, Dr. MATTHEW YOUNG read a paper by Dr. JOHN BROWNLEE and himself on the epidemiology of summer diarrhoea.

The authors in the first place recapitulated the classical researches of Ballard which led to the enunciation of the view that the prevalence of summer diarrhoea was most closely correlated with the movement of the temperature at the depth of four feet, the ascent of the epidemic curve not beginning until the earth temperature registered 56° F. The important work of Peters led to the idea that it was an accumulation of temperature excess which was responsible, Ballard's measure being an index of such excess. The authors had analysed the weekly mortality returns of London from 1856 to 1921 and found a high correlation between accumulated temperature over 60 F. and the excess of weekly deaths above 100; but it appeared that in a series of years following 1911, when the maximum of the epidemic occurred later in the season, the correlation was slight. When rainfall was considered it was found that the partial correlation between rainfall and mortality from diarrhoea for constant temperature was zero. An analysis of the form of the epidemic curves led to the conclusion that a change of type had occurred. Up to the year 1899 the curves of the annual epidemic were fairly uniform in type, with a maximum as a rule about the thirtieth to the thirty-third week. In 1899 a sudden change occurred, and the maximum of the epidemic was shifted to a later week. In 1900, 1901, 1904, 1905, 1906, and 1911, although the form was similar to that of the years before 1899, the maximum was later. These curves suggested that the disease termed epidemic diarrhoea might be a mixture of two diseases—one predominant before 1899, the second mainly predominant since 1907. To test this point the annual figures were summed and decennial curves constructed. These latter were then analysed, and it was found that the compound curves could be satisfactorily resolved each into two component normal curves. The maxima of the component curves were at the thirty-first and thirty-sixth weeks in the four decades 1860–69, 1870–79, 1880–89, and 1890–99; in 1900–9 the maxima were at the thirty-third and thirty-seventh weeks, and in 1910–19 one component had a maximum at the thirty-seventh week. The importance of the second component increased with time, and by 1910–19 comprised almost the whole of the curve. A similar resolution was effected of the Manchester data from 1870 onwards. The same remark applied to Liverpool, and, making allowance for the roughness of the data, to the records of several foreign cities. The approximate method used was controlled in one series by the method of resolution devised by Professor Karl Pearson. The resolution having been effected, the explanation of the contradictory results of the tests of correlation emerged, because the correlation between accumulated excess of temperature and the deaths belonging to the early component proved to be large and positive, but the correlation of temperature and deaths belonging to the second component was small and negative. Passing to other etiological factors, a study of the relation between mortality and sources of water supplies suggested that the diarrhoea of infants was less closely associated with variations of the quality of the water than was the diarrhoea of adults. With respect to general sanitation, although it might be no more than a coincidence, yet the fact that the first change of type in London was observed in 1899—that is, a few years after the London by-laws devised by Sir Shirley Murphy began to be enforced—was suggestive. The replacement of horse by motor traffic was another change to be had in mind. Finally, the authors examined the relations observed in different cities between the prevalence of diarrhoea and flies, and remarked that the two prevalences were phenomena which, while they might be dependent to some extent for existence on similar conditions, probably largely meteorological, were best explained by the opinion that flies were in great measure responsible for the dissemination of the disease.

Dr. DUDFIELD, in opening the discussion, said he had never doubted that the rôle of flies was that of carriers, and agreed that the replacement of horse by motor traffic was a very important matter. He had also been struck by the occurrence late in the season of cases clinically indistinguishable from "summer" diarrhoea.

Dr. HAMER attributed very great importance to the effect of the London by-laws in preventing the accumulation of refuse. He also referred to the possible importance of the change in methods of locomotion, but had not found any excessive prevalence of infantile diarrhoea in the neighbourhood of great stables, although there was an excessive prevalence of flies. In his opinion the work of Peters was a first-rate contribution to epidemiology, and the death of the author a grave loss to science.

Sir WILLIAM MACPHERSON asked whether sufficient attention had been given to the effect of measures taken to protect food from flies. His experience had been that epidemic diarrhoea could be controlled by fly-proofing. Dr. BUTLER saw no reason to doubt that Ballard's rule was a thoroughly safe criterion. Zymotic diarrhoea was almost exclusively a disease of hand-fed children, and the instruction of mothers had to

be considered as a factor of reduction. Dr. GREENWOOD congratulated the authors on their success in analysing the curve, and thought their results did not conflict with those of Ballard and Peters, but threw light on the mechanisms at work. Dr. MCKAIL thought that the authors' results admitted of a much simpler explanation than that put forward—namely, that modern methods of prophylaxis had delayed the rise of the annual curve. He also doubted whether sufficient attention had been given to decline of the birth rate; most of the curves shown were of absolute figures.

Dr. LANE-CLAYPON said that in Germany the temperature factor was regarded as of great importance. Although hand-fed children were first attacked, there was, in the extensive epidemic of 1911, a serious incidence upon breast-fed children. The German view was that in institutions all children must be regarded as potentially infective. Dust infection must not be forgotten.

Dr. MCVAIL wished to know whether any relation between pasteurization of milk and diarrhoeal prevalence could be shown. Ballard had strongly held that diarrhoea was a specific disease, and he (Dr. McVail) suggested that cases occurred analogous with Sydenham's variola without exanthem (see *Obs. Med.*, iii, 2). Dr. BUTLER said there was no general pasteurization in London, but there had certainly been much improvement in the cleanliness of the milk. Dr. DUDFIELD mentioned the increased utilization of dried milks. Dr. GOODALL said, referring to Dr. McVail's remarks, that he had once had in his hospital an outbreak of diarrhoea, and there had been simultaneously cases with severe pyrexia, some ending fatally, but no diarrhoea. Pasteurization of the milk had been carried out, and since then he had never had an outbreak. He also knew that many of the large firms did pasteurize their milk.

The PRESIDENT thought that the paper would throw light upon the cumulative effect of temperature. Until recent years the English rates of mortality in infancy had been higher than the Scottish rates. Pasteurization had been very generally adopted by milk vendors in Glasgow for many years.

Dr. YOUNG, in replying, said that neither the date of its maximum nor the form of the curve was consistent with the simple explanation offered by Dr. McKail. With regard to the source of infection, it had to be remembered that what was most important was what happened to the milk after it had reached the home of the consumer.

ALBUMINURIA IN PREGNANCY.

AT the meeting of the Harveian Society of London on March 23rd, Sir WILLIAM WILLCOX presiding, a discussion took place on albuminuria in pregnancy.

Mr. ALECK W. BOURNE said that the chief line of attack in pregnancy toxaemias was that of chemical examination. It was to the chemical pathologist they must appeal for further knowledge of the disturbance of function. Clinically they were still confused by unco-ordinated lesions and symptoms, and not yet sure which were primary and which secondary. Albuminuria in pregnancy was the name for a group of symptoms of which the most characteristic was the presence of albumin in the urine, and no other sign was constant, though the most frequent was raised blood pressure. By observation of the predominant symptoms it was possible to group patients. The first and commonest clinical type was the renal, in which the condition resembled a subacute nephritis. The second commonest was the cerebral type, a condition in which a series of fits occurred in labour, with few or no warning symptoms except the albumin in the urine (one case of which he had notes had 53 fits after labour, without any premonitory symptoms). The third was the gastric type, characterized by uncontrolled vomiting, and was occasionally met with in early pregnancy, though his experience of it was chiefly in the later months; there was evidence that this gastric type was really of hepatic origin. The fourth type was the hepatic condition, fortunately rare, though a certain amount of hepatic inefficiency probably existed in all cases of toxic albuminuria in pregnancy. The fifth type was the uterine type, associated with necrosis of the uterine wall, and consequently serious haemorrhage. In addition to the albuminuria, frequently there were other toxic symptoms. The incidence of albuminuria in pregnancy was much greater than was commonly supposed. Of some 14,000 cases of pregnancy and labour which he had looked through, 30 per cent. had some degree of albumin. Mere albuminuria without high blood pressure, vomiting, or other symptoms was not very important. The occurrence of fits was the most serious sign. The pregnancy was seriously prejudiced from the time of the first fit, and the high rate of incidence of fits in albuminuria—some 46 per cent.—rendered its recognition and active treatment a matter of considerable importance. There were three possible disasters, the most frequent being the danger of onset of convulsions; the second, the complete suppression of urine, due to necrosis of the cortex of the kidney; and the third, jaundice, which was very rare (he had seen only three cases in about fifteen years at Queen Charlotte's Hospital). The number of fits had no relation to the mortality. Some women had a great number and got better, others might have one fit and die. Under some circumstances vomiting might be the most dangerous condition in late pregnancy. Two serious signs of impending trouble in toxic albuminuria were (1) the development of a fresh symptom grafted upon those previously existing while the case was undergoing medical treatment, and (2) a sudden increase in intensity in the symptoms already present.

Dr. EARDLEY HOLLAND said that his colleagues at the London Hospital and the City of London Maternity Hospital were making an investigation of the after-results of all cases of eclampsia and toxic albuminuria of pregnancy which had occurred in the obstetrical wards during the last ten years. The cases of eclampsia alone numbered nearly 250. It was proposed to ascertain, whatever might be the immediate recovery of the patient, the occurrence of remote effects of the disease and the percentage of patients who got permanent damage. They could all recall cases which had suffered chronic renal disease as a consequence of eclampsia. These investigations had not proceeded far, but so far as they had gone it appeared that a fairly high percentage of cases of eclampsia and severe toxaemias of pregnancy showed signs of chronic renal disease or renal inefficiency. Of course, it had to be remembered that patients who had continued ill after their attack of eclampsia were more likely to have remained in touch with the hospital than others who had quite recovered. The question of permanent kidney damage following eclampsia had an important bearing upon treatment, for the longer such a pregnancy was allowed to go on the more likely was this permanent damage to occur. It was often regarded as a triumph if the eclampsia cleared up and the pregnancy went on, but he doubted very much whether it was a triumph. He had seen eight cases in which the fits had cleared up and the pregnancy had gone on, and in only two of them was the result absolutely satisfactory from the point of view both of the health of the mother and the delivery of a living child. He urged that labour should be induced in such cases.

Dr. MACKENZIE WALLIS dealt with the subject of laboratory tests. In normal pregnancy, particularly after the fourth month, the blood-urea content was nearly always below that of the normal non-pregnant woman, and the same applied to the blood-sugar. The diastase content of the urine, on the other hand, was higher in pregnancy. When they came to estimate the blood changes in the toxaemias of pregnancy they found very little variation from those in normal pregnancy. The most striking point in the toxaemias of pregnancy, so far as the blood was concerned, was the marked increase in the cholesterol content; this was increased enormously, and the highest figures ever recorded for cholesterol content had been found in cases of eclampsia. In the urine much more striking changes were noticed than in the blood, particularly with regard to the diastase content, which was a very valuable method of differential diagnosis. High diastase content of the urine preceded albuminuria. He regarded the estimation of urea in the blood and diastase in the urine as the tests of choice in distinguishing between toxaemia in pregnancy and true nephritis in pregnancy. In nephritis of pregnancy the diastase was invariably low, and the lower it was the more unfavourable the pregnancy.

Dr. S. SIMMS followed on similar lines to the last speaker, recounting some work on laboratory tests which he had carried out under the direction of Sir William Willcox at St. Mary's Hospital. He considered that the estimation of the urea was very valuable indeed. Dr. C. M. WILSON thought that very often the induction of labour was left too late. The tendency was to sacrifice the interests of the mother to those of the child, and in doing this very frequently great damage was done to the mother. Dr. R. S. O. DUDFIELD said that he would like to know how Mr. Bourne proposed to describe on the death certificate the various distinct conditions to which he had alluded. It was only since 1911 that

albuminuria in pregnancy was set out in the Registrar-General's returns as among the accidents and diseases of pregnancy. Dr. R. G. MURRAY thought that there was some evidence that this condition was less frequent among better-class patients than among patients belonging to a lower economic level.

Sir WILLIAM WILLCOX referred in particular to the interest of Dr. Mackenzie Wallis's contribution, showing how in the laboratory these toxaemias of pregnancy could be differentiated. He had drawn attention to the likelihood that the toxins of the corpus luteum were, if not entirely responsible, to a great extent responsible for this extraordinary toxaemia. In the literature of the subject the corpus luteum had been entirely forgotten, and it was very interesting if this insignificant body—as it appeared to them in their anatomical dissections—was capable of results of such great importance. He thought that toxaemias of pregnancy where albuminuria occurred were nearly similar to the conditions one saw in the forms of toxic jaundice. The toxins produced in pregnancy—no doubt normally in the healthy person neutralized and rendered harmless—caused a certain amount of damage to the kidney. It was not damage of the nature of nephritis, but damage of degeneration. The cells of the kidney were damaged, some recovered and some did not, and during pregnancy the patient perhaps developed severe symptoms which left a portion of the kidney cells necrosed. Each successive pregnancy with such a person was likely to be attended with more serious results than normal. Yet in this toxic albuminuria of pregnancy a patient might recover and apparently enjoy normal health.

Mr. BOURNE, in replying on the discussion, said that more than one speaker had alluded to the danger of allowing these albuminuric patients to go on too long without inducing labour. But before one could do anything intelligently an accurate diagnosis must be made, and in many cases this was only possible by chemical examination.

CARDIFF MEDICAL SOCIETY.

A CLINICAL meeting of the Cardiff Medical Society was held on March 14th, under the chairmanship of the President, Dr. F. BUCKHAM, when Mr. C. DE W. GIBB showed a specimen of cerebral abscess secondary to bronchiectasis. The abscess, which was situated in the right temporo-sphenoidal lobe, was almost the size of a walnut and possessed a wall of granulation tissue at least one-eighth of an inch thick; the right lung showed in the lower lobe several rather large bronchiectatic cavities filled with foetid pus. The patient had been admitted to hospital following an accident, but his symptoms and signs pointed to a cerebral condition, not necessarily connected with the accident; it appeared, in fact, from the thickness of the abscess wall in the brain that the abscess might have been present for at least six weeks and that the relationship of abscess to accident was of the nature of cause and effect. From the pus in the abscess the pneumo-bacillus of Friedländer was isolated in pure culture.

Mr. GEARY GRANT showed a left kidney with wedge-shaped caseating masses in the upper half, removed from a man aged 39 who for eight months had suffered severely from polyuria, dysuria, and extreme diurnal and nocturnal frequency. The cystoscope showed a left ureter resembling a golf hole, with swelling and injection of margins and several small tubercles on the outer and upper side. On one occasion jets of pus were seen to come from this ureter, but subsequently the secretion ceased completely from this kidney. Within three or four weeks of nephrectomy the symptoms of cystitis cleared up.

Professor E. EMRYS-ROBERTS and Dr. H. A. HAIG showed specimens from a case of primary pulmonary tuberculosis followed by tuberculous meningitis. Both lungs showed extensive apical involvement by numerous tubercles, some of these already breaking down and forming small cavities; the apices of the left upper and lower lobes were all affected, the right mid-lobe being the only one to escape. The bronchial glands showed no signs of involvement. The brain showed a thick yellowish exudate over the ventral and dorsal aspects of the pons and peduncles, and a few tubercles were found on some of the smaller vessels in the sulci between the convolutions round the Sylvian fissure. The cerebro-spinal fluid removed *post mortem* from the brain showed rather numerous tubercle bacilli, a relative polymorphonuclear increase, and a marked relative lymphocyte increase. A few submiliary tubercles were found in sections of the liver.

Professor E. J. MACLEAN showed a case of a large semi-pedunculated fibroma removed from the right labium majus of a patient six months pregnant. Microscopically it was seen to be almost a pure fibroma, only a very few involuntary muscle fibres being present here and there. Removal had been undertaken in order to obviate the condition causing obstruction at labour.

Professor A. W. SHEEN showed radiographs of three "chip" fractures of the phalanges, two in the fingers and one in the toe, and described the cases. He pointed out that such fractures were usually not detected without the use of *x* rays, when they could probably be found in many cases of severe sprain or dislocation. The treatment was discussed, immobilization in plaster-of-Paris for the majority of cases of finger injury being recommended if the patient would consent.

Mr. S. ALWYN SMITH showed end-results of bone grafting. (*a*) Gunshot wounds of both forearms, resulting in a 3-inch gap in each radius, at the junction of the upper three-quarters with the lower quarter. A tibial autogenous graft was used for each arm. The inlay method was used at each end in one arm, and in the other the proximal end was inlaid while the distal end was pegged into the cancellous bone of the expanded lower end of the radius; fixation was by soft iron wire. Radiographs taken two years and two and a half years after operation showed thickening of the graft and formation of new cortex. (*b*) Ununited fractured lower end of tibia, of eighteen months' duration. Operation for freshening ends and fixation by wire loops failed; but bone grafting by means of a "slide inlay" resulted in firm bony union. (*c*) He also showed the end-results of tendon transplantation for irremediable musculo-spiral and posterior interosseous nerve lesions in four cases.

Dr. G. I. STRACHAN showed: (*a*) A case of anencephaly, in which the placenta was adherent to the base of the skull by a thick amniotic adhesion, associated with stunting of the right hand; the effect of amniotic adhesions as a possible cause of this malformation was discussed. (*b*) A section of the uterus with placenta *in situ* removed *post mortem* from a patient who died, undelivered, of eclampsia. The placenta was extensively occupied by haemorrhages, and bleeding had occurred also between the placenta and uterine wall and had infiltrated, to some extent, the uterine muscle. Clinically, profuse *ante-partum* haemorrhage was noted. The effects of *ante-partum* accidental haemorrhage were referred to, and the relationship between this and placental infarction and albuminuria and toxaemia was discussed.

Other cases and specimens were shown by Mr. H. G. COOK, Dr. J. C. GILCHRIST, Mr. CORNELIUS GRIFFITHS, and Mr. J. W. TUDOR THOMAS.

ARTERIO-VENOUS ANEURYSMS.

A MEETING of the Section of Surgery of the Royal Academy of Medicine in Ireland was held on March 10th. Sir W. I. DE C. WHEELER was in the chair, and showed a case of arterio-venous aneurysm of the subclavian vessels. The man was one of two similar cases under his care in Mercer's Hospital. Both men were wounded in 1918 by a bullet traversing the region of the subclavian artery above the inner third of the clavicle. A diffused thrill could be felt, and there was a loud murmur like the booming of artillery in the distance, widely distributed, but with a point of maximum intensity just above the clavicle. In one man the radial pulse was much smaller than on the opposite side; he also had concomitant injury of the brachial plexus, and was distressed by the intense noise of the murmur when he lay upon the affected side. Sir William Wheeler stated that he recently had three other cases of arterio-venous aneurysm in the limbs. In the first, an officer, there was a communication between the vein and artery in Hunter's canal. The vessels were tied above and below (quadruple ligature). The case was cured and there was no apparent disturbance of circulation. The operation was performed one month after the injury. A child of 8 years presented a similar condition above the middle of the thigh, but in this case there was a large pulsating tumour, and at operation, although both artery and vein had been obviously injured, no communication between the two could be found. Four ligatures were applied as in the previous case, with resultant cure, and no circulatory disturbance. This patient also was operated on one month after injury. A third case showed all the characteristic signs of arterio-venous aneurysm of the posterior tibial vessels. The operation consisted of excision after ligature of the vessels above and below; the result was good. Although a spontaneous cure was rare,

there being only two in a series of 447 cases tabulated by Callender, Sir William Wheeler pointed out that the condition was not incompatible with long life. He did not propose to operate on the two cases of aneurysm at the root of the neck at present under review, unless special indications arose. So far as he could gather from recorded literature, results of operation on arterio-venous aneurysms of the subclavian vessels were very discouraging, and the procedure was attended with great difficulty. The proximal dilatation of the artery, the enlargement of the heart, and the general slowing of the pulse in a number of cases were points of interest. In the neck the veins often did not dilate, as the column of blood pushed aside by the arterial inflow found a ready escape through channels equally large with a negative pressure.

Intrathecal Tumour of the Cervical Spinal Cord.

Mr. W. PEARSON described a case upon which he had operated for this condition. The patient was an unmarried woman of 50, who gave a history of pain in the right side of the neck over a period of four years, punctuated by free intervals. The first free interval lasted for two years. She had been treated in hospital on several occasions for the pain, and there were never any other nerve symptoms save occasional attacks of wry-neck. In February, 1921, examination showed that the pain was strictly confined to the area of distribution of the anterior primary divisions of the second, third, and fourth cervical spinal nerves on the right side, and in the absence of other signs the case was regarded as one of cervico occipital neuralgia. As the posterior primary divisions of the nerves were not involved it seemed probable that a peripheral cause might exist, and consequently a block dissection of the posterior triangle of the neck with high division of the affected nerves was performed. The pain ceased for two months and then recurred. She returned to hospital again in July, and again no other nerve symptoms were present. In August a laminectomy was performed with the intention of dividing the nerve roots. On opening the dura a dark red tumour was seen closely applied to the right side of the cord, displacing the latter to the left. It lay in front of the posterior nerve roots and extended up through the foramen magnum and downwards into the spinal canal. The laminae of the upper six cervical vertebrae were removed without reaching the lower end of the tumour, but the latter was then capable of enucleation after the third and fourth posterior roots were divided. It subsequently measured 6.5 by 2.5 by 1.5 cm., and the pathological report was that the tumour was a spindle-celled sarcoma. The patient's progress was satisfactory at first, but later on signs of compression, varying much from time to time, made their appearance, and the patient eventually died, more than six weeks after operation. No cause of death could be determined at autopsy, the brain, spinal cord, and meninges appearing normal. The experience in this case suggested: (1) In cases of severe persistent pain of segmental type with negative neurological findings, lumbar puncture may aid diagnosis. In this instance it would most probably have shown that obstruction existed in the subarachnoid space. (2) In such cases exploratory laminectomy should be selected in preference to peripheral neurectomy in the first instance. Particularly remarkable and inexplicable was the fact that no pain was referred to the cutaneous branches from the posterior primary divisions of the affected nerves.

Mr. J. T. MCCULLAGH and Mr. M. DOCKRELL showed a number of patients fitted with modern artificial limbs and surgical appliances. The demonstration was illustrated by Mr. MCKIE, instructor to the limbless at the Special Surgical Hospital, Blackrock, and by his pupils.

AT a meeting of the North of England Ophthalmological Society held on March 10th the following were elected to the committee:—President: Mr. G. H. Pooley, Sheffield. Vice-President: Mr. Thomson Henderson, Nottingham. Treasurer: Mr. Harry Lee, Leeds. Secretary: Mr. Percival J. Hay, Sheffield. Members of Council: Messrs. J. Gray Clegg, Manchester, and A. L. Whitehead, Leeds.

A PATHOLOGICAL meeting of the West London Medico-Chirurgical Society was held at the West London Hospital on March 3rd, with the President, Sir G. LENTHAL CHEATLE, in the chair. A series of interesting pathological specimens were shown by the PRESIDENT, and by Mr. MCADAM ECCLES, Dr. HAROLD SANGUINETTI, Mr. DENHAM PINNOCK, Dr. L. R. SHORE, and others. A discussion followed.

Reviews.

TECHNIQUE OF THE TEAT AND CAPILLARY GLASS TUBE.

SIR ALMROTH WRIGHT and Dr. COLEBROOK could not have chosen for their book, *The Technique of the Teat and Capillary Glass Tube*,[1] a more appropriate motto than the famous words of Carl Ludwig, "Die Methode ist Alles," for this volume is devoted to an exact description of laboratory methods in which glass pipettes can be employed, with only so much of theoretical consideration as will enforce the argument of the importance of technique.

This, however, appears not to have been the only purpose which the authors had in view in compiling this handbook for the medical research laboratory, for in the preface they seem inspired with missionary enthusiasm to the "general body of the medical profession," whom they wish to convert to the view that "clinical experience . . . unaided by apparatus and technique is for the purpose of research of infinitely little account." By this they mean that in judging, for example, of the efficacy of a remedy by experience alone there are so many fallacies in the selection of the material, in the administration of the remedy, and in the interpretation of results, that such investigations rarely lead to trustworthy generalizations. Mere statistical inquiry also receives from the authors an equally emphatic rebuke, on the ground that it is notably inaccurate. It is maintained, on the other hand, that the researches which can be carried out in a laboratory on the blood and body fluids will often supply precise information as to the absorption of a certain drug, and may indicate exactly what has been achieved by treatment.

The present volume—the second edition of the much smaller book which appeared in 1912—contains important additions and developments. Chief amongst these is a device for lining pipettes and slides with paraffin, which makes it possible to measure small quantities of fluid with almost mathematical exactness, and prevents the contained fluids from absorbing traces of alkali from the glass. Another modification of pipette technique has been introduced under the somewhat misleading title of "Method of washes and mural implantations," which depends upon the fact that when fluid is drawn up into a pipette of a diameter of half a millimetre and subsequently expelled, about one twenty-fifth of its volume remains behind in the pipette, and it is thus possible to make rapidly a one in twenty-five dilution of a fluid. In a similar way it is possible to leave bacteria attached to the walls of a pipette into which divided volumes of serum are subsequently drawn, and each volume of serum in turn will be inoculated with diminishing numbers of bacteria. Such a procedure is obviously of only rough utility, and though the technique may be of value in determining the bactericidal power of serum (for which purpose it was apparently devised), it is doubtful whether it will be of much value in other directions, and it is, perhaps, hardly worthy of being classed amongst the "refinements and developments of the technique." A simple device is described for fitting a teat on to a pipette which is charged with fluid without disturbing the contents, a procedure which has always presented difficulties. More simplified methods have been introduced for the measurement of the coagulation time of the blood, the antitryptic titre of the serum, and the bactericidal power of the blood, and there are three new chapters embodying research work carried out on infected wounds and dealing with the migrations and functions of the leucocytes, the source and origin of protective substances, and the therapeutics of infected wounds. A broad and practical outlook is given to the technique of the examination of the coagulability, alkalinity, and antitryptic titre of the blood by the addition of appendices to the chapter dealing with the clinical significance of the problems involved.

Such are the developments to be found in the latest edition. For the sake of laboratory workers unfamiliar with the first edition—if such there be—it is only necessary to point out that Sir Almroth Wright's book has always been the primer of pipette workers and the standard work of reference for information regarding the making of simple glass apparatus for use in the laboratory. It contains many ingenious devices for measuring small quantities of fluid, and without attention

[1] *Technique of the Teat and Capillary Glass Tube.* By Sir Almroth Wright and Dr. Leonard Colebrook. London: Constable and Co. 1921. (384 pages; 151 illustrations. 42s.)

to the detail so meticulously described in these pages it is impossible to obtain satisfactory blood films for opsonic work. Full information is given on the question of the opsonic power of the blood and the preparation of vaccines, together with many other original contributions to laboratory studies.

One great merit of all the technique herein described is that it is simple and can be carried out in the "side room" of a hospital ward without the assistance of complicated and expensive apparatus. The book will be of interest, therefore, to all medical men who wish to investigate the scientific problems connected with disease. But to those not trained in laboratory work it is only right to say that though the book contains the truth, and, we hope, nothing but the truth, it does not pretend to enshrine the whole truth. In particular the chapter which is devoted to the Wassermann reaction describes only one method of carrying out this test, and this, though a rapid and ingenious modification, is not looked upon with favour by the majority of bacteriologists, by whom it is regarded as less reliable than the orthodox methods. The same warning is applicable to the agglutination section, for though the methods described for this reaction are useful they are by no means all-sufficient.

The correct view to take with regard to this volume is that therein are recorded the researches of Sir Almroth Wright and his colleagues, and the manifold contributions they have made to scientific methods. No further commendation need be given than this.

GASTRIC SURGERY.

IN writing their monograph on the *Surgical Treatment of Non-Malignant Affections of the Stomach*[2] Drs. CHARLES GREENE CUMSTON and GEORGES PATRY study the indications for operation, the results obtained, and the conditions determining the choice of an operative procedure. Their conclusions are based, apparently, on a digest of some part of the literature of the past twenty years, little reference being made to their personal experience.

The book commences with a long historical account of the various operations which have been performed for the relief of gastric affections, special attention being devoted to the operation of gastro-enterostomy, to which upwards of thirty pages are given. Most of this is of no more than historical interest, and its value in this respect is much diminished by the absence of a bibliography. Undue prominence is given to the history of the efforts to overcome vomiting, due to a vicious circle, and very little space is devoted to post-operative peptic ulcers—a much more important question at this period of gastric surgery. A good point is made in the reference to adhesions of the efferent loop as a cause of mild degrees of reflux vomiting.

The use of Murphy's button in certain cases of gastro-enterostomy, and a belief, apparently, in the spontaneous closure of gastro-enterostomy openings, without antecedent ulceration, sound strange in British ears. The belief, together with the opinion that the stoma does not function when the pylorus is patent, leads the authors to advocate strongly the combination of pyloric exclusion with gastro-enterostomy. These conclusions appear to us to be based on false premises, as it has been shown by Hartmann and others that the stomach does function, although the pylorus be patent, and that, so far from closure of the stoma being specially associated with a patent pylorus, in the great majority of reported cases the pylorus was not permeable. The point is of importance, since many surgeons believe that the combination of exclusion with gastro-enterostomy predisposes to the formation of secondary ulceration.

The conditions requiring surgical treatment are next considered under different headings, by far the chief place being occupied by various types of stenosis and ulcer. The conclusions arrived at are very contentious, and the evidence on which they are based is extremely unconvincing. The authors have a marked preference for indirect methods of treatment, especially for gastro-enterostomy combined with pyloric exclusion. The modern radical methods find little favour, and an exaggerated view is taken of the risk attaching to gastric resection in the case of gastric ulcers. Statistics of the cases reported down to 1911, with a percentage of mortality of 20 per cent., are given as showing the risk of these operations. But these figures are valueless at the present day, when the mortality of partial gastrectomy for ulcer in the hands of skilled surgeons is very little higher than that of gastro-enterostomy. So obsessed are the authors with the value of the operation of gastro-enterostomy that they regard it as the one most commonly applicable to cases of severe haematemesis when operative treatment is decided on. Ptosis, nervous dyspepsia, disturbances of secretion, tubercle, syphilis, and traumatic affections are all discussed shortly, but the main bulk of the work is concerned with ulceration and its complications.

[2] *Surgical Treatment of Non-Malignant Affections of the Stomach.* By C. G. Cumston, M.D., and Georges Patry, M.D. With an Introduction by Sir B. G. A. Moynihan, K.C.M.G., C.B., M.S. London: W. Heinemann (Medical Books), Ltd. 1921. (Demy 8vo, pp. x + 349. 15s. net.)

PSYCHOLOGY AND THE TEACHER.

DR. CRICHTON MILLER has written *The New Psychology and the Teacher*[3] for those who are in any way interested in the education of the young. He does not profess rigid adherence to any one school, though his views approximate to those developed by Jung, but he is convinced that modern trends in psychology include much of value to the educationist. Analytical psychology, it is suggested, not only throws direct light on the development of the child, but it frees the teacher's own mental and emotional life from bias and repression, and thus gives him that self-knowledge which endows him with a clearer sight and a greater freedom of action in helping the child. The author is opposed to the idea that the teacher should utilize his knowledge by endeavouring to analyse the children he teaches, and he points out that the analysis of the child and adolescent is a procedure of great delicacy. It is perhaps as well that this should be specifically stated, as some writers have advocated the use of the psycho-analytic method by teachers, in spite of the fact that every nervous child necessarily involves definitely medical problems.

In successive chapters the author develops his subject under the following headings: authority and suggestibility; reality and phantasy; the emotional development of the boy and girl; the unconscious motive; mental mechanisms; dream symbolism; the herd instinct and the herd ideal; and educational methods. Each section is preceded by a useful synopsis of its contents, and the various subjects considered are explained clearly and in a manner quite comprehensible to the non-medical readers for whom the book is intended. In some directions Dr. Miller is rather vague in his psychology, as for instance when he refers to the necessity for "the adjustment to the Infinite" in describing the emotional development of a boy. It is also surely rather an extreme statement to make that "it is useless for a person to consider himself an adult while he is still pretending to himself and to the world that he does not know whether there is a God, and is indifferent on the subject." There must be quite a number of thoroughly normal people who have no decided views on subjects of this kind. A question we should like to have seen more fully treated is the age at which a boy should leave home and go to a boarding school, because it is one which gives many parents a good deal of anxiety. Dr. Miller suggests 12 as the most suitable age, but there is of course an increasing tendency to make it much earlier. A famous headmaster is reported to have said: "The more I see of the average parent the more I admire the average boy." If this be a correct estimate of the modern parent perhaps the earlier a boy is sent away from home the better it will be for the development of his character!

COLLECTED PAPERS OF THE MAYO CLINIC.

As the twelfth volume of the *Collected Papers of the Mayo Clinic*[4] contains 124 articles arranged under ten heads, it is obviously impossible in the available space even to mention their titles. As will be generally expected, the majority of the papers are surgical; but in the section on the ductless glands, which contains eleven articles, the first is on the fundamental classification of disease by the basal metabolic rate; thus, just as the temperature chart divides diseases into two groups, the febrile and the afebrile, so the basal metabolic rate calls into being three categories—namely, diseases with a normal basal metabolism (a normal heat production), those with a decreased and those with an increased rate. For practical purposes an increased basal

[3] *The New Psychology and the Teacher.* By H. Crichton Miller, M.A., M.D.Edin. and Pavia. London: Jarrolds, Ltd. 1921. (Cr. 8vo, pp. 231. Price 6s. net.)

[4] *Collected Papers of the Mayo Clinic, Rochester, Minnesota.* Vol. xii, 1920, published September, 1921. Edited by Mrs. M. H. Mellish. Philadelphia and London: W. B. Saunders Co. (Roy. 8vo, pp. xi + 1392; 445 figures. £0s. net.)

metabolic rate indicates hyperthyroidism, whether due to Graves's disease or to thyroid adenoma, provided active acromegaly is ruled out and the group of febrile diseases eliminated by a normal temperature. Mr. W. M. Boothby follows up this paper with one on thyrotoxic adenoma, in which, as shown by H. S. Plummer in 1913, the hyperthyroidism is quite distinct from that of exophthalmic goitre. The relation of hyperthyroidism to diabetes mellitus is discussed by Professor Reginald Fitz, and the activity of the surgeons is shown by Dr. de Pemberton's analyses of over four thousand thyroidectomies in three and a half years, of which five hundred and forty-two were substernal and twenty-five intrathoracic goitres. Professor E. C. Rosenow's papers on influenza and influenzal pneumonia are well illustrated, and Dr. Stokes has several interesting articles in connexion with various aspects of the salvarsan treatment of syphilis.

Dr. W. J. Mayo contributes no fewer than eight papers dealing with such various subjects as the calloused ulcer on the posterior wall of the stomach, the conservation of the menstrual function, haemolytic jaundice, and the relation of anatomy to present-day surgery; in the course of the last article he has occasion to quote a surgeon of the past to the effect—"Damm the anatomy, stick close to the bone," and therein is contrasted the vigorous language of a bygone day with a most gratifying unfamiliarity with such words and their spelling on the part of one of the famous chiefs of the Mayo foundation. Professor Charles Mayo with five articles, and Professor L. B. Wilson with six papers, set a good example of continued hard work. The volume is generously and successfully illustrated, and cannot but excite sincere admiration and a most cordial welcome.

MEDICAL HISTORY.

THE final number of volume iii of the *Annals of Medical History*[5] has on its cover the portrait of Dr. John Bard, who was educated in Philadelphia under Dr. John Kearsley, senior, and was a successful physician in New York, where his son Samuel founded the first medical school of that city. Reference is made to John Bard in Dr. W. S. Middleton's well-illustrated account of the two John Kearsleys, uncle and nephew, of Philadelphia. In his final instalment of "Montaigne and Medicine" Captain J. S. Taylor, of the United States navy, traces the essayist's travels in search of relief from renal lithiasis, and gives numerous extracts from his essays, including some on death and old age. Dr. Jacob Rosenbloom records the forty years' friendship and many journeys together in Europe, Asia, and Africa of Dr. Thomas Hodgkin and Sir Moses Montefiore (1784–1885), and mentions that, in addition to describing the disease to which Sir Samuel Wilks unselfishly attached his name, Hodgkin anticipated Sir D. Corrigan by three years in his account of aortic regurgitation. Dr. John Ruhräh's analysis of the literary activities of Dr. John Ferriar of Manchester is mentioned on page 531 of this issue. Mr. C. Sayle, of the University Library, contributes a description of the library of Thomas Lorkyn, Regius Professor of Physic in the University of Cambridge (1564–91), which includes among its 252 volumes eleven incunabula, and is, indeed, his monument, for, unlike his contemporary John Caius, he wrote very little, and travelled not at all. By a happy thought Mr. R. T. Gunther has published for comparison the list of the library ("the rewe of bookes") of Nicholas Gibbard, M.D., sometime demy of Magdalen College, Oxford, and a contemporary of Lorkyn.

Dr. W. J. Turrell, who lives close to Magdalen College, writes attractively on three electrotherapeutists of the eighteenth century—John Wesley, J. P. Marat the revolutionist, and James Graham the fanatical quack, than whom it would be difficult to find more divergent characters and temperaments. Dr. William Abbatt's sketch of Dr. Erasmus Darwin (1731–1802) contains a reference to the literary coterie in Lichfield, and to the absence of mutual admiration between Darwin and Dr. Samuel Johnson, with the comment, "probably a case of two lions each thinking the other superfluous on the (Lichfield) shore." Dr. O. C. Gruner writes on "The interpretation of Avicenna," Dr. Jonathan Wright on "The forerunners of Empedocles and the nature philosophers," and Dr. C. Greene Cumston on the history of the treatment of the surgical affections of the lacrymal apparatus. In a short note on "Emerods, mice and the plague of 1 Samuel, chapter iv," Professor D. Fraser Harris identifies emerods with the bubonic swellings, and comments on the association of bubonic tumours and rodents at a date so remote from the discovery that rodents are a necessary link in the production of human bubonic plague. The psychological mechanisms and determinants of medical satire are discussed by Dr. Isador H. Coriat of Boston, who remarks that Molière's satire of doctors and medicine was a sort of compensation for his own incurable malady, and was probably connected with the deaths of his son and an intimate friend from the administration of antimony. The editor writes on *Le Caducée*, a play with a miserable charlatan as its central figure, which was produced for the first time in Paris a year ago, and is from the pen of André Pascal (the *nom de plume* of Baron Henri de Rothschild), a member of the medical profession; the play should be seen or read by every medical man, for though the quack has often been portrayed on the stage the realism has never been so vivid and grim. Dr. Cowdry writes attractively on Taoist ideas of human anatomy, derived from a visit to the library of the White Cloud Temple near Peking.

[5] *Annals of Medical History*, New York, vol. iii, No. 4, December, 1921 (Serial No. 12). Edited by Francis R. Packard, M.D. New York: Published quarterly by Paul B. Hoeber. (Med. 4to, pp. 301–416. Yearly subscription 8 dols., single numbers 2.50 dols.)

FORENSIC OTOLOGY.

THE medico-legal aspects of otology are often of considerable importance in the civil and criminal courts, in workmen's compensation cases, and nowadays in the assessment of pensions and awards for injuries received in the war. The attitude of the War Office towards this speciality is, perhaps, the reason why an authoritative work on the subject has not been produced by a British otologist. Books written in foreign countries, where the legal practice is essentially different, are naturally of less value here from this point of view, but the book on forensic otology which Dr. R. Imhofer[6] of Prague has written in German will nevertheless repay a careful perusal, for, apart from the strictly medico-legal aspect, he provides a very thorough and careful description of practically every form of injury which can possibly affect the ear. Special attention is paid to war injuries, for most of his experience was obtained while in charge of the aural department of the military hospital at Cracow from 1915 to 1918. The book is intended for the aural specialist, and is too technical to be of use to a lawyer; therefore the first forty pages on anatomy and physiology might well have been omitted. The second chapter is devoted to the examination of the ear from the forensic point of view, and the section on the detection of malingering is particularly interesting; the author does not mention the method of detecting simulated unilateral deafness by speaking through a binaural stethoscope, or similar arrangement of two tubes, one of which is blocked. The third chapter comprises the main part of the book; it deals in great detail with injuries of the ear; they are arranged, not in the anatomical order of the part injured, but according to the cause—cuts, blows, firearms, sudden variations in air pressure, and so forth. This chapter contains reports of many interesting cases from the author's own experience and from that of others, and there is an interesting section on self-mutilation with intent to avoid military service, which would appear to be somewhat frequent.

The fourth chapter is on malapraxis, among instances of which the author gives prominence to unskilful attempts to remove foreign bodies and the syringeing of a traumatic rupture of the drum. The final chapter discusses the relationships of aural disease and psychical disturbances, and the book closes with a full bibliography and a good index. It is a monument of careful work and full of interest to the otologist.

[6] *Gerichtliche Ohrenheilkunde.* Von Dozent Dr. R. Imhofer. Leipzig: Curt Kabitzsch. 1920. (Roy. 8vo, pp. 248; 2 plates and 60 figures. M. 36.)

ENDOCRINOLOGY.

THE enlarged third edition of Dr. COBB's book on *The Organs of Internal Secretion*[7] provides general practitioners of medicine with a full and up-to-date account of the diseases of these glands, and with a manual of the use of glandular extracts in the treatment of disease and ill health. Dr. Cobb is a firm believer in the general utility of treatment with extracts of the thyroid, pituitary, adrenal, and other glands,

[7] *The Organs of Internal Secretion: Their Diseases and Therapeutic Application.* By I. Geikie Cobb, M.D., M.R.C.S. Third edition. London: Baillière, Tindall, and Cox. 1921. (Cr. 8vo, pp. 368. 10s. 6d. net.)

and looks to see an increase in their employment in general medicine. His pages are full of information, and contain many quotations from other authors who have written so largely about the endocrine glands. It would be a convenience if authors could come to some agreement about the exact form of the adjective "endocrine," which has as common variants in English medical literature the words "endocrinous" and "endocrinic." Dr. Cobb solves the problem by using all three.

NOTES ON BOOKS.

To the constant stream of books of instruction for the expectant mother Dr. R. DOUGLAS HOWAT has contributed yet another, which he entitles *The Threshold of Motherhood*.[8] It is a pleasantly and simply written little book of fifty pages, beautifully printed on good paper, and unobtrusively but neatly bound. The subject-matter is, of course, the same as in other books of a similar nature—the symptoms and hygiene of pregnancy, the preparations for labour, an outline of the clinical course of labour, and the preparations for the reception of the baby and its management during the first weeks of life. As compared with the transatlantic books of this kind, Dr. Howat's volume does not go into so much detail, and for this it is none the worse. The author keeps to the essentials and deals with them very lucidly and simply, so that no intelligent woman could fail to understand the teaching he inculcates. Furthermore, the book breathes a certain atmosphere of placid confidence and encouragement which should bring comfort to many a young woman looking forward to her first confinement with some not unnatural trepidation. Dr. Howat's book is not only a safe and sound one to put into the hands of any such woman, but it is, in our opinion, superior in several respects to the general run of such volumes.

A new edition of the *Pharmacopoeia of King's College Hospital*[9] has just been published, sixty-five years after the appearance of the first. In addition to some 85 pages of useful and well-tried prescriptions the little volume includes valuable notes on the preparation of foods, infant feeding, diet in diabetes, urine and other tests, external therapeutic methods, poisons and their treatment, and a table of doses, etc.

BOOKS FOR MOTHERS.

So many books are written nowadays for the improvement and education of mothers in the art of bringing up their children that one almost wonders that matrimony survives as it does. *Sex for Parents and Teachers*[10] is a somewhat sentimental work adorned with quotations from the best authors and poets, in which the processes of generation in plants and animals are traced, and subjects like marriage, purity, and eugenics are discussed in a manner devoid of offence. *The Care of the Adolescent Girl*[11] deals with the psyche of the budding girl, the sublimation of libido, love, and the future of the adolescent female. This is a rather abstruse and perhaps unpractical volume, conceived on Freudian lines, and suitable only for the emancipated woman. *Woman from Bondage to Freedom*[12] is a stirring blast of dogma, written for the American public, and encouraging women, mothers included, to take their rightful place in the world. *The Prospective Mother*,[13] by Professor SLEMONS, may be recommended to those in search of a sensible and simple book on the subject with which it deals. *The Mental Hygiene of Childhood*,[14] by Dr. WHITE, is a book for those who wish to have placed before them their responsibilities as bringers-up of young children. If boys are bad boys, it is the parents that are to blame; and family life is a thing that children can have too much of. Dr. White traces most motives to the sex instinct; his book may be recommended to the discriminating reader.

[8] *The Threshold of Motherhood: A Handbook for the Pregnant Woman.* By Dr. R. Douglas Howat, L.R.C.P. and S. Edin., L.R.F.P.S. Glasg. Glasgow: Maclehose, Jackson, and Co. 1922. (Pp. 49. Price 3s. 6d. net.)

[9] *The Pharmacopoeia of King's College Hospital.* Compiled with the assistance of E. B. Fairweather, F.C.S., M.P.S. London: Adlard and Son and West Newman, Ltd. 1922. (Fcap. 16mo, pp. xii + 169. 3s. 6d.; interleaved, 4s.)

[10] *Sex for Parents and Teachers.* By W. L. Stowell, M.D. New York: The Macmillan Co. 1921. (Cr. 8vo, pp. 224. 17s. net.)

[11] *The Care of the Adolescent Girl: A Book for Teachers, Parents, and Guardians.* By Phyllis Blanchard, Ph.D. With prefaces by Dr. Mary Scharlieb, C.B.E., M.S., and Professor G. Stanley Hall, Ph.D., LL.D. London: Kegan Paul, Trench, Trübner, and Co., Ltd. 1921. (Demy 8vo, pp. 222. 7s. 6d. net.)

[12] *Woman from Bondage to Freedom.* By R. H. Bell. New York: The Critic and Guide Co. 1921. (Post 8vo, pp. xv + 230.)

[13] *The Prospective Mother: A Handbook for Women during Pregnancy.* By J. Morris Slemons. Second edition. New York and London: D. Appleton and Co. 1921. (Cr. 8vo, pp. 351. 9s. net.)

[14] *The Mental Hygiene of Childhood.* By W. A. White. Mind and Health Series, edited by H. Addington Bruce, A.M. London: W. Heinemann. 1920. (Cr. 8vo, pp. 208. 6s. net.)

THE OXFORD AND CAMBRIDGE REPORT.

IN November, 1919, a Royal Commission was appointed in consequence of applications from Oxford and Cambridge for permanent grants from public money to meet the increased costs resulting from the war. The Commission was instructed to inquire into the financial resources of the universities and their colleges, into the application of these resources, into the government of the universities, and into the relations of the colleges to the universities. Mr. Asquith was chairman of the Commission, which worked in three sections—Oxford, of which he was chairman; Cambridge, of which Mr. Gerald Balfour was chairman; and Estates Management, of which Lord Ernle was chairman. The report, issued at the end of last week, falls into three parts: The first is a general review, the second gives the detailed recommendations of the Commission, the third contains the report of the Estates Management Committee. We may dismiss the last part by saying that the Commissioners recognize that it would be unwise to part with land which may be required for the expansion of universities and colleges, and for the development of schools of agriculture, or land which has any value for building or mineral development.

The general review in the first part of the report contains an historical survey, the most striking feature of which is the enumeration of the advantages the universities of Oxford and Cambridge have derived from possessing residential colleges, the institution of which began as long ago as the thirteenth century.

SCIENTIFIC DEPARTMENTS.

The Commissioners note that a considerable amount of time is still spent in the university laboratories of Oxford and Cambridge on instruction in elementary science which could be given at school; this is rendered necessary by the fact that there are still many schools in which the provision of scientific instruction, and more especially laboratory practice, is insufficient. As elementary teaching must therefore be continued in the universities, the Commissioners consider that there is much to be said for the erection at both universities of light and cheaply built laboratories of one story to serve for elementary instruction in all subjects and for examinations. In this way space would be set free in the present university buildings.

The Commissioners are of opinion that a large proportion of the laboratory fee for ordinary students and the whole fee for research students should be paid into departmental funds. The modern universities have recently raised their fees by from 30 to 50 per cent. without provoking comment or affecting the number or type of students. The conclusion is that there is no reason why ordinary students attending laboratories at Oxford and Cambridge should not pay fees up to £50 a year, and full-time research students a similar sum. Every research student or investigator in a scientific laboratory involves a serious expense to the university, and the cost must, so far as it is not met from fees, fall on the general funds of the university. It is suggested that British universities should adopt a uniform policy with regard to the matter of fees paid by research students, more especially by those coming from foreign universities.

Oxford.

The report states that the original application for parliamentary grants, which led to the appointment of the Royal Commission, was an appeal from the heads of the scientific departments submitted to the Board of Education in March, 1919, asking for an annual grant of about £17,200 in respect of sixteen departments, and for a capital sum of £163,000 to meet the requirements of six of their departments. The annual grant asked for was only intended to provide for the work as it had been carried on before the war, and it was stated that further grants would be required as the departments expanded, and that in all probability a larger proportion of undergraduates would study science in future. The Commissioners recognize that Oxford has for a long time been unable to play her full part in scientific teaching and research, and that though many generous benefactions had been received they were not comparable to the large sums which scientific studies had attracted to many other universities in recent times. The teachers have been too few, and on the whole inadequately paid. In several instances the accommodation is insufficient and the equipment incomplete. The number of students, and particularly of research students, has been in some instances lamentably small, and,

in spite of brilliant exceptions, the output of work less than should be expected. The Commissioners consider that a great opportunity has come for science in Oxford, and note that the Natural Science School has grown rapidly, the number of candidates in the final honours school having risen from 96 in 1914 to 174 in 1921. Although in the seventeenth century Oxford had a brilliant group of scientists, the honours school dates only from 1853, and the real development of the modern science school from the erection of the university museum (1855–60). This has had a marked influence upon the conditions of science teaching and research in the university, and in accordance with the original scheme the scientific departments have grown up around the museum and in close association with it. This system of concentration had many obvious advantages, but owing to the area being restricted difficulties of accommodation have arisen and there is no comprehensive scheme of future development. Still the Commissioners consider concentration so important that they favour a proposal, made by the heads of scientific departments, that a proportion of ground in the University Parks, including the present museum and observatory, and amounting in all to fifteen acres, should be reserved for scientific extensions and developments. The Commissioners consider that more accommodation is urgently required, but hold that the details should be left to the decision of the university. Owing to the difficulty of establishing university laboratories a few colleges built laboratories for specific purposes; they have been of the greatest possible value, but they have now become inadequate both in size and equipment, and it is considered that teaching should be provided in one or more university laboratories.

Cambridge.

The Commissioners state that "during the last century the science schools at Cambridge have acquired a position which it is no exaggeration to say is unique in the history of science. They have been centres of fundamental researches in almost all branches of science, as well as training grounds for teachers who have become eminent in their subject and have filled important appointments in many of the universities of the empire. The activities of these schools show no sign of slackening, and the task before the university is to maintain the present position rather than to introduce reforms, except such as are necessitated by the changing conditions of the time." The Vice-Chancellor informed the Commission that to achieve this end an additional annual sum of not less than £14,300 is required for the scientific departments, excluding medicine, and that £7,000 a year is needed for medicine, including £2,100 for human anatomy. In addition large sums are still needed for building purposes.

Financial Proposals.

The Commission recommends that both universities should have full power to fix professorial stipends. It is considered that the average normal stipends now paid to professors and to other teachers and officers of the university are wholly inadequate, and the Commission recommends that the normal stipend of a whole-time professor (for the year 1921) should be about £1,200 a year, but that the stipends of readers and university lecturers should be fixed in accordance with the needs of the work. It is further recommended that the federated superannuation system of the universities should be applied to both Oxford and Cambridge, and that a special grant should be paid by the University Grants Committee to recognize past services for pension.

The Commissioners find that the available incomes of the universities and the colleges together, including the existing emergency grant (£30,000 paid by the State and certain older State grants for specific purposes) amounted in the year 1920, at Oxford to £824,710, and at Cambridge to £719,554 (excluding certain payments received from undergraduates for service). Though these figures are impressive and show that the universities and colleges have at their disposal a very large revenue, even without the State grants already paid to them, the Commissioners are clearly of opinion that the sums available are totally insufficient to meet the existing needs of the universities and colleges; they therefore recommend:

1. That annual grants be paid by the State to each university as follows:

For general purposes	£90,000
For the Bodleian Library, Oxford, and the University Library, Cambridge	£10,000
	£100,000

2. That, in addition, a lump sum be paid for pension arrears.
3. That special annual grants, on the following basis, be paid to each university:

For the Women's Property Committee or similar body (for a limited period of 10 years)	£4,000
For the Extra-mural Board	£6,000
	£10,000

OPERATIONS FOR TONSILS AND ADENOIDS.

RECOMMENDATIONS BY THE COUNCIL OF THE SECTION OF LARYNGOLOGY OF THE ROYAL SOCIETY OF MEDICINE.

THE Council of the Section of Laryngology of the Royal Society of Medicine has drawn up the following memorandum on the general hygienic conditions which should be observed in performing operations for the removal of tonsils and adenoids. It has forwarded a copy to the Minister of Health, and the memorandum will doubtless also receive careful consideration from the President of the Board of Education.

Memorandum.

In view of the great number of children requiring operations for the removal of tonsils and adenoids, and of the varying standard of the provision made by hospital and local education authorities for such operations, the Council of the Laryngological Section of the Royal Society of Medicine, after careful consideration, desire to make the following suggestions:

1. That all clinics, whether at hospitals or schools, should be in the charge of surgeons with special experience of diseases of the nose, throat and ear, so that, *inter alia*, a wise selection may be made of cases requiring operation, and others not requiring operation may be appropriately treated.
2. That all patients requiring operations for tonsils and adenoids should have in-patient institutional treatment, and that a stay of at least forty-eight hours should be insisted on, and a further stay if thought advisable by the medical officer in charge.
3. That parents should be given printed instructions as regards the preparation of the patient for operation, and of the room to which the patient will return.
4. That before the patient is admitted for operation inquiries should be made by a responsible authority as to the home conditions and circumstances, especially with reference to the presence of infectious disease.
5. That when the patient leaves the hospital printed instructions with regard to after-treatment should be given (as per scheme appended).
6. That anaesthetics should be given by anaesthetists with special experience of these operations.
7. That after the patient leaves the hospital with the printed instructions for after-treatment arrangements should be made for the supervision of a qualified visiting nurse.

The Council were of the opinion that where it is impossible in large cities to provide hospital accommodation for all the cases the provision of open-air buildings near the city, adequately equipped for operative treatment, would offer many advantages. These would be specially useful in connexion with school clinics.

Until such provision of adequately equipped in-patient clinics can be arranged, and where it is not possible to keep every child in hospital for forty-eight hours after operation, and the child is operated on in an out-patient department, the Council recommend that several further conditions should be fulfilled:

1. That printed instructions should be given to the patient with regard to preliminary preparation, and investigation should be made beforehand—for example, by a "care committee" or a visiting nurse—as to the adequacy of the home accommodation and supervision, and also the absence of adverse sanitary conditions, risks of contagion, etc.
2. That proper waiting-room accommodation should be provided for patients before operation.
3. That the recovery room should be scrupulously clean, warm and well ventilated, and provided with separate beds or couches for each patient.
4. That patients should be detained in the recovery room until pronounced fit to leave by the surgeon in charge or his deputy.
5. That the recommendation that the child should be visited by a nurse after discharge from the hospital should be insisted on with even greater force in the case of children who are denied the safeguards of in-patient accommodation.
6. That every child who is sent home on the day of operation should be transferred by an ambulance or hired conveyance. Travelling by public tram, bus, or train so shortly after operation is most undesirable, and a source of distress and often of infection.

(Signed) W. MILLIGAN, *President of Section.*
WALTER G. HOWARTH, T. B. LAYTON } *Secretaries of Section.*

March 22nd, 1922.

British Medical Journal.

SATURDAY, APRIL 1ST, 1922.

THE ROUTINE OF OPERATIONS FOR TONSILS AND ADENOIDS.

THE question whether the present arrangements for operating upon tonsils and adenoids in out-patient departments of hospitals and clinics, under which the children are commonly sent home soon after recovering from the anaesthetic, constitutes a proper way of dealing with the condition was raised in our columns in November, 1919, by Mr. Douglas Drew, who had the support of Dr. Peter Macdonald. A fresh stimulus was applied in an article by Mr. E. Watson-Williams, published on December 11th, 1920, in which it was pointed out that the morbidity among children operated on in an out-patient department was over four times as great as among the in-patients. Towards the end of 1920 and at the beginning of 1921 many letters were published in this JOURNAL, dealing with the subject from different angles, and to this correspondence most of the leading throat surgeons of this country contributed. The general opinion was that although it might not be reasonable under present financial conditions to expect hospital authorities to provide the necessary accommodation for the ideal treatment of these cases, yet something ought to be done to enable the children to obtain full benefit from the operation while lessening the risk of complications following it. If the choice of the surgeon lay between operating under the present comparatively unsatisfactory conditions, or not operating at all, then the gain to health by performing the operation was thought to be greater, even taking the risks into consideration, than by not performing it.

The problem has been taken up at this point by the Council of the Section of Laryngology of the Royal Society of Medicine; after careful consideration this body, whose right to give an authoritative opinion will be generally recognized, has made a number of suggestions, which are published at p. 526 of this issue. All cases of enlarged tonsils do not, of course, require operative treatment, and the first of the Council's resolutions emphasizes the need for adequate experience in diseases of the ear and throat by the surgeon in charge of the clinic, so that only those cases for which operation alone can suffice should undergo it. Where, however, the enlarged tonsils are actually diseased, and where adenoids are also present, operative treatment is rightly believed to be the only treatment worth considering. In some newspapers it has lately been suggested that operative treatment was unnecessary for tonsils and adenoids, and that some so-called medicinal treatment should suffice. Though much of the criticism was ill-informed, or expressed in exaggerated terms, yet it rested upon a certain substratum of fact, and it is for the medical profession to take steps to remedy defects in administration which can be shown to exist. Several abstracts of papers published in foreign medical periodicals recommending treatment by *x* rays have recently been published in the EPITOME, but no authority in this country has so far suggested that *x* rays could do more than diminish the size of enlarged, but otherwise healthy, tonsils. In slight cases of adenoids, and when the patient can be placed under good hygienic conditions, iodine in various forms (chiefly certain of the iodides) has been proved to be useful, but its curative value has very definite limitations.

The value of operative treatment for tonsils and adenoids is so widely recognized that the demands have outstripped the resources of the hospitals. The education authorities have done much for the children under their supervision, and in some areas have gone far towards making good the shortage in the voluntary hospital facilities for the treatment of ear and throat diseases; but in many districts even to-day the facilities for the proper treatment of enlarged tonsils and adenoids are lamentably defective, and it must, we fear, be admitted that in some hospitals and clinics the conditions under which the operations have to be performed are far from being in accord with the principles of modern surgery. Although it is clearly impossible to accomplish all that is desirable, since the operations are often urgently required, it is not too much to demand that proper precautions should be observed and proper facilities provided. The Council of the Laryngological Section recommends that in all cases the child should be kept under observation in suitable surroundings for at least forty-eight hours after tonsils and adenoids have been removed, and points out that the period of detention may have to be prolonged should the medical officer in charge consider it advisable. It is suggested that where, in large cities, it is not possible to provide hospital accommodation the provision of an open-air building near the city, adequately equipped for operative treatment, would offer many advantages and would be specially useful in connexion with school clinics. Where all the children operated on cannot be kept in hospital for forty-eight hours much may be done, while waiting for the establishment of adequately equipped in-patient clinics, by a "care committee" or a visiting nurse, who would make preliminary preparations before the operation and visit the patients after they have returned home from the recovery room. The recommendations put forward by the Council of the Section of Laryngology are reasonable and expressed in guarded language. We hope that they will be acted upon by education authorities in consultation with the hospitals. If the former, through their medical officers, take the responsibility, as they do, of advising and insisting upon children being operated upon, and if, as appears to be the case, the courts of law support them in this course of action, every effort should be made to ensure that the operation is rendered as free from risk of complication as possible.

ATMOSPHERIC POLLUTION.

THE Meteorological Office, under the Air Ministry, has issued the seventh report[1] of its Advisory Committee for the Investigation of Atmospheric Pollution. The report deals with observations made in the year ending March 31st, 1921. It contains many tabular statements, various charts, and a large amount of detail relating to the work of that year. It includes also an article by J. R. Ashworth, D.Sc., on a twin atmospheric pollution gauge, and three articles by J. S. Owens, M.D. —on the November fogs in London, dust in expired air, and the relation of visibility to suspended impurity.

The report discusses, in guarded terms, the effect of suspended impurity on health. Statistics of the daily death rate in London for the quarter ending December 31st, 1920, obtained from the Registrar-General, were correlated with the data of atmospheric impurity. The death-rate curve would of course follow, not coincide with, the impurity curve if cause and effect were the relation between them; a diagram given in the report indicates some degree of sequence compatible with that thesis. A complicating factor, however, is pointed out in respect of temperature, which is lowest when

[1] H.M. Stationery Office; through any bookseller. 2s. net, or direct by post 2s. 1½d.

atmospheric impurity is highest, so that the doubt arises whether a subsequent rise of death rate may not be due to the cold rather than to the fog, and the Committee cautiously concludes that "on the whole there is no very obvious relationship between the quantity of impurity in the air and the number of deaths in London." This is a kind of question in which the experience of wide-awake practitioners of medicine as to the effects of fog and cold in setting up fatal respiratory attacks amongst the aged would afford valuable information, to be considered along with the observations and inquiries of the Advisory Committee. In a brilliant address given a good many years ago before the Sanitary Institute by that distinguished scientist the late Sir William Ramsay, much mischief was attributed to atmospheric smoke as directly limiting access of sunlight to manufacturing cities. Its influence on tuberculosis would naturally be thought of in that connexion.

For measuring suspended impurity in London three automatic instruments have been set up—one at South Kensington, another at Kew Observatory, and the third at Victoria Street, Westminster. Particulars, illustrated diagrammatically, are given regarding the observations at Westminster on foggy days, distinguishing week-days from Saturdays and Sundays, when industries and factories are mostly closed down. Curves of observations at the same station are shown for similar groups of days without abnormal fog. It is pointed out that certain features are common to all the curves. The air is purest between midnight and 6 or 7 a.m. A rapid increase of impurity begins about 6 a.m. on week-days, but about an hour later on Sundays. The maximum for the day is reached about 10 to 11 a.m. on week-days and 11 to 12 on Sundays. Then there is a rapid fall until a second, but lower, maximum appears about 4 or 5 p.m., which may continue till about 8 p.m.; after that hour there is a fall until the minimal period, beginning about midnight, is reached. The obvious relation of these curves to human activities is remarked on—the lighting of morning fires, the tea-time rise in the afternoon, and the night period when neither domestic nor factory fires are in operation. The difference between the week-day and week-end data is related to the absence of factory smoke. The ratio of factory to domestic smoke measured in this fashion was 1 to 2.25 at Westminster and 1 to 2.15 at South Kensington. In these parts of London, therefore, domestic smoke seems to be more than double the factory or industrial smoke. The observations refer to the period from October to March, the season when domestic heating is in constant action. Probably there is less seasonal difference in factory than in domestic firing, but that point is not discussed in the report. It is, however, pointed out that London is not a manufacturing city, and that the ratio in such a city would doubtless be different.

The number of stations throughout the country at which observations were made during the year was thirty-one. Of these, six were in the London County Council's area, three in Birmingham, one each in Newcastle, Hull, and Liverpool, and no fewer than nine in Glasgow. The preponderance of Glasgow is remarkable, but it would be unfair to assume that the figures represent the comparative prevalence of smoke in the places named, otherwise the absence of any station in Manchester would suggest its special suitability as a health resort. On the other hand, they cannot be taken as indicating the relative enthusiasm or success of the respective municipalities in the abatement of smoke, for in that case Glasgow might set up its claim for exceptional salubrity. The Lord Provost of that city, however, speaking as member of a deputation the other day to Sir Alfred Mond (we were not aware that Scotland is under his jurisdiction), claimed that in taking proceedings under the Scottish Act it is not necessary to prove, as in England, that the smoke is "black," but only that it is a nuisance. This seems certainly an advantage. The Lord Provost is, no doubt, right in holding that the solution of the domestic problem is cheap gas and electricity, but it will, we fear, be a long time before the public and their landlords are persuaded to give up open fireplaces, and Sir Alfred Mond was careful to emphasize this doubt in his cautious reply to the deputation. He promised, however, to do his best to prevent the valuable report of Lord Newton's Committee from being pigeon-holed.

A NEW ANTIVIVISECTION BILL.

WE published last week (p. 492) an analysis of the provisions of a "Cruelty to Animals Bill" which Lord Lambourne has introduced in the House of Lords. We cannot believe that it will be allowed to pass through the House of Lords as its stands now, for to those who remember the final report of the Royal Commission on Experiments on Animals in 1912 this bill seems merely an attempt to reverse the position which was decided on ten years ago.

Lord Lambourne, when he was Colonel Lockwood, was a member of that Commission. He represented antivivisection, and his name was on the vice-presidents' list of one of the antivivisection societies, but we have reason to believe that it did not long remain there. He was very courteous throughout to the representatives of our science and art; and it is especially to be noted that he carefully stated, in the House of Commons, at the time of the publication of the Commission's Report, that the Commissioners, with regard to Dr. Crile's experiments in 1895, had carefully searched through the whole question and believed that the animals used in those experiments were absolutely senseless, and without pain.[1] Antivivisection has said such things about those experiments that we are glad to recall this statement concerning them.

The Commission ceased to hear evidence early in 1908, but its final report was delayed till March, 1912. We can be sure that much of the delay was due to the desire for unanimity; indeed, Mr. Ram, who succeeded Lord Selby as chairman, was determined that the report should be unanimous. Anybody who will read the report now will observe how it slurs over much that it ought to state emphatically. This slurring is plainly due to the desire to bring all the Commissioners into line. Possibly this was the wisest course. Every one of the Commissioners signed the report. Though there was no minority report, three of them—Colonel Lockwood, Sir William Collins, and Dr. Wilson—signed the report subject to a memorandum, which was appended to it. The Commission recommended certain changes in the administration of the Act. These changes were duly accepted by the Home Office, which alone administers the Act. None of them involved any change in the wording of the Act, so that there was no need for legislation.

The Act, as we all know, is ill drafted, clumsy, and antiquated. It is forty-six years old. It became law in 1876, when there was virtually no bacteriology. It makes no provision for that study. Even now the Home Office has to schedule a bacteriological experiment under Certificate A, which is the certificate dispensing with anaesthetics: thus, many experiments which cause no pain, or are altogether negative, are still reckoned by some members of the public as "vivisection." The Act ought to have been simplified long ago. Still, the Commission was of opinion that "the present system, although open to adverse criticism which has been indicated, has nevertheless been so

[1] Parliamentary Debates, vol. xxxv, No. 20, p. 1045.

worked as to secure a large degree of protection to animals subject to experiment, and at the same time so as not to hamper or impede research. Such a system, to which all the parties affected have by long experience become habituated, should not, in our opinion, notwithstanding its imperfections, be lightly thrown away. We believe it to be capable of improvement, and we have made several recommendations calculated, as we believe, more effectually to secure the objects aimed at by the Act."

The Commission therefore recommended: (1) That the inspectorate should be increased; that the chief inspector should be a whole-time officer, and that there should be in addition to him three whole-time inspectors for Great Britain. (2) That an inspector should be present at any experiment in which curare was used, and should satisfy himself that the animal, throughout the whole experiment and until its death, was in a state of complete anaesthesia. (3) That an inspector should have power to order the painless destruction of any animal which, having been the subject of any experiment, showed signs of obvious suffering or considerable pain, even though the object of the experiment might not have been attained, and that in all cases in which, in the opinion of the experimenter, the animal was suffering severe pain which was likely to endure, it should be his duty to cause its painless death, even though the object of the experiment had not been attained. (4) That an advisory body should be appointed by the Home Office, from a list of names submitted to the Home Secretary by the Royal Society and the Royal Colleges of Physicians and Surgeons in London, and that no person so elected should be the holder of a licence.

These recommendations were adopted by the Home Office, which for ten years has administered the Act wisely and carefully. Now comes Lord Lambourne's amazing bill. We call it his bill, but it seems the work of Mr. Stephen Coleridge at his worst. For example, it demands that the Home Secretary, in the granting of a licence, "shall pay special regard to the applicants' reputation for humaneness." That is Mr. Coleridge all over. Again, it demands that curare shall not be used or administered for the purpose of or during an experiment. That likewise is Mr. Coleridge all over. Professor Starling thoroughly explained to the Commission the use of curare, not instead of an anaesthetic, but for a specific purpose which would not interfere with perfect anaesthesia. This use of this very rare drug is absolutely painless. The Commission went too far in 1912, when it recommended special precautions about curare; and now Lord Lambourne would go a great deal further.

Now we come to a very bad fault of this bill. It proposes that "a licence shall not authorize the performance of more than one experiment, or one series of not more than six connected and consecutive experiments." In the testing of milk, the standardizing of drugs, and much work done for Government and various public bodies, many experiments are made; they do not involve any operation, but they are very numerous. For instance, to go so far back as 1908, no fewer than 12,500 observations were made for the Royal Commission on the Disposal of Sewage. Young fishes and fishes' eggs were exposed to the influence of effluents in different stages of purification and dilution. That is all that was done to them. Yet every one of these 12,500 observations was counted by the Home Office. With Lord Lambourne's bill that would require 2,083 licences. A worse fault of this bill is the demand that an inspector shall be present throughout the whole of any experiment involving an operation. This legion of useless inspectors would be in the way; they would do no good, and they would be a heavy expense to the tax-paying public. The worst fault in the bill, however, is the demand that no animal after operation shall be kept for observation. When we look back over the past forty years of physiology and surgery in this country we see how this extraordinary demand is calculated to ruin our physiology and surgery in more ways than one.

Perhaps Lord Lambourne is planning to give way over some points, and to save enough of his bill to stir up the Home Office. That would please some of his advisers. But the Home Office is not likely to play fast and loose with the report of 1912. And we may doubt whether we shall hear anything more of this curiously perverse bill.

THE CONFERENCE OF HOSPITAL STAFFS.

In the Supplement of this issue is published a full report of the proceedings of the conference of members of the staffs of voluntary hospitals held in London on March 22nd at the instance of the Council of the Association. The report of the Council on the organization of voluntary hospitals, published in the Supplement of February 25th, was under consideration. The proceedings occupied a whole day, there was a good attendance, and the report is a sufficient indication of the keenness of the interest shown. The report of the Council is a long document, dealing with many matters of principle and detail, and that its fifty or more recommendations should have been considered seriatim in an open conference of hospital staffs from all parts of England and Wales, and approved by heavy majorities in all essential respects, is strong testimony to their general applicability. The keenest discussion centred around a few crucial recommendations. Chief amongst these was paragraph 33, or what is commonly known as the Leicester resolution, and until this was disposed of (at the opening of the afternoon session) the morning's debate tended again and again to turn to its subject. At the outset it was clear that the conference accepted without demur the paragraph recommending that "indigent" patients—those certified by the almoner or other officer of the hospital as unable to contribute in any way towards their maintenance and treatment—should receive hospital benefit through the gratuitous contributions placed at the discretion of the hospital managers and by the gratuitous services of the honorary medical staffs. There was no doubt of the complete unanimity of the meeting on this head. Further, the conference was unanimous in agreeing to the recommendation that when the Board of Management of a voluntary hospital enters into a financial arrangement with a public authority, an employer of labour, approved society, insurance company, or under a contributory scheme, or otherwise, for the reception of patients, such arrangements should be taken to cover the cost of maintenance and treatment, and a percentage of all such receipts should be passed into a fund which is at the disposal of the honorary medical staff of that hospital. There was thus complete agreement on the two extreme positions of the problem; it was on the intermediate position that difficulty arose. The point at issue was whether or no the part-paying patient should have the gratuitous services of the staff. On the one hand it was argued that to take a toll on the small payments of these patients would be mean, on the other hand that as a matter of principle a payment by a patient removed him by that degree from being a charity patient, and that unless this principle was recognized there would be no limit to the extension of part payments. The Leicester resolution was carried by a large majority (85 to 28.) This is the fourth time this resolution has been submitted to a considerable body of the profession and carried; the three previous occasions were the conference of hospital staffs in December, 1920, the Representative Meeting in July, 1921, and the Conference of London hospital staffs in November, 1921. To judge by the speeches at the meeting last week, it would appear that the minority opposed to the resolution was mainly composed of representatives of the larger teaching hospitals. There is little doubt that members of the staffs of these hospitals are in an exceptional position as compared with their colleagues at other voluntary hospitals to which medical schools are not

attached. Nevertheless, not a few members of the teaching hospitals argued forcibly for the necessity and justice of this recommendation. The definition of the voluntary hospital gave rise to a brisk debate not unrelated to the foregoing considerations, but little was said beyond what has appeared in a recent correspondence in our columns. The sections of the report dealing with the new matter of contributory schemes were received with a remarkable degree of unanimity, particularly the recommendation that no insurance risk should be taken by the hospitals themselves, lest it should limit their independence in the selection of patients and involve the diversion of the charitable funds of the hospital; so also was the recommendation that consultation and specialist services under such schemes should be arranged at the homes of the doctors or patients, and not at out-patient departments. There was some criticism of the classification of patients under the terms: Free (indigent), Tariff, and Private, but it was finally accepted as the simplest and most explicit. Certain recommendations dealt with the more intimate relations of the members of hospital staffs themselves, and these had varying fates. Some that appeared to trench upon the prerogatives of the staffs were rejected; but a recommendation that the age limit or tenure of office of members of honorary staffs should where necessary be so modified as to allow more and younger practitioners to obtain responsible hospital experience received a very generous reception and was agreed to unanimously. This is the third conference of hospital staffs which has been called by the Association, and the response thereto on this, as on former occasions, indicates that the opportunity for these open discussions is greatly valued.

CALCUTTA SCHOOL OF TROPICAL MEDICINE.

THE School of Tropical Medicine and Hygiene and the Carmichael Hospital for Tropical Diseases at Calcutta were opened by Lord Ronaldshay, Governor of Bengal, on February 4th. In our issue of December 3rd, 1921 (p. 957), it was noted that the School of Tropical Medicine and Hygiene had begun work in the previous November, when a telegram of congratulation, announcing that the first lectures had been given, had been sent by the director, Lieut.-Colonel J. W. D. Megaw, I.M.S., to Sir Leonard Rogers, who played the leading part in the inception and carrying through of this great enterprise. In the JOURNAL of April 23rd, 1910 (p. 1010), the very great advantages which Calcutta offered for the establishment of a school of tropical medicine were pointed out; not only is the variety of clinical cases illustrating tropical diseases unsurpassed, but there is an excellent hospital and medical school, with a highly qualified staff accustomed to teaching, and for the greater part of the year the climate is no drawback. Some eleven years ago the general scheme for the school of tropical medicine was worked out by Sir Leonard Rogers, but its subsequent history has been marked by many delays, not a few of them to be traced to the war; the foundation stone was actually laid by Lord Carmichael, Governor of Bengal, in February, 1914. The hospital has accommodation for about 100 patients, European and Indian, while the school has chairs of tropical medicine, pathology and bacteriology, protozoology, pharmacology, serology, public health, and chemistry, to which appointments have already been made; professors of hygiene, entomology, and biochemistry have still to be appointed. In addition, there are assistant professors of the chief subjects, and a number of special research appointments have been made. The nucleus of a reference library has been formed, mainly by gifts from Sir Leonard Rogers. In the report of the director for 1921 it is stated that classes will shortly be opened for the diploma in public health of Calcutta University; classes for the diploma in tropical medicine have already begun. The director considers that the result of the first year's working has entirely removed the doubts and fears which assailed him when he entered on his responsible duties. Considerable progress has also been made in the research laboratories, and reports have been published of work in connexion with leprosy and kala-azar and filariasis, and on the work of the hookworm laboratory.

THE SPECIAL SURGICAL HOSPITAL, SHEPHERD'S BUSH.

THE decision to retain the Special Surgical Hospital for wounded soldiers at Shepherd's Bush, instead of removing it to the huts recently occupied as the South African Military Hospital in Richmond Park, will be received with widespread satisfaction. It was generally thought that no other course was possible in view of the debt which we owe to the men who are still suffering from injuries inflicted during the war. As the dispute between the Ministry of Pensions and the Hammersmith guardians has been settled, the actual terms of the agreement are of little consequence. We all recognize the necessity for economy, but nothing would have justified the practising of an economy at the expense of these ex-service men who still are in need of treatment. During last year nearly 4,000 officers and men were under treatment in the hospital, nearly 2,500 operations were performed, and there was a total of over 101,000 out-patient attendances. There are thousands of wounded men still under treatment, many of them grievously injured, and it is clearly the duty of the country to do what is best for them. For the sake of these men we rejoice that a way out of the deadlock has been found and that the hospital, with its elaborate equipment of baths, gymnasiums, workshops, and departments for electrical treatment and massage, will be allowed to continue its most necessary and beneficent work. The settlement which has been reached cannot, however, be considered as final. It is essential to look forward to the time when some permanent provision will have to be made for those wounded men who may from time to time need operation or treatment, after the present buildings have had to be given up. A hospital with a large out-patient department will be needed. The country will not tolerate any attempt to treat these chronic and mostly incurable cases under conditions which would not for a moment be sanctioned for a Poor Law infirmary. The problem is by no means an easy one, but unless those in authority exercise foresight, no adequate provision will, when the time comes, have been made for the suitable housing and proper treatment of those ex-service men whom we are bound in honour to care for as long as they are in need of help.

THE DANGERS AND LIMITATIONS OF SALVARSAN.

THE full dress debate on salvarsan at the Berlin Medical Society, which took place on January 25th, and which is reported in *Deutsche medizinische Wochenschrift* for February 16th, was marked by a certain reticence on the part of speakers conscious of the agitation against salvarsan in the daily press and of the likelihood that admissions of failures and disasters would be relentlessly exploited by the lay critics of salvarsan. One of the speakers, Arndt, admitted that although every precaution had been taken, there had been several waves of fatalities. He himself had observed only four deaths between 1914 and 1918; in 1919 he had seen none, and in 1920 he had again seen none, although he had given 24,000 injections in that year. But in 1921, during which year he had given 14,000 injections, he had had eight deaths. With regard to the frequent occurrence of acute or subacute yellow atrophy of the liver, he said that most of the patients were over 40, and that salvarsan jaundice was most common in connexion with tertiary syphilis. Owing to salvarsan fatalities the dosage had been reduced, and the exhibition of the drug had been limited in the main to primary and secondary syphilis; these two precautions had practically eliminated salvarsan jaundice. He was inclined to treat almost every case of tertiary syphilis with iodine and mercury only. The results they produced were quite satisfactory. He never gave more than 0.45 gram to men nor more than 0.3 gram to women at one injection, and his total dose for men and women was 4.0 and 3.6 gram respectively. He had often observed

a change in the temperature curve as the only sign of impending salvarsan poisoning, and he took this sign as an indication for immediate cessation of treatment. Recent improvements in the manufacture and control of salvarsan were discussed by Kolle of Frankfurt. The control, he said, was becoming closer, and a keen watch was kept for specially neurotropic consignments of salvarsan by biological tests on rats. He believed, however, that the angio-neurotic complications of salvarsan preparations were mainly due to the metallic salts they contained, and as these properties could not well be tested on animals, it was necessary to test consignments of salvarsan clinically; when they betrayed these undesirable properties after the administration of small doses the particular consignment concerned would be withdrawn from the market. He referred to the detoxication of salvarsan by the addition of a 40 per cent. solution of grape sugar (*Epitome*, February 4th, 1922, No. 102), but he had grave misgivings as to the wisdom of combining salvarsan with mercurial injections. Of the various salvarsan preparations, neo-silver-salvarsan had impressed him most favourably, and experiments on animals with salvarsan alone, and salvarsan *plus* mercury, had shown him that within thirty days of infection a *sterilisatio magna* was feasible in 100 per cent., as shown by the animals' susceptibility to re-infection. But ninety days after infection not a single animal was cured. Both these speakers, it will be observed, emphasized the value of salvarsan early in syphilis and its comparative futility late in the disease.

PROFESSIONAL PROTECTION SOCIETIES AND INCOME TAX.

FROM inquiries which have reached us it is clear that there is some doubt as to the admissibility, as deductions for income tax, of payments charged in the statement of professional expenses in respect of subscriptions to societies whose purpose it is to assist the medical practitioner in defending himself from attack. The growth of this form of co-operation has now covered almost the entire professional and industrial field, and in the case of large commercial concerns considerable amounts are sometimes involved. It is, of course, clear that in such cases the subscriptions may be intended to serve many objects, some of which—for instance, the provision of a pool of profits for distribution among the members during strikes or lock-outs—may not provide legitimate grounds for treating the payment as an expense proper to an income tax calculation of profit. The leading case on the point is known as the Lochgelly Iron and Coal Company, Limited, *v.* Crawford; the effect of the decision in that may be said to be that so much of each subscription may be deducted as represents the portion expended on objects which would have been good ground for a claim by the individual member if he had made the payment direct; in other words, the subscription must be divided according to the legitimacy for income tax purposes of the ultimate expenditure. If, for instance, 25 per cent. of a medical defence society's subscriptions for 1921 is expended in building up a reference library or some other object involving "capital" outlay, and the remaining 75 per cent. is spent on defending the professional conduct of its members, then under the Lochgelly decision each member can claim to deduct 75 per cent. of his subscription. One or two minor points may be mentioned. It will be seen that it is not necessary to trace the expenditure of any individual subscription—an impossible task. The judges in the Lochgelly case seem to have accepted as a matter of course the idea that the proper basis was furnished by the aggregate expenditure, without inquiring as to how the Lochgelly company itself actually derived any benefit. Also it has to be borne in mind that this case related to Schedule D; it is probable that under the stricter Schedule E rule no such allowance would be upheld in the courts. In the third place, although a substantial portion of the subscriptions of industrial and commercial concerns *may* be held up for future contingencies or more directly applied to "capital" purposes, as distinct from being applied on revenue account, that consideration has little force as applied to professional societies. Consequently it is likely that there would normally be a smaller percentage open to rejection by the income tax authorities; seeing that the annual subscriptions are comparatively small it is not a matter for surprise that in many cases local inspectors regard the matter as covered by the maxim *de minimis*. Nevertheless the point is sometimes raised, and a brief statement of what we understand to be the practice may be of some utility. The difficulty of the Lochgelly decision lies in its practical application. It will be realized that the allowable percentage of the subscription depends on matters of some complexity, which can adequately be dealt with only after detailed examination of the accounts of the society. In these circumstances the Board of Inland Revenue — as was explained by official witnesses before the Royal Commission — have entered into "arrangements" with various societies, the essence of which is that the Board agrees to the allowance to the members of their individual subscriptions, and the society acquiesces in assessments made upon itself on the basis of the excess (if any) of its receipts over its expenses so far as these are legitimate for tax purposes. Where such an arrangement is not made the society cannot be assessed for the excess of subscriptions over its expenses because it is not legally assessable, but, on the other hand, each individual member may be called upon to prove what proportion of his subscription is allowable under the Lochgelly decision. The practice in question seems not unreasonable, and was apparently so regarded by the Royal Commission, but where the subscriptions are so small that the non-allowable percentage is already covered by the practice *de minimis* no useful purpose would be served by taking any action to bring any particular society within the "arrangement" provided by the Board of Inland Revenue.

JOHN FERRIAR, M.D.

ALTHOUGH a pioneer in preventive medicine, a most able critic, a poet of no mean parts, an antiquarian, and an essayist, John Ferriar's (1761–1815) name is now little known to members of his profession. His life in the *Dictionary of National Biography*, by a lay hand, deals chiefly with his contributions to general literature, and in a scholarly account of this interesting personality Dr. John Ruhräh[1] of Baltimore remarks that "few physicians to-day who do not lean to literature have ever heard of Ferriar." There is, however, a full account of his life, with much detail about his endeavours to improve the sanitary condition of Manchester in order to prevent the ravages of typhus, in Dr. E. M. Brockbank's *Sketches of the Lives and Work of the Honorary Medical Staff of the Manchester Infirmary*, to which Ferriar was honorary physician from 1790 to 1815, and where a small ward bears his name. Born at Oxnam in Roxburghshire and medically educated at Edinburgh, Ferriar began practice at Stockton-on-Tees in 1782, but three years later he moved to Manchester, and at once became active with his pen; in 1786 he produced papers on "Popular Illusions and more particularly of Modern Demonology," and "On the Dramatic Works of Massinger"; in the following year he turned out no less than five papers dealing with antiquarian, theological, and physiological subjects. In 1788 he published *The Puppet Show, a Didactic Poem*, and his best known work, *Illustrations of Sterne, with other Essays and Verses*, of which Dr. Ruhräh says that "it is easy to read and may be recommended to every lover of Sterne and to every hater of Sterne—there are some such stupid people in the world—so it must give endless satisfaction." In it Sterne's plagiarisms from the old French novelists, Bishop Hall's sermons, and from Burton's *Anatomy of Melancholy*, are incidentally shown up; but Dr. Ruhräh pleads that nearly all great literary lights have done likewise, and that Sterne improved whatever he borrowed, making it sparkle and giving it a worthy setting; so that the reader will appreciate Sterne's version more highly than Burton's

[1] *Ann. Med. History*, New York, 1921, iii, 343–353.

original; and he remarks that Ferriar points out the service thus rendered and he dedicates an appreciative sonnet to "Sterne, for whose sake I plod thro' miry ways." Ferriar's "The Bibliomania, an Epistle to Richard Heber, Esq.," contains many fine lines, and was followed by *The Prince of Angola*, a tragedy. Of his medical works, the most substantial was *Histories and Reflections*, in three volumes (1792, 1795, and 1798), to which a fourth volume was added when a second edition appeared in 1810–13. *An Essay on the Medical Properties of Foxglove*, from his pen, saw the light in 1799, but the best of his professional contributions, one that, to quote Dr. Ruhräh, reads like a novel, or rather like a collection of modern short stories which any mystery magazine could publish with but few changes, is entitled *An Essay towards a Theory of Apparitions*, and appeared in 1815.

ANAPHYLAXIS AND ANAPHYLATOXINS.

AT the meeting of the Royal Society on March 16th Drs. H. H. Dale, F.R.S., and C. H. Kellaway presented a paper dealing with the two main theories put forward to explain anaphylaxis to a soluble foreign protein—namely, the theory of cellular antibody, and that of anaphylatoxin. They produced new evidence in favour of the first theory. A purified, concentrated precipitin for crystallized egg-albumen was prepared, and a control preparation was made of similarly concentrated globulin from normal rabbit's serum. Guinea-pigs were rendered passively anaphylactic to egg-albumen by an injection, two days previously, of the precipitin. Intravenous injection of a further dose of the same precipitin, given a few minutes before a dose of egg-albumen, suppressed the anaphylactic reaction completely; normal rabbit globulin showed no trace of such protective action. Similarly, isolated plain muscle from anaphylactic guinea-pigs, suspended in saline solution, was completely protected from the stimulating effect of egg-albumen by adding to the bath the precipitin which caused the anaphylactic condition; normal globulin had no protective action. The nature of so-called "anaphylatoxins" produced by digesting serum with carbohydrate sols, etc., was examined, and evidence was obtained that their toxicity is due, not to protein cleavage, but to formation of complexes which keep the foreign colloid finely dispersed in the finished product. The anaphylatoxins produce symptoms which are not identical with those of true anaphylactic shock, and do not act on isolated plain muscle as the anaphylactic antigen does, but only exhibit their action in the presence of the circulating blood. Their action is attributed to exposure of the blood to a large foreign surface. One dose of anaphylatoxin renders an animal insensitive to another, but leaves it, if anaphylactic, sensitive to the antigen.

THE RUSSIAN EPIDEMIC MENACE.

A CONFERENCE, called at the instance of Poland by the League of Nations to concert measures to prevent the spread of typhus fever and cholera westward from Russia and the border countries, was opened last week in Warsaw. The *Times* correspondent states that twenty-three countries were represented, including Turkey, Germany, and Soviet Russia. Great Britain was represented by Dr. S. P. James, of the Ministry of Health. Three subcommittees were appointed—one to study the epidemic conditions in Russia and the neighbouring States; another to examine the measures taken or contemplated by the several Governments, and a third to recommend means to prevent the epidemics from spreading westward. It is from Western Russia that the chief peril to the rest of Europe comes, and the Ukrainian Red Cross reports that in the south-west the conditions are terribly bad. Both typhus and typhoid fever, which were prevalent in December, were more widespread in January, and are believed to have increased since. It is expected that under the impulsion of famine the people will endeavour to migrate westward as early in the spring as the roads become passable. As to the interior of Russia, what has already been published from time to time with regard to the condition of medical affairs and the medical profession may be supplemented from a paper recently contributed to the Danish *Ugeskrift for Laeger*, the journal of the Danish Medical Society (February 2nd, 1922), by Dr. J. W. S. Johnsson. He writes of "the systematic extinction of Russian scientists," and bases himself on statistics contained in a journal called *Rul*, published in Berlin. Deaths by execution are, he says, printed in one list and deaths by starvation and disease in another. In *Rul* (No. 283, for October 21st, 1921) the first list contains "only" 22 names, while there are 78 in the second list. It is stated that the gynaecologist, Professor Fenommenow of Petrograd, has died of starvation, Professor Brinno was shot in Kiew by the Bolshevists, and Professor Ott, one of the most notable Russian gynaecologists and the Tzarina's personal medical attendant, has died in the Caucasus in the greatest poverty. It would seem that Kiew was the scene of the worst atrocities and executions, and that Petrograd and Moscow come next. The death of Dr. Farrar from typhus in Moscow last December will be fresh in the minds of readers, and recently Professor Nansen stated that he had lost two of his assistants, the Swedish expedition a nurse, the Quakers two of their men, and the Germans one. He estimates that during the past two years about twenty million Russians have suffered from typhus fever, but as the recorded mortality was only about 1 per cent., either the total is over-estimated or the number of deaths under-estimated. Professor Nansen anticipates a serious outbreak of cholera in the spring, and stated at the beginning of this month that the disease had already broken out in the Ukraine.

PSYCHOLOGY IN INDUSTRY.

A MEETING in support of the newly incorporated National Institute of Industrial Psychology was held at the Mansion House, London, on March 27th. Dr. C. S. Myers, F.R.S., who is retiring in June next from the directorship of the Cambridge Psychological Laboratory in order to act as director of the Institute, submitted a resolution emphasizing the need for applying its methods and aims to the better utilization of the human resources of the nation. Dr. Myers said that the Institute, even thus early in its career, had received the thanks not only of employers but of employed. A system of vocational selection was being recommended to employers, not as a substitute for, but as supplementary to, the ordinary interviews with candidates for posts, and as a means of assigning to each worker the most suitable task. He dwelt upon the growing appreciation of industrial psychology in the United States and in Germany. The latter country, where both employers and trade unions were realizing the value of such guidance, seemed likely in the future to exalt the human factor as much as in the past it had exalted the material. Vocational psychology was like medicine and surgery in that it depended upon both research and practice. He instanced the work of the scientific committee of the Institute, which, among other investigations, had occupied itself with the effect of atmospheric conditions on mental efficiency, the measure of mental weariness by means of changes in the span of apprehension to groups of sounds, the acquirement of motor habits, the intellectual and emotional development of adolescents, the tests of physical fitness and determination of standards (this last under the direction of Professor A. V. Hill), and variations from the normal of pulse and reflexes through fatigue (the work of Dr. B. A. McSwiney). Among those who spoke in support of the resolution—which, of course, was carried—was Viscount Haldane, who said that although the word "psychology" was suspect in many quarters, the sphere of psychology with which the Institute was concerned did not embrace those fascinating studies of the subconscious, such as dream phenomena, but was limited to a very simple method of applying exact observation in industry. The new science of psychology, which was really the application of an old science, came to the assistance of physiology at many points, and he believed that its pursuit would help to break down the common distinction, so often confusing, between brain work and manual work. He hoped to see the labour

of a man conceived as a single thing, not split up into arbitrary divisions which had little correspondence with reality. We may respectfully express the hope that the new psychology will be applied in some way to public speakers, so that they may adjust their voices to acoustic conditions; the noble Viscount's remarks cannot have been heard beyond the small semicircle in front of him, and the hall contained several hundreds of people.

CHEAPER SPAS.

One result of the formation of the British Spa Federation appears to be an effort to reduce the cost of visiting British spas. Dr. Fortescue Fox, in a letter published at page 542, makes two points: the one is that British spas have not made arrangements to meet the needs of persons of moderate means. The rich patient can go to an hotel, and at many of the spas there is a hospital, or more than one, for patients whose financial position entitles them to free or assisted treatment. The suggestion is that pensions or hostels should be established for such persons; this would have the double advantage of enabling them to visit the spa without unduly straining their resources and, while there, of being provided with a diet suitable to their state of health. At many foreign spas, especially in Germany and Austria before the war, pensions, with rates adapted to shallow as well as deep purses, were always provided by private enterprise, and there seems no reason why this should not be done in this country. Diet is often, perhaps usually, an important part of the treatment at a spa, and at many foreign spas medical regulations are rigidly enforced. The same is, we fear, not true of most British spas, where a patient may even have difficulty in obtaining in his hotel or pension the diet prescribed by his medical advisers. The other point is as to railway fares; Dr. Fortescue Fox calculates that it may be cheaper to visit a French or Swiss spa than to make the journey from London or the South of England to Scotland. Representations on this head have been made by the British Spa Federation to the railways. In some foreign countries the spas are subsidized by the railways, but in this country the railways seem to be bent on making as much as possible out of patients desiring to travel. The spas embraced in the federation have, we are informed, reduced the prices of mineral water and of various other medical treatments, and steps are being taken to induce hotels and other interests to fall into line with this effort to encourage the use of British spas by British patients. We hope that the railway companies will reconsider their charges and arrangements.

PUBLIC HEALTH TRAINING IN AMERICA.

Contemporaneously with the revision of training and examination for the Diploma in Public Health in this country, the subject is being discussed in connexion with the medical schools of the United States. A conference of academic authorities was arranged to take place at Washington in the middle of March to discuss the future of public health in the United States and the education of sanitarians. The chief subjects on the programme for discussion on the first day, when Dr. William H. Welch was to be in the chair, were the present state of the education of sanitarians, and some of the newer aspects of public health, such as mental and child hygiene, physical education, and industrial hygiene. The second day was devoted to a consideration of the kind of sanitarians needed for the future and how they can be recruited. On the third day the chief subject was the training of sanitarians. In a circular announcing the conference the Bureau of the Public Health Service of the United States draws attention to the rapid development of the public health movement, the shortage of trained officers, and the inadequate facilities for their education, and states that "there has never been so much interest among people generally in public health"; it is held that with a sufficient supply of trained officers it would be possible "to immeasurably increase the health, efficiency, and happiness of the American people." Last year the American Public Health Association, which includes Canadian members, appointed a committee to consider the standardization of public health training. In its report the pressing need for standardization is demonstrated in two tables containing a list of the universities and schools giving diplomas in public health and indicating the previous training, and the time to be devoted to special study for each. For the highest, that of Doctor of Public Health, when conferred by Yale, Harvard, Johns Hopkins, Columbia, and other schools of high repute, at least two years of special study are required, and the candidates must be graduates in medicine. But there are marked differences, and the Public Health Association's Committee states that the most serious defect in the whole system at present "lies in the fact that certain institutions give not only the certificate in Public Health, but even the doctorate in Public Health for a course of a few weeks, while others require a period of almost three years, and it seems most desirable to effect some form of standardization in this field." One remarkable body, indeed, requires only a thirty-six hours' course, but it is explained, as regards previous training, that there are "no recent data available" for the body in question, which has its headquarters in Chicago; it must be a law to itself, and its degrees are no doubt valued at their real worth. Other diplomas granted by various institutions are Doctor of Philosophy in Public Health, Bachelor of Science in Hygiene or Public Health, Certificate in Public Health (C.P.H.) in Industrial Hygiene, in Nursing, and in quite a number more. Canada has evidently followed the lead of the old country, for its medical schools instead of a Dr.P.H. give a D.P.H., always based on a degree in medicine, though the period of special study appears to be shorter than for some of the doctorates in the States. From the documents before us it is evident that the whole subject is being thoroughly considered. Meantime the Committee recommends *inter alia*, "That the authorities having the appointment of health officials be urged to give preference so far as possible to persons holding degrees or certificates in public health or hygiene."

We regret to have to record the death of two veteran members of the British Medical Association: Dr. Charles Parsons, formerly of Dover, died at Tunbridge Wells on March 24th; he had reached his 90th year; he was Treasurer of the Association in 1896–98. Dr. W. Ainslie Hollis of Hove died there at the age of 82 on March 26th; he was President of the Association when it held its annual meeting in Brighton in 1913.

Medical Notes in Parliament.

[From our Parliamentary Correspondent.]

Nurses' Registration.

A debate was raised on March 22nd on the proposed new rules of the General Nursing Council for England and Wales, with special reference to Rules 9 *a* and 43 (2). Rule 9 *a* provided that the Nursing Council might receive for purposes of registration a certified copy instead of the certificate itself. Major Barnett, who moved an address to His Majesty that the rules should be annulled, said that in order to secure a uniform standard of qualification in all parts of the United Kingdom the Act required the English Council, before making any rules as to the conditions of admission to the register, to consult the Nursing Councils of Scotland and Ireland. The Scottish Council had not been consulted as to this rule; it had written to the English Council asking that the rule should be withdrawn, and, pending the adjustment of the matter, had not passed any rule to allow registration of the English nurses on the Scottish register. Sir Alfred Mond replied that he was acting in accordance with the opinion of his legal adviser, and that the rules were purely a matter of machinery, which did no more than prescribe the evidence which nurses were to produce of their qualifications. He had consulted the Scottish Council on several occasions, and on need would do so again; but it was absurd to suppose that the English Nursing Council and the Minister responsible was incapable of carrying out the Act in England except by the consent of the Scottish Nursing Council. There was what he described as a long feud between two nursing associations. Out of some 50,000 nurses 19,000 were on the register of the College of Nursing; under the rule the Registrar of the English Nursing Council would examine copies of the certificates of the College of Nursing to satisfy himself when an application was made, and the same would be done with the other associations; there would be no favour to anybody.

The reason he was taking this action was that since November, when the register came into existence, 3,235 actual cases had been received and only 984 completed. Applications were coming in at the rate of 800 a month, and less than one-third had been finally passed by the Council. The present Council must, according to the Act, come to an end not later than November 23rd next. Out of 50,000 nurses there were only 1,500 on the register, and unless by November 23rd next a large number were enrolled there would be the absurd position of the election of the Council for three years by quite an inadequate number. It was impossible for the chairman of the Registration Committee to go into long details of every one of these certificates and cross-examine in every case. If he did so, many of the nurses would be dead and buried before they got on the register. The Nursing Council had passed this rule by a majority of 16 to 6. The Matrons Association of Great Britain, representing the matrons of the leading London and provincial hospitals, was entirely in favour of the rules; if they were rejected there would be no other course open for him but to move the repeal of the Act, so doing away with the register altogether.

The debate was continued by Mr. R. Richardson, Mr. Lyle, and Captain Elliot, who said that the broad object of the section of the Act was not being fulfilled by the rules. The prime consideration was that the two registers in Scotland and England should be similar and parallel in all respects, and that object was not being attained. The protests from the Scottish nurses had not come from any one section, but from the body legally set up under the Act.

Major Barnett claimed a division, and his motion was rejected by 64 votes to 49.

Smuggling of Drugs into England.—Replying to Mr. Morris, on March 27th, Mr. Shortt said that information was received from time to time that opium, cocaine, and other drugs were smuggled into this country, or sent through the post from the Continent, and it was known that Chinese seamen and others were addicted to the opium habit, but the police were not aware of any organized traffic. Every effort was made to detect offenders, but short of opening all incoming passengers' luggage, the minute search of every passenger, and the examination of every postal package, it would not be possible to suppress entirely the illicit introduction of drugs into this country as long as it was possible to obtain them without difficulty in other countries. International co operation was essential, and the question was engaging the attention of the League of Nations, which had been entrusted by the treaties of peace with the general supervision of the traffic in opium and other dangerous drugs.

Health Services: South Wales.—Mr. T. A. Lewis asked, on March 27th, whether the report of the South Wales Regional Survey Committee had yet been considered by the Ministry of Health, and whether there was a prospect of any of the recommendations being put into operation. Sir A. Mond said the valuable report of the Committee had been carefully considered, but the present was not an opportune time for adopting special measures for carrying out the recommendations of the Committee.

Medical Establishment, Territorial Armies.—Lieut.-Colonel Fremantle asked, on March 23rd, what would be the total number of officers and of other ranks on the peace and war establishments respectively of the several medical units of the Territorial Army on effect being given to the proposed economies; what would be the peace and war establishments of medical officers on the Headquarters Staff of a Division; and whether it was proposed to give generous compensation to D.A.D.'sM.S. of the Territorial Army on the premature termination of their appointment. Sir L. Worthington-Evans regretted that the details of the establishment were not yet sufficiently settled to enable him to publish them. The Deputy Assistant Directors of Medical Services were given two months' notice of abolition of appointment from March 1st, 1922, and they would continue in receipt of full pay and allowances of the appointment up to April 30th, 1922, inclusive.

The Medical Services for the Air Force.—On report on the Air Estimates, Dr. Murray, on March 23rd, inquired as to the reduction in the items of medical services. The amount for 1921–22 was £141,800. The amount for 1922–23 was less by £58,400. Captain Guest, in reply, said that there was a big reduction in payments to hospitals. In 1921–22 these payments amounted to £132,500, but the estimate for 1922–23 was £73,000. This was largely due to a new system in the Royal Air Force of dealing directly with big civilian hospitals instead of keeping up expensive establishments of its own.

Disability Pensions for Tuberculosis.—Mr. Macpherson informed Mr. Tillett, on March 23rd, that cases of tuberculosis, as of other disabilities, would be considered for final award in accordance with the provision of the Act of 1921 as early as possible. He was advised, however, that each case of tuberculosis must be considered on its merits, and that having regard to the nature of this disease, it would not in all cases be in the best interests of the pensioner to make a final award.

Contagious Disease in Uganda.—Mr. Churchill, in answer to Mr. Hailwood, on March 22nd, said there was no analogy between the Contagious Diseases Acts formerly in force in England and the measures which had been in force in Uganda since 1913 for preserving a population ravaged with venereal disease. The questions whether the procedure in Uganda could be improved in detail, and whether special reference to prostitutes could be deleted from the legislation without relieving that class from the examination considered necessary in the case of the general population would be referred to the Governor. He was satisfied, as was Mr. Harcourt in 1913, as to the need for drastic action in dealing with the matter. The main legislation on the subject was a native law of the kingdom of Baganda, passed by and at the instance of the native government; and the administration was a matter for the native chiefs and not for the British officials, though the Government medical officers gave their services in examining the suspected cases sent to them by the chiefs. Corresponding legislation existed to cover the case of those not subject to the native law.

Treatment Centres for Ex-Service Men in London.—Major Tryon informed Mr. Gilbert, on March 16th, that there are five hospitals and nine special medical clinics maintained by and under the direct control of the Ministry of Pensions within the administrative County of London. These are as follows:

Hospitals:
Church Lane, Tooting.
Ducane Road, Shepherd's Bush.
Lonsdale House, Clapham Park.
Ruskin Park, Denmark Hill.
"Fernbank," Roehampton.

Special Medical Clinics:
Cheltenham Terrace, King's Road, Chelsea.
92, Dalston Lane, Hackney.
St. Paul's Schools, Queen Street, Hammersmith.
12a, Lyndhurst Road, Hampstead.
Regent Street Polytechnic, 14, Langham Place, Regent Street.
6, Hatherly Grove, Paddington.
11, Palace Green, W.1.
The Hut, Morpeth Terrace.
28, Nightingale Place, Woolwich.

In addition, the Ministry is making use of some fifty civil hospitals and treatment centres in London at an agreed charge for each patient. The number at present receiving treatment at these institutions is approximately 21,000. There is no immediate prospect of closing down any of the institutions in the London County area, though that prospect is kept constantly in view.

Illegitimacy Statistics.—At the instance of Mr. G. Murray, Sir Alfred Mond, on March 14th, circulated the following comparative statistics of illegitimacy in various countries:

	1913.		Latest Available Figures.		
	No.	Rate per 10,000 of Total Live Births.	Year.	No.	Rate per 10,000 of Total Live Births.
England and Wales...	37,909	430	1920	44,947	469
Scotland	8 548	709	1920	10,204	747
France	65,568	879	—	—	—
Belgium	10,975	641	—	—	—
Holland	3,591	207	1920	4,112	213
Norway	4,360	714	1917	4,466	699
Sweden...	20,160	1,548	1916	18,126	1,490
Denmark	8,313	1,147	1919	7 170	1 043
Italy	52,219	465	1916	36,884	418

Viewing the Body at Inquests.—On a question by Mr. Rendall as to the Coroners Bill which the Government had undertaken to introduce to replace the temporary law, Mr. Shortt promised that in framing the measure he would consider a proposal to make viewing of the body by the jury at inquests optional except when the coroner held that they should view it. There were, he said, strong reasons why the body should be viewed by the coroner, but the whole question would be carefully considered.

Medical Treatment of School Children.—In the debate on the Consolidated Fund Bill, on March 28th, Mr. Fisher warmly repudiated a suggestion from the Labour benches that the Education Act of 1910 was a dead letter; only three of the clauses in that measure had not been brought into operation. He referred with especial pleasure to the medical treatment of children, and claimed that there had been a great increase in efficiency.

Accidents in Factories and Workshops: Remarkable Statistics.—Sir John Baird, on March 28th, corrected an interrogative assertion by Lord Henry Cavendish-Bentinck that the number of preventable accidents in factories and workshops during the year 1920 had increased by 12,750 over the number for the previous year. The figures referred, he said, to the increase in the number of reported accidents, and it was doubtful how far this number represented an actual increase. The number reported for 1919 was surprisingly low having regard to the trade activity of that year, and there was reason to think that there had been great laxity in reporting accidents during that period. The number of accidents fluctuated considerably from year to year according to trade activity and other circumstances, and an increase in one year might be followed by a corresponding or greater reduction in the following. This is what had actually happened in 1921: the rise of 12,750 in 1920 had been followed by a fall—due, no doubt, partly to trade depression—of over 46,000. The Factory Department was not relaxing in any degree its efforts to improve safety conditions in factories.

Answers in Brief.

The Minister of Health has stated that statistics of the number of persons who registered their names with a doctor under the Insurance Acts but did not have recourse to his services in case of illness were not available, but there was no reason to suppose that the percentage was considerable.

Several questions have been addressed recently to the Minister of Health with regard to legislation for the control of milk. Sir Alfred Mond, while expressing his appreciation of the importance of purer milk, has stated that it was equally important to avoid action tending to decrease the production of milk and increase its price to the consumer.

PROFESSIONAL SECRECY.

Resumed Discussion in the Medico-Legal Society.

The discussion in the Medico-Legal Society on "Professional secrecy," which was opened on March 21st and adjourned, was resumed on March 28th, when Lord Justice Atkin again presided over a large attendance. The report of the first part of the discussion, including Lord Dawson's opening speech, appeared in the British Medical Journal of March 25th (page 494).

Sir Lenthal Cheatle raised the question of typhoid carriers and diphtheria carriers, and urged that the State, by requiring the notification of certain infectious diseases, had absolved the doctor from his professional secrecy in these respects. Doctors and midwives also were required to notify gonorrhoeal ophthalmia. He hoped that any legislation which was proposed for giving the doctor a certain amount of privilege would not embarrass the more perfect control of public health.

Dr. R. Langdon-Down thought that the two recent rulings of the court to which Lord Dawson had drawn attention—one in which the director of a venereal clinic was required to disclose, and the other in which a doctor had to produce evidence of notification of birth—although they raised points to which objection might be taken on other grounds, had not been shown to have any bearing on the principle which was to govern disclosure of medical secrets, and they afforded no evidence that the measure of privilege accorded in practice had been cut down. If they agreed with Lord Dawson that there was a limit to the obligation of professional secrecy, then the public should be made fully and clearly aware of this, so that medical men should not be open to the charge of dishonourable conduct when it became their duty to disclose. If they allowed the public to think that confidence was absolute, the public would be rightly aggrieved when it had to be admitted that confidence was limited, and the doctor had to give evidence. No proof had been forthcoming that the requirement of professional disclosure, which had operated for 150 years, had had any effect in sapping the confidence of patients in medical men. Would it not be possible to formulate some principles to govern the limitations as to secrecy? The first, in his view, should be that the rule of secrecy must be departed from in order to prevent injury—which he took to cover injustice of a grave nature—to the patient, other persons, or the State. If the threatened injury was direct or immediate it might justify spontaneous action by the doctor *a fortiori* under legal order. When the threatened injury was remote, contingent, or indirect, departure from the rule could only take place, if at all, in obedience to the law, whether embodied in Act of Parliament or the direction of the court. Generally speaking, if the principle of limitation of secrecy was conceded it seemed to him that the judge was the proper person to decide: the judge stood between the parties, he represented the community, he knew best the reasons for which the evidence was required, and he was a member of the public and a potential patient and litigant.

Dr. MacKeith was against the disclosure of anything whatever. The secrecy of the doctor should be as absolute as that of the lawyer. When it was stated in the Ministry of Health regulations that the secrets of the venereal clinic would not be disclosed, surely a doctor might be legally, as well as morally, justified in disobeying the order of one of His Majesty's judges. As for concealment of birth, it was not necessary for the carrying out of justice that the doctor should notify birth. The ends of justice were not defeated through the doctor not notifying. As for infectious disease, he maintained that it was the patient's duty, not the doctor's, to notify; let the legal onus be laid upon the patient.

Sir Robert Armstrong-Jones said that his sympathies naturally were with medical men in contending for privilege, but he confessed that as a citizen he could not view with approval any immunity conferred upon an individual or a class. Ever since the Reformation it had been the tendency to abolish such privilege. Aristotle laid down the maxim that the State must come before the individual. The true guidance in this matter was one's moral sense, which was decided by the appeal to the intellect and reason, not by authority, or sympathy, or custom. On purely ethical grounds, considering his duty to the State, he found himself unable to support the argument so forcibly brought forward by Lord Dawson.

Sir William Collins said that he went with Lord Dawson to some extent. The relation between a medical man and his patient was a very special one. It included a bodily examination, possibly an inquiry into the mental condition, and possibly also something of moral history. The relationship might be so special and so confidential as almost to be akin to that of the priest. In other respects, however, the medical man could not be compared with the priest or with the lawyer. The medical man was a skilled observer of facts as well as a receiver of communications. He could give evidence as to a wound, a scar, a disease, or an abortion. Therefore the question arose as to when it was the duty of the medical man to communicate information. There was no easy formula which fitted the case. He could not agree with the candidate for the martyr's crown (Dr. MacKeith), nor could he adopt the ethical argument of Sir Robert Armstrong-Jones. He had to come down to a lower plane, and to ask whether some measure of privilege ought not to be conceded. The duty of the medical man with regard to communication varied greatly with different cases. Sometimes, as in a case of malignant disease, it was his duty not to communicate the result of his observation to the patient himself, but to communicate it to the patient's friends; at others, as in venereal disease, it was his duty emphatically to communicate it to the patient himself. The relationships of guardian and minor, wife and husband, fiancé and fiancée, involved special considerations. With regard to criminal abortion, he recalled the case of Kitson *v.* Playfair, in which Lord Brampton asked a medical witness whether he conceived it his duty to communicate with the authorities, and on the witness saying that he did Lord Brampton said that he did not take that view at all, and if it were so he would be very careful in his selection of a medical adviser. Lord Brampton seemed to imply that there was a good deal of discretion under the common law. The speaker applauded the late Dr. Elliott of Chester for his resistance to Mr. Justice Horridge, but would have applauded him more had he carried his resistance further.

The President's Summing-up.

Lord Justice Atkin said that anyone who had heard the discussion must be satisfied that this was a very important and living problem, and that there were a number of high-minded professional men who felt acutely the conflict which was raised between their duty as citizens and their professional duty to their patients. There was no doubt that most—he would say all—medical men interested in this question were also keenly alive to the interests of public health. They felt that it might very well be that an unwarranted disclosure of professional secrets might be detrimental to the public health, inasmuch as it would deter patients either from consulting the doctor or, when consulting him, from making that full disclosure which was necessary. This was not in any way an issue between medical men and lawyers, and it was most unfortunate in the interests of the solution which was sought for by the medical profession that it should be put forward in that sense. The lawyer's point of view was solely the administration of justice. The privilege which many years ago was conceded to lawyers, not by statute, but by a development of the common law, probably through the action of judges, was granted because it was considered essential in the interests of justice that clients should communicate perfectly freely with their legal advisers. It was from the same point of view—that of public good—that this other matter must eventually be decided, not by doctors or lawyers, but by the public at large. The question to be decided by the legislature—which, though it contained many lawyers and some doctors, was for the most part composed of patients!—would be whether it was for the public good that privilege should be granted, restricted, or refused. Unrestricted privilege, he believed, was not a practical proposition. At present, in the theory of the law, no privilege at all was granted to the medical man, and in order to alter that position an Act of Parliament would have to be obtained. Therefore any proposals would have to meet with the approval of the legislature, and the last thing that could be obtained from the legislature was an absolute privilege. Absolute privilege meant that if a person was on trial for his life, and on the point of conviction, and a doctor, through information which had come to him professionally, knew that that person was not guilty, but that another person was, that other person being his patient, it would still be the doctor's duty to abstain from giving information. He did not think that even Dr. MacKeith would go as far as that. Even outside the criminal law there were many cases scarcely less crucial. The question often arose in divorce court proceedings. It was

the modern fashion sometimes to regard these cases lightly, but some of them involved most serious issues to the reputation of parties, and in the case of many women it was as important as a question of life or death. It might conceivably be for the public good that the innocent wife or husband should be condemned because the doctor who knew the secret had been obliged by his patient not to tell, but it did seem a serious matter that a doctor should sell his freedom and discretion and honour for a fee. His lordship was not prepared to accept the distinction of Lord Dawson that while a doctor might reveal a professional secret to vindicate an individual, he was not to do it in order to vindicate the law. That distinction would not stand examination. It meant that in certain cases a doctor might give evidence for the defence but not for the prosecution, and that might have very grave results. There were many issues which arose in other cases, such as insurance claims and actions for damages, fraudulent or non-fraudulent. Was it necessary for the public advantage that a doctor should stand by and that injustice should be done?

As a matter of fact (Sir Richard Atkin continued) there were very few cases in which a doctor was ever called upon to give evidence on subpoena against his will. The doctor was often called upon to state facts in divorce cases, but he had never known a case such as Lord Dawson visualized in which cross-examining counsel extracted from a doctor what a patient had told him with regard to his past life. He had never known a counsel do this, for it would be risky for the counsel's case; and he could hardly conceive of the judge who, if such questions were raised, would not use his power to prevent any improper line of cross-examination being persisted in. In practice that kind of question, as to what communications had been made by the patient, was never asked, and certainly in his own experience had never been enforced. He concluded by saying that if Lord Dawson's proposals took shape the conditions under which privilege was to be granted would have to be very carefully framed, and it would be a good thing to have a careful consideration of the issues by people representing all the different interests. Some very difficult cases would have to be provided for. A severe test of privilege, he supposed, would be a case in which a patient brought an action for negligence against a doctor in which another doctor would be a material witness. He thought that some distinction would have to be drawn in cases of alleged malpraxis. The suggestion might be that where the patient made his bodily health one of the issues in the action, the doctors should be relieved from the burden of privilege, for it was conceded on all sides that the privilege really belonged to the patient, not to the doctor. He would only add one other word, a grave one—that it would be very unfortunate at this time of all times if anything were interposed, except on grave public grounds, which tended to make light of or to hinder in any way the administration of law and order.

Lord Dawson's Reply.

Lord DAWSON said that many of the criticisms made on the last occasion and on the present were irrelevant; some speakers who thought they were opposing him were in reality only uttering his own views. They were all agreed that the one object to be pursued was the advantage of the public, but he could not agree with the proposition that the ends of the law were at all times the only consideration. The medical profession depended very largely upon the confidence people had in those who practised it. Until recently the public believed vaguely that anything which was told the doctor was secret, but that belief had been upset by recent rulings. The general confidence of the public was essential if the medical profession was to work for the public good. Therefore he repeated a remark which had been challenged in the discussion, that it was better for justice occasionally to fail than for the care of the sick to be prejudiced always. When once the principle of a measure of privilege was conceded he would admit that the difficulties of definition would be very great. He would not mind the matter being left to the judge if the judge was in the position of knowing what the doctor's objection was; it would be different if the judge would adjourn the court and go into chambers and elicit the reasons which actuated the doctor, but naturally the judge desired to get through the business of his court. He wished heartily to endorse the forcible and eloquent remarks of the learned chairman, but he would point out that the cause of law and order was furthered by removing anything which strained the process of justice.

England and Wales.

COMBINED APPEAL FOR THE LONDON HOSPITALS.

As was foreshadowed recently in our columns, the King Edward's Hospital Fund for London has undertaken the organization of an appeal on behalf of the voluntary hospitals of London, with the aid of the Hospital Saturday Fund, the Joint Council of the Order of St. John and the British Red Cross Society, the League of Mercy, the London Regional Committee of the British Hospitals Association, the Metropolitan Hospital Sunday Fund, and the hospitals themselves. The Prince of Wales has approved of his name, as President of the King's Fund, being used in connexion with the appeal, and an organizing committee has been set up under the chairmanship of Sir Alan Anderson, K.B.E. (chairman of the revenue committee of the King's Fund). Sir George Lawson Johnston, K.B.E. (member of council of the King's Fund), is chairman of the executive committee, with Mr. E. S. Shrapnell-Smith, C.B.E., as director-general of the appeal campaign, and Captain E. J. C. Chapman, M.C., as his deputy. Offices have been secured at 19, Berkeley Street, W. 1, to which address all communications relating to the appeal should be sent. It is to be hoped that this appeal will prove as successful as it deserves to be, for the future of the voluntary system of hospitals in London will be greatly affected by its success or failure. It aims at raising at least £500,000 needed to pay off the floating debt of the London hospitals. Its second object is to secure for the hospitals new subscribers and an additional permanent income to meet the increased cost of working, including moderate continuous contributions from all classes as recommended by Lord Cave's Committee.

MIDHURST SANATORIUM.

This sanatorium was founded by His Majesty King Edward VII in 1903 with funds provided by the late Sir Ernest Cassel, part of which were reserved for endowment. It was built expressly for educated persons of limited means who are suffering from pulmonary tuberculosis in an early stage. The council of the institution state that they have reason for believing that there are many individuals in the above class who do not avail themselves of the benefits of the institution because their medical advisers are not aware of the unique advantages which it presents; and they are very anxious to enlist the co-operation of such practitioners, whose knowledge of their patients will enable them to select the persons socially as well as physically suitable for admission. The position of the sanatorium, at an altitude of 494 feet and on sandy soil, with sunny exposure and protection from winds, in one of the loveliest parts of Sussex, is ideal. The buildings are very fine, with large gardens, recreation grounds, and a chapel. The medical and nursing equipment is thoroughly organized and efficient, consisting of a medical superintendent, two assistant medical officers, a pathologist, and a visiting dental surgeon, and the institution is supervised and visited at least monthly by a consulting staff of physicians. A report of the condition of each patient on admission and discharge is sent to the medical man concerned in the case, who also receives the annual report of the work of the institution. The inclusive charge for maintenance and treatment is at present 4½ guineas weekly, and the number of beds is 104. Further information may be obtained from the medical superintendent of the sanatorium.

ANCOATS HOSPITAL, MANCHESTER.

The annual report of Ancoats Hospital, Manchester, for 1921 states that the total income for the year for the hospital and convalescent home was £24,621, an increase of £2,953. The expenditure of the hospital and convalescent home was £26,968, against £28,008 in the previous year. Annual subscriptions increased by £238, and the workpeople's contributions by £367. During the year there had been 2,194 in-patients, 9,122 out-patients, and 17,361 accident cases, and 2,004 operations were performed. The number of treatments given in the massage department was 16,382, and 13,498 cases attended the venereal clinic under the Ministry of Health scheme. The death was reported during the year of Dr. P. Tytler, who had held the post of honorary surgeon from 1876 to 1915, when he was appointed honorary consulting surgeon. It is hoped that the nurses' home, begun in June, 1920, will be ready for occupation during the summer.

Scotland.

Medical Men and Alcohol.

The members of the Glasgow Medical Lunch Club, at the usual weekly meeting on March 23rd, enjoyed an address from Dr. W. L. Reid, who was present as the guest of honour. He chose as his subject the attitude of medical men to alcohol and its place in medical treatment. Dr. Reid has for many years taken a prominent part in discussions on this topic, to the study of which he has devoted much time. His own position was that while he had no belief in alcohol as a beverage or a food, he strongly believed in its efficacy as a medicine under certain circumstances. In view of the widespread abuse of alcohol resulting in crime and disease the general public were more and more looking to the family medical practitioner for advice. Such advice should be carefully considered, as its effects might be far-reaching. The careless prescribing of alcohol had led to the development of the habit in patients. Further, if alcohol is to be given the doctor should naturally choose the purest and most reliable form of the drug, which was that supplied to druggists for medicinal purposes—namely, rectified spirit. His own practice had been that so far as possible alcohol should be prescribed without the knowledge of the patient, and rectified spirit was the most suitable form, as it could be given with something which helped its action and at the same time disguised its taste. He was particularly strong on the bad effects of medicated wines in developing alcoholic habits. These much advertised wines in most cases contained 15 to 20 per cent. of alcohol, and he had known patients who had been advised to use these for tonic purposes develop the habit of their use, while starving themselves of proper nourishing food. Such patients would scorn the idea of becoming addicted to the use of alcohol in the form of whisky or brandy. He finished with a strong appeal to the profession to exercise more care when prescribing alcohol in any form, particularly with regard to its purity and strength and the exact dosage. He agreed with the opinion expressed by a London surgeon that to give alcohol safely required more medical skill than to administer chloroform.

Murray's Royal Asylum, Perth.

The report for 1921 by the physician-superintendent, Dr. W. D. Chambers, of the James Murray's Royal Asylum, Perth, states that the number on the registers on March 31st, 1921, was 153, of whom 147 were resident; the total number of cases under treatment during the year was 205. Of the males 47.6 per cent., and of the females 30.7 per cent., entered voluntarily for treatment. Forty-one patients were discharged or transferred to other institutions during the year. Although in only 6 cases was recovery regarded as consolidated, in 17 others so much improvement had taken place that they could suitably be placed under private care. Of the 17 who were discharged as unimproved, 7 were sent to other institutions. In a considerable number of cases mental stress and worry were assigned as the cause of the illness. In very many of these cases it was found, on close examination, that the worry was groundless. It is, Dr. Chambers says, now generally admitted that alcoholic excess, which some years ago was regarded as a cause of insanity, is much more commonly a symptom; the same is, he considers, true of most cases of worry, anxiety, sleeplessness, or overwork; war experience showed that the moderately healthy man can withstand excessive and protracted mental and physical strain without permanent harm. Such conditions may, undoubtedly, produce a state of exhaustion which may lead to a breakdown, but it should be realized that in the great majority these conditions are indications that the danger-point is already passed and that a state of mental disease is already in being. Patients brought under treatment at this stage have an incomparably greater chance of a perfect recovery than those who delay till definite psychotic symptoms develop.

Larbert Institution.

At the annual meeting of subscribers of the Royal Scottish National Institution for Mental Deficients at Larbert Dr. R. D. Clarkson, in submitting his report, stated that the number of cases now in the institution numbered over 500, which was as large as could properly be accommodated in the present buildings. The institution was by far the largest of the kind in Scotland, but it fell short of meeting the need. The directors were distressed to have to refuse to admit many cases because there was no room for them. The waiting list had now 120 names on it, and that would be doubled if the education authorities and parish councils knew that there was any prospect of early admission. The pressure to get children admitted was due to an increased knowledge and a growth of interest among the general public in the subject of mental defect. The Duchess of Atholl moved a resolution that the meeting, while acknowledging the benefits derived by so many through the care and training provided by the institution, recognized the urgent necessity for adequate provision for the mentally defective, and in seeking to extend the benefits of the institution commended it anew to the Scottish people as deserving of their generous support. She went on to say that the institution provided a wonderful variety of occupation for the children, and the inspired intelligence directing the whole work was obvious everywhere. It had been estimated that from 1/2 to 1 per cent. of the child population of Scotland was mentally deficient, and when it was remembered that the age to which the State required mentally deficient children to be cared for was 16 that 1/2 per cent. worked out at 7,000 to 8,000 children, while she understood that the number being treated at special schools or institutions was only between 3,000 and 4,000.

Glasgow Samaritan Hospital.

At the annual meeting of the Glasgow Royal Samaritan Hospital for Women, at which Lady Stirling-Maxwell presided, the secretary, Mrs. Christie, said that during the year 1,755 patients had been treated in the hospital, and 2,130 at the outdoor dispensary. Dr. David Shannon stated that the work of the hospital was increasing every year, and the staff were glad that the hospital was about to be increased in size and twenty beds added. The Samaritan Hospital was one of the biggest hospitals of the kind in the kingdom, and to it came many students and graduates, not only from Scotland but from other countries. Every year the number of these students was becoming greater, and the hospital ought to become a big teaching centre. Mr. Thomas Macquaker, the treasurer of the hospital, said that the sum required to meet all the hospital extensions would be in the neighbourhood of £30,000. Of that sum some £8,000 or £9,000 would be spent on the new dispensary which was now being built, and the rest of the money would be required in connexion with the alteration and reconstruction of the operating theatres, and in adding at least twenty beds to one of the wings of the hospital. The Ladies' Auxiliary Association had given the funds required a good start with £2,400, and the directors had between £4,000 and £5,000 more. They would be able to build the dispensary with the sums they had in hand and in prospect, and he was confident that the remainder necessary would be raised.

Glasgow Royal Maternity Hospital.

At the annual meeting of the Glasgow Royal Maternity and Women's Hospital the treasurer remarked on the improvement in the finances of the hospital, the income having increased by £4,500 as compared with the previous year. The net result was that there was a deficit for the year of £3,906, to which had to be added the bank overdraft from the previous year of £13,353. They had been able to meet that from legacies and a special appeal, and were left with a surplus of £2,381, of which £1,026 belonged to the staff fund. They had only been able to get out of their difficulties by making a special appeal, and such appeals could not be multiplied. The Lord Provost said that he could not speak too highly of the work performed by the Maternity Hospital; he was glad to learn that cases dealt with in the hospital were followed up, and that every assistance was rendered to the mothers, by advice or otherwise, in bringing up their children. In 1907, the last year of the old hospital, there were 868 in-patients, but in 1921 there had been 3,625. The number of out-patients, however, was less than in 1907, the reason being the introduction of maternity benefit under the Insurance Act.

Edinburgh Hospital for Women.

The financial difficulties of voluntary hospitals and the medical training of women students were subjects referred to at the annual meeting of the Edinburgh Hospital and Dispensary for Women and Children and the Hospice, held on March 21st. The report stated that last year the hospital

expenditure exceeded the receipts by £1,878. The expenditure of Bruntsfield Hospital showed an increase of £4,947 over that for 1913. During the year 571 patients were admitted to the hospital, including 77 children; and 354 confinements were attended from the Hospice. In moving the adoption of the report, commenting on the increase in the number of cases treated in the venereal diseases department, Mrs. Hunter said there was a distinct reaction against women doctors in Scotland at the present time. She was sure the younger women had thought they would not have so much fighting to do to secure their positions. Recently the London Hospital had intimated that no more women students could be admitted. In Glasgow, as far as they could see, there was not the least prospect of any more women getting on the teaching staff of a hospital. The only way was for women to have hospitals of their own. Regarding the remark about the reaction against women doctors in Scotland it might be mentioned that recently there were twenty-five applicants, of whom twenty-three were women, for a vacancy in a provincial hospital for a house-surgeon.

Memorial to Dr. Elsie Inglis.

A memorial tablet to the late Dr. Elsie Inglis was unveiled in St. Giles's Cathedral, Edinburgh, on March 21st, by Dr. Mary Scharlieb, C.B.E. The inscription on the lower panel is as follows: "To the beloved and honoured memory of Elsie Maud Inglis, surgeon, philanthropist, founder in 1914 of the Scottish Women's Hospitals for Service with the Allies in France, Serbia, and Russia. Born 1864. Died on active service 1917. *Mors janua vitae.*"

Correspondence.

A NATIONAL COUNCIL FOR MENTAL HYGIENE.

Sir,—There can be little doubt that the subject of mental health, using the term in its widest sense, excites the interest both of the public and of the medical profession more now than it has ever done before. The recent establishment of a few hospitals and clinics for the treatment of "functional nervous disorders," which might be more scientifically labelled "minor disorders of the mind," affords evidence of the fact that the early recognition and treatment of these maladies is generally regarded as a matter of importance in relation to the health of the community. There are, moreover, many societies and associations, old and young, which are engaged in promoting the study of mental disorders, the welfare of the insane, the problems of industrial psychology, and the various aspects of mental deficiency.

A provisional committee of medical men, of which I have been appointed chairman, has decided to form a central organization, a National Council for Mental Hygiene, in order that the work of these institutions and societies shall be encouraged to expand and to add to their usefulness by organized co-operation. Such a National Council for Mental Hygiene will be concerned with other matters which have not yet received sufficient attention. It will help to establish psychological clinics at general hospitals for the treatment of early mental and nervous disorders. It will endeavour to make mental hygiene a more prominent subject in the education of medical students and, by instructing the public in the principles underlying mental health and illness, gradually diminish the enormous waste of time and energy in all classes of society which now results from widespread ignorance concerning these questions.

The conservation of mental health is a matter of serious economic importance to any nation, and this has been fully recognized in other countries, notably in America, where a National Committee for Mental Hygiene has been doing valuable work for a number of years. The chief purposes of that Committee are to work for the conservation of mental health; to promote the study of mental disorders, mental defects, and delinquency in all their forms and relations; to obtain and disseminate reliable data concerning them; to help to raise the standard of care and treatment; and to co-ordinate existing agencies—federal, State, and local.

These are ambitious schemes; but even a moderate amount of success would spell happiness and prosperity to many thousands of the population who must otherwise fail in the struggle for existence. Great Britain must not be less ambitious, and must be prepared to join with other nations in an International League, the objects of which will be to spread the knowledge accumulated by each of its members in all matters of mental hygiene.

The provisional committee consists of: Sir Norman Moore, President of the Royal College of Physicians; Sir Charles Sherrington, President of the Royal Society; Sir John Goodwin, Director-General of the Army Medical Service; Sir George Newman, Principal Medical Officer, Ministry of Health; Sir Walter Fletcher, F.R.S., Secretary of the Medical Research Council; Dr. C. H. Bond, President of the British Medico-Psychological Association; Dr. Bedford Pierce, President of the Section of Psychiatry of the Royal Society of Medicine; Professor George Robertson, President-elect of the British Medico-Psychological Association; Dr. C. S. Myers, F.R.S., Director of the National Institute of Industrial Psychology; Dr. G. Ainsworth; Dr. Helen Boyle; Dr. Edwin Bramwell; Dr. Farquhar Buzzard; Sir Maurice Craig; Lord Dawson of Penn; Sir Bryan Donkin; Dr. Elliot Smith, F.R.S.; Dr. Edwin Goodall; Dr. Henry Head, F.R.S.; Dr. Crichton Miller; Sir Frederick Mott, F.R.S.; Dr. W. H. R. Rivers, F.R.S.; Sir Humphry Rolleston; Dr. T. A. Ross; Dr. Tredgold; Dr. W. Worth.

This committee will call a general meeting on May 4th, 1922, at the rooms of the Royal Society of Medicine, for the purpose of deciding on the constitution of the National Council, of electing officers, and other business. Meanwhile the honorary secretary will be glad to receive the names of all persons, lay or medical, who are interested in this movement and who would care to have more particulars sent to them. Communications should be addressed to the Honorary Secretary, National Council for Mental Hygiene, 51, Green Street, W.1.—I am, etc.,

March 27th. Courtauld Thomson.

REDUCTION OF MEDICAL FEES.

Sir,—At the time that the cost of living was at high-water mark or thereabouts I think I am right in saying that the Council of the British Medical Association recommended the profession to increase their fees by 50 per cent., and this, I believe, was generally done. Considering the financial crisis the country is now passing through and the reduced incomes of our patients, together with the somewhat reduced cost of living, I would like to suggest that the Council should again consider the advisability of recommending now a reduction of that 50 per cent. increase by, say, 20 or 25 per cent.

It is a well-known fact that throughout the country there is a feeling, owing to various causes, of antagonism to the profession, and I am convinced that no greater move to reduce that antagonism could be adopted than a spontaneous and voluntary reduction of the increase of fees which was adopted when the cost of living was so high and which was then quite justifiable.—I am, etc.,

Woldingham, Surrey, March 21st. W. McD. Ellis, M.D.

RESTRICTION OF INFLUENZA EPIDEMICS IN SCHOOLS.

Sir,—Influenza in a school is so serious a matter that I turned with interest to the article in your issue of March 18th by Dr. A. I. Simey and Dr. J. W. H. Eyre, entitled: "The restriction of influenza epidemics in schools by the use of local prophylactic vaccines." What Rugby does is of some importance, and, if I may say so, what Professor Eyre writes is of some importance. Yet I do not remember to have encountered figures in any published work which were more at variance with the conclusions drawn from them.

Three separate attempts were made by vaccination to avoid or mitigate the epidemic. A request was issued that boys should be vaccinated in the holidays. Of 570 boarders 123 complied. The remainder came back "uninoculated and susceptible." Although the authors do not analyse their figures from this point of view, it is clear from other statements that of those vaccinated at home 42 per cent. suffered, of those not vaccinated at home 43 per cent., despite the fact that many of these later received vaccination at school.

In the third week of the epidemic a stock vaccine was given at school to nearly all those who had not been vaccinated at home or who had not already sickened. Fifty boys received only the stock vaccine; 84 per cent. were infected.

Apparently the home inoculation was without result, and the stock vaccine according to the authors doubled the risk. A third vaccine was administered to an unspecified number of

boys. This autogenous vaccine was given in the fifth week of the epidemic, when the incidence was rapidly declining and when approximately four-fifths of the whole epidemic was over. Although no figures are given to support the contention, and the total number of boys who received the vaccine is not even mentioned, it is to be presumed, in view of the demonstrable failure of the other two attempts, that it is for this autogenous vaccine that success is claimed. We are told that 81 per cent. of those who received no inoculation were infected, of those who received one or more inoculations 27.9 per cent. Will it be believed that to produce these figures the total under the head of uninoculated is swelled by all those who contracted the disease during the height of the epidemic before the school inoculations began? The autogenous vaccine was given too late for conclusions of any value to be drawn. Why, if the authors had waited another week or two, on this plan of reckoning, a point might be reached when the uninoculated—that is, all those who had had the disease—would show 100 per cent. incidence, the inoculated complete immunity. The vaccine was given, not at the conclusion of the epidemic, but after approximately four-fifths of it was over.

It is a pity that the figures should have been presented in the way they are, because Dr. Simey and Professor Eyre must have the facts in a form which, had they been properly presented, would have enabled some conclusion to be drawn. Thus for the first fortnight the effect of the home vaccine might be demonstrated by comparing the percentage of cases among those who had received it and those who had not. Apparently in the third week of term all or nearly all received the stock vaccine, so that no controls were available. In the case of the autogenous vaccine, however, a proportion may not have been inoculated. The only figures of value would be the incidence after the fifth week in those who had received the autogenous vaccine and those who had not, and to the total who sickened among the uninoculated there should not be added the relatively vast number who had contracted the disease before inoculation was carried out.

But it must be conceded that the authors are strictly consistent. When their peculiar methods of statistical inquiry tell against them they do not quail. Thus they regard the effect of the stock vaccine as raising the case incidence to the appalling height of 84 per cent. Of course it did nothing of the sort. A number of boys, apparently about 300, were given the stock vaccine. In the next fortnight 42 of these sickened. At this point all but 8 of the remainder were given a second autogenous vaccine and are thereupon removed by the authors from the category of the unvaccinated. Since 42+8 received only the stock vaccine and 42 had influenza, the incidence, they say, was 84 per cent. This, we are gravely assured, "represents the well-known fact that susceptibility to infection is temporarily increased by the first of two such inoculations." It represents nothing of the sort. If all who had not already sickened, instead of all but 8, had been given the second vaccine the incidence among those who received the first stock vaccine only would have been 100 per cent.

I write at length because I fear that the figures given, or rather the quite unwarranted deductions from them, may become known to schoolmasters and others. In a few years' time they may even be quoted with confidence as "The Rugby Statistics" showing an 81 per cent. incidence among the uninoculated.—I am, etc.,

London, March 23rd. H. CHARLES CAMERON.

SIR,—In their article on the restriction of influenza epidemics by the use of "local" prophylactic vaccines (BRITISH MEDICAL JOURNAL, March 18th) Drs. A. I. Simey and J. W. H. Eyre describe their efforts to prevent and control an epidemic of influenza at Rugby School. Although they do not state definite conclusions, it is obvious that they consider that the vaccines they used were of prophylactic value.

To my mind, however, their evidence is wholly inconclusive. The curves represent the number of cases under treatment, but a single curve showing the daily incidence of new cases would be of greater value, for it would exclude the influence of the duration of illness, as foreign to the present investigation.

An examination of a curve obtained by combining the two given shows that the average daily increase or decrease in the number of cases under treatment was approximately:

	Increase.		Decrease.
First week	2	Fifth week	10
Second week	7	Sixth week	4
Third week	12	Seventh week	2
Fourth week	1		

The daily rate of increase in the number of patients under treatment was at its greatest (21) on February 3rd (that is, the curve was then at its steepest). This was the date of the first inoculation. But the maximum daily increase in the incidence rate must have been several days earlier, so that the first inoculation was given after the incidence curve had begun to lose its steepness.

The number of patients under treatment reached its maximum on February 12th (in the middle of the fourth week of the epidemic). During the fifth week the number of patients was falling rapidly (ten a day). The incidence rate must have been falling some days earlier. It was during this week that the second (local) vaccine was given.

We may therefore conclude that the first inoculation was given when the curve of incidence had passed its steepest inclination, and that the second inoculation was given when the disease was already declining rapidly.

Compared with that of an ordinary epidemic, the curve does not appear to be appreciably modified by the inoculations. With regard to the statistics:

1. Of the 123 boys comprised in Class (*b*) (boys inoculated at home) 52 became infected—a case incidence of 42 per cent. Of the 442 boys who were not inoculated at home 191 contracted influenza—an incidence of 43 per cent. The home inoculations, therefore, had no significant effect.

2. Why did not the boys of Class (*d*) receive a second (local) dose? Obviously, in nearly every case, because they contracted influenza during the intervening period. The 84 per cent. incidence is misleading. In all, 282 received the first dose, of whom 61 became infected (incidence 22 per cent.), most of them while the disease was at its height. There is here no evidence that susceptibility is temporarily increased by inoculation.

3. Class (*a*) had resisted the epidemic, now on the decline, for four and a half weeks when the second inoculation was given. They were picked cases, and the disease was dying a natural death. In general I can find no evidence that any of the inoculations affected the course of the epidemic.

The only (conjectural) positive inference to be extracted from the chart is that the sanatorium of Rugby School normally contains about 45 beds, capable of increase to 72 in emergency.—I am, etc.,

Chingford, March 19th. E. BILLING, M.R.C.S.

PROSTATIC ENLARGEMENT.

SIR,—The Hunterian lecture by Professor Kenneth Walker is of very great interest. The possibility of a relationship between enlargement of the prostate and some change in the endocrine system, so ably put forward by him, is at present surely too problematic to form the basis of treatment by organotherapy, and especially since it is extremely difficult in these cases to estimate the reaction to treatment.

The enlargement of the prostate may remain latent for years, and the first sign may be a sudden attack of retention, which may be followed by acute renal failure. When once symptoms have appeared they are generally progressive, but periods of improvement and intermission are common apart from any treatment. Our present method of estimating the degree of enlargement—namely, by cystoscopic and rectal examination—is not sufficiently accurate to allow of the expression of a definite opinion on its progress. In addition it seems that the enlargement may vary in size from time to time, and this, I think, is dependent upon the amount of congestion and possibly upon some relation to the sexual cycle. In the circumstances it is by no means easy to know whether an improvement can be attributed to treatment.

The value of treatment cannot be gauged merely from the relief of symptoms, important as this may be, for its effect upon other conditions resulting from enlargement of the prostate must also be considered, the chief being the tendency to malignant degeneration and the secondary renal changes. That the enlarged prostate does show a predisposition to undergo malignant changes is evident from the examination of specimens removed at operation and also from the course of some of the cases. Cases where an apparently simple adenoma of the prostate becomes inoperable at a later date

owing to malignant changes are only too frequently seen. At the time that the enlarged prostate is revealed by symptoms, I am led to believe from investigations carried out that secondary renal changes are already present. These progress insidiously, and uraemia is the usual termination of the enlarged prostate; it is also responsible for a large percentage of the operative mortality.

I have occasionally used prostatic extract in early cases and when operation has been refused, but with no definite benefit. Such treatment does not appear to be based on sound physiological principles. It is doubtful if the prostate forms an internal secretion, for in cases where it is largely destroyed by tuberculosis or suppuration no symptoms or signs which could be related to the disappearance of an internal secretion are to be found. Were the enlargement secondary to some physiological need, its removal should be followed by some di order of function. Yet the man who has undergone prostatectomy is sound in body and mind. The mental changes sometimes seen are uraemic in nature. At one time I gave after operation a mixture of the glandular extracts upon the assumption that the endocrine glands suffered in the toxaemia resulting from the renal changes. It had apparently no result, and was discontinued as the action of some of the constituents was to raise the blood pressure, a condition it is most desirable to avoid. Prostatic extract had no effect. Renal extract may be of value, but so far it has not had an extended trial.

In recent years there has been a marked improvement in the operative statistics, due partly to improved technique but largely to the fact that it has been realized that palliative measures have only a temporary action and are in the long run harmful, and consequently the operation has been performed before renal changes have become advanced. A course of organotherapy might be tried in early cases, but not when once operation is indicated, unless this is refused. The results should be carefully scrutinized, since it is almost impossible to foretell what the clinical course of any case would otherwise be.

During the last two years I have seen a number of men between 45 and 55 years of age, complaining of some perineal discomfort and occasional nocturnal frequency. The prostate appeared to be larger than is normal at this age, but no evidence of inflammatory changes was to be found. The condition cleared up after local treatment and attention to the mode of living. One would, however, hesitate to claim that these were cases of incipient enlargement of the prostate. —I am, etc.,

Cardiff, March 24th. T. E. HAMMOND.

THE RECOGNITION OF AORTIC INCOMPETENCE.

SIR,—I should like to reply briefly to Dr. Rudolf's interesting comments on my paper on aortic incompetence. In none of my cases is it stated that the diastolic murmur was ever inaudible by me; it was always heard. All of the cases had enlargement of the heart, and this was downwards as well as outwards. In four of them enlargement downwards probably reached to behind the sixth rib: it did not reach the sixth intercostal space. It is these slighter enlargements of the left ventricle that are such an important pointer to diagnosis of aortic disease. The apex is noted as being in the sixth space in one of the cases, and in the two which died it was there also, though I have omitted to say so specifically. All the cases were undoubtedly of aortic origin, as I am sure Dr. Rudolf would have said had he seen them.

The pulmonary diastolic murmur which is heard in advanced mitral stenosis—called by Dr. Steell the murmur of high pressure in the pulmonary artery—is a different matter altogether, which I will not go into here. I may, however, thank Dr. Rudolf for the reference to his and other observers' work on the matter.

I am sorry that I cannot hear ear to ear with Dr. Broomhead, and in reply to his last communication will merely say that I do not know the systolic murmur which he finds is quite common in the second right space in healthy persons.—I am, etc.,

Manchester, March 23rd. E. M. BROCKBANK.

THE ETIOLOGY OF RHEUMATIC FEVER.*

SIR,—It was shown by Sir Arthur Newsholme in the Milroy lectures of 1895 that rheumatic fever bore a relation to the level of the ground water, and followed, in the late autumn and early winter (even in epidemic proportions), a hot, dry summer. In those lectures he did not suggest why the disease should have this relationship with meteorological conditions; he merely stated facts.

In a previous paper[1] I have shown that rheumatic fever does not occur in the Malay Peninsula, and probably not in the tropics at or about sea-level; and later on I tried to present a case for believing that the common rat-flea of temperate climates, *Ceratophyllus fasciatus*, is the cause of the disease.[2] The fact that the disease and the flea have similar affinities, that both occur in one part of the world and not in another, and the fact that those meteorological conditions which Sir Arthur Newsholme showed to cause an increase in the amount of rheumatic fever are those under which the rat-flea thrives best, point to a connexion between the flea and the disease.

Out of 97,914 deaths recorded in the State of Perak during five consecutive years not one was ascribed to rheumatic fever; in one year 103,609 in-patients were admitted to the hospitals of the Federated Malay States, but not one was diagnosed as suffering from this disease. Further, no case of mitral stenosis has been recorded in any of the returns of the Government hospitals or pathological institutions of the Malay Peninsula. These figures may be compared with the 2,000 cases of rheumatic fever per million living in Scandinavia,[3] and with the 6 cases of rheumatic fever out of every 45 adults occupying hospital beds in London.[4]

The non-existence of mitral stenosis in the tropics is most significant. A rheumatic lesion of a valve is characterized by a "slowly advancing scar formation"; "it is an associated condition of fibrosis and vascularization."[5] It is not the contraction of a scar already formed. The continuity of the process would seem to indicate that the cause is continuous; if an infection, a continuous infection. But in the latter stages bacteria cannot be found except as grafts. It seems probable that the cause of a disease, when a continuous process is going on and bacteria cannot be found, may be a protozoan. Two other diseases in their later stages show a slowly advancing scar formation: syphilis, which is a cause of many cirrhoses, and malaria, in which chronic enlargements of the spleen and liver show much increase of fibrous tissue. These lesions are bacteria-free, but both syphilis and malaria are caused by a protozoan.

An insect may either carry a bacterium or may be the host of a protozoan. I am suggesting that *Ceratophyllus fasciatus* is the host of a protozoan which is the cause of rheumatic fever, man and the rat being the alternative hosts.

A few cases of rheumatic fever have been said to have occurred in the tropics. But much has to be eliminated, especially diseases occurring in malarial subjects, before the diagnosis can be accepted. I submit that no case should be accepted until the complete syndrome of a typical case is present. A claim that an atypical case proves the presence of a disease cannot be conclusive. Neither rheumatic fever nor the flea, *C. fasciatus*, exists in the tropics.

At no part of any year—hot or cold, wet or dry—are the conditions in England similar to those of the tropics. In England a temperature of 76° F. perhaps never occurs, except for a few hours at a time; the mean of the tropics is 80° F. or a little higher. The climatic conditions of the late autumn and early winter of England obviously cannot occur in the tropics.

Dr. Jordan,[6] of the Tring Museum, has investigated the distribution of *C. fasciatus*. This he gives as from the Azores to Asia Minor, from Cyprus and Italy northward to Scotland and North Russia, extending (probably over Siberia) to Japan. Only one specimen has been found in the tropics, and this was in Bombay, and may have been imported. One other specimen was found in India at Bareilly, but this place is not in the tropics. *C. fasciatus* may exist in India, but not in the tropical part, which includes only about one-third of the peninsula. Other ceratophylli have been found in India, but these species, such as those of squirrels, have but few opportunities of biting man. Further, a difference of species is quite sufficient to determine different carrying powers in a given genus—a fact clearly shown by the different capacity of the various anophelines in carrying malaria.

Study of the bionomics of the rat-flea has shown[7]:

1. That the insect can stand temperatures up to about 76° F. (higher for short periods), and that at high temperatures it lays more eggs, and that a higher percentage of these are fertilized.
2. That a high temperature is best for the hatching of the eggs.
3. That the larvae do best at a temperatnre of about 60° F., with a high relative humidity, but they are killed instantly by getting wet.
4. That the cocoons lag under the heat of summer and the cold of winter, the insects emerging most frequently under the conditions of spring and autumn.
5. That the maximum incidence of this flea is in the early autumn.[8]

* In order to save space it has been necessary to omit some passages of this communication.

Thus it will be seen that the larval state, the most dangerous in the life of the flea, is least likely to be interfered with when the ground water is low, and further that a hot, dry year is the most favourable to every stage in the life of the flea. It will be seen that the normal highest incidence of fleas precedes by but a few weeks the rise in the incidence of rheumatic fever.

Sir Arthur Newsholme mentioned that rheumatic fever is more common in those counties which have a large urban population. In Cambridgeshire by far the largest number of fleas collected from rats were *Ctenophthalmus agyrtes*.[9] This flea is a country flea and is said not to bite man. *C. fasciatus* is a town flea and does bite man.

Finally, I may say that as the geographical distribution of subinfective endocarditis, rheumatoid arthritis, and of scarlet fever are similar to that of rheumatic fever, the cause of these diseases must be searched for along the same lines as that of rheumatic fever. They are possibly all caused by protozoa and possibly all flea-carried. If this is so, it may be that a cure will be found in some such drug as is successful in the treatment of other protozoal diseases.—I am, etc.,

J. TERTIUS CLARKE, L.R.C.P.Lond.,
Kulim, Kedah. M.R.C.S.Eng., D.P.H.Camb.

REFERENCES.

[1] *Lancet*, 5, 4, 1915. [2] *Trans. Soc. Trop. Med. and Hygiene*, January, 1920, vol. xiii, No. 5. [3] Newsholme, Milroy Lectures, 1895. [4] Hale-White, BRITISH MEDICAL JOURNAL, December 4th, 1920, p. 858. [5] Horder, Ibid., August 28th, 1920, p. 301. [6] *Ectoparasites*, vol. i, pp. 178–198, January, 1921, [7] Bacot, *Journ. of Hygiene*, Plague Supplement, January 14th, 1914. [8] Strickland, *Parasitology*, vol. vi, No. 1, 1913. [9] Nuttall, Strickland, and Merriman, Ibid., vol. vi, No. 1, 1913.

PERNICIOUS ANAEMIA AND SEPTIC ANAEMIA.

SIR,—In Dr. Hunter's lecture (March 18th, p. 421) there is one statement which appears to be due to a misinterpretation of the appearances of the bone marrow. He says:

"Furthermore, the action of septic infection is to retard blood formation in the bone marrow (a pale bone marrow). It thus counteracts the action of the haemolytic infection, which is to stimulate blood formation (red bone marrow). The removal of the sepsis therefore frees the bone marrow from a markedly depressing influence, and allows the full compensatory powers of the bone marrow free play."

If Dr. Hunter be correct in his belief that there is a separate septic element in the so-called pernicious anaemia, one would be glad to know why the pale bone marrow should be one which is in a state of depression rather than one in a state of leucoplastic reaction. One cannot regard the presence of a septic infection as an influence likely to depress the haematopoietic functions of the marrow; it is rather one which leads to an increased function. The pallor of the marrow may thus be due to an increase of marrow activity in the direction of leucopoiesis, but it must be remembered that the precursors of the red corpuscles are colourless and that, therefore, a marrow in which much early erythropoietic activity is occurring would necessarily be pale.

Another important point which requires elucidation is the line of separation between septic anaemia and haemolytic anaemia: the degree of haemolysis in septic infections as observed at autopsy can be gauged by the intensity of the "free iron" reaction in the liver, and if Dr. Hunter will try this reaction in a number of cases he will find that it is positive in all cases of some standing.—I am, etc.,

Birmingham, March 18th. ALFRED PINEY, M.R.C.P.Lond.

GOITRE.

SIR,—Without being able to add any experience of mine as to the correctness of Dr. Martin's "analogical guesswork" (March 11th, p. 412) in his treatment of enlarged prostate, I can confirm his experience of the success in the "patient administration of small doses of thyroid extract in cases of early soft parenchymatous goitre." Dr. Martin, however, is only partly correct in his statement that "it is no good giving thyroid extract in cases of enlarged thyroid of long standing." I have recently treated such a case in a woman of 45 whose gland became suddenly painful with increased enlargement, particularly on the right side. The pain ceased and the gland decreased in size after a few weeks of thyroid extract. The patient believes that the whole gland is less than it was before the acute symptoms commenced, but of this I am not able to judge, though I have seen improvement in other long-standing cases under the same treatment, but never cure as in the soft variety of goitre. In Dr. Rudolf's able and interesting paper on "The treatment of insomnia" no mention is made of the part a loss of balance of the endocrine secretions may play in the cause of sleeplessness. Some two years ago I treated a woman of 50, of whose family four have suffered from goitre, but who has never had goitre herself. She complained of debility, exhaustion, and particularly of sleeplessness. Remembering her family history, that her two younger sisters had goitre, and that I had cured her two daughters (aged 12 and 15 respectively) of this trouble, and as the ordinary remedies for insomnia had failed to give relief, I resolved to try thyroid extract. The effect was almost immediate, as she began to sleep soundly after a few doses and so far has remained cured of her insomnia. Such a result, of course, may have been merely *post hoc*, but if *propter hoc* it is a considerable support of Dr. Martin's system of "analogical guesswork."

In Dr. Gibson's interesting statistics on goitre he might have added Warrington to his list, for the number of Warrington patients who come for other troubles, but who unsuspectingly have more or less enlargement of the thyroid gland, is truly astonishing. The water in Warrington is unusually hard, which also may account for a good deal of the rheumatism prevalent there. Yet neither defective water nor fats are alone responsible for goitre. Excess of chocolate is just as bad, and also of oranges and lemons, and so is excess of bread. I know a girl of 18 whose only error in diet is that she will eat as much bread at one meal as would suffice three average adults. The detriment in her case is a steadily developing goitre; otherwise it is reasonable to suppose that she would put on fat or suffer from rheumatism, or some other trouble arising from toxaemia, and if so, her enlarged gland is a clinical picture as to the reason of the efficacy of thyroid extract in obesity and ailments arising from the rheumatic diathesis. The starch in the bread becoming sugar in the system acts like the chocolates in overloading the organism with urates. The acids in oranges and lemons probably act much as the fats do in producing goitre. To eat these things in excess so long as the excretory systems remain intact will do little harm; but the trouble is that in most cases the kidney eliminative cells, chiefly the tubular epithelia, are rendered half dormant by the toxins induced by such excess in diet. Hence the demand for increased thyroid secretion, possibly to correct the defect in the kidneys, and hypertrophy of the gland in consequence.—I am, etc.,

Liverpool, March 12th. WILLIAM BRAMWELL.

THERAPEUTIC EFFECT OF IPECACUANHA IN COMBINATION WITH TANNIC ACID.

SIR,—Your report of the Tropical Diseases Section of the Royal Society of Medicine (December 31st, 1921, p. 1115), I regret to say, has incorrectly stated that I "confirmed the benefit derived from the combined use of tannic acid with emetine or ipecacuanha," by Dr. Manson-Bahr and Sir Leonard Rogers.

My statement was that I could corroborate the fact that *neither nausea nor vomiting was caused by doses of 20 or 30 grains of ipecacuanha if combined with tannin.* I had given some hundreds of such doses in the years 1916–17, and had found *no clinical benefit therefrom* before I recollected that tannin was an antidote to most alkaloids. I found that emetine was precipitated by tannin and that when adding tannin to ipecacuanha we were practically giving *ipecacuanha sine emetina*, or, in other words, *ipecacuanha sine bono.*

Ipecacuanha is usually given on an empty stomach. Vomiting after the ipecacuanha alkaloids or their salts does not as a rule take place till one or two hours after being swallowed. From this we may conclude that it is absorbed from the intestine. If the tannate be dissolved by the HCl of the stomach it is promptly precipitated again on reaching the intestine.

In confirmation of Professor Dudgeon's opinion that past histories of dysentery were often open to doubt and unreliable, I stated that I had performed autopsies on six cases who had died of liver abscess who said they had never suffered from dysentery, and in all six I found either active ulceration or scarring in the colon.

Since the meeting I have asked Dr. G. Roche Lynch to repeat my former tests, which he was kind enough to do. His report states:

"(1) If tannic acid in solution is mixed with emetine HCl the faintest opalescence is obtained.

"(2) If tannic acid in solution is added to a solution of emetine (base) a distinct opalescence is produced.

"(3) If to the opalescence obtained in (2) a drop of HCl about 0.1 per cent. is added the precipitate immediately disappears.

"(4) If to a mixture of emetine HCl and tannic acid or emetine base and tannic acid a minute fragment of $NaHCO_3$ or a drop of very diluted solution of $NaHCO_3$ is added an immediate heavy precipitate is obtained.

"The experiments show that in the stomach emetine in the presence of tannic acid is in solution, but that as soon as the stomach contents reach the small intestine (the contents being alkaline) the emetine is precipitated in the form of tannate, which is consequently not absorbed. I suggest this as an explanation of the absence of the vomiting when ipecacuanha is given with tannic acid.

"The vomiting, I am informed by Dr. Powell, occurs about two hours after taking, which is suggestive that the ipecacuanha alkaloids are absorbed mainly from the small intestine and only slightly, if at all, from the stomach.

(Signed) "G. ROCHE LYNCH.

"Tropical Diseases Clinic, Chelsea, March 3rd."

—I am, etc.,

London, W., March 10th. ARTHUR POWELL.

THE NAVAL MEDICAL SERVICE.

SIR,—The letter of Mr. Gerald Sichel (February 18th, p. 292) caused me to refer to a report by the British Medical Association on "The shortage of medical officers in the Royal Navy," which was published in the JOURNAL of July 11th, 1914, with a view to ascertaining how many of the reforms therein suggested have been carried out in the eight years that have elapsed. The suggestions were under seventeen headings. Of these it may be claimed that only six have been fully or partially adopted, while the remaining eleven are still amongst the grievances of to-day, so it should not be a matter for surprise that there is still some discontent in the Naval Medical Service, or that as a service it is unpopular outside.

Since the report referred to the titles of the medical branch have been brought into line with the deck or executive branch, and the "curl" has been added to the pre-existing medical branch distinction mark, but this "reform" was somewhat half-hearted, and it must not be imagined that a medical officer in the navy has the privileges of an officer of similar seniority in the executive branch. For instance, he cannot yet be president of the mess in which he is the senior officer; he cannot sit on courts martial even when one of his own branch is being tried; he does not get a cabin commensurate with his seniority; and he is at a disadvantage in the matter of boats. While the medical officer is thus debarred from many of the privileges which should have accompanied the changes of titles, he does not escape the disabilities; and if he be put on half-pay, or retire on a half-pay basis, he draws the half-pay of his executive, not medical, rank.

Medical specialization has been introduced since the report, but in a way which has produced some discontent rather than the reverse, for officers are appointed as specialists without any previous training or examination, so that the only way in which an officer who desires to specialize can do so is to beg for an appointment as such. Hospital appointments, too, are made in a haphazard manner in the first instance, and perhaps there is no great difference in the medical attainments of naval medical officers on joining; but the matter is one of some importance to the individual, since the appointment to a hospital introduces the officer into a sort of "inner circle," which ensures his return to hospital at some future time and enhances his chance of promotion.

Another grievance is the reduction of the retiring age for surgeon commanders from 55 to 50, which has the effect of depriving a large number of senior officers of five years of full pay at a time when their families are growing up and when they themselves are well capable of continuing their work.

When discussing naval pay one should not be misled by any comparison of the "daily rate" of the various branches, for it must be remembered that the executive branch alone are entitled to such allowances as command pay, table allowance, entertainment allowance, etc., many of which are free of income tax, and may amount to over £1,000 per annum in the higher ranks.

There are two schemes by which the disabilities of the Naval Medical Service can be removed:

1. To grant to medical officers all the privileges of their relative rank with the executive branch, while retaining their pay on a higher relative scale by a "professional allowance," as obtains at present.

2. To combine all the military medical services of the Navy, Army, and Air Force, thus making a British medical service.—I am, etc.,

SURGEON COMMANDER.

SUICIDE IN BORDERLAND CASES.

SIR,—In reply to Dr. Plummer's interesting letter (p. 371), I would like to say I entirely agree that the care given to cases of mental disorder should be assimilated to the kind of care we bestow upon bodily disorder (a view shared by a Commissioner, Dr. C. Hubert Bond). This would seem the only method by which the foolish idea of taint or stigma can be swept away.

Dr. Plummer asks, "What does Dr. White want?" I want the methods in vogue under the present lunacy system to be revolutionized. A medical superintendent once said to me, "If I thought I was going to be put in a lunatic asylum, I would shoot myself!" Until hope and cheer are substituted for suppression, reassurance for intolerable anxiety, interest and occupation for vacancy, comprehension and kindly sympathy for indignity, asylums will continue to be dreaded worse than death; and the very thought of being "put away" will not cease to be a fruitful cause of attempted suicide. It seems in the last degree irrational to subject depressed cases to an atmosphere of dismay, ignominy, foreboding, and acute distress. I know of a few asylums where the atmosphere is the opposite of that just described, where the head-doctor is beloved, and where patients are not afraid to apply for re-admission. Let us hope that within a few years such mental hospitals, in the true sense, will become the rule.

Meanwhile the need of the uncertifiable is for sanatoriums run on purely *hospital* lines—that is, without detention, and having no link with lunacy—to prevent early cases becoming certifiable. Professor G. Robertson has assured us there is nothing to prevent these being started immediately, and the benefit from them would be incalculable.

I have always favoured the proper procedure of legal certification for the certifiable, with provision for full inquiry and right of appeal. A man should be tried for his sanity as for his life, and no safeguard provided by the Lunacy Act should be infringed. The "alleged lunatic" ought to be told of the allegations made, and have the benefit (should he desire it) of legal aid. I am opposed to every attempt made in recent years to place any patient under lunacy control by some subterranean device intended to evade judicial certification. Liberty is too precious a thing to be thus jeopardized.

The Board of Control is to blame, I think, for ratifying without careful inquiry every (amended) certificate sent up to them, when scrutiny would have detected instances where the requirements of the Lunacy Act had been ignored, or where the grounds for committal are patently frivolous. The Board is to blame also for not invalidating certification when conspicuous illegalities are brought to their notice by a patient who has only been able to discover them upon discharge—for example, where he has not been accorded his right of appeal to a magistrate, or where his own doctor's opinion has been put out of court (as in a recent case), "for the reason that two mental specialists had already been called in." Such negligence is likely to bring the proper function of the Board into disrepute.

The problem of dealing properly with the certified would be immensely simplified if asylums were cleared of all inebriate, puerperal, epileptic, and mental deficiency cases, and if these classes were relegated to appropriate homes. Infirmaries ought to be obliged to retain and deal with their own transiently delirious cases, instead of being permitted to dispatch them to asylums, to their detriment. The medical and nursing staffs of asylums would, after this clearance had been effected, have a much better chance of promoting the recovery and restoration of the really insane.

Lastly, I desire to thank "M.D." for his friendly reminder about the Board of Control in your issue of March 11th, but would like to explain my reason for the name I used. The Board is composed of Lunacy Commissioners *plus* Mental Deficiency Commissioners. I have been dealing solely with the former, and the Lunacy Act differs in its provisions from the Mental Deficiency Act. No one would rejoice more than I at the sweeping away of any opprobrium connected with mental cases.—I am, etc.,

London, March 13th. S. E. WHITE, M.B., B.Sc.

CHEAPER SPAS.

SIR,—By its recent decision to reduce existing charges the British Spa Federation has shown some courage, but I think wise foresight. For though it is at present admittedly difficult for spa establishments to be self-supporting, yet it is equally true that they cannot really and permanently

flourish unless they are made available for all sections of the population.

The remarkable curative results obtained at the mineral waters hospitals in our country, as well as their long waiting lists and the financial support given to these institutions by those who profit by them, show not only the solid medical work done at the British spas, but the appreciation in which this work is held in the industrial world, both by employers and employed. Unfortunately, as elsewhere, the private patient often fares less well than the hospital patient, and yet it is hard to see why the benefits enjoyed by the rich and by the poor should not be made available for persons of straitened means.

I venture to assert from long experience that many delicate people, as well as invalids, ought to take their annual holiday at one or other of the spas, at home or abroad. The complete change, the mental and physical rest, the fine air, and pleasant recreations, make an ideal background for the skilful use of waters and baths, and experience continually shows that chronic ailments are best held in check by such means and valuable lives prolonged for many years. How can such benefits be brought within the compass of hard workers with reduced income? They cannot afford the best hotels. I have often thought that the need of these serious visitors would best be met by clean and wholesome "spa hostels" or "spa pensions" providing a simple and regulated diet. Something is wrong if, broadly speaking, the spas can only cater for the "rich" and the "poor."

Another serious matter for the British spas and their clientèle is the increased cost and diminished facility of the railway service. Many years ago the railway companies concerned consented to run through carriages from London to a spa in the Highlands during the summer months. The return fare was then sixty-three shillings. By this means not only were invalids and ladies travelling alone able to make the journey in safety and comfort, but also thousands of jaded and ailing health seekers. Now it is cheaper to visit a French or Swiss spa than to make this journey to Scotland. I hope that, in view of such facts, every support will be given to the British Spa Federation in their efforts to secure a better railway service.—I am, etc.,

London, W., March 22nd. R. FORTESCUE FOX.

GERMAN-MADE SURGICAL INSTRUMENTS.

SIR,—Letters have recently appeared (BRITISH MEDICAL JOURNAL, February 25th, p. 331, and March 18th, p. 457) with regard to the importation of German *x*-ray and electro-medical apparatus, and we should like to draw the attention of the medical profession to the fact that the same conditions apply to the surgical instrument industry.

The training of the highly skilled workmen in this trade involves an apprenticeship of six or seven years, and the remuneration has never been high as compared with less highly skilled work. The making of surgical instruments is really a handicraft, and does not lend itself to "mass production." In following the progress of modern surgery new models are being constantly evolved and the older ones discarded. The variety of the work is phenomenal, as may be seen by reference to any instrument maker's catalogue.

At the present time there is much "short time" and unemployment among a most deserving set of men, due in great measure to the importation of German instruments, which, owing to the difference in exchange, are being offered at or below pre-war prices. It should be noted that such instruments are not equal to the high standard of British manufactures.—I am, etc.,

G. R. CHEESMAN,
Hon. Sec., Surgical Instrument Manufacturers' Association (Incorporated).

March 20th.

THE CONFERENCE OF STAFFS OF HOSPITALS.

SIR,—At the Conference of Hospital Staffs in December, 1920, the Chairman of the Hospitals Committee, in opposing the admittedly logical arguments of Dr. Peter Macdonald, pleaded in eloquent terms for the retention of the voluntary system on sentimental grounds, urging that unlogical people and things might yet be very lovable. Such was the moving force of this appeal that the amendment of Dr. Macdonald was lost by an immense majority. In the afternoon the delegates, refreshed doubtless by an interval for lunch, took a more robust and worldly view of the situation, and, urged thereto by the quite unsentimental but, as he truly claimed, strictly logical arguments of the Leicester representative, agreed, also by a huge majority, to get all the money that they could. Now, at the recent conference, the staff delegates, while adopting various proposals calculated to increase very materially the labour of lay administrators, endorsed the unfamiliar doctrine that the essence of the voluntary system is that these gentlemen alone should work unpaid. In plain English, they are to be told to put their backs into it, and labour overtime without remuneration of any kind, in order that the "honorary" medical staff may be paid for practically all that they do. Having, I confess, some diffidence in placing this view of their duties before our lay board, I should be indeed grateful if the Chairman of the Hospitals Committee, or other leading light, will advise me whether this particular proposition is to be advocated entirely on the plea of sentiment, or is, on the contrary, to be recommended on the score of logic. Also I am tempted to wonder how long these often busy laymen who, unlike the medical staff, reap no indirect reward, will continue to officiate under these somewhat novel conditions, and what will happen to the voluntary system when they revolt.—I am, etc.,

Chichester, March 24th. G. C. GARRATT.

"A CENTURY OF MEDICINE AT PADUA."

SIR,—Sir George Newman's essay, reviewed in your columns to day, is addressed to the students of St. Bartholomew's Hospital and is the outcome of the musings of its author "on a sunny spring morning in the year of our Lord, 1921."

The pamphlet is *undated;* but I think it must have been published since my Harveian oration (October 18th, 1921). Owing to the absence of the date on Sir George Newman's publication and the incorporation in the essay of some sentences closely resembling those in my Harveian oration (to which no reference is made) it might be thought that I had copied them from Sir George Newman's essay, which is not the case. Of the University building at Padua I wrote: "From contemporary prints[1] we can see what the University building—the 'Gymnasium omnium disciplinarum'—was like. . . . Over the gateway was the stemma of a Doge of Venice and beneath it the Lion of St. Mark. . . . There still remains the legend 'sic ingredere ut te ipso quotidie doctior evadas.'" Sir George Newman writes: "Over the gateway was the Lion of St. Mark with the legend *Gymnasium omnium disciplinarum*, and above the escutcheon of the Doge of Venice the words 'sic ingrede [*sic*] ut te ipso quotidie doctior evadas.'"

I was at some trouble to ascertain the significance of the "Cicogna" stemma over the gateway, as indicated in a footnote (BRITISH MEDICAL JOURNAL, loc. cit.).

Sir George Newman's essay contains some misspellings of proper names—for example, "Aldus Manutus," "Realdous Columbus," "Hieronymous Fabricius," "Hieronymous Fracastorius," and "Fallopius" (which should be spelt with two p's). And it is strange that the lecturer on public health at St. Bartholomew's Hospital should tell the students that Harvey "probably graduated in 1602." There is nothing uncertain about the date of Harvey's graduation at Padua, which took place on Thursday, April 25th, 1602, as shown on Harvey's diploma, one of the treasures of the Royal College of Physicians.

But these are slight flaws in a charming essay, which had it been dated would not have called forth this letter.—I am, etc.,

London, W., March 25th. HERBERT R. SPENCER.

[1] One was published in the BRITISH MEDICAL JOURNAL, 1921, ii, p. 622.

THE late Miss E. Ratcliff bequeathed £10,000 to the Burton-on-Trent Infirmary, which had previously benefited by gifts from her family amounting to £20,000.

THE late Mrs. Elizabeth Clarke of Newton Abbot, who died in November last, leaving net personalty of £234,000, has bequeathed £1,000 each to the Newton Abbot Hospital and Dispensary, the Tudor Fund for convalescents in connexion with that hospital, the Moretonhampstead Convalescent Home, and the West of England Eye Infirmary, Exeter, and £500 to her esteemed friend and medical attendant, Dr. William Gifford Scott, for his kindness and unfailing attention. She left her residence, Kanawha, and lands adjoining to her nephew, Dr. Arthur Henry Bindloss, who also receives one-sixth of the residue of her property. The King Edward's Hospital Fund is also to receive one-sixth of the residue of the property.

Obituary.

JOHN TURNER, M.B., C.M.

THE death is announced of Dr. John Turner, at the age of 62. He was born at Portsmouth and educated at Aberdeen University, where he graduated M.B., C.M. in 1883. He was connected with the Brentwood Mental Hospital for over 36 years, and was appointed medical superintendent of the institution in 1910. He took great interest in pathological research work, and contributed to our columns articles on vertebral puncture in general paralysis of the insane in 1896, on the pathology of epilepsy in 1906, and on changes in the conception and treatment of insanity in 1912, the latter being his presidential address to the annual meeting of the then East Anglian Branch of the British Medical Association. He also contributed papers to the *Journal of Mental Science*, including one on appearances indicating phagocytosis in brains of the insane, published in 1897, for which he had been awarded the bronze medal of the Medico-Psychological Association. On his retirement from Brentwood he went to reside at Rochford, and took a keen interest in the history and antiquities of the neighbourhood, having as recently as February 24th delivered an historical address on Essex windmills. He was a brother of the late Sir George Turner, who was well known in connexion with leprosy research. He is survived by his widow.

DR. THOMAS HANSON SMITH of Reddish, Stockport, died on March 14th, aged 64. He was educated at Leeds and Manchester, took the diplomas of L.R.C.P. and S.Edin. in 1881 and D.P.H.Camb. 1897, and graduated M.D.Durh. in 1899. After practising for a short time in Bradford and Manchester he removed to Stockport, where he practised for forty years. Before Reddish became incorporated with Stockport he was M.O.H. to the Reddish Urban District Council. He was a Fellow of the Society of Medical Officers of Health and a member of the Stockport, Macclesfield, and East Cheshire Division of the British Medical Association. He was president of the Reddish Conservative Club from 1915 to 1921. Dr. Smith had been in failing health for the last twelve months, and is survived by his widow and two daughters.

WE regret to record the death of Dr. CHARLES PINKERTON of Southport, which took place suddenly, at Hastings, in his 65th year. Dr. Pinkerton was a native of Glasgow, and was educated at Glasgow University, graduating M.B., C.M. in 1879, and M.D. in 1882. Some forty years ago he commenced general practice in Southport, and was formerly surgeon (subsequently consulting surgeon) to the Southport Eye, Ear, and Throat Hospital. He was a former president and one of the founders of the Southport Medical Society. Dr. Pinkerton did not take any prominent part in public life; he will be remembered in Southport by his devotion to his patients and his optimistic point of view. He was an old member of the British Medical Association, and was the author of two contributions to our columns on surgical subjects.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

THE following candidates have been approved at the examinations indicated:

DIPLOMA IN MEDICAL RADIOLOGY AND ELECTROLOGY.—*Part I (Physics and Electrotechnics)*: E. G. Barker, M. Bienenstock, P. M. Desai, J. A. Geraghty, B. Grellier, S. M. Hepworth, J. P. Thierens, J. A. Thomson, O. R. Unger. *Part II (Radiology and Electrology)*: M. Bienenstock, F. T. Burkitt, J. D. Kidd, J. S. Levack, Margaret C. Murphy, W. K. Parbury, J. L. Sen, J. S. Webster.

UNIVERSITY OF LONDON.

A MEETING of the Senate was held on March 22nd.

Mr. C. A. Pannett, M.D., B.S., B.Sc.Lond., F.R.C.S., was appointed to the University Chair of Surgery, tenable at St. Mary's Hospital Medical School. He has been Assistant Director of the Surgical Unit at St. Mary's Hospital since 1920.

Mr. C. A. Lovatt Evans, D.Sc.Lond., L.R.C.P., M.R.C.S., was appointed to the University Chair of Physiology, tenable at St. Bartholomew's Hospital Medical College. He has been Professor of Experimental Physiology and Experimental Pharmacology in the University of Leeds since 1917.

The degree of D.Sc. in physiology was conferred on Miss E. E. Hewer, an internal student of Bedford College, for a thesis entitled: "Some functions of the suprarenal glands."

UNIVERSITY OF DURHAM.

AT the Convocation held on March 25th the following degrees were conferred:

M.D. (*For Practitioners of Fifteen Years' Standing*).—D. J. Lewis, J. L. Meynell.

M.B., B.S.—A. Angus, F. J. Benjamin, W. N. Crowe, C. C. Carr, J. F. Coltman, R. A. McK. Dickson, R. L. Dagger, E. R. Dingle, Barbara M. Grinling, G. A. M. Hall, L. Hunter, J. Jackson, R. W. Locke, T. S. Storey, L. W. Studdy, S. J. C. Smith, Gladys Stableforth, W. P. T. Watts, Olive C. Wilson, Philomena R. Whitaker.

UNIVERSITY OF EDINBURGH.

THE Senatus Academicus of the University of Edinburgh have resolved to offer the honorary degree of Doctor of Laws to the following: Professor Sir Isaac Bayley Balfour, K.B.E., M.D., Professor of Botany, Regius Keeper of the Royal Botanic Garden, and King's Botanist for Scotland; Professor Emeritus Sir Halliday Croom, consulting gynaecologist, Edinburgh Royal Infirmary, consulting physician, Edinburgh Royal Maternity Hospital; Professor Charles James Martin, C.M.G., M.B., D.Sc., F.R.S., Director of the Lister Institute of Preventive Medicine, Professor of Experimental Pathology in the University of London; Professor Sir Charles Scott Sherrington, C.B.E., M.D., LL.D., Professor of Physiology in the University of Oxford; John Thomson, M.D., consulting physician to the Royal Edinburgh Hospital for Sick Children, formerly University Lecturer on the Diseases of Children.

QUEEN'S UNIVERSITY, BELFAST.

AT the graduation ceremony on March 22nd the following degrees and diplomas were conferred:

M.D.—J. C. Robb, P. S. Walker.

M.CH.—J. C. Robb, O. Wilson.

M.A.O.—D. M. Clements.

M.B., B.CH., B.A.O.—*R. I. Poston, †A. H. M'C. Eaton, W. S. Gibson, W. Lascelles, Mary C. Lindsay, I. H. M'Caw, Florence M. Anderson, W. A. Brown, J. C. Carson, Martha L. Dunlop, Elizabeth Dysart, Margaret H. Elliott, W. M. Keys, G. L. Love, J. S. Lyle, W. M'Cartan, A. E. M'Corkell, A. L. M'Curry, J. S. M'Glade, F. S. Mayne, H. Meharg, Elizabeth Morrison, J. L. Murray, R. W. Mussen, Agnes M. Puree, R. B. Quinn, J. C. Ramsay, R. J. Rosborough, T. Savage, C. A. Thompson, C. A. Wallace.

D.P.H.—Eileen O Bartley, C. R. Christian, T. H. Crozier, J. H. Dunn, Eileen M. Hickey, J. S. J. Lee, Mary M. Merrick.

* First class honours. † Second class honours.

Medical News.

THE King has approved the appointment of Dr. John S. Griffiths, Redland Park House, Bristol, to be a deputy-lieutenant for Gloucestershire.

A MEETING of the Cambridge Medical Society (members of the Cambridge and Huntingdon Branch of the British Medical Association are entitled to attend) will be held at Addenbrooke's Hospital, Cambridge, on Friday, April 7th, at 2.30 p.m., when cases, specimens, etc., will be shown and discussed.

AT the meeting of the Royal Microscopical Society, 20, Hanover Square, W., on April 19th, at 8 p.m., Dr. R. S. Ludford will read a paper on the morphology and physiology of the nucleolus.

AT a meeting of the Optical Society at the Imperial College of Science, South Kensington, at 7.30 p.m., on Thursday, April 6th, a paper on diffraction halos in normal and glaucomatous eyes will be read by Mr. H. H. Emsley, B.Sc., and Mr. E. F. Fincham. At the June meeting of the society there will be a discussion on spectacle construction. Further information can be obtained from the joint honorary secretary of the society, Glass Research Association, 50, Bedford Square, W.C.1.

A DISCUSSION on economy in sanitary appliances and methods of drainage will be opened by Sir Henry Tanner, C.B., F.R.I.B.A., at a meeting of the Royal Sanitary Institute, 90, Buckingham Palace Road, S.W.1, on Tuesday, April 11th, at 5.30 p.m.

THE Medico-Legal Society has arranged to establish a library at the house of the Medical Society of London, 11, Chandos Street, W.1. Gifts are invited. The collection will be open to members at convenient hours.

A SUMMER session of the South-West London Post-Graduate Association will begin in May. Particulars can be obtained from the honorary secretary, Dr. H. B. A. Pearson, 29, Bolingbroke Grove, S.W.11.

THE Food Education Society has arranged a discussion at the Caxton Hall, Westminster, on Friday, April 7th, on feeding in institutions with special reference to school diet. It will be introduced by Miss A. D. Muncaster, formerly a member of the kitchen inspectorial staff of military hospitals. Sir William Collins will take the chair at 5.30 p.m.

SIR THOMAS LEWIS will deliver the Noble Wiley Jones lectures under the auspices of the medical school of the University of Oregon, U.S.A., between May 15th and 19th; the lectures will deal with auricular fibrillation, quinidine and digitalis.

A FAREWELL dinner is to be given to Dr. James Niven, late medical officer of health of Manchester, by the members of the medical profession in Manchester. It has been decided that the guests may include members of the medical profession and persons connected with the Manchester Corporation, University, and Insurance Committee. The dinner will be held on Tuesday, April 11th, at the Queen's Hotel, Manchester, at 8 p.m., and tickets (15s. each) may be obtained from Dr. R. G. McGowan, Union Bank Buildings, Piccadilly, Manchester.

AT the instance of the International Labour Office a meeting was held recently in Geneva to consider various problems relating to men disabled in the war or in industry. The meeting was attended by representatives of organizations of ex-service men and official departments concerned with disablement in France, Great Britain, Italy, Poland, Germany, and Austria, and by representatives of the Health Section of the League of Nations and of the League of Red Cross Societies. The meeting expressed an opinion in favour of the establishment of an international institution to collect information and to organize an international exhibition of artificial limbs and other orthopaedic instruments. The meeting was of opinion that legislation concerning industrial accidents should be amended so as to allow men disabled in industry to have the benefit of the experience gained during the war, and to this end advised co-operation between departments dealing with the supply of artificial limbs and orthopaedic instruments to disabled ex-service men on the one hand and social insurance organizations on the other. It considered that the departments established for the benefit of ex-service men should to some extent be maintained permanently. It is hoped that the exhibition, when once the materials have been gathered at Geneva, will visit other countries.

THE Board of Control, with the approval of the Minister of Health, has appointed a committee to consider the clinical and other records kept in county and borough mental hospitals, and to report in what ways the system of keeping them can be improved and what alterations in the Commissioners' rules in regard to them are desirable. The members are Dr. A. Rotherham, M.B. (Chairman), Commissioner of the Board of Control; Dr. H. A. Kidd, C.B.E, medical superintendent, West Sussex County Mental Hospital, Chichester, and Dr. S. J. Gilfillan, O.B.E., medical superintendent, London County Mental Hospital, Colney Hatch. The Board has also appointed a committee "to consider the dietaries in county and borough mental hospitals, and to report what changes, if any, are desirable, and whether a minimum dietary scale should be fixed." The members are: Dr. R. W. Branthwaite, C.B., M.D. (Chairman), Commissioner of the Board of Control; Dr. M. Greenwood, medical officer (medical statistics), Ministry of Health; Dr. R. Worth, O.B.E., M.B., medical superintendent, Springfield Mental Hospital, Tooting; and Dr. L. O. Fuller, medical superintendent, Three Counties Mental Hospital, Arlesey, Beds. The following members have been added to the committee which is to inquire into the nursing service of mental hospitals: Mr. E. Sanger, ex-Chairman of the London Asylums Committee; Mrs. Pinsent, Commissioner of the Board of Control; Miss M. M. Thorburn, R.R.C., matron at Horton Mental Hospital.

DR. F. J. PEARSON of Owston Ferry, Doncaster, has been presented with a cheque for £56 by friends and well-wishers. The presentation was made by the Bishop of Grantham, and at the same time Mrs. Pearson was presented with a gold brooch set with pearls.

THE report of the Royal Portsmouth Hospital for 1921 contains the following: "The Committee record with deep regret the death of Dr. J. Ward Cousins, J.P., who was on the active staff of the hospital for forty-eight years, retiring in 1908, when he was elected a consulting surgeon and also a vice-president. He worked unceasingly for the interests and development of the hospital. A surgeon of exceptional ability, his professional services were of the highest order, whilst his keen judgement and ardent zeal were of the greatest value in the movement which led to the building of new wards and the reconstruction of the old building. His work in connexion with the hospital will stand as a living memorial of his name."

THE number of deaths from influenza continued to decline in the week ending March 25th; in the 105 great towns there were 104 deaths from the disease, as against 146 in the preceding week; in London the number was 17, as against 21 in the week ending March 18th.

DR. EDWIN RAYNER, at one time treasurer of the British Medical Association, left estate of the value of £42,241.

THE Ligue d'Hygiène Mentale, founded in Paris to promote the early and preventive treatment of mental disorders, has succeeded in securing the establishment of several dispensaries in the Department of the Seine.

THE editor of *Industrial Welfare* informs us that at the present time more than 200 firms are publishing welfare magazines. The firms include engineers, iron and steel manufacturers, collieries, ship builders, millers, food stuff manufacturers, banks, textile firms, railways, and distributing firms. A conference of editors of such magazines has been arranged by the Industrial Welfare Society and will be held at its offices, 51, Palace Street, Westminster, on April 28th.

THE "Holy Rollers" are a sect new to us; the members believe that diphtheria can be cured by faith. An epidemic of the disease at Prentiss, Maine, U.S.A., is attributed to the belief of the parents of a sick child in this doctrine. The child died, and within a few days there were ten cases of diphtheria in the immediate vicinity.

AT the examination held recently for the diploma of membership of the Society of Radiographers there were forty-five candidates, of whom seventeen passed in both sections. The next examination is to be held in July. Two prizes of ten guineas and one of five guineas were awarded for theses by members of the society on radiographic subjects.

PROFESSOR EHLERS of Copenhagen has received the honorary degree of doctor from the University of Paris.

THE German Congress of Surgery will be held at Berlin, under the presidency of Professor Hildebrand, from April 19th to April 22nd, when the following subjects will be discussed: The experimental principles of wound infection, introduced by Neufeld of Berlin; general surgical infection, introduced by Lesser of Freiburg; operative transplantation of muscles, introduced by Wullstein of Essen; and the importance of histological examination of the blood, introduced by Stahl of Berlin. The thirty-fourth meeting of the German Society of Internal Medicine will be held at Wiesbaden from April 24th to April 27th, under the presidency of Professor L. Brauer. The chief subjects for discussion will be jaundice, introduced by Profesor Eppinger of Vienna, and the hypophysis, introduced by Professor Biedl of Prague.

Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.*

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2630, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2630, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin;* telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

DR. DIXON (Hawick, N.B.) would be glad to hear from any professional brother willing to exchange bookplates.

DR. W. J. MIDELTON (112, Charminster Road, Bournemouth) asks for references to papers describing the condition of the brain, spinal cord, nerves, muscles, blood vessels, and lymphatics, in chronic arthritis.

INCOME TAX.

"J. S. B." is considering the purchase of a practice, and inquires as to the basis of assessment in the early years after the change.

*** For his first year he is liable to be assessed to tax on the basis of his predecessor's past profits for three years, for the second year on the basis of his predecessor's last two years and

his own first year, and so on; but if his earnings fall short of the assessment so calculated from some "specific" cause he is entitled for each of his first three years to substitute his actual earnings for the year for the average; in that case application must be made through the local inspector at the end of each year.

BLUSHING.

"E.B.S." asks for suggestions for the effective treatment of excessive blushing of the face, in a patient who has suffered from it since childhood. It comes on without the slightest provocation, even in the absence of company. As hyperidrosis can now be cured by local applications of electricity, he thinks that surely something similar might be evolved for excessive blushing which causes so much misery.

LETTERS, NOTES, ETC.

HYDROA AESTIVALE.

DR. F. PARKES WEBER (London) writes: In the account of the address by the Regius Professor of Medicine to the Oxford Medical Society (BRITISH MEDICAL JOURNAL, March 11th, page 393), we are told that all cases of haemato-porphyrinuria suffer from hydroa vacciniforme (aestivale). Apparently in all dermatological and other medical writings the neuter singular adjective is added to hydroa; but would not the neuter plural be more correct? The word hydroa, though not used by ancient Greek authors, ought to mean "the watery *things*"—that is to say, vesicles or miliaria, if the word should not really be written *hidroa* (Hippocrates, Galen), as suggested by Radcliffe Crocker and others. In the latter case it would mean "the sweaty *things*"—that is to say, sweat vesicles, heat spots, sudamina, or miliaria. In either case it would seem that, instead of vacciniforme, aestivale, one ought to add *vacciniformia*, *aestivalia*.

STERILITY WITH REFERENCE TO THE STATE.

DR. B. DUNLOP (London, S.W.) writes: Dr. R. A. Gibbons repeats (p. 430) the fallacy that an average of not less than three children per family is required to prevent a population declining. I believe that it was started in Germany, and was largely due to an assumption that her high infantile mortality was irreducible. An exposure of the fallacy was quite incidentally made by M. Leroy Beaulieu, one of France's leading opponents of birth control propaganda, in his book, *La question de la dépopulation*. For evidence was therein given that in 1901–05 the average number of children per family in France was 2.5, and that in 1906–11 it was 2.32. Nevertheless, the French population continued in these periods to increase, by excess of births over deaths, at its usual average rate of about 1 per 1,000 a year. Another exposure of the fallacy is provided by the fact that in 1919 the birth rate of England and Wales was only 18.5 per 1,000, and yet it exceeded the death rate by 4.7. If, therefore, the great majority of men marry and have at least two children, a small fraction over an average of two children per family will enable a population to increase—provided, of course, that the food supply has increased. It is reversed selection which causes "race suicide." Fortunately, our reversed selection will soon begin to disappear, for when the poor cease to have more children than they can themselves provide for, the great majority of the better-off will marry and have at least two children.

LIEUT.-COLONEL T. S. B. WILLIAMS, I.M.S.(ret.) (London, W.C.), writes with reference to the same paper: It is not true to say that the prosperity of a nation depends on "a good average birth rate." What it does depend on, if you must have a large and increasing population, is on the "survival rate." Looked at from this point of view, it is possible to have a population increasing both in numbers and physical fitness, although the birth rate is steadily and purposefully declining. In the same way his paper shows the inability, very common amongst medical men, to appreciate the fact that the grave physical ills which they are attempting to treat are very largely but symptoms of serious disease of an economic nature in the structure of the State. Good treatment is to go for the cause, and not to treat symptoms. At the present moment the profession is, very generally, treating symptoms, whereas, if they only made a study of political economy there might be some hope of such a change of mental outlook that they would go for the cause. All through his paper the author avoids facing real difficulties, and instead hands them on to "political economists and statesmen," which means that they are really dealt with by vested interests who are neither political economists nor statesmen.

CLINICAL FORMS OF INFLUENZA.

DR. D. OWEN WILLIAMS (Glandyfi, Cardiganshire) writes to confirm Dr. Kenda l's statement as to types of influenza with signs of pneumonia and a high temperature on one day to be followed, under treatment, by a normal temperature in twenty-four hours and ultimate recovery (p. 500). Dr. Williams adds: I have known cases in the recent epidemic with a temperature of about 102° and signs of pneumonia to have a normal temperature, under treatment, in twenty-four hours and ultimately to recover.

VICTIMS OF THE DRUG HABIT.

DR. PHILIP W. LAMB (London, W.) writes with reference to the discussions initiated in the House of Commons by Sir Charles Higham and Mr. Alfred Morris in connexion with the illegal sale of dangerous drugs: The provisions of the Dangerous Drugs Act will not prevent the illicit trafficker from plying his trade as long as the demand exists for his services. The miserable victims of drug habits should, he urges, be considered in the same light as cases of venereal diseases, and some measure of State support afforded for the provision and maintenance of institutions wherein the treatment and disciplining of those afflicted with drug habits may be carried out. I know, he continues, that many laymen will cry out against the suggestion on the ground of economy; but there is such a thing as false economy. Our duty to posterity—no less than to the present generation—requires that the achievements of science be brought into the widest use in order that those broken in mind and body may be restored to their proper place in the social and economic fabric. Why should they be regarded as non-effectives when medical knowledge and skill can restore to them confidence, self-control, and a real enjoyment of the benefits of normal living and thinking?

STAMMERING.

WITHIN a short period four different correspondents have written to us inquiring about the treatment of stammering. We would recommend our correspondents to read Section V of the report of the Chief Medical Officer of Education for the year 1913, published in 1914 by H.M. Stationery Office (price 1s. 8d.). In a dozen pages of that report (pp. 81 to 93) is a very useful and instructive summary of the conditions and treatment of this distressing defect of speech. It has the advantage of being the summation of the reports and opinions of a number of school medical officers who have paid special attention to the condition, and who in their own districts have gone to the length of instituting special classes for the treatment of the affected children. The causes of the failure of the harmonious working of speech mechanism are discussed, statistics of its incidence in this and other countries tabled, effective lines of treatment are described, and the results of such treatment recorded. Such a summary as this is of much greater utility than the record of the results obtained at single hand, however critical be the observer. There are two comments in the report worth quoting here: "In this country, broadly speaking, stammering has not been viewed as a disease, and consequently has been to a large extent ignored by medical men. . . . The disabilities of the stammerer and the prejudicial effect of the condition on his prospects in after-life are in some cases real and serious. Without undue or disproportionate expenditure many cases can be cured, and all with few exceptions greatly ameliorated." Treatment, it is pointed out, should be directed to (1) the physical and general welfare of the child; (2) the general mental condition; and (3) the defect itself. As regards the last "suggestion" certainly plays a large part in the treatment, and the direct methods adopted aim at the restoration of the nervous co-ordination of the muscular mechanisms concerned in the production of speech by the use of certain respiratory and vocal exercises.

HERPES AND VARICELLA.

DR. F. G. GARDNER (Oxford) writes: Many cases of this sequence have been recorded. I should like to bring forward one more instance. On March 2nd last I saw a married lady who was suffering from a well-marked attack of herpes of one thigh and hip. Fifteen days later her little girl, aged 3, developed a well-marked varicella rash. The child *may*, of course, have been exposed to the infection of chicken-pox, but the mother was quite sure such had not been the case.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 30, 31, 34, and 35 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 32 and 33.

THE appointment of certifying factory surgeon at Weymouth (Dorset) is vacant.

The Right Way in Photography is the title of a pamphlet Messrs. Burroughs, Wellcome and Co. have issued; it contains useful notes, particularly on modern methods of plate and film development, and on intensifying.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Six lines and under	0	9	0
Each additional line	0	1	6
Whole single column (three columns to page) ...	7	10	0
Half single column	3	15	0
Half page	10	0	0
Whole page	20	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

Presidential Address

ON

THE RISE AND PROGRESS OF LARYNGOLOGY:

ITS RELATION TO GENERAL MEDICINE AND ITS POSITION IN THE MEDICAL CURRICULUM.

DELIVERED BEFORE THE MANCHESTER MEDICAL SOCIETY

BY

SIR WILLIAM MILLIGAN, M.D., C.M.,

AURIST AND LARYNGOLOGIST, ROYAL INFIRMARY, MANCHESTER; LECTURER ON DISEASES OF THE THROAT AND EAR, VICTORIA UNIVERSITY, MANCHESTER; PRESIDENT, LARYNGOLOGICAL SECTION, ROYAL SOCIETY OF MEDICINE.

SPECIALISM in medicine or surgery is no new-fangled idea. Herodotus, the Father of History, writing more than 2,500 years ago of the highly developed state of specialism amongst the Egyptians, says:

"Physicke is so studied and practised with the Egyptians that every disease has its several physician who striveth to excel in healing that one disease and not to be expert in curing many. Whereof it cometh that every corner of that Country is full of physicians, some for the eyes, others for the head, many for the teeth, and not a few for the stomach and the inwards."

In those far-off days the human body was divided into some thirty-six regions, with specialists for each one of them, and history records that jealousy existed amongst specialists when they invaded one another's territory—a state of affairs not unknown even to-day. In the Ebers Papyrus, compiled about 1550 B.C., the anatomy and physiology of the nasal passages are described as follows: "There are four vessels in both nostrils, of which two carry blood and two mucus. Once air has entered the nose it is lost sight of; it goes to the heart and to the rectum."

Closely allied with Egyptian medicine was that of the Chaldeans and Assyrians, tainted very largely, however, with witchcraft and sorcery—for example, "gargling with the milk of a sheep helps the tonsils and the fauces, anginas are helped by a goose's gall mixed with elaterium and honey, by the brain of an owl, and by the ashes of a swallow soaked in hot water."

In *La Médecine du Talmud* we are told that a transverse incision of the trachea is fatal, whereas a longitudinal one is not.

Among the Hindu races the surgery of the throat attracted much attention and many weird forms of treatment. Wise, in his book on the Hindu system of medicine, describes a method of tonsillotomy which aimed at removing a third part only with the knife—"if all is cut the patient will die of haemorrhage." The removal of foreign bodies from the food and air passages was not only attempted but accomplished, the method consisting in passing a hot iron through a metallic tube to dissolve or soften and so to remove it. I can find no mention of the end-results of such drastic performances—no mention of any resulting stenosis or of adhesions; evidently there were no follow-up-case committees at work in those days.

Although Homer does not mention the word "larynx," it is freely mentioned by other Greek writers. Aristotle (384–322 B.C.) describes it as the organ through which the voice and the breath pass. "It is the voice and larynx which emit vowels; it is the tongue and lips which form the consonants or the aphonic letters."

Hippocrates, who, according to Celsus, was the first medical specialist, described the epiglottis as a process in the form of an ivy leaf which prevented liquid entering the larynx and kept it in the pharynx; and of the trachea he said that it was cartilaginous, surrounded by smooth rings, and contained but little blood.

The etiology and treatment of nasal polypi has from time immemorial even up to the present day been responsible for much controversy. Cato the Censor, writing 232 B.C., says:

"If there is a polypus in the Nose rub together some wild cabbage leaves in the hand, place them in the nose and draw up the breath as much as you can. In 3 days the polypus will fall away. Nevertheless for some days do the same so that you may render the roots of the polypus entirely healthy."

Celsus used a sharp spatula-shaped instrument to separate the growth from the underlying bone and then extracted it with a hook. Hippocrates, on the other hand, recommended tying a sponge to a string, passing the string through the nasal passages and out through the mouth, in order forcibly to draw the polypus from its attachments. For hard growths the loop of a sinew was passed round the attachment of the growth and then tightened. Subsequently cauterization was employed, a hot iron being passed through a metal tube and the raw surfaces seared. Following one or other of these methods of removal he advised the use of copperas powder and the insertion of tents smeared with oil and honey into the nostrils. He says: "Those diseases which medicines do not cure the knife cures; those which the knife cannot cure fire cures; those which fire cannot cure are to be reckoned wholly incurable."

Curiously enough, in the Hippocratic treatises there is no mention of tonsillotomy, but in The Prognostics, No. 23, the operation of uvulotomy is described: "When the uvula alone is inflamed seize it with the finger, press it up against the palate and cut off the end." Other Greek writers, however, describe tonsillotomy in detail. Thus Albucasis writes:

"If they [the tonsils] are of a dark colour and of slight sensibility do not touch them with the knife, if red and the base is broad do not touch with a knife for fear of haemorrhage but delay until it has ruptured for then thou canst perforate it or it will break of itself. But if it is of a white colour, round and has a slender base this is the kind which is suitable and thou shouldst cut it."

That great bugbear of the rhino-laryngologist, atrophic rhinitis or ozaena, was not only recognized as a distinct pathological entity but was vigorously treated. Celsus says:

"If these ulcers are around the openings and have many crusts and have a foul odour which variety the Greeks call Ozaena it should be recognized that it is hardly possible to cure this disease. In the nostrils let honey be applied with a small amount of resin of turpentine which may be used on a probe wrapped with wool. By the use of this the crusts are loosened and may then be removed by the use of sternutatories."

He advised leaving pledgets of lint saturated with medicaments in the nostrils, twice a day in winter and spring, and thrice a day in summer and autumn.

The first definite description of tracheotomy is from the works of Antyllus, who lived during the reign of Hadrian (117–138 A.D.). Adams translates as follows:

"In cases of cynanche we entirely disapprove of this operation because the incision is wholly unavailing when all the arteries (the whole of the trachea and bronchi) and the lungs are affected, but in inflammation about the mouth and palate, and in cases of indurated tonsils which obstruct the mouth of the windpipe, as the trachea is unaffected it will be proper to have recourse to pharyngotomy in order to avoid the risk of suffocation. When therefore we engage in the operation we slit open a part of the arteria aspera (for it is dangerous to divide the whole) below the top of the windpipe about the third or fourth ring. For this is a convenient situation as being free of flesh and because the vessels are placed at a distance from the part which is divided. Wherefore bending the patient's head backwards so as to bring the windpipe better into view we are to make a transverse incision between two of the rings so that it may not be the cartilage which is divided but the membrane connecting the cartilages. If one be more timid in operating one may first stretch the skin with a hook and divide it, and then removing the vessels aside if they come in the way make the incision."

Galen described twelve intralaryngeal muscles—that is, six pairs—and enumerated three cartilages of the larynx: the thyroid, the cricoid, and the arytenoid; the latter he supposed was a single cartilage. He claims to have discovered and described the ventricles of the larynx. He describes also the vocal cords as a membranous substance so constituted as to resist the impact of the air and lubricated by mucus to prevent injury from the vibrations of a dry surface. He was the first to describe the recurrent laryngeal nerves. He considered that chilling of the recurrent nerves during operations damaged the voice, and he therefore advised against operations in this region during cold weather. He recognized the dependence of diseases of the larynx upon affections of the parts above, but explained it on the assumption that the brain was the common origin of all catarrhs. Paulus Aegineta introduced the knotted-string method for the removal of polypi.

"Taking then a thread moderately thick like a cord, and having tied knots upon it at the distance of two or three fingerbreadths, we introduce it into the opening of a double-headed specillum [probe] and we push the other extremity of the specillum upward to the ethmoid opening."

In the great medical school of Salerno the surgery of the throat came in for a considerable share of attention. Roger of Parma, whose *Practica Chirurgica* saw the light about the

beginning of the thirteenth century, thus describes the treatment of a tonsillar abscess:

"Seat the patient before you and press his tongue down in his open mouth with an instrument so that you can see the tonsils well. Take hold of the affected one firmly with a bronzed iron hook and incise it with a properly sharpened instrument. Leave the coverings [the pillars of the fauces] which stand next to them uninjured however."

He even anticipated the much debated present operation of complete enucleation when he says, "et a radice funditus evellantur"—plucked away entirely by the roots.

Of an elongated uvula which could not be made to contract as the result of local medication he wrote:

"It should be grasped with a forceps made for the purpose near the palate where the uvula itself is sometimes of smaller diameter and snipped off. Care should, however, be taken not to touch the root of the uvula."

His method of treating "scinancia," literally translated retro-pharyngeal abscess, would hardly, however, appeal to the modern laryngologist:

"Take o' salt beef half cooked of the size and shape of a chestnut or a filbert, and having fastened it firmly by a long silken cord have the patient swallow it, and then let the physician pull it out suddenly and violently [cum violentia] in order that the abscess may be ruptured."

In 1252 Bruno of Longoburgo published his *Chirurgia Magna*, in which he describes several varieties of nasal polypi, one of them of dark colour, slight sensibility, and hard, which he regarded as malignant and advised leaving alone. He suggests that the root of the simple polyp be cauterized with a hot iron or with some cauterizing material. He seems to have anticipated Meyer's discovery of adenoids, and quotes Paul of Aegina's method of dealing with post-nasal growths—namely, that a ligature with knots at intervals be passed through a tube into the nose and brought out again through the mouth and a to-and-fro motion be used to cut off the projecting growths at the back of the nose. The originator of the term "union by first intention" ("unio per primam intentionem"), he realized that wounds should heal without pus formation, and regarded purulency as the fault of the surgeon.

Theodoric, a pioneer in plastic surgery, used strong wine as the only dressing. A bishop as well as a surgeon, he was the first writer definitely to mention anaesthetics for throat and other operations, assigning their introduction to his father, Hugh of Lucca:

"Having made a mixture of the wine extracts of opium, hemlock, mandragora, unripe mulberries, and wild lettuce a sponge should be boiled in this fluid until all is boiled away, and then whenever anaesthesia is wanted this sponge should be placed in warm water for an hour and applied to the nostrils until the patient sleeps, when the surgical operation should be performed. At its end another sponge dipped in vinegar should be frequently applied to the nostrils or some of the juice of the root of hay should be injected into the nostrils, when the patient will soon awaken."

In the Middle Ages, as now, the treatment of catarrh and coryza was the subject of much speculation, of many remedies, and of much disappointment. Gregory Horst, a prolific writer about 1660, highly extolled the medicinal properties of tobacco. He declared that the inhabitants of Florida at certain specified seasons of the year live on the smoke of this plant, which they receive into the mouth through horns prepared for the purpose, whereby, they assert, hunger and thirst are stilled and an incredible amount of phlegmatic humours are collected in the mouth.

When it (the smoke) is taken into the mouth through a pipe stem it pervades the whole brain and in the same manner is borne into the ears and even the uterus. One of the signs of its efficacy is the paleness of the countenance.

Fabricius ab Aquapendente (1537–1619) in *Opera Chirurgica*, after criticizing the treatment of ozaena as advocated by Celsus, writes as follows (edition of 1723, cap. xxvi):

"An iron cannula is to be inserted in the Nostril so long that it will reach the end and equal the length of the ulceration and occupy the cavity of the Nostrils: through this a glowing hot instrument is to be introduced which however should not reach beyond the cannula, it should be so done that the hot iron heats the tube and through this the nasal tissues and the ozaena. It is not intended that the Nose should suffer from this heat but only that the ulcerated part should be heated to a point short of pain in one having a good tolerance. This being perceived the cannula may be taken out of the nostrils the secretions cleaned off and then replaced."

He also regarded tonsillotomy as performed by Celsus and Paulus Aegineta as neither safe nor easy. He advises seizing the tonsil with a long slender forceps to draw it out, so that by skilfully making traction the tonsil as if of its own accord will follow.

The operation of tracheotomy, although described by Arabian, Greek, and pre-Renaissance writers, does not appear to have been actually performed until the middle of the sixteenth century. Its first performance has been ascribed to Beniveni, who died in 1502, but according to Casserius (1600) it was Brasavola who first opened the trachea (in 1545), his dictum being: "When there is no other possibility in angina of admitting air to the heart we must incise the larynx below the abscess" (Holmes). Casserius remarks that those who rejected bronchotomy are "inhuman, awkward, timorous, and are even, as it were, to be held as homicides." Fabricius says:

"Of all the surgical operations which are performed on man for the preservation of his life by the physician I have always judged to be foremost that by which man is recalled from a quick death to a sudden repossession of life, a feat which raises the surgeon nearest to the level of Aesculapius—that operation is the opening of the aspera arteria by which patients from a condition of almost suffocating obstruction to inspiration suddenly regain consciousness and draw into their heart and lungs that vital ether, the air, so necessary to life and again resume an existence which had been all but annihilated."

He regards the operation as serious. To escape the criticism of perhaps having hastened death, and "because from the operation no small emolument may be derived," he advises that the patient's friends should be told of the desperate nature of the case.

A longitudinal mark was to be made with ink down the middle line of the neck and a cross mark at the point of the tracheal incision, scarcely the breadth of a thumb below the lower border of the larynx.

Desault was the first to perform the operation of laryngotomy—or, as we would now call it, laryngo-fissure—by splitting the thyroid cartilage in an individual in whom a foreign body had become impacted in the larynx. In 1788 Pellatan recorded a case[1] in which he had performed laryngotomy for the removal of a foreign body lodged in the upper orifice of the oesophagus.

That intralaryngeal growths were diagnosed and even removed in pre-laryngoscopic days must appeal to us to-day as truly a remarkable feat, yet early in the seventeenth century we find Marcellus Donatus[2] referring to laryngeal growths, which he describes as warts in the throat. In 1817 Cheesman of New York published the record of a case of papilloma of the vocal cords dying without relief.[3] In 1837 Trousseau and Belloc could only report from literature and from their own experience 7 cases. Ehrmann, in 1850,[4] recorded 31 cases of laryngeal growths, including 2 cases of his own. Horace Green in 1852[5] records the removal of a laryngeal polyp from a child of 11, which he could see by forcibly depressing the tongue—thus anticipating Kirstein's autoscopy of the larynx.

Middledorpf[6] in 1853 removed a polyp, springing apparently from the upper part of the larynx, by means of an incandescent platinum wire loop, and cited 64 cases of laryngeal polypi previous to his own case.

To the student of laryngology the various steps leading up to the discovery of the modern laryngoscope are full of interest. In 1807 Bozzini invented a double cannula with a mirror placed at such an angle that the image of the part seen through one compartment was reflected back to the observer's eye through the other compartment, the source of illumination being a wax candle with a reflector behind.

Cagniard de la Tour in 1825, and Senn in 1827, made attempts with a double series of mirrors to practise autoscopy of the larynx.

In 1829 Benj. Babington presented to the Hunterian Society[7] an oblong piece of glass set in silver wire with a long shank. The reflecting portion of the mirror was to be held against the palate while the tongue was held down by a spatula.

Liston, in 1837, taught that a view of the larynx could often be had by introducing such a glass as is used by dentists well back into the fauces and keeping the reflecting surface, previously warmed by dipping in hot water, turned downwards.[8]

In 1838 Baumès exhibited at the Medical Society of Lyons a mirror the size of a two-franc piece, which he found useful in examining the post-nasal space and the larynx.

Avery, in 1844, was the first to employ a reflecting forehead mirror with lamp attached, employing a speculum similar to Bozzini's, except that it possessed only one compartment

By general consent, however, Manuel Garcia is considered the real father of laryngoscopy. In his original communication read before the Royal Society of London [9] emphasizing the practical importance of studying the interior of the voice box, the following sentences occur:

"The pages which follow are intended to describe some observations made in the interior of the larynx during the act of singing. The method which I have adopted is very simple. It consists in placing a little mirror fixed on a long handle suitably bent in the throat of the person experimented on against the soft palate and uvula. The party ought to turn himself towards the sun so that the luminous rays falling on the little mirror may be reflected in the larynx. If the observer experiment upon himself he ought by means of a second mirror to receive the rays of the sun and direct them on the mirror which is placed against the uvula."

Many years later, speaking before the Subsection of Laryngology at the Seventh International Congress in London in 1881, he thus describes his epoch-making discovery:

"One September day in 1852 I was strolling in the Palais Royal preoccupied with the ever-recurring wish so often repressed as unreasonable when suddenly I saw the two mirrors of the laryngoscope in their respective positions as if actually present before my eyes. I went straight to Charrière the surgical instrument maker and asking if he happened to possess a small mirror with a long handle was informed that he had a dentist's mirror which had been one of the failures of the London Exhibition of 1851. I bought it for six francs. Having obtained also a hand-mirror I returned home at once impatient to begin my experiments. I placed against the uvula the little mirror (which I had heated in warm water and carefully dried) then flashing upon its surface with a hand-mirror a ray of sunlight I saw at once to my great joy the glottis wide open before me and so fully exposed that I could perceive a portion of the trachea. When my excitement had somewhat subsided I began to examine what was passing before my eyes. The manner in which the glottis silently opened and shut and moved in the act of phonation filled me with wonder." [10]

This historical and original pronouncement of Garcia's (for there is no reason to suppose that he was aware of any previous experiments) immediately attracted attention and opposition—not, however, the attention its importance demanded, nor the opposition worthy of an enlightened profession. Thus no less distinguished a scientist than Professor Merkel of Leipzig, writing in the *Anthropophonik*, 1857, p. 608, says:

"I have not, it is true, been able to obtain Garcia's original observations, and do not know therefore how he proceeded in these alleged experiments, what he has seen and what he has not seen, but I have just grounds to doubt the reality of his observations until I am informed in what manner Garcia has prevented the mirror from becoming dimmed and how he draws forward the epiglottis, which to a great extent hides the glottis from the eye."

As Dean Swift very truly, however, observes: "When a true genius appears in the world you may know him by this sign—that all the asses are in confederacy against him."

Ludwig Türck in 1857, unaware of Garcia's observations, was working in Vienna with a small mirror investigating diseases of the larynx,[11] but he was anticipated in publication by Czermack, in a paper which appeared in the *Wiener medizinische Wochenschrift* in March, 1858, entitled "Uber den Kehlkopfspiegel." In this paper a large perforated concave mirror was recommended for reflecting either sunlight or artificial light, which in the same year Semeleder adapted to a spectacle frame.

Both Czermack and Türck published books upon diseases of the throat in 1859 and 1860, the publications appearing in French, as both authors had journeyed to Paris—Türck to persuade the savants of the Académie de Médecine that he was the pioneer, Czermack to persuade them that Türck was an impostor, so hot and furious had the contest for priority become.

In 1863 Tobold published in Berlin his *Anleitung zur Laryngoscopie*, and in the same year Louis Elsberg his paper on the laryngoscope and laryngoscopic technique.

To our own countryman, the late Sir Morell Mackenzie, belongs much of the credit of familiarizing the profession with the importance of the laryngoscope, both as a means of accurately diagnosing disease and as a practical aid to treatment. In 1859 he visited Czermack in Vienna, and was present during the acrimonious and none too dignified controversy between Czermack and Türck on the question of priority; in 1863 he was awarded the Jacksonian prize of the Royal College of Surgeons for his essay on "The Pathology and Treatment of Laryngeal Disease." In 1880 Morell Mackenzie published his monumental work, *Diseases of the Throat and Nose*, a book renowned throughout the world for its erudition, its extraordinary accuracy, and its breadth of knowledge.

The first intralaryngeal operation by the indirect method under the guidance of the laryngeal mirror was performed by Lewin on July 20th, 1860; the second in November, 1861. In a communication to the *Allgemeine medizinische Central Zeitung*, October 12th, 1861, he remarks that intralaryngeal growths are present in from 5 to 6 per cent. of all laryngeal cases, and describes 7 cases he had operated upon himself—3 by cutting operations, 4 by the application of caustics. He therefore anticipated Von Bruns, who, however, as a rule gets the credit, but whose first case was not published until 1862 ("Die erste ausrottung eines Polypen in den Kehlkopfhöhle," Tübingen, 1862).

In 1866 Elsberg published the first description of the microscopic appearances of laryngeal papillomata.

In 1867 J. Solis Cohen [12] reported the intralaryngeal removal of a laryngeal polyp. So rapid were the strides in laryngological practice that in 1871 Morell Mackenzie published the records of 100 cases in his paper "On Growths in the Larynx," for the first time classifying them as papillomata, fibromata, fibro-cellular or mucous polypi, myxomata, spindle-celled sarcomata, cystic tumours, adenomata, and angeiomata.

To our American confrères, past and present, much credit is due, not only for pioneer work, but also for the persistent way they have kept the laryngological flag flying.

In 1817 Dr. Cheesman of New York published a book upon *Growths and Tumours of the Throat*, followed a few years later by Horace Green's work upon the direct treatment of affections of the larynx and trachea, a work which, however, met with furious opposition and almost ridicule. Much the same kind of opposition was also meted out to Dr. O'Dwyer when he introduced his method of intubating the larynx.

The first laryngoscope imported into America was received from Vienna by Dr. Krackowizer in 1858. In 1871 Dr. Elsberg established the first clinic in America devoted exclusively to diseases of the nose and throat, and in 1873 the first laryngological society ever established was started in New York. This society, the New York Laryngological Society, was, however, gradually dissolved, and was incorporated as a section of the Academy of Medicine in 1885.

In 1878 the American Laryngological Association was established; its first meeting was held in 1879 in Buffalo, under the presidency of Dr. Louis Elsberg.

Papers dealing with laryngological subjects were first published in general medical journals and then in otological journals, more especially in the *Archiv für Ohrenheilkunde*, founded in 1864 in Vienna, and in the *Monatschrift für Ohrenheilkunde*, founded by Voltolini in Berlin in 1866.

In 1874 the *Annales des maladies de l'oreille et du larynx* were published, and in 1880 the *American Archives of Laryngology*. In 1881 the *Archivi Italiani* appeared, and in 1884 Semon's *Centralblatt für Laryngologie*. In 1887 the Spanish journal, the *Revista de Laryngologia*, and in England the *Journal of Laryngology*, edited in the first instance by the late Sir Morell Mackenzie and the late Norris Wolfenden, appeared almost simultaneously. In 1890 the first number of the *Laryngoscope* saw the light of day, and in 1893 the first volume of *Fraenkel's Archives*, truly a "magnum opus."

The driving force behind laryngology was rewarded in 1895 by Kirstein's discovery of autoscopy of the air passages,[13] which paved the way to the more elaborate and ingenious methods of Killian and Chevalier Jackson, by means of which with suitably illuminated rigid tubes practically the whole of the respiratory tree can now be brought under inspection, either by direct endoscopy or by suspension laryngoscopy.

Closely allied with laryngology, not only on historical but also on practical grounds, is the art of oesophagoscopy, which followed very shortly after the discovery of the laryngoscope.

Waldenburg was the first to succeed in introducing a short tubular mirror 14 cm. long into the mouth of the oesophagus. To this instrument Störk added a lobster-tail articulation to facilitate introduction. Following this he introduced long rigid tubes, and thus succeeded in realizing the art of direct oesophagoscopy. In the early eighties Morell Mackenzie, and after him Lowe, used a skeleton oesophagoscope with indirect illumination, but without much practical result.

The Leiter-Nietze oesophagoscope, with an internal lamp and system of prisms, followed the indirect method.

Kussmaul in 1868 described the successful examination of the normal and diseased oesophagus, using Desmoreaux's apparatus for illumination. These experiments were continued

by Müller, and yielded the practical result that a rigid tube 13 mm. in thickness may be introduced into the oesophagus of all normally constituted persons. Von Mikulicz deserves the credit of really laying oesophagoscopy upon sure foundations, the problem of illumination having been advanced by Leiter, Casper, Brünings, Kirstein, and Guisez.

That laryngology has played and is playing an important part in relation to general medicine must, I think, be obvious to any serious student of the subject. Just as a knowledge of ophthalmology is of inestimable service in interpreting the many problems associated with the diagnosis of local diseases of the eye and with unravelling the intricacies of certain affections of the central nervous system and other systemic diseases, so also is a knowledge of the clinical appearances of the interior of the larynx as revealed by laryngoscopy of equal value in the interpretation of many pathological lesions, both local and general.

To be able to bring under actual ocular inspection the commencing stages of such diseases as tuberculosis of the upper air passages, the various types of intralaryngeal paralysis originating as the result of morbid affections of the central and peripheral nervous systems, both organic and inorganic, the stenosis due to mediastinal growths, to enlargement of the lobe of the thyroid gland, or to aneurysmal dilatation of the aorta, is surely knowledge worth having.

The physician who to-day is unable to use his laryngoscope and to interpret the clinical pictures brought under his very eye is like the captain of a ship without his chart. True, he may bring his vessel into port, but how much better his chances of doing so would be were the rocks and the quicksands charted in his mind's eye. How often even to-day are the early stages of intrinsic malignant disease of the larynx missed either from a totally inadequate examination, or, what is perhaps as frequent, from no examination at all, and at a time when, literally speaking, cancer of the larynx may be regarded as a curable affection! In the light of our present knowledge the responsibility of the physician or surgeon who looks on, without looking in, at a case of persistent hoarseness is great—is, in fact, criminal. No man of any intelligence can to-day with any justice, considering the enormous strides of human knowledge, decry specialism in any walk of life. The very progress of the art of medicine, in the broadest sense of the term, is due to the fact that the great pioneers of the past have been men who have realized that it is better to thoroughly grasp a knowledge of one part of the human frame than to dabble with its entirety. Critics are fond of saying that the surgeon-specialist is prone to overestimate the value of local treatment, to ignore those general constitutional causes which underlie disease, and to look at pathological processes merely through the mirror of his own speciality, oblivious that the fault is often with the generalist who, neglecting or ignoring the local origin of disease, quite ineffectively treats the patient by drugs for a something which might easily have been recognized and treated successfully had he possessed the knowledge and the necessary *tactus eruditus*.

Work of much scientific and clinical value has been done by the combined efforts of physicians, surgeons, and laryngologists, as will be seen by a study of the innervation of the larynx and of laryngeal paralysis. In 1890 Semon, in association with Horsley, pointed out the greater proclivity of the abductor fibrils of the vocal cords to paralysis—a fact confirmed by the experimental researches of Onodi and Risien Russell in animals, thus establishing what is now known as "Semon's law." In central and peripheral lesions of the motor laryngeal nerves the abductors only suffer, or at least do so earlier and to a greater extent than the adductors, with the important corollary that laryngeal paralysis which involves the abductors (sometimes in association with the adductors) is due to organic disease, while motor paresis of the adductors is in the great majority of cases functional. With the late Sir Henry Butlin he revived the operation of thyrotomy, now generally called laryngo-fissure, for the removal of intrinsic malignant disease of the larynx—an operation which had fallen into disrepute owing to a former unfortunate selection of cases for its performance, to-day an operation which in skilful hands gives as good, if not even better, results than operations for malignancy in almost any other region of the human body. To cite but one more instance, consider the enormous strides made by the laryngologist in the local treatment of that most painful and distressing of all laryngeal ailments—laryngeal tuberculosis—by the institution of the silence cure, galvano-caustic puncture of foci of tuberculous oedema, and the curetting of laryngeal ulcerations.

Does laryngology occupy the position in the medical curriculum which its importance and its utility demand? I say without hesitation that it does not, and that until it is made a subject of compulsory study it never will. To burden the already overburdened medical student with yet another compulsory class appears almost criminal; yet, on the other hand, it is the business of the university or the teaching school to turn out its alumni equipped and in full harness.

It is difficult to persuade the student that a course of study which is not compulsory is of real importance to him in after-life. When we realize, however, how the State is investing public bodies under its control with ever-increasing powers in relation to the treatment of ear, nose, and throat diseases, in school clinics, welfare departments, and tuberculosis centres; when we realize what a large number of children owe their physical defects and backward development to the presence of diseases of the throat and ear; and when we also realize how much can be done to relieve them of their disabilities, it is the duty of those in charge of these special clinics to urge and to continue to urge upon the powers that be the necessity of insisting that every student shall have before he quits the portals of his university at least a reasonable theoretical and practical knowledge of laryngology and otology.

The Scottish universities, ever to the fore in educational facilities, now make the study of laryngology and otology compulsory. Each student has to attend the throat and ear department of his hospital for one term, to receive both systematic and clinical instruction. Examination is not demanded in Glasgow, but is compulsory in the other three universities, while in Edinburgh the student has to obtain 50 per cent. in this special examination before he is admitted to his final professional.

The time has surely come when, in the interests of the general public, the English universities and qualifying bodies should do likewise. Much encouragement to the study of laryngology and otology would also be afforded were there more clinical appointments in the special departments of our general hospitals, and were facilities made to hold such appointments for considerably longer periods than is possible at present; also were some special degree in laryngology and otology instituted to signalize the fact that its possessor had had a thoroughly good training in the special department which was to be his life's work.

With this end in view the Council of the Laryngological Section of the Royal Society of Medicine has recently appointed a committee, of which I have the honour to be a member, to draw up a memorandum to be presented to the Royal Colleges of Physicians and Surgeons, in which memorandum there are *inter alia* the following recommendations:

1. That attendance at the hospital throat and ear clinic be compulsory.
2. That no student be allowed to proceed to his final examination unless he can produce documentary evidence that he has attended (and has been signed up) a practical course upon diseases of the throat, nose, and ear.
3. That the qualifying examination in the diagnosis and treatment of the more common diseases of the throat, nose, and ear, and in the use of the more ordinary instruments, be both practical and oral.
4. That the examination be conducted by recognized laryngologists and otologists.

I would fain see the status of the teacher of laryngology be that of a professor and not of a lecturer.

The question of emolument attached to a professorship does not need to enter the scheme at all—it is the status that is wanted, the recognition and accentuation of the importance of the subject.

The ever-widening path of human progress demands that these changes should come. As the great surgeon-orator, the late Sir James Paget, in speaking of the future of pathology, said, "Where, then, are we to stop? I do not know more than this, that we must not stop where we are; we must go on and on, and we may be sure that they who work to find the truth will not work in vain, sure that with true work true good will come."

That these changes, these steps to the realization of a higher standard of efficiency in the medical profession, will come I feel sure; that they may come quickly is my earnest desire, confident as I am that our path of duty lies just as much in the prevention as in the cure of disease, in the early recognition and successful handling of the many ailments which threaten our sense organs—organs very responsive to intelligent treatment, but which,

when damaged, seriously hamper individual activity and utility, and collectively tend to undermine our national vigour, prosperity, and well-being.

REFERENCES.

[1] *Clinique Chirurgicale*, Paris, 1810. [2] *De Historia Medica Mirabili*, Book III. 1613, p. 243. [3] *Trans. Physico-Med. Soc. of New York*, vol. i, 1817. [4] *Histoire des Polypes du Larynx*, 1850. [5] *Polypi of the Larynx*, New York, 1852. [6] *Die Galvanocaustik*, Breslau, 1854. [7] *London Medical Gazette*, vol. iii. [8] *Practical Surgery*, third edition, 1840. [9] *Proc. Roy. Soc. London*, 1855, vii, p. 399. [10] *Trans. VII Internat. Med. Congress*, London, 1881, vol. iii, p. 197. [11] *Zeit. der Ges. der Aerzte zu Wien*, April 26th, 1858. [12] *Amer. Journ. Med. Sciences*, April, 1867. [13] *Deut. med. Woch.*, 1895, No. 38.

THE NATURE AND SIGNIFICANCE OF HEART SYMPTOMS.

BY

SIR JAMES MACKENZIE, M.D., F.R.C.P., F.R.S.

(From the Institute for Clinical Research, St. Andrews.)

II. THE REFLEX PROCESS AND THE HEART BEAT.

As disease is only recognized by the symptoms it produces, a knowledge of symptoms is a necessary preliminary to an intelligent investigation of disease. This knowledge of symptoms is necessary not only to the diagnosis of a patient's complaint but for a prognosis and a rational treatment. The symptoms of disease even in one sick individual may be numerous and varied, so that it is impossible to study every symptom with that care and insight which are necessary for understanding its use in the practice of medicine. The search for symptoms by new methods leads to the discovery of many, but the result is often but to add to the mass of details which obscure the problems of disease, and some other method of investigation is urgently needed.

Phenomena in nature, however numerous and varied, are subject to definite laws. Progress in every branch of knowledge which deals with these phenomena is hampered until these laws are discovered. The symptoms of disease are natural phenomena, and the vital processes concerned in their production are certain to be few in number, and the nature of symptoms will not be understood until these vital processes are discovered.

Recognizing that a knowledge of symptoms was the first step in the investigation of disease, the staff of the St. Andrews Institute for Clinical Research began their work by a search for the laws governing the production of symptoms.

In the course of this inquiry it was found that a great mass of symptoms were produced by disturbance of a single vital process—that which includes what is known as reflexes. The term "reflex" had been restricted to a few manifestations of a vital process, so that its affinity to other manifestations had not been recognized.

Though reflexes had received much attention, yet the manner in which they were modified by disease had received little attention. We therefore have devoted a good deal of study to the process as it concerns different organs, and in this article I deal with the light which the recognition of this process has thrown upon the mechanism of the heart beat.

The Nature of the Reflex Process.

We tried to look at the reflex acts from the point of view of the vital process. We analysed the parts concerned in a reflex arc. The arc consists of cells that are capable of stimulation connected in some way with cells that are capable of producing an effect. In some instances we can recognize the stimulus and the cells stimulated, but as a rule we can only recognize the effect. In the vast majority of reflexes we can only infer or guess at the nature of the stimulus, while of the manner of conduction from the cells stimulated (receptor cells) to the cells activated (effector cells) we have only the vaguest notion.

The parts concerned in a reflex act are the stimulus, the cells receiving the stimulus, the cells concerned in the conduction of the stimulus, and the cells which respond and produce an effect.

It will be seen that this process includes a great variety of responses or manifestations widely different in character and appearance, as contraction of muscle, secretion of glands, sensations, etc. For this complicated process we required a term, and we attempted to get one which would be comprehensive, but on consideration we found that no term could convey so much of the process as the term "reflex." To avoid confusion we tried to give a clear description of what was meant by the term. The meaning we attach to the term "reflex" is *that vital process by which a stimulus passes from one tissue or organ to another, resulting in a response.* The nature of the response depends on the function of the organ stimulated.

In this definition of the reflex process the manner in which the stimulus is conveyed from the receptor cells to the effector cells is not mentioned. Hitherto it has been assumed to be by nerves, but nerves are not necessary to the process, for other tissues may convey the stimulus, as will be realized when the evolution of the nervous system and the movements of the heart are described.

The Origin and Evolution of the Reflex Process.

The test of a new conception is the light that it throws upon obscure problems. The application of the theory of disturbed reflexes led to an examination of the mechanism of the heart beat—a mechanism which depends upon this vital process which we call reflex, and it fulfils the test of a true conception, as it presents the whole subject of the heart beat and its disorders in a new and better light. It also provides an interpretation of many facts which had either been misunderstood or overlooked, and gives a guide in which direction to look for other facts.

The nature of the process we call a reflex can be gathered by the description given in Bayliss's *Principles of General Physiology* of the evolution of the nervous system. This system begins in the conduction of a stimulus in the lowest multicellular organisms, where the communication passes from cell to cell without any intermediate mechanism. The next stage may be seen in the sea anemone, where projections of the cutaneous cell are connected with muscle fibres. The next stage may be considered to be that when a nerve cell is interposed the stimulus arising in one cell (the receptor or A part of the reflex) passes to a nerve cell (the centre or B part of the reflex) which is connected with the organ which gives the response (the effector or C part of the reflex). This stage, simple at first, as in the earthworm, becomes extremely complicated, especially in the central or B part of the reflex, which is situated in the central nervous system, where the stimuli are rearranged and guided into the paths for the production of their effects. The portion of the reflex in the central nervous system is that generally spoken of as "centres"—as the centre for vomiting, for respiration, for micturition, etc.

It will be seen that this description of the evolution of one part of the nervous system deals with the passage of a stimulus from one tissue to another, corresponding with our conception of a reflex.

The Reflex Process and the Movements of the Heart.

In the different rhythms of the heart we find variations in the reflex process, corresponding in a curious manner with Bayliss's description of the evolution of the nervous system. In certain abnormal conditions the muscle cells of the auricle and ventricle may contract independently of the control of the normal mechanism. The contraction of one cell stimulates its neighbour to contraction, and hence we get that remarkable condition called fibrillation. In this condition the muscle wall, though as a whole it stands still, is seen to be in continuous movement on account of the inharmonious contractions of the individual muscle cells. No sooner does one cell contract than it is again stimulated to contraction by its neighbour—that is to say, the stimulus evoked by one cell passes directly to another, in the manner described as the first stage in the evolution of the nervous system.

The stimulus for contraction of the ventricle passes from the auricle to the ventricle along the auriculo-ventricular bundle. (See Fig. A.) If this be cut or a portion destroyed by disease the ventricle no longer responds to the stimulus from the auricle. The ventricle, however, does contract at a slower and different rate from the auricle. There is good reason for assuming that the stimulus arises in the remains of the bundle and passes to the ventricle by the Purkinje cells. Thus we have an illustration of the reflex process where the stimulus arises in the Purkinje cells and is conveyed by them to the effector organ—that is, to the muscle cells of the ventricle.

The process is similar, though a little more complex, when the stimulus arises in the auriculo-ventricular node or in the auricle. The stimulus for contraction arises normally in the

sino-auricular node, passes directly to the auricle, causing it to contract, is taken up by the cells of the auriculo ventricular node, which reproduce the stimulus and send it by the bundle to the ventricle, thus giving rise to that regular sequence of auricular and ventricular contractions which facilitates the work of the heart.

It is to be observed that in this description of the conduction of the stimulus the stimulus is not conveyed by nerve fibres but by the Purkinje cells, the stimulus passing from cell to cell. Comparisons have been made of the rate of conduction along nerve fibres with that along the auriculo-ventricular bundle, but the conditions are not comparable because the nerve fibre is a continuation of one cell, while in the bundle the stimulus passes through a great number of cells. Above the sino-auricular node, and modifying its activities, are the vagus and sympathetic nerves. It is through these that the heart's action is reflexly affected by agents outside the heart. We thus see that the heart's rate and rhythm, both normal and abnormal, are governed by variations of the same vital process. How the recognition of this fact leads to a fuller understanding of the variation of the heart beat and the factors engaged in modifying it will be seen in the account which follows.

The Practical Application of the Reflex View of the Mechanism of the Heart Beat.

This description of the mechanism of the heart beat may appear to be of the nature of an academic disquisition and of little practical value. On the contrary, this appreciation of the factors concerned is essential to the understanding of the signs and symptoms of disease and of the action of remedies. Indeed, the reason of the backward state of cardiology and of our knowledge of the action of remedies is due to the failure to grasp the principles involved in this aspect of the subject.

In the last article it was shown that there were two kinds of tissue concerned in the movements of the heart: (1) that concerned in the production and the conduction of the stimulus which regulates the contraction of the chambers (the conducting, or, as we may also call it, the reflex system—Fig. A); (2) that concerned in the contraction of the chamber—the muscle cells of auricles and ventricles (the contracting system).

These two systems are quite distinct in function, and the manifestations in health and disease of the one system are quite distinct from the other, and the kinds of information yielded by the symptoms of the two systems are also quite distinct.

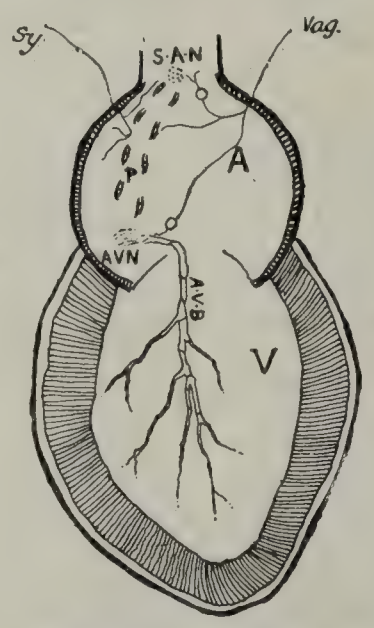


FIG. A.—Diagram representing the two main systems concerned in the heart beat. (1) The conducting system, represented by the sino-auricular node (S.A.N.) and the auriculo-ventricular node (A.V.N.) and bundle (A.V.B.). In both auricles and ventricles are also Purkinje fibres which belong to this system, represented by the scattered cells (P) in the auricle. The vagus (*vag.*) and sympathetic (*sy.*) also belong to this system. (2) The contracting system, represented by the muscle cells of the auricle (A) and ventricle (V).

The conducting system, with the sympathetic and vagus nerves, is concerned with the regulation of the rate and rhythm of the heart's contraction. The agents of disease readily affect some parts of this system, and in consequence we get the symptoms which are peculiar to this system—that is, variations in the rate and rhythm.

The contracting system, on the other hand, is concerned with the output of blood from the heart—that is, with maintaining the functional efficiency of the heart. When the heart begins to fail—that is to say, when its functional efficiency becomes impaired—the symptoms belong to quite a different category from that of the conducting system.

If this distinction is kept in mind it will be realized that attempts to find out the functional efficiency of the heart by observing the variations in the rate and rhythm of the heart are bound to fail, for the simple reason that information of a kind is sought from a source that cannot yield it.

The introduction of auscultation was followed by long and careful research to find out the cause of murmurs. The excellent results were vitiated by the failure to recognize the kind of information which had been obtained. It was thought that the functional efficiency of the heart could be ascertained from the modified sounds of the heart. To-day we find the modified sounds used as a guide in treatment and prognosis—a kind of knowledge they are incapable of supplying.

The interpretation of variations in the rate and rhythm of the heart has been misapplied in the same way, for the kind of knowledge they reveal has not been understood. That the functional efficiency of the heart depends on the integrity of the heart muscle is such a commonplace that it seems unnecessary to mention it; but we find that the information of functional inefficiency or heart failure is sought for in signs which have nothing to do with the functional efficiency of the heart muscle, while the signs peculiar to the inefficiency of the heart muscle are overlooked.

It is true that certain murmurs may indicate valves so damaged that they impede the work of the heart muscle. But it must be realized that they only oppose a hindrance to the contracting system, and it is the exhaustion of the contracting system that produces the symptoms of heart failure—that is to say, while heart murmurs may indicate conditions that may lead to heart failure, they do not of themselves give the signs of heart failure. In the same way the conducting or reflex system may occasionally give certain signs which we associate with heart failure, or which may lead to heart failure (as an excessive increased or diminished frequency), but these are not the signs of heart failure.

The variations of rate in response to effort, which are so often taken as evidences of functional efficiency, are thus seen to be due merely to a susceptibility to stimulation of some part of the conducting or reflex system which may have nothing to do with the heart's state of efficiency. Thus as the signs of damaged valves give one kind of evidence, so does the manifestation produced by the conducting or reflex system give another kind, and the signs of the contracting system give information distinct from the other two.

The Kind of Information Yielded by Disturbance of Rate and Rhythm (the Reflex or Conducting System of the Heart).

The phenomena produced by disturbance of the reflex system of the heart can best be described by recognizing two different kinds of mechanism which regulate the heart beat—(1) when the rhythm starts at the sino-auricular node (the normal rhythm), and (2) when the heart's contraction starts at some other place in the heart (abnormal rhythm). I propose to deal very briefly with the evidences, merely showing how the recognition of the disturbances throws light of a valuable kind on diseased states and on the effects of remedies. The knowledge acquired so far is limited, but such as it is it shows the lines on which more valuable knowledge can be acquired.

The normal heart beat starts at the sino-auricular node, where the stimulus for contraction is produced. The stimulus passes to the auricle and ventricle in the manner already described. It will thus be seen that in the normal heart beat the variations in rate and rhythm of the pulse are entirely dependent on the sino-auricular node. The cells of the sino-auricular node, after the discharge of a stimulus, are exhausted and remain quiescent for a short period, during which they recover from the exhaustion. As this period of recovery lengthens they become more and more susceptible to stimulation, until they again discharge their stimulus. What it is that excites them to "go off" is not quite clear, but certain agents have the power of increasing or diminishing their susceptibility—as heat, which causes an increase in the rate, or cold, which causes a decrease. It is possible also that agents circulating in the blood may affect the cells in a similar fashion; certain agents like alcohol seem to increase their sensibility, while others like digitalis may decrease it. In like manner the agents of disease may act, by the increase in temperature or by the toxic products.

The sino-auricular node has inherently a pace which is modified by certain circumstances. It is under the domination of the nervous system by means of the vagus and sympathetic nerves. The vagus maintains such a control over the sino-auricular node in health that it is never free from its inhibitory influence. A relaxation of vagal activity is followed by an increased rate of the pulse. The sympathetic acts in the opposite manner to the vagus, and an increase in its activity leads to an increase in the rate of the

heart. Here is where the great difficulty in interpreting variations of rate comes in. The sino-auricular node without vagus influence would cause an increase in the heart's rate. When, then, we find an increase in rate, we have to ask whether it is due to the sino-auricular node being freed from vagal activity, or to an increase of the sympathetic influence, or to a direct effect of some agent (temperature, toxins, drugs) on the sino-auricular node itself. These are the types of questions that require settling before we can understand the action of remedies or the symptoms of disease.

We know already a little, but that little indicates that there is much more to be known. We know, for instance, that the increased heart rate that follows the administration of atropine is due to a suspension of vagal activity, and that the increase in rate is different from that which follows a rise of temperature or effort, or the administration of alcohol. It is also known that digitalis may have a definite effect on the vagus, stimulating it and so restraining the activity of the sino-auricular node.

Varied as are the effects of drugs diseased states have effects as distinctive, for agents of disease affect the reflex system in diverse places and diverse ways, and it is by the recognition of these diverse modifications that the different diseased states can be recognized. We know that the reaction is different in pneumonia from that in typhoid fever, and these again from that in rheumatic fever. During some infections the conducting system may be affected, as shown by the temporary presence of partial heart-block.

But there is more than that, for the agent of disease modifies or counteracts the action of drugs. Thus, though in the normal heart atropine increases the rate, yet in certain diseased states it may slow the heart's rate. In some forms of disease digitalis will slow the heart rate, in other diseased states it is without effect. The recognition of these facts explains the reason of the confusion which reigns in the therapeutic field. A great deal of work has been done in testing the action of drugs on the healthy heart, but it has not been realized that the diseased condition modifies the effects of the drug. When it is realized that it is chiefly on some part of the reflex process that most drugs act the importance of a better understanding of this process will become apparent, all the more so when it is further realized that it is also by the modification of some parts of this process that many symptoms of disease arise. If these points are grasped it will be seen that in the sick man the agents of disease have affected the parts on which the drugs act, and therefore we can state as a principle which must be recognized in the investigation of the action of drugs that *the effect of a remedy is modified according to the nature of the disease.* It is the neglect of this principle which keeps therapeutics in the state of confusion in which they are at present.

Other reactions have to be considered. R. M. Wilson has lately drawn attention to a factor that has not been recognized—the secondary reaction to a stimulus. In a balanced reflex, when an act is regulated by two nerves acting the one in opposition to the other, the excitation of one is accompanied by the diminished action of the other. When the excitation ceases the nerve whose activity was diminished may greatly increase its activity. Thus a temporary slowing of the heart by stimulation of the vagus may be followed by a great increase in the rate of the heart by secondary reaction of the sympathetic (a reflex stimulation of the sympathetic by the vagus).

Abnormal Rhythms.

If the understanding of the reflex system is of importance with the normal rhythm, it is evident that with an abnormal rhythm it is of still greater importance. The various places where the heart beat may start are different in structure and in function from that of the normal starting place (the sino-auricular node), and in consequence the effects upon the ventricles are different. This was so fully dealt with in the previous article that I need not dwell upon it here, save to refer to the differences which follow effort in the cases, say, of the normal rhythm, auricular fibrillation, and heart-block, and to the difference of the effect of drugs like digitalis. Moreover, the fact that the stimulus which is produced by the cells of the contracting system—as in auricular fibrillation, flutter, and the idio-ventricular rhythm—is different from that which arises in the cells of the conducting system calls for a reconsideration of the mechanism of these abnormal rhythms and of their relation to the various agencies (effort, drugs, heat, toxins of disease) which act upon them.

SUMMARY.

1. The mechanism concerned in regulating the heart beat belongs to the vital process included under the term "reflex."
2. The cells taking part in this mechanism belong to two groups: an extrinsic, connected to the nervous system by the vagus and sympathetic nerves, and an intrinsic, which includes the sino-auricular and auriculo-ventricular nodes, and the Purkinje cells in the bundle and auricles and ventricles.
3. Agents of disease (toxins) which modify the rate and rhythm act on different parts of this mechanism, and certain disease agents produce characteristic effects.
4. Drugs that influence the rate and rhythm of the heart act in the same way, some of them also producing characteristic effects.
5. As toxins act on the same parts as drugs the effects of drugs will be modified by the effects of the toxins.
6. Before the effects of a remedy can be investigated it is necessary to know if the toxins have not already produced an effect which will interfere with the action of the remedy.
7. The kind of knowledge which disturbances of the reflex process reveals is limited to the variations in rate and rhythm, and they give no information regarding the functional efficiency of the heart.

THE PEPTIC ULCER.

WITH A REVIEW OF TWELVE MONTHS' SURGICAL TREATMENT (1921).

BY

K. W. MONSARRAT, M.B., C.M., F.R.C.S.EDIN.,

LECTURER ON CLINICAL AND OPERATIVE SURGERY, UNIVERSITY OF LIVERPOOL; SURGEON, NORTHERN HOSPITAL, LIVERPOOL.

To obtain control over any disease it is necessary to possess means which can be safely employed to eradicate it when established, and a knowledge of its etiology such as will enable us to prevent its occurrence or recurrence. Surgical experience has made a very substantial contribution towards the mastery of peptic ulcer. It has contrived means of dealing radically with ulcers which are safe, at least in practised hands and when employed with discrimination. In the course of arriving at its technique it has thrown a great deal of light on the conditions which determine peptic ulceration, and which, if undisturbed, will tend to its recurrence. I will argue later that with the assistance of radiology it has now actually reached an understanding of the immediate cause of ulcer, and has determined, although not exhaustively, the ulterior causes.

Among the contributions which radiology has made to medicine none is more brilliant than that which it has made to the diagnosis of gastric disorders. Without its assistance the diagnosis of ulcer uncomplicated by penetration or haemorrhage or stenosis was only a matter of suspicion. Now suspicion can be put to a test in which the margin of error is, in my experience, extremely small. I wish to express my gratitude to my colleagues, Dr. Oram and Dr. Mather, to whom I owe the reports on the cases which I propose to review.

Of these cases, 48 in number, on whom I operated in 1921, 41 were men, 7 women. In 34 instances the ulceration was gastric, in 8 duodenal, and in 6 jejunal. These figures do not include other simple disorders of the stomach, such as those which depend on adhesions or those due to pylorospasm without ulcer, but I wish to refer shortly to these two classes.

Adhesions Involving the Stomach.

One is impressed with the gross disturbance of function and the simulation of visceral disease which may be caused by such adhesions. I have opened the abdomen on four occasions during the year in cases of this kind, the patient in each case being incapable of following any occupation. In all four the adhesions were chiefly between the stomach and the anterior abdominal wall deep to an operation scar. According to the histories obtained the earlier operation had been as follows:

1. For gastric ulcer (evidence of operation on pylorus).
2. For perforated gastric ulcer (suture).
3. For gastric ulcer (gastro-enterostomy).
4. For perforated duodenal ulcer (suture).

Infection is the cause of such adhesions. When formed between the stomach and the abdominal wall they may cause

pain of severe intensity associated with the period of digestive movement, and pain is also characteristically complained of when exercise is taken. In dealing with them the omentum is of service; after separation the whole area concerned is covered by omentum fixed by sutures in whatever directions it may be desirable. The fourth case deserves special notice.

A man aged 46 on whom, at the age of 31, I operated for perforation of a duodenal ulcer. In 1918 I operated again and found an ulcer on the lesser curvature of the stomach; a posterior gastro-enterostomy was then done. In June, 1921, he was again admitted complaining of sharp stabbing pain in the left hypochondrium. I found the gastro-enterostomy opening in good order, the ulcer of the lesser curvature healed, and no ulceration elsewhere. The stomach was, however, attached to the anterior abdominal parietes, and also to the liver. These adhesions were dealt with as detailed above, and when I saw him six months later he told me that he had been free of all pain or discomfort.

Pyloric Spasm.

Cases of pyloric spasm and pyloric hypertrophy do not strictly belong to my subject. In four cases seen during the year ulcer was suspected either on the ground of clinical signs or of *x*-ray report, or of both. In all four a pyloric incision was made to demonstrate definitely whether ulcer was present or not. The operation was completed as a pyloroplasty. Relief of symptoms and increase of weight have followed in each case. Ulcer was simulated clinically in all four; in two the radiological diagnosis was also ulcer, in one the report said simply "marked delay," and in the fourth the stomach was reported normal in outline and function.

PEPTIC ULCER.

The forty-eight cases of peptic ulcer fall into six groups:

Group 1.—Perforated duodenal ulcer; two cases. Treated by infolding suture, gastro-jejunostomy, and pelvic drainage.

Group 2.—Ulcer of the lesser curvature, treated by ulcer excision alone or by excision and gastro-jejunostomy. This group includes three cases only. For reasons which will be discussed later ulcer excision alone is not a satisfactory operation.

The first case illustrates the disappointing result of this operation, an experience which has been recorded by other surgeons. It was adopted in this case with a view to shortening the operative procedure as much as possible, but other experience has shown me that it is never advisable on this ground and that there are better means of dealing with patients who are much reduced in strength by their disease. In this case, eight months later, I supplemented the ulcer excision by gastro-enterostomy. Gastric pain had persisted and vomiting was frequent. At this second operation, while no ulceration was found, the stomach was seen to be somewhat deformed at the site of the excision and this was apparently the cause of his symptoms. Since the supplementary operation he has done well.

In the second case of the group the ulcer was excised on account of repeated serious haemorrhage. A blood transfusion made operation possible; in the floor of the ulcer was a large vessel shewing a perforation temporarily plugged by clot.

In the third case the operation was chosen, as in the first, because the general condition of the patient did not seem to admit of gastrectomy. Excision was, however, supplemented by gastro-jejunostomy at the same time and from this combination better results are obtained than by excision alone.

Group 3.—Comprises ten cases treated by posterior gastro-enterostomy alone. In six instances the lesion was duodenal ulcer, in three gastric ulcer, in one pyloric stenosis.

Group 4.—Comprises two cases in which the operation was transgastric suture of the ulcer. In one case I had to deal with an ulcer near the cardia in a stomach which lay high up under the diaphragm. The stomach was small and the whole of it lay under the ribs, and the ulcer area was inaccessible except by gastrotomy.

The other case is somewhat remarkable in that both I and another surgeon opened his abdomen, the clinical and radiological diagnosis being ulcer, and found none. Six months after the operation, which I performed and in which adhesions appeared to be the cause of his symptoms, he was readmitted after a massive haemorrhage. I found an ulcer high on the lesser curvature, difficult of access, and also penetrating. It was sutured after gastrotomy.

The clinical result in these two cases has been satisfactory for the time being, but the proceeding is probably not radical enough for a permanent result. The condition of these two patients is, however, surprisingly good, as far as complaint is concerned.

Group 5.—Includes the cases, twenty-five in number, who were treated by partial gastrectomy. In three cases the operation was a "sleeve" resection. In the remainder the operation was what is most commonly described as the posterior Polya or Reichel operation—that is to say, resection of the stomach from the pylorus to beyond the ulcer-bearing area, closure of the duodenum, and anastomosis of the stomach wound to the jejunum through a mesocolic gap.

Group 6.—This group consists of six cases of jejunal ulcer. In these cases no one procedure is always suitable. The ideal procedure, as carried out in one case, is as follows: The pylorus was divided and the duodenum closed; the stoma was resected and the gastric and jejunal wounds left by this resection were closed. The pyloric half of the stomach was then resected and the stomach wound was anastomosed to a jejunal loop at a point about eighteen inches from the jejunal commencement, the anastomosis being retro-colic. The other procedures were:

(*a*) Two cases. Resection of the stoma; gastro-jejunostomy in Y.
(*b*) One case. Resection of stoma; end-to-end anastomosis of jejunum.
(*c*) Two cases. Resection of stoma; gastric and jejunal wounds closed.

Simple resection of the stoma with closure of the stomach and jejunal wounds is obviously only suitable when no ulcer or stenosis exists elsewhere. If there is ulceration or stenosis in the stomach I think the operation is best completed by resection after the proceeding of Polya, or by a long loop gastro-jejunostomy. I do not like the Y gastro-jejunostomy; it is technically difficult after resection of the stoma, and has the worse fault of giving no safeguard against a reappearance of jejunal ulceration.

Among the forty-eight cases of the several groups there was no mortality, but two cases gave rise to some anxiety.

The first was a difficult case of partial gastrectomy for ulcer toward the cardiac end of the lesser curvature. A cigarette drain was used. On the sixth day there was a definite leakage of gastric secretion; jejunostomy was performed and mouth feeding stopped. The sinus closed in twenty-four days.

The second case was one of sleeve resection for mid-gastric stenosing ulcer. A fortnight after operation he showed abdominal distension which proceeded to complete obstruction on the eighteenth day. A volvulus of the ileum was found and released.

The necessity for operative treatment of peptic ulcer, apart from complication, arises from its resistance to other forms of remedy. The conditions of a peptic ulcer may be said to be three:

1. The ulcer involves the visceral wall alone; it is non-penetrating, non-stenosing.
2. The ulcer is penetrating.
3. The ulcer is stenosing.

Opinions do not differ as to the necessity for operation in the stenosing ulcer; few will expect a favourable result in penetrating ulcer without operation, but there is evidence that many non-penetrating ulcers will heal under general and local medical treatment. Up to the present it is not possible to base such treatment on an etiology that is demonstrated and acknowledged. That peptic digestion plays a definite part in the etiology is admitted, but pathologists are still searching for some antecedent condition rendering the gastric mucous membrane vulnerable to attack by the gastric juice. It is by no means certain that there is any such general antecedent lesion, or, in fact, that there are any causative factors other than an altered gastric secretion and an altered gastric rhythm. Any theory of the causation of this ulcer must explain its incidence in stomach, duodenum, and jejunum. The jejunal ulcer is illuminating. It shows that the normal jejunal wall submitted to the direct action of the gastric juice may suffer destruction. I am aware that many surgeons believe that only a jejunal wall damaged by the presence of a foreign body, such as an unabsorbable suture, is liable to peptic attack. There is undeniable evidence to the contrary, and the six cases here recorded add to it. In one of the cases a fragment of silk was found near the ulcer site, but not actually at the ulcer; in the other five cases there was no such foreign body. It is said that damage done by a clamp may be responsible for the ulcer, but two considerations negative this being a usual factor—the one that jejunal ulcer does not commonly occur at the clamp line, the other that many jejunal ulcers make their appearance long after any possible clamp injury must be presumed to have disappeared. As far as jejunal ulceration is concerned there is evidence that, given a certain chemical state of the gastric secretion, the normal jejunal mucous membrane will succumb to peptic digestion. I submit that the same holds good for the stomach and duodenum, and that if we have regard to the physiology of the gastric secretion, and more particularly to its intimate relations to pancreatic secretion,

the occurrence of gastric, duodenal, and jejunal ulceration, under conditions which disturb these relations, is explained.

The stomach consists of two segments, a fundal segment and a pyloric segment. The chemistry of these two segments may differ materially at any given moment: the fundus is occupied with salivary digestion in the early stages; the gastric secretion poured out from border cells and gland cells accumulates in the pyloric segment, and it is here that peptic digestion takes place. Langley compares the peptic activity in the pyloric segment with that in the fundal segment as 73 to 1. The pylorus is not a closed orifice during normal digestion. Quite early in the process small quantities of gastric juice and food pass into the duodenum, and in the cells of the duodenal mucous membrane the hormone of pancreatic secretion is formed. There is also a regurgitation of pancreatic secretion into the stomach. Rehfuss, using trypsin as an indicator of this regurgitation, has shown that it is regularly associated with normal digestion, and that the trypsin value is high in the presence of low acidities and low when the stomach contents are of high acid concentration. Boldyreff believes that gastric acidity is lowered to an optimum by this passage of pancreatic fluid. However that may be, pancreatic secretion, which on the one hand is evoked by the gastric secretion, on the other hand acts as a regulator of the activity of peptic digestion. There is thus a correlation, diphasic, between gastric secretion and pancreatic secretion. *This correlation is dependent on an intact pyloric mechanism.* We must not indulge the notion that it is the free acid of the gastric juice which is the nocuous agent in producing gastric or duodenal ulcer. Free hydrochloric acid is absolutely innocuous in the concentrations in which it is met with in normal or pathological stomachs. It is merely a rough indicator of peptic activity; in fact, it can hardly be said to be even this, for the ratio of peptic power is not proportional to the acidity. What we can say is that, generally speaking, peptic attack only occurs in an acid medium.

Now we have been shown by the radiologist that in both gastric and duodenal ulcer there are certain departures from the normal in the motor functions of the stomach and the pylorus; that in gastric ulcer the stomach is characteristically hypotonic and retains its contents for an undue length of time; that in duodenal ulcer the stomach is hypertonic, and that there is hurry in emptying. In both cases there are certain departures from the normal in the pyloric mechanism. Hurst says that these motor aberrations are present before ulcer appears and persist after it has ceased to be clinically apparent. In other words, that they are primary, or at any rate precede and are independent of the presence of ulcer. What will be the effect of such aberrations on the correlation of pancreatic and gastric secretion? If the stomach is hypotonic, if there is pyloric spasm and stasis, there will be a failure in the hormone stimulation of pancreatic secretion, and on the other hand a failure in the regurgitation of pancreatic fluid into the stomach. Under such conditions the wall of the organ will be subjected to an unduly prolonged contact with a gastric juice which is unchecked and unregulated by pancreatic regurgitation. The gastric wall suffers damage under these conditions, and the damage may end in ulceration.

If, on the other hand, the stomach is hypertonic, if the pyloric sphincter allows, not the normal intermittent discharge of small quantities of acid peptic fluid into the duodenum, but the early flooding of the duodenum with peptic fluid before pancreatic secretion is active, the duodenal wall is then subjected to gastric juice of unchecked peptic activity. It is therefore in the duodenal wall that we find the ulcerative lesion when the functional aberration is that of hypertonicity and hurry. In an analogous way may be explained the incidence of jejunal ulcer after anastomosis. It occurs when the peptic activity of the gastric juice is high, and when for some reason the pancreatic secretion, which normally checks this activity, defaults.

It would appear, then, that we can find in derangements of the gastro-pancreatic correlation a sufficient explanation of the incidence of peptic ulcer (given a peptic secretion of high activity), and also reasons for its varying site. We have at present incomplete knowledge of the conditions which set up these primary functional disturbances; they themselves do not appear to be dependent on the chemistry of the gastric secretion, for hypersecretion and hyperchlorhydria are usual both in the hypotonic stomach of gastric ulcer and the hypertonic stomach of duodenal ulcer. We do know, however, that visceral disease elsewhere—for example, in the appendix and gall bladder—may be connected with such functional gastric disorders, and that the latter may disappear after surgical treatment of the focal disease.

In treatment we have regard to three main points:

1. The ulceration itself.
2. The activity, or excessive activity, of the gastric secretion, and the default of the mechanism which normally controls this.
3. The disturbances of motor function which precede and account for both.

Surgical treatment deals with ulcer (1) by methods of removal which leave no embarrassing deformity behind; (2) by anastomosis, which provides a permanent check on the peptic attack of the gastric juice; (3) by removing any focus of disease elsewhere.

All the cases reviewed here had had a lengthy period of medical treatment extending from many months to many years. I am aware that under the term "medical treatment" I include different types of treatment more or less thorough. Very high claims were made by physicians for what I may call the "satisfaction" method, the basis of which is the Lenhartz diet. I do not think that physicians are now satisfied with the permanence of results obtained by this method. That which is in most favour to-day is the "neutralization" treatment identified with the name of Dr. Sippy of Chicago. Dr. Sippy summarizes the claims he makes for this method in the *New Oxford Medicine*, vol. iii, p. 169. They are too long for quotation. I have been unable to find clinical records of a large series of cases treated by this method and followed over long periods afterwards. This is the most satisfactory evidence, and is most valuable if late results are recorded in the patients' own words.

The surgical remedy for duodenal ulcer is posterior gastro-jejunostomy. The anastomosis between stomach and jejunum must measure three inches in its long diameter, and it must encroach on the pyloric segment of the stomach. Some surgeons add to the gastro-jejunostomy an excision of the ulcer, others add occlusion of the pylorus. Failure to obtain permanent relief by gastro-jejunostomy is so exceptional that to add either the one or the other appears to be unnecessary. I have employed occlusion of the pylorus on many occasions; I do not think it has any effect on the result in duodenal ulcer, and I am doubtful whether it is physiologically sound. The activity of pancreatic secretion is likely to be checked if the gastric contents are excluded from the duodenum.

In gastric ulcer healing is most certainly brought about by removal of the ulcer. Can gastro-jejunostomy be relied on to so remedy the stasis in the stomach and the peptic activity of the gastric juice that ulceration will not recur? Certainly ulcer excision alone is not sound, and gastro-enterostomy alone cannot be relied on, and even in combination the results are by no means uniformly good. I may instance a case of ulcer of the lesser curvature for which, some two and a half years ago, I did posterior gastro-jejunostomy. This anastomosis is still anatomically satisfactory, but the ulcer did not heal, and I subsequently excised it. Relief was only temporary. The patient then naturally transferred himself to another surgeon, who removed the pyloric portion of the stomach as far as the anastomosis, and in this pyloric portion was a new ulcer. Yet gastro-enterostomy is a remedy of value even in inveterate gastric ulcer, but it is not the remedy of choice; a more radical procedure is advisable. That more radical operation is partial gastrectomy. The term includes two different procedures, either—

(*a*) Sleeve resection with gastro-gastrostomy; or
(*b*) Resection of more or less of the stomach, including the ulcer, closure of the duodenum, and anastomosis of the stomach and jejunum.

Sleeve resection I believe to have only a limited field; it is the operation of choice for mid-gastric cicatrized ulcer. In the presence of active ulcer it is open to the same objection as simple ulcer excision, in that it does nothing to modify the chemistry of the gastric secretion.

Partial gastrectomy combined with a gastro-jejunal anastomosis does two things: in the first place, it removes the ulcer and the ulcer-bearing area; in the second place, it renders the stomach incontinent and prevents finally the accumulation of a nocuous gastric secretion.

In all the cases recorded the method employed was the posterior Polya or Reichel operation. I can imagine the anterior method to be a necessity if what remains of the stomach is too far removed from the mesocolic gap to sew the margins of this gap to the stomach wall; but this was possible in all these cases, and in none have there been signs of anastomosis

constriction such as Dr. Charles Mayo has recorded and which led him to prefer the anterior operation.

This operation is well borne. In my view the most important points in the technique are: first, such infiltration anaesthesia as to give satisfactory relaxation; second, sound closure of the duodenum; third, great care in suture of the stomach to the jejunum with small suture gaps; fourth, a watchful haemostasis throughout. In the cases recorded the post-operative recovery was free from complications, from undue shock, from haemorrhage, and from vomiting. The post-operative treatment is as follows: Sterile water is given at once and the patient is encouraged to suck formalin tablets—they allay thirst and keep the mouth clean; on the second day milk, sterilized and alkalinized; on the third day an egg, beaten up and divided, is added, and on this day medicine is started for the purpose of controlling the activity of the gastric juice—it contains bismuth carbonate, magnesia ponderosa, and tinctura belladonnae. As the diet is increased powders are given in addition, consisting of calcium carbonate and magnesia.

This operation is the one to be chosen in inveterate penetrating gastric ulcer. Whether it is feasible in a given case cannot be decided until the abdomen is opened. Probably in 10 or 15 per cent. of the cases in which it is desirable it will prove to be not feasible. Some alternative will then have to be adopted. The real alternative is a transgastric operation (excision, or cauterization, or suture, or a combination of these), together with gastro-jejunostomy. If the stomach is so fixed that a posterior gastro-enterostomy is difficult, there is the valuable alternative of pyloroplasty—Finney's operation. This operation, which I should perhaps call gastro-duodenostomy, aims at relieving stasis and modifying the chemistry of the gastric secretion, as does gastro-jejunostomy.

The best contribution to the study of the treatment of gastric ulcer, whether that treatment be surgical or medical, is the collection of careful records. We want to appreciate the immediate risks of operative procedures, the early results, the late results. We want to know much more as to the persistence of the favourable results that are claimed for methods of medical treatment. Impressions and opinions are of little value to the argument; the question requires the same kind of handling as a laboratory problem, and similar methods of recording and analysing results.

THE TREATMENT OF PERFORATED GASTRIC AND DUODENAL ULCER.

BY

A. H. SOUTHAM, M.A., M.Ch.Oxon., F.R.C.S.Eng.,

ASSISTANT SURGICAL OFFICER, MANCHESTER ROYAL INFIRMARY.

THE treatment of perforated gastric and duodenal ulcer is entirely surgical, and the prognosis largely depends on the time when operation is performed. Recovery is contingent on early diagnosis and prompt surgical treatment, for delay almost inevitably leads to a fatal termination. During a period of two years I operated upon a consecutive series of 46 cases of acute perforated gastric and duodenal ulcer at the Manchester Royal Infirmary. Four patients died following the operation, giving an operation mortality of under 9 per cent.

There is still considerable difference of opinion as to whether an ulcer which has perforated will, after operation, give rise to further trouble, and whether gastro-enterostomy is necessary. I have endeavoured to throw some light on this question by following up the after-histories of the cases in this series. The following are the details of the cases:

Sex and Age.

Forty-four of the patients were males and two females. It is remarkable to note the preponderance of the male sex. The youngest patient was 19 years of age, the oldest being a man of 71. The greatest number of perforations occurred between 30 and 60 years of age.

History of Previous Indigestion.

This could be elicited in most cases. In four patients perforation was the first sign, no previous gastric disturbance being present. In a considerable number of the duodenal cases the symptoms of previous indigestion were very slight.

Situation of the Ulcer.

Forty of the ulcers were duodenal or pyloric in situation. In only five cases were the ulcers found to be gastric. There was, in addition, one case of perforated gastro-jejunal ulcer.

Hours Perforated and Operative Results.

The time that had elapsed before operation is shown in the following table, together with the mortality rate:

Hours Perforated.	Duodenal Perforations.			Gastric Perforations.			Total Mortality.
	No. of Cases.	Died.	Mortality.	No. of Cases.	Died.	Mortality.	
1-12 hours	24	0	Nil	1	1	100 %	4 %
12-18 ,,	6	0	Nil	—	—	—	Nil
18-24 ,,	4	0	Nil	3	1	33 %	14 %
Over 24 ,,	6	2	33 %	1	0	Nil	28.6 %
Total ...	40	2	5 %	5	2	40 %	9 %

This does not include one case of perforated gastro-jejunal ulcer which recovered.

Mortality.

Four patients died following operation, giving an operative mortality of 8.7 per cent. for the series of 46 cases. Thirty-four cases of perforated duodenal ulcer were operated upon within twenty-four hours and all recovered. Six were operated upon after this period and four recovered; the patients who succumbed were both in poor condition when submitted to operation, and died in thirteen and eighteen hours respectively following operation, from shock. Of the five cases of gastric ulcer, two died subsequently from pulmonary complications. One died on the fifth day following operation from acute oedema of the lungs, the second succumbed on the tenth day after operation from bronchopneumonia. Autopsies were held on both these cases. The ulcers were found to be large chronic spreading ulcers near the pyloric end of the stomach. Microscopical examination showed that both the ulcers were malignant, one being a glandular carcinoma, whilst the other was a spheroidal-celled carcinoma.

Death occurred in one of the patients subsequently from acute appendicitis. He had made an uneventful recovery following a perforated duodenal ulcer and had been discharged from hospital. He was readmitted shortly afterwards with a perforated appendix, and died following operation for this condition. All the remaining cases are, to the best of my knowledge, alive at the present time.

OPERATIVE TREATMENT.

Immediately the diagnosis of perforated ulcer has been made laparotomy should be performed without delay. Time should not be spent in attempts to improve the patient's condition; shock can best be relieved by early operation, and a successful result depends essentially on prompt treatment.

The technique of the operation is now so well known that it requires no special description. The perforation is closed with fine thread sutures passed at some distance from the edges of the ulcer. In cases of duodenal perforation the sutures are passed from side to side and thereby avoid narrowing the lumen of the gut. When tightened these infold the ulcer and a piece of omentum is then turned up and stitched over the suture line. I have always found it possible to close the ulcer successfully by suture. Any method other than suture must be attended with a high mortality owing to the danger of leakage.

The peritoneal cavity is carefully swabbed out with gauze swabs wrung out of very hot saline. Some surgeons advocate irrigation in preference to swabbing, but irrigation adds the diffusion of the extravasated material and increases the risk of subphrenic abscess.

The operation lasts twenty minutes, rarely longer, and subcutaneous saline may be administered whilst it is in progress with advantage. Drainage is seldom employed. In perforation of under eighteen hours' duration it is never necessary. After twenty-four hours when there is gross soiling it may be advisable. This is best done through a suprapubic stab incision and the tube removed as soon as possible.

After-Treatment.

The Fowler position is adopted as soon as the patient is returned to bed; rectal salines are given at four-hourly intervals for two days. For the first forty-eight hours the patient is only permitted small sips of water by the mouth; fluids in increasing quantities are given later. An enema is given daily, no purgative being allowed till the seventh day. The stomach is thus kept at rest as far as possible, and opportunity given for the healing of the ulcer to start. After discharge from hospital the patient is instructed to take a careful diet for six months. Sodium bicarbonate should be taken regularly for a time, as this appears to diminish any tendency to hyperchlorhydria, and defective teeth are attended to. This post-operative treatment, so often neglected, undoubtedly assists in obtaining satisfactory results after operation.

Should an Immediate Gastro-enterostomy be Performed?

There is at the present time no general agreement among surgeons as to the advisability and need for performing a gastro-enterostomy simultaneously with the closure of the perforation. Some surgeons advocate that this should be done as a matter of routine in all cases; but it is only by a comparison of the results and experience of different surgeons that the necessity or otherwise of this procedure can be determined.

Perforation of a gastric or duodenal ulcer is an acute crisis, and a successful result depends essentially on early and rapid operation. However quick the surgeon may be no increased risks are allowable, and time should not be spent where it can be avoided. The actual performance of the operation should occupy as short a time as possible, for prolongation must add to the shock and thereby increase the risk to the patient's life.

Lewisohn,[1] who is an advocate of primary gastro-enterostomy, says that the operative recoveries are not impaired by the extra loss of time involved. He, however, admits that a Murphy's button should be used in acute cases "to save undue lengthening of the operation." This contrivance has long since been discarded in England, on account of its dangers and disadvantages. Surely if he has to adopt this means to shorten the operation it were best to leave the gastro-enterostomy until a later date.

Paterson[2] states that he invariably performs a gastro-enterostomy after closure of the perforation, and thereby greatly improves the patient's immediate chance of recovery. He states that a number of patients die shortly after operation for perforation, either from perforation of a second ulcer, haematemesis, or leakage along the line of suture, and the mortality from these causes is 11 per cent. He considers that these deaths should, to a great extent, be prevented by a primary gastro-enterostomy. I submit these complications should be largely avoidable by making a careful search for a second ulcer and by care in suturing, whilst fatal haemorrhage following simple suture must be a rare event and is not unknown after a gastro-enterostomy. Further, Moynihan[3] has shown that even after a gastro-enterostomy a chronic duodenal ulcer may perforate, so that a gastro-enterostomy does not necessarily exclude this risk.

In ulcers situated near the pylorus it is asserted that narrowing will be produced by the suturing, causing subsequent stenosis and recurrence of the symptoms. If the suturing has been carefully carried out this does not often appear to be the case, as I have proved by radiological examination of a number of cases at a later date. Even if some stenosis is produced this does not persist, and we know that attempts to produce occlusion of the pylorus often fail when that object is desired. Again, an immediate gastro-enterostomy is said to simplify the after-treatment and feeding, but I have experienced no difficulty from this cause, and recovery has usually been straightforward and given no anxiety.

It must be allowed that disappointments following gastro-enterostomy are not unknown, even when performed by the best surgeons and with the most approved technique. A gastro-jejunal ulcer is one of those unfortunate complications which occur in a small percentage of cases. Though doubtless a rare occurrence—perhaps 1 to 2 per cent. of all gastro-enterostomies[4]—the possibility must always be taken into account.

In the following case it is reasonable to assume that the man might have recovered with simple suture of the perforation and been able to lead a useful life, but instead his condition is far from satisfactory.

The patient, a male, aged 34 years, whilst on duty in France in May, 1917, was suddenly seized with acute abdominal pain. He was operated upon about three hours later at a casualty clearing station, where he was found to have a perforated duodenal ulcer. This was sutured and a gastro-enterostomy performed. He made a satisfactory recovery, and was placed on home service.

In February, 1919, he was admitted to the Manchester Royal Infirmary with symptoms of a perforated ulcer. The notes of the operation, which was performed by Mr. Alan Roberts, the assistant resident surgical officer, state: "A small perforation (peptic ulcer) found just beyond gastro-enterostomy; fluid in pelvis; ulcer sutured. Scar of old ulcer seen near pylorus; no drain." He was discharged from hospital four weeks later.

Just before midnight on June 2nd, 1920, he was again admitted with a third perforation. I operated immediately, and found a perforation on the line of the anastomosis. This was closed in the usual manner. He made an uninterrupted recovery, and went home on June 23rd.

Walton[5] advocates that a gastro-enterostomy should always be performed simultaneously with the closure of the perforation, except when the patient is very ill. In 51 recorded cases treated by this method he gives a mortality of 35.2 per cent. and states that this figure is admittedly high. Pfeiffer and Deaver[6] are also advocates of a primary gastro-enterostomy, and in their paper quote statistics to support this view. They assert that the mortality is not increased by this procedure if it is carried out quickly and not attempted in cases obviously shocked. They urge that gastro-enterostomy is the acknowledged treatment for an ulcer in the *pre*-perforative condition, and so should be combined with suture after perforation. There is, however, a considerable difference between the chronic duodenal ulcer for which a gastro-enterostomy carried out as a routine operation usually gives most satisfactory results, and the type of duodenal ulcer which undergoes acute perforation.

It is, I think, now generally recognized that there is a variety of acute perforating duodenal ulcer which, when treated by inversion and simple suture, may be followed by a permanent recovery and no subsequent symptoms make their appearance; whereas a second type of ulcer, treated on similar lines, may be followed by a persistence of symptoms which can only be relieved by a further operation. One must admit that it is difficult to find a satisfactory explanation of this fact, owing to our lack of real knowledge of the cause of gastric and duodenal ulcer.

An ulcer is probably produced by the action of bacterial toxins, or, as Mayo[7] has suggested, by a localized thrombosis or infarction emboli of bacteria, causing a lowering of the resistance of the mucous membrane, which then undergoes digestion in the presence of the gastric juice.

Now certain cases of ulcer, particularly the small and soft type of ulcer, will under careful medical treatment heal; and, again, other cases after perforation and simple suture may show no evidence of ulcer when examined at a later date. To explain the mechanism whereby some cases fail to heal under the above conditions it is suggested that there is some accessory factor present which prevents healing and leads to a continuation of symptoms.

What this additional factor may be is at present unknown; it may depend on some abnormal condition of the gastric juice, or perhaps it is dependent on some product of bacterial activity.

It appears probable, then, that there is a type of acute perforating ulcer, more commonly found in the duodenum, which, when put at rest by infolding and suture, combined with careful diet, will result in healing. If an ulcer can heal under these conditions—and that this may happen is shown by the evidence of healed scars—it is surely better to leave the stomach in its natural condition without the added complication of a gastro-enterostomy; whereas if the ulcer should subsequently prove to be of the unhealable type, a gastro-enterostomy can be performed with greater safety at a later date to relieve the symptoms. As is subsequently shown, a gastro-enterostomy does not appear to be necessary in a large proportion of cases.

The Need for Secondary Gastro-enterostomy.

It has already been pointed out that there are a number of cases which appear to heal after suture and give rise to no further symptoms, and it is only by carefully following up the after-histories in these patients that it is possible to tell what the ultimate result will be in each case. With this object in view I have followed up the after-results in the 37 surviving cases of perforated duodenal ulcer in this series treated by simple suture. The period that has elapsed since operation varies up to two and a half years. In four of these cases a secondary gastro-enterostomy became necessary at a later date.

Twenty-eight patients have for periods up to two years remained free from any gastric disturbance. Five patients suffer from symptoms of digestive discomfort; these have been so slight and their general condition is so satisfactory that further treatment has not been considered necessary. Twenty-four of these patients have been readmitted to hospital, at different periods after their operation, for radiological examination of the stomach and duodenum. This has been kindly carried out for me by Dr. J. B. Higgins, radiological registrar to the Royal Infirmary.

The *x*-ray examination was carried out with special reference to the condition of the stomach itself, whether there was any evidence of delayed emptying, and if any degree of pyloric obstruction or spasm was present.

The report of the radiologist has been identical in twenty-two cases. He states: "The stomach empties satisfactorily, and there is no delay in emptying. The food passes the duodenum normally, and there is no obstruction." Some irregularity of the duodenum was noticed in several of the cases. In two cases he reports: "The stomach was atonic and the duodenum was not satisfactorily filled." The first of these cases has been free from indigestion since his operation. The second keeps well unless he eats a heavy meal; then he feels some discomfort and flatulence.

A study of the after-histories of cases of perforated duodenal ulcer treated by simple suture shows that in the series under review 90 per cent. of cases required no further operative treatment. Apart from the cases already mentioned, no patient had reported himself as having relapsed up to the time of this record. In 10 per cent. of cases a secondary gastro-enterostomy was necessary on account of recurrence of gastric disturbance; the results of this operation have been completely satisfactory.

These four cases all gave a history of indigestion extending over a prolonged period, and at the operation were found to have chronic ulcers. The symptoms of indigestion recurred within a few months after perforation. It would appear from this that cases giving a long history of indigestion are less likely to show a permanent cure after simple suture than cases with a short history and mild symptoms.

Subsequent Treatment in Cases of Perforated Gastric Ulcer.

The after-treatment in these cases requires special consideration. It is undoubtedly a fact that perforated gastric ulcer is a more serious condition than perforation of a duodenal ulcer, both as regard its immediate and remote results.

Of the five cases of gastric perforation which came under my care two were proved to be malignant at necropsy and microscopic examination. A third case appeared malignant at operation and was in poor condition when he left hospital; he was alive two months after operation, but has not been heard of since that time. The fourth case, a female with perforation of a large chronic ulcer in the anterior stomach wall, still suffers from pain after food, but refuses further operation.

The last case has written to me recently from Birmingham, where he was in hospital under treatment. He had a perforation of the anterior stomach wall about one inch in diameter, and had suffered from indigestion for years. He states that he still suffers from flatulence and vomiting, and it would appear as if some further operative treatment will be necessary. It is not within the scope of this paper to discuss the relationship of ulcer and carcinoma of the stomach, but it must be realized that the types of ulcer found in the stomach and duodenum differ widely.

The duodenal ulcer is often a simple, small, punched-out ulcer, whilst the gastric ulcer may be a large chronic and spreading area. Further, the fact that a malignant ulcer of the duodenum is almost unknown, whereas the malignant ulcer of the stomach is of comparatively common occurrence, must be remembered. It is suggested, therefore, that it might be safer to regard all large and chronic ulcers of the stomach as potentially malignant, and treat them as such at a later date by some form of excision wherever practicable. This would be more likely to produce a permanent cure than a gastro-enterostomy alone, which operation is often unsatisfactory for this condition.

REFERENCES.
[1] *Annals of Surgery*, November, 1920. [2] Paterson. *Surgery of the Stomach*. [3] Moynihan, *Abdominal Operations*, vol. i. [4] Jacobson, *Operations of Surgery*, vol. ii, sixth edition. [5] *Lancet*, 1922, vol. i, p. 270. [6] *Annals of Surgery*, April, 1921. [7] *Annals of Surgery*, March, 1921.

IN the United States during 1920 lethargic encephalitis was given as a cause of death on 1,505 death certificates, a death rate of 1.7 per 100,000 of the population; in New York State 364 deaths from this cause were reported, a death rate of 3.5 per 100,000 of the population.

A RECENT report issued by the United States Public Health Service announces the demonstration of an anaerobic organism producing a soluble toxin which affects animals in a manner similar to that of the botulism organism, but is not neutralized by polyvalent botulinus antitoxin. The organism apparently differs markedly from the botulinus isolated in the United States, and is possibly more nearly related to the European type described by von Ermengem in 1912, although it differs from this in certain respects.

HEREDITARY MICROPHTHALMIA.

BY

W. M. ASH, M.B., B.S.LOND., D.P.H.VICT.,

ASSISTANT COUNTY MEDICAL OFFICER, LANCASHIRE.

IN presenting the following history of a family affected with hereditary microphthalmia I will refer to statistics in order that the prevalence of congenital blindness may be appreciated. The most recent reference is in an article on "Cause and prevention of blindness," by Mr. Bishop Harman, in the BRITISH MEDICAL JOURNAL.[1] Of the total number of cases of blindness between 3 and 4 per cent. are congenital; Magnus, in Germany, found 97 cases in 2,528 cases, or 3.83 per cent.; Trousseau, in France, 3.04 per cent.; Dumont, in the Paris Blind Asylum, 3.7 per cent.; Oppenheimer, in New York City, 3.84 per cent. In the United States of America, according to the census of 1890, of 50,411 blind, 4,267, or 8.46 per cent., were recorded as congenitally blind.

Heredity and Consanguinity.

In the eleventh U.S.A. census 43,326 blind persons reported 8,342 blind relatives—that is, 19.25 per cent. had such relatives; whilst of 4,156 congenital blind, 1,608, or 38.7 per cent, had blind relatives. From this it appears that the proportion of blind relatives was twice as great amongst the congenital blind as amongst the blind from all causes.

Mr. Bishop Harman, referring to congenital defects, says: "A few are hereditary—that is to say, the same defect is found repeatedly in the same family for two or more generations."

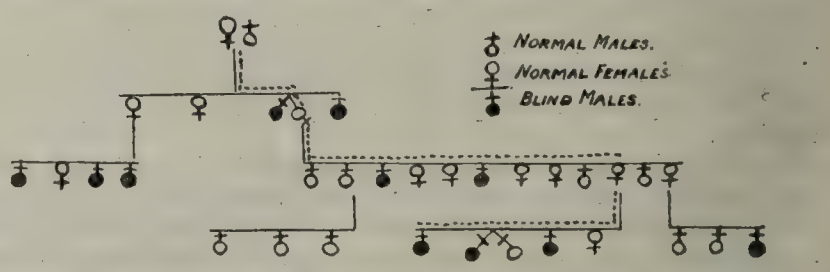
The influence of consanguinity was investigated by Trousseau,[2] who reached the conclusion that, "independent of heredity, consanguinity does not play any rôle in the production of blindness." Magnus also holds that there is no proof that consanguinity is a cause of blindness.

That heredity is a cause of blindness seems certain, as the cases which I am reporting go to prove. The diseases of the eye which are most frequently transmitted from parent to offspring are:

Malformation—for example, coloboma of iris and choroid.
Microphthalmia.
Persistence of the pupillary membrane.
Congenital cataract and amblyopia.
Nystagmus.
Albinism and retinitis pigmentosa.

These may be transmitted in the same or like form. It is, perhaps, not out of place to mention here that myopia is frequently hereditary. Motais, quoted by Trousseau,[3] stated that 67.5 per cent. of cases of myopia are hereditary.

The accompanying genealogical tree of the "H." family,



which goes as far back as the great-grandmother, shows that amongst thirty-four traced members there are eleven cases of congenital blindness. I was unable to obtain any definite history of members of the family farther back than the great-grandparents. All the affected members are males, the condition being transmitted through healthy females, as in haemophilia; the children of male members of the family are normal. In that branch of the family in which I have been particularly interested it will be noted that of four boys three are blind from congenital microphthalmia, whilst the twin brother of one of the boys is normal. The one female child is normal. The father and mother of this branch are normal persons. In fact, the parents of all the blind children throughout the family are apparently normal individuals. There is no evidence of consanguinity in the family and no history or evidence of syphilis. One of the boys of the "H." family is an epileptic; all the other children are free from congenital or acquired disease apart from microphthalmia.

One of the boys in the "H." family has been for some time in a blind institution. His report for last term states:

> "Distinct speaker. Intelligent. Excellent memory and no mannerisms. Self-control good. Intends to study music. Eye report: Congenital microphthalmia."

Recently the other two boys were admitted to the same institution, but the epileptic, on account of this defect, had to be discharged.

Prevention.

From the genealogical table it will be seen that the tendency to transmit blindness by the females shows no sign of diminishing, but rather of increasing. Through how many generations the condition may be handed on it is impossible to conjecture. Marriage and parenthood should be avoided by the members of this family, especially by the females. The male members show no tendency to transmit the disease as far as can be ascertained.

I am indebted to Dr. J. J. Butterworth, County Medical Officer of Health, Lancashire, for permission to publish this case, and to Mr. W. H. Illingworth, of Henshaw's Institution for the Blind, Old Trafford, for allowing me to make use of the report on one of the cases.

REFERENCES.

[1] BRITISH MEDICAL JOURNAL, November 5th, 1921. [2] Norris and Oliver: *System of Diseases of the Eye*, vol. ii, p. 441. [3] *Hygiène de l'oeil*, p. 134.

THE INTERPRETATION OF SYMPTOMS IN DISEASE OF THE CENTRAL NERVOUS SYSTEM.

ABSTRACT OF THE GOULSTONIAN LECTURES, DELIVERED BEFORE THE ROYAL COLLEGE OF PHYSICIANS,

BY

ANTHONY FEILING, M.D., F.R.C.P.,

PHYSICIAN, HOSPITAL FOR EPILEPSY AND PARALYSIS, LONDON.

LECTURE II.

IN his second lecture Dr. Feiling dealt particularly with alterations in muscle tone and changes in reflexes. Alterations in muscle tone were one of the most common and most important symptoms of disease of the central nervous system; therefore the recognition and interpretation of the more characteristic of these changes was very necessary. He did not propose to discuss the exact mechanism by which these changes were produced; he restricted himself to emphasizing the clinical value of an appreciation of the different changes of tone.

Hypertonus or Increased Tone.

With regard to hypertonus, the terms "spasticity" and "rigidity" were applied more or less indiscriminately to states in which the musculature of the limbs exhibited an increased tone. The textbooks stated that it was lesions of the upper motor neuron which caused such spasticity. This was true, but was far from being the whole truth. The upper motor neuron was a very complex mechanism, by means of which many different systems of fibres acted on the lower motor neuron. It was possible to distinguish broadly between the hypertonus of pyramidal lesions—that is, lesions interrupting the cortico-spinal tract—and that of extrapyramidal lesions, not merely by any differences in the reflexes, but by the intrinsic characters of the hypertonus itself. Thus in hemiplegia due to a vascular lesion of the internal capsule or its neighbourhood, after the preliminary stage of flaccid palsy, if the limbs became spastic, the characters of this spasticity exemplified the particular changes in muscle tone which occurred in lesions of the pyramidal tracts. There was a marked difference between the arm and the leg. The leg was stiff in a position of extension, but in the arm it was the flexors which showed increased tone, the characteristic attitude of the arm being adduction at the shoulder and flexion at the elbow and wrist joints. Cases due to cortical or subcortical lesions did not usually show so great an increase of tone. In the arm the hypertonic muscles would yield to firm passive extension at the elbow-joint. They often gave way somewhat suddenly, so that, unless contractures had occurred, the arm could be almost fully extended. If the arm were then flexed again at the elbow, and the patient told to extend it himself, there might be extension to some point, and then the flexor muscles became tonically contracted and so prevented further extension.

But in disease of the extrapyramidal motor system the position was different. Paralysis agitans, for example, began in many cases with a hemiplegic distribution of symptoms, and might remain in this state for a considerable time, the onset of the tremor being delayed perhaps for many months. Abdominal and plantar reflexes, especially in old people, were not always easy to elicit. The character of the hypertonus was different here from that in hemiplegia due to lesions of the pyramidal tract. Instead of finding hypertonus in the flexors of the arm and extensors of the leg, there was a diffused rigidity affecting all muscles more or less equally, and not altered by voluntary or passive movements of the limb. This was often found in cases of encephalitis lethargica, apart from the cases which exhibited the Parkinsonian syndrome.

Wilson, in his original description of progressive lenticular degeneration in 1912, clearly distinguished between the universal diffused stiffness of muscles in that condition and that found in the ordinary cases of hemiplegia. In spastic paraplegia due to disease of the spinal cord a careful study of the nature and distribution of the rigidity present could give a valuable insight into the degree of damage to the cord. These differences in the character of the hypertonus has been emphasized by the study of cases of gunshot injuries during the war, and notably by the work of Head and others. Lesions of the cord which, on the motor side, interfered with the function of the pyramidal tracts only, would cause paraplegia in extension. More severe lesions produced paraplegia in flexion. In some cases this study might also help in localizing the anatomical site of the lesion, and aid in determining the nature of the pathological process, for the more peripherally placed lesions would involve more the pyramidal tracts, with the production of paraplegia in extension; and the more centrally placed lesions would tend to involve other tracts as well, with the production of paraplegia in flexion. This was of real value in the matter of prognosis.

Decerebrate Rigidity.

Dealing next with decerebrate rigidity, the lecturer said that numerous observers had recently claimed to have found in certain disorders of the central nervous system a clinical picture under this name. Wilson had reported cases in which, with impairment of consciousness, there was tonic rigidity of trunk and limbs, with exacerbations in the form of tonic or postural fits. The typical posture was with arms rigid, adducted at the shoulder, strongly extended at the elbow, with internal rotation and marked pronation of the wrists. In Wilson's cases the pathological conditions found were very various, including cerebral tumour, cerebral haemorrhage, and tuberculous meningitis. Recent papers, however, did not fully agree with Wilson's views, and it was pointed out that only in the matter of posture did the picture resemble that of decerebrate rigidity, and that there was lacking the other characteristics, particularly those described by Sherrington. As to whether conclusions of clinical value could be drawn from these cases, the lecturer said that this phenomenon represented disturbance of function only; it did not necessarily indicate permanent structural disease. He quoted cases in which, although the posture was almost exactly similar, the pathological cause varied greatly. One was that of a child aged $2\frac{1}{2}$ years, who was admitted on account of optic neuritis, and during the two months of his illness lay unconscious, flat on his back, with the extensor muscles of the neck and trunk stiff, the eyes being in a position of spasmodic convergence. There was the typical meningeal cry. The positions of the limbs were those already described. After death there was found an infiltrating tumour of the brain, of sarcomatous type, occupying the whole mid-brain, and extending into the crura on each side. The picture, indeed, gave no indication of the pathological process at work; it was merely a sign of disordered function: a lesion had upset the normal balance between the many different systems of fibres which acted on the motor neuron, allowing some particular system to exert an abnormal effect.

Ramsey Hunt had recently elaborated a theory of the dual nature of the motor system. This supposed the existence of two systems: (1) kinetic, (2) static—the first associated with movement, the second with the maintenance of posture. Movements and postures were regarded by Hunt as of three varieties—reflex, automatic associating, and isolated synergic. Also he postulated three divisions of the nervous system: segmental, paleo-encephalon, and neo-encephalon, each of these containing the two different motor systems—that is, kinetic and static. There was not yet available sufficient accurate knowledge of the functions of the extrapyramidal system alone to warrant the acceptance of this hypothesis in its entirety.

Hypotonia was present in some cases, such as severe instances of acute anterior poliomyelitis. Lesser degrees of

it were often overlooked, yet it was an important guide both as to regional diagnosis and concerning the patient's disability. Lesions of the spinal nerve roots might be responsible for hypotonia. Opinion now in the main inclined to the belief that hypotonia was one of the leading symptoms in disease of the cerebellum or of its efferent nerve tracts; and Gordon Holmes had shown that it was in acute or recent lesions especially that hypotonia was most characteristically found.

Reflexes and Their Limitations.

In the past the study of reflexes and their limitations had tended to dominate the investigation of nervous disease to the neglect of other symptoms, largely because of the greater ease with which disturbances of this kind could be examined as compared with the time and trouble required to investigate alterations in sensation, motion, and changes of tone. Perfunctory testing of reflexes had been too often considered a sufficient examination of a case, and especially in the presence of gross exaggeration was supposed to be diagnostic of organic as against functional disease. This partial truth had led to much confusion and difficulty. The reflexes were of three kinds: (1) Superficial or cutaneous; (2) deep or tendon; (3) organic or motor. As to the oculo-cardiac reflex —pressing firmly on the eyeballs and noting the amount of the slowing of the pulse which occurred, or its absence— Dr. Feiling had not found it to possess any clinical value. The Achilles jerk was best tested with the patient kneeling, and he regarded it as of equal value to the knee-jerk, especially in cases in which the lower parts of the spinal cord or the chorda equina might be involved. In eliciting the cutaneous reflexes the skin should be warm. Abdominal reflexes were apt to be feeble in people with a pendulous abdomen. With regard to reflexes in general a difference on the two sides was much more important than any quantitative symmetrical alteration.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

HAEMORRHAGIC COLITIS.

THE interesting communications on haemorrhagic colitis by Mr. Geary Grant (February 25th) and Mr. Lockhart-Mummery (March 11th) encourage me to report the successful treatment of a severe case under my care in 1909. It is the only case of this nature which I have had to treat, and it gave occasion for the one and only operation for appendicostomy that I have performed; for this reason perhaps I have a very vivid recollection of the circumstances. The successful result I attribute to the rationale of one of the methods of lavage adopted after the operation, which I believe had not been entertained previously as a weapon in combating the infection of the colon.

In December, 1908, I was asked by a fellow practitioner to see a man, aged 25, who had been suffering since the previous September from frequent diarrhoea. Early in November he had to take to bed, and the motions, eight to twelve a day, were accompanied by much blood and mucus. There was no evidence of tubercle; he was "running a temperature," was extremely emaciated and anaemic and feeble; had lost nearly 3 st. in weight from his normal 9 st.; pulse frequent, great thirst, tongue dry and raw, face drawn and anxious. There were several badly decayed teeth, and the breath was foul. He appeared to be in the later stages of exhaustion, and though recovery seemed doubtful I advised that he should be removed to hospital and have appendicostomy performed, with subsequent lavage of the colon, on the lines suggested by the late Mr. Keetley, who, I believe, was one of the first to advocate this operation in colitis. Early in January, 1909, he was taken to the cottage hospital, and there I fixed the appendix to the abdominal wall, opening it up a few days later. His condition at this time was very bad, accentuated doubtless by the operation and anaesthetic. There was constant passage of blood and mucus, extreme exhaustion, and vomiting had commenced. After opening the appendix a variety of injections was tried. I can remember saline, hazeline, Condy's fluid, protargol; from a pint to a quart of these was given twice or three times daily, and each in turn for five or six days. China clay emulsion had not then come into vogue.

I can recollect some slight improvement with the Condy's fluid, but at the end of January his condition had become desperate; he was quite apathetic, was turning his face to the wall, and the stools, though less offensive, were frequent, and contained much blood and mucus. It was evident that merely washing out the bowel with large quantities of such mild antiseptics as could be borne was not adequate to stop the infection, and it occurred to me that it might be possible to combat it in another way—namely, by keeping the bowel charged with a dominant and antagonistic micro-organism such as the lactic acid bacillus, growing in an acid medium, with the hope that it might crowd out or displace the *coli* group and its auxiliaries, which flourish under the normal (alkaline) conditions of the colon. Sour milk prepared by inoculation with a liquid culture of *B. bulgaricus*, and incubation for forty-eight or more hours, was employed, and a quart of this was used for irrigation of the bowel through the appendix opening twice or three times daily. Within a few days distinct improvement was noticed: the stools were acid, with less blood, and much less offensive, and the tendency to vomiting ceased. The sour milk irrigations were kept up for about a month, being gradually diminished in frequency and amount; blood gradually disappeared, and the patient's general condition improved in every way. He left hospital in May, 1909, convalescent, weighing 7 st., and resumed his work as a clerk in September, 1909, weighing 9 st.

In view of the possibility of recurrence the appendix was kept open until October, 1911, when it was closed by Mr. Bailey, F.R.C.S., in St. Bartholomew's Hospital.

I have recently seen this patient after many years; he is in perfect health, was placed in Class B for war service, is now married and the father of a healthy child. There is a slight bulge at the site of the appendix opening; otherwise the scar is narrow and firm.

There is nothing, of course, new in the idea of using an innocuous organism or its products to antagonize the pathogenic effects of a harmful one, but the striking results in this case were so obvious that it is perhaps worthy of record, and I should be interested to hear if this method, or one based on similar reasoning, has been employed by others.

Wimbledon. JOHN A. HAYWARD.

MR. LOCKHART-MUMMERY'S remarks (March 11th, p. 412) on the comparative rarity of this disease, and the value of appendicostomy in it, tempt me to write a brief account of two similar cases, the only ones I have seen in twenty years; in neither was a sigmoidoscopic examination made, so I am unable to say if the condition of the colon was the same as Mr. Geary Grant described, or was one of ulcerative colitis with an open vessel in the base of an ulcer, but I imagine this is not of great moment from the point of view of treatment.

CASE I.

A young woman, aged 23, was sent into hospital as a case of colitis with severe haemorrhage, which had been going on for a fortnight. She passed daily 3 or 4 oz. of blood, which was judged to come from about the sigmoid flexure.

She was treated medically, and was given on alternative days large wash-out saline enemata followed by an enema of a pint of solution of protargol; all this was done in the knee-elbow position. For a time it had no effect in checking the bleeding, and my anxiety was becoming acute because she was getting blanched; but happily she then began to lose less and at the end of six weeks the bleeding ceased.

She was kept in bed for a further six weeks, with no signs of a recurrence, but on her first day out of bed the bleeding started again and was nearly as bad as before.

Treatment on the same lines was again begun, and the result was rather more rapid than before, but after four months in bed the bleeding began again as soon as she walked about. The medicinal treatment and the enemata were on both occasions continued for some time after the bleeding ceased.

She had come into hospital on October 8th, 1913, and we were now in the middle of April, 1914, and she was no better. I did appendicostomy, and in a week or two the bleeding ceased and did not return. The rapidity of cure, and the ease and efficiency with which the large bowel was washed out, formed a marked contrast with the methods and results achieved before the operation. She left hospital in due time, and came to me again four years later for the cure of a hernia which had occurred through the abdominal wall by the side of the appendix. She had no return of colitis.

CASE II.

The second case, a girl aged 11, admitted in 1915, was similar in all particulars, save that after a period of observation I straightway did appendicostomy with most satisfactory results.

While on the subject of appendicostomy I may mention that in two cases of perforated gastric ulcer with great soiling of the peritoneum, instead of draining Douglas's pouch by a tube through an incision above the pubes, I have done appendicostomy, drained through this wound, and immediately opened the appendix; through this I was able to run in saline, aperients, and peptonized food (the latter half a pint or more at a time) as the occasion demanded. It appears to me that it is an immense advantage to be able to do this in a patient who is always suffering from shock, general peritonitis, and almost certainly post-anaesthetic vomiting, and, moreover, has a recently stitched up hole in his stomach.

Sherborne, Dorset. T. MACCARTHY M.R.C.S., L.R.C.P.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

MALAYA BRANCH.

AT the annual meeting of the Malaya Branch of the British Medical Association, held at Singapore on January 27th, of which an account has been given in the SUPPLEMENT (April 1st, 1922, p. 94), a number of important papers were read, followed by discussions.

Dr. W. FLETCHER read a paper (prepared in conjunction with Dr. A. T. STANTON) on melioidosis, a new disease of the tropics resembling glanders. An abstract of this paper was published in the EPITOME of February 11th, 1922 (p. 24, par. 148). A discussion followed the reading of the paper, and in his reply Dr. Fletcher said that the disease had been diagnosed during life in four cases only. Specimens of blood, urine, and faeces should be sent for laboratory examination in suspected cases.

Dr. J. R. KAY-MOUAT, acting principal of the Singapore Medical School, read a paper upon the functions of a medical school, with reference to local conditions.

He said that the chief duties of a medical school were the dissemination of medical knowledge by the education of students, post-graduate instruction, and literary facilities; the advancement of medical science by research, discussion, and publications; and the maintenance of professional unity by *esprit de corps*, social intercourse, and selection of personnel. In Singapore the College of Medicine had been established with a full-time staff, thus eliminating the evils of irregular teaching and inadequate control. Admission of the students had been controlled by raising the standard of the entrance and scholarship examinations, and granting Government-indented scholarships only to the few best candidates. The plans had been approved for the new medical school, which showed medium-sized classrooms, a large lecture hall and museum, an extensive library, and ample post-graduate and research facilities. Now, when the General Medical Council had recommended the Singapore qualification as qualifying for practice in England, the College aimed at maintaining a standard equal to the British average standard, and recent successes by their students in the higher examinations in London showed that there was no need for anxiety.

The Hon. Dr. D. J. GALLOWAY said that he had been connected with the medical school since its inception, and he now noticed a very great improvement in the standard of the students. He believed that a circumstance of the greatest value to the future school was its proposed inclusion as the medical faculty of the Raffles University of Singapore.

Mr. K. BLACK, F.R.C.S., read a paper upon a defect in the sterilization technique, and later showed some interesting and obscure cases of eye disease among the inmates of the native hospitals.

After Dr. Kay-Mouat had entertained the members to lunch at the Hotel St. George the meeting was resumed, and Dr. MALCOLM WATSON read an interesting paper upon "Quinine and the quinine controversy."

He said that when it was considered that quinine had been known to European medicine for nearly 400 years, and that at the present time hundreds of medical practitioners used it daily in the treatment of malaria, it was remarkable that there was no unanimity in fixing the optimum dose or method of administration. Dr. Watson gave a summary of the history of modern experiments in quinine administration, and said that for some seventeen years he had watched labour forces under the influence of various doses. There were four factors in the experiments—namely, quinine, man, the mosquito, and the malaria parasite. Malaria was not always the same in severity or intensity, while the mosquito was a factor of almost bewildering variety. Man was also a variable factor, some races, such as the Malayalees, being more susceptible to malaria than others, and he rather thought that in a mixed labour force of Tamils and Malayalees, the Tamils, even without quinine, would maintain better health than Malayalees with it. In regard to quinine prophylaxis, he considered that in an intensely malarial place it should certainly be taken, not with the idea that it would prevent infection, but that it reduced its severity. In a less malarial place, where one might expect to live for many months without being likely to contract the disease, it was less important for healthy people to take it; in such places it was, however, important to give quinine continuously for at least three months to those who did contract the disease, which would certainly reduce the danger to others. In regard to the dose, at least 10 grains daily should be taken, preferably in solution and with meals—he laid particular stress on the last point.

In the discussion which followed Dr. KAY-MOUAT commented upon the possibility of the dangerous effects of taking quinine sulphate which had been kept for a considerable period; many other members gave their experience of quinine prophylaxis.

Dr. H. J. GIBBS read a paper upon the subject of ethics, tracing its influence in medical practice from Greek mythology.

Reports of Societies.

THE ROUTE OF RENAL INFECTION.

MR. KENNETH WALKER, at a meeting of the Section of Urology of the Royal Society of Medicine on March 30th, introduced the subject of renal infections, and gave an account of his experimental work on the method of spread. The history of this subject, he said, illustrated the tendency for the pendulum to swing from one extreme to the other in any controversial matter. Ten or twenty years ago a good many infections which were now regarded as blood infections were looked upon as infections spreading from the bladder to the kidney. With the improvement of diagnostic methods it was found that the majority of these infections were not true ascending infections, and observation of animal experiments proved that infection did not spread so readily from the bladder to the kidney as was supposed. Two conditions were necessary for such spread—namely, obstruction of the flow of urine, and incompetence of the valve guarding the entrance to the bladder—and these were not conditions found in ordinary cases of renal infection. Thereupon the pendulum swung right back so that for a time it seemed to be denied that infection ever spread from bladder to kidney except as a complication in very grave urinary trouble such as complete retention. He believed that this was to disregard certain possible routes of infection, especially the lymphatics which ran around the ureter and into its muscular coat, though he would not say that this was as common a route of infection as the blood stream; it was impossible to tell how common it was. The first experimental work done on this subject was by an Italian, Paladino Blandini, who inoculated the urethrae of guinea-pigs with some definite organism and after an interval of twelve hours made a careful bacteriological examination of various portions of the genito-urinary tract. He found that after twelve hours he could recover the organism at the upper end of the ureter and at the kidney. The lecturer had repeated this experiment, inoculating the anterior urethrae of guinea-pigs with *B. prodigiosus*, and killing the animals after from thirteen to eighteen hours. The heart's blood on each occasion was found to be sterile, and yet in each animal one got a luxuriant growth from the upper end of the ureter. The kidney, stripped of capsule, was sterile, and, in spite of this infection of the upper end of the ureter, the urine also was sterile. He had used, instead of organisms, carmine particles, and had recovered these from the upper end of the ureter. He tried also Gram-positive organisms which he could stain, and, although in this case there were no organisms in the ureter, outside the ureter, presumably in the lymphatics, there were masses of such organisms. He instanced the corroborative experiments by Teale and Embleton in a communication to the Section of Pathology of the Royal Society of Medicine in 1914; these workers described a bacterial spread by the lymphatics.

More recently (Mr. Walker continued) he had had the opportunity of following up the investigation in the *post-mortem* room on the case of an old man who had been admitted to hospital with complete retention; and again in a clinical case, a woman admitted for dysmenorrhoea, who developed kidney trouble subsequently, and on whom he operated. Here he found periureteric infection and infection of the perirenal tissue, which appeared to have ascended. Both the *post-mortem* and the clinical case confirmed the results of his animal experiments, that organisms did reach the upper end of the ureter, and perhaps also the kidney, presumably by way of the lymphatics. It might seem as though the organisms, to reach the kidney, would have to travel against the direction of the lymph stream, but it had to be remembered that the lymph stream was sluggish and indefinite, with cross-waves and channels. He pictured the various connexions of the lymphatics, and pointed out (bearing on his clinical case) how in the female the lymphatics of the ureter were connected with those of the genitalia. What was true of pyogenic organisms he thought might also be true to some extent of the tubercle bacillus. Perhaps it was rash of him as a surgeon to enter the province of the physician, but it was an interesting speculation whether the readiness with which organisms reached the kidney by way of the lymphatics might not explain the etiology of certain types of chronic interstitial nephritis. Although the etiology was still in dispute, he believed that this was more and more regarded as an inflammatory and infective lesion. It was generally

assumed that the infection reached the kidney by way of the blood stream, but one had to consider the possibility that it was by way of the lymphatics. The lesion which would be caused by repeated lymphatic infection by an organism of low virulence would be fibrosis of the cortical area with thickening of the capsule. The fact that no evidence of this chronic irritation of the kidney would be furnished clinically by examination of the urine for organisms rather lent support to the theory that repeated invasions of the superficial lymphatic plexus might be the cause.

His conclusions were (1) that although the blood stream was the commonest route by which an infection reached the kidney, organisms might also reach it by the lymphatics around and in the ureter; (2) that the kidney capsule was an important link in this lymphatic chain, and was the situation in which organisms were most consistently found in cases of ascending infection; (3) that in early cases of lymphatic infection of the kidney no organisms were found in the urine; (4) that there were reasons for believing that the tuberculous infection of the kidney might take place along a precisely similar route; and (5) that the lymphatic route might explain some cases of chronic nephritis, and it was possible that decapsulation might not be without effect on the development and progress of such a condition.

Sir THOMAS HORDER, who presided, said that many of those present were aware that Mr. Kenneth Walker had been interested in this aspect of urinary tract infection for a number of years, and it was a good thing to have a somewhat epitomized version of his work before them. He would not care to undertake a criticism of the experimental work involved, nor to estimate the extent to which Mr. Walker's conclusions were justified. But one obvious criticism might be stated in the form of a question: Was the distribution of an organism as found on section necessarily indicative of the route by which the infection had taken place? Granted that it was highly suggestive, was it conclusive? He instanced the condition sometimes encountered in undoubted haematogenous infection, such as by *Staphylococcus aureus*. One of the first clinical expressions of the pyaemic state so caused might be a perinephritic inflammation, proceeding rapidly or slowly to suppuration. It was taken for granted, in such a case at all events, that the route of infection was the blood stream; but if the same kind of observation and deduction were applied in this case as Mr. Walker had applied in the case which he considered afforded clinical corroboration of his lymphatic stream theory the same conclusion might be reached. Even in the *post-mortem* room the actually infected portion of the kidney demonstrable in the case of pyaemia the result of *Staphylococcus aureus* infection was very small, whereas the involvement of the kidney capsule and the perirenal tissue was very great. But the same thing applied to other structures and other lymphatic systems than those of the kidney. It was the same in the lung. The first clinical evidence of the thoracic pyaemic state in *aureus* septicaemia might be not the existence of a true pulmonary lesion but the existence of pleurisy, and yet it was well known that the pleurisy was really secondary to the lung involvement. He might quote subphrenic abscess as another instance. He was very doubtful whether the clinical case which Mr. Walker had brought forward did much, if anything, to confirm his conclusions. The inference was that the supposed trauma of the cervix in this young woman was the cause of the perirureteral infection; but there were other possibilities. The kidney might have "flared" as a result of a haematogenous infection, even though the blood stream was found to be sterile. But the whole subject was so important, and so little was known at present about routes of infection, that one could only welcome the very solid and important addition to the general knowledge which Mr. Walker by his experiments extending over many years had contributed. It was a subject the study of which should be extended both by experimental work and by the correlation of clinical observation therewith.

Mr. FRANK KIDD said that he had the highest admiration for Mr. Kenneth Walker's work, but clinically he did not feel justified in going so far as Mr. Walker had gone in his deductions from his animal experiments. He referred to the rarity of bilateral tuberculosis of the kidney as rather against his suggestion of the tuberculous infection going down the ureter on one side and apparently going up on the other. Dr. DENNIS EMBLETON referred to some work which he and Dr. Teale had done since the publication of their former paper, which bore out what Mr. Walker had said regarding the ascending infection, but he pointed out that the process of spread was very slow, which might explain the point raised in objection by Mr. Kidd. Dr. F. H. TEALE said that in the animal experiments the difference between lymphatic infection and haematogenous infection was quite definite. Mr. C. A. R. NITCH described four cases which showed that the spread of organisms was probably periureteral both up and down the lymphatics. Mr. KENNETH WALKER, in replying, said that he had tried to carry out his observations in as many fields as possible, so that he should not be tempted to lay too much stress upon any one of them. He referred at greater length to his clinical case, and gave his reasons for considering the infection to be by the lymphatic rather than by the blood route.

PHYSIOLOGICAL PRINCIPLES UNDERLYING HELIOTHERAPY.

A MEETING of the Manchester Clinical Society was held in the Physiological Theatre of the Manchester University, at which ninety-eight members were present, with Professor G. R. MURRAY, the President, in the chair, when Professor LEONARD HILL delivered an address on the physiological principles underlying light treatment and heliotherapy.

Dr. HILL pointed out the great differences in the expectation of life between rural and urban populations; for instance, 61 years at birth for females in Westmorland against 46 at Middlesbrough; similarly at age 20 Surrey County had an advantage of nine years over Oldham. Turning to occupations, and taking the clergy as the standard of low mortality, agriculturists came next, in spite of low wages and bad housing, while factory workers gave much higher figures. Environment had to do with these differences. In regard to tuberculosis, unsalted races who came in contact with the disease suffered a very much higher mortality; so did very young children. Almost all were infected in our cities, and while small doses might vaccinate and protect, large repeated infections destroyed life; young children ought to be protected from such by removal from infected parent or teacher. In the future a successful vaccine treatment might be established, or the discovery of a drug which like salvarsan would have a specific curative effect. Supposing, however, tuberculosis were prevented and bad environmental conditions continued, other diseases would take its place and keep up a high mortality; such was the evidence of historical medicine.

Environment acted through bad atmospheric conditions, neglect of rest and exercise in the open air, over-fatigue, and ill-balanced diet. As to the first there was no increase of CO_2, or deficiency of oxygen, or organic chemical poison that mattered in the air of crowded rooms. Massive infection occurred in such from carriers of catarrhal disease, and open windows or efficient fan ventilation lessened that. Dust from clothes soiled by excreta, as well as saliva spray coughed and sneezed out, spread infection. Road and trade dusts, clogging the respiratory membrane, might lessen the protective action of the secretion, lately demonstrated so strikingly by Flemming. One kind of dust was particularly noxious—namely, free silica dust breathed by miners in quartz, and by gritstone, sandstone, and granite workers. Free silica breathed continually in high proportions produced fibrosis of the lung, which in the presence of infection was followed by tuberculosis. Injected colloidal silica lessened resistance of animals to tuberculosis, and caused in them fibrosis of kidney, liver, etc. (Gye and Kettle). Organic dusts and coal dust appeared to be harmless. Coal-miners were a healthy lot; they worked often stripped to the waist, in well-ventilated places, were not crowded together, had good food and enough leisure.

Smoke pollution of the air was the result of most inefficient methods of using coal. From 75 to 95 per cent. of the thermal energy of coal was wasted; out of every three tons used in this country, if one were properly used there might be two left over for export—that is, without raising any more coal than now. Coal should be distilled, the gas used for heating, etc., the coke for raising steam and electrical power and light, and the valuable by-products saved, such as tar and ammonium sulphate. The economic loss due to smoke fog was gigantic—waste of time due to obsolete transport, waste of artificial light, of human energy in cleaning and redecorating and washing clothes, waste in destruction of buildings and vegetation. The last helped to make a deficiency of vitamins, for little or no green food could be grown in smoky courts or gardens. The poor lived on white bread, margarine, sugar, and tea—separated, artificial products deficient in salts and vitamins. Such a diet, and confine

ment in close tenements led to rickets, tuberculosis, etc. Experiment proved the dependence of rickets on those two factors. The smoke fog robbed us of sunlight and its cheering, health-giving influence, and drove people away from open-air to indoor amusements. Overclothed, in close, warm rooms, we were surrounded with a humid, tropical atmosphere, entirely different from the stimulating effect of open air, with its high evaporative power, exerted on the skin and respiratory membrane.

Air saturated at 0° C. held about 5 grams of water vapour per cubic metre, while that leaving the lungs saturated at 33.5° C. held nearly 40 grams. It was calculable that a man sleeping out of doors and taking vigorous exercise might evaporate three times more water from his lungs than a sedentary person living indoors. To make good the evaporation much more arterial blood and lymph flowed through the respiratory membrane, and kept up its immunity to infection.

The kata-thermometer, dry and wet bulb, enabled one to measure the cooling and evaporative powers on a surface, at body temperature, and to estimate the vast difference between open-air and indoor life. This instrument showed that people were commonly living and working in atmospheres with as low cooling and evaporative powers as were found out of doors in the shade in humid, tropical climates, which were admittedly enervating to white men. Many readings had been taken in the workshops of printers, boot and shoe makers, cotton weavers and spinners, and potters, and showed that readings were very frequently below the very moderate standards set up by the lecturer. It was significant that the general mortality increased with the lowness of the readings in these four trades. People, by shutting themselves up, over-clothing their bodies in their absurd fear of catching cold, lived in a humid, tropical atmosphere, and reduced their metabolism (body heat production); this reduction entailed loss of muscle tone, flabby bodily habit, depression of breathing and circulation, ill digestion and absorption of food, loss of appetite, constipation, dyspepsia, etc.

Children at Leysin under Rollier, and at the Treloar Hospital under Gauvain, were exposed, often more or less nude, to the far higher cooling and evaporative powers of open air, and to sunshine. They responded with a 50 to 100 per cent. increase of metabolism, hard muscles, improved health, and arrest of their tuberculous disease. In place of temperatures of 32° C. dry and 30.5° C. wet bulb under the clothes, between the skin and shirt, which obtained in a room, the temperatures might be 14° and 11° when bicycling on a winter day downhill. The cheek temperature in badly ventilated factories was about 34° C., while it was 30° in well-ventilated rooms, and anything down to 20° C. in cold winds out of doors. There was a close relation between cheek temperature and body heat production. How open air affected metabolism was shown by the fact that the resting metabolism of city dwelling adults—about 1,600 to 1,700 calories per diem—was raised about 35 per cent. at the east coast, and when on a holiday. Paddling about it was at the rate of about 8,000 calories per diem, swimming 12,000 to 15,000 calories, paddling along the shore, one mile in fifteen minutes, 15,000 to 16,000 calories. The stimulation of metabolism and bracing up of the muscles by cold and exercise was a large part of the good effect of such a holiday. The abundance of light from sun, sky, and sea shine also acted beneficially.

Children did better at the Treloar Hospital during summer than winter owing to the sunshine. This was not due to ultra-violet rays, for these did not penetrate more than about 0.2 mm., but the luminous rays penetrated and were absorbed by the blood in the skin, and there changed into heat rays, probably also effecting chemical changes of a nature as yet unknown. In preventing rickets exposure to sunshine made good a diet otherwise deficient—for example, so much exposure to sun was equivalent to so much phosphate in the food. Pigmentation resulted as a sign of such changes in the skin, and, once set up, protected from sunburn. Patients had to be exposed to the sun gradually so as not to be damaged by sunburn, and a high cooling power was required to prevent overheating of the body and stimulate metabolism during the sun exposure. Given such cooling power, exposure of the body to the sun was of advantage to phthisis as well as surgical tuberculosis. Resort to the Alpine winter climate (such as that of Montana, studied by the lecturer), with its cold, dry air and warm sunshine, enabled such treatment to be continued during the worst months of the English winter.

A number of lantern slides were shown of the treatment carried out at the Treloar Hospital by Gauvain, and at Leysin by Rollier. The successful treatment of the wounded and febrile and of neurotic and insane patients by open air was also commented on, and the extension of such treatment generally urged.

TREATMENT OF FINGER INJURIES.

AT a meeting of the Manchester Medical Society, held on March 22nd, with Sir WILLIAM MILLIGAN, the President, in the chair, Mr. R. R. KERR read a communication on "The operative treatment of injuries to the fingers." He urged the importance of simple prophylaxis of sepsis in workshops. Where, however, the lesion had become septic and involved the pulp and the end of the phalanx, the incision should never be made in the centre of the pulp down to the bone, but at one or even both sides, just behind the nail. By this means the pus might be evacuated, involved bone dealt with, and the very valuable pulp saved. To splint a badly injured finger was hardly ever justifiable. If splints were used and the digit became stiff, it was in the extended position, and the owner of it was in a parlous condition. It was far better to let the injured finger heal and become stiff (if that could not be helped) in a position of rest, the semi-flexed position, which was that of greatest usefulness. A further point was that if a finger were so damaged that its function could not be restored, it should be amputated at once. With regard to amputation the principle of saving as much as possible was very dangerous. The guiding finger and by far the most important was the index. When the terminal phalanx of this digit was lost, but the stump well covered and the other joints mobile, it could still do most of its work; but if the remnant were stiff and only including the proximal phalanx or the metacarpal bone it could not do the work of the index, and no other finger could because of the jutting-out and awkward stump. If, however, the index were now amputated right to the base of the metacarpal bone and the tendons also cut well back, the thumb and the middle finger rapidly closed in, and the middle finger could easily be taught to do the work of the lost index. The same point held with regard to the other fingers. After removal of the metacarpal the other fingers closed in and full function was restored for practical purposes.

Operation for Osteo-arthritis of Hip.

Mr. H. PLATT followed with a communication on the operative treatment of osteo-arthritis of the hip-joint. He discussed the various operative measures applicable in the treatment of monarticular osteo-arthritis of the hip-joint. He pointed out that although this affection was most frequently encountered in middle-aged individuals, it was by no means limited to this age period. In his experience three broad clinical types could be distinguished: (1) infective, (2) traumatic, and (3) secondary, where the active arthritic process was superimposed on a hip-joint which in early life had been the seat of a deformed process such as pseudo-coxalgia or arthritis deformans juvenilis. In the symptomatology of osteo-arthritis of the hip, the early stage with its characteristic severe sciatic pain, and the later stages with the progressively increasing fixation of the joint, were briefly described. Although correct mechanical treatment in the early stages would be likely to render unnecessary any major operative procedure later, yet in the practical handling of this condition the surgeon was too often confronted with the fully matured arthritis and its consequent serious disablement. Four classes of operative procedure were considered: (1) Manipulation under anaesthesia—suitable for picked cases with arthritic changes of a moderate degree. (2) Removal of osteophytic deposits—the operations in this class had a limited application, inasmuch as such bony deposits were rarely the prime cause of the pain or limitation of mobility. (3) Arthrodesis—surgical fixation of the painful hip-joint was ideal in theory but difficult to achieve, and constituted an operation accompanied by a good deal of shock. For this reason, and owing to the necessity of prolonged fixation and protection from weight-bearing, the operation was suitable only for younger individuals. (4) Excision of the head of the femur. The value of this operation was emphasized, and in particular its suitability for older patients; the operation as performed by the reader of the paper was reconstructive in type. A detailed account of the technical steps involved in its performance was given.

Mr. G. JEFFERSON read a paper on the operative treatment of depressed fractures in infants and children. He urged that the old practice of leaving this condition to nature was

wrong. It was often impossible to tell in a child what was the condition of the brain under the fracture. Operation should always be carried out, and consisted in either elevating the depressed area through a small opening, or where this was not possible in excising the portion of skull affected and placing it back in the reversed position.

Mr. ARNOLD JONES made a communication on nasal obstruction in infants during the first year of life. He pointed out that the common causes of this condition were: (*a*) Congenital occlusion of the nostrils; (*b*) the temporary presence of mucus secretion in the nose and engorgement of the nasal mucosa during the first few days of life; (*c*) congenital syphilis; (*d*) mongolism; and (*e*) adenoids—the commonest. The symptoms usually seen were: (*a*) inability to suckle efficiently; (*b*) snoring and suffocation attacks; (*c*) persistent cough; (*d*) nasal discharge; and (*e*) convulsions.

The diagnosis of nasal obstruction was made from the presence of these symptoms. As to the differential diagnosis, congenital occlusion of the nostrils was very rare. A probe would reveal the situation and completeness of the obstructing web. The temporary engorgement of the nasal mucosa was at once relieved by a weak adrenaline spray. Congenital syphilis usually presented constitutional symptoms, the Wassermann reaction being positive. A mongol was recognized by its typical appearance, and adenoids were diagnosed by excluding the other causes. The treatment varies with the cause. In the case of adenoids—by far the commonest cause—surgical removal was simple, efficient, free from risk, and gave excellent results. Of 58 cases operated on from February, 1919, to the end of 1921, 23 had been recently investigated, and the results found to be excellent. No anaesthetic was used. The youngest infant operated on was under one month old.

DERMATITIS EXFOLIATIVA.

A MEETING of the Liverpool Medical Institution was held on March 23rd, with the President, Dr. J. HILL ABRAM, in the chair, when Dr. FRANK H. BARENDT related details of a case of dermatitis exfoliativa in a patient (a man, aged 30) who suffered from psoriasis since he was eight years old, and acquired syphilis three and a half years ago. He was free from any outward manifestation of syphilis, his Wassermann test was "slightly positive," but he had psoriatic efflorescences in the scalp and in the right flank. He was treated intravenously with a single dose of 0.9 gram neo-kharsivan, and locally unguentum chrysarobini was energetically applied. One week later the whole of the integument reddened and the epidermis fissuring in all directions was completely shed. At the end of three weeks the clinical picture of pityriasis rubra was displayed. Under oily lotions the skin gradually resumed its natural colour, and at the end of a month desquamation ended. There was no gastro-intestinal disturbance, the urine was free from albumin and sugar, and although he suffered great discomfort and slight fever during its evolution he was never seriously ill. The question of the immediate cause of the skin affection was viewed from several points, and Dr. Barendt could not definitely ascribe its appearance solely to the arsenical preparation. He inclined to the view that it was a case of inveterate psoriasis passing into pityriasis rubra. The patient was now well and free from any skin affection, in which condition he never remembered to have been since early childhood.

Fibrillation and Flutter.

Dr. HARRIS read a short paper on the circus movement in fibrillation and flutter. He pointed out at the outset that the exact method used in physical science was often unsuitable for research in pathological biology since the latter was too complicated and too many sided to find a true expression in a simple formula. He regretted that the problem had been approached from the electrical and not the clinical and pathological point of view. According to the theory the factors which gave rise to flutter and fibrillation disappeared as soon as the abnormal rhythm was established. Flutter and fibrillation might last for years. Just because many years ago a certain part of the auricle showed for a moment a somewhat longer refractory period than other parts, the circus movement came into existence. Once it came into being it continued *ad infinitum*, although the auricle was perfectly normal in every respect. The lecturer pointed out that it was not difficult to terminate such a circus movement; an extra-systole in the "mother" circus would do it. Ectopic auricular impulses ought to be common: disturbance in the conductivity, which is also frequent, ought also to have the same effect, and yet we did not hear of spontaneous cures of these conditions. Dr. Harris pointed out that whilst in the experiments it was artificial stimuli which brought about flutter and fibrillation, Sir Thomas Lewis and his co-workers did not give any information at all as to the factors which took the place of the artificial stimuli in clinical flutter and fibrillation. This, the most vital point in any theory, which had for its object the explanation of the mechanism of flutter and fibrillation, was left out of account. Dr. Harris maintained that clinical evidence pointed to the fact that fibrillation was due to a functionally or anatomically damaged auricle, and the causes which gave rise to the abnormal rhythm remained after the latter was fully established. Fibrillation in itself was of relatively little importance; what was important was the cause which gave rise to the abnormal rhythm—the damaged heart muscle. In regard to the general principle of treatment, he drew attention to the curious fact that fibrillation and angina hardly ever appeared together, although both were frequent occurrences in the senile heart, and that there were actually instances of symptoms of angina disappearing as soon as the auricle started fibrillating. The explanation was as follows: The individual beat in the senile heart was forceful, and therefore strained the heart muscle; in fibrillation the majority of the beats were feeble, and there was no such strain on the heart muscle. By abolishing the abnormal rhythm in the senile heart we might expose the patient to danger of angina. Comparison in mitral stenosis cases, with and without complication of fibrillation, did not reveal that the prognosis was strikingly influenced for the worse in cases of the former.

Quinidine in Auricular Fibrillation.

Dr. JOHN HAY read a paper on cardiac failure, with special reference to quinidine sulphate in auricular fibrillation. He emphasized the importance of recognizing in each case the underlying cause for the cardiac failure—toxaemia, hypertension, myocardial fibrosis, the onset of fibrillation of the auricle. He questioned the value of many of the so-called cardiac tonics, and pointed out that a too implicit belief in the power of these tonics to counteract cardiac failure was a distinct danger, and sometimes led to the neglect of other and valuable methods of treatment in the management of the case. He reported his experience of the use of quinidine sulphate in 15 cases, in 14 of which the patients were suffering from fibrillation of the auricle, and in one from paroxysmal tachycardia. In 12 of the fibrillating cases fibrillation was established, and of some standing; in one it was paroxysmal, and in another it developed during the course of acute pneumonia. In 6 of the 14 fibrillating cases quinidine failed either owing to intolerance of the drug or to the development of rapid heart action due to ectopic beats in the ventricle or simply a failure to respond. Of the 7 in whom fibrillation was arrested, in 3 there had been temporary relapses, in 4 the improvement had been pronounced and the cardiac reserve considerably increased. In 3 auricular flutter developed, in one of which it gave way to normal rhythm. In the 15 cases receiving quinidine there was one death. This occurred in the patient suffering from tachycardia. Death occurred suddenly and without warning twenty-four hours after the cessation of the tachycardia and after only 0.2 gram of quinidine had been taken. No autopsy was permitted. The method of administration was described and emphasis laid upon the importance of frequent repetition of the dose. The quinidine administered ranged from 2 to 3 grams daily. In the earlier cases smaller doses were given and the results were not so satisfactory. The dangers of the transition phases were discussed and indications and contraindications for treatment were considered. Quinidine sulphate appeared to be a valuable drug with limited application. Its administration necessitated careful supervision and a clear recognition of the dangers entailed. Dr. Hay said that he was indebted to Dr. Broomhead for help in collecting valuable material.

BACTERIOLOGY OF PNEUMONIA.

AT a meeting of the Pathological Section of the Liverpool Medical Institution held on March 9th, with Dr. HILL ABRAM, President, in the chair, Professor ERNEST GLYNN and Miss L. DIGBY, assisted by Dr. WALLACE JONES, summarized certain of their investigations for the Medical Research Council on 140 cases of acute lobar and bronchopneumonia.

One hundred and twenty-seven cases were classified as pneumococcal and 13 as non-pneumococcal, for in the latter pneumococci were absent in the sputum, examined both by

cultures and by mouse inoculation. Using the Rockefeller technique for typing the pneumococci cross agglutination was exceedingly rare; some of the "pneumococci," however, were only partially bile soluble and of diminished virulence to mice. The percentage of Types I, II, III, and Group IV, in 96 adult lobar pneumonias was 45.8, 24, 2.1, 28.1—the Americans find about 12 per cent. of Type III. The mortality was 34.1, 36.3, 50, and 11.1 per cent.—the Rockefeller mortality for Type I is about 10 per cent., partly due to the use of serum. In 21 adult bronchopneumonias 76 per cent. were Group IV and none Type III. In children collected statistics showed that the percentage of pneumococcus types in lobar pneumonia was similar to that in adults, but the mortality was lower; while in bronchopneumonia 60 per cent. were Group IV, and the mortality 41 per cent. In 7.8 per cent. of the 127 cases two types of pneumococci were found, usually I and IV; the mortality of these was 40 per cent., compared with 27.5 per cent. for all pneumonias. Pneumococci were cultured from the blood in 22.6 per cent. of 31 cases examined, the mortality of these was 71.4 per cent., compared with 8.3 for the "negatives." Lung punctures were very useful, especially in children, and produced no ill effects; in adults pneumococci were cultured from the lung juice in 45.9 per cent. of 37 pneumococcal pneumonias examined; the mortality of these was 47.1 per cent., compared with 10 per cent. for the "negatives." Though streptococci were cultured from the sputum of the adults very frequently and "influenza" bacilli sometimes, the former were only cultured from the corresponding lung juice once and the latter never. In children 66.6 per cent. of the lung-juice cultures were positive; meningococcus Type II was found once, *B. influenzae* twice, and streptococci once. Of the 13 non-pneumococcal pneumonias, 11 were classed as mainly streptococcal, though mixed infections were common. The percentage "case incidence" in sputum cultures of bacteria in pneumococcal pneumonia and normal saliva respectively were: pneumococcus, 86 and 40, the latter all Group IV; streptococcus, 79 and 100; staphylococci, etc., 54 and 28; Gram-negative cocci, 40 and 80; lactose "fermenters," 25 and 6; non-lactose "fermenters," 15 and 1. As the patients recovered the bacteria in their sputa increasingly resembled those in normal saliva. The bacteria in the sputa of the "deaths" from pneumococcal pneumonia were compared with those of the "recoveries"; in the former there was a higher percentage of pneumococci, *St. aureus*, *M. catarrhalis*, and of lactose and non-lactose fermenting bacilli, but a smaller percentage of streptococci and of most Gram-negative and Gram-positive "staphylococci." It was doubtful whether a true *B. pneumoniae* Friedländer was isolated from the pneumonias; the literature regarding the identity of this organism is confusing, and named strains were found to differ, culturally and serologically. *B. influenzae* was found in 18 per cent. of 51 pneumococcal pneumonias; the mortality of these "positives" was 27 per cent., compared with 19 per cent. for the "negatives." The relative incidence of *B. influenzae*, during seven months, in the respiratory tract roughly corresponded with the death rate from influenza in Liverpool. Of 44 empyemas in young children 68.1 per cent. were pneumococcal (Group IV comprised 56 per cent. and Type I 40 per cent.), 31.9 per cent. were streptococcal, or streptococcal and staphylococcal.

Contrary to the usual statements, the mortality of pneumococcal infections was the higher—namely, 45 per cent. compared with 21 cent. for the non-pneumococcal infections. This difference, however, was partly explained by the lower age of the children with pneumococcal infection. Group IV pneumococcus was much the commonest type found in pneumococcal infections of the respiratory tract other than pneumonia and empyema, also in non-respiratory infections. Definite clinical differences were discovered between Type I and Group IV pneumococcal infections in adult lobar pneumonias and of empyemas of children. Six cases of Type I pneumonia were treated with intravenous injections of Type I serum, 2 apparently with great benefit. The results of the bacteriological investigation of acute lobar pneumonia suggest that though streptococci, *B. influenzae*, and other pathogenic organisms are often present in the sputum, they rarely infect the lung alveoli, but are confined to the bronchioles or perhaps only to the bronchi. This was satisfactory from the point of view of treatment with Type I antipneumococcic serum, especially as one-third of the lobar pneumonia cases in Great Britain are due to Type I pneumococcus.

ACUTE TORSION OF THE UTERUS.

The third ordinary meeting of the Midland Obstetrical and Gynaecological Society was held at the Medical Institute, Birmingham, on March 9th, with the President, Professor Ewen Maclean, in the chair.

Mr. Beckwith Whitehouse read a short communication on a case of acute torsion of the uterus. The patient, a nullipara aged 40, had been advised to have hysterectomy done for fibroids eight years previously, but had refused operative treatment. She was seized with acute pain and vomiting, and became collapsed, with signs of internal haemorrhage. A tumour could be felt rising to the umbilicus, and there was free fluid present. On opening the abdomen the peritoneum was found to be full of blood, and a large solid tumour, purple in colour, was bleeding from a dilated vein on its surface. On delivery this tumour was found to be the corpus uteri, greatly enlarged by an interstitial fibroid, and having undergone torsion through one complete twist at the level of the internal os. Supravaginal hysterectomy was followed by uneventful convalescence. Mr. Whitehouse pointed out that whereas most cases of torsion of the uterus occurred in old patients with tissues softened by senile atrophy, the present case was one of a woman of 40, the tissues of the uterus being firm and healthy.

Dr. C. D. Lochrane showed a specimen of sarcoma of the uterus and ovary from a woman of 41. A fibroid polypus had been removed from this patient twenty months previously, and a similar polypus at a later date. The uterus and both ovaries formed the specimen; the uterus was enlarged to the size of a four months' pregnancy by a soft submucous tumour, and the left ovary was much enlarged, whilst the right ovary appeared normal. The pathological report on the specimen stated that it was a spindle-celled sarcoma, probably of ovarian origin.

Mr. Christopher Martin also showed a specimen of sarcoma of the uterus from a patient of 66. When first seen the uterus was the size of a three months' pregnancy, with a soft mass protruding through the cervix. This was removed, and on examination proved to be a spindle-celled sarcoma, and total hysterectomy was performed. The uterus was filled with a soft growth springing from the left wall, but showing very little sign of necrosis or of infiltration of the underlying uterine muscle. Mr. Martin pointed out that there were clinically two types of sarcoma of the uterus—that arising in the deeper layers of the endometrium and invading the myometrium very slowly, and that which occurred as a sarcomatous degeneration in a myoma and which by rapid invasion of the peritoneum led to a far graver prognosis.

Dr. C. E. Purslow showed a specimen of necrotic submucous fibroid removed by abdominal hysterectomy. When first seen, the uterus was enlarged to the size of a four months' pregnancy, and a necrotic mass occupied a dilated cervical canal. This was removed, but rapid recurrence of haemorrhage revealed a similar condition in the cervical canal a few weeks later. The mass was again removed, the cervix and vagina cleaned, and then abdominal hysterectomy performed. Dr. Purslow asked for comments on the procedure and technique to be adopted in such cases. The specimen excited considerable interest. It was thought by Mr. Whitehouse and Mr. Furneaux Jordan to look like a sarcoma, and was referred to the Pathological Subcommittee. Mr. Whitehouse thought that in these cases, after removal of the necrotic fibroid, the uterine cavity should be cleansed by packing with eusol solution for some days before proceeding to hysterectomy.

Dr. Lochrane also showed a specimen of primary carcinoma of the appendix removed from a woman aged 25 as a "chronic appendix, possibly tuberculous." The pathological report stated it to be a columnar-celled carcinoma. Three months later the abdomen was opened with the intention of resecting the portion of bowel involved, but no signs of recurrence being present the operation was not proceeded with.

Dr. Lochrane showed skiagrams of a ureteric calculus, and a curiously barbed calculus. There had been no haematuria during a history of renal colic extending over eight years, and the ureteral catheter had been passed up to the renal pelvis with ease, presumably passing between two of the spurs on the calculus.

The Third Congress on Diseases of the Alimentary Canal will be held on April 28th and 29th at Homburg. Cholelithiasis and the relations between disturbances of the circulatory and digestive systems will be the principal subjects discussed.

The Japanese Ambassador at Vienna has presented a sum of 6,500,000 crowns to Vienna University as a personal donation to relieve the financial straits of the University, and, it is stated, as a tribute to the scientific work that is being done there in spite of unfavourable circumstances.

Reviews.

THE FORM AND FUNCTIONS OF THE CENTRAL NERVOUS SYSTEM.

It is difficult to write of the anatomy of the nervous system without close reference to its functions. Professor Tilney and Dr. Riley have carried the concept of the interdependence of anatomy and physiology to its logical conclusion in their new work, *The Form and Functions of the Central Nervous System*.[1] The basis of the book is essentially anatomical, as one would expect from the previous records of its writers and its sponsorship by Professor George Huntington. This attitude is more in keeping with the British school of neurology than is much American writing, which has latterly tended more and more towards the analysis of function alone. Perhaps a greater preoccupation with the essential structure and fundamental workings of the central nervous system might have acted as a healthy check or corrective on much speculative work. It is a pleasure, then, to have to deal with so substantial a work as this. And substantial it is, for it contains upwards of one thousand royal octavo pages. The design is bold, the plan excellent, and the execution creditable. As a matter of fact the authors have set themselves so huge a task that the attainment of a level so uniformly high is remarkable. Few signs of weariness are manifested, although the labour of writing a book which begins with the minute structure of the various types of nerve cell, embraces the anatomy and functions of the spinal cord and ascending levels, to finish with speculations on the functions of the frontal lobes, must have been enormous.

That a physiological process must have an anatomical basis is a self-evident truth, and that alterations in, and expansions of, function must be accompanied by changes in anatomical structure and connexion is also true. The need for changing plans and patterns to meet changing functions is well illustrated by the authors, and their remarks on comparative physiology in their explanations of comparative anatomy are not the least interesting feature of the book. He would be rash who would say that these speculations are always right, yet we owe the authors a debt for having stated a case, if for no other purpose than that later investigators should have something positive with which to disagree.

It is implied that this work is intended to be a textbook of the structure of the nervous system and its actual application to clinical medicine; so far as the need for such a guide is felt by medical students, this certainly is not the book for them. It is far too large for their purposes, but for reference it will be valuable, and it is in this that its importance lies. The more detailed study of the essential structure and plan of the central nervous system is a crying need of to-day. If every person engaged in the study of the psychical faculties and of behaviour could be compelled to learn the anatomy and fundamental functions of the central nervous system on some such scale and plan as is set out here, more sober work would result. Sobriety is, indeed, the watchword of this book.

The sections on the spinal cord and medulla are particularly well done. The spinal segments are illustrated in an original manner, Dejerine's distribution being followed. The syndromes of the spinal cord are well illustrated—sometimes necessarily by rare cases, such as primary lateral sclerosis. In the chapters on the cerebellum the authors express a strong opinion in favour of the theory of localization of function. They perform a service by printing the schemata of Elliot Smith, Bolk, and Van Rijnberk of the subdivisions of the mammalian cerebellum. These are thus easily compared with one another and with Mills and Weisenberg's diagrams of function in the human cerebellum. We should have expected fuller reference to Bárány's work in a book of this size. However, the index or pointing test is described, and a synopsis given of his deductions on the cerebellar areas associated with various muscular actions. The views of Tilney and Lambert on the synergic unit are stated at some length, but the addition of some tracings and photographs would have considerably strengthened the case for them. After the detailed discussion on localization we turn to the chapter on the cerebellar syndrome with great interest, hoping to find some illuminating histories of cases. We receive not bread but a stone. The syndrome of cerebellar agenesis of Nonne is fobbed off on us, and we feel a little aggrieved.

It is impossible to do justice or even to refer to all the sections in so monumental a work, but we may remark that what the authors have to say on the pituitary syndrome is disappointing, and a not entirely convincing pineal syndrome is sketched. The various clinical pictures believed to be associated with disease of the thalamus and basal ganglia are stated, and the anatomy of these regions is well described. In relating the methods by which our knowledge of cerebral localization has been attained no mention is made of Elliot Smith's procedure, and Campbell's diagram is preferred to his and to that of Brodmann. It is curious also to see Campbell's figure of functional localization in the motor area chosen instead of the later figures of Sherrington. We do not object to Campbell's figures nor belittle their value; still, in a book where space has hardly been a consideration, it would have been well to have shown those of others as well.

It will readily be realized that the authors have attempted a herculean task. To keep a balance between minute structure, embryology, anatomical connexions, physiological significance, and the syndromes of disease is an undertaking of the most difficult order. The failures of the book are undoubtedly due to the overstressing, the overaccentuation, of one part at the expense of the rest. These faults are particularly obvious in the chapters on the hemispheres. An opportunity for a majestic survey of the gathering together and final elaboration of all the work done by the lower levels is here afforded, but the result is meagre.

We would not leave the book thus in what might seem an unfriendly spirit. For whilst we have dwelt upon some deficiencies we are not unmindful of the excellence of many parts. Those who work on the anatomy and the functions of the nervous system, those who study its diseases, are unquestionably debtors to Professor Tilney and Dr. Riley for their great labours, and will feel no little gratitude for the courageous way in which they have grappled with their huge task.

[1] *The Form and Functions of the Central Nervous System.* By F. Tilney, M.D., Ph.D., and H. A. Riley, A.M., M.D. Foreword by George S. Huntington, Sc.D., M.D. London: H. K. Lewis and Co., Ltd. 1921. (Roy. 8vo, pp. 1020; 763 figures. 70s. net.)

DERMATOLOGY.

Two well-known textbooks of dermatology have recently registered new editions: that of Stelwagon has now attained its ninth, while that of Norman Walker has reached its seventh. The appearance of the new Stelwagon[2] reminds us of the loss dermatology sustained by the death of its talented author; he died suddenly of angina pectoris while he was beginning to make preparations for the production of the present volume. The burden was ably taken up by his friend and colleague H. K. Gaskill, to whom we owe the successful completion of an onerous task. He has not materially changed the plan of this, one might almost say, classical work, but he has eliminated some of the older and superseded matter to make room for more recent investigations, and he has fully maintained one of the features which have always made this textbook so valuable—namely, the meticulous fullness and exactitude of the references. It is almost appalling to think of the amount of labour that has been so ungrudgingly spent on the collection and collation of dermatological literature for inclusion either in the main body of the text or in the voluminous footnotes which are to be found on wellnigh every page. The new Stelwagon is not so much a textbook as a dictionary of dermatology—a dictionary, moreover, in which, so far as a mere reviewer can ascertain, no entry of any importance is omitted. For specialists and for those who are already familiar with the elements of the subject this is an invaluable volume, and one which they should make a point of possessing. For students its value is not so certain; the presentation of the subject with such amplitude and elaboration might be calculated to discourage the youthful seeker after knowledge, and he might be overcome by the complexity of the pictures displayed to him. He should try something easier first, and will turn later on to the stronger meat of Stelwagon with an appetite that will assuredly be satisfied. As regards the get-up of the volume we have little but praise. The printing is good; there are no obvious typographical errors. It is well and copiously illustrated, principally by photographs, and in some cases by diagrams; a few of the plates are in colour. As ever, the

[2] *A Treatise on Diseases of the Skin for Advanced Students and Practitioners.* By H. W. Stelwagon, M.D., Ph.D., and H. K. Gaskill, M.D. Ninth edition. Philadelphia and London: W. B. Saunders Company. 1921. (Roy. 8vo, pp. 1313; 401 figures, 29 plates. £2 10s.)

coloured illustrations are at once the attraction and the disappointment of books on skin diseases. The medical public *will* have them, but they are seldom satisfactory. They are not very good even in the present instance. Finally, we may add that, considering its size, the number and excellence of the illustrations (even including the coloured ones), the binding and general format, this book, judged by modern standards, is cheap at its price.

Dr. NORMAN WALKER'S *Introduction to Dermatology*[3] affords a striking contrast to Stelwagon's treatise. Founded, as the author states, on his own lectures, it is essentially a book for students. It is clear, precise, and definite, not overloaded with detail, and although it has grown quite a lot during its progress through successive editions it still remains only about one-third of the size of Stelwagon. In stating that it is essentially a book for students we do not mean to discourage more advanced readers. Practitioners and specialists will alike find much to interest and stimulate them within its covers. It is an expression of Dr. Norman Walker's very energetic and distinctive personality, and is written with attractive raciness of language. Sometimes, indeed, he finds the English inadequate for his needs and is compelled to relapse into Scottish, as in the use of the word "kenspeckle," which, however, in a footnote he is good enough to explain means "having so singular an appearance as to be easily recognized." As would be expected in a work possessing these characteristics the allotment of space among the various divisions of the subject seems sometimes rather capricious. The most interesting and fullest chapter is that devoted to dermatitis of various causes, especially "dermatitis venenata" and "autophytica," subjects that have always attracted the author's attention in a high degree, and on which he has written in our columns. On the other hand, his description of the rashes and treatment of syphilis is, one might almost say, meagre, being limited to about seven pages only. To some extent he anticipates this criticism by prefacing his remarks by the statement that "special monographs or textbooks on surgery must be consulted" for a description of the disease as a whole; but, after all, syphilis is disease which attacks the skin at some time in every case, and the diagnosis of cutaneous syphilis from other conditions is one of the commonest and most important problems that can be presented, either to the dermatologist or the general practitioner. Moreover, there is one sentence in his few remarks on the treatment of this disease that really ought not to go unchallenged. Speaking of the treatment of the primary stage, he says: "Two or three doses (of 0.5 of a gram of salvarsan or one of its substitutes) given at intervals of ten days may sometimes be all the treatment that is required." Is not this a rather dangerous doctrine for so high an authority to promulgate? On the other hand, the chapter on lupus and tuberculosis of the skin is full and good. A timely word of warning is given against the overuse of *x* rays, which are too liable to be followed by carcinoma, and the author is more in favour than most dermatologists of using old tuberculin, but in rather an unusual form—namely, as an ointment rubbed into the lesions. On the other hand, he does not believe very much in excision, although there is a growing tendency to regard this as one of the best methods of dealing with lupus when practicable. Another point whereon Dr. Norman Walker differs from many of his colleagues is as regards the contagiousness of alopecia areata. He holds that there is sufficient evidence to justify the medical officer of a boarding school in refusing to allow a case of alopecia areata to remain there while being treated, although he would not exclude a case from a day school. The book is profusely illustrated, and there are a large number of coloured plates. We gladly admit that these are more successful than usual, and in many instances give a very good idea of the clinical appearances of the diseases illustrated. The book is convenient in size, easy to handle, and attractive to read, and may confidently be recommended to students, practitioners, and dermatologists.

The appearance of the second edition of Dr. HALDIN DAVIS'S book on *Skin Diseases in General Practice*[4] is proof of its merit. The method of approaching the subject is novel, and, if Sabouraud's *Dermatologie topographique* be excepted, is probably dissimilar from that of any other textbook on dermatology. What may perhaps be termed a regional classification has been adopted—that is, the eruptions are described as they affect certain areas of the body. The value of this arrangement is evident when we remember how regularly most skin diseases select certain areas. By this regional plan the practitioner is informed what diseases may be expected to affect a certain area. Did the author limit himself to a rigid system of this sort many of the advantages would be lost, but he has been careful to complete the symptomatology and thus present a scientific and intelligent account of disease. The indications for treatment are clear and thorough, and include all methods available to a well-equipped physician. The illustrations are many, some in colour, and these add completeness to the book. Thus the second edition comes up to the high standard of the first. The author is to be congratulated upon his admirable little treatise.

The fourth edition of *Diseases of the Skin*,[5] by Dr. R. L. SUTTON, is considerably larger than its predecessors; it now contains over 1100 pages. Although some new subjects have been added, such as nocardiosis, dermatitis dysmenorrhoeica, and neurotic excoriations, the general plan remains much the same, the text having been expanded here and there and revised where necessary. The author expressly states that foreign contributions have in this edition received fuller consideration, and this is borne out by examination of the well-selected bibliographies appended to the different sections. American dermatology occupies a high position, and the book under review is a worthy representative of the scientific medicine of the author's country. It is well illustrated and produced, and conforms to the high standard of the previous editions.

ZOOLOGY FOR STUDENTS.

IT may be conceded at once that Professor J. GRAHAM KERR'S *Zoology for Medical Students*[6] is an excellent book, written in a refreshingly original manner. The first difficulty to be overcome in writing an elementary textbook of zoology is to present the phenomena of life as an orderly sequence, so that facts appear to the student's mind to be in some way related. We believe that one or two of the recent textbooks, Professor Kerr's among them, have succeeded in making an orderly presentation, and that the earlier textbooks were not so successful. Zoology, unless taught with extreme care, is apt to be regarded by first and second year students as a series of isolated facts, and to be memorized in the same way that most of us memorized our Homer. The second great difficulty is to present fact in terms of function without recourse to knowledge which is not in the possession of the elementary student. Professor Kerr has successfully surmounted these difficulties, and will hold the student's attention all the more surely because groups have been illustrated very frequently by species of economic importance. We cannot call to mind any book written from the point of view of the pure zoologist in which such up-to-date knowledge of economic problems is displayed. No really important advance in our knowledge of the protozoa, worms, and insects harmful to man has been omitted; organisms which destroy crops and garden produce are not so generally mentioned.

Professor Kerr's facts, then, are well selected and well presented. We wish we could approve the general plan of his book. We understand from the preface that it represents lectures in zoology delivered to first-year medical students of Glasgow, and that the course in zoology lasts no more than ten weeks. The reviewer would have been a proud man if he had mastered the material in this book by the end of his second year. Its 475 pages of text seem to carry the reader a great deal farther than any pupil of average ability could go, and to introduce him to a vast number of types, admirably chosen we admit, which he will be unable to remember. The book contains too much, and the excess of matter is very unevenly distributed. The author is a teacher of experience, and his results are good; he has a perfect right to divide up his space as he sees fit; but we think he is mistaken in

[3] *An Introduction to Dermatology.* By Norman Walker, LL.D., M.D., F.R.C.P. Seventh edition. Edinburgh: W. Green and Sons, Ltd. 1922. (Demy 8vo, pp. xviii + 366; 84 plates, 80 figures. 21s. net.)

[4] *Skin Diseases in General Practice.* By H. Davis, M.B., B.Ch., B.A.Oxon., F.R.C.S.Eng., M.R.C.P. Second edition. Oxford Medical Publications. London: H. Frowde, and Hodder and Stoughton, 1921. (Demy 8vo, pp. 357; 73 figures, 8 plates. 25s. net.)

[5] *Diseases of the Skin.* By R. L. Sutton, M.D. Fourth edition, revised and enlarged. London: H. Kimpton. 1921. (Sup. roy. 8vo, pp. 1132; 969 figures, 11 plates. 50s. net.)

[6] *Zoology for Medical Students.* By Professor J. Graham Kerr. London: Macmillan and Co. 1921. (Demy 8vo, pp. x + 485; 199 figures. 25s. net.)

devoting eleven pages to sponges, forty-five to fishes (excluding Amphioxus and the Lampreys, which are treated fully), and only twelve to the Mammalia. There is no description of the anatomy of any particular animal; and the student who has no concrete knowledge of his rabbit can scarcely appreciate the lucidity with which the general characters of the mammalia are discussed. The omission of the anatomy of some chosen type is a doubly serious loss to the medical student, because in his second year he will presumably devote two months to a human arm or leg, and to following the branches of the radial artery, but he will not have handled the mammalian heart, and he may possibly have no knowledge of any heart higher than the frog's.

We should like to see the liver fluke banished from all elementary textbooks. Its anatomy is diabolical and its importance as a parasite of man very small; it has, we admit, great historical interest. In its place we would put Opisthorchis, a widely distributed fluke, commonly found in the cat, and of some importance as a parasite of man himself. This organism has a simple anatomy and a known life-history; it appears to be an ideal fluke for the student.

The figures in Professor Kerr's book are excellent. They are all good line drawings, well conceived, but admirably simple. The index is good, and the price not exorbitant.

THE HISTORY OF ELECTROTHERAPY.

AN essay on the *History of Electrotherapy and Diagnosis*,[7] by Dr. HECTOR A. COLWELL, assistant radiologist to King's College Hospital, is a scholarly account of the development of the use of electricity as a curative agent. As the author starts with the use of medicinal springs, which are believed to derive a part of their efficacy from the presence of radio-active substances, and treatment by static electricity as obtained from a living animal—namely, the torpedo fish—it is evident that the method can be traced back to far distant times. After this somewhat remote introduction the various steps in the development of our knowledge of electricity are traced, and amongst other things it is explained that Gilbert's work, *De Magneto*, published in 1600, laid the foundation of modern conceptions of electricity, and that he was the first to use the term "electric"; that the next great step forward was the making of a primitive electrical machine by Otto von Guericke about the year 1650; and that Jallabert, Professor of Physics at Geneva, must be regarded as the first scientific electro-therapeutist, since it was in 1747 that he attempted to produce muscular contractions by electricity with a view to the exercise of individual muscles, and thus preceded Duchenne by about a century, although it is undoubted that the foundation of modern electro-therapeutics is due to the latter.

In writing this book Dr. Colwell has adopted the plan of arranging his material in the order of priority, and thus it is easy to follow step by step the developments from remote ages down to the present time. He takes each authority in due order, quotes his work, indicates its influence on future developments, and in most cases inserts illustrations of the various writers and of their apparatus. It is evident that an immense amount of care and trouble has been taken to achieve completeness, and probably nowhere else could this vast amount of historical information be so easily obtained. The illustrations are a prominent feature, and all are of excellent technical quality. They consist mainly of portraits of the famous men of the past who have by their discoveries advanced electrical knowledge, and of plates showing the somewhat primitive electrical apparatus used by them in making these discoveries. The author can be congratulated on having written a book of absorbing interest, which is at once a valuable historical record and a book of reference, which should find a place on the shelves of all those who are interested in his subject.

THE TRIAL OF STEINIE MORRISON.

IN our issue of September 17th, 1921, page 447, we reviewed Mr. Roughead's book on the trial of Burke and Hare. The extraordinary crimes with which those criminals were charged were of considerable medical interest. Another volume of the same series of *Notable British Trials*[8] is now before us, dealing with the trial of Steinie Morrison for the brutal murder of Leon Beron in 1911. Although no important question of forensic medicine arose, and such medical evidence as was given had little influence on the result, this trial cannot fail to be of interest, not only on account of the mystery surrounding it, but still more because of the strange world of Jewish aliens in which the victim and the accused, and so many of the witnesses in the case, were shown to have lived.

The murder took place on Clapham Common, but the other scenes of the drama were enacted in Whitechapel in the modern ghetto, close to what was formerly called Petticoat Lane. The public at this time was more than usually interested in foreign Jews and anarchists on account of the recent murders of policemen in Houndsditch, and the Sidney Street siege, which had taken place just before this trial, and in the neighbourhood where nearly all the dramatis personae lived.

The victim was considered a capitalist. He wore a valuable gold watch and chain; but his income (derived from house rents) did not exceed ten shillings a week, and for the five years he had been in England he seems to have lived a life of complete idleness, spending most of his days from breakfast to closing time in a small Jewish coffee house, where his expenditure averaged not more than fifteen pence a day. The accused was a Russian Jew, a man of fine physique, and a convict on ticket-of-leave, who had more than once been convicted of burglary. He claimed to make a living by selling cheap jewellery, but there was no foundation for the claim except his own statement, and he failed to account satisfactorily for the money which was in his possession after the murder.

The alien witnesses—some of whom knew little or no English—appeared one and all to have very rudimentary ideas of truth, so that, as Mr. FLETCHER MOULTON, the editor of the book before us, remarks, it seemed that the court, on the Indian precedent, "should approach all evidence in a spirit that if verbal it is perjured, and if written forged, but above all should avoid being prejudiced against the merits of a party's case merely because that case is supported by false evidence." Most of the witnesses appeared to have had small visible means of subsistence. One of them described himself as "a gentleman of independent means," but those means were shown to be about fifteen shillings a week, and Rowton House was his place of residence.

The case for the Crown rested largely on the evidence of identification given by three cabmen who were alleged to have driven the prisoner to and from Clapham Common. Such evidence seems to us, as it probably did to the judge, of very doubtful value, when we consider that the witnesses only saw the man at night, for a very few minutes, and in no circumstances which would tend to direct particular attention to him, and, moreover, that his likeness had appeared in the daily papers before the identification took place.

Whether Steinie Morrison was guilty or not, it remains a mystery how the humdrum middle-aged Leon Beron was induced to take a long cab drive from Whitechapel to Clapham Common in the small hours of New Year's morning. The marks on the cheeks of the dead man and the recent events in the East End suggested to many people that the crime was political. There was, however, no evidence that Beron or Morrison had anything to do with any secret society or plot, and probably the murderer made these cuts or scratches with the intent to put the police on a false scent.

Mr. Justice Darling presided at the trial with conspicuous ability and fairness. In his summing up he almost suggested that, had it been permissible, a verdict of "Not proven" would have been appropriate. The jury, however, found the prisoner guilty of wilful murder. The conviction was upheld by the Court of Criminal Appeal. The Home Secretary at the time was that "man so various" (*testê* Lord Robert Cecil), Mr. Winston Churchill. One of his various selves had lately astonished and amused the civilized world by attempting to arrest two alien criminals in an East End slum with the help of two Horse Artillery guns and a company of Foot Guards. A more prosaic and common-sense compartment of his brain decided to commute the death sentence on Morrison to penal servitude for life. Considering all the circumstances, we cannot but approve of his action. During the ten years to which Morrison's life sentence extended he was troublesome and refractory; he starved himself for long periods, and died last year, probably weakened by his fasts, protesting his innocence to the last.

[7] *An Essay on the History of Electrotherapy and Diagnosis.* By Hector A. Colwell, M.B., L.R.C.P., M.R.C.S., D.P.H. London: William Heinemann (Medical Books), Ltd. 1922. (Demy 8vo, pp. xiii+180; 115 illustrations. 17s. 6d. net.)

[8] *The Trial of Steinie Morrison.* Edited by H. Fletcher Moulton, B.A. Cantab., of the Middle Temple, Barrister-at-law. Notable British Trials Series. London and Edinburgh: William Hodge and Co., Ltd. 1922. (Demy 8vo, pp. 282; 10 illustrations. 10s. 6d. net.)

NOTES ON BOOKS.

WE mentioned some time ago the *Quarterly Cumulative Index to Current Medical Literature*, founded upon the lists published in the *Journal of the American Medical Association*. It will be remembered that the April number of each year indexes journals issued in the first quarter of the year; the July number supplements this by indexes to journals published during the second quarter, and so on. We have now received the volume for the year 1921. It contains lists of new books; in one they are given under the names of the authors, alphabetically arranged; in the other they are classified according to subjects. This last is a very useful feature. There is also a list of documents issued by the Government of the United States.

The second edition of Professor ERBEN's textbook on the diagnosis of simulation of nervous symptoms[9] gives an account of the thousand and one aches, pains, disabilities, paralyses, and so forth that are put forward by the malingerer, and describes the lines on which a true diagnosis is to be reached without doing possible injustice to the patient owing to failure to detect the presence of organic diseases that may produce very similar symptoms. The subject-matter is well arranged and indexed; there appears to be no mention in the book of the simulation of blindness or deafness.

The second edition of the *Treatise on Fractures*,[10] by J. B. ROBERTS and J. A. KELLY, is somewhat enlarged by the introduction of additional illustrations and by the more detailed consideration of fractures in military and industrial practice. By the judicious use of radiographs and diagrams the authors have succeeded in giving in a most vivid manner a representation not only of the various forms of displacement met with in fractures, but also of the various methods by which fractures may be reduced and kept in good position. It is perhaps not too much to say that the book is one of the best textbooks on the subject, and should prove of the greatest use to the student and general practitioner.

[9] *Diagnose der Simulation nervöser Symptome auf Grund einer differentialdiagnostischen Bearbeitung der einzelnen Phänomene.* Von Prof. Dr. S. Erben. Zweite, vielfach ergänzte und erweiterte Auflage. Berlin and Vienna: Urban and Schwarzenberg. (Sup. roy. 8vo, pp. 270; 3 plates, 25 figures. M.56; bound, M.76.)

[10] *Treatise on Fractures.* By J. B. Roberts, A.M., M.D., F.A.C.S., and J. A. Kelly, A.M., M.D. Philadelphia and London: J. B. Lippincott Company. 1921. (Medium 8vo, pp. 765; 1081 illustrations. 42s. net.)

TEETH, HEALTH, AND THE HOME.

USING figures of a report made in 1912 by a school medical officer to his county council, Mr. E. C. Rhodes has endeavoured to assess statistically the relation between teeth and health in children. His methods are described and his results are detailed in a report published from the Galton Laboratory.* Professor Karl Pearson in a preface tells us that observations designed to secure better data are in progress, but that meanwhile the purpose of this first paper will have been fulfilled if it demonstrates that there is a wide field for valuable co-operation between an institute such as the Galton Laboratory and public bodies making a necessarily rapid survey of their child population but having little leisure for research.

That there is this wide field and the possibility of valuable co-operation is abundantly evident both from the nature of the questions raised and from the masterly manner in which Mr. Rhodes has dealt with figures that at first sight seemed to offer insuperable discrepancies. The observations of five different doctors had to be investigated, and it was found that their standards differed too much to render it possible to reduce them all to a common standard. Two pairs could so be reduced, and the means by which this was done afford a striking example of good statistical work and of impartiality in handling figures. As the large differences of standard between some of the doctors made the effective treatment of the whole material on a common basis impossible, the results were less reliable than they would otherwise have been, and the author seems fain to regard his work rather as showing what may be done by statistical methods, and the faults of the usual methods of collecting data, than as affording definite conclusions.

Mr. Rhodes has correlated the condition of the teeth with weight, nutrition, anaemia, condition of nose and throat, as factors giving an indication of the child's health; and with cleanliness of body and father's employment as factors giving an indication of home conditions. The figures were drawn from reports on boys and girls from 12 to 14 years of age, and the conclusion reached is that, on the whole, there is nowhere any very high degree of correlation between bad teeth and any other character examined. The author realizes that the data collected by the medical inspectors were not collected with a view to statistical inquiry, but pleads—and we heartily support him—that if they were their value from the standpoint of social hygiene would be raised out of all proportion to the greater trouble involved. Observers should work to a national standard—a point to which Mr. Rhodes suggests the Ministry of Health might well give its serious attention. Probably the setting up of such a standard will not be easy. We think, indeed, that Mr. Rhodes himself is at fault in his estimate of when a tooth is carious. He says (p. 42): "It is generally understood that before caries in a tooth can set in a preliminary rotting of the tooth must have followed the chemical changes which take place in the remnants of food lodged in the interstices and crevices of the tooth." By "preliminary rotting" we imagine he means rotting of the enamel, reserving the term "caries" for destruction of the dentine. To the dentist rotting of the enamel is caries as much as rotting of the dentine; and if the dentist's standard were adopted clinical experience suggests that so large a number of carious teeth would be found in all sorts and conditions of children that healthy and unhealthy would be judged equally carious. If, however, note were taken only of the second and third stages of decay—that is, caries of the dentine—abscess being of frequent occurrence in the third stage, then the clinician will be disposed to believe that a definite relation between caries and states of ill health (anaemia, loss of weight, malnutrition) would be found. It may also be suggested that since treatment of the teeth of school children resolves itself largely (and rightly so) into extraction, some account should be taken of teeth extracted for caries, or at least of those recently removed.

Viewing the matter from another standpoint—the influence of heredity—Mr. Rhodes suggests that it would be of interest to find out whether any association exists between the state of the parents' teeth and those of the children. His work shows that the degrees of association between the state as to caries of the teeth in children of 12 to 14 and their general health and home environment are but slight, being about 0.1 in the scale of the correlation coefficient, while the relationship between parent and child for many physical characters is 0.5. If, then, the dental association were found to be about 0.5, heredity might be claimed as an important factor in the occurrence of dental caries.

Mr. Rhodes also examined the association of weight with father's employment, of nutrition with weight, and of nutrition with anaemia. Of these, nutrition and weight are the only pair of factors discovered in the whole investigation that yield a high correlation coefficient, but he notes that the medical judgement of nutrition may itself have been based on weight, or at least on size and plumpness. The other two show a positive sign of no great intensity.

As has been already noted, on account of insufficiency of data the results of Mr. Rhodes's work cannot be accepted as conclusive, but if it serve the purpose of drawing attention to the need and value of standardization in the method of making and recording observations, his publication of his report will have been amply justified.

* *On the Relationship of Condition of the Teeth in Children to Factors of Health and Home Environment.* By E. C. Rhodes, B.A.Cantab. London: Cambridge University Press; H. K. Lewis and Co., Ltd.; and W. Wesley and Son. 1921. (Roy. 4to, pp. viii + 80; 4 diagrams. 9s. net.)

"CINEMATOGRAPHS AND VIVISECTORS": A FLANK ATTACK.

LAST week (March 28th) the *Times* published an article in large type, headed "Cinematographs and Vivisectors: How Pain can be Saved," and also a leading article which began by the statement that "The reflective layman hesitates before the dilemma raised by painful experiments on animals." The article suggested the use of cinema films for the recording of experiments on animals, especially for teaching. "In this matter," the article said, "the average layman is not prepared to follow those ardent physiologists who claim or have claimed that even painful experiments on living animals are a legitimate part of medical training. We may agree in theory that they add to the vividness of a lecture and impress on the memory details that diagrams and verbal descriptions

leave vague. But, so far as this country is concerned, it is now generally agreed that the end does not justify the means." The implication in both articles is quite clear; it is that painful experiments are unnecessarily performed, and are performed to illustrate lectures or demonstrations to medical students. That this impression is, in fact, conveyed is fully confirmed by a letter from the Duchess of Hamilton published in the *Times* of March 30th. "To all humane people," the Duchess says, "the thought of their sons and daughters being trained by lectures given over a tortured creature must be abhorrent—the one drawback to entering that most noble of professions, the art of healing." Now the implication is not true, and the *Times* ought to have known that it was not true, since, apart from other sources of information easily available, the truth can be ascertained by a short study of the Act. The position has been well explained by Professor Starling in a letter published in the *Times* of March 31st; he has placed a copy at our disposal, and we cannot do better than reproduce it in full:

To the Editor of the "Times."

SIR,—My attention has been called to an article entitled "Cinematographs and Vivisectors" in your issue of March 28th. Either ingeniously or ingenuously your correspondent contrives to convey the totally false impression that painful experiments may be and are used for purposes of instruction, and that these form an ordinary means of research for the advancement of physiological knowledge. This untruth, generally conveyed by implication rather than by direct statement, is a stock-in-trade of the professional lecturer of the antivivisection societies. May I be allowed here to state once again what are the facts?

No painful experiment is ever performed for the purpose of teaching or demonstration. The occasions on which any infliction of physical pain is necessary in an experiment for the advancement of physiological knowledge must be very rare. Indeed, at the present time I cannot think of any case in which such a contingency could not be avoided. During the last thirty-three years I have probably performed more so-called vivisections than any physiologist in this country. Never during these years have I inflicted pain on an animal. Our whole life is devoted to the study of the working of the body in order to diminish the sum total of human and animal suffering, and we acquire thereby a horror and detestation of pain, which are perhaps exaggerated, but are more real than the horror-fed sentimentalism of the average antivivisection audience.

With regard to cinematography as a method of teaching and research, this is a subject to which I have devoted much time and attention. Though its applicability is at present extremely limited, there is no doubt that the method will be very useful for the study and analysis of certain forms of movement. But it is not suited for the study or teaching of other functions of the body in which movement does not form the essential feature, so that it can never be used to the exclusion of actual experiments. Nor is this desirable. The great object of experimental demonstration is to put the student's knowledge into three dimensions and to correct the purely verbal and two-dimensional ideas he obtains from the study of books and pictures, or even films. Who among your readers would choose to be operated on for appendicitis by a surgeon whose only acquaintance with the operation had been derived from pictures and moving films?

With part of your correspondent's last sentence I am in complete agreement—namely, that on scientific grounds there is a large field for the further employment of the cinematograph. But it is not true that humanitarian grounds are also involved; humanity demands the fullest development of the experimental method for the advantage both of man and of the lower animals. Twenty thousand dogs are killed painlessly every year in the Dogs' Home, Battersea, and no one is benefited. A few hundred are killed equally painlessly in the physiological laboratories of this country with, as a result, the remarkable advance in physiological knowledge and in the control of disease which during the last thirty years have contributed so much to the benefit of man and the alleviation of suffering.

I must apologize for troubling you with this restatement of facts which must be well known to the vast majority of your readers.—I am, Sir, your obedient servant,

E. H. STARLING.

The Institute of Physiology,
University College, Gower Street, W.C.,
March 31st, 1922.

THE HOSPITAL POLICY OF THE LABOUR PARTY.

THE Labour party has prepared and issued a statement of its policy in regard to public hospitals.* The document is a pamphlet of twenty closely printed pages, concluding with a summary, which amounts in effect to a policy set out in the following thirteen recommendations:

1. The Labour party, recognizing the importance of health to the individual and national well-being, considers that all hospitals, both general and special, together with allied institutions, should be so organized under one authority as to form the foundation of a complete hospital system for the nation with sufficient accommodation to deal with all cases requiring institutional treatment.
2. It would establish treatment centres in outlying districts, local or cottage hospitals in the smaller towns, one or more county hospitals conveniently situated in each public health area, and national hospitals in London and Edinburgh and other university towns.
3. It would organize intimate co-operation between all the hospitals in each public health area and also between them and the nearest national hospital. It would make arrangements for easy and rapid transference of patients from one hospital to another according to the nature and requirements of the case.
4. It would organize intimate co-operation between the medical staffs of the various hospitals, and also between them and general practitioners, making the participation of the latter an essential feature of the hospital scheme.
5. It would provide the Health Authority with sufficient beds under their own control to deal with all patients for whom they have already undertaken the responsibility. (Patients suffering from tuberculosis or venereal diseases, children from the school clinics, mothers and infants from the maternity and child-welfare centres, and adults from the National Health Insurance Schemes.)
6. It would introduce the necessary legislation for the transference of the Poor Law Institutions from the Guardians of the Poor to the Local Health Authorities, thus placing at their disposal many beds now vacant. It would remodel these infirmaries, where necessary, equipping and conducting them in every way on the lines of the best existing general hospitals.
7. It would give voluntary hospitals the option of being taken over by the Health Authorities entirely, or of receiving grants from public funds conditional on efficiency. The Local Health Authority should be represented on the Boards of Management, and, though remaining on an entirely voluntary basis, such hospitals should work in co-operation with the public hospital.
8. It would relieve pressure on hospital beds in the cities and towns by acquiring convalescent homes in the country, into which should be admitted cases of threatened breakdown and patients no longer requiring hospital treatment, but not sufficiently recovered to return home.
9. It would establish free dental clinics connected with all hospitals, believing that supervision and treatment of the teeth are essential to health.
10. It would also arrange a scheme for visiting nurses and home helps in connexion with the hospital system, and lays special stress on the importance of the skilled supervision and after-care of patients who have recovered or partially recovered from an illness.
11. It would make all public hospitals free and open to everyone who would be likely to derive benefit from institutional treatment.
12. While doing this it would insist on the treatment offered being equal to that of the best voluntary hospitals in efficiency.
13. It would endeavour to forestall the necessity for so many hospital beds by a forward social policy generally, and in particular by establishing a "national minimum" in health and housing by abolishing all slums and undertaking a comprehensive housing scheme.

* *The Labour Movement and the Hospital Crisis.* A statement of policy with regard to hospitals. Published by the Trades Union Congress and the Labour Party, 32, Eccleston Square, London. Price 1s.

STRINGENT regulations regarding *x*-ray laboratories have been promulgated by the New York Board of Health. No person is to operate an *x*-ray laboratory, or to advertise that an *x*-ray laboratory is conducted, without a permit issued by the Board of Health; every *x*-ray laboratory must at all times be in charge of a qualified medical practitioner or other person whose experience and qualifications are satisfactory to the Health Department. Rules are also laid down for the safety of the operators and patients.

British Medical Journal.

SATURDAY, APRIL 8TH, 1922.

THE HOSPITAL POLICY OF THE LABOUR PARTY.

THE statement on policy with regard to hospitals which the Labour party has put out will be read with interest because it emanates from one of the important political parties, although opinions will differ as to its intrinsic merits. The policy it presents to the public is embodied in thirteen propositions, which are printed in full on the preceding page (570).

To these thirteen articles the reader will react according to his political sympathies. If he has a leaning to what is known as nationalization he will consider No. 1 a reasonable ideal, and will accept all that flows therefrom. If he has no such leaning he will still accept some of that proposition, at any rate to the extent of the assertion that "there should be sufficient accommodation to deal with all cases requiring institutional treatment." Articles 2, 3, 4, 8, and 10 are common ground for all those who have considered the necessities of modern medical work; statements to much the same effect have appeared in reports of the British Medical Association, in the Dawson Report, and in others less well known. The help of the Labour party in attaining the aim set out in the second part of No. 10 would be very welcome, but has not hitherto been given in any large measure. As to No. 13, the medical profession has been for fifty years insistent that steps should be taken to abolish old slums and to prevent the formation of new slums. Some will be disposed to ask for a definition of the phrase "comprehensive housing scheme"; even a passing glance at what has been going on during the last few years suggests that we are not altogether on the right lines, that either local means of communication must be improved to a degree hardly to be hoped, or that the policy of building two-story houses must be reviewed. On the whole it may be said that a cursory examination of the thirteen propositions as they stand suggests little material for criticism of them as a statement of their views on an important problem by the Labour party's advisers in hospital matters; that they have formulated their opinions is to their credit, and we are glad to know what these are, whether we agree with them or not.

So much can be said for the summary. If that were all the document might be received with thanks as an expression of opinion. But it is much more than that, and we scarcely remember reading a paper issued by a group of public men which contained more conflicting statements than this. It bears internal evidence that it is the handiwork of medical men—among them men engaged in hospital practice; it has few marks of labour—of the toiler in the field, the street or the workshop; it seems to be, in fact, less the expression of the opinion of the Labour party than of a small group of men of our own craft who are attached to that party. It might have been expected that these men would have made a simple and balanced statement of the conditions of hospital affairs which would have really helped those who look to them for guidance. We do not find this balance. We find instead statements almost effusive in praise of voluntary hospitals mixed with observations on the working of these same institutions which are at once depreciatory and misleading. The impartial reader of the report gets the impression that its compilers, with a set doctrine before their eyes, had come to curse certain "voluntary" efforts, but, like Balaam, had been constrained to bless, even though at times the impulse to curse has triumphed.

The document begins with the statement, "At the present time, with rare exceptions, general hospitals are supported by voluntary contributions," and the term "general hospital" is used throughout as a synonym for voluntary hospital. The writers nowhere give any indication of a realization of the fact that the large institutions established as Poor Law infirmaries, which contain a greater number of beds than the voluntary hospitals, are in reality large general hospitals. To this point we shall recur when we come to the figures upon which the case for expansion is based. The remainder of the opening paragraph is a strange commentary on the chief recommendation of the report—that the one and only salvation for the hospitals of the country is State control and management—for the paragraph recites a long list of conflicting or overlapping public authorities which are at present responsible for hospitals, and indeed control a large majority of the hospital beds in the country. If the State has not contrived in all these years, with the hitherto unlimited resources at its disposal, to unify its own system of statutory hospitals, what advantage to the sick person will arise from the absorption into this welter of State hospitals of the voluntary hospitals, which are admitted in this report to attain an ideal standard of efficiency, even though "each is administered by its own committee of management" and "is a law unto itself"? No exception need be taken to the succeeding paragraph. It deals with the work of general hospitals (meaning the voluntary hospitals), and it concludes with the statement in large type: "A general hospital to-day is indeed an excellent example of the necessity for 'team work' and of the benefits that may be derived therefrom, and the policy of the Labour movement is to secure similar benefits for all, both within and, as far as possible, without the walls of the hospitals." The paragraph on the "Necessity of Hospitals to a Healthy Nation," despite the ambiguity of its title, has some good points in it; and we accept whole-heartedly a concluding statement that "good equipment, good nursing, easy access to all varieties of specialist help, and the best possible hygienic surroundings are essential in serious cases of illness." The recommendation concerning the relations of hospitals and general practitioners has been the policy of the British Medical Association for many years, but there is some doubt as to the meaning of the phrase, "It is equally important that general practitioners should have a recognized call on hospital consultants and specialists for help with patients of all classes who are being treated in their own homes." In view of the later recommendation that hospital benefit should be free to all and paid for out of the rates, we are inclined to suspect that this is a demand for free benefit of consultant and specialist for all—again as a charge on the rates.

It seems incredible that the paragraph on "Present Hospital Accommodation" should have been issued by any body purporting to represent two great organizations of citizens. "For the realization of these ideals very ample hospital accommodation is essential. Accommodation can best be reckoned by the number of hospital beds available for the treatment of general diseases and accidents, and it has been found on investigation that at the present time there are absurdly few in comparison with the number required to deal with the present population of Great Britain. In the United Kingdom there are 52,194 beds. . . . Taking $2\frac{1}{2}$ beds per 1,000 of the population as the lowest possible minimum for the whole country, the number required for a population of 48 millions is 160,000, which shows a deficit of 107,906 beds." Those who penned this statement must have forgotten that there

are vastly more hospital beds in the country than those of the voluntary hospitals. Moreover, it is misleading to reckon "general hospital" beds as the sole criterion of accommodation. Fever hospital beds are just as much part of the necessary equipment, and should count in the total; any lack of these special beds, or others like to them, means an additional call on the "general hospital" beds. The figure given of 52,194 as the sole available accommodation in the country is absurd. In London alone there are more than this total. According to a return supplied by a public authority, London has over 52,700 beds, made up of fever hospitals, sanatoriums, Poor Law infirmaries, voluntary hospitals, and a number of smaller institutions. Of these, the Poor Law infirmaries provide 15,400, the voluntary hospitals coming next with 12,670. How much reliance can be placed on an argument or on a line of policy resting upon premisses such as the figures we have quoted?

We come now to what seems to us the worst feature of the document. The "Anomalies of the Voluntary System" are described in three pages with several subparagraphs. First, there is the correct statement that the voluntary hospitals were built and endowed by charity for the really necessitous poor, and that "they are now utilized to a great extent by the skilled artisan, and to an increasing extent by the lower middle and even the professional classes." So far as the second clause is true it is the inevitable result of the decrease in the indigent class and the increase in those who recognize the superior benefits of the voluntary hospitals and desire to partake of them. That this is technically a "hospital abuse" (unless the change be recognized in the conditions of admission of these new patients) is also true, and for that difficulty the British Medical Association has been at pains to indicate the remedy. It is further stated that an appointment on a voluntary hospital has a "monopoly value," so that "the number of appointments is jealously guarded, with the result that all big hospitals are badly understaffed." We should like to see the data on which this statement is based. Turning to the *Medical Directory*, we find that the London Hospital, with 922 beds, has a total active medical staff of no fewer than 85, of whom 27 are whole-time residents; this does not include clinical assistants, whose work is by no means negligible; nor does it include the retired "consultants" and the service given by students. Taking a small general hospital—the West London Hospital, with 160 beds—we see that it has an active staff of 42, of whom 7 are whole-time residents; from the enumeration clinical assistants and "consultants" are excluded. If this be understaffing, what are we to think of the State hospitals? The same directory gives the records of the Poor Law infirmaries: we find Hackney Union Infirmary has 910 beds and a staff of 5 qualified practitioners, whilst St. Giles, Camberwell, with 828 beds, has a staff of 6; the other infirmaries do not show so well as these. It is true that these are whole-time residents and that on occasions outside practitioners may be called into consultation; also that there are no out-patient departments; but what is that in comparison with the staffing of the voluntary hospitals? And let it be remembered there are no sinecures on the voluntary hospitals, all work and work hard in their turn. This alleged understaffing, it is said, leads to overcrowding of the out-patient departments, and is even asserted to be responsible for the long waiting lists for admission to beds. So far from this being so, the contrary is the truth—that the staff are so numerous that there is scarcely room enough for them to do their work; the popularity of these voluntary hospitals is becoming their undoing, for the demands made on them are far beyond all that was contemplated at their establishment.

The paragraph on "Nurses" opens with the very true remark that they are grossly underpaid. But it fails to mention the strenuous efforts made in recent years, with a large measure of success, to better their pay, to improve their housing accommodation, and to ensure them pensions, though much remains to be done in this last respect. The Labour party does not contain the only friends of the nurses. Under "Patients" it is alleged that they are unhappy in these hospitals, "for the nurses pay no regard to the mentality of the individual patient, and a general brisk cheerfulness takes the place of any real sympathy or understanding. All medical instructions are faithfully followed, but any needs or demands of the patients outside of these tend to be ignored, and a cut-and-dried unintelligent course of procedure results, against which a private patient would revolt at once." What would the shade of Florence Nightingale say to this reflection on the devotion of her disciples? Not less inaccurate is the statement: "Another cause of lack of confidence and a certain reluctance on the part of patients to enter a hospital is a widespread feeling that they may be made the subjects of experimental treatment." If this be correct, why those long waiting lists? Since it is false, the mere tittle-tattle of cranks, why give publicity to a statement that will increase the alleged fear to the detriment of the sufferers?

On the "Choice of Patients" there is criticism of "letters of recommendation." That the system is very liable to abuse will not be denied, and for many years past the Association has taken action to remedy any proved abuse. Comment is also made on the habit among large business firms of subscribing handsome sums with the expectation of treatment for their employees. But there are also statements which imply a grave kind of abuse on the part of hospital staffs. It is averred that when private practitioners known to members of the staffs send patients to hospitals, the consultant gives preferential treatment to them; and again, that patients are sent to receive private consultations with the members of the staffs at their homes in the expectation that the payment of the fee therefor will advance the patient's chances of admission to hospital. These are allegations which should have been substantiated or not made. If true to any material extent they indicate a scandalous abuse; but we do not believe they are true, or that members of hospital staffs have so low a standard of honour in the consideration of the claims of patients for hospital treatment.

The following concentrated libel upon the administration, the doctors, and the nurses may be quoted: "The system of 'patients' payments' for treatment in the general wards and out-patients' departments of the hospitals is also open to objection. There is a natural bias on the part of the management to admit those who can pay in preference to those who cannot, and, if the fee varies with the patient's means, to select those who pay most. . . . It is difficult for the administration and the nursing staff not to show some slight difference in favour of 'pay patients.'" And lastly, the chances of filling the hospital's coffers leads to the crowding of patients, so that "the quantity of the doctor's work becomes more important than the quality." Such statements are manifestly absurd, for the medical and nursing staffs rarely know on what terms individual patients are admitted: and the doctor does not lend himself to such exploitation, he has too much respect for his work.

According to the Labour party's programme, the remedy for all these alleged abuses is that "hospitals should certainly be free and open to all in need of such services as their general and special departments can and should provide. All things considered, Labour welcomes State and municipal grants towards voluntary hospitals pending the establishment of a complete

publicly supported and controlled hospitals service. It does so for the following reasons: "(1) The hospitals, as hospitals, are necessary for the public welfare, and therefore cannot be allowed to close their doors or their wards for lack of funds. (2) Public grants are the thin end of the wedge, leading to a public hospitals service. (3) As the State and municipal contributions increase, voluntary subscriptions are sure to grow less. (4) The less the voluntary subscriptions the more completely will the hospitals pass under the financial control of public authorities. With complete financial control the management must also pass into the hands of public authorities, till at last all hospitals will be owned, controlled and managed by the public bodies." This is at least a frank statement of an insidious policy, but "in vain is the net spread in the sight of the bird."

Under more general considerations appears the statement that "Undoubtedly in the past the voluntary hospitals have been of the greatest benefit to suffering humanity. . . . Of old, the benefits of hospital treatment were willingly offered and willingly received, and no harm was done; but in more recent times a different spirit has crept in, with the result that Sir Charles Loch, of the Charity Organization Society, once said he was forced to look upon the voluntary hospitals as the greatest pauperizing agency in the country." Yet in the same breath the writers of this document object to the payments by patients for their maintenance and treatment, either when they are ill in hospital or beforehand by means of contributory schemes; they would give it free through the rates; that appears to them to be a harmless and indeed beneficial process. They are insistent that the voluntary hospitals must be swallowed up in State hospitals at all costs, for they are afraid that these charities may live to be a thorn in the side of the unified State scheme that they envisage. "If the voluntary hospitals continue the system of patients' payments, and the public hospitals are free and open to all, which it is essential they should be, there will be a tendency for the former to drift into pay hospitals for the middle classes and the latter to be used by the necessitous poor only. There will then arise a service for the rich and a service for the poor, which is bad from every point of view, and will entail all the evils and odium of the present Poor Law institutions." Should the programme of the Labour party, as indicated in this document, be realized, the prognostications of the writers may prove only too true. As it has been in education so it will be in hospitals; for nothing will prevent the independent minded seeking their own means of treatment or of education. And it may come to pass that in this instance the "establishment" will be held in less esteem than the "free institutions."

The means for the support for all these schemes is to be obtained through the rates, with the sole exception of the great teaching hospitals, which are to be chargeable to the national exchequer. It is said, "In all these ways a complete and efficiently organized public hospitals service can be gradually built up. It can be done so gradually that the cost will hardly be felt." Probably by that time a state of anaesthesia will have come over the helpless ratepayer, or there will be no more of them left to feel. But what of the hospitals? We fear that their final state is aptly described in a phrase of this document: "Many hospitals exhausted by financial difficulties would most likely be only too pleased to give up the struggle and find rest under the public authority." That may prove only too true, for they may find rest in that stagnation which too often marks public control. No doubt the authors of this document mean well, but it is a pity their effort was not submitted to a Pride's purge before it was exposed to the light of public criticism.

TEMPORAL LOBE TUMOURS.

IT has been said that tumours of the temporal lobe are of all cerebral tumours the most difficult to diagnose, or rather to locate. The disturbances of function consequent on destruction of the cells and fibres of this lobe are productive of few clinical signs. Uncinate seizures, that is the peculiar sensations of taste and smell which Hughlings Jackson described so well, are perhaps the most characteristic localizing signs. These, however, are not very common. Any method of investigation which will allow of a more accurate localization of these tumours will be welcomed by all neurological physicians and surgeons.

In the current number of *Brain*[1] Harvey Cushing, in a masterly paper, calls attention to disturbances of the visual fields in these cases. In thirty-three instances out of a total of thirty-nine in which accurate perimetric charts were made, defects were discovered in the visual fields. The optic radiation as it courses backwards from the geniculate body sweeps round the outer side of the temporal horn of the lateral ventricle. The most ventral fibres in this geniculo-calcarine pathway take a wide excursion round the anterior pole of this horn of the ventricle. Adolf Meyer was amongst the first to demonstrate this, and in America the outward sweep of the fibres has been called "Meyer's loop." It will readily be recognized that any lesion invading the temporal lobe will not have to advance very far upon its course before it will involve this portion of the tract. Three drawings by Max Broedel illustrating the course of the fibres are printed in the paper; Cushing calls them "superb diagrams," but the reproductions are not altogether satisfactory.

The material on which Cushing's paper is based has been noted above, but it is worthy of remark that these cases form a part of his huge series of 663 verified intracranial tumours. Of this number 276 involved the cerebrum proper and 59 the temporal lobe. In 20 of these latter cases perimetry was impossible or the results untrustworthy, usually because of lack of sufficient co-operation on the part of the patient. In 25 cases the hemianopsia was incomplete, more or less quadrantic in character. In 8 other cases there was an homonymous hemianopsia; four times the macula was involved. A detailed account of 10 cases is given and will well repay study. The profusion of perimetric charts is of the greatest assistance to the reader, and Dr. Walker, who made them, is to be congratulated upon the results of the labour which he has expended upon them. He has used test objects of varying size, from 10.0 or more to 0.5 mm. diameter. It is interesting to note, as in Cases 5 and 9, that quadrantic defects only became obvious with the smaller test objects. Most of the cases showed diminution in the size of the scotoma after successful operation. Sometimes a complete homonymous hemianopsia shrank to a small quadrantic defect, whilst in cases in which the growth progressed unchecked its extension can be followed by an increasing defect in the fields.

In a general discussion on the symptomatology of temporal tumours Cushing states that only in 14 out of the total of 59 were typical gustatory or olfactory fits found. He calls attention, further, to visual hallucinations as characteristic of tumours in this situation, associated often with uncinate seizures. These hallucinations present actual pictures to the eye of the patient, usually in the blind field, and are often more or less of constant type for the same individual. They tend to be bizarre. Thus one saw "a little black woman engaged in cooking," another a black cat walking across the room, a third people doing strange things, such as

[1] "The field defects produced by temporal lobe lesions," by Harvey Cushing. *Brain*, vol. xliv, Part IV, p. 341.

a woman riding a horse with a sheet of music propped before her. No very definite auditory upset was discovered in these patients with tumours of the temporal lobe, although Heschl's gyrus must have been affected in some.

A contribution of this kind forces upon one the importance to the progress of science and to humanity of the grouping of cases in the hands of one man. No good can come from the dissipation of material which is so precious.

SCIENTIFIC SECTIONS AT THE GLASGOW ANNUAL MEETING.

The officers of the Section of Medicine at the forthcoming Annual Meeting of the British Medical Association at Glasgow have chosen the following subjects for discussion. First day: "The prognosis and treatment of chronic renal disease," opened by Professor Hugh Maclean. Second day: "Exophthalmic goitre," opened by Professor George R. Murray. Third day: "Degenerative diseases of the liver," opened by Sir Humphry D. Rolleston. In the Section of Ophthalmology it has been arranged on the first day to discuss the etiology of optic atrophy; the opening addresses will be given by Dr. C. O. Hawthorne, Mr. J. Hogarth Pringle, and Mr. H. Moss Traquair. On the second day a discussion on the clinical significance and treatment of heterophoria will be opened by Mr. A. S. Percival. The third day will be given up to witnessing clinical demonstrations at the Glasgow Eye Infirmary. The officers of the Section of Surgery have found that "The treatment of tuberculous glands," which had been arranged as the subject for discussion on the second day of the Section, had also been chosen by the Section of Diseases of Children. As the latter Section has already invited a number of speakers to introduce and take part in the discussion the Section of Surgery has resolved to withdraw the subject from its own discussions. The secretaries of the Section of Medicine will be glad to have the names of those who wish to take part in the discussions. The names of the officers of the Scientific Sections were printed in the Supplement of February 18th, at p. 39. The Sections will meet on Wednesday, Thursday, and Friday, July 26th, 27th, and 28th.

PREVENTIVE MEDICINE IN SOVIET RUSSIA.

We have received a pamphlet (in German) by Dr. Serge Bagotzky on the fight against tuberculosis in Soviet Russia. It is published by the Russian Red Cross in Switzerland, and though no doubt tendencious it contains interesting matter. We are told that before the revolution antituberculosis measures were few and chiefly the product of voluntary organizations, and that even as recently as 1913 only twenty-three sanatoriums with 319 beds existed in Russia. After the Bolshevik revolution all public health services were co-ordinated in a special Ministry section which deals with the problems of tuberculosis. Its organization embraces (1) control of all social measures dealing with tuberculosis; (2) the drafting of orders emanating from the central authority; (3) co-ordination of institutions concerned with tuberculosis; (4) erection of special institutions of both practical and scientific character; (5) propaganda. This supreme authority, which is both legislative and executive, is kept in touch with all strata of the population by a commission which appears to resemble what we should call a consultative council, upon which are medical and scientific members as well as representatives of workmen, teachers, and others. The State campaign is directed to improve the conditions of children and pregnant women and the general hygiene of the working classes. In the first place, efforts have been made to secure the feeding of children. A model central children's institute has been established in Moscow, and, it is said, the number of crèches, milk kitchens, and consultative stations has been largely increased. It is stated that 140,000 infants and 14,000 mothers were provided for by February, 1921. Various stringent laws protecting pregnant women have been enacted. Some of these have a certain grim picturesqueness. For instance, wives of workmen or of soldiers in the Red Army receive 0.7 metre of calico when a baby is born. From the eighth month of pregnancy a woman receives, in addition to the workman's ration, 15 lb. of bread, 1 lb. of butter, and 1 lb. of sugar monthly. Pregnant women need not line up in the queue for ration cards. Other measures do not differ from those familiar to us. Dr. Bagotzky summarizes the guiding principles of the campaign under the following five headings: (1) Complete State control (*Verstaatlichung*) of antituberculosis measures as of the whole field of medicine (*Medizinalwesen*); (2) assumption by the State of responsibility for child welfare; (3) assumption by the State of responsibility for the care of the sick and infirm, especially in the proletariat population; (4) centralization of all antituberculosis campaigning; (5) measures to obtain the active co-operation of all strata of the population, especially of the working classes, in organized antituberculosis measures. Perhaps the first reflection of an English reader of newspapers will be that there is some difference between what is enacted and what is effected even west of Soviet Russia, and he may recall Burke's apophthegm: "Let us be saved from too much wisdom of our own, and we shall do tolerably well." But the name of Burke should warn us that even a man of great genius and learning may form a very incomplete judgement of the nature and consequences of a social revolution, and should increase our regret that the materials for estimating the effects of such experiments in preventive medicine as those summarized in Dr. Bagotzky's pamphlet are so scanty and so adulterated with prejudice. It is probably correct to say that the Englishman of 1922 has no better means of learning the truth about Soviet Russia than had his ancestor of deciding between Burke and Paine.

ALCOHOL IN RELATION TO INDUSTRY.

In an address on alcohol in relation to industrial hygiene and efficiency, which Sir Thomas Oliver gave before the Royal Society of Arts on March 29th, he said that customs died hard, and yet, on the whole, it might be said that there was less heavy drinking among all classes to-day than there was a few decades ago. Factory work was run on a higher plane, and to-day the artisan began his day's work after having breakfasted at home and without being tempted to purchase stimulants on his way to the factory. Any inquiry into the relation of alcohol and industrial hygiene must have regard to the home conditions of the worker and the manner in which he spent his leisure hours. What merited consideration was rather the effect of the moderate use of alcohol during their leisure hours upon the producing capacity of working men than the premature development of disease and its disabling consequences. Professor Edward Mellanby had made a careful experimental investigation of the conditions which affect the absorption of alcohol, and he found that usually, but not always, the effects produced upon the nervous system were proportionate to the amount of alcohol circulating in the blood. The blood got rid of the alcohol by a process of oxidation, and it was while this was being accomplished that a certain amount of energy was liberated within the body which was utilizable. The larger the amount of alcohol present in the liquid consumed the more quickly was the maximum of alcoholic concentration in the blood reached and symptoms of intoxication produced. Yet there were certain idiosyncrasies—for instance, whisky was found to be more rapidly absorbed than stout even when the percentage of alcohol was the same in the liquid imbibed. It was Sir Lauder Brunton's opinion that alcohol in moderate doses increased the pulse rate, while the opposite view was expressed by Sir Victor Horsley and Sturge. In a sense all of them were right, for alcohol increased or depressed the pulse rate according to the circumstances prevailing at the time. Dodge and Benedict had found that after the ingestion of alcohol there was in almost every instance a relative acceleration of the pulse, meaning by relative acceleration a more rapid pulse than occurred at

a corresponding hour of normal days. They maintained that the increased pulse rate occurred in practically all persons as an effect of alcohol during mental and physical activities, and they inclined to the view that the chief effect was produced on the centres regulating simple muscular movements, rather than on the intellectual centres. Alcohol was certainly not assimilated and did not enter into the composition of the tissues, and on these terms could not be regarded as a food. If, however, it was capable in the body of supplying energy then it was a food, but of an indirect kind, for when alcohol had been absorbed only about 5 per cent. of it was eliminated from the body as such, the remaining 95 per cent. being retained in the body to undergo combustion and be used. It was generally admitted that the subdivision of labour and the multiplication of machinery had made present-day work monotonous, and in certain quarters there was a feeling that alcohol by paralysing the critical faculty blunted the senses to the influence of monotony. Sir Thomas Oliver, while admitting that monotonous work might be a cause of drinking, contended that the remedy was not to denounce alcohol solely but to widen the interests of the working classes by making work more congenial. So far as the man who used alcohol sparingly and in moderation was concerned, neither experience nor physiology showed that he was as a workman inferior to the abstainer. An experiment on a gigantic scale was being carried out by the United States, and the civilized world awaited with patience its results, for by many persons it was held that those nations have been the most progressive whose people had been protein consumers, largely of meat, and who had not denied themselves the luxury of alcohol. It could not be said of the Mohammedan races of Asia and of Eastern Europe, for example, that total abstinence had raised them to a higher plane of civilization or had conferred upon them those practical qualities so characteristic of the men of the West.

AUTO-SUGGESTION AND THE COUÉ METHOD.

M. COUÉ's present visit to this country is attracting more attention than any of those he has previously paid us. The way has been well prepared for him, partly by reverent enthusiasts and partly by irreverent persons who have succeeded in making his name known even to music-hall audiences. M. Coué, who is not, we believe, a member of the medical profession, holds a clinic in his house and garden at Nancy, and to some extent he is in the line of descent of the Nancy school of hypnotism; he diverges from it partly by not directly seeking to produce the hypnotic state, and partly by placing great reliance on what is called auto-suggestion. He does not refrain from resort to suggestion; on the contrary, he makes use of it freely, his favourite phrase in beginning to treat pain or disability being "ça passe," which he makes his patients repeat after him "so fast as to produce a sound like the whirring of a rapidly revolving machine." But he relies more upon inducing patients to think that they are better, or are getting better, or are going to get better. This state of mind he seeks to bring about by inducing the patient to repeat the formula, which is in French "Tous les jours, à tous points de vue, je vais de mieux en mieux." The English version M. Coué considers the most satisfactory is "Day by day, in every way, I'm getting better and better." In this way he seeks to influence the unconscious mind, his basic law being "Every idea which enters the conscious mind, if it is accepted by the unconscious, is transformed by it into a reality, and forms henceforth a permanent element in our life." The formula "day by day," etc., or "ça passe," which is to be translated "it's going," must be repeated very rapidly, so that the contrary suggestion that the pain is not going, or the asthma is not diminishing, or bad temper is not disappearing, will not obtrude itself. You repeat the phrase "It's going" very rapidly until you feel justified in concluding the series by exclaiming "going, going, gone!" All this sounds a little childish, but it at least fulfils the therapeutic maxim, *primum non nocere*. M. Coué will even use the method in cases of organic disease in an advanced stage, not rejecting the possibility of cure, but admitting its unlikelihood. Here, indeed, seems to lie the risk of the method, since persons with organic disease susceptible of cure by operation or otherwise may go on assuring their "unconscious" that "it's going" or "I'm getting better" until the condition becomes incurable. We are informed that M. Coué does not accept fees for his services, but that a pamphlet by him, entitled *Self-Mastery*, is for sale.[1]

THE SANITARY OFFICERS ORDER, 1922.

THE coming into force on April 1st of the Public Health (Officers) Act, 1921, has necessitated the issuing by the Minister of Health of a new Order with respect to the conditions of appointment and duties of medical officers of health and sanitary inspectors. Opportunity has been taken to revoke no less than five previous Orders. The new Order applies either wholly or in part to nearly all medical officers of health and sanitary inspectors. Part-time medical officers of health appointed or reappointed after April 1st last must be appointed for a specified term ending on the following March 31st, and will continue to hold office from year to year unless three months' notice, expiring on any March 31st, is given to terminate the appointment. A similar regulation applies to a whole-time sanitary inspector who is not a senior inspector and one-half of whose salary is payable by a county council or county borough council. A part-time medical officer of health may at any time, with the consent of the Minister of Health, be appointed by a local authority as a whole-time officer, in which case he obtains security of tenure under the Public Health (Officers) Act, 1921. The appointment of a medical officer of health as well as of a sanitary inspector is subject to the approval of the Minister, and every appointment before being made must be advertised. The new regulations with regard to the qualifications of those officials one-half of whose salary is paid out of Exchequer grants are of great importance. A medical officer of health must hold a diploma in sanitary science, public health, or State medicine, or he must have had not less than three years' previous experience of the duties of a medical officer of health. A sanitary inspector must hold the certificate of the Royal Sanitary Institute or of the Sanitary Inspectors' Examination Board. The Minister of Health may, however, dispense with this requirement, or indeed with any of the requirements of the Order, in any case in which it seems desirable to him to do so, provided he is satisfied that the interests of any person will not be prejudiced thereby. The salary paid to the medical officer and to the inspector must be approved by the Minister. The duties to be performed by the medical officer of health are set out much more concisely than in previous Orders, as a memorandum dealing more fully with the subject is in course of preparation. The seventeen paragraphs relating to the duties of a sanitary inspector in the 1910 Order have been reduced to twelve. The important additional duty is cast upon an inspector of supervising the scavenging of his district if so directed by the local authority. He may also be required to act as officer of the local authority under the Rats and Mice (Destruction) Act, 1919. A great deal of care has been bestowed on the drafting of the new Order, and it ought to meet with the approval of all those who desire to increase the usefulness of the public health service. Further particulars are given this week in the SUPPLEMENT.

MEAT INSPECTION.

ALTHOUGH the efficient inspection of meat supplies has long been recognized to be one of the most important duties of sanitary authorities, these bodies appear to have very different ideas as to the manner in which their obligations in this

[1] The quotations are from a small book, *The Practice of Auto-suggestion by the Method of Emile Coué*, by C. H. Brooks; for it M. Coué has written a foreword, in which he says that Mr. Brooks has skilfully seized on the essentials and put them forward in a simple and clear manner. The method is one which M. Coué says "everyone should follow—the sick to obtain healing, the healthy to prevent the coming of disease in the future." (London: George Allen and Unwin. 1922. 124 pp. Price 3s. 6d. net.)

respect should be discharged. In some localities the inspection is carried out by well-trained officials, and is thorough and complete; in others there is, for all practical purposes, no inspection at all; between these two extremes are a very large number of districts in which inspections are made by sanitary inspectors who have had no special training in the duties of meat inspection. At the end of 1921 a Departmental Committee reported to the Minister of Health as to the administrative measures necessary to secure adequate protection for the health of the people in connexion with the slaughter of animals and distribution of meat for human consumption. Some of the recommendations of the Committee can be carried out without recourse to further legislation, while others will require the sanction of Parliament; in the latter category is a proposal that there should be a system of marking of meat which has been duly inspected at the place of slaughter. Without waiting for increased statutory powers a great deal can be done by local authorities by way of increasing the efficiency of inspection. To this end the Minister of Health has issued a memorandum in which he sets out the system of inspection he recommends for adoption. The routine of this inspection is the minimum which would be followed by a well-trained inspector, and the details are sufficiently clearly expressed to enable a partially trained inspector to make a much more thorough inspection than he has perhaps been in the habit of doing. It is recommended that the entire carcass and organs shall be condemned when there is found either generalized tuberculosis or tuberculosis with emaciation, and a very clear statement is made as to the conditions which should assist in determining whether the disease is generalized. Where there are only localized lesions it is recommended that the parts containing the lesions and the contiguous parts shall be condemned. A list of thirty-three conditions is given, the existence of which should lead to the condemnation of the entire carcass. This official recommendation should serve to bring about greater uniformity in the action of meat inspectors than has hitherto prevailed. In a circular accompanying the memorandum the Minister of Health refers with approval to the recommendation of the departmental committee that local authorities in charge of markets or large abattoirs should be urged to give facilities for demonstrations which inspectors and candidates for meat inspection certificates might attend. He concurs also in the suggestion of the committee that there should be two grades of inspectors: one of "lay inspectors"—that is to say, sanitary inspectors holding a meat certificate, possessing sufficient knowledge of the work to enable them to recognize abnormalities, to decide and interpret a definite schedule of inspection, and to recognize those cases requiring more expert knowledge than they possess; the second grade would include expert inspectors, presumably qualified veterinary practitioners, who could assist the lay inspectors in time of difficulty, and in large areas would supervise their work.

CONGRESS OF RADIOLOGY AND PHYSIOTHERAPY.

A CONGRESS of radiology and physiotherapy was to have been held in London in April, 1921, and it was expected that many representatives of France and Belgium would take part in the proceedings. Owing to the threat at that time of a railway strike the congress was postponed. It will be held this year from June 7th to 10th. Like the congress which was to have taken place last year, it has been arranged by the Section of Electro-therapeutics of the Royal Society of Medicine and the British Association for the Advancement of Radiology and Physiotherapy. The president is Sir Humphry Rolleston, K.C.B., and the arrangements are being made by an executive committee, of which Sir Archibald Reid, K.B.E., is chairman, and Dr. Lynham secretary. There will be three sections—radiology, physiotherapy, and electrology. In the first-named section, of which Dr. C. Thurstan Holland of Liverpool is president, the first day (Wednesday, June 7th) will be given to a consideration of the stomach, the conditions of the normal stomach being discussed in the morning, and of the abnormal stomach in the afternoon. The morning discussion will be opened by Dr. Barclay of Manchester, Dr. Peremans of Antwerp, and Drs. Colombier and Tribout of Paris. The afternoon discussion will be opened by Dr. Béclère of Paris, Dr. Murdoch of Brussels, and Sir Archibald Reid. The other subject to be discussed by this section—namely, deep therapy by x rays and radium—will occupy the whole of Thursday and the morning of Friday, June 9th. The opening papers will be contributed by Dr. Ledoux-Lebard and Madame Laborde of Paris, Dr. Casman of Antwerp, Mr. Hayward Pinch, F.R.C.S., Director of the London Radium Institute, and Dr. Robert Knox. In the afternoon of June 9th demonstrations will be given at various hospitals, including one on intraperitoneal injection of oxygen at St. Bartholomew's Hospital. The Section of Electrology, which meets under the presidency of Dr. E. P. Cumberbatch, will give the morning of June 7th to the discussion of the action of the direct current (constant) on the tissues beneath the skin and mucous membrane; it will be introduced by Dr. Turrell of Oxford. On June 8th a discussion on the uses of electrical methods in the diagnosis and prognosis of paralysis will be opened by Dr. R. Woods of London and Dr. Bourguignon of Paris. On Friday, June 9th, Dr. Cumberbatch of London and Dr. Nobele of Ghent will introduce the subject of the physiological action and therapeutic uses of high-frequency currents. The first subject to be debated by the Section of Physiotherapy, which meets under the presidency of Dr. J. B. Mennell, will be cardiac disorders, introduced by Professor Bergonié of Bordeaux and Drs. Justina Wilson, Parsons Smith, and Hunt of London. On June 8th the re-education of muscles and the treatment of scoliosis will be discussed, and on Friday, June 9th, backache and referred pain. Applications for membership of the Congress should be addressed to the honorary treasurer, Dr. James Metcalfe, 123, Harley Street, and should be accompanied by the amount of the subscription if not already paid—namely, two guineas to British members and 40 francs to French and Belgian members. Communications with regard to discussions should be addressed to the honorary secretary of the section concerned—namely, radiology, Dr. N. S. Finzi, 107, Harley Street, W.; electrology, Dr. Murray Levick, 36, Harley Street, W.; and physiotherapy, Dr. P. Jenner Verrall, 1A, Portland Place, W.1, or Dr. L. D. Bailey, 42, Eaton Terrace, S.W.1. An exhibition of x-ray and electrical apparatus is being arranged by a committee, of which Dr. Ulysses Williams, 128, Harley Street, W., is honorary secretary.

THE LEUCOCYTIC COUNT IN INFANTS.

THAT considerable variations can occur in the numbers of leucocytes under definite physiological conditions in adults is appreciated by all haematologists, but the limits of such variation are fairly well agreed upon. It is otherwise in infants, especially nursing infants. In one and the same infant, even during a short space of time, relatively enormous differences can be found, so that any single figure given by an author as a typical normal count cannot be accepted. The possible fallacies of blood counts are not so generally recognized as they should be. The number of leucocytes in a first drop of blood may differ very widely from the numbers in succeeding drops; successive counts from the same drop, even in well-shaken pipettes, show such variations that the average of several must be taken; the smaller blood-counting chambers, such as the Thoma-Zeiss, give results far from accurate. These are only a few of the possible sources of fallacy, and when it comes to a differential count on slides—a slovenly practice too often adopted—the errors may be so magnified that many observers have doubted the utility of leucocytic counts unless the changes are very marked. But even with the most scrupulous technique, few will be inclined to draw conclusions from an enumeration of the white corpuscles in children. Numerous factors exercise an influence on the leucocytic equilibrium. Of these the influence of digestion would seem to be the most important. It has also been shown that the position of the patient, erect or recumbent has an effect on the numbers. The vasomotor reflexes to

local applications of heat or cold, the electric stimulation of nerves, pain, emotional states, and surrounding temperature provoke quite evident leucocytic variations. The influence of crying is specially held responsible for changes in children. All this goes to show that the leucocytic titre is essentially unstable and that according to the time and to the circumstances considerable differences may be encountered. Abel and Brenas[1] have sought to ascertain the variations in infants apart from the factors of digestion. They took samples of blood from children who had had no milk for over six hours, merely a drink of sugared water which, it had been previously ascertained, did not affect the leucocytic curve. Enumerations were made every twenty minutes for three hours. This was repeated after some days' interval. It was found that each individual showed a characteristic curve: some, a low average of leucocytes with small undulations, others a high average with larger and more sudden oscillations. In all cases the line was never horizontal. Between the maxima and minima mean differences of two or three thousand leucocytes were found; indeed, in some cases differences of over five and six thousand were obtained. The authors state that in the majority of their cases they could not attribute these variations to any particular factors.

PATHOLOGICAL AND BACTERIOLOGICAL LABORATORY ASSISTANTS' ASSOCIATION.

UNDER its new constitution the Association of Assistants in Pathological and Bacteriological Laboratories is now admitting as associate members laboratory assistants from laboratories other than those of pathology and bacteriology. The organization, which is not a trade union, was founded in 1912, its chief object being to improve the status of the laboratory assistant by endeavouring to raise the standard of technical knowledge through the medium of an educational programme, culminating in an examination and the granting of a certificate of proficiency in laboratory technique. The examinations are conducted by an examining council in co-operation with the Pathological Society of Great Britain and Ireland. To encourage the systematic teaching of the junior members, lectures and classes in the technique of pathology and bacteriology are conducted by members of the medical profession and of the Association throughout the winter session. An official organ, the *Laboratory Journal*, is issued to members quarterly; in addition to Association news it contains original articles and abstracts of technical interest to laboratory workers. There is also an employment bureau, as to which Mr. F. Norman, New Haw, Weybridge, will give information. From the first the founders had in mind the inclusion ultimately of all laboratory assistants in one federation, and the object of the present movement is to further the realization of that ambition. It is hoped that as willing workers are forthcoming there will spring from the associated membership sections embracing other branches of science following along the lines of the educational programme laid down by the parent organization. In the formation of the associated sections the parent association is prepared to afford assistance financially and by such other means as lie in its power. The Honorary Associate Secretary is Mr. F. C. Padley, 2, Eldon Place, Reading, to whom all applications for associate membership should be made; he will be pleased to furnish any further information.

POST-GRADUATE COURSES IN LONDON.

THE Fellowship of Medicine and Post-Graduate Medical Association has arranged a short course in general medicine in which members of the staff of various hospitals have consented to take part; it will begin on Monday, May 1st, and end on Saturday, May 13th. The course will include clinical lectures and demonstrations in pulmonary affections, disease of the heart, dermatology, mental disorders, children's diseases, and pathology, covering a full day's programme for the two weeks. Another course of six lecture-demonstrations on gastro-intestinal affections in children will be given at the Children's Clinic, Western General Dispensary, on Mondays and Thursdays, from May 15th to June 1st, at 5 p.m. Copies of the syllabus and other particulars regarding fees, etc., of both of these courses and of the *Bulletin* will be forwarded on application to the Secretary of the Fellowship of Medicine, 1, Wimpole Street, W.1. By the kindness of the Royal Society of Medicine the Fellowship is arranging to resume the lectures which were so successful in the earlier days, and during May, June, and July it is hoped to hold a lecture in the Society's House once a week at 5 p.m. Sir Arbuthnot Lane, Bt., Sir Humphry Rolleston, K.C.B., and others, have promised to contribute, and the full programme will be announced shortly. These lectures will be open to the profession generally. A post-graduate course, which fulfils the requirements of the regulations for the Diploma of Psychological Medicine in regard to instruction in nervous diseases, will be held at the National Hospital for the Paralysed and Epileptic, Queen Square, Bloomsbury, W.C.1, from May 15th to June 30th. Dr. J. G. Greenfield will deliver lectures on the pathology of the nervous system; Dr. Gordon Holmes, Dr. Hinds Howell, and Dr. Kinnier Wilson will lecture on the anatomy and physiology of the nervous system; Dr. W. J. Adie will demonstrate methods of examination of the nervous system; out-patient clinics will be held at the hospital on the afternoons of Mondays, Tuesdays, Thursdays, and Fridays; and clinical lectures and demonstrations will be held on Wednesday afternoons. An inclusive fee of ten guineas will be charged for the whole course, but any part of the course may be taken separately at a special fee. A special arrangement can be made for those unable to attend the whole course, and for details applications should be made to the dean of the medical school. Fees should be paid to the secretary of the hospital on entering for the course.

THE CINEMATOGRAPH AND VIVISECTION.

THE suggestion by Dr. Chalmers Mitchell that cinematography might to some extent replace animal experiments in the teaching of physiology has been seized upon by Mr. Stephen Coleridge and other antivivisection agitators to make an attack on experimental medicine. Other correspondents who wrote to the *Times* showed a complete ignorance of the nature of class demonstrations in physiology. The situation is clear enough and is admirably stated by Professor Starling in the letter which we reproduce at page 570. The law regarding class demonstrations is extremely plain and simple: the animal operated on must be fully under an anaesthetic during the whole experiment and must be killed before it recovers consciousness. That law is of course rigidly and scrupulously obeyed, and it is obvious that no experiment causing any pain whatever to an animal can be performed as a class demonstration. The correspondence that has occurred in the *Times* is a striking tribute to the skill with which the various antivivisection societies have disseminated falsehood and prejudice concerning animal experiments. It is very remarkable that so many fairly well informed persons should have been so misinformed as to the laws and regulations under which experiments upon living animals are performed. The exact value of the cinematograph as a means of instruction is a highly interesting question; it seems to hold out considerable possibilities in the teaching of many branches of medical and allied sciences, and has already been used a good deal for this purpose since the time of Marey, who was one of the first to photograph movement. Humanitarian questions are not, however, involved in this matter.

WE regret to announce the death of Dr. Francis D. Boyd, C.B., C.M.G., Moncrieff-Arnott Professor of Clinical Medicine in the University of Edinburgh and physician to the Royal Infirmary. We hope to publish a biographical notice in a subsequent issue.

WE understand that Lieut.-General Sir John Goodwin's period of office as Director-General Army Medical Services, which terminates on June 1st, 1922, has been extended for a year.

[1] *Comptes Rendus de la Société de Biologie* vol. lxxxvi, No. 7, 1922.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

National Insurance Bill.

THE bill introduced on March 29th by Sir Alfred Mond "to make further provision with respect to the cost of medical benefit and the expenses of the administration of National Insurance benefits" has been printed. Though the proposals are different from the recommendations of the Geddes Committee for the abolition of the Exchequer Grant for medical services, they had their origin in the Committee's report. As from January 1st, 1920, the capitation fee to insurance medical practitioners was increased to 11s. a year. This rate of payment was on January 1st, 1922, reduced to 9s. 6d., and it has been reckoned to leave a balance of about 2s. 6d. per insured person to be paid by the Treasury to the Insurance Committees. To free the Exchequer from this cost the Geddes Committee advised that the contribution from employers and employed should in each case be raised one halfpenny a week per insured person. It was stated that the actual amount of extra contribution required to balance the account would not be much more than a halfpenny a week, but it would have been difficult to apportion as between employer and employed; and so the suggestion was put forward by the Geddes Committee that there should be an equal extra charge of one halfpenny a week and some benefits added. Conference with the representatives of the approved societies, however, showed that they were willing to undertake the extra liability on terms which are embodied in this bill.

The first section of Clause I lays down that there shall be paid each year out of the Benefit Fund of every Approved Society: (*a*) To Insurance Committees in England on account of the cost and expenses of the administration of medical benefit a sum not exceeding 2s. 4½d. a year in respect of each insured person under Section VII of the Act of 1920; and (*b*) to the Minister of Health on account of the expenses of administration incurred by him a sum not exceeding 1½d. per week in respect of each of the total number of the members of the Society.

Section 2 provides that

"There shall be credited to each society out of moneys provided by Parliament in such manner and at such times as may be prescribed by regulations to be made by the National Health Insurance Joint Committee with the approval of the Treasury, such sum (to be calculated in such manner as the regulations may prescribe) as would by virtue of section three of the National Insurance Act, 1911, be payable out of moneys provided by Parliament if the sums paid by the society under this section, together with interest thereon from the date of payment at the rate prescribed for the purposes of paragraph (*c*) of subsection (1) of section fifty-six of the National Insurance Act, 1911, were, on the valuation of the society made next after the passing of this Act, applied for the purpose of additional benefits under the National Insurance Act, 1911."

This section is to come into operation as from April 1st of the present year, and subsection 1 of this section is to continue in force until December 31st, 1923.

Clause II of the bill would abolish the Women's Equalization Fund which was established under Section 2 of the Act of 1918, and this is deemed to have had effect as from January 1st of the present year. The section is to apply to Northern Ireland.

Clause III provides for the application of part of the sums unclaimed in stamps sales account towards cancellation of arrears of payment by insured persons. Hitherto the Central Fund has had the advantage of this uncalculated and uncertain profit. Under this clause the National Insurance Joint Committee is to be empowered to transfer sums to approved societies to be applied to prevent members who are in arrears from being or continuing to be suspended from benefit. The section is to continue in force until December 31st, 1922.

Clause IV sets forth that in the application of the Act to Scotland 2s. 9d. shall be substituted for 2s. 4½d. and 2½d. for 1½d. In the application of the Act to Wales the sum of 2s. 11½d. is to be substituted for 2s. 4½d., and the sum of 2d. is to be substituted for 1½d.

Ministry of Health, Insurance Department.—Dr. Farquharson asked the Minister of Health, on March 29th, by what method the salaries, wages, and allowances of the administrative staff, the general clerical staff, and the Insurance Department staff were apportioned for payment by the Exchequer or National Health Insurance Fund respectively. He inquired why only £130,600 could be recovered from the National Health Insurance Fund, seeing that the cost of the Insurance Department staff of the Ministry amounted to £159,267, and that of the general clerical staff to £329,650—a total of £488,917. He also invited the Minister to explain why the increase for 1922-23 of the amount recoverable from national health insurance funds amounted only to £22,945, having regard to the fact that the increased cost of the general medical staff and insurance department for the same year amounted to £137,612. Sir A. Mond replied that the whole of the salaries of the staff employed in the Insurance Department were paid out of money provided by Parliament, but the cost of the staff employed on the work of detailed administration of benefits carried out by the department was recovered from insurance funds and appropriated in aid of the vote. This work embraced the administration of the Deposit Contributors' Fund, the Navy and Army Insurance Fund, the Exempt Persons' Fund, and the Approved Societies' Officers' Guarantee Fund. The sum estimated to be recovered in 1922-23—namely, £130,600—was the estimated actual cost of this work for the year. The cost of the medical referee service, in so far as it was concerned with the administration of benefits, would also be recovered from insurance funds, and an appropriation-in-aid of £60,000 was estimated for on that account. The increase of the amount estimated to be recovered from insurance funds in 1922-23, as compared with 1921-22, was £77,300, and not £22,945 as stated by Dr. Farquharson. The cost of general clerical staff, to which reference had been made, was for the whole work of the Ministry, and not for the Insurance Department only.

The Insurance Card.—Dr. Macnamara, in moving the second reading of the Unemployment Insurance Bill, on March 29th, recalled that a joint committee appointed by the Minister of Health and himself was considering whether it was practicable to have a single card and a single set of stamps for health insurance and unemployment insurance instead of two cards and two sets of stamps as at present. Owing to the complication of the matter immediate action could not be expected. The Committee had reported that it would not be practicable to bring the single card into use next July.

Nurses and Unemployment Insurance.—Mr. Lyle, in the same debate, raised the case of hospital nurses; he said that a hospital which was advised that nurses were not really included under the old Act was taking a case into court. But the Minister had said they were, and most of them had paid their contributions. Nurses objected to being brought into the scheme, partly because there was little unemployment and they were not inclined to go to the exchanges and form up in queues and wait for doles. Nurses engaged in hospitals had no risk of being unemployed, yet they had to pay contributions. Dr. Macnamara said that nurses were not unanimous in the objection. The National Union of Trained Nurses, in a letter to him of November 8th, 1921, said that though they considered the existing arrangements for administering the Insurance Act for nurses totally unsuitable, yet they did not think that the grant of an exemption would be a wise departure. The nurses could administer the scheme themselves, but as that would involve an addition to the benefits from their own funds he recognized difficulty. He promised, however, to consider the question whether the collection of these contributions from the two sides was justified. In Grand Committee on the bill on April 4th an amendment to exclude hospital nurses was carried.

General Nursing Council.—Mr. T. Griffiths asked, on April 3rd, whether Sir Alfred Mond had informed the General Nursing Council that he was prepared to sanction any rule consistent with the Act which the Council thought necessary. Sir A. Mond replied that he had given no such pledge. He had intimated to the chairman of the Council that he would approve such rules consistent with the Act as the Council thought necessary to meet the serious difficulties which had arisen, and to speed up registration and secure an adequate electorate within the time allowed under the Act.

Salaries of Health Visitors.—Sir Alfred Mond, on April 3rd, informed Mr. Swan he had received representations that the salaries of some health visitors were inadequate. He agreed that these officers discharged duties of great value to the State, but subject to the necessary services being adequately performed he did not think that in present circumstances he ought to require local authorities to pay salaries in excess of what they themselves considered necessary.

Health Services Expenditure.—On March 30th Sir Alfred Mond said that a sum of £1,221,528, mentioned in a question by Dr. Farquharson, represented the estimated net cost in England for 1922-23, not only of the administration of local government services, but also of central insurance administration and certain other services. The corresponding figure in the 1914-15 estimates was £598,267. Included in the amount for 1922-23 was £464,500 for war bonus, an item for which no corresponding provision had to be made in 1914-15. The balance was accounted for by the expansion, necessitated by legislation since 1914-15, in the functions of the departments now comprised in the Ministry of Health, especially in the direction of housing, maternity and child welfare, tuberculosis, venereal diseases, and other services.

Pensions Appeal Statistics.—In reply to Major Kelley, on April 3rd, Major Tryon said that since their institution in November, 1919, Medical Appeal Boards had examined approximately 126,000 officers and men. In 55 per cent. of the cases the assessment had not been altered, in 33 per cent. it had been raised, and in 12 per cent. it had been lowered. He wished it to be understood that these figures referred to the Ministry's Medical Appeal Boards, and not to the Pensions Appeal Tribunals. In answer to Mr. Clynes, Mr. Chamberlain said his information was that the present arrangement for Pensions Appeal Tribunals met with the approval of the ex-service men's organizations. But if Mr. Clynes had any substantial complaint or constructive suggestion that he wished to bring forward, the Minister of Pensions would arrange for a conference with him at which the Lord Chancellor would be represented.

Ex-Service Men in Asylums.—Major Barnston, for Sir Alfred Mond, stated on March 30th that the number of ex-service men, classified as service patients, in country and borough mental hospitals in England and Wales on January 1st, 1922, was 4,991, as compared with 4,673 on January 1st, 1921. He gave particulars of the asylums in which the men are being treated, which show that they are distributed among 92 asylums situated in all parts of England and Wales.

Chemicals under the Safeguarding of Industries Act.—Dr. Murray asked, on April 3rd, whether the President of the Board of Trade was aware that after exhaustive hearings before the referee under Part I of the Safeguarding of Industries Act it was admitted by his department, manufacturers, merchants, and scientists that the term in the schedule "all other fine chemicals" could not be interpreted; and if so, what steps he proposed to take to rectify the matter. Mr. Baldwin said the doubts which had arisen related to only a limited number of cases, which were of a borderline character, and provision for any of these was made in the Act itself.

Asphyxiating Gas.—Mr. Morrison, on March 27th, asked whether in view of the agreement of Washington, under which the use in war of asphyxiating gas was prohibited, it was proposed to close down the experimental ground at Porton. Sir Robert Saunder answered in the negative. The Government would be failing in its duty if it did not take all possible steps which might be necessary to protect the forces of the Crown and the inhabitants of the country against gas attacks in time of war.

Small-pox in the Philippines.—Sir A. Mond, at the instance of Mr. Waterton, gave the following figures of small-pox cases and deaths in the Philippines:

	Cases.	Deaths.
1915	6,265 ...	216
1916	2,520 ...	554
1917	542 ...	255
1918	47,369 ...	16,447
1919	65,180 ...	44,408
1920	10,448 ...	4,386
1921	1,823 ...	790

The Consumption of Alcoholic Liquors.—Asked, on March 28th, by Mr. Hurd, the average consumption of beer and stout and spirits in 1921, compared with that in 1913, on the basis of alcoholic content, Sir Robert Horne said that he could not give the information in the form desired. The estimated quantities, measured in terms of proof spirit, per head of the population, retailed for consumption in the United Kingdom in the years ended December 31st, 1913, and 1921, were as follows: In 1913, 2.61 gallons of beer and stout, and 0.70 gallon of spirits; in 1921, 1.9 gallons of beer and stout, and 0.39 gallon of spirits.

Grading of Milk.—Viscountess Astor asked, on March 29th, whether the Minister of Health was aware that much milk described as nursery, invalids', guaranteed, etc., was merely milk of ordinary quality. Sir A. Mond said he knew this was the case, but had no power to prohibit the use of such descriptions. He hoped that in time it would be recognized that the only designation on which specific reliance could be placed were those authorized by the official grading scheme. He was aware that much of the milk sold in London and in some provincial towns was treated by a process of so-called "pasteurization," but he did not think that this milk was generally sold as raw milk. He had no power to require pasteurized milk to be sold as such, but the matter was under consideration in connexion with further legislation.

ROYAL MEDICAL BENEVOLENT FUND.

AT the meeting of the Committee held on March 14th 32 cases were considered and £453 voted to 28 applicants. The following is a summary of some of the cases considered:

Widow, aged 55, of L.S.A.Lond. who died in 1321, and three children left unprovided for. As applicant was a trained nurse prior to her marriage she is anxious to get a house on the South Coast and take children whose parents are abroad. She received £20 from the Masonic Lodge and at present is living with a sister who has to work for her own living. Voted £15 in three instalments.

Widow, aged 50, of L.R.C.P.Dubl. who died in 1919. Applicant has a house at the seaside and lets apartments during the summer months and in the winter she and her daughter take daily work. They realized £111 8s. 6d. last year and the rent and rates came to £65 per annum. The youngest daughter goes to school daily and lives at home. Voted £20 in four instalments.

Daughter, aged 53, of M.R.C.S.Eng. who died in 1907. Applicant is a trained nurse, but owing to ill health the work is too heavy for her; she is now receiving free training to become a health visitor and asks the Fund for a grant towards maintenance during training. Voted £26 in four instalments.

Daughter, aged 29, of L.S.A.Lond. who died in 1894. She received last year £107 from teaching. Her mother is in receipt of a grant from the Fund of £18 in twelve instalments. She wished to start a preparatory school. Voted £25 to the Royal Medical Benevolent Fund Guild, who have promised to supplement this by a similar amount if they consider the scheme satisfactory.

Subscriptions may be sent to the Honorary Treasurer, Sir Charters J. Symonds, K.B.E., C.B., F.R.C.S., at 11, Chandos Street, Cavendish Square, London, W.1. The Royal Medical Benevolent Fund Guild is overwhelmed, in these days of exorbitant prices for clothing and household necessaries, with applications for coats and skirts for ladies and girls holding secretarial posts, and suits for working boys. Gifts should be sent to the Secretary of the Guild, 43, Bolsover Street, W.1.

THE fourth Italian Congress of Radiology will take place at Bologna, from May 9th to 11th, in the Institut Rizzoli, with Professor Aristide Busi as president. Full particulars may be obtained from the secretary of the Congress, Dr. Alberto Possati, Villa Verde, Bologna.

Scotland.

POST-GRADUATE TEACHING IN GLASGOW.

UNDER the auspices of the Glasgow Post-Graduate Medical Association arrangements have now been completed for the provision of clinical teaching for medical practitioners throughout the year. Most of the hospitals, general and special, are taking part in the scheme, so that there is a very large amount of available clinical material. The classes and demonstrations are open to all qualified medical practitioners, and the teaching is conducted quite independently of the ordinary classes for students of medicine. The scheme for the summer course (May to October) is a very comprehensive one, including a wide range of clinical classes, but it also offers facilities in the form of clinical assistantships for those who may wish a more intensive study of one particular subject. The syllabus for these courses is now in the hands of the printer and will be available at an early date. Formerly during the winter (November to May) the only teaching facilities offered have been a series of weekly demonstrations, comprising medicine, surgery, and the various specialities. These will be continued during 1922–23, but in addition more systematized courses will be provided. The winter arrangements are not yet complete. The acting secretary for all these post-graduate courses is Dr. J. Norman Cruickshank, The University, Glasgow.

CHILD WELFARE INSTITUTE FOR SCOTLAND.

Progress seems at length to be assured in respect of the proposed Child Welfare Institute for Scotland. On July 30th, 1918, a conference was held in the City Chambers, Edinburgh, at which it was stated that the Carnegie United Kingdom Trust was prepared to establish in Edinburgh a Central Child Welfare Institute for Scotland, and the main functions of the institute were outlined; it was also stated that the Town Council of Edinburgh had heartily welcomed the Trust's proposal, and was of opinion that by the joint action of the local authorities of Scotland and others interested in the movement, with the co-operation of the Government, it should be possible to make arrangements for financing the institute. A provisional committee appointed at this conference has now issued a draft constitution for the organization of the institute; it recommends that the building formerly known as James Gillespie's School should be acquired from the Edinburgh Education Authority, and makes proposals for providing the institute with the income necessary to enable it to carry on its operations. The Scottish Board of Health has informed the City of Edinburgh that it is competent for a local authority to make payments to the institute, and that the Board is prepared to sanction such payments as part of a child welfare scheme under the Notification of Births (Extension) Act of 1915.

GLASGOW ROYAL CANCER HOSPITAL.

The annual report of the Glasgow Royal Cancer Hospital states that during the past year 205 patients had been treated in the hospital, and 40 in the out-patient department, while the district nurse had made 1,514 visits. The ordinary income amounted to £4,357, and the ordinary expenditure to £8,674, but the deficit was more than wiped out by extraordinary income in the form of legacies, etc. A new symmetrical *x*-ray instrument had been installed during the year, and important work was being carried on in the research department, under the auspices of the research committee, of which Professor R. Muir was convener. At the annual meeting of subscribers, held on March 23rd, Sir George T. Beatson said that the hospital was setting a good example of co-operation, as scarcely a week passed in which they did not admit patients from the larger city institutions, such as the Royal, Western, and Victoria Infirmaries. Regarding the problem of cancer itself, he said that surgery could and did effect cure in the early stages of the malady, but a great many cases did not come under the view of the surgeon until they were beyond his assistance and had become inoperable; these mainly were the cases which came to the Glasgow Cancer Hospital. It was too early to speak of the results of the new symmetrical *x*-ray apparatus, but he could say that they were already such as afforded encouragement. The policy of the directors was that their funds should be devoted first to the immediate relief and care and treatment of the patients, and the residue should be devoted to research, but in order to develop the latter branch the directors had decided that there

should be a special research fund. He did not know of any object to which a man with riches could devote his money with better advantage to the community than in helping Scotland to take her share in the work of cancer research.

GLASGOW MEDICAL LUNCH CLUB.

The weekly meeting of this club on March 30th took the form of a general guest day, when a number of members took the opportunity of bringing with them one or more guests. In the absence of the president, Dr. F. R. Martin, Dr. David McKail occupied the chair. Amongst the guests was Mr. Logie, president of the Glasgow Rotary Club, and after lunch he addressed the members. Thereafter some discussion took place as to the advisability of continuing the weekly meetings during the summer months. Meantime it was decided to hold weekly meetings during April, leaving the matter of summer meetings to be decided later.

ANDERSON COLLEGE OF MEDICINE, GLASGOW.

There was a vacancy in the chair of medicine in this college, owing to the resignation of Dr. John M. Cowan. This has now been filled by the appointment of Dr. Hugh Morton.

Correspondence.

RICKETS.

SIR,—In a communication made by Professor D. N. Paton to the Glasgow Medico-Chirurgical Society, and published in abstract in the BRITISH MEDICAL JOURNAL of March 4th (p. 351), there occurs the statement:

"Recently an attempt had been made to prove that it [that is, rickets] was caused by the absence of a hypothetical antirachitic factor probably identical with the fat-soluble A substance. The author of this contention had now abandoned this view, and had reverted to the long-accepted theory that various errors of diet predisposed to rickets."

As a general rule, I think it is inadvisable for an investigator to reply to misstatements or criticism by correspondence independently of his scientific publications; but the above sentences, occurring in the medical press, and therefore read almost exclusively by medical readers who cannot have the opportunity of keeping in close touch with the details of all medical research, are so misleading that they demand my attention. For I understand that, although not referred to by name, I am the "author of this contention."

What I specially wish to deny is the statement that I have put forward certain views on rickets and have now abandoned them. The sentences quoted above constitute, in my opinion, an example of both the *suggestio falsi* and the *suppressio veri*. They suggest that there has been a catastrophic break in my research on rickets involving the disproof of the main facts and the throwing over of ideas previously held and published by myself. This is an incorrect suggestion. They suppress the fact that even in my lectures on rickets in 1918 (*Lancet*, 1919, i, 407), although they only represented a summary of my work up to that time, I made it clear that rickets could not be regarded as a deficiency disease of the same nature as scurvy, for the accessory food factor which played an important part in the etiology of rickets was more influenced in its action by other elements of the diet and the environment than appeared to be the case with the antiscorbutic vitamin. In the second lecture of this publication I stated:

"For we know something of the part played by accessory food factors in such deficiency diseases as beri-beri and scurvy, and we know something of the part played by these substances in growth, but in the case of rickets we are apparently up against a combination of both deficiency disease and growth, rickets, in fact, being a disease accompanying growth."

Again, in the same lecture, I stated:

"Since, further, the dietetic problem is one of balance, foodstuffs which contain no antirachitic factor cannot be considered as neutral but as positively rickets-producing, for the more of them that is eaten the greater is the necessity for foods containing the factor. It is probable that bread is the worst offender."

Even the effect of exercise and its relation to the dietetic theory of rickets I mentioned in the first publication and discussed at greater length in the second publication (*Lancet*, 1920, i, 550), and the views on this point that I advanced then are substantially the same as I hold to-day. How near all these ideas approximate to my later views can be seen in my last and more complete publication on the subject of rickets—namely, Special Report Series, No. 61, Medical Research Council.

Research has only touched the edge of the subject, and the amazing amount of work on rickets now being started in America and elsewhere may soon necessitate modification and extension of my published views as to the process of events occurring in this disease. It is possible that the deductions made from my experimental work on rickets may prove absurd, but I am not convinced that this has yet happened, nor have I seen any reason to abandon my earlier published views.—I am, etc.,

The University, Sheffield, March 28th. EDWARD MELLANBY.

PROFESSIONAL SECRECY.

SIR,—At the Representative Meeting in 1921 a motion was carried:

> That the Association use all its power to support a member of the British Medical Association who refuses to divulge, without the patient's consent, information obtained in the exercise of his professional duties, except where it is already provided by Act of Parliament that he must do so.

On a technical point this did not become the policy of the Association, but presumably this or a similar motion will again come up in July, 1922, with a view to its being adopted as the policy of the Association. It would be well, therefore, to examine the historic precedent for this attitude.

Reference was made, at the Representative Meeting of 1921, to the provision affecting professional secrecy contained in the Hippocratic oath, but its purport was, I think, distorted. In this oath, taken by members of the Asclepiad guilds about to be initiated into the art of medicine, and contained in the works of Hippocrates, the relevant clause runs as follows: *ἃ δ' ἂν ἐν θεραπείῃ ἢ ἴδω ἢ ἀκούσω, ἢ καὶ ἄνευ θεραπείης κατὰ βίον ἀνθρώπων, ἃ μὴ χρή ποτε ἐκκαλέεσθαι ἔξω, σιγήσομαι, ἄῤῥητα ἡγεύμενος εἶναι τὰ τοιαῦτα* ("Whatever things I shall see or hear in the course of practice or apart from practice relating to human life, which are not fitting to be proclaimed outside the house, I shall keep to myself, considering such things to be not matters for conversation").

The whole phraseology of the original, and especially the use of the words *ἐκκαλέεσθαι* and *ἔξω*, indicates that unwarrantable gossip about a patient's private affairs is the thing forbidden. There is no prohibition, either specified or implied, against revealing anything required for the public welfare.

The *Sponsio Academica*, which at certain universities is signed by the graduate when he receives a degree in medicine, is even more definitely prohibitive of idle talk regarding professional matters and permissive of their revelation when there is due cause, in the words: *Spondeo . . . quae, denique inter medendum visa vel audita sileri conveniat, non sine gravi causa, vulgaturum* ("I promise . . . that I will not make public, without serious reason, those things, seen or heard in my practice, upon which it is fitting to be silent").

The doctrine that a witness in a court of law, because he happens to be a medical practitioner, should decide what things are admissible in evidence and what are not admissible would appear to be one of very recent origin. Surely few practitioners would ask for better guidance as to what should be divulged or not divulged than the opinion of a judge who, by his training and position, is specially skilled in the rules and proprieties of evidence.—I am, etc.,

JOHN D. COMRIE, M.D., F.R.C.P.,
Lecturer on History of Medicine in the University of Edinburgh.

Edinburgh, March 30th.

RUPTURE OF EXTENSOR LONGUS POLLICIS TENDON.

SIR,—The correspondence on the above in the JOURNAL would seem to indicate that this injury is not so rare as has hitherto been supposed.

In a pamphlet on *Colles's Fracture*,[1] published in 1905, I drew attention to this complication and cited the case of an old woman, aged about 70, who sustained a Colles's fracture and noticed when the splints were removed that she could not extend the distal phalanx of the thumb on the affected side. Four months after the accident I operated and found the tendon of the extensor secundi internodii pollicis (extensor longus pollicis) torn near the site of fracture. The distal portion of the tendon was united to the extensor primi internodii pollicis (extensor brevis pollicis) with a good functional

[1] *Colles's Fracture and other Fractures at the Lower End of the Radius and Ulna*. Belfast: Alex. Mayne and Boyd, 1905.

result. I attributed the rupture to trauma produced by the sharp edge of the lower fragment at the time of injury, and not, as Stapelmohr suggests in his cases, to necrosis and subsequent rupture of the tendon.

The pamphlet referred to was based on an account of seventy cases of fractures and disjunctions at the lower end of the radius and ulna read before the Ulster Medical Society during the session 1904–5, and published subsequently in the *Medical Press and Circular* (May 31st and June 7th, 1905).—I am, etc.,

Belfast, March 27th. ANDREW FULLERTON.

ROUTINE PELVIMETRY IN ANTE-NATAL CASES.

SIR,—I read Dr. Thorne Thorne's letter (March 25th, p. 498) on routine pelvimetry with appreciation; I also had thought that the value of such practice had impressed itself generally. At the same time I view with surprise Dr. Thorne Thorne's trust in the external conjugate. This I regard as the most fallacious of all the pelvic measurements. The fifth lumbar vertebra is frequently difficult to locate and the amount of soft parts covering it very variable.

I use the intercristal and interspinous measurements together with their ratio to determine whether I have to deal with (*a*) a normal pelvis, (*b*) a flattened pelvis, or (*c*) a generally contracted pelvis. More important still is the estimation of the internal or true conjugate. This is determined by subtracting 3/4 in. from the diagonal conjugate as found by the examining fingers in the vagina.

In extension I endeavour to watch the advent of any albuminuric complications by the routine monthly examination of the urine.—I am, etc.,

Woking, March 28th. R. STAFFORD FOSS, M.B., B.S.Lond.

THE TREATMENT OF INSOMNIA.

SIR,—May I suggest that Professor Rudolf, in his article on the treatment of insomnia (BRITISH MEDICAL JOURNAL, March 11th), omits a therapeutic method of some importance, and one especially useful in the cases which fall within the groups presented in his first table. I refer to the use of high-frequency currents.

For twenty years I have found this method highly efficient in cases where insomnia is associated with a hypersensitive nervous system, dependent on such conditions as neurasthenia, exhaustion, chronic toxaemia, or circulatory disturbances. I employ the currents either by the condenser couch or through the hand of the operator when it is used to apply massage particularly to the patient's back. Even when the currents are prescribed for reasons other than insomnia, it is frequent to learn from the patient that he is sleeping better, and in chronic cases of sleeplessness I know no more valuable remedial agency. In contrast to drug treatment, high-frequency currents produce no ill effects, and the sleep obtained is natural and refreshing.

In part no doubt by the removal of sleeplessness, and in part by their direct effects, the currents exercise a beneficial influence on the general tone of the nervous system, and depressing after-effects or other disadvantages are conspicuous by their absence. I trust this brief summary of my own experience may tempt some of my colleagues to put the issue to a practical test.—I am, etc.,

Glasgow, March 17th. W. F. SOMERVILLE, M.D.

INSANITY AND THE ENDOCRINE GLANDS.

SIR,—The leading article in your issue of March 18th on insanity and the reproductive glands, associated with the publication last week of Sir Frederick Mott's lecture on the reproductive organs in relation to mental disorders, induces me to make public certain conclusions to which I have come as a result of the treatment of mental disease with the endocrine glands.

No one can doubt the pathological findings of such an authority as Sir Frederick Mott, whose work in connexion with the pathology of mental disease is recognized all over the world. At the same time one cannot close one's eyes to the fact that the reproductive organs are non-essential to mental health, and that therefore they cannot be the entire cause of dementia praecox. Indeed, the author acknowledges this by recognizing the presence of an "inborn germinal defect" in the majority of these patients. There is, further, the absence, so far, of any great clinical evidence that the medicinal administration of the reproductive glands will cure this condition. Dr. Ford Robertson—another distinguished pathologist—has already published a list of cases supporting his hypothesis that dementia praecox is caused by microbic infection of the intestinal tract. He also holds, however, that there is an hereditary defect that makes this condition possible.

From the manner in which both manic-depressive insanity and the earlier cases of dementia praecox respond to treatment by thyroid extract, especially in those who have a psychopathic inheritance, I have formed the opinion that this inheritance is of a purely hypothyroidal nature. I hope to be able to publish some cases and arguments in support of this contention, and it is enough now to state that by judicious thyroidal treatment the illness of manic-depressive patients can be shortened to a marked extent, and, indeed, in some cases, aborted. In the earlier cases of dementia praecox a satisfactory result can also be obtained, and I hold that, if one could treat these patients with thyroid extract at a sufficiently early date, a very marked diminution of the population of our mental hospitals would become noticeable within a few years.

I should also like to point out that the inheritance in mental disease is not confined peculiarly to that abnormal state. It also covers many diseases that are known to have a certain familial relationship and at the same time an association with mental disease. In this connexion I would mention tuberculosis, the gouty diathesis, certain intestinal affections, and malignant disease. To me these and several other conditions primarily arise from a hypothyroidal state of the tissues upon which the more immediate cause of the particular disease is apt to flourish, and I believe that for a permanently successful result it is essential that this hypothyroidal state should be remedied.—I am, etc.,

St. Patrick's Hospital, Dublin, March 27th. H. R. C. RUTHERFORD, F.R.C.S.I.

COMPARATIVE PATHOLOGY.

SIR,—The perusal of your leader in the issue of March 25th, 1922, in which some of the recommendations contained in the Report of the Advisory Committee on Research into Diseases in Animals are reviewed, urges me to refer to the work of the University of Liverpool in this subject.

In 1896 a medical graduate of this university, H. E. Annett, M.D., D.P.H., was awarded an 1851 Exhibition Scholarship and engaged in research at London and Berlin during 1897–99 on "the relationship of diseases of animals to those of man." Subsequently, during his association with the Liverpool School of Tropical Medicine, diseases of animals in tropical and subtropical countries were investigated. In 1904 Dr. Annett was appointed Lecturer in Comparative Pathology in the University of Liverpool with special laboratory accommodation, and Superintendent of the Farm Station of the Institute of Comparative Pathology (affiliated with the university) at Runcorn. From this nucleus the School of Veterinary Science in the university evolved, and in this school in 1906 the Lectureship in Comparative Pathology was elevated to a chair. After five years, however, owing to the lack of permanent endowment, the chair lapsed.

During the last ten years Dr. Annett has continued, as opportunity permitted, to maintain interest in this subject at the Runcorn Research Laboratories, and is at present engaged in similar research work in the university.—I am, etc.,

R. E. KELLY,
Dean of the Faculty of Medicine.

University of Liverpool, April 3rd.

REDUCTION OF MEDICAL FEES.

SIR,—With interest and amazement increasing as I progressed, I read Dr. W. McD. Ellis's letter in the BRITISH MEDICAL JOURNAL of April 1st (p. 538). Possibly it was his realization that to-day would be Saturday, April 1st, and that the majority of us would be reading the BRITISH MEDICAL JOURNAL with our breakfasts this morning, that explains the presence of his letter. I cannot bring myself to believe that it is intended to be taken seriously.

When the cost of living began to rise I think it rose for the doctor as well as for his patients, with this difference, however—the average patient got a war bonus or increased wage, or both, to compensate him much earlier than his doctor. When the doctor did get his belated increased fee it was only a 50 per cent. increase, and, as Dr. Ellis says, the cost of living was at high-water mark. At that time I think I am right in saying that a £1 note was worth about a pre-war 8s. 6d., so that a 50 per cent. increase hardly squared things for us. The cost of living appears to me to be still well above 50 per

cent. more than in pre-war days, so why should the profession decrease their fees? When the cost of living sinks below that mark—50 per cent. above the pre-war level—we might pause to consider Dr. Ellis's suggestion, but even then should we decrease? Were some doctors' fees in pre-war days just recompense for their services?

A certain standard of efficiency is demanded of us by the community, certain expenses have to be met in attaining that standard, and further expenses in obtaining a practice. From a business point of view one wants a fair wage for one's services, plus a fair return on the capital expended and invested.

I believe that to this standard of efficiency little additions are made on frequent occasions, such as optional subjects becoming compulsory; a minimum of four increasing to five years of study after registering as a medical student; the abolition of unqualified assistants, etc.

Have fees charged kept pace with these demands upon us? How long is it since doctors increased their fees previous to this occasion under discussion? I do not know, but I think I recollect reading that medical men charged half-crown and guinea fees during the reign of Queen Anne. In any case those two figures have had a pretty long reign, and the cost of living must have undergone several increases since they were instituted, apart from the possibility of medical practitioners increasing 50 per cent. in efficiency during the last couple of generations. Yet many a doctor to-day receives 2s. 6d. per visit and 3s. 6d. per bottle of medicine; surely that is little enough.

Then, again, there are the ex-service men. Some had practices which they sold for a song, and they joined up. Others had taken out extra classes and extra degrees, hoping to specialize, but instead they joined up. Now both these are trying to settle into practice, wishing that some of this money which it worried them so little to sacrifice had not slipped away. As it is their gratuities, together with gifts and loans from parents, have been recently invested in practices whose prices had become inflated much above their 1914–17 values. At that period many a man had no choice but to sell or leave his practice, to the advantage of those unfit for service. Thus they now lose capital a second time.

I wonder how many of these subtracted the amount of the panel cheque just arrived from that for last quarter, thinking "Yet another injustice to the ex-service man, and the excuse given for it was 'patriotic reasons.'" Dr. Arthur T. Todd-White's letter in the SUPPLEMENT of this same date will harmonize better with their sentiments than Dr. Ellis's letter.

We ex-service men have learnt to suffer much in silence, but one at least cannot stand by whilst a medical practitioner takes the initiative in dealing the profession another blow which hits us hardest of all its members. Probably Dr. Ellis is well under way with life's race, and therefore has lost sight of us who are taking our places at the start, so full of indignation over our present handicap to be in no mood for considering a further increase of it.—I am, etc.,

Standish, Lancs, April 1st. T. WILSON SHAW.

SIR,—While the reduction of medical fees that Dr. Ellis recommends may be advisable in better-class practices, I consider it decidedly inadvisable in the case of the private practice of a panel practitioner.

A few months ago the maintenance of our private fees at their present level was assured us and advanced as an inducement to us to submit to the recent reduction in the panel capitation fee. The relatively higher remuneration of private practice I consider to be most valuable both as a stimulus to sound careful work and as a discouragement for any man to develop his panel, with all the degradation and perfunctory drudgery it entails, at the expense of his private work, in which competition, if fair, is so healthy and stimulating.

The effect on the lay public also will be equally beneficial and salutary.—I am, etc.,

Dukinfield, April 2nd. JAMES BRIERLEY, M.D.

SIR,—In your issue of April 1st one correspondent takes the view that every medical man is worth £2,000 per annum—he does not say whether he means net or gross. Another suggests that the Association give a lead in the way of reducing fees—as some time since they advised their being raised by 50 per cent. I feel gratified to be told I am worth so much, and only wish I could make it—even gross at 4s. for surgery advice and 4s., 5s., up to 7s. 6d. and 10s. 6d. per visit—the last figure a rarity. I hope the Association will make no move in the matter. It is a question of supply and demand largely. The Government have docked from those who have a panel more than they had reason to, never having given them their full due.

I have been twenty-eight years in practice very nearly. If patients are not disposed to pay me more than 2s. 6d. or 3s. 6d. they must go elsewhere, and I shall be left more leisure—and little the poorer. If a young opponent thinks he can gather at my expense by the process known as "undercutting," well, he must do it. But I don't see why the British Medical Association should help him, nor why they should give the public a thick stick to beat me with.

As regards the alleged "unpopularity" of doctors I have not yet experienced it, or I may be too innocent to see it. I do not work in an industrial district, however, I must admit. I think the lead of the Association as to raising fees by 50 per cent. was adopted by few to the full extent or anything like it.—I am, etc.,

April 3rd. M.D.

VENEREAL DISEASE.

SIR,—Mr. E. B. Turner and Mr. Charles Gibbs declare that, as far as self-disinfection is concerned, they confess themselves "unimpressed" by the data so far published. They think that we should have collected the figures ourselves, and that "an independent expert in statistics" would have reached different conclusions. But how could we collect the figures, and why would statistics collected by us be especially impressive? The statistics which they find unimpressive were collected in the ordinary course of duty by naval and military medical officers. In each case the officer had so many men (an army corps, or the troops in a couple of English counties, or a regiment, or a group of barracks, or a ship) in charge; so many cases of venereal disease occurred among them during such and such a length of time; therefore the venereal rate per 1000 per annum was such and such. These are the figures which, according to the thinking of Mr. Turner and Mr. Gibbs, call for "an independent expert in statistics." What scope is there here for a statistician, however "expert"?

For two years the troops in Reid's medical charge stayed with him on the average for many months—on garrison duty or undergoing training. Then his barracks, which had emptied somewhat during the German offensive, were swamped with troops from overseas—highly infected birds of passage. But his figures do not stand alone. Disease contracted by the instructed men sank in the whole area to the vanishing point.

When confronted with figures, all of which can be tested from official records, Mr. Turner and Mr. Gibbs are "not impressed"; but surely the important point is that a knowledge that disinfectants will disinfect has been sown broadcast over the empire. The work is done, and will certainly prevail against all obstacles, governmental or otherwise.—We are, etc.,

H. BRYAN DONKIN,
London, March 29th. G. ARCHDALL REID.

THE CONFERENCE OF STAFFS OF HOSPITALS.

SIR,—Dr. Garratt of Chichester appeals to me for help in a difficulty. He thinks there is an inconsistency between two of the leading recommendations of the Council on the organization of voluntary hospitals, both of which were passed by large majorities at the recent conference of staffs of voluntary hospitals. He suggests that the approval of the recommendation for the transfer of a percentage of the payments of patients of these hospitals to the staff fund (par. 33) is incompatible with the approval of the definition which claims that the essence of the voluntary hospital system is its independent and voluntary management (par. 7). He asks, How can we claim recompense for our own services and deny the same to the management? I have re-read the report and I fail to find any statement or implication that the management should be paid or unpaid. Dr. Garratt's difficulty arises from his attaching to the word "voluntary" the meaning *unpaid*, a meaning it does not necessarily bear. It would be easy to cite a dozen conditions in which voluntary services are paid and unpaid. Has Dr. Garratt already forgotten that unique voluntary effort in which hundreds of thousands of our countrymen flocked to the national standards? Did he deny these men their proud claim to be volunteers and not conscripts because they received pay and allowances according to scale? Probably in the generosity of his heart he would have wished for them double the pay of the conscript.

We define the voluntary hospital system as independent and voluntary, not in relation to money but to control. The State hospitals are established and maintained under the authority of Acts of Parliament; their provision is obligatory, and the local and central authorities have powers of control. Voluntary hospitals are free, both from statutory obligation and control. The point was clearly in the mind of the Conference; indeed, one representative urged that there should be added to the definition words declaring this freedom; but the suggestion was rejected, for there are other forms of control that may threaten the independence of the voluntary hospitals even more than State or municipality.—I am, etc.,

London, W., March 31st. N. Bishop Harman.

REMEDIAL EXERCISES IN SCOLIOSIS.

Sir,—In the report of the proceedings of the Orthopaedic Section of the Royal Society of Medicine, appearing in the British Medical Journal of March 18th on the above subject, I looked in vain for reference by any of the speakers to Professor Sherrington's recent epoch-making discoveries on the "postural contraction of muscles." In such a static condition as scoliosis these discoveries most particularly apply; in fact, they revolutionize the old-fashioned exercises referred to by most of the speakers.

The absence of any reference to this physiological discovery anent muscle function is proof positive that a revision of the present methods of remedial exercise treatment is urgently needed.—I am, etc.,

Liverpool, March 23rd. W. H. Broad.

Obituary.

W. AINSLIE HOLLIS, M.D., F.R.C.P.,

Consulting Physician to the Royal Sussex County Hospital, Brighton; late President of the British Medical Association.

We announced last week with much regret the sudden death, at Hove on March 26th, of Dr. W. Ainslie Hollis, who was President of the British Medical Association when it met at Brighton in 1913. Although in his 83rd year, Dr. Hollis seemed in good health, and in spite of the cold weather had taken his usual tricycle ride on the previous day.

William Ainslie Hollis was born in 1839 at Lewisham, where his father, Dr. W. M. Hollis, had a large and arduous practice. From Brighton College he went to Trinity College, Cambridge, and graduated B.A. in the Classical Tripos, becoming M.A. in 1866. His medical education was received at St. Bartholomew's Hospital, where he held in turn the offices of house-physician (being one of the first to be appointed after the abolition of the post of hospital apothecary), medical registrar, and casualty physician. His colleagues among the house-physicians first appointed in 1867 included Dr. Philip Hensley, afterwards physician to the hospital, and also a Cambridge man. Hollis graduated M.B. in 1867 and M.D. in 1871. In accordance with the wish of his father, who did not think him robust enough for general practice, he decided to become a physician, though Sir George Humphry, with whom he worked for a short time in Cambridge, had tried to persuade him to take up surgery. He was a candidate for the post of assistant physician to St. Bartholomew's Hospital when Sir Lauder Brunton was elected. At that time he was investigating the nature of inflammation and the causation of atheroma and arteritis, and is said to have been one of the first to use a clinical thermometer in the wards of St. Bartholomew's. The short clinical thermometer, it will be remembered, was introduced by Sir Clifford Allbutt in 1868.

In 1874 Hollis went to Brighton, where he was soon elected assistant physician to the Royal Sussex County Hospital. He subsequently became full physician, and finally, on his retirement from the active staff, honorary consulting physician. He was elected a Fellow of the Royal College of Physicians of London in 1876. His private practice was never large, his work tending more towards literary and scientific subjects. He became President of the Brighton and Sussex Medico-Chirurgical Society and of the Brighton Natural History and Philosophical Society, and his fine collection of British macrolepidoptera was presented by him to the Hove Public Library.

Dr. Ainslie Hollis was a loyal and active member of the British Medical Association, and those who attended the Annual Meeting at Brighton nine years ago will remember that its great success was largely due to the efforts of the President, who, although at that time getting on in years, worked hard for months beforehand to ensure this result. He attended the opening meeting of the Representative Body, and all through manifested the greatest interest and activity in all the arrangements made to ensure the instruction and entertainment of the visitors. At the conclusion of the meeting he accepted an invitation from the Eastbourne Division to join a series of excursions in that town, which occupied the whole of the day, and responded to the toast of the British Medical Association at the lunch given by the Association. His Presidential Address on "The medical history of Brighton" was a scholarly production worthy of the high office he held; it was printed in full in the British Medical Journal in August, 1913. During the week he gave a series of luncheons to the medical visitors from all parts of the country, and his numerous guests bore witness to his hospitality. He was present at all kinds of functions and discussions during the ten days of the Annual Meeting, and entered fully and heartily into the social, scientific, and business sides of the meeting. At the reception given by the President and the Division at the Hove Town Hall, where he was assisted by Mrs. and Miss Hollis, Dr. Hollis welcomed the many guests individually. Altogether he helped to make the Annual Meeting of 1913 a great and remembered success. As a token of the respect and esteem in which he was held by his colleagues he was presented just before the delivery of his Presidential Address with a replica in gold of the President's badge of office.

Dr. Hollis took his part in municipal work. In 1890 he was elected a member of the Hove Commissioners, on which body he served for eight years. Later, when the Borough of Hove was incorporated, he was elected a member of the Town Council, and served on the Technical Instruction and Library Committees; in the work of the latter he was particularly interested. He was a good classical scholar; he read Latin as fluently as English, and could translate Spanish and Italian with ease, though he had never learnt those languages. His commentary for the M.R.C.P. diploma was written in Latin. His published books and papers include "Among the Tetchas in Central Asia" (a work of fiction much on the lines of Rider Haggard's "She," which was published soon afterwards), "How to avoid a common cold," and also many papers in the *British Medical Journal*, the *Lancet*, the *Journal of Anatomy and Physiology*, the *Journal of Pathology and Bacteriology*, and elsewhere, including contributions on "The joint of a fowl's tongue and its vocal function," "Disseminated fibrosis of the kidney," and "The duration of life in infective endocarditis." Among his hobbies were cactus growing, photography, and cycling. The versatility of his character is further shown by the fact that he drew the plans and superintended the building of the house he dwelt in during the last ten years of his life.

The following notes on matters connected with his father's work, by his son, Dr. S. Hollis, may be added to complete the memoir:

A point of some interest is the fact that in 1852 my father and grandfather were in Paris. My father told me how the clotted blood remained on the mould round the trees in the streets after Napoleon III's friends carried out the *coup d'état* by which President Buonaparte became Emperor. When a student (students visited patients then) he sat up at night with a woman suffering from haemorrhagic small-pox during the epidemic in London, her appearance being such that no one would go near her except one old woman who had had small-pox and who was off duty that night. After being house-physician at Bart.'s he held the same post at Victoria Park Hospital, and an epidemic of cholera visited London during that period. Soon after this he advanced the suggestion that inflammation (including sequelae such as fibrosis) was a local condition independent of the central nervous system, and showed that it could occur in a severed limb, such as a lizard's tail. Later he developed this idea in his writings on arterial, renal, and cardiac disease, holding that atheroma is a local disease, although a widespread one; that arteritis may be due to poison produced within the system or, as in the case of lead poisoning (much commoner in those days), introduced by the mouth, but in both cases acting locally on the arterial wall while circulating in the blood stream.

The funeral service took place at the Brighton parochial cemetery on the afternoon of March 30th, and the interment afterwards in the family vault. Dr. E. R. Fothergill represented the Council of the British Medical Association, Dr. Sanderson and Dr. L. A. Parry the Brighton Division of the Association, and Dr. Whittington the Sussex Medico-

Chirurgical Society. Many colleagues on the staff of the Royal Sussex County Hospital were present, including Drs. Hobhouse, Jowers, Broadbent, Bowring, and Fletcher. Dr. Hollis leaves a widow, two daughters, and a son, Dr. Stanley Hollis, in practice in the same town as his father.

CHARLES PARSONS, M.D.,

Consulting Medical Officer to Dover Hospital, and one time Treasurer of the British Medical Association.

THE death of Dr. Charles Parsons of Dover, briefly noticed in our issue of last week, removes one who in his day and generation unassumingly did good work for the profession. He rendered great services to the British Medical Association throughout almost the whole of his professional career, and the South-Eastern Branch, which included the counties of Kent, Surrey, and Sussex, benefited greatly from his keenness, business capacities, and foresight.

He was born in 1833, and was educated at King's College, London, and Edinburgh; he took the diplomas of M.R.C.S. and L.S.A. in 1855, and graduated M.D.Edin., with honours and the gold medal, in 1864. After holding the offices of house-physician and assistant house-surgeon at King's College Hospital he was for some time house-surgeon to the North Staffordshire Infirmary. He settled in Dover in 1868 and was appointed medical officer to the Royal Victoria Hospital there. He retained the position for thirty years, and during his long life in Dover occupied a leading position in medical and social life. He took a great interest in education, and was one of the founders of the Dover College, which now ranks high among public schools. He also organized and was secretary for many years of the Cambridge Local examinations. He was a keen and expert musician, was for many years president of the Dover Choral Union, and often took part in public concerts. He retired from practice in 1908, and went to live at Tunbridge Wells, where he died in his 90th year. He had seven sons and four daughters; of his sons only two survive him. Several of them gave their lives for their country in the South African war and in the great war, three dying between 1914 and 1918.

Few men did more loyal and single-hearted work for the British Medical Association. He was secretary of the old South-Eastern Branch from 1871 to 1873, secretary and treasurer of that Branch 1888 to 1891, and president of it in 1893. He was a member of the Central Council from 1888 to 1899 and treasurer from 1896 to 1899. Dying at so great an age and being out of public work since 1908, many of the younger men do not know the great work Parsons did, but he ranks high in the estimation of men who knew him.

Most honourable in all his professional work—the kindest and most sympathetic of men—he was respected by his fellow citizens and loved by all: his work will long remain. He was buried at Dover on Tuesday, March 28th.

W. J. TYSON.

Sir JENNER VERRALL, who succeeded Dr. Parsons as Honorary Secretary of the South-Eastern Branch, writes:

Thinking of Dr. Charles Parsons carries one back to the old days before the present constitution of the Association was devised. Before he became Treasurer of the Association he gave many years of service as Secretary of the South-Eastern Branch (Kent, Sussex, and Surrey). Apart from the Council and the permanent officials the Branch organization was then the sole means by which the influence of the Association could be brought to bear and co-ordinated action be taken. Unless you paid a small extra subscription for the purpose you were not a member of any Branch, and many who were not keen about medico-political work and local meetings remained unattached. For securing as large a proportion of Branch members as possible, for keeping in touch with all parts of a large area, and for fostering corporate feeling in the Branch, Dr. Parsons's energy and patience, his genial presence and kindly nature, were invaluable. We have become accustomed to the very complete machinery now at our service, and only those who remember the less efficient time can realize how much we owe to men like Parsons, pioneer in co-operative efforts.

DR. WALTER DYMOCK PERRY, late Captain R.A.M.C. (T.C.), died at Woking on March 25th, aged 50. He took the M.R.C.S. and L.R.C.P.Lond. in 1895, after which he went to New Zealand, where he was in practice at Timaru, but immediately before the war was practising at Earl's Court. He took a temporary commission as lieutenant in the R.A.M.C. on January 21st, 1915, and was promoted to captain after a year's service.

Universities and Colleges.

UNIVERSITY OF DURHAM.

THE following candidates have been approved at the examination indicated:

THIRD M.B., B.S. (*Materia Medica, Pharmacology and Pharmacy; Public Health; Medical Jurisprudence; Pathology and Elementary Bacteriology.*)—R. L. Bell, N. Capstaff, Phillis Hall, N. Harkness, R. E. Haswell, J. E. Israel, J. S. Johnson, H. B. L. Levy, G. M. Miller, J. E. D. Miller, Winifred M. Proctor, Margaret Scoresby-Jackson, Kathleen Shelton, D. S. Sinclair, W. F. O. Taylor, P. J. G. de Vos.

UNIVERSITY OF MANCHESTER.

PROFESSOR J. W. SMITH, M.B., F.R.C.S., is resigning at the end of the present session the chair of systematic surgery, which he has held since 1911. The council, in accepting the resignation with regret, have expressed their hearty appreciation of the services rendered by Professor Smith to the university since he joined the staff in 1888.

The following candidates have been approved at the examination indicated:

D.P.H.—*Part I:* Martha F. Barritt, Winifred I. Doherty, Florence M. L. Graham, W. H. Leigh, J. K. Lund, J. G. McKinlay, Constance Snowdon, Doris A. Taylor, Mary I. Turner, Marie Wardman, Frances G. Wilcocks. *Part II:* J. Brooks, Constance Snowdon.

UNIVERSITY OF ABERDEEN.

AT the graduation ceremony held on March 30th the following were among the degrees conferred:

M.D.—*F. W. C. Brown, *J. G. Danson, *M. Y. Garden, R. D. Lawrence.
CH.M.—W. Brander.
D.P.H.—J. S. Anderson, F. Ritchie.
FINAL M.B., CH.B.—W. J. Adam, Agnes M. E. Benzie, J. H. G. van Blommestein, L. S. Chatterji, Evelina I. Corbett, H. W. Corner, J. K. Cumming, T. J. Davidson, *E. G. A. Don, C. Donald, Dorothy J. Dow, Griselda A. Dow, J. A. S. Emslie, S. Feinstein, *F. Forman, †*J. F. Fraser, Jane H. Galloway, F. W. Gordon, J. Grieve, E. D. Gray, H. R. Lambie, †**J. S. Ledingham, J. Lumsden, Elizabeth G. McCurrach, W. R. McGlashan, J. Macleod, Margaret M. Mills, J. Milne, A. W. J. Mitchell, Peggy L. Mitchell, Barbara R. Morton, A. J. Murray, C. Penny, †*S. S. Proctor, P. Ross, Mildred M. G. Russell, I. Sacks, Beatrice M. Sellar, W. F. Shearer, Katherine C. Spence, †*D. MacR. Stewart, Christina Stuart, A. Tait, J. S. Walker, †Annie K. Wattie.

* Distinction. ** Much distinction. † Second class honours.

The following prizes and medals were awarded:

Fife Jamieson Memorial Gold Medal in Anatomy: C. S. D. Don, Jamaica. Keith Gold Medal for Systematic and Clinical Surgery: W. L. Hector, Tarland. Shepherd Memorial Gold Medal for "The Principles and Practice of Surgery": R. N. Ironside, Aberdeen. Dr. James Anderson Gold Medal and Prize of £5 in Clinical Medicine: F. Forman, South Africa, and W. L. Hector, Tarland (equal). The Matthews Duncan Gold Medal in Obstetrics: A. W. Downie, Rosehearty. The Alexander Ogston Prize in Surgery: Edith M. Macrae, Aberdeen.

UNIVERSITY OF DUBLIN.

SCHOOL OF PHYSIC, TRINITY COLLEGE.

THE following candidates have been approved at the examinations indicated:

M.CH.—E. D'A. McCrea.

FINAL M.B., PART I.—*Materia Medica and Therapeutics, Medical Jurisprudence and Hygiene, Bacteriology and Pathology:* *B. Morris, *Agnes McLaughlin, *H. W. L. Dale, H. Renton, R. R. J. Brandt, J. A. MacDonald, E. M. Landau, W. E. Hutchinson, J. E. Deale, C. A. V. Ovendale, A. Darlington, F. G. Brown, Martha Reid, S. M. Geffen, J. S. Glasgow, I. Marin, Margaret L. Cowan, A. V. Foster, A. E. O'Donnell, H. Lewin, C. T. MacCarthy, Marie E. Wagener, R. C. L. Griffiths, Etienne R. Hafner, H. R. Brady, C. Gordon, H. J. Hugo, P. F. H. Wagner, Kathleen E. Hill, H. Kohlberg, H. S. Roseman, R. R. D. Crawford, Isabella H. Speedy, A. V. Wood, G. A. A. Powell, J. A. Levett. *Materia Medica and Therapeutics, Medical Jurisprudence and Hygiene:* A. W. Eksteen, M. Jaffe, N. J. V. Van Druten, L. Harris, S. W. Jamieson. *Medical Jurisprudence and Hygiene, Bacteriology and Pathology:* Isobel G. Smith. *Materia Medica and Therapeutics, Bacteriology and Pathology:* Eileen Brangan. *Bacteriology and Pathology:* W. T. Hogan, J. J. FitzGerald, W. L. Duncan, D. J. Malan.

PART II.—*Medicine:* *I. G. Sacks, *C. E. Brunton, M. Bewley, D. Hugo, Olive V. Fair, G. Blackall, W. B. E. McCrea, Ruth Lemon, L. Stazunsky, J. Harte, F. M. Hilliard, I. Marais, May E. Powell, M. M. Viljoen, T. G. Warham, R. Lang, Rita Dillon-Leetch, L. O. Vercueil, C. E. Ovendale, W. B. Briggs, J. E. McCormick, E. R. Murray, C. de L. Shortt, W. S. Dickson, L. Wigoder, J. Hofman, A. E. Drotske, J. Kruger, S. G. Rainsford, J. B. Horan, C. W. Parr, D. H. Saayman, I. P. Myers, D. L. H. Moore, I. F. A. de Villiers, V. Robinson, H. N. Krige, H. C. Dundon. *Surgery:* S. G. Weldon, H. N. Krige, I. Cornick, C. J. U. Murphy, P. H. S. Fouché, Margery Bouchier-Hayes, D. L. H. Moore, W. S. Dickson, F. Malone Barrett, J. Devane, F. B. D'Arcy, R. Dormer, C. W. R. McCaldin, G. S. Moran, H. J. L. Murphy, Vera G. M. Menary, I. F. A. de Villiers, J. G. Russell, A. E. Phillips, W. R. Burns, A. J. Beckett, G. Kirker. *Midwifery:* *G. Bewley, *M. M. Viljoen, M. P. Louw, R. N. Perrott, A. Bernstein, Florine I. Irwin, J. C. Gillespie, W. H. Smith, D. J. Malan, Mary H. Harcourt, I. Marais, I. Cornick, W. E. Callanan, J. Devane, J. B. Horan, D. M. Vellema, J. E. Deane, W. E. Holmes, M. Gallivan, H. J. L. Murphy, N. McI. Falkiner, M. Schwartzberg, H. Hall, F. B. D'Arcy, J. Harte, A. J. Beckett, J. M. O'Connor, S. W. Russell, D. S. Spence.

DIPLOMA, PUBLIC HEALTH, PART I.—*Chemistry, Bacteriology, Physics, and Meteorology:* J. A. Acheson, J. C. P. Beatty, H. C. C. Deane, Alice B. S. Smith, Margaretta T. Stevenson, Edith F. Willock, Nannette Norris, R. V. Dowse.

PART II.—*Sanitary Engineering, Practical Sanitary Report, Hygiene and Epidemiology, Vital Statistics, and Public Health Law:* J. C. P. Beatty, H. C. C. Deane, W. L. Young, Nannette Norris, E. D'A. McCrea, R. W. Power, Edith F. Willock, J. A. Acheson.

* Passed in high marks.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

THE following candidates have been approved at the examinations indicated:

PRIMARY FELLOWSHIP.—Miss Attracta Halpenny, S. O'Neill, C. J. A. Woodside.
FINAL FELLOWSHIP.—E. D'A. McCrea.

CONJOINT BOARD IN IRELAND.

THE following candidates have been approved at the examinations indicated:

FINAL PROFESSIONAL EXAMINATION.—T. A. Bennett, W. A. Benson, P. P. Connolly Mrs. Michael Brendan Devane, Dorothy H. Douglas, J. Eliassoff, C. J. Ellison, C. V. Falvey, S. Griffin, A. Hayman, H. Levison, B. J. Mulligan, Anna J. O'Reilly, R. B. Shaw, R. Sherowitz, H. E. W. Waters.
D.P.H.—Dr. V. R. O'Connor.

UNIVERSITY OF LONDON.

Correction.—In announcing last week (p. 514) the conferment upon Miss E. E. Hewer of the degree of D.Sc. in Physiology by the University of London, the recipient should have been described as an internal student of the London (Royal Free Hospital) School of Medicine for Women, and not an internal student of Bedford College, as printed.

The Services.

HONORARY PHYSICIANS TO THE KING.

THE following appointments of honorary physicians to the King are announced: Major-General A. P. Blenkinsop, C.B., C.M.G., late R.A.M.C., vice Colonel E. Eckersley, retired, and Lieut.-Colonel and Brevet-Colonel Sir E. S. Worthington, K.C.V.O., C.B., C.I.E., R.A.M.C., vice Major-General J. J. Gerrard, C.B., C.M.G., retired.

ARMY MEDICAL LIBRARIES.

THE War Office announces that it has been decided to establish in the principal military hospitals at home and abroad small libraries of standard books of reference and of current medical literature, in order that officers of the Royal Army Medical Corps may be able to keep themselves informed of advances in medicine and the allied sciences. Each library will form a medical intelligence bureau for the district which it serves and be available for all officers of the corps serving in that district.

Libraries at home stations will be supplied (at the public expense) with Rose and Carless's *Manual of Surgery*; Osler and Macrae's *Principles and Practice of Medicine*; Parkes and Kenwood's *Hygiene and Public Health*; Manson's *Tropical Diseases*; *British Journal of Surgery*; *Journal of Hygiene*; *Medical Abstracts and Reviews*; *Tropical Diseases Bulletin*, and standard works on medical and allied sciences to the total value of £5 annually. The libraries at stations abroad will be supplied with all the above works and periodicals, and, in addition, Rowland and Turner's *Operations of Surgery*; Stitt's *Practical Bacteriology*; Alcock's *Entomology for Medical Officers*; and Hutchison's *Diseases of Children*. Standard works will be allowed up to the value of £9 annually.

Each library will be placed under the care of an officer to be selected by the Deputy Director of Medical Services of the command from the staff of the hospital in which the library is situated.

FOREIGN DECORATIONS.

THE following are among the decorations awarded by the Allied Powers for distinguished services rendered during the war.

By the King of the Belgians.—Ordre de Leopold—Officier: Colonel Charles Alfred Hodgetts, C.M.G., Canadian Army Medical Corps. Ordre de la Couronne—Officier: Brevet-Colonel James Paul Bush, C.M.G., C.B.E., T.D., R.A.M.C., T.F.

By the President of the French Republic.—Légion d'Honneur—Chevalier: Temporary Captain Charles Gerald Harmer, R.A.M.C.

By the King of Italy.—Silver Medal, "Al Merito Della Sanita Pubblica": Major-General Sir F. R. Newland, K.C.M.G., C.B.

Medical News.

AT the Aberdeen University graduation ceremony on March 30th the honorary degree of LL.D. was conferred upon Professor Thomas Wardrop Griffith, C.M.G., M.D., F.R.C.P., professor of medicine in the University of Leeds.

THE Morison lectures before the Royal College of Physicians of Edinburgh will be delivered by Professor G. Elliot Smith, F.R.S., on May 1st, 3rd, and 5th, at 5 p.m.; the subject is The Evolution of the Human Intellect.

AT a meeting of the Central Midwives Board for England and Wales, held on March 23rd, with Sir Francis Champneys in the chair, four midwives who had been cited were struck off the Roll.

THE inquiry of the Mosquito Investigation Committee of the South-Eastern Union of Scientific Societies into the habits of *Anopheles plumbeus* was hindered by the drought of last summer. It is proposed to resume the investigation, and information as to the particulars required can be obtained on application to the Rev. T. W. Oswald-Hicks, Lesware, Linden Road, S.E.15.

IN Sweden, according to a recent decision of the Lower Court of Appeals at Stockholm, medical practitioners cannot in future be compelled to give evidence in court against their will in cases with which they have been professionally connected.

THE Rockefeller Foundation has given 6,000,000 dollars to the Johns Hopkins University for the school of hygiene and public health; of this sum 1,000,000 dollars is to be available for the erection of new buildings for the school and 5,000,000 dollars for an endowment covering its maintenance. Work on the main building is expected to start this summer.

ARRANGEMENTS have been made for six lectures to be given, in English, by English lecturers, in the grand amphitheatre of the Faculty of Medicine of Paris: on May 6th Sir Sidney Russell-Wells will lecture on the circulatory effects of mitral stenosis and aortic regurgitation; on May 11th, Sir Wilmot Herringham, on trench fever; on May 13th, Dr. Sampson Handley, on lymphatic pathology, with special reference to malignant disease; on May 18th, Professor E. H. Starling, on the mechanism of compensation in the heart; on May 20th, Mr. H. J. Waring, on acute pancreatitis, its diagnosis and surgical treatment; on May 27th, Professor G. Elliot Smith, on stereoscopic vision and the evolution of man.

DR. BEDFORD PIERCE, on the occasion of his resigning the post of medical superintendent of the York Retreat Mental Institution, has been presented with many farewell gifts, including cheques of £105 and £100 from the committee and past and present members of the staff respectively, a portrait in oils of himself as a personal gift from the committee, with a replica to hang in the board room. He has been appointed consulting physician to the Retreat. Mrs. Pierce has also received a number of gifts.

AT the annual meeting of the Society for the Study of Inebriety to be held at 11, Chandos Street, W.1, on Tuesday, April 11th, at 4 p.m., Dr. Edgar L. Collins, Talbot professor of preventive medicine in the University of Wales, will open a discussion on the use of alcohol by the industrial worker.

THE King has approved the appointment of Lieut.-Colonel James Young, M.D., T.D., as a deputy lieutenant for the county of Gloucester.

THE first three Friday evening discourses after Easter at the Royal Institution of Great Britain will deal with medical or biological subjects. On April 28th Professor Arthur Harden, F.R.S., head of the Biochemical Department, Lister Institute, will speak on vitamin problems; on May 5th Dr. Michael Grabham will describe some of his biological studies in Madeira; and on May 12th Dr. H. H. Dale, F.R.S., director of the Department of Biochemistry and Pharmacology at the National Institute for Medical Research, will discuss the search for specific remedies. On June 9th Mr. Joseph Barcroft, F.R.S., reader in Physiology in the University of Cambridge, who has recently paid a visit to the Andes in company with Professor Meakins of Edinburgh, will relate some of the results of their investigations into the physiological effects at high altitudes. The discourses will be given at 9 p.m.

THE report presented at the annual meeting of the Cremation Society of England on March 29th showed that the number of cremations in Great Britain in 1921 was 1,922, about 100 below the maximum figure which was reached two years ago. Altogether, since the opening of the first crematorium at Woking in 1885, there have been 25,418 cremations. Nearly half the cremations take place at Golders Green, but there are thirteen other crematoriums in England and one in Scotland, and other schemes for erecting crematoriums are well advanced, especially one at Pontypridd. According to one speaker at the annual meeting (Mr. A. E. Bernays), every thousand ordinary burials in single graves occupy an acre, so that the encroachments of the cemetery in urban districts, if the present method of disposing of the dead continues, can be forecasted. The practice of cremation, so far from destroying sentiment, would make it possible to revert to the old practice of intramural interment. Sepulture in churches would no longer be forbidden by sanitary law, and Westminster Abbey, where few or no more bodies can be buried, might continue indefinitely to receive the cremated ashes of famous men and women. The Cremation Society, which has recently changed its address to 52, New Cavendish Street, W., has a life membership scheme which includes the prepayment of cremation fees, and this is an advantage, especially in the provinces, where cremation fees are higher than in London owing to the comparatively small number of cremations which are carried out.

THERE was a slight increase in the number of deaths from influenza in the week ending April 1st; the figures for the 105 great towns were 113, as against 104 in the previous week; and for London 21, as against 17.

AT the meeting of the London County Council on April 4th Dr. Edward Mapother, deputy medical superintendent of the Long Grove Mental Hospital, was appointed medical superintendent of the Maudsley Hospital. Each candidate for the post was informed that the appointment would be held subject to the pleasure of the Council, which would be exercised at the expiration of six years at latest. The salary is to be £900 a year, on a pre-war basis, and the approved temporary additions bring the amount up to £1,200 a year. It is understood that the superintendent is to be permitted to practise as a consultant so far as this is consistent with his duties at the hospital. In the selection of the candidate two eminent psychologists, nominated by the University of London, gave the Asylums Committee the benefit of their views.

THE North-East London Post-Graduate College will hold a special intensive course at the Prince of Wales's General Hospital, Tottenham, N.15, from Monday, May 15th, to Saturday, May 27th, inclusive. It will include demonstrations, in the mornings, of clinical and laboratory methods, groups of illustrative cases, etc., and on Saturday mornings practical demonstrations in associated hospitals. The afternoons will be devoted to general hospital work with clinics in the various departments, which will be followed each afternoon by a clinical lecture dealing more especially with the treatment of disease. The first of the series of clinical lectures will be given by Sir Thomas Horder, M.D., on "Some clinical types of arthritis and their treatment." Luncheon will be obtainable in the neighbourhood of the hospital, and tea will be provided each day. It is expected that the syllabus will be available before Easter.

THE membership of the Tuberculosis Society of Scotland is now nearly 70; the President for the current session is Professor Sir Robert Philip, P.R.C.P.Edin., the honorary secretaries are Dr. W. Leslie Lyall and Dr. Ian Struthers Stewart, the honorary treasurer is Dr. Macrae Taylor, and the Editor of the *Transactions* Dr. A. Fergus Hewat. The Society holds regular meetings for discussion; the next will take place on Friday, April 28th, at 4 p.m., in the New University Buildings, Edinburgh.

THE house and library of the Royal Society of Medicine, 1, Wimpole Street, W.1, will be closed from Thursday, April 13th, to Tuesday, April 18th, both days inclusive.

Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.*

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London*; telephone, 2630, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London*; telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London*; telephone, 2630, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh*; telephone, 4361, Central).

QUERIES AND ANSWERS.

INCOME TAX.

P. S." has ceased to use his own car and is hiring from a jobmaster as occasion requires. Has he any claim in respect of the loss incurred in connexion with the former purchase of his now useless car?

No. A claim to depreciation cannot be made in connexion with an assessment of professional as distinct from trade profits; he is entitled to the cost of replacement only, and in the circumstances there was no such outlay. The point was raised before the Royal Commission on Income Tax, and that body recommended that this distinction should be abolished, but that has not yet been effected. With regard to the purchased premises, "P. S." can deduct in lieu of the rent the amount on which he is assessed to Property Tax—that is, Income Tax Sch. A.

LETTERS, NOTES, ETC.

SLIPPING RIB.

DR. EDGAR F. CYRIAX (London, W.1) writes with reference to Mr. R. Davies-Colley's communication on slipping rib (March 18th, p. 432), to point out that this condition of the rib has been described by him in the *Practitioner* for June, 1919, and also that Stiller (*Die asthenische Konstitutionskrankheit*, 1907) essayed under this title to establish a clinical entity one of whose most constant symptoms was looseness of the tenth rib.

COUÉ AND DUBOIS.

DR. N. W. MARKWELL (London) writes: M. Coué has recently been credited with bringing forward a new principle in connexion with his so-called "Law of Reversal of Effort." The name and explanation of the mechanism involved are new, but the description and the use of the mechanism are not. Professor Paul Dubois (*The Psychic Treatment of Nervous Disorders*, English translation by Jelliffe and White, 1907) enunciated the mechanism clearly enough for others to grasp it and to use it in practice. It is a main feature in his persuasive method. . . . The whole book expounds this mechanism. For example (p. 155) he states: "If we can, by a healthy philosophy of life and by moral hygiene suppress this toxic element of emotion we shall rid the greatest physical and intellectual fatigue of its harmful influence." In this and other passages Dubois points out unequivocally that a fundamental psychological principle which is of the greatest utility in practice does exist. One may not agree with Dubois's psychology and metaphysics, nevertheless we are in his debt, and not in the debt of M. Coué. For some years I have been in the habit of designating the mechanism "The Positive Reaction."

AESCULAPIUS AND CONSUMPTION.

MR. MORLEY ROBERTS (London) writes: Doubtless most physicians have read Sir Thomas Browne's *Religio Medici*, and it is possible that some may even have looked into his essay entitled *On Dreams*, but I have never seen any comment on the passage in the latter piece which runs: "And a man might be hard put to it to interpret the language of Aesculapius, when, to a consumptive person, he held forth his fingers, implying thereby that his cure lay in dates, from the homonymy of the Greek, which signifies dates and fingers." As our learned author does not quote his authority, it is hard to say where this comes from, but it seems capable of an interesting interpretation. As Hippocrates was of the family of the Asclepiadae, one of whose chief seats was Cos, this saying may possibly be found in his works or the pseudo-Hippocratic writings. Perhaps some student of Hippocrates can tell me if this is so. It seems to me that this cryptic saying may be regarded as sound advice. Suppose that the physician's comment was, "By this I do not mean dried dates but fresh ones. Go where you can get them daily. I suggest Egypt as the handiest place where the date tree flourishes." If my suggestion is correct one may infer that modern doctors, when they recommend the dry, pure desert air, are but following, without knowing it, the advice of some unknown Greek colleague, unless Browne really meant Hippocrates when he wrote of the mythical Aesculapius.

FIRST AID TO THE INJURED.

SQUADRON LEADER W. ROUS KEMP, R.A.F.M.S., writes to call attention to the fact that the present edition of the St. John Ambulance Association's *First Aid to the Injured*, which has been rewritten by Dr. R. Bruce, was originally compiled by the late Surgeon-Major Peter Sheppard, R.A.M.C., who was killed at the Battle of Isandula, Zululand, in 1879. Our correspondent considers that this small volume, which has been the origin and foundation of all first aid work, ought still to retain, as a lasting memorial to him, the original author's name, which, he says, used to appear in the earlier editions.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 32, 33, 36, 37, 38, and 39 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 34 and 35.

THE following appointments of certifying factory surgeons are vacant: Brynmawr (Brecon), Carlisle (Cumberland).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£ s. d.
Six lines and under	0 9 0
Each additional line	0 1 6
Whole single column (three columns to page) ...	7 10 0
Half single column	3 15 0
Half page	10 0 0
Whole page	20 0 0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

A British Medical Association Lecture

ON

MINOR DISPLACEMENTS OF THE UTERUS AS A CAUSE OF DISABILITY IN WOMEN.

BY

JOHN S. FAIRBAIRN, M.A., M.B., F.R.C.P.,

OBSTETRIC PHYSICIAN, ST. THOMAS'S HOSPITAL; LECTURER ON MIDWIFERY AND DISEASES OF WOMEN, ST. THOMAS'S HOSPITAL MEDICAL SCHOOL.

In disorders of the female pelvic organs, as in general medicine, the cause is readily determined if there is an obvious gross lesion, such as an inflammatory mass or new growth, but difficulty arises when evidence of localization is uncertain and physical signs absent or trifling. The problem is then one of interpreting the meaning and estimating the importance of some minor deviation from the average, and deciding whether it falls within the limits of normal anatomical variation or can be held responsible for the patient's symptoms.

There is a personal factor in the interpretation of symptoms with little in the way of physical signs, and among gynaecologists, as among physicians and surgeons, there will be many individual differences of opinion. There are two extremes—the mechanical school and the psychical school: the former will find for all disorders of function, particularly in the abdomen and pelvis, some kink or twist or displacement which satisfies them as the cause of the trouble, while the latter will ascribe the chief part in the production of the patient's disability to some subconscious mental process or repressed or unrepressed sexual desire. No doubt as time goes on the true mean between these extremes will be reached, but meanwhile the bent of mind of the individual observer will largely determine on which of these factors the stress will be laid.

I propose to discuss this afternoon the minor displacements of the uterus—that is, excluding obvious descent—and to attempt to estimate their importance as a cause of disability in women.

Looked at from the historical aspect, it will be seen that uterine displacements came into special prominence in the mid-Victorian era—a time when it was exceedingly difficult for a woman to have her uterus just as it ought to be, as it was thought that its proper position should be in the axis of the pelvic inlet; if it was in front of that position it was looked upon as anteverted or anteflexed, and if behind as retroverted or retroflexed. Now all displacements have died a natural death except the backward one, which, as the last survivor, has inherited all the wealth of the family in the way of symptoms. An index of the change in attitude towards these uterine displacements can be obtained by glancing at the edition of *A System of Gynaecology*, edited by Allbutt and Playfair, published in 1896, and its successor, *A New System of Gynaecology*, by Eden and Lockyer, published in 1917. In the 1896 edition Professor A. R. Simpson of Edinburgh describes in detail uterine displacements, forward, and backward, and sideward, so that we find mentioned even dextro- and sinistro- versions and flexions, though with an obvious mental reservation as to whether the anterior displacements ought not to be eliminated altogether from the category of uterine disorders. In the *New System of Gynaecology* of 1917 the displacements have disappeared entirely, except the backward, which is the only one considered. The author of the article, Professor Chipman of Montreal, summarizes his views as follows:

> "All these signs and symptoms may be found with no retroversion whatever, for these may result from altogether different causes. Their presence is in no sense pathognomonic of this, or of any uterine displacement, and so the displacement may be but a coincidence and possess no etiological significance whatever.
>
> "In actual practice it is fair, I think, to regard retroversion of the uterus unaccompanied by prolapse as of no importance save only as a certain predisposition towards prolapse. It is specially wise in these cases to treat the symptoms of which the patient may complain upon general and broad lines, rather to avoid than encourage local treatment, and only if the general treatment fail—and this in my experience will rarely be the case—is one to attend in any way to the 'backward displacement.'"

What was not appreciated by the older gynaecologists was that the uterus is an organ which is liable to great variation in position as the result of changes in the surrounding viscera and in the intra-abdominal pressure, that its blood supply and attachments are arranged to permit of its being either a pelvic or abdominal organ, and that it is perfectly comfortable with its fundus on the pelvic floor or just under the diaphragm. It is now generally recognized that its position, *quâ* position, is of no clinical importance, and that what we have to look for is the cause of the unusual position and consider whether that cause is one requiring treatment. The most common cause of retroversion is prolapse of the pelvic floor, of which the uterus forms part; usually retroversion with descent is the first indication of prolapse. Infections, including subinvolution, are a cause of simple and fixed retroversion; growths, such as ovarian cysts and uterine fibroids, are another cause of displacement of the uterus; and a rarer cause is maldevelopment, occasionally seen in nulliparae.

Retroversion is very common in multiparae, and is occasionally met with in nulliparae when examined for dysmenorrhoea or sterility, or because of symptoms which might have a pelvic origin. In the latter the backward position is classed as a congenital peculiarity, but until figures can be obtained by investigation of large numbers of healthy girls and women so as to obtain an idea of the frequency of the retroverted, as compared with the anteverted, position, it is impossible to dogmatize on its clinical importance. It may tend to sterility and abortion; though occasionally found when dilating for dysmenorrhoea, it is very much rarer than the usual anteverted and anteflexed position, so that, until statistics as to the percentage of dysmenorrhoeics with backward and with forward position of the uterus are obtained and compared with the incidence of these positions in nulliparae generally, it is impossible to make positive statements. Some of these retroverted and retroflexed uteri in virgins with dysmenorrhoea are small and infantile and associated with scanty menstruation, just as is seen with the small anteverted and anteflexed uterus, and thus it would appear that incomplete development, and not the forward or backward position, is the determining factor in the production of dysmenorrhoea.

In parous women the uterus is often found to be retroverted because pregnancy and labour and lying-in are the factors which tend to produce this position; in multiparae with a relaxed abdominal wall and enteroptosis the backward is almost as common as the forward position. The softening of the uterus and its attachments and the stretching of ligaments and muscles during pregnancy, the further stretching and laceration during labour, the dorsal position, overdistension of the bladder, the assumption of the erect position and the resumption of work before involution is complete, are all predisposing factors.

It may be worth while to consider in detail the symptoms commonly ascribed to the backward displacement.

Backache, a symptom of nearly every pelvic disturbance, is probably more common among women with retroversion than anteversion because of the frequency with which abdominal wall and pelvic floor weakness, enteroptosis, subinvolution, and other enlargements of the uterus are associated with a backward position. As backache is largely a fatigue effect and the symptom *par excellence* of the tired woman possibly this fatigue may appear earlier when the uterus is back than when forward, and, if so, probably because of the associated conditions rather than the mere uterine position.

Bearing down is a sensation so closely associated with weakness of the sustentacular structures that its occurrence with retroversion should at once suggest that pelvic floor weakness is the cause, and that the position of the uterus represents an early stage of prolapse. With a lowered resistance to disagreeable sensations, other varieties of aching and pain will occur as an early result of fatigue, and are commonly attributed to retroversion, if it happens to be present.

Menorrhagia is another symptom said to be more common among women with retroverted than with anteverted uteri. There is an armchair hypothesis, generally swallowed without much hesitation, that pelvic pain and aching, menorrhagia, and leucorrhoea are due to a uterine congestion from an obstruction to the venous return. Beyond the fact that such theory forms a reasonable explanation for the above symptoms, and that these symptoms are sometimes cured by the uterus being supported in anteversion, I know of no observations in support of this hypothetical passive congestion and many points which it leaves unexplained. This menorrhagia is quite haphazard in its occurrence, and the majority of women with retroversion do not suffer from it; there is no naked-eye or other evidence of passive congestion observed when operating, by abdomen or vagina, in cases in which the uterus is retroverted; the remote

pathological effects of a chronic venous congestion are not seen in old-standing retroverted uteri; on the other hand, the hyperplasia of the cervix in prolapse is the effect of a passive congestion, which, however, does not produce menorrhagia. Menorrhagia from this presumed congestion is absent from, and is not characteristic of, the uterus pushed backwards by an ovarian cyst or other tumour in front of it, a condition in which obstruction to the venous return would appear more likely than in a simple retroversion.

Leucorrhoea is another symptom which it is not possible to say is relatively more common with retroverted than anteverted uteri; it is certainly almost invariable with retroversion and subinvolution, and with laceration and infection of the cervix. There is no proof that the retroverted position, apart from laceration and infection, increases the uterine secretions.

Dysmenorrhoea of the so-called congestive type, explained also on the presumption of a venous congestion, is a rare accompaniment of simple retroversion, and, when present, is commonly due to some complicating infective process.

Disturbances of micturition are not caused by a simple retroversion. Retention may result from the incarceration in the pelvis of a retroverted uterus, enlarged by pregnancy or fibroids to a size big enough to cause impaction; incontinence on coughing or straining may accompany retroversion with trifling pelvic floor descent; frequency does not result from a simple retroversion.

Pressure on the rectum and tenesmus are occasionally complained of, and constipation is sometimes attributed to the two-ounce uterus leaning against the rectum. If the index finger is passed into the bowel and the finger-tip merely bent forwards against the fundus felt through the anterior rectal wall, it will suffice to raise the uterus from the bowel; it is difficult, therefore, to imagine how the progress of a faecal mass weighing much more than two ounces and propelled by peristalsis would be hindered. Haemorrhoids have also been attributed to the uterus lying back and pressing on the haemorrhoidal veins, and it cannot be denied that constipation and haemorrhoids are common in women with retroversion, as they are in women without it.

Dyspareunia is sometimes present with the uterus retroverted as it is with the uterus anteverted. It is probably due to prolapsed ovaries or to accompanying inflammation and not to the uterine position itself.

General disturbances—headache, sickness, indigestion, and abdominal pain—have all been included as counts in the indictment of the backward displacement, but without any justification whatsoever, owing to too much concentration on the mechanical factor and entirely overlooking the question of fatigue of mind and body and what it may produce. So much loose thinking has been associated with the subject of "displacements" that statements begging the whole question are frequently made, and quite seriously, in medical papers and in discussions at societies—as, for example, that "retroversion requires treatment when it causes symptoms." On inquiry these symptoms will be found to vary with the fancy of the individual, and may be widespread enough to include uterine headaches and indigestion and perhaps even a uterine cough.

If a somewhat similar reasoning to that of the postulates for proving the causative bacterial agent in an infective disease were attempted it would fail to show any connexion between retroversion and the symptoms attributed to it. First, because there is no symptom-complex peculiar to retroversion; second, because such symptoms as are ascribed to the retroversion do not occur invariably, but only occasionally; and finally, because changing the position to an anteversion does not necessarily do away with the symptoms ascribed to the displacement. I once tried to keep a record for the instruction of my students of those women coming to the gynaecological out-patient department with simple retroversion without symptoms, of those with the traditional symptoms and no retroversion, and of those with the retroversion and no symptoms. Unfortunately my figures were destroyed in a spring cleaning epidemic, and all I can remember is that the largest group was that of women with the supposed symptoms but without retroversion. Statistics from a gynaecological department are, however, of little value, as the routine examination of women without pelvic trouble is necessary to a knowledge of the frequency of retroversion without symptoms. Figures are given, varying between 15 and 30 per cent., of the proportion of women in whom the uterus is deviated backward, and attempts have been made to estimate the proportion in which the retrodeviation caused disability, but naturally are valueless because they represent merely the personal view of the observer.

Individual opinion can be eliminated, however, by noting the gradual disappearance of "displacements" from the time of their vogue and predominance in gynaecology—a time aptly summarized in Clifford Allbutt's remark that "the uterus could justly complain that it was always being impaled on a stem or perched on a twig"—to the present day, when the retro-deviations alone obtain a grudging and hesitating adherence from writers in textbooks and treatises. The reason they have survived so long is twofold: first, retroversion is present with other pelvic conditions causing disability, in which the position of the uterus is often the most striking feature on examination; and secondly, that due importance has not yet been given to the psychical factor and fatigue by those who cannot look beyond anatomical variations. It may be thought that if retroversion is part of pelvic floor prolapse or subinvolution it matters little if the woman's disability is ascribed to the position of the uterus, but further consideration will show that the point is important.

Those who have been brought up on and have accepted the displacement doctrine will consider retroversion as capable of explaining symptoms it cannot cause, and will be satisfied with it as an explanation of acute pelvic pain, uterine haemorrhage, intestinal stasis, and even partial obstruction, and look no farther for a cause. A retroverted uterus may readily be mistaken for a small swelling adherent to the back of the uterus, and I have known of a tubal gestation, an inflammatory swelling in the pouch of Douglas, and a rectal carcinoma being taken for a retroverted uterus because of the idea that this position of the uterus could be responsible for the patient's symptoms. Not only are errors in diagnosis made more likely but wrong treatment follows if attention is directed solely to the position of the uterus. The displacement myth has produced far more invalidism and inefficiency in women than any good it has ever done. The knowledge that her womb is "misplaced" or "twisted" is a source of mental distress to the unfortunate woman who is treated for it; the wearing of a pessary and its frequent changing concentrates her attention on her pelvic organs, and she becomes convinced of her uterine weakness, which must always be considered and prevents her doing what others do. Thus is the pelvic neurasthenic manufactured, particularly among single women.

I would suggest that we follow Sir Thomas Browne's dictum that "knowledge is made by oblivion, and to purchase a clear and warrantable body of truth, we must forget and part with much we know," and I would urge that the time has come to let the backward positions of the uterus go the way of the other displacements.

In child-bearing women many of you know from your own experience that backache and bearing down are relieved by replacement of the uterus and a pessary, because, as already explained, the symptoms are caused by strain on the supporting structures. In virgins the problem is quite different, and I would lay it down as a rule that in their case pessary treatment should never be adopted; the cases in which it might be justifiable are too exceptional to affect the general applicability of the rule. In nulliparous married women temporary pessary treatment may be tried for sterility and repeated miscarriages.

In the parous woman simple retroversion is often found with an unusually mobile uterus and ptosis of the contents of the abdomen and laxity of the wall. With general enteroptosis the backward position is more common than the forward, and must be looked on as merely a fraction of the general relaxation; it would therefore show a wrong perspective of the case to concentrate solely on the uterus to the neglect of the general abdominal condition. In many cases there is also weakness and descent of the pelvic floor. The bulky subinvoluted and retroverted uterus following labour is to be treated as primarily subinvolution and chronic infection, but, as will be seen later, benefit may come from its being supported, as subinvolution affects its ligamentary attachments as well.

The cases which the practitioner treats with success as cases of retroversion are almost entirely cases of slight pelvic floor injury and subinvolution, often complicated by overwork and overstrain with fatigue symptoms. The treatment of such cases is worth detailed consideration, as success largely depends on general management as well as relieving the pelvic condition.

The preventive treatment is clearly good midwifery,

avoiding laceration and infection, and a physiological management of the puerperium. During the lying-in time measures directed towards the promotion of normal and complete involution should be adopted. The patient should be encouraged to sit up and move about in bed. The binder, which restricts the movements of the abdominal muscles, should be discarded as soon as possible, certainly within a week, and massage and breathing exercises begun as soon as the free lochial discharge has lessened and the patient's general condition allows. When the fundus uteri has sunk down so that it is only just palpable in the abdomen, the woman should be encouraged to assume the knee-elbow position for short intervals and afterwards to lie prone for a time. While in the knee-elbow position a good exercise is to make her contract her levator ani muscles by the action of "squeezing up as if to hold a motion." In this position the strain on the pelvic floor is at its minimum, and the muscles therefore work at an advantage. Another exercise for restoring the efficiency of the levator muscles may be carried out with the patient on her back by combining their contraction with that of the adductors of the thigh. The nurse may be instructed to resist adduction by placing her hands on the inside of the knee while the patient tries to bring her knees together, the resistance being slight at first and increasing as time goes on. Indeed, all muscular exercises, particularly of the abdominal, flank, back, and thigh muscles, are valuable by improving the circulation and physical condition. Breast feeding, in addition to its importance to the infant, should be encouraged for its effect in aiding involution. Though the lying-in mother requires two, or if possible three, weeks of a rest cure after the strain of pregnancy and labour, and as a preparation for the nursing and care of her infant, that time should not be one in which her muscles are allowed to become soft and flabby, so that they are incapable of performing their functions when she gets up, and nothing is so valuable as resisted muscular movements. By aiding the recovery of the abdominal and pelvic musculature and keeping up the general physical condition whilst giving the mother rest and relief from household duties and strains much can be done to lessen the frequency of retroversion and descent of the uterus, with the backache, forcing down sensations, and early fatigue that detract from the efficiency of so many mothers after child-bed.

When advice is sought for symptoms of this nature shortly after labour, and a bulky retroverted uterus is discovered on bimanual examination, it should be replaced and kept in position by a pessary. This is, however, but a small part of the management of such cases. The support by the pessary will probably allow of outdoor exercise being taken so that the general physical condition may be improved. Relief from indoor and exacting duties may be difficult to secure, but is a more essential matter than the pessary. If, as is usually the case, the patient is a tired and overwrought woman, a pessary is a poor substitute for the rest she needs. It is in regard to this type that the concentration on the mere position of the uterus so often fails to restore the woman to efficiency. Many of these tired mothers are referred to me because the position of the uterus is pitched on as the very head and front of the offending. On investigation the woman may have four or five young children, and little help with them and her household duties; she has a holiday of a few weeks each year, but the only change to her is one of venue, from her own house to rooms at the seaside, where escape from the children is even more difficult than at home. Perhaps she has never had more than a day or two's relief from her family cares, and it is not surprising that she should have the characteristic symptoms of the tired mother, that she is depressed and unfitted for her duties by aching back and legs. It matters little that her uterus is retroverted—it has been so for years; but it matters a great deal that she has relief from the constant strain that has worn her out and that her physical condition as a whole is improved.

Some of these women with simple retroversion have all the subjective sensations of prolapse; indeed, they often come with the complaint that "the womb drops," though they have no protrusion and nothing is discovered on examination, except that the uterus is lying back and perhaps a little low. Doubtless the symptoms are due to pelvic floor weakness with strain on the uterine supports. Great relief is usually effected by replacement and a pessary, by exercises similar to those described for the lying-in mother, by graduated outdoor exercise short of fatigue, and relief from the day-in and day-out strain of family and household.

In the course of three or six months, if the physical and nervous condition has improved, the pessary can be left out. Such patients are liable to a return of their symptoms when run down or overtired, and some will ultimately develop definite prolapse, for which operative treatment will be required. The point I wish to emphasize in regard to these and similar cases is that pessary treatment alone will not suffice, but exercises and general management of the patient are essential to success.

Pessaries are valuable for temporary use—to give support till the patient's condition has so far improved that they are no longer needed. If the disability returns after removal of the pessary, some surgical procedure is far better than permanent pessary life.

The multitude of pessaries, intrauterine and vaginal, which marked the displacement era of sixty years ago, have almost all disappeared into museums as antiquities or curiosities, and now the ring is almost the only survivor. In the surgical area through which we are now passing the modern counterpart of the pessary inventor is the deviser of suspensory and sling operations on the uterus. The variations in detail of these procedures are legion, and the woman with a uterus that will not sit up straight can have a tuck taken in its round ligaments, or have it held up by the ligaments being stitched to the abdominal wall, or delicately supported by the ligaments being clasped behind its back, and so on *ad infinitum*. The attitude of mind of these suspenders of the uterus is precisely that of the mid-Victorian pessary-monger; their methods only have changed with the times, and these operations are quite as much overdone as the pessaries were, but do less harm. There is not the bad mental effect of continuous pessary wearing with the recurrent need for changing, and there is the advantage that the patient has two or three weeks in bed with a change and convalescence, together with the strong suggestion that now her errant womb has been made right she also ought to be right.

Many of the women on whom such operations are done have an oversensitive nervous system, and at a time when their powers of resistance to disagreeable stimuli and sensations of fatigue are particularly low, owing to illness or overstrain, they are examined, the uterus found in the retroposed position, as it had been for long past, and an operation is promptly performed. When there is a fixed retroverted uterus with chronic inflammation an abdominal operation is necessary for the removal of the affected tubes, and it is as well to fix the uterus up at the same time. Suspensory operations may also be tried for sterility and repeated miscarriages, and in single women to get rid of a pessary or as a measure of desperation when all else has failed. Though they may be combined with operations for prolapse, alone they are not sufficient for that condition.

Summary.

In case the arguments of my paper should not be obvious, its chief points may be summarized as follows:

1. Always look beyond the mere position of the uterus and do not ascribe symptoms to retroversion.

2. In retroversion accompanying pelvic floor prolapse, subinvolution, pelvic inflammation, and tumours, the disability is due to the primary condition and not to the position of the uterus.

3. Retroversion after child-bearing with subjective symptoms of prolapse is correctly treated by replacement of the uterus and a pessary, provided the relief of fatigue is also secured and attention paid to the general health, mental and physical, and to the improvement of the abdominal and pelvic muscles.

4. If recovery does not follow after six to twelve months operative measures will give better results than continued pessary treatment, and probably perineal repair and plastic vaginal operations will be more satisfactory than those of the hysteropexy type.

Reports of cases of epidemic jaundice have been received by the New York State Health Department from almost every part of the state, and the disease is epidemic in adjoining states.

During 1921 35 cases of leprosy were reported in New York, an increase of 7 as compared with the previous year; of these cases 12 were in municipal hospitals, while the others remained at home pursuing their usual occupations. All are periodically examined by an inspector of the Health Department, and treatment by chaulmoogra oil is regularly carried out.

THE NATURE AND SIGNIFICANCE OF HEART SYMPTOMS.

BY

SIR JAMES MACKENZIE, M.D., F.R.C.P., F.R.S.

(From the Institute for Clinical Research, St. Andrews.)

III.—HEART FAILURE.

WHEN anything is detected amiss with the heart the essential question for the practice of medicine is, "Does this sign indicate heart failure, or does its presence foreshadow its oncoming?" No examination, however elaborate, can be considered complete, no prognosis of any value can be given, and no rational treatment can be indicated unless these questions are satisfactorily answered. A knowledge of heart failure is therefore essential to the intelligent practice of medicine.

Definition of Heart Failure.

Heart failure may be defined as the condition in which the heart is unable to maintain an efficient circulation when called upon to meet the efforts necessary to the daily life of the individual. This definition is made wide and includes conditions of extreme failure as well as those where the failure is beginning. In the definition it was stated, "when called upon to meet the efforts necessary to the daily life of the individual," and this gives the clue to the symptoms of heart failure. It is a matter of common experience to find a person at rest presenting no physical sign of impairment when examined most carefully, yet on effort or certain kinds of effort symptoms are provoked which are due to the inability of the heart to meet the effort—that is to say, when at rest the heart is quite efficient, and its inefficiency is only found out when effort is made; and from this it is seen that the first signs of heart failure are shown by symptoms being called forth when the individual performs an effort which he was wont to do without any symptoms. The "response to effort" is therefore the sole guide in the detection of the early signs of heart failure.

CLASSIFICATION OF SYMPTOMS.

Most cardiac symptoms can be arranged in four groups, according to the structures which give rise to the symptoms, each group having also a particular significance.

1. *Symptoms due to lesions of the valves.*

The symptoms of this group may show the progressive effects of a disease where the valves are being damaged, as the appearance of a murmur during an acute illness, or the gradual alteration of the murmurs, as in the slow progress of mitral stenosis. The kind of information conveyed by murmurs is that the valve may be the site or focus of an infective disease, or that the damaged valve may present an obstacle to the work of the heart muscle.

2. *Symptoms due to alteration in rate and rhythm.*

The kind of information furnished from this source is of a disturbance of some part of the conducting or reflex system of the heart—that is, of the parts concerned in the regulation of the heart beat and in the production and conduction of the stimulus that causes the contraction of the different chambers of the heart.

3. *Symptoms due to alteration in the size and shape of the heart.*

The kind of information conveyed by these symptoms is that the heart is distended by an increase of its contents (dilatation), or that its walls have become thickened (hypertrophy).

4. *Symptoms due to an inefficient output of blood from the heart—that is, the symptoms due to heart failure.*

THE SIGNIFICANCE OF SYMPTOMS.

It is to be observed that the first three groups of symptoms —that is, the modified sounds, variations in rate and rhythm, and alteration in the size and shape of the heart—do not give evidence of the functional efficiency of the heart. Diseased valves, abnormal rhythms, and increase in the size of the heart are so often associated with heart failure that they have come to be looked upon as evidences of heart failure; but this is a mistake. It may be said that signs revealed by the physical examination of the heart or by instruments do not give this kind of information. It cannot be insisted too strongly that though information of a useful kind can be obtained from these signs, they do not give the kind of information that is essential for rational practice. This warning is needed, for the attention given to physical signs tends to foster the idea that such signs are capable of revealing the functional inefficiency of the heart. The spectacular nature of this kind of examination makes the more important inquiry into the patient's sensations seem ineffective.

The Two Forces of the Heart Muscle.

As heart failure is first shown by a limitation of the field of the heart's response to effort it is necessary to recognize some of the features of the heart's power to accomplish its work.

As the heart possesses the power, not only of maintaining an efficient circulation when the body is at rest, but of varying its activity according to the bodily requirements, the force inherent in the heart muscle may be considered, for practical purposes, to be composed of two parts—that is to say, a part which is employed to maintain an efficient circulation when the body is at rest, and which therefore may be called the "rest force," and a part which is called into action when effort is made, and which may be termed the "reserve force." The rest force is the minimal force which the heart can exert to maintain the circulation at a level consistent with life. The impairment of this rest force produces those evidences of heart failure which persist when the body is at rest, such as dropsy and dyspnoea, and the continuance of such impairment eventually leads to a fatal issue.

The second part of the heart's force is that which is called upon when the body makes some effort. While the body is at rest this potential force is not exercised, but its possession enables us to undertake with ease all forms of effort. Inasmuch as this part of the heart's force is only used when exertion is made, it may appropriately be called the "reserve force" of the heart. Although we recognize what the reserve force is, it is not very easy to define it in words. Physiologists do not seem to have given it that study which its importance demands. Although difficult to define, its existence is proved in every movement of the body, and in every effort which is made, as it is by the possession of this faculty that we are able with ease to undertake all forms of effort.

Symptoms Produced by Failure of the Output of the Heart.

When an organ fails the evidence of its failure cannot usually be perceived by the study of the organ itself, but by the effects of its impaired function upon other organs. Heart failure means an output of blood from the heart insufficient to meet the requirements of the body, and if we possessed the power we might detect evidence of this limited supply in the various organs. All organs or systems may receive an insufficient supply. There are, however, only a few that give rise to perceptible symptoms, especially in the earlier stages. The first sign of heart failure is evoked by the organ or system which gives rise to the most prominent symptoms, and usually that system is the respiratory. Hence the reason that respiratory distress in response to effort is often the earliest sign of heart failure.

Symptoms Produced by Exhaustion of the Heart Muscle.

When the heart muscle itself receives an insufficient supply of blood, as in blocking of the coronary artery, it may give rise to symptoms when it is called upon to make an effort by reacting on the nervous system, and thus we often get pain on effort as the earliest sign of this kind of heart failure. The same kind of symptom arises when the heart muscle is exhausted from overwork or when supplied by impure blood or blood defective in some essential quality.

The Nature of the Symptoms of Heart Failure.

When we come to look into the mechanism of these two symptoms, respiratory distress and pain, we find that they are both due to a supply of blood insufficient for the effective functioning of certain organs. This is the aspect of heart failure which should be kept in view in describing the various features of affections of the heart. We do not yet possess sufficient knowledge to understand all the processes concerned in heart failure, but the more they are studied the more evident does it become that the symptoms of heart failure are to be found in the impaired function of organs that receive an insufficient supply of blood.

Signs in Advanced Disease of the Heart.

It is necessary to keep this simple description of the essentials of heart failure in mind. Obvious symptoms, such as dropsy and enlarged liver, tend to divert attention from the subtler and more instructive signs. These obvious signs are late developments, and the mechanism of their production is fundamentally the same as breathlessness, in that they are due to the inability of the heart to maintain an efficient circulation in certain organs and tissues.

The Varied Symptoms of Heart Failure.

This presentation of the subject may seem so simple that it might be assumed that the recognition of heart failure is an easy matter. While the principle is simple its application is extremely difficult in the present state of knowledge. Seeing that the main symptoms of heart failure are of the nature of sensations of distress experienced by the patient on effort, we must know what questions to put to the patient, and we must be able to interpret his replies. The ability to do this can only be acquired after a long experience. Sensations of distress on effort may arise from many other conditions than a failing heart; those due to the heart must therefore be clearly distinguished from those due to other conditions. The sensations of distress are often brought out in response only to particular kinds of effort. Thus a mechanic with a damaged heart may be able to swing a forehammer all day, but is pulled up on going up a hill. On a warm day a man may walk ten miles, but he may be pulled up on walking a hundred yards on a cold day.

Identical heart symptoms may arise when the heart muscle is diseased or when it is temporarily weakened from some passing infection. It is necessary to differentiate between these conditions. The severity of the distress may bear no relation to the gravity of the condition. In one man a slight pain may be of ominous significance; in another, pain of an agonizing kind may not be a sign of danger.

The signs of heart failure being mainly sensations of distress, it is useless to seek for a knowledge of heart failure from laboratory experiments. No doubt experiments reveal certain features, but they cannot give us the information necessary for the intelligent practice of medicine. Nor can such information be obtained from those who specialize in heart affections. This will at once become evident when it is realized that the symptoms of cardiac inefficiency are to be found, not in the examination of the heart, but by the symptoms produced by organs which do not receive a sufficient blood supply. Moreover, the heart is so often disturbed or weakened by disease in other parts of the body that an examination limited to the heart would of a certainty mislead.

The organ which receives a diminished supply of blood will give rise to symptoms peculiar to its function. We thus get a diversity of symptoms depending on the organs which are most affected, or rather whose symptoms are most in evidence. Therefore, to understand the symptoms of heart failure it is necessary to understand the symptoms produced by other organs. This kind of knowledge will never be acquired until we have a better understanding of the principles concerned in the production of symptoms. I have repeatedly called attention to the fact that so long as symptoms are incoordinated the study of disease clinically will merely result in an addition to a mass of chaotic details. When it is recognized that though symptoms are infinite in variety and in number the vital processes concerned in their production are few in number, it will be seen that with the recognition of these vital processes the chaotic mass of symptoms will be capable of classification according to their affinity in nature. This has already been demonstrated in describing the reflex process concerned in the movements of the heart. In heart failure the process concerned is an insufficient supply of blood, and each organ which receives an insufficient supply will show symptoms peculiar to its impaired function.

SUMMARY.

1. Heart failure occurs when the heart muscle fails to supply the organs of the body with blood sufficient for the efficient performance of their functions.

2. The symptoms of heart failure are therefore to be found in the symptoms produced by the impaired function of those organs that do not receive sufficient blood.

3. In the first instance this will occur only when the heart is called upon to exercise its full powers; the early symptoms of heart failure will only be produced during some physical effort.

4. This limitation of the field of response to effort is revealed by sensations of distress.

5. When symptoms of heart failure persist when the patient is at rest (dropsy, enlarged liver, orthopnoea) the reserve force of the heart is exhausted and the rest force is being encroached upon.

6. The symptoms of heart failure are not to be found by the examination of the heart.

DRAINAGE IN ABDOMINAL EMERGENCIES.

BY

A. CHURCHILL, M.B., B.S.LOND.,

LATE SENIOR HOUSE-SURGEON, BOLTON INFIRMARY.

VALUABLE papers have appeared from time to time in the *British Medical Journal* and *Lancet* emphasizing the importance of early diagnosis in acute abdominal crises. The responsibility for the heavy death rate of these conditions is in this way laid at the door of the medical attendant who is first called in to see the case.

It is an undoubted fact that the mortality amongst these patients increases in direct ratio to the time which has elapsed between the onset of symptoms and admission to hospital. Too often we have cases sent to the surgical wards which are more fit for the *post-mortem* room than for the operating table. Yet although so much depends on diagnosis, it is no use being blind to the fact that treatment in most of these cases is by no means a matter of universal agreement. Almost every step in our way of dealing with the commonest of abdominal emergencies is still open to controversy: the proper time for intervention, the site of incision, the mode of drainage.

Some surgeons advocate immediate operation as soon as a case of acute appendicitis is diagnosed; others prefer to wait until the crisis is over and operate *à froid*. McBurney's gridiron incision, Battle's incision, a paramedian incision with retraction of the rectus outwards, has each in turn been recommended as the incision *par excellence*. Last, but not least, drainage in the presence of free fluid in the abdominal cavity is a subject on which few agree. Swabbing the fluid out, flushing the peritoneal cavity with lotions, the use of tubes, have all been advocated by eminent authorities. On the other hand, a school of surgeons teaches that the peritoneum is well able to look after itself, and that the less it is interfered with the better. No more swabbing, no more flushing, no tubes, or only one where two or three were deemed necessary.

The 75 cases which form the basis of this paper seem to me to be of interest as having been treated on the lines of strictly limited interference. All the patients came from the working-class practice of a large industrial town, and the majority were not sent to hospital until several days after the onset of symptoms. They are thus anything but "picked" cases. I have purposely omitted four cases of general peritonitis who arrived moribund and died within twenty-four hours of their admission to hospital.

Technique.

The following rules were observed with regard to drainage:

(*a*) Drainage was only carried out in the presence of free pus or thick purulent fluid.
(*b*) The fluid was not swabbed.
(*c*) The peritoneal cavity was not irrigated.
(*d*) Not more than one tube was ever used, this in the great majority of cases being placed in Douglas's pouch.

As soon as the patients had recovered from the effects of anaesthesia they were put in the full Fowler's position, the upper end of the bed being raised on blocks three feet high.

Among those treated are included cases of general peritonitis and of perforation of the stomach or duodenum. At the present day in many teaching schools the routine methods of drainage for such cases are three tubes in the renal, right iliac, and pelvic pouches.

Incision.

The incision varies with the condition present. In doubtful cases a right paramedian incision with retraction of the rectus outwards. In perforations of the stomach or duodenum a paramedian incision above the umbilicus with retraction of the right rectus outwards. In cases of general peritonitis a similar incision below the umbilicus. In the majority of cases of acute appendicitis, McBurney's gridiron incision; this was used in forty-eight out of seventy cases. Battle's incision was only used twice. In a few cases an oblique incision going right through the thickness of the abdominal parietes; this gives excellent access, but doubtless the risks of hernia formation are increased.

Where the position of the appendix is known before operation to be abnormal, as in Case 49, a suitable incision is used.

Only one case of hernia has been recorded as a sequence of the operation. The following table shows why operation was undertaken and the result:

	Total.	Recoveries.	Deaths.	Mortality.
				Per cent.
Acute appendicitis without peritonitis	22	22	0	0
Acute appendicitis with pelvic peritonitis	29	27	2	6.8
Acute appendicitis with general peritonitis	5	4	1	20
Acute appendicitis with localized abscess	14	14	0	0
Perforation of the stomach or duodenum	5	5	0	0
	75	72	3	4

When there was a localized abscess the appendix was not removed in four out of fourteen cases. When the bowel was friable and the appendix difficult to reach it was thought safer to leave it behind. No. 37 was a child of 6, who had general peritonitis and died two days after the operation. No. 45 was a woman of 47, who died of portal pyaemia thirty-four days after admission. No. 58, a boy of 5, had a localized abscess and a gangrenous appendix. He died of intestinal obstruction. All these patients were operated on immediately after their arrival at hospital. It is open to question whether in No. 58 life might not have been saved by waiting until the acute condition was over before operating.

Complications.

These were: pneumonia, 1; pelvic abscess, 1; faecal fistula, 1; subphrenic abscess, 1; hernia, 1. The faecal fistula occurred in the case of a girl of 8 in whom the small intestines were matted together in such a way that the appendix had literally to be dug out of a mass of adherent bowel. During the process a loop of intestine was opened into. A faecal fistula developed which was successfully closed a month after the original operation.

Advantages of Limited Drainage.

The following advantages are claimed for the method of limited drainage:

(*a*) Shock is diminished as time is saved, and the abdominal parietes are not interfered with to the same extent.

(*b*) The after-treatment is less painful. Nothing is more nerve-shattering for a patient than the daily dressing with moving of three large tubes.

(*c*) The formation of a faecal fistula is less frequent, most faecal fistulas being due to ulceration of the bowel by tubes.

(*d*) Adhesions are not likely to form, and intestinal obstruction as an early or later complication is thus avoided.

Two of the perforation cases mentioned in this list were subjected six weeks after the first operation to a second laparotomy for gastro-jejunostomy. In both cases the only adhesions found were over the site of perforation just beneath the liver, and they did not interfere at all with the mobility of the stomach. Would this have been the case if several tubes had been used?

Swabbing the fluid out of the general peritoneal cavity or irrigating it with saline or antiseptics are procedures more likely to do harm than good by disseminating septic material and injuring the already inflamed peritoneum.

The objection which might be raised against the method of limited drainage is the additional risks it involves. As an answer to this it will be seen that out of 75 cases only two patients had secondary abscess formation.

The first patient (No. 34) had acute appendicitis of ten hours' duration, and very few people would have hesitated in closing the abdomen; the infection may have been very virulent. The other case (No. 75) had a very high gangrenous appendix just beneath the liver; the peritoneal cavity was drained, but contrary to rule the tube was not put in Douglas's pouch but behind the caecum, in the right renal fossa. A subphrenic abscess developed later. I am inclined to think that this complication would have been avoided by merely draining the pelvis, as we did in all our other cases. A tube often acts as a focus of infection; it irritates the neighbouring peritoneum and renders it less capable of self-defence. If placed at a spot where the peritoneum is not already inflamed it is more likely to act as a drain and not as an irritating agent. That is the reason why in most of our cases we drain not the appendix site but Douglas's pouch.

Amongst our other cases several were closed which had free turbid fluid in the pelvis. The majority healed by first intention. A few—amongst whom was No. 70, a perforated duodenal ulcer of twelve hours' duration—had a discharge from their wounds a few days after operation. In other words, when there is an abdominal wound and fluid within the abdominal cavity, this fluid, if it does not become absorbed, finds its way out easily via the wound.

These considerations lead me to the belief that a more restricted drainage of the abdomen than has been practised in the past involves no additional risks, whilst it entails advantages which make it a definite improvement in the surgery of emergencies.

SPLENOMEGALY WITH PROGRESSIVE ASCITES AND LOUD VENOUS HUM:

SPONTANEOUS CURE OF ASCITES BY LEAKAGE THROUGH ABDOMINAL WALLS.*

BY

ARTHUR J. HALL, M.A., M.D.CANTAB., F.R.C.P.,

PROFESSOR OF MEDICINE, UNIVERSITY OF SHEFFIELD; SENIOR PHYSICIAN, ROYAL HOSPITAL, SHEFFIELD.

THE following case, in addition to having features of diagnostic interest, eventuated in such an unexpected way that it seems worthy of record.

History.

A single man, aged 25, was admitted to the Sheffield Royal Hospital on June 21st, 1916, suffering from haematemesis. He is a coal-miner by trade. Up to the onset of his illness he had always been actively athletic, playing football regularly. He is a life-long abstainer and non-smoker. He has not suffered from any previous illness except occasional attacks of "influenza."

On the day of onset, in April, 1916, he had worked for three consecutive "shifts" in the pit—that is, practically twenty-four hours without a break. During the third shift he felt pain in his stomach. For the next few days he was out of sorts, and then suddenly vomited about three pints of blood.

He was kept in bed for six weeks, feeling ill and weak. After this he began to improve, and was getting about, until the night of June 19th, when he felt sickly and restless. Next day he had another severe haematemesis in the evening, and again, on the morning of admission, a still larger one.

On admission (June 21st) he complied with all the characteristics of an early chronic splenic anaemia:

1. Spleen enlarged to below navel.
2. Absence of enlarged lymph glands.
3. Anaemia of chlorotic type: red cells 1,350,000.
4. Leucopenia (5,000).
5. Liability to copious gastro-intestinal haemorrhages from time to time.

At that time there seemed no reason to doubt the diagnosis of splenic anaemia. The question of splenectomy was considered, and my surgical colleague and I agreed to wait until the profound anaemia following haematemesis had passed off before advising operation. During the next few weeks he improved. There was no recurrence of bleeding.

About the middle of July, 1916, the abdomen was found to be somewhat fuller, and to contain free fluid. The quantity was not large and it produced no symptoms. It appeared to be the type of ascites not infrequently found in cases of splenic anaemia, without necessarily connoting cirrhosis of the liver.

A very loud venous hum was now detected for the first time over the lower half of the sternum. The area over which the sound was heard extended from the level of the third costal cartilage above to the tip of the ensiform cartilage below, and for a short distance on either side of the sternum. The sound at the upper level was a typical "bruit de diable," such as is heard in the neck of chlorotics. It became gradually louder as the lower end of the sternum was approached, and, suddenly, on reaching the ensiform cartilage, its intensity became extremely increased, so that it might be described as a continuous "roar." At this latter area a thrill could be felt on light palpation, disappearing on firm pressure. The sound was slightly increased during inspiration, but was continuous throughout the respiratory cycle. There were no visible enlarged cutaneous veins.

During this time the anaemia showed little improvement in spite of treatment, and he had one or two attacks of epistaxis. Towards October, 1916, the ascites began to increase very much, so as to necessitate tapping on October 20th. After this it refilled rapidly and the tapping had to be repeated nine times during the next three months, varying

* An account of this case was given at the meeting of the Association of Physicians held at Birmingham in May, 1921.

quantities, up to 13 pints, being removed each time. About Christmas the lower abdominal wall became sore, and on further attempts to tap him it was impossible to get any quantity of fluid away. Abdominal section was considered, but owing to the condition of his abdominal wall it was thought to be very undesirable.

After this the man's condition was deplorable. The abdomen was greatly distended, there was secondary oedema of the legs, and it was necessary to keep him almost continuously under morphine on account of the constant pain from distension. It seemed certain that he would die.

As regards diagnosis, the progressive ascites with rapid loss of flesh following his early symptoms of splenic anaemia made cirrhosis of the liver seem probable—in fact, a typical picture of Banti's disease, except for the rapidity of progress, which was measured in months instead of years. This view was supported by the presence of the loud venous hum over the sternum, such as is occasionally found in cases of hepatic cirrhosis.

About the end of January, 1917, a remarkable change gradually came over the scene. The abdominal walls had become greatly distended, and there were large numbers of "lineae atrophicae." Through these stretched areas of the lower abdominal wall the ascitic fluid began to ooze at various points. The oozing continued night and day for the next few weeks. Dressings were applied constantly to soak up the fluid, and during the next week or two the abdomen began to diminish in size. The pain became less, so that morphine was no longer required. His appetite returned and he put on flesh. Week by week he improved steadily, and in April, 1917, one year after the first onset of symptoms, and about three months after the oozing had begun, it ceased completely and he was able to get about. Since then he has made an uninterrupted recovery.

I examined him in May, 1921, four years after he had left hospital. He was then in good health, well nourished, and able to do his work and enjoy life, though somewhat less strenuously than before his illness. The spleen is just as large as it was when I first saw him in June, 1916. He does not look pale. There is no increased fragility of the red cells. There is no ascites. There has been no further haematemesis. The venous hum is now limited to an area about the size of a halfpenny, situated over the middle line opposite the sixth costal cartilage. It is much less loud than before. There is a very faint thrill on light palpation.

REMARKS.

The venous hum was first heard in July, 1916, soon after the second attack of haematemesis, at the same time that a certain amount of fluid was first detected in the abdomen. How long the murmur had been present is uncertain. When first heard it was so loud and obvious that it could hardly have been missed had it been present when he was examined on admission about a month earlier.

Thayer[1] has given a detailed account of recorded cases of venous hums heard over and about the abdomen. These vary widely in position and degree according to circumstances. They may or may not be associated with visibly enlarged cutaneous veins. In four cases the sounds described correspond so closely to that in my case that their similarity of origin seems probable.

Rolleston[2] quotes a case under Ogle at St. George's Hospital of a man, aged 58, who died of cirrhosis of the liver. A loud murmur had been heard during life behind the sternum, and at autopsy the left internal mammary vein showed a varicose condition in this region. It then turned inwards to the falciform ligament and ran into the left lobe of the liver, joining the left branch of the portal vein.

He also records a case of his own, a man aged 43, who died of cirrhosis of the liver. There was a continuous bruit in the epigastrium, resembling the "bruit de diable" heard in the neck. The falciform ligament contained a thin-walled vein as large as the little finger. He says: "When the hum is loudest over the lower end of the sternum above the lower margin of the liver it is probably produced in a dilated coronary vein, or in a dilated communication between the internal mammary vein and branches joining the portal vein."

In all these cases the presence of cirrhosis of the liver was either proved at autopsy or was strongly suspected during life. So far as I can ascertain, no case having a similar loud venous bruit audible in this particular situation—namely, over the xiphisternum—has been recorded in any other pathological condition than cirrhosis.

Spontaneous Restoration of Portal Equilibrium.—I have not been able to find a record of any case of ascites which has similarly cured itself by multiple leakings through the abdominal wall. Jenner[3] published a case in which, after several tappings, the abdominal wall close to the navel burst with a loud report, but whether the result was satisfactory or not I do not know.

DIAGNOSIS.

As the patient is still alive the actual pathological conditions must, for the present, remain a matter of speculation. It is possible to exclude certain alternatives. Thus there is no question of alcohol, as the man is a life-long abstainer. Syphilis may also be excluded, as the blood gives a definitely negative reaction. Gaucher's disease is rare, and in the absence of any family history, known occurrence in childhood, or typical stigmata of the disease, such a diagnosis is not supported by the facts of the case. Familial splenomegaly is negatived by the absence of family history, of jaundice, and of increased fragility of the red cells. The absence of jaundice also excludes biliary cirrhosis.

The diagnosis, therefore, seems to rest between:

1. A primary portal cirrhosis—not due to alcohol.
2. Thrombosis of the portal vein.
3. Splenic anaemia (with or without cirrhosis of the liver).

As regards (1) primary portal cirrhosis (not alcoholic), we may set the rarity of such a condition in adults, the absence of any early dyspeptic symptoms, the very large hard spleen preceding any recognizable ascites, and the complete cessation of progress when portal equilibrium was re-established.

There are several points in this case which seem to fit in with the diagnosis of (2) portal thrombosis. In the first place there is the sudden onset of symptoms. His first abdominal pain came on whilst he had been at hard manual labour at the "coal-face" for nearly twenty-four hours. We may assume, therefore, that he was not anaemic to any extent previous to that time. This alone is not pathognomonic, because it is familiar knowledge that in typical splenic anemias patients usually do not present themselves for treatment until the spleen is already very large, and must therefore have been enlarging for some time without producing symptoms sufficient to require treatment. If, however, this abdominal pain marks the onset of portal thrombosis, the occurrence of severe haematemesis a few days later would also be explicable on the same grounds.

I am informed by his medical attendant, Dr. West Jones of Eckington, that the spleen was enlarged to a considerable extent whilst he was attending him before admission, but there is no exact record as to when it was first noticed. The onset of progressive ascites in the late summer would suggest further extension of thrombosis to other branches of the portal vein. The course and progress of the case are also consistent with this diagnosis. His profound anaemia when first seen in June, 1916, could be sufficiently accounted for as "post-haemorrhagic."

If the diagnosis of portal thrombosis is correct it would seem that now his obstruction is relieved he is in much the same condition as a man who has recovered from a femoral thrombosis, whose only inconvenience is the mechanical damage which the obstruction has caused to the affected leg. In his case the mechanical damage is an enlarged spleen and probably a good many abdominal adhesions.

There is considerable evidence, both clinical and pathological, that cases of portal thrombosis simulate splenic anaemia very closely. Parkes Weber[4] recorded such a case in a woman. The onset dated from a confinement in August, 1910. She had ascites, enlarged spleen, and severe haematemesis five years later, from which she never recovered. At autopsy thrombosis of the portal tract was found. There was no cirrhosis of the liver. Galloway[5] also recorded a case in a man, aged 28, with splenomegaly, leucopenia, recurrent haematemesis, and ascites. Splenectomy in his case was followed by death in ten days. At autopsy there was no cirrhosis of the liver, but definite portal thrombosis.

Similar cases have been known and recorded previously. Langdon Brown,[6] in his review of pylethrombosis and suppurative pylephlebitis, mentions a case which was admitted into St. Bartholomew's in 1872 and had been diagnosed as portal thrombosis twenty years before admission. The patient was a woman, aged 48. She had pain in the left side twenty-six years previously, following the birth of her second child. Haematemesis occurred at intervals; the spleen reached to the navel. At autopsy the portal vein was found to be a mere cord with fine lumen. The liver was normal. It is interesting to note that in the report of this case no mention is made of ascites having been present, in spite of the extent of the thrombosis.

As has been pointed out by others, there is no certainty, even if portal thrombosis is the only lesion found at autopsy, that it has caused the condition or even preceded the onset of splenomegaly. Even if it has done both we are still left in doubt as to what has been the cause of the thrombosis.

On the whole I am inclined to look upon this as a case of "portal thrombosis." Possibly the further course of the case may show more definitely the underlying pathological condition. Meanwhile the question arises, Should splenectomy be advised now? Considering the very large size of the spleen, the probable existence of considerable adhesions in the abdomen, and the fact that he is practically free from symptoms, I think the answer should be in the negative.

REFERENCES.

[1] Thayer: *Amer. Journ. Med. Sci.*, cxli, 1911, p. 313. [2] Rolleston: *Diseases of Liver*, 1912, p. 211. [3] Jenner: *Lancet*, 1874, i, p. 1. [4] Parkes Weber: *Proc. Roy. Soc. Med.*, 1912, v, No. 4 (Clinical, p. 113); and 1916, ix, No. 3 (Clinical, p. 1). [5] Galloway: *Proc. Roy. Soc. Med.*, 1914, vii, No. 5 (Clinical, p. 90), and No. 8 (Clinical, p. 137). [6] Langdon Brown: *St. Bartholomew's Hospital Reports*, 1901, xxxvii, 155.

THE RECORD OF A BRIEF EXPERIENCE WITH THE SACHS-GEORGI TEST.

BY

P. PARTHASARATHY, L.R.C.P., L.R.C.S.EDIN., D.P.H.CAMB., D.T.M.LOND.;

AND

MARY M. BARRATT, M.B., CH.B.GLASG.

With an Historical Account of the Development of Flocculation Tests for Syphilis,

BY

J. C. G. LEDINGHAM, C.M.G., M.B., CH.B., F.R.S.

(From the Lister Institute, London.)

OUR only excuse for placing the following notes on record is the fact that hitherto comparatively few collated results of parallel Wassermann and Sachs-Georgi tests have appeared from laboratories in this country. It will doubtless be the policy of the near future to institute carefully planned investigations on the great scale dealing with parallel complement-fixation and flocculation tests with a view to the selection of the best working methods and the correlation with clinical experience of what may prove to be the future routine serological test for syphilis. Pending the appearance of such massed statistics it may be of interest to record the capabilities of a flocculation test performed with material sent from outside sources to the diagnosis department of this institute accompanied by clinical data of varying completeness. Our series comprises only 265 serums forwarded to the institute during the period July to October, 1921. One of us (B.) carried out the routine Wassermann tests, while the other (P.) undertook, solely as a matter of research, the parallel flocculation tests.

METHODS EMPLOYED.

Flocculation Tests.

Two antigens were employed throughout ("D" and "L"), and the results with both are summarized. Antigen "D" was that of Bordet and Ruelens (1919), with the addition of cholesterin as recommended by Dreyer and Ward (1921), and the latter's technique was strictly adhered to so far as qualitative diagnosis was concerned, no attempt being made in this short series to probe the possibilities of quantitative evaluation. A dropping apparatus was used, and for the first 122 serums five tubes containing dilutions of serum varying from 1 in 1.25 to 1 in 26.4 in a total volume of 25 drops were put up. Later, as the results from the first tube were indefinite, and as a large quantity of serum was required, the first tube was dispensed with. The mixture of antigen, saline, and serum was incubated at 37° C. for seven hours in a water-bath, and the results then read. One batch of antigen was employed throughout, and was preserved in a cool incubator at a temperature of about 22° C. Antigen "L" was simply an alcoholic extract of guinea-pig's heart muscle, to which was added a 1 per cent. solution of cholesterin in the proportion of 9 parts of heart extract to 1 of the cholesterin solution.

For the first 132 cases four tubes were put up, containing in a total volume of 26 drops a constant quantity of pure serum (6 drops) and 20 drops of a dilution of antigen varying from 1 in 20 to 1 in 80. For the remaining half of the series the antigen was kept constant in the four tubes (20 drops of a 1 in 40 suspension) and the serum was varied from 1 drop to 6, the total volume being made up to 26 drops.

The dilutions of serum in the tubes were therefore 1 in 3, 1 in 6.5, 1 in 13, and 1 in 26. The serums had been previously heated at 54° C. for 90 minutes. The tubes were incubated for five hours in a water-bath at 37° C. and the results were read 20 minutes after removal from the bath. They were reread after standing at room temperature for twelve to fourteen hours.

One batch of this antigen "L" was used throughout and experience showed that preservation in the cold (about 4° C.) was most satisfactory. Results with both antigens were recorded as "standard" (easily visible to the naked eye), "trace" (visible with lens), and "negative." At each test controls were used—namely, one Wassermann-positive serum, one Wassermann-negative serum, also previously tested positive and negative Sachs-Georgi samples. The antigen was also put up alone to exclude any non-specific precipitation.

Wassermann Tests.

These were performed with the antigen employed here—namely, an alcoholic extract of guinea-pig's heart muscle, to which is added before the test a 1 per cent. cholesterin solution in the proportion of 5 parts of extract to 4 parts of the cholesterin solution. Of this antigen a 1 in 90 dilution was used.

RESULTS.

Total number of serums tested	265
Of these, Wassermann positive	91
Positive flocculation ("L")	86
Positive flocculation ("D")	74

The degree of agreement may be otherwise expressed for the two antigens used, thus:

W+ L+	83	W+ D+	71
W− L−	171	W− D−	171
W+ L−	8	W+ D−	20
W− L+	3	W− D+	3
Total	265	Total	265

Thus, comparing the Wassermann and the flocculation tests by "L" antigen the total number of discrepancies in the series was 11, or 4.1 per cent., and in the case of "D" 23, or 8.6 per cent. The 91 positive Wassermann tests are classified as 70 "full positive," 10 "partials," and 11 "slight partials." Corresponding to this grouping the results with "L" and "D" are as follows:

	Total Positive.	Full Positive.	Partial Positive.	Slight Partial.
W	91	70	10	11
"L"	83	67	9	7
"D"	71	61	5	5

Thus 5 of the 8 missed positives with "L" antigen correspond to partial and slight positive Wassermann reactions, and half of those missed by "D" antigen are similarly accounted for. Only three serums yielded positive results with both "L" and "D" antigens, while the corresponding Wassermann tests were negative. In all three the flocculation tests were recorded as "trace" reactions. One was from a latent case under treatment and in which the Wassermann test had been positive seven months previously; another was untreated and was stated to have a rash on trunk and perforation of palate (certainly a suggestive history); while the third came with no particulars.

Treated and Untreated Cases.

One hundred and fifteen of the series were stated to be treated cases, while 150 were entered as untreated or "no particulars." They are thus grouped:

	Total.	W+.	"L"+.	"D"+.
Treated	115	31	28	23
Untreated	150	60	55	48
Total	265	91	83	71

Primary Cases.—There were 20 cases of primary sore, in 9 of which spirochaetes were found. They yielded 9 positive results by all three methods.

Only 5 cases of nerve syphilis appear in the list, with a yield of one positive result with the Wassermann test, the corresponding flocculation tests proving negative.

Discussion.

It has been customary to take the discrepancy percentage as a measure of the efficiency of a flocculation test, and on this basis the results from our small series compare favourably with those recorded by other workers in this country who have published results within the last eighteen months. The discrepancy percentage, however, must in the meantime be regarded solely as a provisional measure of efficiency. The ultimate interpretation of discrepancies between complement-fixation and flocculation tests must, as Lesser (1919) has wisely pointed out in a paper dealing with results by three different methods (Wassermann, Meinecke, and Sachs-Georgi), rest with the clinician, whose record of the past, present, and future clinical course of the case and response to treatment will materially assist the serologist to appraise with some confidence the results from different methods and to eliminate those which prove unsatisfactory. The flocculation test may indeed prove, as Dreyer and Ward suggest, to fit the clinical facts even better than the Wassermann. Even now, with some sixteen years' experience of the Wassermann test, doubtful reactions are constantly occurring (especially in treated cases), and the correlation of these with parallel flocculation tests may serve to place the latter on a proper footing with respect to the clinical condition in the diagnosis of which it is designed to participate. So far, the agreement

between Wassermann and flocculation tests carried out under the best auspices is remarkably good, and there is every reason to expect that further extensive experience of parallel tests in relation to syphilitic disease will lay a sure foundation for the flocculation test as the future test of election for syphilis.

THE DEVELOPMENT OF FLOCCULATION METHODS.

It is, we think, of prime importance that the profession should be familiar with the historical development of a test which, now that the time seems favourable, may have a chance of establishing itself as the method of choice.

The Wassermann reaction dates from 1906, when the paper by Wassermann, Neisser, and Bruck appeared. This test, which at first was regarded as a true antigen-antibody reaction, was made possible by the demonstration in 1901 by Bordet and Gengou that, in the reaction between antigen and antibody, complement, if present, was fixed and consequently rendered unavailable for completion of haemolysis in a haemolytic system. In the following year (1907) it was shown by Landsteiner, Müller and Pötzl, Levaditi and Yamanouchi, and Porges that the effective substance which reacted with syphilitic serum was not present solely in organ extracts of luetic cases, but also in extracts of normal organs. Further, this effective substance was shown by them to be contained almost solely in the alcohol-soluble fraction, its association therefore with a lipoidal substrate being thus demonstrated. In this same year Michaelis noted in one single instance the formation of a visible precipitate when the extract of a luetic liver was brought in contact with a luetic serum. He concluded wrongly that this observation supported Wassermann's view of the specific character of the Wassermann test as a true antigen-antibody reaction. However, chance observation as it was, it gave the impetus to those attempts which have followed each other down to the present time to substitute for the complicated system of the Wassermann reaction a straightforward flocculation test involving two ingredients only. Following this isolated observation of Michaelis, Porges and Meier (1907, 1908) were the first to probe the possibilities of practical application, and, curiously enough, they chose to work, not with alcoholic organ extracts, but with commercial lecithin preparations (from egg yolk), the capacity of which to act as antigen in the Wassermann reaction had already been demonstrated. For many reasons, however, and more especially the instability of the lecithin suspensions and the occurrence of flocculation with normal serums, the use of lecithin was discontinued, and in later work by Porges, in collaboration with Elias, Neubauer, and Salomon (1908), resort was had to the use of sodium glycocholate, a salt possessing colloidal properties in solution, and which Levaditi and Yamanouchi had previously found to function as an antigen in the Wassermann test. Porges states that with this salt as antigen results were achieved which approximated in accuracy to those yielded by the Wassermann test; but it would appear that no thorough testing of flocculation methods was possible or practicable at this period, the Wassermann test in all its many modifications and improvements claiming the undivided attention of serologists and clinicians alike.

In the meantime the properties and mechanism of action of lipoids in serological reactions were being minutely investigated by numerous workers. Among them Sachs and Rondoni (1909), in the course of a study of the antigenic powers of lecithin in the Wassermann reaction, demonstrated an increased action of lecithin in the presence of sodium oleate, and in the following year (1910) Browning, Cruickshank, and McKenzie demonstrated the remarkable action of cholesterin in increasing the amount of complement absorbed in the presence of a mixture of lecithin and luetic serum. Taking advantage of this discovery, Herman and Perutz (1911) mixed cholesterin with sodium glycocholate with the object of obtaining a more visible flocculum in the presence of syphilitic serum. This modification proved in Herman and Perutz's hands more sensitive than the original technique of Elias, Neubauer, Porges, and Salomon with the glycocholate alone, and yielded positive results in certain luetic cases when the original method gave no visible flocculation whatever. Meanwhile the flocculation of these lecithin suspensions again drew attention to the study of the inner mechanism of the Wassermann reaction. Was the complement really fixed by virtue of a precipitin reaction? No visible precipitation, apart from chance observation, was noted, which might account for the fixation of complement in the presence of alcoholic organ extract and luetic serum. Jacobsthal (1910), however, succeeded in demonstrating by the ultra-microscope the occurrence of floccular masses, the development and growth of which could be followed. He even attempted to employ the method practically, and stated that absolutely negative results occurred with non-luetic serums, but the percentage of positive results was not quite so high as in the Wassermann-positive series.

This work was followed up by Bruck and Hidaka (1910), who found that, by the aid of the centrifuge, precipitates, small indeed in bulk, could be obtained after some prolonged contact of alcoholic liver extract from foetal lues with luetic serum at a low temperature. With the object of making this precipitate more bulky, and consequently more visible, they added mastix to the system, and with this technique it was possible to obtain results approximating to the Wassermann, but a fair percentage of discrepancies occurred. The outcome of this form of study was to support strongly the view that the Wassermann reaction depends primarily on fixation of complement by an invisible precipitate (nascent precipitate) taking place in the earliest stage of the interaction between the alcoholic organ extract and the luetic serum. Apparently the only difficulty now was to secure an extract sufficiently sensitive to show visible precipitation in the presence of luetic serum. Hecht (1916) had definitely successful results, but the most recent and definitive stage in the development of flocculation methods as practical diagnostic aids was reached towards the end of the war, when Meinecke (1917) and Sachs and Georgi (1918) came forward with tested procedures, the latter of which (by Sachs and Georgi) is likely, either in its original or more possibly in some modified form, to become the method of election.

Meinecke's method is known as the two-stage method, and in its ordinarily practised form (the so-called salt method) is carried out on the following lines, purely technical details being omitted:*

An ordinary Wassermann extract in distilled water dilution, and containing no cholesterin, acts as antigen. Mixtures of inactivated serum and antigen in this salt-free medium are kept at incubator temperature for twenty-four hours. At the close of this period all tubes should show flocculation, whether they contain normal or luetic serum. The second stage now commences. A definite amount of a sodium chloride solution of previously determined strength is run into each tube. After an hour's further sojourn in the incubator the tubes are read, when it is found that in the Wassermann-negative series the flocculi are dissolved up, while the Wassermann-positive series remain permanently flocculated.

The salt concentration determined from previous experiment is that which will in one hour just completely dissolve the flocculi in the normal controls, so that differences can be elicited as between strongly positive, weakly positive, doubtful, and negative series.

The Meinecke reaction appears to be a perfectly straightforward and feasible test. It has been tried by many workers in Germany, generally in conjunction with the Wassermann and with the Sachs-Georgi reaction presently to be described. On the whole, however, it has found much less favour than the latter.

With their experience of complement-fixation technique, and their intimate knowledge of the comparative values of simple alcoholic organ extracts and purified lipoids as antigens, Sachs and Georgi (1918) chose as antigen an alcoholic extract of bullock's heart (hearts of other animals are, however, admittedly suitable), to which cholesterin as an absolutely indispensable adjunct is added. For the Wassermann test it is of course not indispensable, though sufficiently advantageous to make its use almost universal, but for the flocculation test its presence is essential for visible precipitation. The cholesterinized alcoholic extract is diluted with five parts of physiological saline. One c.cm. of a 1 in 10 dilution of the inactivated patient's serum is mixed with 0.5 c.cm. of the diluted extract along with the necessary controls. The tubes are left either for two hours at 37° C., and then overnight at room temperature, or they are kept continuously at 37° C. for eighteen to twenty hours. Positive reactions are read as +++, ++, and +, while the control serums remain clear or slightly opalescent. Both Meinecke's and Sachs and Georgi's reactions have been extensively tested in large series, and a summary of results in over 12,000 cases by various workers who compared the Sachs-Georgi with the Wassermann reaction in parallel series yielded a conformity

* In flocculation procedures technical details are all-important, but those interested must refer to the original papers cited below.

percentage with the Wassermann of no less than 92.44 per cent. (Sachs and Georgi, 1920).

The most recent advance is that of Dreyer and Ward (1921), who follow in principle the method of Sachs and Georgi, but prefer as antigen, on the ground of greater stability, one recommended by Bordet and Ruelens (1919) for Wassermann tests. To this antigen, which, according to Bordet and Ruelens, can itself be flocculated in the presence of luetic serum, Dreyer and Ward add cholesterin. They claim that with a stable antigen and a refined technique involving the quantitative expression of all degrees of flocculation, the test so conducted can lend itself to accurate standardization in terms of standard units.

Time and experience on the large scale will show how far this claim is justified and compatible with practicability in the hands of average workers, whose power to translate visual impressions into arithmetical language is notoriously variable. In treated cases particularly, the superiority of quantitative readings in flocculation tests over the purely qualitative evidence of the Wassermann would be warmly acknowledged, and it is to be hoped that the extensive parallel series which we understand are in contemplation may furnish important information on this point.

The above sketch is concerned solely with methods based on the mutual interaction of organic colloids and takes no account of the various and, on the whole, unsatisfactory tests which involve merely the precipitation of serum globulins by electrolytes.

BIBLIOGRAPHY.

Bordet, J., and Gengou, O.: *Ann. de l'Inst. Past.* (1901), 15, 289.
Bordet, J., and Ruelens, G.: *Compt. rend. Soc. Biol.* (1919), 82, 880.
Browning, C. H., Cruickshank, J., and McKenzie, J.: *Journ. Path. and Bact.* (1910), 14, 484.
Browning, C. H., and Cruickshank, J.: Ibid. (1911), 16, 225.
Bruck, C., and Hidaka, S.: *Zeit. f. Immunitätsf.* (1910), 8, 476.
Dreyer, G., and Ward, H. K.: *Lancet* (1921), i, 956.
Elias, H., Neubauer, E., Porges, O., and Salomon, H.: *Wien. klin. Woch.* (1908), 748, 831.
Hecht, H.: *Zeit. f. Immunitätsf.* (1916), 24, 253.
Herman, O., and Perutz, A.: *Med. klin.* (1911), 60.
Jacobsthal, E.: *Zeit. f. Immunitätsf.* (1910), 8, 107.
Landsteiner, K., Müller, R., and Pötzl, O.: *Wien. klin. Woch.* (1907), 1565.
Lesser, F.: *Berl. klin. Woch.* (1919), 224.
Levaditi, C., and Yamanouchi, T.: *Compt. rend. Soc. Biol.* (1907), 63, 740.
Meinecke, E.: *Berl. klin. Woch.* (1917), 613; Ibid. (1918), 83; *Muench. med. Woch.* (1918), 1379; *Deut. med. Woch.* (1919), 178, 323, 650, 821; *Muench. med. Woch.* (1919), 932.
Michaelis, L.: *Berl. klin. Woch.* (1907), 1477.
Porges, O.: *Berl. klin. Woch* (1907), 1655; *Wien. klin. Woch.* (1908), 206.
Porges, O., and Meier, G.: *Berl. klin. Woch.* (1908), 731.
Sachs, H., and Georgi, W.: *Med. klin.* (1918), 805; *Arb. a. d. Inst. f. exp. Ther. Frankf.* (1920), H. 10, 5.
Sachs, H., and Rondoni: *Zeit. f. Immunitätsf.* (1909), 1, 132.
Wassermann, A., Neisser, A., and Bruck, C.: *Deut. med. Woch.* (1906), 745.

RESIDUAL VACCINES IN ACUTE BACTERIAL DISEASES.

BY

C. E. JENKINS, M.R.C.S., L.R.C.P.,

PATHOLOGIST TO SALFORD ROYAL HOSPITAL.

WHEN a dose of any vaccine is administered the extent of the resulting general reaction is beyond control. In chronic disease and where prophylaxis is intended it is possible to adjust the dose so that the reaction, if any, is small and therefore negligible. But cases which are acutely ill may, and usually do, react violently to a dose which would cause only trivial malaise in the other types of cases. The reason for the lack of control lies in our inability to gauge the effect before administration.

Another objection less frequently heard is to the effect that the patient is already "full of toxins," and any addition is not likely to improve his state. The argument is so plausible that its hypothesis is overlooked and suffered to pass unquestioned. The patient is not "full of toxins" until he is moribund; and since that is a clinical estimation, the lethal amount of toxin may have been reached before or after the patient is estimated to be in that condition. The objection also appears to presume that the human organism is a kind of pot into which a fixed amount of toxin may be poured. In any case the criticism misses the mark as far as residual vaccines are concerned, for they contain neither toxin nor endotoxin. It is evident that lack of control is the real bugbear, and I believe that the system about to be described is one which goes some way towards meeting the difficulty.

The treatment of acute sepsis does not permit delay, consequently it is not justifiable to wait for the preparation of an autogenous vaccine. A stock vaccine may be below an autogenous in efficiency, but the prospect of success in a given case would be placed in far greater jeopardy by two or three days' delay before commencing treatment.

To be generally useful a stock vaccine must contain the organisms that are most likely to cause such conditions as septicaemia, pyaemia, peritonitis, cellulitis, and large carbuncles associated with grave toxic disturbance. Two vaccines were therefore prepared: the first contained equal numbers of the streptococcus, pneumococcus, staphylococcus, and diphtheroid bacillus; the second contained the colon bacillus instead of the pneumococcus—in other respects it was the same as the first vaccine. A certain degree of discretion is needed to decide which of the two is the more suitable in a given case, but as a simple guide it may be said that the first is intended for all purposes except septic conditions of the abdomen and pelvis, in which the second will be found more generally useful.

A stock vaccine was frequently required in the out-patient department, and the opportunity was taken to note the largest dose that most walking chronic cases could tolerate without a general reaction. A minority showed a reaction with this dose, but they were ignored because it is impossible to assess individual idiosyncrasy on a graduated scale.

The vaccine was next tried with acute cases, starting with very small doses, and increasing them as experience demonstrated their lack of effect. A dose was ultimately reached which was capable of producing marked clinical improvement without causing any discernible clinical reaction. This was true of the great majority; a small minority reacted with undesirable intensity, and the problem they presented still awaited solution. The dose was one-third that of the corresponding dose in the chronic cases, and was approximately 80 millions of the mixed organisms. It will be observed that the vaccines were standardized upon a physiological basis. This method is, in the author's opinion, more exact than the counting methods, which are notoriously only accurate, as far as can be discovered, to within about 40 per cent. This dose, suitable for acute cases, was termed the standard dose.

The solution of the difficulty presented by the minority was found in a close study of the clinical manifestations of the effects of the vaccines. The following facts emerged:

(*a*) A general reaction in an acute case will be seen, if at all, in six to ten hours after injection.

(*b*) An improvement will make itself evident in nine to eighteen hours.

(*c*) It will be admitted that, if two doses of a vaccine are given within a few minutes of each other, the effect will be as if one dose equal to the sum of the previous two had been given. It was found that this rule invariably held good for all periods up to twenty-four hours, and was commonly true up to forty-eight hours.

These three items taken together offer a simple method of dealing with the matter.

Since the lengths of time in (*a*) and (*b*) are appreciably shorter than in (*c*) it is possible to give a fraction of the standard dose, then observe its effect, and if neither reaction or improvement occurs the second fraction can be administered next day. Any reaction following this second fraction is either very mild or, more frequently, so small as not to be recognizable clinically. After the first dose has been completed, in one or two portions, no further vaccine should be given for at least four days; it is better to wait five or six.

The system is very simple in operation and gives such reliable results that there is some danger of it generating a belief that the clinician is working with a remedy of very feeble potency, and that he can do as he pleases upon occasion. When a first fraction produces no result of any sort and the second a marked improvement without visible reaction there is a temptation to "continue" the benefit by giving a third fraction on the third day. If this is done the resulting general reaction may be very disconcerting, and although permanent harm has not ensued, for a few hours the aspect of the patient has been such as to deter me from any further excursions in the same direction.

It is not every case that needs a second dose, or a second fraction of the first dose. The first dose is frequently sufficient to be a turning point in the course of the disease, enabling the patient to recover without further stimulation.

The rapidity with which improvement can show itself throws an interesting light upon the question of a "negative phase" in connexion with this type of vaccine. The patient's tolerance to a second dose is not established for some four or five days after the first dose, and during that time he is

abnormally sensitive to the vaccine, yet the clinical change for the better appears in a much shorter time, and we may therefore only conclude that the patient's general resistance does not coincide with his resistance at the focus of infection. This is demonstrated in a remarkable manner in cases of large carbuncles accompanied by grave toxic symptoms. The disappearance of the slate-blue colour round the lesion and its replacement by a bright red erythema is a striking change that occurs in a few hours. A possible explanation is that the first antibodies produced by the vaccine are all removed from the circulation as quickly as they are formed by some process of concentration at the site of infection. Whether the inflamed tissues in that area play an active or a passive part in this fixation of the antibodies is a matter of speculation at present.

The following cases are the first few treated with the vaccine, and nearly every one illustrates some point discussed above. The cases have not been "selected," but are a true consecutive series.

Case 1.—Aged 26. Septic finger due to running dirty scissors into it. Next day, small pustule, lymphangitis, and axillary adenitis. The finger was fomented and the lymphangitis disappeared, but swelling of the whole digit commenced. Serum only on incision. General lassitude. Vaccine given on seventh day. Next day the swelling was rapidly subsiding; there was distinct tenderness at the point of original injury. Pus visible that evening; on incision, a large quantity escaped and there was complete relief from pain. Next day, a clean granulating surface, which was completely healed on the fourth day after administration of vaccine.

Case 2.—Aged 11. Streptococcal peritonitis, apparently idiopathic. Abdomen opened, drain inserted: prognosis hopeless. Vaccine given twenty-four hours later, up to which time the patient was maniacal and apparently dying. Heroin failed to calm the patient. Six hours after vaccine was given the patient went quietly to sleep, temperature and pulse fell, the former several degrees, and the case made an uneventful recovery.

Case 3.—Pyaemia; purulent arthritis of right elbow with abscesses in axilla and groin. Temperature 100° to 102.2°, pulse 100 to 120. Vaccine given. The next day the temperature was still swinging, but on the down grade. A second dose was given four days later, and temperature and pulse settled finally on the tenth day.

Case 4.—Aged 11. Acute osteomyelitis of spine and infection of canal. Prognosis hopeless. Vaccine given on the sixth day at 11 a.m. That evening the temperature rose half a degree, but the next morning was down one degree; the pulse fell from 140 to 110. The patient was operated on that afternoon, and died early next morning.

Case 5.—Carbuncle of hand, involving half of palm, index finger, and back of hand; acute toxic symptoms and swelling of arm; tissues blue-grey in appearance. Prognosis very serious. Vaccine given; no reaction, but tissues had lost blue colour within twelve hours; the carbuncle was surrounded by deep scarlet erythema, hot to the touch; toxic symptoms much less. Not content with this a second dose was given next day, and caused an alarming reaction for a few hours; then all passed off. A large slough separated on the eighth day, and a clean granulating surface was left which healed rapidly.

Case 6.—Infant aged 8 months. Furunculosis and toxaemic absorption; sleeping badly. Vaccine given and child taken home. Next day there was great improvement; the child slept well from then onwards. The mother volunteered the statement that the lesions had changed colour from blue to red. No sign of a general reaction. No further treatment needed.

Case 7.—Acute appendicitis, large burst abscess, and peritonitis in a female aged 40. She appeared to be doing well for three days after operation, then became worse—abdomen distended, anxious facial expression, wound drain diminished, temperature and pulse rising. Vaccine given, with prompt improvement within sixteen hours; there was profuse outpouring of pus. The patient looked much better, and distension disappeared. A second dose was given forty-eight hours later. Prompt reaction caused the patient to feel very unwell, and for a few hours the medical attendant had grave doubts as to her recovery. Next day she seemed better than ever, and eventually made a complete recovery.

Case 8.—Phagedaenic primary sore of penis; widespread septic infection of groins; advanced pyorrhoea. The patient was in a filthy personal condition. Streptococcus isolated by blood culture. Vaccine given on two occasions without clinical benefit; no reaction at any time. Ulcerative endocarditis found at necropsy.

Case 9.—Acute osteomyelitis in a patient aged 10. Bone opened up and drained, but temperature remained for seven days after operation at about 103°, with no sign of subsiding. Vaccine given, and temperature fell to 98° six hours later, and was 97° in another eight hours.

Case 10.—Pyaemia. Patient was ill three weeks before vaccine was given. No reaction or benefit after both fractions of the first dose, a week's interval was allowed to elapse before giving a second dose. Again no reaction or improvement, so another week's interval was ordered. The third dose was then given, with the same result. All three doses were the same size.

Case 11.—Primary sore of penis with severe balanitis, becoming gangrenous in one part. Vaccine caused a small slough to separate, with total disappearance of the surrounding swelling, and left a small clean sore. No sign of a general reaction.

Case 12.—Subacute cellulitis of leg. Chronic indurated area which was subject to periodical acute exacerbations. Vaccine cleared up the condition promptly. No general reaction observed.

Case 13.—Streptococcal septicaemia. Patient had been ill for fourteen days when residual vaccine was first given. A previous dose with the common toxin-containing vaccine produced a reaction which lasted several days and from which no good result was derived. The first dose of the author's vaccine produced no result of any sort, and a second dose four days later also failed to make any impression. The temperature remained at about 105° all the time. The patient died four days after the second dose was administered.

These cases cannot be called promising from the standpoint of collecting a good "record" of results, but the author has acted in accordance with the belief that a remedy can only be tested thoroughly when it is given an opportunity to fail as well as to succeed. In no instance was there the smallest sign of an undesirable result due to the vaccine.

One fact is very clear: vaccine treatment can cure when other remedies have been tried and have failed, but the best results can only be expected when the vaccine is given as early as possible in the disease. It cannot be expected to resuscitate those with the death rattle already in their throats, although on occasion it seems to have come tolerably near to it.

The most important feature of all these cases is that in no case where the fractional dose system was followed did any alarming general reaction occur. The cases demonstrate the author's main contention: it is possible to administer a vaccine to a patient suffering from acute sepsis in such a manner that the vaccine is under control and the individual susceptibility of the patient prevented from causing a disastrous reaction. The system in brief is:

1. The largest dose that most chronic walking cases can tolerate without a general reaction is ascertained.
2. One-third of this dose is called the standard dose, and is administered to an acute case in two halves.
3. If after the first fraction there is neither a general reaction nor improvement, the second fraction should be given within twenty-four hours.
4. If the first dose requires both fractions, the amount of the dose should be considered to be that of the sum of the two fractions.
5. The second dose should not be given for at least four days after the completion of the first dose, and can be of the same size as the first or increased by not more than 20 per cent. If a result has been obtained with the first dose, it is doubtful if an increase of amount in the second is of much advantage.
6. It is as well to prepare two stock vaccines—one containing the streptococcus, pneumococcus, *Staphylococcus aureus*, and Hoffmann's bacillus; the other having the colon bacillus substituted for the pneumococcus, but otherwise the same as the first vaccine.

The author is much indebted to Mr. Roy R. Kerr, F.R.C.S., for providing some of the cases, and most particularly for his close clinical observation, which was largely instrumental in furnishing the facts upon which the system of dosage advocated has been built.

THE PARASITOLOGY AND CLINICAL ASPECTS OF MALARIA IN ANTIGUA.

BY

W. M. McDONALD, M.R.C.S., L.R.C.P.,

DISTRICT M.O. AND M.O.H., ANTIGUA, WEST INDIES.

THERE has not, hitherto, been any investigation into the parasitology of malaria in Antigua. The following observations, based on a record of 300 positive blood films, may be of value in providing an accurate indication of the nature of the infection with which we have to deal. Of the 300 positive films which were analysed 61 per cent. showed *Plasmodium falciparum* (malignant tertian), 28 per cent. *Plasmodium malariae* (quartan), and 11 per cent. *Plasmodium vivax* (benign tertian). The predominant infection, therefore, is *Plasmodium falciparum*.

The form of parasite most frequently found was the young form, but it is worthy of note that the classical signet-ring form was conspicuous by its rarity. The majority of young parasites seen were in the tenue form. In most cases in

which the ring form was retained, the usual form seen was a linear or circular central nucleus, surrounded by a blue body, which, as it grows, shows a thickening at one side. The largest subtertian rings seen were about one-quarter of the size of the red cell; these can be differentiated from a benign ring, first, by the sharply defined outline and decided thickening on one side (the side farthest from the nucleus), a benign ring of the same size being flimsy and ill defined, and showing a uniform thickening in contrast to a one-sided thickening. Secondly, it can be differentiated by its effect on the red cell which contains it; in a subtertian infection the containing cell is normal in size and colour—that is to say, where there is general anisocytosis or anisochromia, the affected cell may vary in size or colour within the same limits as unaffected cells, whereas, when the parasite is benign, the affected cell is always swollen, paler, and distorted, and often shows Schüffner's dots. The subtertian ring, moreover, frequently has a double nucleus, whereas this is very rarely seen in a benign ring. The difference in colour, size, and shape of the affected cells is, however, so marked that there is no difficulty in distinguishing between a benign and a subtertian ring form.

The greatest difficulty occurs in distinguishing between a young quartan and a young subtertian parasite. The young quartan often has a double nucleus, and the affected cell is generally slightly smaller than normal. I have found that the young quartan shows a more intense colouring than the subtertian, and that it does not develop the characteristic one-sided thickening of the protoplasm that the subtertian does. In a quartan infection it is usual to find two or three stages of growth in the same film, whereas in a subtertian rings only are found, or rings and crescents. I have found on only two occasions the sporulating form of the subtertian parasite in the peripheral blood; the spores were smaller and paler than in the similar stage of quartan or benign parasite; one showed thirty small spores and the other seventeen, while the pigment was black, whereas in quartan it shows yellowish-brown in the sporulating stage. Sporulating bodies are commonly found in quartan infection, the number of spores varying from 5 to 15, but averaging 8 to 10, and the spores are large and stained deep red. In the benign parasite the spores vary from 12 to 25 in number, they are much more crowded together, and the pigment is neither central nor clumped. In fact, in my experience the benign tertian parasite never assumes what is known as the "rosette" form; this form is limited to quartan and subtertian infections. Crescents were found in 32 per cent. of the subtertian cases. This is of interest in view of the fact that many authorities believe that crescents are very rarely seen in the peripheral blood.

In a recent article in the *Lancet* by Majors Pratt-Johnson and Gilchrist, it is stated that "crescents are not found in the untreated or in acute cases of the disease." My own experience does not agree with this statement. The cases in which crescents were found were all untreated cases, or at any rate cases which had not been recently treated, and whereas crescents alone are not found in acute cases, yet in many cases of acute illness crescents are found at the same time as the rings. In only three cases did I see Maurer's dots. It would appear that these dots are not dependent on differences of staining, but on some particular factor which has not yet been determined. Pigmented mononuclear cells were found in about 60 per cent. of cases. The chief characteristic of the differential count is a marked increase of large mononuclears and large lymphocytes, a reduction of small lymphocytes to about 3 per cent. of the total count, and a low polymorphonuclear percentage. Eosinophils are normal or slightly increased. The chief characteristic of the red cells is a marked anisocytosis; this is always present and varies only in degree. Abnormal changes, such as polychromasia and basophilic stippling, are sometimes seen.

Clinical Aspects.

The most striking characteristic of malaria in Antigua is the association of the subtertian parasite with clinically mild symptoms. The generally accepted view is that this parasite shows far greater pathogenicity than either of the other two varieties. Here, however, in Antigua, although *Plasmodium falciparum* is the commonest variety found, yet its malignant manifestations are apparently limited almost entirely to young children. I say "apparently" because I believe that further investigation will prove that the malignant nature of this parasite manifests itself locally, not so much in malignant attacks of fever as in the sequelae which, developing at varying intervals after a malarial paroxysm, have not hitherto been attributed to their true cause, which is malaria. I may mention in this connexion that I have recently seen three cases of nephritis, one of which was fatal, in which *P. falciparum* was found in the blood.

As a general rule, however, this infection is associated in the adult with mild symptoms. The cases under review are patients who have been well enough to walk some miles to the surgery for treatment. The temperature is low, between 99° and 101°. Cases which exhibit a definite forty-eight hours' periodicity are the exception rather than the rule. The usual type is a low fever exhibiting a mild quotidian paroxysm and sometimes a double quotidian. As a rule the spleen is not enlarged, and subjective symptoms are not marked, the patient complaining of slight pains in the limbs and general malaise, which, however, is not sufficiently marked to prevent him from working. Young children, on the contrary, suffer severely and are often acutely ill as a result of malarial infection. I have seen many cases of convulsions and coma in young children, due to infection with *P. falciparum*. The younger the child the more acute are the symptoms. In the series of cases under review there are only five fatal cases, all being children under ten years, all being associated with convulsions or coma, and all being due to *P. falciparum*. This infection is undoubtedly a very grave factor of infantile mortality.

Plasmodium malariae (quartan) exhibits a slightly different symptomatology. Patients seldom seek medical aid for a simple quartan infection. Practically all the cases which have come under my notice exhibit a quartan triplex infection, in which parasites of several different stages of growth are found at the same time, and the resulting pyrexia is quotidian. The patient, as a rule, complains of nothing beyond the fever, which clears up readily under quinine treatment, but relapses more frequently and more persistently than other infections.

Benign tertian infection shows a sharp paroxysm and a more definite periodicity, but yields more readily to treatment than either of the other two varieties. I have seen only three cases of mixed infections, the parasites found in one case being crescents, malignant rings, benign rings, and benign sporulating bodies; the other two were malignant and benign, and malignant and quartan, respectively.

Treatment and Relapses.

Owing to the fact that the cases under review are surgery patients who cannot be kept under observation or followed up it is impossible to give a scientifically complete treatment to any case, but as far as the treatment of the actual malarial attack is concerned I find that the essentials of successful treatment are (1) initial dosage with calomel and salts, and (2) large doses of quinine. The initial dosage with calomel and salts is of the greatest importance, as this makes the action of the quinine much quicker and surer. In the cases of adults I give 30 to 45 grains of quinine daily. Cases clear up very quickly under this treatment. Patients are recommended to continue quinine treatment, but as a matter of fact they never do. It is not possible, therefore, to give any treatment with a view to avoiding relapses. In this connexion it is of interest to note that relapses do not appear to be more frequent than in places where energetic anti-relapse treatment is undertaken. I have records of relapses in about 8 per cent. of the total number of cases. This record is not scientifically accurate, as the cases are not under observation, and many others may have relapsed without coming up for treatment. The greatest number of recorded relapses are quartan cases, with malignant next; and in this particular series none of the benign cases have relapsed. Of the comparatively small proportion of cases which I have been able to keep under observation I can write with certainty of the absence of relapse in the following:

Malignant (acute) treated by one intramuscular injection and 30 grains quinine daily by mouth ...	2 cases.
Treated 18 months ago; no relapse	1 case.
Treated 13 months ago; no relapse	1 ,,
Malignant; treated for 3 days only, 14 months ago; no relapse	1 ,,
Malignant; treated 10 months ago	1 ,,
Malignant; treated 3 months ago	1 ,,
Quartan; treated 9 months ago	1 ,,
Quartan; treated 5 months ago	1 ,,
Quartan; treated 14 months ago—one intramuscular and oral treatment	1 ,,

These ten cases did not receive any quinine treatment after the initial attack had subsided. In the small proportion of

cases treated by intramuscular injection four relapses are recorded. In no case did any local trouble occur as a result of intramuscular injection.

General Remarks.

In concluding this report I would draw attention to the connexion between the malaria incidence and the death rate. Our death rate is more than twice as great as that of England and Wales; and while deaths recorded as directly due to malaria provide only 2½ per cent. of the total, yet due weight should be attached to the probability that malaria, on account of its effect in lowering the resisting power of the body to other infections, is a contributing factor to many more deaths than those of which it is the direct or recorded factor, and that, further, there are strong indications that malaria sequelae are responsible for many deaths which are recorded as due to other causes. In view of these facts it cannot be too strongly represented that vigorous anti-malarial measures should be instituted throughout the island with a view to (*a*) lowering our excessively high death rate and (*b*) improving the quality and quantity of our labour supply.

THE APPLICATION OF FASCIA LATA IN PLASTIC SURGERY.

BY

CYRIL H. CUFF, M.B., B.S.DUNELM., F.R.C.S.EDIN.,

RESIDENT SURGEON, VICTORIA HOSPITAL, ST. LUCIA, BRITISH WEST INDIES.

IN a previous article[1] I ventured to enumerate some of the uses to which the fascia lata might be applied in plastic surgery. I now wish to illustrate, by a series of cases, some of the suggestions already put forward. The operations subjoined have all been carried out during the last two years, and the results, on the whole, have been encouraging. Technique must be most careful, and every effort in reconstruction should be based on strictly anatomical lines wherever possible. I have also found it advantageous to have no "slack" after suturing the fascia lata *in situ*, but rather to have the graft under slight positive tension.

CASE I.

A man was admitted to hospital suffering from a faecal fistula in the left iliac fossa the result of an old gunshot wound of abdomen. The fistula communicated with the descending colon, and was about the size of a shilling. There was no spur, and the finger could be passed freely in both directions. Operation took place on January 27th, 1920. The opening was surrounded by a free incision one-sixth of an inch from edge, the bowel mobilized, and margin of the opening infolded by a series of Lembert sutures. A portion of fascia lata from the thigh, 2½ inches by 4 inches, was sutured with medium catgut over the deficiency in the oblique muscles from the rectus sheath medially to the remains of the external oblique aponeurosis laterally. Tension in the skin wound was obviated by a pedicle flap turned down from the left hypochondriac region. The wound healed under one dressing, and when last heard of in December, 1920, the patient was doing well.

CASE II.

A man, who had sustained a gunshot wound of left forearm, was admitted with partial wrist-drop and inability to extend fingers or thumb at terminal phalanges. He had a long scar along the upper half of the posterior aspect of forearm, and some obvious loss of muscle substance. An operation was performed on May 18th, 1920, a long exploratory incision being carried over the scar, extending to the wrist. Upper portion of the extensor muscle was found to be healthy; the lower portion and communis tendons in the upper part were an adherent mass of fibrous tissue. Tendons just above posterior annular ligament were healthy. The intervening scar tissue was freely excised, and the communis and extensor longus pollicis tendons identified below. The extensors of the carpus were freed from the overlying scar tissue. A fascial flap 4 inches by 1½ inches was cut from left thigh and split in its lower half. The upper portion was sutured to the healthy belly of the extensor communis digitorum and longus pollicis, the hand and fingers being in a position of dorsiflexion. The lower divided portion was sutured to the communis tendons and longus pollicis. The hand was put up in a long "cock up" splint, sutures removed at the end of three weeks, and gentle passive movement commenced. At the end of two months a fair degree of movement in the fingers was obtained, and even more in the thumb, but on the whole the benefit was less than anticipated.

CASE III.

A man was admitted with an old gunshot wound of the middle third of left shin. There was a painful adherent scar, about 2 inches long, about the middle of the subcutaneous border of tibia. At the operation on April 22nd, 1920, the scar was freely excised, also the underlying scar tissue. The edges of wound were undercut and two parallel tension incisions made, 1 inch from sides of wound. A flap of fascia lata 2 inches by 1 inch was sutured to the periosteum, with the fatty side subcutaneous, and the wound closed without tension with three sutures of "bipped silk." The result was very satisfactory, the new scar remaining elevated and painless.

CASE IV.

A man was admitted suffering from an old gunshot wound of the mandible with non-union and loss of substance on the left side. There was a gap of 1 inch midway between the symphysis and angle. The fragments were largely subcutaneous, as there was loss of masseter and facial muscles, and the skin was adherent to the bone. Operation was performed on July 5th, 1920, a curved incision being made, commencing at the lobule, to the symphysis. Fragments were freed from skin and scar tissue, sclerosed tips excised and a gutter cut in them in the usual manner with an Albee saw. A graft was cut from the tibia 2½ inches long and secured in the gutter with kangaroo tendon. A strip of fascia lata 4 inches by 1½ inches was then carefully wrapped around the graft and sutured to periosteum of fragments. The skin was closed with horsehair. At first there was some serous discharge, which lasted for nearly a month, but finally the wound closed and the result was very satisfactory. The fascia lata probably saved the graft in this case.

CASE V.

A man was admitted to hospital suffering from hernia of the right lung, through the third interspace, about the nipple line. There was a tympanitic swelling, about the size of a cocoanut, and a marked impulse on coughing, reducible on pressure. The conditions had followed upon an old injury to the chest by the shaft of a cart. Operation was performed on September 8th, 1920, a large curved incision being made from the anterior axillary fold, across the right chest and down towards the ensiform cartilage. The pectoralis major was split about its centre, and the sac (formed by the parietal pleura) dissected off the thin and stretched pectoral muscle and ribs. The third and fourth ribs were found to be widely separated. During this dissection, the sac was accidentally incised and air rushed in. The opening in the pleura was closed with a purse-string suture of catgut, and the sac, after being separated, was invaginated through a defect in the intercostal space. Following upon a suggestion of Professor Rutherford Morison, advantage was taken of a lipoma, situated over the right deltoid. This was dissected out, split into two portions, and inserted into the defect. A sheet of fascia lata 4 inches by 2½ inches was stretched firmly over this and sutured to the divided and separated periosteum of the rib above and below. The pectoral muscle was then adjusted and the wound closed. A report dated January 12th, 1921, states that the chest in the position of rest is quite flat, and with the hardest cough the patient is only able to produce a small impulse without any bulge.

CASE VI.

A pensioner was admitted with "drop-foot," the result of nerve injury consequent upon a gunshot wound of the thigh. Previous operations for nerve suture and for tendon transplantation had failed. At an operation performed in June 29th, 1920, the tendo Achillis was lengthened subcutaneously, the base of the fifth metatarsal and tubercle of scaphoid exposed through small incisions, and the crest of the tibia and fibula exposed through a 3-inch curved incision at the junction of lower and middle thirds. The aponeurosis of the tibialis anticus and peronei was split in the line of incision, and the periosteum of both bones exposed. Fascia lata of right thigh was exposed through a 12-inch incision, and a portion 12 inches by 2 inches removed. This was split from below upwards for 7 inches, thus resembling a pair of trousers. The upper portion was sutured deeply to the periosteum of the tibia and fibula, and to the split aponeurosis. The lower bifurcated portion was pulled down by tunnelling the subcutaneous tissues with forceps, and a limb drawn into each of the two lower wounds. Here with the foot in full dorsiflexion all slack was taken up, and the two strips sutured to the periosteum of the scaphoid and the fifth metatarsal respectively, and to the plantar fascia. The wounds were closed with silkworm gut and a back splint applied. In January, 1921, he could walk well without any special boot.

CASE VII.

A man was admitted with partial rupture of the short head of the biceps of the left arm, the injury having occurred three months before admission. On examination, there was a small hard nodule at the junction of upper and middle thirds of the left arm, on the medial aspect, and above this, a definite hollow. Movements of flexion and supination were weak and very painful.

An operation was carried out on September 20th, 1921, a long incision being made from the coracoid, along the antero-internal aspect of the upper arm to the junction of middle and lower thirds. The scar in the biceps was located just about the junction of the two heads. The site of the scar was firmly adherent to the underlying brachialis anticus. Adhesions were separated, and the tendon of the short head, which was torn and slack, tightened up. A strip of fascia lata, 4 inches by 2½ inches, was then wrapped round the site of rupture, and secured with catgut sutures. A further small portion was sutured over the scarred area on the brachialis. The wound was closed in two layers, and the arm slung in a "dog collar," in semiflexion. At the time of writing the arm is gaining power daily, and movements are free from pain.

I have selected these cases as fair examples of the practical uses to which the fascia lata may be put. It has, of course, been utilized for many other purposes, and doubtless others will yet be devised.

I wish to thank the Council of the Newcastle-upon-Tyne and Northern Counties Medical Society,[2] Professor Rutherford Morison, and Dr. W. K. Russell, for permission to include Cases v and vi.

REFERENCES.
[1] BRITISH MEDICAL JOURNAL, April 2nd, 1921. [2] *Newcastle and Northern Counties Medical Journal*, April, 1921.

A CASE OF SLIPPING PERONEAL TENDONS TREATED BY KELLY'S OPERATION.

BY

D. W. HUME, M.B., B.S.LOND., F.R.C.S.ENG.,

MEDICAL SUPERINTENDENT AND SENIOR SURGEON, MINISTRY OF PENSIONS HOSPITALS, EXETER.

W. B. F., aged 22, was admitted to the Ministry of Pensions Hospital, Streatham Hall, on July 10th, 1921, complaining of pain and weakness in the right ankle, and inability to walk any distance.

History.

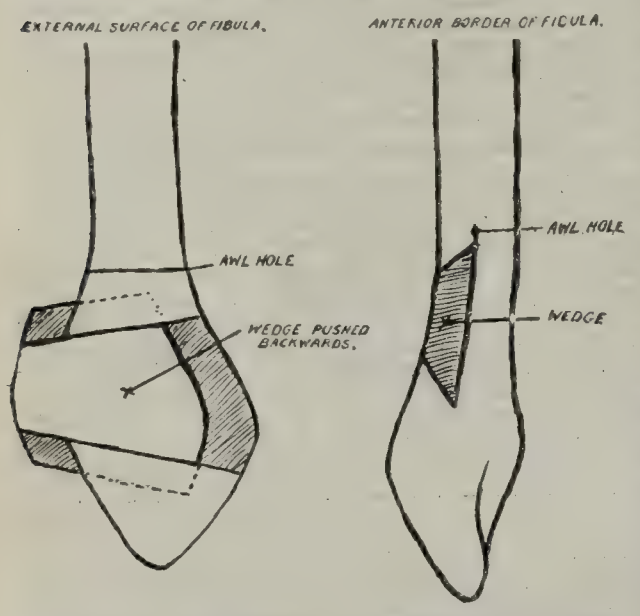
He stated that while at physical training in June, 1918, he fell and twisted his ankle rather badly. The injury was diagnosed as a sprain, and he was sent to hospital. Nothing definite was discovered on *x*-ray examination, and his leg was put on a back splint for five weeks. After this he was given massage for six weeks, followed by a stay of two months in a convalescent camp. He was demobilized in January, 1919. For some time after this his ankle swelled at night, and his leg and foot were put in plaster for seven weeks, but, after the plaster was removed and he was treated by massage and exercises, there was still some swelling of the ankle at night, and, on extreme flexion or extension of the foot at the ankle-joint, something slipped on the outer side of the joint, giving rise to much pain locally and a jarring sensation up his leg and body.

Condition on Admission.

On admission the movements at the ankle-joint were good, and there were no signs of any disease of the joint, but on dorsiflexion a distinct slipping of the peroneal tendons could be felt. A skiagram did not show any damage to the ankle-joint. An operation for retaining the peroneal tendons in their normal position was necessary, and I decided to perform that described by Mr. R. E. Kelly in the *British Journal of Surgery* for April, 1920.

Operation.

On January 26th, 1921, I made a hockey-stick-shaped incision immediately behind the fibula, commencing at a point about 2½ inches above the lower extremity of the bone, and following the course of the tendons downwards. The incision was deepened and the periosteum covering the outer surface of the fibula was incised and stripped, so as to expose the outer surface of the bone and its anterior and posterior borders. The peroneal tendons with their synovial sheath were retracted with the periosteum stripped from the posterior border. At a point about 1½ inches from the lower end of the fibula on its anterior border, and midway between its external and internal surfaces, a hole was bored horizontally backwards through the bone with a small bone awl. This hole was enlarged downwards and parallel to the external surface with a Gigli saw, and when the cut was large enough to admit the point of a Hunter-Mackenzie saw, this instrument was used, until the cut reached a point about half an inch from the extremity of the bone. Two cuts were now made in a horizontal direction but approaching one another posteriorly to join the vertical cut, so as to free a wedge-shaped piece of bone with its narrow end at the posterior border of the fibula. The saw was sloped while making these cuts, so that the external surface of the wedge was narrower than the internal surface. The wedge thus formed could only be removed from the bone by sliding it forwards, and when it was pushed backwards and tapped gently it became fixed in the groove made by the saw cuts, with about a quarter of an inch projecting from the posterior border of the bone, thus making an external lip to the peroneal groove. It was found, however, on attempting to bring the superficial tissues together over the bone, that there was a tendency for the wedge to slide forward in its groove, but this was easily prevented by raising the floor of the groove slightly in front of the wedge with a chisel.



Diagrams illustrating the method of cutting the wedge. The wedge is shown wider than is necessary. The dotted lines indicate parts of the wedge in the slot in the bone.

After the wound had been closed, the foot was put in plaster, with a window over the incision, in a position of plantar flexion.

Result.

The plaster was removed one month after the operation, and recovery was uneventful. The movements at the ankle-joint were perfect, and no slipping of the tendons could be obtained. The patient states that he is cured, and that he has none of his previous difficulties in walking.

A skiagram taken six months after the operation showed the wedge firmly fixed in the position in which it was placed.

The main difficulty in the operation is, as pointed out by Kelly, the thickness of the saw. Allowance has to be made for this in the inclination of the horizontal cuts to one another, so as to avoid too great projection of the posterior part of the wedge when driven into position. A small fretsaw, such as is used by watchmakers, would be an excellent tool for this operation, and I propose to use it in future cases. It is also rather difficult to avoid injuring the synovial sheath of the peroneal tendons, and I accidentally made a small opening into it in this case, but no harm resulted.

THE INTERPRETATION OF SYMPTOMS IN DISEASE OF THE CENTRAL NERVOUS SYSTEM.

ABSTRACT OF THE GOULSTONIAN LECTURES, DELIVERED BEFORE THE ROYAL COLLEGE OF PHYSICIANS,

BY

ANTHONY FEILING, M.D., F.R.C.P.,

PHYSICIAN, HOSPITAL FOR EPILEPSY AND PARALYSIS, LONDON.

LECTURE III.

IN this final lecture Dr. Feiling said that he proposed to deal with some of the more general rather than the particular aspects of disease of the central nervous system. Any discussion on the interpretation of symptoms could not fail to take account of the principle laid down by that master mind of modern neurological theory and practice, Hughlings Jackson, who distinguished between negative and positive symptoms, a negative symptom implying some definite loss of function, and a positive some accelerated function. The actual symptom-complex produced by disease provided, more frequently than not, both positive and negative symptoms, destructive lesions producing the latter, and irritative lesions the former. The term "irritative," as applied to a pathological lesion, must not be interpreted too narrowly, in the sense of a mere mechanical irritation. Brief or temporary circulatory disturbances might be included in such a category, and the convulsions or deliriums occurring in various states of toxaemia were to be regarded as positive symptoms produced through the medium of the circulation. It must be understood also that when a destructive lesion occurred in the nervous system it did not follow that the ensuing disorder of function was necessarily due to that destructive lesion itself; it might be due, wholly or in part, to the unbalanced action of other parts of the nervous system.

Negative and Positive Symptoms.

The same morbid process might produce at one and the same time negative and positive symptoms. The early stages of syphilis of the central nervous system, for example, might be marked by pain—a positive symptom—while later on negative symptoms in the shape of palsies made their appearance. A more difficult question to decide was whether pain and other subjective sensory disturbances could occur as the result of purely destructive lesions, for this would seem to imply that positive symptoms could be produced by such lesions.

The lecturer did not wish to suggest that in investigating any disease of the nervous system it was necessary to set out by classifying symptoms as negative and positive. It was only necessary to realize that there were these two kinds of symptoms, and from such realization one was led to consider the nervous system as a whole. The consideration of these principles had its value when one was confronted with the task of localizing a lesion in the central nervous system. It was notorious how misleading in such cases the signs might

be. A palsy of the sixth cranial nerve, occurring as a late event in intracranial tumour, furnished an illustration of a late sign which frequently had little or no localizing value.

Disorders of the Cerebral Circulation.

In the two previous lectures he had been concerned principally with symptoms arising from disease of the central nervous system itself; but it was a matter of everyday experience that many of the symptoms of which patients complained were to be interpreted as disorders of function produced by temporary or recurring disturbances in circulation. Such disturbances might be quantitative, as anaemia or hyperaemia, or qualitative, in which there was some chemical or biochemical alteration in the blood itself. Symptoms referable to the nervous system formed a not inconsiderable part of nearly all forms of cardio-vascular disease, but there were many other conditions in which disorders of the cerebral circulation played a leading part. One of the previous Goulstonian lecturers (Dr. Risien Russell, in 1909) had dealt fully with disorders of the cerebral circulation, so that it was not necessary for him to cover the same ground. It was well known how epileptiform convulsions, quite indistinguishable from those of ordinary epilepsy, might occur in many toxic states—eclampsia, lead poisoning, and so forth—and typical epileptiform convulsions might be seen in cases of heart-block constituting the Stokes-Adams syndrome. There seemed to be some common ground between all these different conditions where the immediate or proximate cause of the convulsion could be fixed. Such cause, to his mind, lay in some disorder of the cerebral circulation, and on this point he was in absolute agreement with Russell as well as with many others.

It became a principle of some importance, therefore, to regard a fit as a symptom only, and not as a disease *sui generis*. Mr. Percy Sargent, in his presidential address to the Neurological Section of the Royal Society of Medicine, had related that in a series of 270 cases of brain tumour operated on by him a fit was the first symptom complained of in 40 per cent. This was probably an unusually high proportion, for there were many cases of cerebral tumour in which fits never occurred at all, and, in addition, many cases of cerebral tumour which never found their way into the hands of a surgeon. The mere presence of cerebral tumour was not of itself sufficient to cause a fit. It was the same with injuries; one might hazard the assumption that there were probably a great many people nowadays with foreign bodies embedded in their skulls who did not suffer at all from epilepsy.

The Cause of Epilepsy.

The textbook descriptions of the fits of epilepsy and of hysteria led the reader to suppose that there was a great distinction between them. In practice such distinction was not always evident, and increasing experience had taught the lecturer the great difficulty of making a diagnosis in some of the periodic attacks of apparent loss of consciousness which he was called upon to treat. It was, of course, well recognized that many epileptic attacks might be precipitated by various psychical conditions or emotional stresses. Recently an attempt had been made to include epilepsy among the group of diseases or symptoms which might be said to have a psychogenic origin. Such an explanation might seem at first sight fantastic, but there were certainly cases where attacks similar to those of idiopathic epilepsy had yielded to psychological treatment. There was another school which would include epilepsy among the group of so-called toxic idiopathies, thus bringing it into line with such conditions as asthma, hay fever, and urticaria; and here also there were cases which seemed to support this view. Whatever might be the exact physical production of epilepsy, the final cause must, to his mind, lie in a disturbance of the cerebral circulation.

It was only in comparatively recent years that the involuntary nervous system had received much attention at the hands of clinicians, who were just beginning to realize the wide part which it played in the production of symptoms. It would be wise to recognize that multiple causes might be at work. Perhaps observers were too much occupied with symptoms in attempting to correlate disturbances of function with actual structural disease. Even in cases where actual structural disease of the central nervous system was present, *post-mortem* examination would not always succeed in connecting symptoms with the actual morbid anatomy.

"Organic" and "Functional."

In conclusion the lecturer spoke on the use and abuse of the terms "organic" and "functional" as commonly employed in connexion with disease of the nervous system. In investigating cases of disease of the central nervous system it was in reality disturbances of function which were studied rather than alterations in structure produced by disease. Hence the continued use of the terms "organic" and "functional" might be misleading. The term "functional" had gradually become identified with the broad meaning of "hysterical," and on looking more closely into the results produced by this abuse of the term it would be found that it was diseases in which permanent changes in the reflexes occurred which were called organic, and that unless such changes could be demonstrated there was a great risk that the case would be called functional. No doubt many of these cases were really functional, but the special connotation which this term had come to possess made its application deceptive. The distinction between organic and functional, although at first useful, had ceased to serve its purpose. The necessary distinction was between symptoms caused by physical influences and those caused by mental influences only. Physical changes might be permanent—such as gross destruction of nerve fibres; or they might be temporary—such as circulatory defects or alterations in the volume or composition of the blood. Similarly with mental or psychical factors: these might induce bodily reactions which persisted and led to permanent changes in bodily functions; yet no one would speak of a disease like diabetes as functional. It was illogical, he maintained, to identify the term "functional" with the term "hysterical." The term "functional" could very well be dispensed with altogether, for all diseases of the central nervous system were functional in the sense that a disorder of function was produced. What it was really necessary to know was whether or not a disease was due to permanent structural change in the tissues, and, if it was, whether the cause was physical or mental, or both. The attempt to draw a hard-and-fast line between organic and functional nervous disease was fraught with no little danger. Equally misleading was the idea that there must be two classes of neurologists, one to deal with organic and the other with functional cases. It was to be hoped that no such distinction would be recognized. The nervous system functioned as a whole, and should be studied as a whole.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

HYPERPYREXIA DURING INFLUENZA.

G. C., a school teacher, aged 42, was some years before this recorded illness an in-patient at Bath Hospital suffering from haematemesis (and subsequent thrombosis of the veins of the leg), and during her seven months in hospital is stated to have registered a temperature of 110° F.

During the month of March, 1919, she complained of "pains across the shoulders, back of the head, and neck." Examination revealed nothing save a slightly furred tongue and an axillary temperature of 107° F. On advising the relatives to have a consultant's opinion, in view of the hyperpyrexia, they expressed little or no anxiety, as she had "had a higher temperature before at Bath."

Dr. Carey Coombs saw the case in consultation on the following day. There was no evidence of any organic disease. The axillary temperature registered 110° F. It was taken by me personally, using two thermometers, one in each axilla. The thermometers were both graduated to 113° F., and appeared capable of registering not more than 114.5° F. That same evening the thermometers registered 113° F. +, which fact I communicated to Dr. Carey Coombs. The patient at this time complained simply of headache. On the third day the temperature fell steadily to the region of 104° to 105° F., and remained so for several days, only to rise about the fourteenth day again to 113° F. +. Though the columns of mercury filled, in both cases, the capillary to the utmost limit, neither thermometer was broken as the result of the patient's hyperpyrexia.

After an interval of some two or three weeks a third rise, terminating as before by lysis, was registered.

After fourteen weeks' treatment at home (during which time the patient lost several stones in weight) I was sent for

on June 10th as the patient was again complaining of "headache." The temperature registered was 107° F. This was apparently the commencement of the fourth "exhibition," and I at length persuaded the patient to go into hospital. On June 11th, in hospital, the temperature registered 104.5° F. After that day, in spite of an attack of Vincent's angina, her temperature for the most part remained subnormal for the succeeding nine weeks. The patient is still alive, and is now under surgical care for a Colles's fracture.

The following comment by Dr. Carey Coombs (written on the patient's discharge from hospital in August, 1919) appears in the hospital records:

I saw this patient at her own home with Dr. W. G. McKenzie. We neither of us had any doubt that the very high temperatures recorded prior to admission were genuine. One evening temperature recorded was 114° F., and there were others nearly as high. During these hyperpyrexial crises she looked very ill, but neither then nor at any other time did she display signs of any organic cause. Indeed, when she did have a good excuse for fever (Vincent's angina) nothing out of the way happened.—C. F. C.

WILLIAM GEORGE MCKENZIE,
M.C., M.R.C.S., L.R.C.P.,
Late Captain (Acting Major) R.A.M.C., T.F.

SLIPPING RIB.

LUXATION of lower costal cartilages, to which Mr. Davies-Colley has given the appropriate name of "slipping rib," cannot be very rare. I have met with a few cases.

Some time ago an agricultural labourer was admitted to this hospital suffering from slipping rib, in a very similar way to the examples given by Mr. Davies-Colley. Although, with the stoicism of his class and nationality, he bore with the disability for some years, he had to give in to it at last and seek relief. In his case it was the ninth rib on the left side which was at fault. As the interchondral articulations often include the ninth costal cartilage, I took the condition to be a luxation of this joint. I treated it in a way precisely similar to that which Mr. Davies-Colley practised—namely, excision of about three inches of cartilage and rib. The result was perfect relief from unbearable pain.

I have a case of the same condition at present under my care; the costal cartilage of the ninth rib on the right side slips easily upwards and forwards. The condition gives rise to no pain and the patient does not complain of it, having other troubles of a more serious nature.

R. B. MAHON, M.Ch., F.R.C.S.Eng.,
Surgeon to Galway Central Hospital.
Galway.

THROMBO-PHLEBITIS OF THE FEMORAL VEINS FOLLOWING LOBAR PNEUMONIA.

THE extent of venous thrombosis in the lower limbs following right-sided lobar pneumonia appears to warrant the publication of the following case:

On January 4th, 1922, a girl, aged 22, had an attack of influenza; she recovered, but it left her in rather a debilitated condition. On the evening of February 4th I was called to see her as she complained of severe pain in the right side of the chest, especially on taking a deep breath. The temperature was 103°, pulse 100, respirations 40. Physical examination of the chest revealed lobar pneumonia in the lower lobe of the right lung. For the next six days she was very ill, but on the seventh her temperature dropped by crisis and she fell into a comfortable, undisturbed sleep.

For the next day or so she made good progress, but on February 15th she complained of much pain and tenderness over the left calf, and over the front of the right thigh in the region of Scarpa's triangle. The femoral vein in the upper part of Scarpa's triangle could be felt as a firm, rather nodular, very tender, thickened cord; the limb was swollen, the tissues around the ankle were soft, and pitted on pressure. Pain was so severe that I had to give morphine, but subsequently it was much relieved by two-hourly applications of belladonna fomentations.

In a week the limb had improved considerably, but the patient then complained of similar pain in the left lower limb: there was tenderness over the left femoral vein, and the calf of the leg was very swollen and tender. Swelling persisted in this leg for several days after the pain had disappeared, but massage and passive movements soon reduced the leg to its normal size.

It is interesting to endeavour to explain the actual causation of a condition of thrombo-phlebitis of the peripheral veins after pneumonia. It has been pointed out that a microscopical examination of the blood in pneumonia shows a greater density than normal of the fibrin network. Blood platelets are also greatly increased in number. Hence there is possibly an increased tendency to intravascular clotting, and since in a large proportion of all cases of pneumonia pneumococci are present in the blood, infection of clot would more readily ensue.

T. STENNER EVANS, M.B., B.S.Lond., D.P.H.
Fochriw, Glam.

Reports of Societies.

THE TECHNIQUE OF BONE GRAFTING.

AT a meeting of the Section of Surgery of the Royal Society of Medicine on April 5th, with Mr. CYRIL NITCH in the chair, some points in the technique of bone grafting were brought forward by Mr. C. MAX PAGE and Mr. G. PERKINS.

Mr. MAX PAGE, whose account of the work of himself and his colleague was illustrated by a large number of radiograms, said that bone grafting was now firmly established in the treatment of ununited fractures and the replacement of bone destroyed by disease or injury. It must be admitted that some parts of the life-history of bone grafts were still obscure or in dispute, and that there was considerable divergence of opinion as to the technique best adapted to secure a successful result in bone implantation. The number of bone injuries so treated during the late war, however, furnished an extensive experience, and it should be possible now to arrive at certain conclusions. He proposed to confine his remarks to cases in which he had employed a bridge graft—that is, a bone implant which filled in a definite gap in the original bone and ultimately reconstituted a part of it. He did not believe that the graft played only the humble rôle of scaffold which was assigned to it by some authors. Some portion of it at least grew and became incorporated with the host-bone. If it was assumed that the bone graft died after implantation and only acted as a scaffold, it was difficult to see why boiled beef-bone should not have the same value as autogenous, but this was not so, as he illustrated from a case in which a beef peg, even after sixteen months, showed no union with the host-bone, while an autogenous graft in a similar case became continuous with the host-bone within six weeks.

These cases (Mr. Max Page continued) confirmed the general evidence that the beef-bone peg was useless as a bridge graft, and therefore he always employed autogenous grafts. The most satisfactory source was the tibia in the greatest number of cases. The use of the fibula was favoured by some surgeons, but it might be urged against the use of this bone that its exposure and separation were not simple, and that its removal could not fail to affect the stability of the ankle. The constituents of the bone employed might be compact bone, periosteum, and cancellous bone. Compact bone was essential for strength, but it did not appear to take an active part in the formation of new bone after implantation. Periosteum had little importance in the reformation of bone in the adult, and lately he had used grafts free of periosteum. Cancellous bone seemed to be the route along which bone development occurred. The size of the graft should be two or three inches longer than the gap it was intended to bridge. The longer the graft the firmer the fixation, and with a substantial graft there was less liability to fracture and more rapid re-establishment of the full strength of the affected part. It was important that at operation the fragments should be brought into their normal alignment without tension. Both ends of the host fragments must be resected until good vascular bone was exposed. The graft must be fixed in firm contact with the host at both ends, and unless this was done success was unlikely. The method of fixation mattered little, provided the result was firm. Mechanically the most satisfactory method in his hands was intramedullary pegging at one end and what might be called an inlaid splice at the other, making a tight fit. Foreign material, such as bolts and wires, was undesirable, though necessary at times. The graft should be aseptic and planted into an aseptic field, but the presence of infection and a successful graft were not incompatible. He showed radiograms of a case which illustrated the ability of a graft to survive and thrive, despite severe infection of the surrounding tissues.

Fractures of the graft fell into two categories: (1) Early fractures, taking place within eight weeks or so after operation, while the limb was still immobilized, and there was no strain upon the bone. These fractures occurred at the junctions with the host, following non-union of one or other end of the graft, and they were really instances, not of true fracture, but of bone absorption, secondary to incomplete fixation. (2) Late fractures, occurring in cases in which the graft had been successful, with firm union at both ends. The site at which these fractures occurred was usually near the middle of the graft, and they took place owing to some strain after the limb had been released from immobilization. They

belonged to the same category as fractures of normal bone, and did not denote any shortcoming in operative technique. The prognosis of these two varieties of fracture differed widely. In the early fractures the graft definitely failed, and union never occurred. In the late or traumatic fractures union did occur, at any rate in some cases if the surgeon waited long enough.

In post-operative treatment after grafting three stages were to be noted: (1) Absolute rest and immobilization for six weeks following operation in order to establish vascular continuity; (2) partial function after six weeks or so, when light use of the limb might be permitted, governed by splints; (3) complete function, when the graft had consolidated, and the strength was estimated by means of radiograms to be about half that of normal bone. The time which must elapse before full function could be permitted varied with the case and with the bone. Full function could be allowed for the radius earlier than for the tibia. The success of the graft also varied with its situation. In the humerus no special difficulties had been found, given satisfactory splint fixation. Among six bridge grafts of the humerus he had had only one failure. The radius was grafted with the greatest ease, and there had been no failures in nine consecutive cases. The ulna was less satisfactory, either because at the time of operation the fragments were not aligned without tension, or because the usual position for immobilization after grafting was incorrect. Out of seven grafts in the ulna there had been five failures. In the tibia the grafts in the upper and middle thirds gave good results; in the lower third the prognosis was doubtful. Among seven grafts of the tibia there had been three failures. Inadequate fixation of one or other end of the graft into the healthy host-bone was the factor chiefly responsible for non-success.

The CHAIRMAN asked whether, in cutting the graft, Mr. Page used an Albee saw or a hand saw. Some who were in the habit of grafting had given up the Albee saw because they believed that with heating it damaged the vitality of the bone. He also asked whether these operations had been done in one or two stages—whether the cavity and the bones had been first prepared and the wound closed, and then the graft implanted at a later date when it was quite certain that all pyogenic organisms were absent.

Mr. P. JENNER VERRALL agreed with what Mr. Page had said about mild sepsis not interfering with the result of the graft. Some two years ago, when he was using lateral grafts almost exclusively, and drilling both graft and host-bone, on two occasions in the radius he had the drilled ends come out with sequestra, and the rest of the graft united with entire satisfaction. In some of the cases of what might be called "aseptic digestion" of the graft to which Mr. Page had alluded he had found that the Wassermann reaction was positive. He did not quite agree with what Mr. Page had said about the use of the fibula. His own practice was to use it in grafting on to the humerus if by the more usual method of fixing the ends of the humerus together with a small intramedullary peg the humerus would be made ridiculously short. It so happened that the fibula almost exactly fitted inside the humerus, and he had bridged the humerus in this way in seven or eight cases, with success in all but two. One necessary caution, however, was that rather prolonged fixation was necessary with these long grafts in the humerus. The ablation of the fibula produced no ill effects on the leg whatever, nor was it difficult to perform. The great point was not to go too low down. The upper two-thirds of the fibula could be removed with complete impunity. He emphasized the value of the fibula particularly for bridging gaps where one end was free. On two occasions he had used the head of the fibula for the head of the humerus. The ulna was notoriously unsatisfactory, and he suggested that the extraordinary frequency with which ununited fractures appeared at the end of the ulna was associated with the subluxation forwards of the head of the radius. He had had several cases of the kind, which greatly complicated his methods of fixation. He thought the complete supination position kept the head of the radius in place and enabled the radius to act as a stabilizing influence. He was surprised that Mr. Page allowed any movement in the limbs as early as six weeks after grafting.

Mr. MAX PAGE, in reply to the Chairman's questions, said that he used the Albee saw, and thought that if the saw was kept properly irrigated there was no danger of necrosis of the graft. He had had to resort very seldom to the two-stage operation; as a rule it was possible to get on with the complete operation right away. He admitted that the radiographic appearance of some of the grafts was very suggestive of infection, but on the other hand there was evidence in a good many cases of a successful graft with infection above it. He and his colleague never used the fibula now for taking a graft, and therefore he could not contest the value of Mr. Verrall's methods in this respect.

TREATMENT OF UTERINE FIBROIDS.

AT a meeting of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine on April 6th, Professor HENRY BRIGGS presiding, a discussion took place on the treatment of uterine fibroids.

Dr. W. FLETCHER SHAW, in opening, said that at the Annual Meeting of the British Medical Association in 1914 Dr. Archibald Donald stated that in a series of 309 hysterectomies which he had performed for fibroids, the mortality had been 2.9 per cent., and in view of the favourable results Dr. Donald strongly advocated operation in preference to *x*-ray treatment. He was followed by Professor Gauss of Freiburg, who pleaded for *x* rays, which he claimed gave as good results as operation; but in the succeeding discussion every British radiologist supported Dr. Donald. Since 1914 many articles had appeared in the medical press advocating the use of *x* rays, and therefore it seemed that the subject might well be discussed again in the light of later experience. Undoubtedly one great risk in operation was the occurrence of thrombosis followed by fatal embolism, and it was two recent disasters of this nature in the speaker's practice which caused him to set about a review of the subject. The basis for comparison must be a consecutive series of cases of uterine fibroids treated by one or other method, and a fair estimation of what the results would have been had the alternative method been adopted. During the years 1920 and 1921 he had notes of 138 patients operated on for uterine fibroids, the operation in the great majority of cases being supravaginal hysterectomy. The number of deaths was four, including two from embolism, one from shock, and one from acute nephritis. This mortality would not have occurred under radiation treatment, so that on the primary results radiation had the advantage, and, unfortunately, in literature many radiologists confined themselves to assessing primary results. But there was another side to the question. Microscopical examination was not carried out in all these cases, but among the cases in which it was carried out five cases of malignant disease were discovered. Had these five cases been treated by radiation as ordinary fibroids there was little doubt that the growth would have continued, and the ultimate death of these five patients after ineffective radiation must be set against the four post-operative deaths. Then there were twenty-two cases of marked degeneration, and it was extremely difficult to be sure without operation that a tumour was not degenerative. Adhesions between the uterus and abdominal viscera would be a contraindication to *x* rays, and yet it often happened that these adhesions, like degenerations, remained undiscovered until operation.

Altogether, from a study of his cases, including as they did various complications which would have rendered radiation ineffective, Dr. Fletcher Shaw could only come to the conclusion that the routine treatment of uterine fibroids by radiation was quite unjustifiable. Apparently a simple, uncomplicated, undegenerated fibroid might diminish in size and cease to bleed as a result of *x*-ray treatment; but how could one be certain that it was non-malignant and free from complications and degenerations? In only one group of cases was he inclined to admit that radiation might be useful: these were cases in which the haemorrhage was so severe that the patients were rendered too anaemic to stand operation without undue risk. Unfortunately, the radiologists did not seem willing to take these blanched cases.

Dr. SIDNEY FORSDIKE said that Dr. Shaw had been more generous to the advocates of radiation than he need have been. A certain number of cases failed entirely to respond to *x* rays and subsequently came to operation. The great claim of the radiologists was that they avoided the risk of administering an anaesthetic, but clearly for diagnostic purposes in gynaecology such administration was necessary.

Mr. EARDLEY HOLLAND said that in 1914, in view of the advocacy of radiation in many quarters and its obvious advantage over surgery, given equally good results, he sent eight private patients to radiologists of distinction, but the results were disappointing. In two cases the fibroids were extremely small, and here the treatment was successful. In

two others the patients, after three or four courses of *x*-ray treatment, ultimately came to operation. Another patient, although cured of the fibroid, had a severe *x*-ray burn, and yet another had a burn without having been improved by the treatment. The remaining two cases he was not able to follow up, owing to the outbreak of the war.

Dr. S. J. Cameron said that the more he studied the complications and degenerations of uterine fibroids the more convinced he was that these tumours were, if not an imminent, at least not a very remote source of danger to the individual, and he failed to see how radiation could prevent such complications and degenerations. He believed that from the point of view of risk the rival methods were about equal. Being a Glaswegian he held strongly that if silk were discarded in favour of catgut operations would be much safer. He believed that many deaths occurred from infective processes set up through the silk. With the right technique mortality from operation would be much less than mortality from *x*-ray failure.

Dr. A. E. Giles said that most of those who advocated the treatment of fibroids by *x* rays put forward a long list of exceptions, and perhaps the list might with propriety be lengthened. If a case could be guaranteed as free from malignancy, complications, degeneration, and adhesions, it might be suitable for *x*-ray treatment; but there was another important consideration. Years ago, because of the risk attaching to hysterectomy, the operative treatment for fibroids consisted of removing the ovaries; but as the mortality from hysterectomy declined it began to be asked why healthy organs should be sacrificed for the sake of a diseased one. By all accounts the radiologists reckoned upon the atrophy of the ovaries by *x*-ray action, so that this was simply going back to the old-fashioned operation with its obvious objection. As to surgical risk, his own experience included 960 hysterectomies for fibroids, and the total number of deaths was 17; but 12 of these deaths occurred in the earlier years, among his first 300 cases, and the more recent mortality after hysterectomy in his practice was, he believed, less than 1 per cent. Myomectomy, despite obvious limitations to this procedure, had an important scope, and in many of his cases—about one out of five—the fibroid was taken away and the uterus left.

Dr. Larthorn Smith said that in his early years, appalled by the mortality of hysterectomy, he went over to Paris and learned Apostoli's method of treatment with continuous galvanic current. He treated more than a hundred cases in that fashion, and they did very well, and there was no mortality. But operation on the whole was more satisfactory, and with the fall in the mortality after hysterectomy he reverted to that procedure. On several occasions he had removed the fibroid during pregnancy, and the pregnancy had gone on to full term.

Dr. Clifford White asked what was the state of the tumour in those cases in which the unfortunate gynaecologist had to do a hysterectomy after *x* rays had been unavailingly applied. If as a result of previous *x*-ray treatment the operation was rendered unduly dangerous on account of adhesions, the ensuing mortality should be put down to the radiologist, not to the surgeon.

The President supported the general opinion of the Section as to the advantages of surgery; and Dr. Fletcher Shaw, in replying, referred to the number of degenerated tumours which had to be removed after the menopause. Frequently it was necessary to operate upon acutely degenerative tumours in oldish women, and the risk with radiation treatment of such a thing occurring after the menopause outweighed in his opinion the risk of primary mortality on operation.

Extension of Carcinoma of Cervix to Vagina.

Dr. Archibald Leitch, at the same meeting, made a communication, illustrated by the microscope and epidiascope, on the extension of carcinoma of the cervix to the vagina. He said that from an observation of a number of cases of carcinoma of the cervix in which there were secondary deposits, and also from a study of recurrences, gynaecologists must feel that the vagina in cancer of the cervix uteri was a very dangerous zone. An analysis he had made of *post-mortem* findings in cases of carcinoma of the cervix showed that out of 847 cases there was vagina involvement in 826. Such involvement was absent in only 2.5 per cent. He did not think that this danger of vagina involvement was sufficiently met by modern operative procedures, and the removal of a considerable portion or the whole of the vagina might be a wise precaution.

The main route by which the vagina became involved was by continuous lymphatic spread direct from the cervix. But there was another mode of possible involvement of which he wished to speak. In the older textbooks, and in some which claimed to be modern, the possibility of contact transference of cancer was put forward by three examples: from the breast to the inner surface of the arm, from one lip to the other, and from the cervix to the posterior wall of the vagina. In all these cases it was difficult to see how such transference could take place in view of the septic character of the surface of the growth, where the outer layer of cells, if not absolutely necrotic, would be devoid of any grafting vitality. In supposed transfer from breast to arm it was surprising how extensive the lymphatic dissemination was in a brawny arm; he had demonstrated on several occasions cancer cells in the lymphatics as far down as the wrist, but without any evidence of nodule formation in the skin. With regard to the lips, if the possibility of lymphatic involvement from one side to the other could be excluded, as it could not always, it might be accepted that the causal factor which induced the original growth—for example, the irritation of a clay pipe—could start a growth on the other lip, which was equally exposed. In the vagina, lymphatic spread from the cervix could often be demonstrated, but he would suggest that occasionally, apart from this, the vagina involvement might be an independent thing. The fact that vagina involvement was so rarely visible to the naked eye in early cases might be held to favour the idea that its late development was due to some prolonged operation of the same cause as produced the cervical cancer.

In making microscopic examinations Dr. Archibald Leitch said he had come across appearances in the vagina which led him to believe that independent growths might be in process of formation. It was not uncommon to observe localized hyperplasias of the vaginal epithelium, especially with keratin formation on the surface, which was certainly very abnormal. In a few cases he found, quite by accident, some advanced and suspicious changes. He did not think much about these until he began to produce cancer experimentally in mice, when the former observations assumed a new importance. In these experiments coal tar was painted on the backs of mice periodically, and after some months little neoplasms developed, and in time became true infiltrating epitheliomata. The curious thing was that over the painted area these tumours only arose at certain points; there was not a uniform reaction over the exposed surface. Thus at one place there would be an epithelioma, and at another a cornifying wart, while portions of the area had escaped entirely.

The irritation theory of cancer was now assuming much importance. There was, perhaps, an undue inclination to look upon cancer as something for which an irritative cause had invariably to be found. But one naturally sought to draw a relationship between appearances found where there was a known causal agent and those found where the causal agent was not known. He showed sections of the vaginal mucosa in two cases of cancer of the cervix. In one there was evidence of deep lymphatic spread, but apart from that, and at a lower level, there was an epithelial growth of a basal-cell type, such as was found in rodent ulcer, arising in the vaginal mucosa. The other case showed a minute growth starting from the surface and penetrating irregularly into the deeper tissues. He would diagnose it as an early epithelioma; and in this case there was no deep lymphatic involvement. He suggested that this was an independent growth, due to the same cause which produced the cancer of the cervix. The same irritant, probably a diffusible one, that produced the cancer of the cervix might also produce the cancer of the vagina, quite apart from lymphatic spread.

Dr. A. E. Giles said that one other instance of apparent contact carcinoma was the presence of the disease in each labium. Here there were surfaces which exactly touched, but he would not argue that this proved transference by contact. He believed that there was a good deal to support Dr. Leitch's view. One might find carcinoma of the vagina, if not associated with, at any rate following carcinoma of the body of the uterus, where any direct extension would seem to be out of the question, and lymphatic spread a little more difficult.

Dr. Fletcher Shaw said that a patient upon whom a hysterectomy had been done five years previously came to him with a small epithelioma in the vagina; its upper edge

was a quarter of an inch away from the original scar. It was quite irremovable, and radium was tried without result. The only explanation seemed to be a primary growth which occurred a second time in a patient susceptible to cancer. He imagined that the same primary irritation produced the second growth as produced the first.

Dr. A. Lapthorn Smith said that he had seen a few cases of cancer of the vagina present at the same time as cancer of the cervix, but he was astonished to hear that it was so frequent as Dr. Archibald Leitch's figures seemed to indicate. He himself had never imagined that there was any other explanation than contact.

Mr. Eardley Holland related a case in which, after an extensive operation for carcinoma of the cervix, a completely isolated and discrete nodule of the carcinoma appeared at the extreme end of the vaginal wall, separated from the scar by two inches of healthy tissue. It might be an implantation, or perhaps due to backward lymphatic spread. In the majority of cases any recurrence after extensive abdominal operation took place, not in the vagina, but in the paravaginal cellular tissue.

Dr. Cameron had seen several cases in which carcinomatous ulcers had been associated with, but were distinct from, a malignant growth of the cervix. He had always regarded them as being due to permeation formed by the breaking down of the cancerous nodule, but he had to fall back upon pathologists like Dr. Leitch for an authoritative interpretation. But he believed that such cases as Dr. Leitch had brought forward were rare, and that the majority of cases which spread did so by permeation, otherwise the results in radical operation would not be nearly so satisfactory as they were.

Mr. Douglas Drew asked whether the explanation could be extended to cover the curious cases in which recurrences took place five or more years after the removal of the original growth. Dr. Clifford White instanced a case of sarcoma which involved the vagina in exactly the same way as had been stated in carcinoma. Another member had met with several cases of second primary growth in the breast, and saw no reason why, from the clinical point of view, second primaries should not occur in the vagina.

Dr. Leitch, replying, said that the spread of sarcoma down the vagina would certainly be by lymphatic or venous routes. He believed that the great majority of recurrences in carcinoma, even when late, were by way of lymphatic spread, but in some cases such a thing as a second primary might occur. If he might speculate as to the nature of the irritant, he believed it to be diffusible, not localized, and possibly or probably a liquid, and he wondered whether it might not be traceable to some of the leucorrhoeas.

Chemical Observations on Pregnancy Toxaemias.

Dr. O. L. V. S. de Wesselow and Mr. J. M. Wyatt read a paper on some chemical observations on the toxaemias of pregnancy, which recorded the results of a number of tests in twenty-one cases of albuminuria and six of eclampsia in the gynaecological wards of St. Thomas's Hospital, preceded by some similar observations on normal pregnancies. The chemical picture in normal pregnancy suggested an organism in a condition of comparatively low nitrogenous metabolism, owing probably to the fact that the increased demands for nitrogen were not met by a corresponding increase in protein diet among the class of people to whom the observations related. In the normal pregnant woman there was a rather low blood-urea content, slight but not very marked differences in nitrogen partition, and a very considerable increase in the fibrinogen content of the blood. In the albuminuric cases, as a whole, the blood urea was in excess of that seen in normal pregnancy, but the urea-concentration test showed a relatively lower figure. The observations directed to the functional state of the liver yielded no information of value, and it was chiefly in relation to renal function that such information was forthcoming.

Dr. Herbert Williamson, who said that it appeared that a patient with a blood-urea content of above 0.2 per cent. must be regarded with suspicion, asked some questions of the authors, as did other members; and Dr. de Wesselow, in replying, said that in the normal pregnant woman one got the ordinary urea concentration found in the healthy young adult of corresponding age—between 3 and 4 per cent. He was afraid that the albumin had been neglected in these observations, but he felt that even if there was high-grade albuminuria, and the renal tests were satisfactory, it was not necessary to induce labour.

LABORATORY TESTS.

At a meeting of the Manchester Pathological Society on March 15th, with the President, Mr. J. Howson Ray, in the chair, Mr. Howarth, lecturer on biochemistry in the department of pathology, read a paper and gave a demonstration on "The newer methods of pathological investigation." He demonstrated the methods of estimating blood sugar and blood urea, and also the estimation of urinary urea, chlorides, and phosphates, making references to the clinical application of the tests and their value in different conditions. This was followed by the diastase test and those for the body alkali reserve. Mr. Howarth drew a distinction between the salt-retaining and the protein-retaining types of nephritis, and showed how they differ on estimation of blood and urinary urea and urinary salts.

Dr. G. J. Langley followed with a discussion on the value to the practising physician of these laboratory tests. The speaker had found the urea-concentration tests of great value, and in cases of chronic nephritis intractable to medical measures was attempting to find in these and other urinary tests some standards which would indicate decapsulation. He referred to a case of renal glycosuria in which the blood-sugar test had enabled him to make a correct diagnosis.

Dr. Oliver stressed the value of the various urinary tests, and commented on their use in helping to elucidate the very confused pathology of nephritis. He supported Mr. Howarth's remarks on the paramount importance of blood-sugar estimations in diabetes, and pointed out that the disappearance of sugar from the urine of diabetics did not constitute cure, as these sufferers had still a high blood-sugar figure. He had found the constant checking of the blood sugar an invaluable aid in the dieting and general treatment of diabetics.

Dr. J. B. Macalpine restricted his remarks to the estimation of blood and urinary urea in urinary surgery. He had found the tests of the greatest possible value, and would not like to return to the old days when one operated on these cases largely in the dark as to their renal function. The chief field for these estimations lay in the ordinary prostatic enlargement. The speaker never operated upon these cases until he knew the functional condition of the kidney, and had had excellent results from this procedure. Although no test as yet will tell how much the precise anatomical damage is, he thought the blood-urea test the most valuable in general. The crude dye excretion methods, quantitatively estimated by the cystoscope, he thought fallacious.

Dr. Dible thought Ambard's constant a useful criterion, and believed that people were alienated from it by its formidable-looking formula. The President, in congratulating Mr. Howarth on his demonstration, called attention to the fact that Mr. Howarth would be glad to receive material for investigation from all who cared to sent it to the Department of Pathology.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

The production of the *Transactions* of the Royal Academy of Medicine in Ireland has suffered serious delay by the burning of the press in Dublin which printed them.

Obstetrical Shock.

A meeting of the Obstetrical Section of the Royal Academy of Medicine was held on December 2nd, 1921, when Dr. Hastings Tweedy read a paper on obstetrical shock. He said that Dale and other workers had conclusively proved that a poison generated in bruised muscle was a potent factor in obstetrical shock. Other protein material could generate this poison, and obstetricians had every opportunity of observing that it could arise in freshly effused blood. Ruptured tubal pregnancy, concealed accidental haemorrhage, and haematoma of the vulva all supplied evidence of this fact. Liquid blood was more poisonous than that which was clotted, and thus haematocele could be accounted for. If the woman survived the initial toxic dose the blood would have time to clot. Shock was associated with a general elongation of all muscle fibres. The pupils, the anus, the bladder, the intestines, and the cheeks demonstrated this. The veins, and at a later stage the arteries, seemed to be also affected. Indeed, a great dilatation in the capillaries and veins might account for the phenomena of shock. In the uterus this elongation was better demonstrated than in any other organ, and the condition was evidently one of "retraction reversed." Contraction—a temporary shortening of muscle fibre—was under the control of the nervous system;

retraction was a property inherent to the muscle itself; it took place in a flabby, inert muscle, and was the chief factor in preventing haemorrhage. The process was slowly reversed during the growth of a pregnant uterus and rapidly reversed in shock. Accidental haemorrhage was of toxic origin; if the blood did not quickly escape its products caused shock, which led to dilatation of the uterus. The condition was therefore not due to a diseased atonic uterus, and the fallacy of hysterectomy for its relief was apparent. Caesarean section, with a smaller mortality, was more effective in the control of haemorrhage. Uterine inertia was no contraindication for delivery by forceps, for inertia was no bar to retraction. It was shock and not inertia that was to be dreaded. Lastly, the "retraction reversed" fibre was quite capable of contraction, and this was probably the condition found in the arteries during the early stages of shock.

Sir WILLIAM SMYLY said that the views propounded in Dr. Tweedy's paper would require much thought and research before one could either accept or reject them. If shock was the result of toxins in the effused blood they must develop with extraordinary rapidity and disappear almost as quickly.

Dr. SOLOMONS found difficulty in discussing the theories brought forward without more thought. While accidental haemorrhage, as suggested by Dr. Tweedy, might always be due either to toxaemia or indirect violence, he wished to know why toxaemia should be diagnosed when albumin was absent from the urine, and there were no other toxaemic signs present. He believed with some of the previous speakers that the cause of shock could not be laid at the door of any one factor; there were many such factors. He hoped that the subject would be more fully developed, and that the reason for the relief of shock by various drugs, especially morphine, would be explained.

Supports of the Uterus.

At a meeting of the Section of Obstetrics and Gynaecology of the Royal Academy of Medicine on January 20th Dr. L. CASSIDY read a paper on the supports of the uterus. He said that a careful consideration of the anatomical facts led to the conclusion that no one single structure could be regarded as of prime importance for retaining the uterus in position. Every structure which connected the uterus to the bony pelvic wall must help to fix the uterus in the pelvis, but it was only by the harmonious working of all the factors concerned that this result was obtained. The principal difficulties the uterus had to contend with were (1) intra-abdominal pressure and (2) structural injuries to the supports sustained during childbirth. With reference to the first it might be said that ordinary intra-abdominal pressure played no part at all in bringing about uterine displacement; it was only increased intra-abdominal pressure acting over a prolonged period that tended to cause this condition. The structural injuries sustained during childbirth comprised not only injuries of the pelvic floor, but also those sustained by the more important fascial structures which were present in the base of the broad ligaments.

Prognosis in Mental Disease.

A meeting of the Medical Section of the Royal Academy of Medicine was held on March 3rd, when Dr. H. R. C. RUTHERFORD read a paper on prognosis in mental disease. For purposes of comparison he made a classification of states instead of entities. He divided them into four types: depression, excitement, confusion, and delusional. An analysis had been made of 157 recoveries. A depression state was present in 63 cases. The general recovery rate, as estimated upon the admissions, had worked out at 43.13 per cent. Permanence of recovery was not to be found, as a rule, in mental disease, owing to the influence of heredity. Heredity was usually to be discerned in from 50 to 70 per cent. of admissions. This heredity he regarded as being purely of a hypothyroidal nature. He had come to this belief by the large number of patients, with an early psychopathic inheritance, who responded to thyroid treatment. Especially was this to be noticed in cases showing a family history of collateral heredity. The later hypothyroidal generations showed dementia praecox and imbecility, which conditions were accompanied by degenerative changes, or undevelopment, and these the late administration of thyroid could not remove. He commented upon the influence of thyroid in the organism's growth, and suggested that the want of durability in degenerated tissues was due to deficient thyroid, so that when strain came the affected organ failed. Hypothyroidism only acted as a predisposing cause, but whenever the exciting cause of the mental attack was a feeble one the administration of thyroid would remove it. There was a marked association in both the insane and their relatives of tuberculosis, asthma, and malignant disease. The author suggested that defective thyroidal secretions might act as an hereditary and predisposing cause in these diseases also.

The Treatment of Acute Infections.

Dr. W. M. CROFTON read a paper on the treatment of active immunization of acute infections, illustrated by lantern slides of the charts of patients. He discussed the theory of this method of treatment, suggesting it was always possible, so long as the endothelial cells of the blood vessels were intact. The cases described comprised acute bronchopneumonia, empyema of the knee-joint, acute thoracic infection after gunshot wounds, septicaemias following gunshot wounds of the limbs, puerperal fever, and acute pneumonic phthisis. The surgical cases had, of course, received the appropriate surgical treatment. These cases were chosen as illustrations because the patients were all quite obviously in imminent danger of losing their lives—they all had made complete recoveries.

Dr. T. P. C. KIRKPATRICK said he had seen many of the cases, and he could testify that the results were as satisfactory as had been stated. There was always difficulty in judging the relationship of cause and effect, but he felt justified in saying that the patients were distinctly benefited, and that certainly there were no harmful results. The patients themselves appreciated it. He thought that acute or advanced forms of tuberculosis did not seem to react in the same satisfactory fashion as other forms of infection.

Reviews.

ELECTROTHERAPY AND ITS APPLICATIONS.

THE *Principles of Electrotherapy and their Practical Application*,[1] by Dr. TURRELL, Electrotherapeutic Physician to the Radcliffe Infirmary, Oxford, is, as he states in the preface, an attempt to explain the therapeutic action of electricity upon rational grounds and upon physiological principles. In its main construction it consists of four parts. The first deals with the therapeutic action of current electricity, and includes chapters upon the constant current, the interrupted currents of low frequency and of high frequency, and currents derived from the static machine. In each chapter the apparatus is described, experimental work bearing upon the subject is both quoted and illustrated, the author's own experience is largely drawn upon, and an attempt is made to work out the exact reasons why the current acts on various tissues and so brings about definite results. The chapter on the influence machine and static electricity is especially good, and contains valuable information respecting the use of the various types of machines at present available.

The second division of the book deals with the therapeutic action of radiant energy; it contains three chapters on radiant heat and light, on ultra-violet radiations, and on *x* rays respectively. In discussing the therapeutic action of *x* rays, the author takes the view that their action is simply an intensified form of the action of ultra-violet radiations, and asserts that this is in accordance with the now accepted fact that the ionization produced by *x* rays is due entirely to the electronic discharge or beta radiation, and not in any way to the action of scattered or secondary radiation.

In the third part, which deals with the electro-diagnosis of peripheral nerve lesions and of nervous and other diseases, the practice of allowing nurses or masseuses to take electrical reactions is strongly condemned.

In the fourth and concluding part the general lines of electrical treatment for various conditions are discussed in a series of chapters. In that on the genito-urinary system the Erlangen treatment for uterine fibroids, for sterilization, and for the cure of cancer is described, and its advantages and disadvantages contrasted. There is also in the chapter on the therapeutic action of *x* rays a description of the Wintz boiling-water tube, and a discussion of the reasons for the special technique. It is evident that Dr. Turrell looks upon

[1] *The Principles of Electrotherapy and their Practical Application.* By W. J. Turrell, M.A., M.D., B.Ch.Oxon., D.M.R. and E.Cantab. Oxford Medical Publications. London: H. Frowde, and Hodder and Stoughton. 1922. (Demy 8vo, pp. ix+276; 29 figures. 12s. 6d. net.)

this new method as a great advance—in fact he suggests that it is likely to revolutionize to a very large extent our views on radiotherapy; as he points out, it is largely in the direction of the attempt to place dosage on a more exact and scientific basis that the advance has been made. In discussing the dosage much stress is laid upon the lethal as opposed to the stimulating dose, and the author expresses the opinion that if 40 per cent. of the unit skin dose, as Drs. Seitz and Wintz state, has the effect of stimulating rather than destroying cancer cells, the present practice of employing prophylactic radiations before operation, and also post-operative radiation, should be immediately discontinued; this for the reason that as at present carried out in this country treatment given for these purposes does not usually exceed 40 per cent. However, the "if" with which this sentence commences is an important item in the discussion; another important point is that recurrent nodules in and around a scar after a breast has been removed for cancer are often seen to disappear completely under doses of *x* rays which cannot even approximate to the lethal dose of Wintz, but must be well under his 40 per cent. In this case, then, we appear to be faced with the fact that under certain conditions cancer cells are destroyed by a dose of *x* rays which according to Wintz is certainly not lethal but stimulating.

We have nothing but praise for Dr. Turrell's volume. It has been composed on original lines and is full of suggestive ideas. He is to be congratulated on having written a book which, whilst full of interest to every practitioner of medicine, is calculated to place electrotherapy on a more scientific basis, and to be of great assistance to all those making a speciality of this subject.

PSYCHO-ANALYSIS.

IN the preface Dr. STEKEL describes his volume, *The Depths of the Soul*,[2] as his favourite production. The book consists of a series of short essays or sketches dealing with a variety of topics of human interest, written at a time when the author had gained his early impressions of the psycho-analytic movement, and when, as he writes, he was experiencing "the exuberant joy of a discoverer." Though these essays reveal a knowledge of psycho-analysis, they are free from technical phrases, and might almost have been written by any wise physician of keen observation and sympathetic insight into the minds of the mentally sick and troubled. Dr. Stekel is a psycho-pathologist of repute, but these studies reveal him as an artist and poet as well. There is a subdued note of melancholy and regret in this volume which seems to reflect the mood of a physician who is sensitive to the pain of those who consult him day by day. The book makes no great demands on the reader, and may be recommended as a form of recreation to a busy doctor at the end of a hard day's work. *The Beloved Ego*,[3] written by the same author, also consists of a number of sketches of different aspects of human life, and the above comments are equally applicable to this volume. The book concludes with a number of witty, and sometimes cynical, aphorisms.

The Critic and Guide Co., New York, which publishes literature concerned with sexual hygiene, has included in the series a volume by Dr. STEKEL, entitled *Twelve Essays on Sex and Psycho-analysis*.[4] The book, it is stated, is sold only to members of the professions and to special students of sexology. The first chapter deals with sexual abstinence and health. The writer expresses his views with considerable frankness, and the tone of the essay is insufficiently restrained and dignified to render it a significant contribution towards the solution of the difficult social problem with which it deals.

We have also received four very large volumes,[5] by Dr. STEKEL, in the original German; in them he deals at enormous length with various problems concerning sex and sexual aberrations. They may be of interest to the specialist in the subjects with which they deal.

[2] *The Depths of the Soul.* Psycho-analytical Studies. By Wilhelm Stekel, M.D. Translation by Dr. S. A. Tannenbaum. London: Kegan Paul, Trench, Trübner, and Co., Ltd. 1921. (Cr. 8vo, pp. 216. 6s. 6d. net.)

[3] *The Beloved Ego.* Foundations of the New Study of the Psyche. By Wilhelm Stekel, M.D. Translated by Rosalie Cabler. London: Kegan Paul, Trench, Trübner, and Co. (Cr. 8vo, pp. 238. 6s. 6d. net.)

[4] *Twelve Essays on Sex and Psycho-analysis.* By William Stekel, M.D. Translated by Dr. S. A. Tannenbaum. New York: The Critic and Guide Co. 1922. (Post 8vo, pp. 320. 3.00 dols.)

[5] *Nervöse Angstzustände.* (Pp. 672.) *Onanie und Homosexualität.* (Pp. 526.) *Die Geschlechtskälte der Frau.* (Pp. 402.). *Die Impotenz des Mannes.* (Pp. 484.) All by Dr. W. Stekel. (Berlin and Vienna: Urban und Schwarzenberg.)

PARASITOLOGY FOR PROBATIONERS.

Elementary Parasitology,[6] by Mr. THOMAS T. O'FARRELL, is written for first-year nurses. It deals only with those parasites which are likely to be seen in the wards of an ordinary general hospital in Great Britain, including those which are commonly brought into the country from abroad. Attention in the first year of the nurse's training is to be focused more upon the animal than the vegetable parasites, because so many of the animals can be seen with the naked eye.

The probationers in general hospitals are hard-worked, but so much has been omitted from the book in the endeavour to shorten their studies that it has become a little difficult to understand. The choice of types for study is good, and we would not add to it; but more attention should be paid to the life-histories of the pests, both because the biology of even the most unseemly parasite is often a thing of rare beauty and interest, and also because some knowledge of the natural history is generally the only means of destroying it. One or two minor errors require correction. The ascaris is not a cousin of the earthworm, not even a distant cousin; the anopheles does not breed at the *bottoms* of ponds; and it is surely rather a serious omission that no reference is made to the louse as the carrier of relapsing fever. The figures are not as good as the rest of the book, and the probationer would glean little from them. We call attention to these points because we believe the conception of the book to be valuable, and that there will be a demand for its translation into certain oriental languages. If it is a little too elementary for some nurses it is just the thing for dressers and tamurgies, and the various types of male ward worker found in India and Egypt and China. But if it is to be used for this purpose it is essential to illustrate it with large, clear line drawings.

PROGRESSIVE LENTICULAR DEGENERATION.

DR. HALL'S monograph, entitled *La Dégénérescence Hépato-lenticulaire*,[7] is a well-founded attempt to localize the cerebral degeneration underlying the signs and symptoms observed in the rare nervous disorder described by Dr. S. A. K. Wilson in 1912 under the name "progressive lenticular degeneration." As Professor PIERRE MARIE points out in his appreciative preface, neurologists tend to localize nervous disorders in the basal ganglia nowadays, just as forty years ago the localizations attempted were mainly cortical. Dr. Hall adds two further types to Wilson's original: these are Westphal and Strümpell's pseudo-sclerosis, and the disease described by Thomalla and by Wimmer and Neel. He provides the reader with a full discussion of sixty-eight cases in all, and at the end of his volume summarizes the conclusions to which he is led, amplifying and amending in some respects the views expressed by Wilson. The book is well written and temperately argued; it is one for the neurological specialist.

CANCER OF THE LARYNX.

THE late Mr. C. B. Lockwood used to say: "Don't read textbooks, read monographs; textbooks are made to sell." It may be hoped, however, that Dr. IRWIN MOORE'S monograph on *Intrinsic Cancer of the Larynx*[8] will "sell" as well as any textbook, for by his insistence upon the paramount importance of early diagnosis in cancer of the larynx much of what he has to say is of as great importance to the general practitioner—upon whom the duty of early diagnosis of all diseases must primarily fall—as to the laryngological surgeon. That part of the book devoted to operative technique does not, of course, concern the general practitioner or the general surgeon, for the operation is certainly not one to be undertaken lightly; but, in spite of the comparative rarity of the condition, too much stress cannot be laid upon the part devoted to diagnosis. Dr. Moore quotes a leading authority who, in referring to twenty-three cases of cancer of the larynx which he had seen, states that only one was in its early stage, which is rather a terrible commentary on the present conditions of the diagnosis of this disease. This authority suggests that "the fault lies largely

[6] *Elementary Parasitology* (First Year). By Thomas T. O'Farrell, F.R.C.S.I., D.P.H. Dublin: Fanning and Co., Ltd. 1921. (Cr. 8vo, pp. 32; 2 illustrations. 1s. net; 1s. 6d. interleaved.)

[7] *La Dégénérescence Hépato-lenticulaire: Maladie de Wilson—Pseudo-Sclérose.* By H. C. Hall; preface by Professor P. Marie. Paris: Masson et Cie. 1921. (Med. 8vo, pp. xi + 361; 45 figures. Fr. 20 net.)

[8] *Intrinsic Cancer of the Larynx and the Operation of Laryngo-Fissure.* By Irwin Moore, M.B., C.M.Edin. London: University of London Press. 1921. (Roy. 8vo, pp. 159; 46 figures. 20s. net.)

with the general practitioner, who does not take sufficient notice of the early symptoms." According to the mortality returns of this country the average number of deaths from cancer of the larynx for the five years 1911–15 was 534; of every 100 deaths from cancer 1.8 are from cancer of the larynx, while 21 are from cancer of the stomach. Since the chief and characteristic symptom of the disease, in its early stage, is alteration in the voice or persistent hoarseness it is evident that a warning so definite is of infinite value in the early diagnosis of the disease, and Dr. Moore's plea for more frequent co-operation between the general practitioner and the laryngologist is completely justified.

The greater part of the book is occupied by a detailed description, fully illustrated, of the operation of laryngo-fissure, which has given satisfactory results in the treatment of early cases of intrinsic cancer of the larynx, both as regards life and as regards the voice. The fault of the monograph is that, while the opinions of all available authorities are quoted at every point, hardly enough stress is usually laid by the author upon his personal views. It is, however, fair to say that no throat surgeon should attempt the operation of laryngo-fissure without having made himself familiar with the contents of this volume, especially as the immediate success of the operation depends greatly upon the attention devoted to details which are fully set forth here. The index, it may be added, is quite unusually comprehensive and accurate.

Dr. Irwin Moore's monograph reflects credit upon British laryngology. It is evidence not only of patient and untiring industry, but of an alert and discriminating mind.

TYPICAL FLIES.

THE diptera, or two-winged flies, are of very great importance to the human race: the mosquito, the tsetse, and the flea inoculate us with the germs of fatal diseases; the fly is a major cause of all the intestinal diseases in nearly every part of the globe; other diptera adversely affect our welfare by attacking our horses and our cattle and our sheep. There is no group of insects of greater importance to us, and probably none which gives greater difficulty to anyone desirous of referring his specimens to their approximate position in classification. This difficulty is found not only by the tropical practitioner or the agricultural officer, but, to some extent at any rate, by those entomologists who have not made a special study of the diptera; an approximate identification is often a very valuable thing in tropical countries, as it frequently gives the key to the destruction of a pest without having to wait until a report is received from Europe. The principal difficulty is due to the fact that an enlarged drawing of a fly, even from the pencil of an expert, often fails to convey the same general impression as the specimen under examination; this is more true of flies than of any other group of insects. In these circumstances we extend a hearty welcome to the appearance of the second series of Mr. E. K. PEARCE's *Typical Flies*.[9] It is probable that his very carefully executed photographs will succeed exactly where the artist fails. It is, of course, essential that the study of these plates should be accompanied by a very careful anatomical examination of the specimen, and by reference to some work dealing with the details of classification. This is of great importance, and if care is not taken specimens will be referred to entirely wrong families because they happen to have a superficial resemblance to some insect figured in Mr. Pearce's plates. It is perhaps to be regretted that the author has not been a little more systematic in his arrangement; several quite important families of flies are not illustrated in either series—the Sepsidae and Agromyzidae among others; other families are illustrated in both series, but there is no reference on the plate in the second series to the illustration of the other fly illustrated in the first series; and, lastly, there is nothing on the plates themselves to tell the student to what family the species therein illustrated refer.

Our conclusion is that we admire Mr. Pearce's photographs very much, and we believe that they serve a very useful purpose; but we should prefer to see them combined with a fuller letterpress dealing with the classification of the diptera and with an abundance of clear drawings to illustrate details of chaetotaxy and neuration.

[9] *Typical Flies: A Photographic Atlas.* By E. K. Pearce. Second Series. Cambridge: The University Press. 1921. (Sup. roy. 8vo, pp. xiv + 38; 125 figures. 15s. net.)

NOTES ON BOOKS.

THE earlier editions of the very practical little book, *Experimental Physiology*,[10] by Professor Sir EDWARD SHARPEY SCHAFER, have been so well known to several generations of students since the first edition appeared nearly ten years ago that it is not necessary to do more than announce the appearance of a third edition. The text has been revised and the number of illustrations slightly increased. A certain number of the experiments described are intended for advanced students, but the selection of these is left to the teacher, since it must be regulated by the requirements of his students and the nature of the examinations for which they are working.

Dr. GIRINDRASHEKHAR BOSE, who is lecturer on psycho-analysis and abnormal psychology in the University of Calcutta, has written a small volume based upon Freud's teachings, entitled *Concept of Repression*.[11] The author explains in the preface that he has developed his theories from a relatively slight acquaintance with psycho-analytic literature, and that the views he presents, though much compressed and lacking references to actual cases, are the product of experience derived from clinical study during a number of years. Dr. Bose explains his concepts by the use of diagrams, and makes free use of analogies from the physical sphere. He relies very largely on the theory of the opposite wish for explaining the process of repression.

In his lectures on *Psycho-Analysis in the Service of Education*,[12] now translated into English, Dr. OSKAR PFISTER, writing as pastor, teacher, and practising psycho-analyst, strongly urges the importance of psycho-analysis for the education of the young. As a religious instructor he lays particular emphasis upon what he believes to be the moral and spiritual value of this form of treatment. He considers that teachers should themselves be analysed, and that they should receive a course of instruction in the theory and practice of psycho-analysis in order that they may be in a position to apply this procedure to the children entrusted to their care. Though Dr. Pfister writes with fervour his views will probably not commend themselves to the majority of educationists, medical men, psychologists, or parents. It would seem to be most undesirable that teachers should regard it as part of their function to practise psycho-analysis upon their pupils.

The German book on headache, by Dr. LOBEDANK,[13] is stated to be a second edition. It contains tables designed to assist in the diagnosis of the headaches respectively due to the seventeen causes the author considers most important. His pages are full of information, but appear to be of theoretical rather than practical interest.

We have received from the dental manufacturing firm, Claudius Ash, Sons, and Co., a centenary memoir commemorating the firm's hundredth year. It takes the form of a history of the firm's origin and growth entitled *A Century of Dental Art*,[14] and is practically a record of the development of the art of dentistry during the last hundred years. Many points in this record are of interest to the medical practitioner. A sympathetic echo is awakened on reading how, one hundred years ago, the dentist was dependent on the gravedigger and the body-snatcher for his supply of teeth for dentures, and a feeling almost of jealousy on learning that the first operation under ether in this country was the extraction of a lower molar! The tale of the fight for the introduction of amalgam fillings and vulcanized rubber plates evokes more modest emotions, for the medical profession feared mercurial poisoning—and there was none! The memoir is well illustrated and tastefully got up. We congratulate the firm on their useful work.

[10] *Experimental Physiology.* By Sir Edward Sharpey Schafer, F.R.S., Professor of Physiology in Edinburgh University. Third edition. 1921. London: Longmans, Green, and Co. (Demy 8vo, pp. viii + 131; 90 figures. 6s. net.)

[11] *Concept of Repression.* By Girindrashekhar Bose, D.Sc., M.B.Cal. Calcutta: G. Bose. 1921. (Post 8vo, pp. viii + 223; 18 figures.)

[12] *Psycho-Analysis in the Service of Education.* By Dr. Oskar Pfister, Pastor and Seminary Teacher at Zurich. Authorized translation. London: Henry Kimpton. 1922. (Cr. 8vo, pp. xii + 176. 6s. net.)

[13] *Kurze [illegible]ische Anleitung zur Erkennung aller Formen des Kopfschmerzes* [illegible] Generaloberarzt A.D. Dr. Lobedank. Zweite, verbesserte Auflage. Leipzig: C. Kabitzsch. 1921. (Cr. 8vo, pp. 71. M.8:50.)

[14] *A Century of Dental Art.* London: Claudius Ash, Sons, and Co., Ltd. 1921. (Demy 8vo, pp. 64; illustrated.)

THE P[illegible] Health Department of the New York Academy of Medic[illegible] has published a statement that the experimental prophyla[illegible] inoculations against pneumonia carried out during t[illegible] riod of the war, and subsequently, have so far not yield[illegible] fficiently convincing proof of the efficacy of the method t[illegible] rant its universal application.

THE HOSPITAL PROBLEM.

ADDRESS BY SIR JAMES GALLOWAY.

IN an address to the annual meeting of the Hospital Saturday Fund, held at the Mansion House, London, on April 8th, Sir JAMES GALLOWAY, K.B.E., M.D., began by remarking that the delegates of the various committees of the association and the medical staffs of the London hospitals—their executive officers, so to speak—were partners in the enterprise of organizing our great hospitals on a voluntary system, which was one of the most noble achievements of individual and voluntary effort in this country.

A Retrospect of War Hospitals.

Sir JAMES GALLOWAY said that he had vivid recollections of the address given by him at the annual meeting of the Fund in 1915. The war had then passed its first stage, and a system of defensive warfare was being established. The country had just awakened to the great task which absorbed its full energies during the subsequent four years. The demands of war had already placed a great strain on existing medical resources, with the result that our hospital organization, both military and civilian, was in a state of rapid change and development. The military hospitals of the small regular army were expanding out of recognition to render the necessary services to our rapidly increasing armies overseas. Two main factors determined the form taken in this process of development: First, the establishment in the greater part of our fighting front of trench warfare with its peculiar character; secondly, the rapidly growing power of mobility in transport behind this stationary front. The development of transport by road, by ambulance trains, and ambulance ships became so perfect that it was possible to transport the sick and wounded from the French front to London in forty-eight hours. As the result of these conditions many hospitals immediately behind the fighting line, originally arranged as mobile hospitals and equipped for rapid movement with troops, developed as stationary hospitals, occupying the same site for years. Hospitals of this type were at that time in process of development, but it was not then known how extensive and how important these advanced hospitals were to become. These hospitals, having some security of tenure, developed equipment and facilities of medical treatment never before afforded so near the actual field of battle. They became so complete as to allow of treatment of all urgent cases under exceedingly favourable conditions, even within four or five miles of the trenches. To these hospitals were posted young and energetic medical officers. They came from all the schools of medicine in these realms and from the dominions and empire overseas, and even at the earliest stage of the war from the United States of America. These officers were confronted with new problems in the investigation and treatment of disease. Their enthusiasm and industry were so great that they made their hospitals not only of the greatest use to the army in the treatment of the sick and wounded, but centres of medical activity which influenced all those who came in contact with them. The work of every man was placed at the common disposal; the good ideas and the good plans survived. Similar conditions prevailed in the hospitals on the lines of communication and at the great base hospitals. The influence of war conditions stimulated thought and work so that these hospitals became centres of medical research from which new knowledge radiated throughout the whole medical profession.

Our hospitals at home were not slow in responding to these quickening influences. In a short time a very noticeable increase in alertness and in the practical application of medical knowledge in the treatment of disease was felt throughout the country, from our great voluntary and war hospitals to the remote cottage hospitals in the country. The profession of healing in all its branches had now more knowledge at its disposal and was more useful to the community in the application of that knowledge than at any other time, and this result was largely due to the stimulating mental influences of the Great War.

So it was also in the case of hospital organization. Large numbers of people became interested in the establishment and in the equipment of hospitals during the war. Any who had the opportunity of travelling through the country during the war time, especially in its later years, must have been struck by the changed aspect of the country. On a bright summer's day the well-known outlines of our landscapes, which gave so much pleasure to look upon, remained; the details were altered on every side by great military encampments. But one of the most interesting features, giving cause for serious thought, was the frequent appearance of the Red Cross of the Geneva Convention. Every town, every hamlet displayed the Red Cross in some prominent position, and in many out-of-the-way corners the flag would meet the eye. In the large cities sections of the great hospitals had been given over to the use of our sailors and soldiers, while both the navy and the army had established many large war hospitals. The increase of our hospital accommodation was enormous. The amount of money expended by the nation and by private generosity seemed to know no limit. New accommodation, new equipment materialized almost when wished for. All this development greatly stimulated the interest of our people in hospital work. To the trained hospital administrator it gave unexampled opportunities of testing plans of hospital administration, of noting the points at which they failed, and of concentrating on what seemed to be the best methods. In this way, just as in the case of the medical workers, the organizers of hospitals received an intensive and excellent training during the war, and at the end of the war the country had at its disposal a larger number of persons well trained in the organization and administration of hospitals than had ever been the case before.

The After-War Reaction.

Very soon after the armistice the reaction began to appear; private generosity had long shown signs of diminishing. Many hospitals had come to depend largely, not in the old way on the gifts of individuals, but on grants from the great funds of the societies of the Red Cross and the Hospital of St. John and on payments from Government sources. These also showed signs of restriction. The demands on our great hospitals increased as the smaller hospitals closed. The peace brought the claims for hospital treatment from large numbers of sick previously under the care of various State authorities. The great epidemics of infectious disease which characterized the closing year of the war and the first year of peace strained the accommodation and financial resources of our hospitals to the utmost. No sooner had these plagues diminished than the depression in commerce and industry rapidly developed with great increase in the cost of all commodities. The necessary expenditure of hospitals doubled and more than doubled in the years following 1918. For all these reasons the hospitals of the country were now passing through the most serious financial strain ever known; some even had to close their doors; others were just beginning to revive from the strain they had passed through.

The contrast therefore was striking. At a period when their medical efficiency was at its highest and their administration by both lay and medical workers most effective, the institutions themselves had been brought within sight of ruin. But to the audience Sir James Galloway addressed he was sure that the response could only come in one sense—namely, that notwithstanding the present difficult and even perilous position of our hospitals, the voluntary system of support must go on intact and undiminished.

The Changing Hospital Clientèle.

Another aspect of the position of our voluntary hospitals arose from the circumstance that these hospitals were now giving free service to a much larger proportion and to very different classes of the population than they had been accustomed to do in the past. This great change was due to the fact that appropriate and adequate medical treatment was more difficult to obtain and its cost had greatly increased. Until comparatively recently a doctor was able to arrange for and to give the necessary treatment to the majority of those who consulted him. In some cases he required assistance, while in others the special opinion of a trained consultant or the operative skill of a practised surgeon was necessary; but with such exceptions the doctor in charge would proceed to carry out treatment on his own responsibility. Owing to the rapid advance of medical research and knowledge greatly stimulated by the war, this was no longer the case. Often the doctor in charge was unable to form a satisfactory opinion as to the exact nature of the malady or to arrange for appropriate treatment without a considerable amount of preliminary investigation. Such investigation required special skill and much practice to render it of real service. The doctor in charge usually had neither the

time nor the equipment to carry out these investigations. They might require a special knowledge of chemical and physical science beyond the ordinary medical experience. Such investigations were now carried out by medical men with special training and skill. When this information had been obtained and collated the doctor in charge was in a position to form an opinion of much greater value to his patient and to arrange for the most effective treatment. In other cases the help of a skilled operator might become necessary. Thus the work of several doctors was often needed before the most suitable treatment was determined and could be carried out. The system of combined work not only increased the financial cost but required care and trouble to co-ordinate. Thus the cost of adequate and proper medical treatment to large numbers of persons, even to those in comfortable circumstances, was so great as to be almost prohibitive. In the case of medical treatment involving the cure of sickness and the lives of the people this must not be permitted: the sick must have the full advantage of the best medical knowledge. The hospitals had this knowledge and medical experience in their gift. In the process of years of growth a system had developed whereby both the personal skill and the co-ordinated efforts of their medical officers were available in the most expeditious manner; these facilities were at the immediate disposal of the poorest and most needy in the land. Were those in better circumstances to be precluded from these benefits? Obviously this could not be. Hence the hospitals were no longer a haven for the necessitous poor alone, but were resorted to by many others with greater financial resources. It seemed therefore that our voluntary hospitals must make arrangements for serving at least three classes: First, the necessitous poor, not provided for by the State, and for whom adequate treatment could only be obtained at the voluntary hospitals. Secondly, the workers both by hand and brain who received an income sufficient for the needs of themselves and their families, but who had neither the facilities nor a sufficient financial margin to provide adequate medical treatment at home. Thirdly, those who might have a margin above that required for their daily necessities, but when faced with severe or difficult illness could not afford adequate medical treatment. And there were still others, even of ample means, who in serious illness might find that the only place where the appropriate and satisfactory treatment available was in a well-equipped modern hospital. All these persons could not be precluded from treatment; they must have the opportunity of securing restoration to health and of preserving their lives. The voluntary hospitals were therefore coming more and more into a position in which they must be prepared to serve persons drawn from many sections of the population, and the financial responsibility of these institutions was not likely to diminish.

Paying Patients.

One of the difficulties arising under these new conditions was that persons now admitted into general hospitals were able to pay in part or in whole for their maintenance, while others could pay the full cost of maintenance and also of treatment. Arrangements were urgently required to deal with this situation. To provide accommodation for paying patients seemed to be not only an urgent need but a desirable reform in the organization of hospitals. A method whereby hospitals, besides receiving those unable to pay, also arranged accommodation for patients able to pay part or the whole of their maintenance and the cost of their treatment, had been found useful and successful in many places throughout the empire and elsewhere. It appeared as though this change were in process of development at home also.

Such changes involved a reconsideration of the position occupied by the voluntary workers. In the case of those not only willing but anxious to pay the voluntary services hitherto given should clearly not be accepted. Financial readjustments would no doubt affect the medical services, the nursing services, and other services now afforded to the hospitals on a voluntary basis. These adjustments and rearrangements should not prove impossible nor unduly difficult if the underlying principles of voluntary organization and administration were insisted on and maintained. But when all this was done the outstanding feature of our voluntary hospitals would remain—namely, that the main reason for their existence was their services rendered as a free gift to the sick who could not afford adequate medical treatment; the sick and injured would still receive the best care and treatment possible by the good offices of their fellow citizens who would continue to lay aside from their hours of work, or from their earnings, or from their worldly goods, the assistance freely given to these voluntary institutions. Were this thoroughly understood, Sir James Galloway believed there was no fear that the generosity of our people would fail to support the hospitals.

The Voluntary Hospital Spirit.

It was important that the social customs of the voluntary hospitals should be emphasized. This atmosphere of comfort and friendliness was brought about not only by the work of the medical and nursing staffs, who in such hospitals must regard their patients as individuals rather than collections of sick folk, but also by the various activities of other voluntary workers. Friends from outside the hospital, guilds of lady helpers, others dealing with convalescent patients and after-care, played an important part; indeed the activities of these might be taken in some respects as an index of the general efficiency of a voluntary hospital. They helped to distinguish our voluntary hospitals from most of the State-supported hospitals, such as the infirmaries of the Poor Law, the municipal hospitals, or even hospitals under military administration.

The hospital was a large undertaking; to manage it efficiently requires business training and business ability. These requisites could be provided to a large extent by the hospital secretaries—an invaluable corps of national workers. But the best results in hospital administration were obtained by the continuous work of voluntary administrators, accustomed to the efficient management of large undertakings, associated with a capable executive—the secretary and his staff. Every means should be taken to encourage the non-medical workers, such as men in professions and in commerce, manufacturers, those accustomed to financial administration, and others dealing with the trade and work of the locality in which the hospital was situated. Those who were fit to do so should be invited to devote a part of their time to hospital administration. Much was heard at the present time of the dangers besetting the voluntary hospital system, such as the failure of funds, and their enlargement to admit contributing and paying patients. These difficulties were not so great as appeared, and they could be surmounted. The real danger which beset our hospitals was the risk of failure in attracting men with experience of affairs, in finance, and in the administration of large enterprises.

The amount of added financial assistance required was, after all, not very great; a comparatively small amount of help from all would relieve the urgent necessities of our hospitals and promote their efficiency. To conform to the voluntary system these gifts from all classes must be free and without restrictions. The whole spirit of voluntary support disappeared when the question of bargaining entered into the donation. If efforts were made that the donors might have preference or acquire special privileges, the essence of the free gift went, and the grace of the gift was lost. If the givers attempted to make bargains, the voluntary workers must necessarily do so. The dangers now arising in this way were very considerable. Some hospitals, on account of financial stringency, had recognized that many of those who sought their help were able to pay, at least to some extent, if asked for payment while under treatment. The urgency of the occasion might perhaps be held to excuse this departure from older practice. In some cases these gifts had gone far to make up the financial deficiency and to balance the hospital accounts; but it was a matter of common knowledge that difficulties had arisen. Some of those who paid, even in small amounts, thought they should receive preference above those who did not pay; while the very fact of payment brought to the surface the difficult underlying problem—namely, at what point in the case of those who paid could voluntary service no longer be offered. It could not be too strongly insisted upon that donations to voluntary hospitals, whether as personal gifts or in the form of massed contributions from groups of individuals, must still be free gifts in the full sense of the word. Any attempt to drive the hospitals into a position in which they undertook responsibility of the nature of insurance against illness for those who contributed would, in Sir James Galloway's opinion, not only be a disastrous financial undertaking on the part of the hospitals, but would bring about such a change in administration as to alter completely the voluntary system.

British Medical Journal.

SATURDAY, APRIL 15TH, 1922.

SUNLIGHT AND RICKETS.

IT is an old observation that rickets is much less prevalent in the countries of abundant sunshine. E. F. Neve in a communication to the JOURNAL (1919, vol. i, p. 518) stated that in the town of Srinagar, India, where extreme poverty and most insanitary conditions prevail, rickets is a rare disease; he attributed this to the fact that the sun shone strongly and for nine months in the year nearly all day; while it shines, whether in winter or summer, the poor work and sit about in the sunshine. H. S. Hutchison[1] has recently published an elaborate census of rickets in the town and district of Nasik, India; there rickets was not extremely rare, as among 3,378 children examined, signs of active or healed rickets were found in 381. But the special interest of his article lies in the fact that the population of Nasik falls into two sharply divided classes: a well-to-do class where, owing to the practice of the religious custom of purdah, the infants are strictly confined to the dark and stuffy houses, and a poorer class where the infants share with their parents the open-air life of the fields. In the former class the incidence of rickets was 24.9 per cent.; in the latter only 4.8 per cent. This contrast is all the more striking in that the diet of the poorer class compares unfavourably with that of the other in respect of fat and protein, though both are somewhat defective in fat-soluble A vitamin. In both classes the infants were breast-fed for at least one year. Hutchison therefore concludes that rickets is due to lack of fresh air, light, and exercise, and regards the analysis of this clinical material as a confirmation of the views of Noël Paton and Findlay that the predominant factor in the etiology of rickets is not dietetic but hygienic.

It is useful to place alongside this clinical study of rickets some recent experimental investigations in America by Powers, Park, and other workers.[2] Using rats, kept under ordinary laboratory conditions, they were always able to produce rickets with a diet defective only by reason of its lack of fat-soluble A and of phosphorus; not a trace of rickets appeared, however, if the animals were exposed for about four hours daily to the direct summer sunshine of New York. It is worth adding that where adequate phosphorus was added, and the diet was only defective by its lack of fat-soluble A, rickets did not develop in the shade of the laboratory; and that Hess and Unger,[3] in an investigation of about the same date, found that with such a diet and in complete darkness rickets did not develop. It was considered to be proved that direct sunlight was effective in preventing rickets in rats, and also in promoting the general health and vigour of the animals.

It is, however, not a fair inference from the clinical study of rachitic children in Nasik, or the rat experiments described, that lack of sunshine is the cause of rickets. For certainly in the laboratory experiment and possibly in the Indian babies, we have the factor of inadequate diet at work. Powers and Park do not make such a claim, but state that when for any reason, whether dietetic or hygienic, the general metabolism of the young growing animal is weakened, rickets will develop more readily in a dark and confined environment, and can be prevented by an environment of sunshine; that is as much as to say that sunshine is a powerful influence in the prevention and cure of rickets. Hess and Unger[4] have reported favourably upon the healing influence of direct sunshine upon babies suffering from rickets, and have confirmed their results by *x*-ray photographs of the epiphyses; they observed a similar improvement by the use of ultra-violet rays. In the last few years similar results have been obtained by Huldschensky and others. Hess and Unger believe therefore that many cases of rickets are due to defective hygiene rather than to dietary errors, though they admit that diet may be an etiological factor. They explain the much greater prevalence of rickets in winter in the Northern American States by the relative absence of sunlight; and the specially heavy incidence of rickets in the negro population by the failure of light rays to penetrate the thick pigment layer of the skin.

These clinical and experimental observations on sunlight and rickets seem to weigh in favour of the hygienic rather than the dietetic theory of rickets. But most recent writers are careful to reserve a place for the factor of inadequate diet. If we describe rickets as a disease of general metabolism, affecting all cellular tissues at a time when body growth is rapid, and revealing itself specially in a defective deposit of salts of phosphorus and calcium in the areas of active bone formation, it would seem that any substance or influence that will stimulate general metabolism will act towards prevention and cure of rickets. These antirachitic factors may differ widely in their character. Thus Mellanby has shown that lean meat has a definite though moderate antirachitic action in puppies, and attributes its action less to any content of vitamin than to its stimulant action upon general metabolism. There are good grounds, both experimental and clinical, for the belief that sunlight is strongly active in the same way, and there can be no doubt whatever of the antirachitic powers of cod-liver oil. The influence of light as a stimulant of all living cells is well known; and Powers and Park suggest that cod-liver oil may act in the same general way upon metabolism as a whole. The virtue of cod-liver oil cannot lie in its calorie value; and recent observations connect the action of cod-liver oil in an interesting way with the metabolism of phosphorus, the content of phosphorus in the blood plasma being found to be increased after the administration of cod-liver oil. That oil is known to be much richer in the vitamin fat-soluble A than milk or even butter, and though there are difficulties in the view that this vitamin and the antirachitic factor in the oil are identical, it seems probable that the value of cod-liver oil in rickets depends not upon its food value but upon some unknown property by which general metabolism is stimulated. It is an interesting thing that in the prevention and cure of rickets powerful healing agents so diverse as cod-liver oil and sunlight may exert their influence by a similar stimulus to general metabolism; and in the meantime it is safer to assume that in the causation of this defect of metabolism, the prejudicial factor may be dietetic in one case and in another hygienic.

It must be remembered that the experimental work on rickets in America has been done on the rat, an animal whose natural environment is one of filth and darkness; and that it is only when phosphorus is lacking from the diet that rickets has been produced. Thus, in the rat, sunshine is preventive and curative of rickets; but, as Hess and Unger have shown, the lack of sunshine is not causal. This statement seems to indicate that a hygienic factor may cure a case of rickets that has been caused by a dietetic error. The dog is much more sensitive to bad hygienic conditions, and it is now accepted that with a defective diet, rickets is aggravated if the animal is

[1] *Quart. Journ. Med.*, January, 1922, p. 167.
[2] *Journ. Amer. Med. Assoc.*, January 21st, 1922.
[3] *Proc. Soc. Exper. Biol. and Med.*, 1921, xix, p. 8
[4] *Amer. Journ. Dis. Children*, 1921, xxii, p. 186.

confined in unwholesome conditions. While Mellanby, however, states that puppies during absolute confinement will not develop rickets if the diet is good, Noël Paton, Findlay, and Watson claim to have produced rickets in pups given an abundant diet of oatmeal and milk, but kept in confinement. The discrepancy between these results may be explained by the fact that in the former cod-liver oil was used, and in the latter it was not.

In view of these conflicting experiments it is not at present possible to give a final verdict on the etiology of rickets, and to assert that it is solely due to faulty diet, or solely to bad hygiene. It may indeed be found that both factors contribute to its production, as both have been found to contribute to its prevention and cure. But recent work on the subject, both experimental and clinical, has brought the different elements of hygiene into a prominent place; and it would be well that Hutchison's careful review of a large number of cases in India both from the point of view of diet and of hygiene, should be followed by similar clinical investigations in this country, in which the conditions of environment as to sunshine, open air, etc., would be scrutinized as carefully as those of the diet.

ANTISEPTIC DYES.

CONSIDERABLE popular interest has been aroused by a paper read recently before the Society of Chemical Industry at Manchester by Renshaw and Fairbrother on the antiseptic action of the coal-tar dyes. The facts mentioned concerning the extraordinarily potent antiseptic properties possessed by many of the coal-tar dyes have not yet found their way into the textbooks in general use, but a very large amount of work has been done on the subject during the last twenty years and many very remarkable substances have been discovered; for various reasons, however, the direct therapeutic results have been on the whole rather disappointing. It is impossible within the space at disposal to present an adequate summary of the work done on the antiseptic action of the coal-tar derivatives, but a few of the most striking results may be mentioned.

Bechhold and Ehrlich in 1906[1] studied the antiseptic action of halogen compounds of phenol and naphthol, and obtained results which show clearly the extraordinary variations in antiseptic action produced by slight changes in chemical constitution, and also the markedly specific action of some compounds. Both these points may be illustrated by stating the minimal lethal concentration for certain micro-organisms of three closely allied naphthol compounds: di-brom-beta-naphthol is fatal to *B. coli* in a concentration of 1 in 30,000, and to *B. diphtheriae* in one of 1 in 40,000; tri-brom-beta-naphthol kills *B. coli* in a concentration of 1 in 2,000, and *B. diphtheriae* in one of 1 in 400,000; tetra-brom-beta-naphthol has a lethal action on *B. coli* in a concentration of 1 in 1,000, and on *B. diphtheriae* in one of 1 in 200,000. It will be seen that di-brom-beta-naphthol has an equal antiseptic action on *B. coli* and *B. diphtheriae*, but that the addition of an atom of bromine greatly reduces the first action and greatly increases the second action. Still more remarkable results have been obtained with the more complex coal-tar dyes, and some instances of extraordinary specificity have been found. Browning, Cohen, and Gulbransen[2] describe a substance —sensitol red—which has a lethal action on *B. coli* about two thousand times greater than its action on staphylococci.

The specific actions of antiseptic dyes are of course of the greatest value to the bacteriologist in preparing selective culture media. The antiseptic action of coal-tar dyes, such as brilliant green and violet green, has been used for the disinfection of skin in such regions as the perianal region, which are specially difficult to render sterile.[3] It is easy to find a very large number of dyes which act as powerful antiseptics in water at very high dilutions, but only a small fraction of these will exert a powerful antiseptic action in the presence of proteins, and an antiseptic which is to be of use in disinfecting wounds or mucous surfaces must act in the presence of excess of protein. Furthermore, the disinfectant must act on bacteria at a lower concentration than that required to injure the tissues of the host. Only a small fraction of the antiseptic dyes fulfil these conditions.

The flavine dyes introduced into therapeutics in this country by Browning are some of the most successful antiseptic dyes. The activity of most dyes is greatly reduced by the presence of protein—for instance, the antiseptic activity of brilliant green in serum is only 1 per cent. of its activity in peptone water, but the presence of serum actually increases the activity of proflavine tenfold.[4] Acriflavine and proflavine have both been found to be of service in the disinfection of wounds, in the treatment of gonorrhoea, and as urinary disinfectants.

Internal disinfection in generalized bacterial infections by means of chemotherapeutic agents is, however, the great achievement desired by all those who are investigating specific antiseptics. The achievement of this result might, of course, revolutionize the treatment of a large proportion of human disease. Internal disinfection has been attained to a large extent in the case of trypanosomal and spirochaetal infections, for chemotherapeutic agents are available a single injection of which will cure an animal already moribund from such infections. Nothing approaching this has as yet been found for bacterial infections. The positive results obtained in the treatment of leprosy by the chaulmoogra oil derivatives show that it is possible to destroy bacteria living in the human tissues by the injection of a therapeutic agent.

A certain number of positive laboratory results have been obtained by treating animals suffering from various forms of septicaemia with injections of the flavine compounds and also with injections of quinine derivatives (optochin[5]). A large number of negative results have also been obtained with these substances, and they have not become established as therapeutic remedies for septicaemia. The experiments of Lewis[6] on the action of dyes on tuberculosis illustrate the difficulties involved in experiments of this nature. Lewis obtained dyes which had a marked specific action on the tubercle bacillus *in vitro*, and when injected into the living animal could penetrate to the centre of the masses of diseased tissue, and yet he could find no substance which had a markedly beneficial effect on the process of infection in man or animals.

The few instances mentioned above serve to illustrate the point mentioned at the beginning of this article. An enormous amount of work upon specific bacterial disinfectants has been done, and much valuable information has been obtained, and yet the results are on the whole rather disappointing. They are disappointing because they fail by such a narrow margin to achieve much greater things. It would seem that with the knowledge now possessed we ought to have drugs which would produce the same effect on septicaemia as salvarsan does on syphilis. The attainment of this effect has been approached many times by many different workers, but yet in every case partial or complete failure has resulted.

[1] Bechhold: *Kolloide in Biologie und Medizin*, Leipzig, 1920, p. 436.
[2] BRITISH MEDICAL JOURNAL, 1922, i, 514.
[3] Browning and Bonney: BRITISH MEDICAL JOURNAL, 1918, i, 562.
[4] Browning: *Applied Bacteriology*. Oxford Medical Publications. 1918, p. 72.
[5] Browning and Cohen: BRITISH MEDICAL JOURNAL, 1921, ii, 695.
[6] Lewis: Harvey Lectures, 1916–1917, p. 112.

THE PRESIDENCY OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

THE President of the Royal College of Physicians of London is elected annually on the Monday following Palm Sunday. On April 10th Sir Norman Moore, who has held the Presidency with much distinction for the past four years, intimated his wish not to be re-elected. Sir Humphry Davy Rolleston, K.C.B., M.D., was elected President in his place and duly inducted by the Senior Fellow present. The new President, who is a graduate of Cambridge in Arts and Medicine and Emeritus Physician to St. George's Hospital, was elected a Fellow of the College in 1894, and his election to its highest office will be welcomed on every ground by the medical profession. He is a former scholar and Fellow of St. John's College, Cambridge, and a student of St. Bartholomew's Hospital. In the South African war he was consulting physician to the Imperial Yeomanry Hospital, Pretoria. From 1914 to 1919 he served as consultant physician, with the rank of surgeon rear admiral, in the Royal Navy; for his services, recognized throughout the navy, he was created C.B. in 1916 and K.C.B. in 1918. Sir Humphry Rolleston is a past-President of the Royal Society of Medicine, and on the occasion of the annual meeting of the British Medical Association at Newcastle last year received the honorary D.C.L. degree of the University of Durham. He holds many other academic honours, both British and foreign, and has served with distinction on numerous boards and public committees. His name is associated with that of Sir Clifford Allbutt as joint editor of the second edition of the standard *System of Medicine*, and his clinical learning and scholarship are shown in his writings on diseases of the liver and many other publications. He was Goulstonian Lecturer of the Royal College of Physicians in 1895, Lumleian Lecturer in 1919, and was Senior Censor at the time of his election to be President. On many occasions he has given most valuable assistance to the British Medical Association as a member of its Science Committee and of the Arrangements Committee for the scientific work of the Annual Meetings. He was secretary of the Section of Pathology and Bacteriology in 1895; vice-president of the Section of Medicine in 1899, of the Section of Pathology in 1904, of the Section of Diseases of Children in 1910; and president of the Section of Medicine at Cambridge two years ago.

ANTITYPHOID VACCINATION BY THE MOUTH.

ATTENTION has already been drawn[1] to the fact that Professor Besredka has prepared an antityphoid vaccine, combined with bile, which, he claims, will produce satisfactory protection against typhoid when administered by the mouth. The importance of the matter is obviously very great, for it is very difficult to get men even when under military discipline to submit voluntarily to antityphoid inoculation, and it is almost impossible to get inoculation carried out effectively in a civil population. Our previous note on this subject was short because at the time of writing there was no record of any practical application of the method on which to base a judgement. The result of a trial on a fairly extensive scale has recently been published by Dr. Vaillant,[2] the medical inspector of the health department of the Pas de Calais. An epidemic of typhoid broke out last autumn in six of the villages in the devastated region of the Pas de Calais. That considerable section of the British medical world which has first-hand experience of the sanitary conditions of such villages will apreciate the danger of such an outbreak. Antityphoid inoculation was commenced, but had to be discontinued because the only persons who would submit to it were the inhabitants of one village where the epidemic had been particularly severe. The administration by mouth of Besredka's antityphoid vaccine and bile was then tried. The details given are not very precise; Vaillant merely states that each inhabitant took on an empty stomach, on first getting up, a bile pill and a compressed tablet containing a mixture of typhoid, paratyphoid A, and paratyphoid B bacilli killed by heat. In adults the dose was repeated for three mornings in succession; in children for only two mornings. The results are stated to have been remarkably successful. Among the non-vaccinated persons, estimated to number from 400 to 650, fifty cases of typhoid fever occurred; that is to say, about 8 per cent. of the non-vaccinated persons were attacked; 173 persons were vaccinated hypodermically (with T.A.B.); of these four, or 2.3 per cent., suffered from typhoid fever. The number of persons given Besredka's antityphoid tablets by the mouth was 1,236, and of these only 2 (0.17 per cent.) developed typhoid fever. There are certain sources of error in these figures which need consideration. About half the cases of typhoid occurred before prophylactic measures were commenced, and it was the inhabitants of the most severely infected village who submitted to hypodermic inoculation with T.A.B. Hence the figures as to the non-vaccinated and as to those vaccinated hypodermically appear to be more unfavourable than was in fact the case. After allowing for these errors, however, the figures afford strong evidence for the value of Besredka's method. The real value of any antityphoid measure is of course a question of very great practical importance, for the safety of a community may depend upon the efficacy of the methods employed; hence extreme caution is demanded before any new method is finally accepted. The figures quoted, however, supply strong prima facie evidence for the value of the new method; it is to be hoped that it will be further tested on as large a scale as possible whenever opportunity occurs.[3]

[1] BRITISH MEDICAL JOURNAL, January 21st, 1922.
[2] *Annales de l'Institut Pasteur*, T. 36, p. 149, 1922.

THE PASTEUR CENTENARY AT STRASBOURG.

THE centenary of the birth of Pasteur is to be celebrated at Strasbourg in May, 1923, when a monument is to be inaugurated to his memory in front of the University of Strasbourg, where he taught from 1849 to 1854. Pasteur was born at Dôle, in the Department of the Jura, on December 27th, 1822. His first appointment was to teach physics at a school in Dijon, but he did not remain there long. At the end of 1848 he became a member of the faculty of the University of Strasbourg; he began work there in January, 1849, as a teacher of chemistry, and married shortly afterwards. It was there that he completed work begun in Paris on tartaric and racemic acids, and there also that he made his first tentative experiments with micro-organisms. He remained at Strasbourg until 1854, when he was appointed professor and dean of the science faculty then newly constituted at Lille. As at present arranged the inaugural ceremony at Strasbourg will take place on May 1st, 1923, and it is hoped that it will be attended by members of Pasteur's family, and by M. Roux, director of the Institut Pasteur, Paris, by other representatives of that institute, and by delegates of the Institut de France and other learned bodies in that and other countries. A congress of hygiene and bacteriology will be opened on the same day in Strasbourg, as well as an exhibition designed to illustrate the advances made in various branches of science as the result of Pasteur's discoveries. The scheme has the support of the President of the French Republic, M. Millerand, of M. Loubet, who was President of the Republic during the war, of M. Leredu, Minister of Hygiene, and of M. Alapetite, Commissioner General of Alsace and Lorraine. A committee has been formed in this country to support the scheme, with Sir Charles Sherrington, G.B.E., M.D., President of the Royal Society, as chairman; Mr. A. Chaston Chapman, F.R.S., President of the Institute of Chemistry, as treasurer; and the following members: Mr. H. E. Field, President of the Institute of Brewing; Professor Percy F. Frankland, C.B.E., F.R.S., Emeritus Professor of Chemistry, University of Birmingham; Sir John McFadyean, M.B., B.Sc., LL.D., Principal of the Royal Veterinary College; Professor C. J. Martin, C.M.G., M.D., F.R.S., Director of the Lister Institute; Sir W. J. Pope, K.B.E., F.R.S., Professor of Chemistry, University of Cambridge; Sir James Walker,

[3] Tablets made according to Besredka's formula can be obtained from Sealand Trading Limited, 24, Holborn, London, E.C.1.

F.R.S., President of the Chemical Society; and Sir Almroth Wright, K.B.E., M.D., F.R.S. We feel sure that the scheme will be welcomed in this country, and that among those who will wish to support it are many members of the medical profession, who know perhaps better than those of any other calling how great and beneficent have been the effects of Pasteur's pioneer work in bacteriology. Subscriptions may be sent to Mr. A. Chaston Chapman, at the Institute of Chemistry, 30, Russell Square, London, W.C. 1, or to M. Th. Hering, 6, rue des Veaux, Strasbourg, the general secretary, and treasurer of the French Committee. The subscription list will be closed at the end of June next. It is hoped also that manufacturers and other business firms in this country will take part in the exhibition, full particulars of which can be obtained on application to Professor Borrel, 3, rue Koeberlé, Strasbourg.

SCIENTIFIC SECTIONS AT THE GLASGOW ANNUAL MEETING.

At the forthcoming Annual Meeting of the British Medical Association at Glasgow the officers of the Section of Physiology have arranged the following programme. On Wednesday, July 26th, there will be in the morning a joint meeting with the Section of Diseases of Children, when the subject for discussion will be "Rickets." Dr. Leonard Findlay, of Glasgow, will introduce the subject from the clinical side, and Professor E. Mellanby, of Sheffield, will open from the physiological side; later in the discussion there may possibly be a paper on "Dental hypoplasia and rickets," by Dr. J. Sim Wallace of London. On the morning of Thursday, July 27th, there will be a meeting of the Section at which the subject discussed will be "Basal metabolism," with an opening paper by Professor E. P. Cathcart of Glasgow. In the afternoons of both days there will be demonstrations in the Physiological Institute. The officers of the Section of Obstetrics and Gynaecology have made the following provisional arrangements. On the first day there will be a discussion on "Stillbirths and pre-natal deaths"; it is hoped that the speakers will include Dr. Ballantyne, Dr. Eardley Holland, Dr. Browne, Professor Kennedy, Dr. Cruickshank, Dr. Strachan, and Dr. Lindsay. For the second day the following discussions are provisionally arranged: (*a*) "Surgical treatment of prolapse," opened by Dr. W. E. Fothergill; (*b*) "Treatment of eclampsia," opened by Dr. T. W. Eden; (*c*) "Anaesthetics and analgesics in labour," opened by Dr. Greenwood. The names of the officers of the scientific Sections were printed in the Supplement of February 18th, at p. 39. The Sections will meet on Wednesday, Thursday, and Friday, July 26th, 27th, and 28th.

SMOKE PREVENTION AND PUBLIC APATHY.

Lord Newton, the Chairman of the Departmental Committee on Smoke Abatement, has complained lately of the absence of public interest in that inquiry. The impressive evidence which the Committee received as to waste, pollution, and disease in consequence of the smoke nuisance had, he said, been passed over by the press almost without notice. Only once had his Committee a glimpse of public renown. It happened that while visiting an industrial district in the north he was the guest of a peeress who had been engaged in the arcadian operation of harvesting oats, and owing to the smoke of neighbouring factories, her blouse, which was white when she began, was black before she finished. This blouse caught the public imagination, and bade fair to rank among the celebrated garments of history. It was photographed for the illustrated papers, it appeared on exhibition in London, and it had now found a permanent home in the museum of an important provincial city, where it remained, said Lord Newton, an illustration of our sooty skies and of the labours of our nobility. After this sensation his Committee sank again into oblivion. Not a member of Parliament had had the curiosity to ask whether the Government contemplated legislation to deal with the evil. Lord Newton believed that, however much Englishmen might pride themselves on their personal cleanliness, England was certainly the dirtiest country in Europe, and possibly in the world, owing to its indiscriminate and wasteful use of raw coal for all purposes, domestic and industrial. Recently he had visited Germany, which was looked upon as a law-ridden country, but he found that there was less legislation on this subject than in the United Kingdom; yet when he compared Cologne and Düsseldorf with Manchester and Sheffield he felt a sense of degradation. There was no great pressure on the part of the Government in Germany, and the cleanly state of the cities in this industrial Rhine district was really due to the application of common sense and a determination not to tolerate nuisances. In England, when a man made a fortune out of industry he retired as far from the factories as he could; in Germany he remained within the urban boundaries, because life there was physically as pleasant as it was outside, and much more interesting. Lord Newton's remarks were preliminary to a lecture by Dr. Saleeby on the effects of sunlight as observed among the children at Leysin under Rollier and at Alton under Gauvain; and a resolution, commended to the meeting by Sir Henry Gauvain, was adopted, calling upon the Minister of Health to give effect to the recommendations of Lord Newton's Committee.

MILD SMALL-POX.

Records of outbreaks of mild small-pox or alastrim accumulate; the most recent is contained in a report by Dr. Boobbyer, medical officer of health for Nottingham. He recalls how, more than twenty years ago, he reported certain cases among Mormon missionaries who had visited Nottingham, and who were responsible for subsequent prevalence in the Midlands. He has now, since early in 1921, had a series of cases, numbering altogether 113, without a death; he however objects to the view that alastrim—if the name be accepted—is persistently mild, seeing that one unvaccinated adult had a severe confluent attack and barely escaped with her life. Owing to the mildness of the attack in many of the cases, especially of young unvaccinated children, it was commonly reported even by medical practitioners that they were suffering from varicella, but a careful study of the cases, and of the age incidence upon the unvaccinated and vaccinated respectively, confirmed the diagnosis of small-pox; incubation period, prodromal and onset symptoms, and rash all pointed to small-pox—in some cases of so mild a form that a magnifying glass was necessary to reveal the typical features of papule, vesicle, pustule, or scar; these features, however, were present and apparent when carefully sought for. His table of cases illustrates the remarkable reversion of age incidence which is taking place under the influence of neglected infantile vaccination. In the days of Jenner small-pox was, like measles and whooping-cough, a disease of childhood. The practice of vaccination under the obligatory laws gradually drove it from childhood into later life, which was unprotected for want of systematic revaccination. Now again, however, children are, in constantly increasing numbers, unprotected; and Dr. Boobbyer's figures show how amongst the unvaccinated small-pox is once more finding the bulk of its victims in the young. In the vaccinated section of the population, on the other hand, small-pox still avoids childhood, and the mild type in Nottingham found vulnerable no vaccinated individual under thirty years of age. Fortunately for all concerned, the disease was so trivial that the punishment exacted from the young for the folly of their parents consisted only of non-fatal attack, instead of the high fatality which would have accompanied an outbreak of the variola of the standard type of former years.

A MEDICAL POSTMASTER-GENERAL OF THE UNITED STATES.

Dr. Hubert Work, President of the American Medical Association, took the oath of office as Postmaster-General of the United States on March 4th. Dr. Work is the first member of the medical profession to receive Cabinet rank in the United States since Dr. James McHenry served as

Secretary of War in the Cabinets of Washington and Adams. He is said to have been the youngest medical practitioner ever elected president of the Colorado State Medical Society, and for four years he was also President of the Board of Health of that state. He has been a member of the House of Delegates of the American Medical Association since 1904, and in 1916 he was elected Speaker, a position which corresponds to that of Chairman of the Representative Body of the British Medical Association. He became President-elect of the American Medical Association in 1920, and is now actually serving as President of the Association. During the war he was medical adviser to the Provost Marshal-General, in which position it is stated that his diplomatic qualities were of inestimable service. President Harding, when he took over the reins of government, appointed him First Assistant Postmaster-General, and he now becomes Postmaster-General in succession to Mr. Will H. Hays, who resigned to accept a very highly paid post as organizer of the cinematograph industry. Dr. Work's appointment was unanimously confirmed, without the usual reference to a committee, within an hour after his nomination was received by the Senate, in spite of the fact, as the *Journal of the American Medical Association* records, that senators and representatives were bombarded with telegrams, letters, and petitions from the antimedical faddists in general and in particular from those to whom scientific medicine is anathema.

A CORONER ON UNQUALIFIED PRACTICE.

OUR attention has been drawn to newspaper reports of a recent coroner's inquiry, held at Spennymoor, co. Durham, into the death of Mary Ellen Kay, a married woman staying at her parents' house for her confinement, with an uncertified midwife in attendance. According to these accounts it appears that the midwife, on March 23rd, sent for an unqualified man named Ross, who had been chosen by the family to attend Mrs. Kay, and had previously visited her. In his evidence Ross described himself as an unregistered medical practitioner who had for the past twenty years been in practice in the district; on an average he attended 180 confinements a year. After visiting the patient on this occasion he told the parents that owing to her condition and the fits from which she was suffering it would be advisable to get further medical aid. He then wrote a note to Dr. Pattullo asking him to attend, but left before any doctor came because he knew that whilst he was there a qualified man would not come. He saw that an anaesthetic was necessary, and that therefore two practitioners were required; he himself had no assistant. Further evidence showed that the case was then taken over by Drs. Mussellwhite, Pattullo, and Charlton; an operation was performed and the woman was delivered of twins, one dead but the other alive. The mother died the following day from puerperal eclampsia. Dr. Pattullo, in answer to the coroner, said he would not like to give any definite opinion as to whether there were any ill effects due to delay; but in his opinion to leave the case alone was very bad practice indeed. He added that the qualified medical practitioners in the town strongly resented that Ross should be in a position to call in a doctor. To this the coroner replied that he did not think the jury were concerned with the dispute between Mr. Ross and the qualified men. The jury having returned a verdict in accordance with the medical evidence, that Mrs. Kay's death was due to puerperal eclampsia, Dr. Pattullo rose to protest, on his own and Dr. Mussellwhite's behalf, against being called upon to attend Mr. Ross's difficult cases. The coroner said that this was not a matter for the jury, or himself as coroner. Dr. Pattullo replied that they had decided not to attend if Ross called them again. Upon the coroner advising him not to use any threat, Dr. Pattullo explained that it was only a warning. The coroner then made the following observation: "If there is any negligence by which a life is jeopardized, and I have anything to do with it, it may amount to manslaughter, and that is all I can say. I would not spare anyone, either qualified or unqualified." The coroner's statement in this case appears to have been entirely uncalled for and not altogether intelligible. He is generally understood to have implied that if a life is lost as a result of a doctor failing to attend a patient when summoned, the doctor may find himself indicted for manslaughter. This is a view of medical obligations for which there is no justification. A doctor is not required to attend in response to a summons save from one in regard to whom he is under contractual obligations, such as an employee of a firm with which he has contracted, or an insured person on his list, or a woman whom he has definitely agreed to attend in her confinement. In this case it does not seem that any such relation existed; so far as can be gathered from the reports in the newspapers the woman was not an insured person, and Ross had been engaged to attend her in her confinement. As a matter of custom the doctor's right to refuse to attend in a case of urgency is rarely exercised, and it is well known that in such circumstances a large amount of medical attendance is given for which no remuneration is ever received. It is this very altruism which has led to the exploiting of the medical man and given rise to the belief in some quarters that he is at the beck and call of anyone who chooses to send for him. It is desirable that coroners and others should understand that this is not the case; still less is it incumbent upon a practitioner to attend when he is not sent for by the patient or a responsible relative or guardian of the patient, but by a person who has no legally recognized status towards the patient. This inquest once again calls attention to the evils of unqualified practice, but we fear that no steps will be taken to alter the present position until public opinion has been educated more closely to the level of medical opinion. It is not an offence in this country for an unqualified person to practise medicine, provided he does not wilfully and falsely pretend that he has a medical qualification or that he is recognized by law as a physician or surgeon. The General Medical Council has no power to initiate proceedings against unqualified practitioners of medicine. Where, however, there is reason to suppose that the Medical Acts have been infringed the facts should be laid before one of the medical defence societies, which have often successfully prosecuted offenders.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.

THE arrangements for the short course in general medicine from May 1st to 13th, as already announced, are now complete, and lectures and demonstrations will be given at the following institutions: National Hospital for Diseases of the Heart, Bethlem Royal Hospital, Royal Westminster Ophthalmic Hospital, Paddington Green Hospital for Children, Middlesex Hospital, London Lock Hospital, St. Mark's Hospital, Maida Vale Hospital for Paralysis and Epilepsy, Brompton Hospital, and St. George's Hospital. Application for copies of the syllabus and tickets admitting to the course should be made to the Secretary to the Fellowship of Medicine, 1, Wimpole Street, W.1. This course will be repeated during the summer, and others of a like nature in children's diseases, tropical medicine, etc., are in course of preparation. The series of lectures at the Royal Society of Medicine, 1, Wimpole Street, announced last week, will commence on Monday, May 1st, and the opening lecture will be delivered at 5 p.m. by Sir Humphry Rolleston, on "Recent physiology of the liver and its application in practice." Other lectures for May will be as follows: Tuesday, 9th, Sir Arbuthnot Lane, "Fractures"; Tuesday, 16th, Sir Thomas Horder, "The clinical significance of haemoptysis"; and Wednesday, 24th, Sir StClair Thomson, "The surgical anatomy of the nose and accessory sinuses" (lantern demonstration). The complete list of lectures to the end of July will be forwarded on application to the Secretary to the Fellowship of Medicine.

A NATIONAL Congress of Hygiene will be held at Naples in May, when the principal subjects for discussion will be alcoholism in its various aspects, sexual hygiene and prophylaxis, and personal cleanliness.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

National Insurance Bill.

Explanation by the Government Actuary.

SIR ALFRED W. WATSON, Government actuary, has issued a document in explanation of the financial provisions of the National Health Insurance Bill. He deals first with the additional charge which it is proposed to make until December 31st, 1923, on the funds of approved societies and the Deposit Contributors' Fund in respect of the cost of medical benefit, in order to relieve the Exchequer of substantial payments hitherto met out of special grant voted by Parliament. He estimates that the additional cost to insurance funds, during the period from April 1st, 1922, to December 31st, 1923, will be as follows:

Country.	Maximum Charge per Insured Person per Annum.	Aggregate Charges, April, 1922—December, 1923.
	s. d.	£
England	2 6	2,750 000
Scotland	2 11½	450,000
Wales	3 1½	220,000
Great Britain	—	3,420,000

The Government actuary points out that the bill provides that the whole of the above sum shall be met in the first instance out of Insurance Funds without recourse to the Exchequer, and that the usual State grants of two-ninths of benefit shall not be paid when the sums in question are disbursed. Under the proviso to the clause, however, power is taken to recoup at a later period societies in respect of the loss of State grant. This means, although Sir Alfred Watson does not precisely say so, that the societies, in shouldering the extra burden, are not to lose the aid of the usual State grant of two-ninths of the benefits. If the aggregate sums to be applied as stated had not been required for the purpose named, they would have formed part of the surpluses disclosed at the next valuation of societies, and in general would have inured to the members in the shape of additional benefit, two-ninths of which would be defrayed out of the Exchequer. The bill accordingly provides that the funds of societies shall be recouped by a grant after the next valuation, as though the sums now disbursed for medical benefit were then made available, with such interest additions as in the meantime would have accrued in respect of them for additional benefits. Sir Alfred Watson estimates that under this arrangement a sum of £180,000 a year will fall to be paid by the Exchequer for the period of five years beginning April 1st, 1925. Approximately, of the total sum of £900,000 so payable, £140,000 will be in respect of the interest additions. In the circumstances the sum of £900,000 is not an additional charge, but substantially one which would have come in the course of payment in those years under the normal arrangement of the scheme of National Insurance.

Sir Alfred Watson next shows how it is that the approved societies are able to meet the additional charges contemplated without requiring increase in the contributions of insured persons or their employers. During the first six years of the Act the great majority of approved societies accumulated substantial surpluses by reason of their light sickness experience and other elements of gain operating during the period. The aggregate surpluses of societies and branches in Great Britain reached £16,850,000, of which amount sums amounting to about £9,000,000 were certified as disposable surplus and available for the purpose of granting additional benefits to the members of the societies concerned. Surpluses amounting to nearly £8,000,000 were thus carried forward.

In addition to these surpluses, contingency funds amounting to over £6,000,000 had been accumulated by societies, and these also were carried forward, almost intact, as a further reserve to the benefit funds of societies, to which, in fact, they failed to be transferred as on January 1st, 1919. Apart, therefore, from the sums made available for additional benefits, the benefits funds of approved societies, taken collectively, were some £14,000,000 in excess of their liabilities for benefits. It was, however, important to bear in mind that the several societies and branches were independent financial units, and that (subject to certain special and limited arrangements for the protection of small societies and branches) each society or branch was entitled only to resort to its own portion of this aggregated sum. Having regard to this point, and to the fact that the acute and prolonged unemployment from which the community is now suffering has caused heavy loss of contributions, and may bring other serious losses, the actuary holds that the greatest care must be exercised in imposing new burdens upon the societies. The proposals in the bill in respect of medical benefit contemplate a charge, limited in amount and temporary in operation, and he thinks that this may be safely borne; but he wishes it to be clearly understood that his opinion stops there.

In regard to the abolition of the Exchequer grant to the Women's Equalization Fund, the Government actuary mentions that the sum amounts at present to £350,000 per annum. The purpose of the fund was to assist societies in respect of the sickness claim of their married women members by supplementing the contributions of this class of insured persons. It is proposed in lieu of the maintenance of this fund that additional reserve values should be credited to societies in respect of married women members. The actuary estimates that the reserve values required for the purpose will amount to about £1,000,000 at the outset, with an annual addition of about one-tenth of this sum as insured women marry.

Coming to the intended change in the disposal of unpaid contributions, Sir Alfred Watson says that at present nine-tenths of any sums set free from the Stamp Sales Account is carried to the Central Fund and the remaining tenth may be applied to other purposes. Power is taken in the bill to reduce the amount to be carried to the Central Fund, and to make such payments to approved societies as will enable them to avoid the suspension from monetary benefits of members who have suffered prolonged unemployment through the industrial conditions. The amount of the charge thus expected to arise will depend primarily on the number of persons owing twenty-six contributions or more at the end of next June. Judging by the estimates prepared in connexion with the Unemployed Insurance Bill, it appears probable that at least one million persons will thus be in arrears, and on this basis a minimum expenditure of £250,000 out of the contribution money must be contemplated. The total expenditure may be considerably greater, but it is understood that the balance available is well in excess of any demand that is likely to arise, assuming that the payments in individual cases are governed by the normal regulations as to arrears.

Public Assistance Expenditure.

Sir J. D. Rees raised a debate on April 4th as to expenditure on public assistance. His motion alleged that the expenditure in this connexion had risen from twenty-five millions sterling in 1890–91, to three hundred and thirty-two millions in 1920–21, and would probably be not less than four hundred millions in 1921–22, and that thirty million persons, exclusive of unemployed, out of a population of forty-eight millions, had been in receipt of such public assistance in 1919–20. His resolution asked that a Royal Commission or Board should be appointed to ration such expenditure.

Mr. W. Graham, one of the most thoughtful members of the Labour party, took the view that large expenditure on social services was inevitable, at any rate until the housing problem had been tackled, and industry placed in a better position.

Mr. Hilton Young, for the Government, said that the increase in prices and in wages had made it much more costly to carry on the social services—twice as costly as in 1891, with which year comparison had been made. Another point to be remembered was that the population had risen since then from thirty-eight millions to forty-seven. Those considerations should be weighed, along with the fact that new services had become inevitable. The real remedy was in watching the estimates.

Mr. Macquisten, touching a remark by Mr. Young, that nobody would think of repealing the National Insurance Act, held, on the contrary, that this would be a popular thing to do. If the same principle were to be applied to the legal profession—if the public were required to hand over so much a week to a panel solicitor or barrister for the purpose of getting advice—the legal advice obtained in such circumstances would be the same kind of advice, he imagined, as the medical advice given by the panel doctor. A profession could not be worked in this way. It was merely a tax upon unfortunate people for the support of a profession. No doubt the majority of doctors still had the old professional standard, and he believed it would last for many years. The general effect had been to provide men, who could not get practices in the ordinary competition in the medical profession, with a very satisfactory beginning. The thing was carried on by inflicting penalties upon very poor people who could get no benefit from it. For instance, the mariners got nothing out of it; they were all at sea, and were treated at the expense of the shipowners, and yet they were fined for this purpose. The very nurses, who had all their medical attention free, had been brought in to pay a tax for the benefit of other people. It was a monstrous imposition.

The motion was afterwards withdrawn.

Local Government Officers' Superannuation.

Sir Herbert Nield, on April 7th, moved the second reading of the Local Government and other Officers' Superannuation Bill, which he had introduced as a private measure. He explained that it was a purely optional proposal, the object being to enable authorities to adopt the provisions as they might think fit. The number of public servants who would be eligible to come under the bill was 38,500 officers and 167,000 working men. At present 60,000 officers as well as 200,000 workmen who were employed by local authorities were covered by schemes. Some others were also covered by Local Acts. The measure was based on the Middlesex Act of last year. The desire was that superannuation schemes should not be dependent upon private bill legislation, which involved delay. Sir Herbert added that he was willing to extend the proposals to part-time officers when the bill went into Committee. Mr. Neville Chamberlain, seconding the motion, claimed for it three advantages: It would enable a local government authority to attract to its service a better class of men than it could otherwise get; it would enable the authority to keep officials in its service for many years; and would enable such to remove an official who had ceased to be efficient through old age, without doing him an injustice or running contrary to its own national feelings.

Sir Alfred Mond said it was the intention of the Government one

time to introduce a compulsory bill to cover the question of superannuation of officers of local authorities throughout the country, but it was felt that the imposition of such a heavy burden could hardly be faced at the present time. The bill before the House being permissive, he did not object to a second reading. He pointed out, however, that the thirty clauses raised very difficult questions—he was advised there were serious defects in the actual provisions, and there was involved a risk of expenditure up to three or four millions a year by local authorities.

After further discussion the bill was read a second time and referred to a standing committee.

Insurance Pharmacy Terms.—The Ministry of Health is about to issue the revised scale of terms of payments to be made to panel chemists for two years from May 1st. The rate for compound liquid medicaments (excluding preparations specified in the table for drug prices for proprietary preparations) will be reduced to 5d. per prescription, and the rates in respect of the remaining items in the dispensary fee scale will be reduced 1d. per prescription. Further reference to this matter appears in a Current Note in the SUPPLEMENT this week.

The Cost of Health Insurance.—On inquiry by Sir J. D. Rees, on April 5th, Sir A. Mond said that in respect of health insurance in England and Wales, the total charge upon the State for the year 1920–21 was approximately £9,500,000, and for the year 1921–22 was estimated to be £9,000,000. The contribution of employers and employed were in 1920–21 approximately £21,400,000, and in 1921–22 were estimated at £21,600,000.

Royal Army Medical Corps.—Dr. Fremantle asked, on April 4th, the number of officers at present serving in the R.A.M.C. who had passed the age for retirement, thus preventing the promotion of senior majors in the corps; and whether all officers who were past retiring age would now be retired. Sir L. Worthington-Evans said the answer to the first part of the question was none, and the second therefore did not arise.

Dentists' Register.—Replying to Colonel Wedgwood, on April 5th, Sir A. Mond said he understood that it was the custom of the Dental Board, in the case of applicants for registration who had been employed by another unregistered practitioner, to accept a sworn declaration by the employer as corroboration of the statement made by the applicant himself.

Lunacy Reform.—Sir A. Mond, on April 5th, informed Captain Loseby that he still hoped to be able to introduce a Lunacy Reform Bill, but that depended upon the time of the House and other matters not under his control. If he did not introduce a bill he would reconsider the suggestion for the setting up of a Royal Commission.

Small-pox Hospital for Southampton.—Sir A. Mond stated, on April 5th, in answer to Major Hennessy, that he had no objection in principle to the scheme of the Southampton Town Council for the acquisition of a small-pox hospital from the Winchester Rural District Council and of certain other small-pox hospitals in the county. He was advised, however, that a local inquiry should be held before sanction could be given. He was ready to hold inquiry immediately on receipt of certain information for which he had asked in September last.

Coroners' Courts.—In reply to Major Claude Lowther, on April 4th, Mr. Shortt said that it was proposed to deal in the Coroners' Bill with the duplication of proceedings in magistrates' and coroners' courts, but he could not say at present when the bill would be introduced.

Income-tax Assessments.—In response to Mr. Marriott, on April 7th, Mr. Young said the number of individuals in Great Britain and Ireland with incomes above the exemption limit for the year 1921–22, was provisionally estimated at five millions, divided as follows:

Number actually paying income-tax	2,400,000
Number whose incomes are covered by the personal allowances and deductions and reliefs ...	2,600,000

The number of individuals liable to super-tax for the year 1920–21 (based on the income-tax income for the previous year 1919–20) on incomes of £5,000 and over and assessed thereto up to February 28th last was as follows:

£5 000 and under £10,000	15,799
£10 000 ,, £20,000	6,389
£20,000 and over	3,167

These numbers were not final, as further assessments to super-tax will still be made.

The Purity of Milk.—Sir Alfred Mond, on April 6th, assured Mr. T. Thomson that he was carefully considering—in framing a new bill—the desirability of enabling local authorities to assist in securing improved supplies of milk in their area by means of classification and by having the power to revoke or suspend certificates, and of registration of all milk sellers in their area.

Deaths from Starvation.—On inquiry by Mr. R. Richardson, on April 6th, Sir A. Mond stated that no deaths from starvation or exposure were reported by the coroners as having occurred during the year 1919 in the counties of Durham, Yorkshire, and Berkshire, but in 1920 five were reported as having occurred in Durham and one in Yorkshire.

Paris.

(From our Correspondent.)

PROGRESS IN MEDICINE.

"SURGERY makes great strides. Medicine does not." This is one of those asinine little statements which may be heard almost daily. The reason is that surgery is spectacular. You cannot see such remarkable results as those reported by Nicolle to the Académie des Sciences a few days ago. The director of the Pasteur Institute of Tunis has been working on the possibility of preventive vaccination against Mediterranean fever.

A hundred billion sterilized *Micrococci melitensis* are given by the mouth daily for four days in succession; sixteen days later 450 million micrococci are injected hypodermically. No trouble is noticed. A volunteer acting as control, injected at the same time, developed a typical attack of fever, which was promptly stopped by curative vaccine. Exactly similar results were obtained with Shiga bacilli. We may hope, therefore, to vaccinate against Malta fever and bacillary dysentery by giving pills by the mouth, and it is quite legitimate to expect that cholera and typhoid fever will prove amenable to the same simple prophylactic measure. It is to be noted also that Vaillant has tested Besredka's method of giving killed vaccine and bile in a recent epidemic of typhoid in the north of France with encouraging results.

The question remains, how long such an immunity may last. At any rate, the method is an immense improvement on the inoculation methods owing to the great facility it affords for making prophylactic methods acceptable to the people, and so bringing the stamping out of epidemics within the scope of practical administration.

The fight against syphilis is well started. Weapons already available are effective, and new ones are being added to the arsenal. The bismuth salts are being actively tested and seem to answer Levaditi's claim. The BRITISH MEDICAL JOURNAL has lately reviewed the whole question, and little is to be added. We are still in the period of expectation and experimentation. If we had a practical test allowing us to measure the degree of luetic infection and to characterize the condition of "cure," we would be very far advanced in the choice of the weapon to use. The Wassermann test is fallacious. We build great hopes—and some of us even more than hopes—on Vernes's reaction. He has proved that the serum of syphilitics is physically affected so that it contains "something that may be measured." That something affects flocculation under determined conditions, and flocculation is measurable by optic methods. Hence the discovery of *syphilimetry*, which allows us—and this is new in the story of biology—to measure a degree in infection just as we measure a degree in temperature. A prophylactic institute is in full work in Paris (at the expense of the city council), and the method is spreading over the country. Statistics show that over 30,000 cases have been actually followed, and that means that serologic verifications, both on blood and cerebro-spinal fluid, number more than 400,000. How such work can be carried on at the rate of about 1,200 consultations a week can only be understood by those who spare a few hours to visit the institute in full work. It is all clinical organization and laboratory Taylorization. I looked over the visitors' book a few days ago. Medical men from all over the world had signed their names, but British visitors seem to be the very rare exception. The channel seems wide.

M. Pozerski, of the Pasteur Institute, is perhaps going to help to bridge it. He has been experimenting on sea sickness by the means of a clever mechanical apparatus allowing him to swing a cage exactly in the way a ship on a high sea moves. The involuntary passengers behave in very different ways. Rabbits, guinea-pigs, fowls, and pigeons are good sailors and do not mind six hours of stormy weather. But our friend the dog is, alas! more human, for of the dogs tested 30 per 100 were seasick—10 per cent. with asthenic symptoms and 20 per cent. with symptoms of excitement. Some get accustomed after the second "crossing." But how are we to argue from animal to man? Some dogs which have once been affected by experimental sea sickness are ill again and start vomiting as soon as they board the cage, and even before the engine is started. Clearly canine imagination is closely akin to ours, a similarity which might open a new field for M. Emile Coué in the veterinary world.

Our ears are buzzing on this side with the reception given to this gentleman in London. We did not know that we possessed so great a prophet. As a matter of fact M. Coué has taught us a practical lesson in psychology, which is that imagination is stronger than will. He has shown also that we can master our imagination by minor devices, as though we made a mould into which our subconscious self shapes itself, and our organs follow suit, shaking off the old bad habits that we call ailments. M. Coué is a humanitarian philanthropist and works *pro Deo*. Strangely enough, he is a retired pharmacist of Nancy, and we are puzzled to know whether or not it is surprising that a dispensing chemist turns out to be so sceptical as regards materia medica. At any rate he found out that auto-suggestion is just as good as hetero-suggestion, and he must be given the credit of striving to teach the patient not to depend on him. Twenty knots on a bit of string and a simple catch phrase: what a simplification! The medical profession on this side has not had a chance yet to meet M. Coué, and I venture to think that even if we invited him to practise in Paris the police might object. It is not so long since the pithy verses were written on the closed door of St. Médard:

> De par le roi, défense à Dieu
> De faire ses miracles en ce lieu.

India.

MATERNITY AND CHILD WELFARE.

THE first annual report has been issued of the Lady Chelmsford All-India League for Maternity and Child Welfare, which was founded by Lady Chelmsford, the late Vicereine of India, in February, 1920. Lady Reading has succeeded Lady Chelmsford as president; she has been indefatigable in her solicitude for the welfare of the women and children of India since her arrival, and has succeeded in obtaining a permanent office for the League. The training of health visitors is carried on at the school established by the League in Delhi, and through it twenty-six students have already passed. Propaganda has taken the form of the sale and distribution of literature and pamphlets, health exhibitions, illustrated lantern lectures, and the publication of the journal of the League, which circulates throughout India and has shown a credit balance on its first year's working. The preparation of a travelling exhibition has been taken in hand. Branches of the League have been established at a number of important centres, and the League has been affiliated with other bodies having similar objects, for its main purpose is to stimulate, assist, and co-ordinate local efforts, and not to supersede them. During the year Madras, Rajputana, and the Punjab formed associations for maternity and child welfare at their capital towns, which became affiliated with the League; welfare centres were also started at Simla, Calcutta, and Dacca. The organizing secretary of the League is Dr. Lilian Wemyss Grant, Delhi.

PLAGUE IN INDIA.

We have received a copy of the report by Dr. A. R. Mehta, medical officer of health for Rawal Pindi, on a recrudescence of plague in that city in the months of October and November, 1921. Rawal Pindi, from the local conditions, is apparently one of the endemic centres of plague in the world, and this epidemic started, like previous ones, in the autumn season in the old grain and fruit market of the city, the infection being propagated both by man and the rat. The preventive measures undertaken by Dr. Mehta included inoculation of a large number of the inhabitants, disinfection and fumigation of the houses, evacuation of the infected houses, rat trapping and baiting, the encouraging of the keeping of cats in the city, and propaganda by lectures and handbills. The outbreak was evidently handled energetically, although some of the measures enumerated are less valuable than others. In the medical officer of health's opinion the housing problem and the provision of rat-proof houses is urgent in Rawal Pindi, but the difficulties are considerable in view of the severe winter which that city experiences and of the mode of living of the general mass of the population. Drastic measures of dealing with the old grain market certainly appear to be urgently required.

England and Wales.

VENEREAL DISEASE ARRANGEMENTS IN LONDON.

THE London County Council, at its meeting on April 11th, considered the arrangements for the diagnosis and treatment of venereal diseases in London during the ensuing financial year. The Council joins with the local authorities of six adjoining counties and three county boroughs in a scheme for the common utilization of the facilities afforded by certain London hospitals for diagnosis and treatment and laboratory work in connexion therewith. London's proportion of the total expenditure is 82 per cent. It is proposed that this scheme be renewed for the financial year 1922–23. During 1921 the number of patients' attendances under the scheme was 496,209, as compared with 464,033 in 1920, but the number of new cases (25,418) showed a reduction of 5,628. The decrease is ascribed to the disappearance of certain abnormal conditions connected with the war and demobilization and, to some extent, to the continuous anti-venereal campaign. The institutions to which it is proposed to make grants include nineteen general hospitals, ten special hospitals, and seven hostels for the reception of young women during infectivity and of pregnant women and of children suffering from venereal diseases. In connexion with St. Paul's Hospital, premises have been purchased in Endell Street, and a considerable amount spent in adapting them for the purpose of an all-day clinic, with in-patient accommodation for twenty patients, and this, when completed by the early summer, will be one of the most up-to-date institutions of the kind in the country. The Public Health Committee of the London County Council has had its attention drawn to the varying practice of the hospitals as regards the remuneration of the staff engaged on venereal diseases work, and while not suggesting the adoption of a standardized system, thinks it would be desirable to encourage hospital authorities to appoint a whole-time staff, thereby avoiding frequent changes and lessening the expenditure. The Committee is in communication with the Ministry of Health on this question. Another proposed alteration is with regard to publicity and propaganda work. Since 1917 the National Council for Combating Venereal Diseases has been permitted to exercise certain of the Council's powers in this respect. It is now proposed to extend the arrangements for publicity and propaganda work made directly by the local authority, and to discontinue part of this work which has been undertaken by the National Council. The grants to be made for treatment and pathological work at the hospitals amount to £98,100, and the grants for the hostels to £3,600. With possible additional grants for clinics not yet opened and for developments in connexion with rescue and preventive work, the total expenditure under the scheme will be £112,500, as compared with £112,831 for the past year. The amount payable by London is £90,000, of which three-fourths will be recovered from the Treasury. The provision for the past year for publicity and propaganda work was £3,500; this is to be reduced by £1,000. The same amount as before (£5,000) is included in the estimates for drugs.

THE COMBINED HOSPITALS APPEAL.

The Executive Committee of the Combined 1922 Appeal on behalf of the hospitals in Greater London (19, Berkeley Street, W.1) announces that with a view to organizing a campaign in connexion with schools and other educational establishments in Greater London an education branch has been established. Lord Burnham will be chairman of the Central Committee dealing with educational help for the appeal. Mr. E. A. H. Jay, LL.D., a former chairman of the L.C.C. Education Committee, has been appointed director of the education branch. Representatives of the University of London, the different training colleges, the Teachers' Association, the Association of Secondary School Teachers, the Preparatory School Teachers' Association, and representatives of private schools have been invited to a conference on May 9th to discuss arrangements. Donation accounts on behalf of the appeal will be opened on April 18th by some 950 banks, inclusive of head offices and branches, in the metropolitan area.

It is now announced that the combined appeal will be for the fourfold purpose of reopening closed beds, meeting the higher costs of materials and re-equipment until prices become more normal, paying off the more pressing debts of

the London hospitals, and securing new subscribers. Steps are to be taken contemporaneously to develop new permanent sources of income by contributory and other schemes. There have already been several conferences with secretaries of general hospitals in London to discuss organization, and another conference will take place after Easter, at which more than a hundred hospitals in all will be represented, and following which the final arrangement will be settled. The Prince of Wales, who is President of the King's Fund, and with whose consent the appeal is being launched, has again cabled wishing it every success.

KING EDWARD'S HOSPITAL FUND.

The annual report for 1921 of the King Edward's Hospital Fund for London states that last year, even more than in 1920, the history of the Fund was bound up with the history of the crisis in hospital finance and the suggested remedies. The King's Fund was asked by the London regional committee of the British Hospitals Association to draw up two schemes, one for a combined public appeal for fresh money to meet present liabilities, and the other for the collection of regular contributions from the hospital-using classes. These two schemes were drawn up and circulated to the different hospitals, but it was not until January, 1922, that they were received back with a definite invitation to the King's Fund to go forward with both. The total receipts for the year amounted to £270,666, of which £18,007 was for capital and £252,659 general receipts. The amount distributed was £220,000, being an increase of £20,000 upon the ordinary distribution of 1920, and was made up as follows. Grants to hospitals—for maintenance, £198,425, for urgent extensions and improvements, £11,575; grants to consumption sanatoriums, £6,070; and grants to convalescent homes, £3,930. In distributing the increased amount available for maintenance the Fund took into the account the efforts made by the hospitals to increase income or reduce expenditure since the emergency distribution in July, 1920, and the issue of Lord Cave's report in June, 1921. Every eligible hospital and consumption sanatorium which applied for a grant was accepted and reported upon, as hitherto, by two of the Fund's visitors, one medical and the other lay. Since the foundation of the Fund a total net amount of £3,816,854 has been distributed, the average annual distribution during the whole period of twenty-five years having been £152,674.

CORONERS' REMUNERATION IN LONDON.

The London County Council granted, as from January 1st, 1921, a temporary addition of £300 to the salary of each of the four whole-time London coroners. This allowance was to continue until March 31st, 1922, or until the Council obtained parliamentary powers to pay fixed salaries to coroners. The attempt to obtain such powers has not been proceeded with, and an application has been made from the four coroners for an extension of the period for which the temporary addition is payable. In view, however, of the fall in the cost of living, and of other circumstances connected with the amount disbursed by coroners, the Council on April 4th decided not to extend the period. The salary of three of the coroners is £1,500 a year, and that of the other £1,186.

Scotland.

"FAITH HEALING" IN ABERDEEN.

A SERIES of remarkable scenes took place in St. Andrew's Cathedral, Aberdeen, on Monday, April 3rd, and the three following days, when Mr. J. M. Hickson, a lay missionary of the Scottish Episcopal Church, inaugurated his Scottish mission for the revival of the gifts of healing, with the approval of the bishop and clergy of the episcopal diocese of Aberdeen and Orkney. Prayer was offered on Monday for invalids unable to be present, suffering from such maladies as heart trouble, spinal curvature, rheumatism, tuberculosis, mental distress, and lupus; and then the laying on of hands was practised on 362 people, four-fifths of whom were women, who had come for healing. On Tuesday the laying on of hands was carried out on 702 men, women, and children, on Wednesday on some 1,400, and on Thursday on over 1,500. In several cases relief was said to have followed, as in that of a woman suffering from chronic swelling of the legs, of another woman who had deafness of many years' duration, and of a boy with polypus of the nose. It was afterwards stated that the boy had not had polypus of the nose, but had had an operation for obstruction of the nose followed by difficulty in breathing, and it was the difficulty in breathing which had been relieved. Mr. Hickson, who had returned to Britain after a world tour, has gone to Cork to carry on faith-healing mission work there.

RESEARCH IN ANIMAL BREEDING.

Professor Sir Edward Sharpey Schafer headed a deputation on March 5th from the Joint Committee of Research in Animal Breeding of Edinburgh University and Edinburgh College of Agriculture to the directors of the Highland and Agricultural Society, in Edinburgh, for the purpose of urging financial support towards the committee's scheme for research in animal breeding. Sir Edward Schafer said that the reason of the deputation for attending was not only for the sake of getting money; they wished also to get the sympathy and co-operation of agriculturists generally in this matter. They were supported by the Development Commission, and most of the money which they received came from the Development Commission. The Commission, however, had lately laid down the principle that they would only give money if other sums were raised locally. Breeding was a scientific problem, and the principles of that problem were being investigated now in a great many cases, and especially at Cambridge. There were certain definite principles which were being discovered and enunciated, which applied practically to all animals and plants as well. The object of the joint committee was to get those principles first of all determined, and if they had been determined, to investigate for themselves whether they were true, and to get breeders throughout the country to co-operate with them both by bringing their own problems before them, and, still more, by getting them worked out. There had been some attempt made at this, and Professor Cossar Ewart, in Edinburgh, had succeeded in improving very greatly the quality of the wool in certain sheep as the result of experiments and suggestions he had made to breeders. It had its utilitarian aspects, although he really stood on the scientific side. They were beginning to see how the discoveries in heredity were going to be applied to animal breeding, and that was really the object of the establishment of this joint committee. They had appointed a director, Dr. F. A. E. Crew, who was only too anxious to co-operate with practical breeders throughout the country in order to get the principles of breeding established.

GLASGOW LOCK HOSPITAL.

Dr. W. G. Dun presided at the annual meeting of the Glasgow Lock Hospital on March 28th. The report showed that the in-patients numbered 19,516, as against 20,486 in the previous year, while the average age of the patients was 17, as against 17½ in 1920. The financial statement showed that the ordinary expenditure was £7,930; taking ordinary and extraordinary accounts together there was a surplus for the year of £409. A number of improvements had been carried out conducing to the further efficiency of the hospital. In view of the fact that a number of maternity cases occurred in the hospital the directors had decided to have a properly fitted maternity room, and one of the wards was being altered and fitted as such. Dr. Dun said that there was one paragraph in the report which saddened him very much—the number of young children admitted as in-patients; no fewer than sixty-nine between the ages of 16 and 2 years were treated in the institution. This matter should have the close attention of the directors, and an endeavour made to put the law into force, and if possible to discover the criminals who communicated the disease to these young children. He would recommend to the medical staff and to their legal adviser the close following up of these cases.

THE third annual International Neurological Congress is to meet at the Salpêtrière Hospital in Paris on June 2nd and 3rd; the special subject for discussion is the symptoms of pituitary insufficiency. Drs. Roussy and Camus of Paris will deal with its anatomy and pathological physiology, and Dr. Froment of Lyons with its clinical and therapeutic aspects.

A SPECIAL sanitary committee of the Japanese Society of Zootechnics has reported that the conditions of milk supply were most unsatisfactory and made the following suggestions: (1) Improvement of the quality of the milk; (2) better dairy accommodation; (3) classification according to quality; and (4) control of the price by the direct supply of milk from the farms.

Correspondence.

THE HOSPITAL POLICY OF THE ASSOCIATION.

Sir,—The report of the Conference of Hospital Staffs shows that a considerable minority are opposed to the principle of taking for the medical staff a percentage of the money paid for maintenance "in whole or in part by patients as individuals." May I express a hope that this very contentious principle, of which even its supporters profess themselves ashamed, may cease to be a part of the policy of the Association?

Up till the present I have not seen or heard one valid argument advanced in its favour. The only reason given for its inclusion is that to omit it might lead to abuse. Now ordinary "hospital abuse" by patients who can afford to pay for treatment outside hospital is ruled out; in fact the clause rather cloaks individuals who so abuse hospitals, for under it they can claim that they are paying both the demands of the hospital for maintenance and of the doctor for treatment. The only other abuse suggested is that societies may hand over money directly to insured patients to pay their own hospital fees. Such a course surely could not be taken without detection at an early date. There would have to be a by-law of the society permitting this method of disposal of its funds, and the expenditure must appear on its balance sheet. The abuse must then soon become public and could immediately be checked. I must admit that the clause as it now stands has a logical symmetry and completeness, reminiscent of Schedule D, but recent events have taught us, in Ireland at least, to distrust a remorseless logic and to long for comfortable common sense.

May I say that when we attempt to make our policy operative it is on this point that we shall be most likely to come into conflict with hospital committees, who as regards other classes of patients are already almost convinced of the justice of our demands? It is on this point also that we are likely to lose the sympathy of the public, one of our greatest assets in the past, and we do not want to put into the mouth of some demagogue hereafter the gibe, "When the poor had scraped together a few shillings for the hospital that cured him this is the Association which was not ashamed to grab them." Further, it is on this point that we are most likely to fail in getting the cordial co-operation of the staffs of the larger hospitals, especially of the teaching hospitals. Dr. Cox made only the other week a fine appeal to consultants for their support to the Association. It is not likely to further that desirable end if we insist on lining their pockets, and thinly at that, at the expense of their pride or even of their prejudices.

We have declared our adhesion to the principle that our voluntary hospitals should be maintained. Most of them are admittedly on the verge of financial collapse. Does it seem consistent, does it seem politic, to take this opportunity of making a claim on contributions which have hitherto been regarded by everyone as earmarked for the maintenance of these hospitals and for that purpose alone?

One other question. We discussed the payment of hospital staffs in the Hospitals Committee when I was chairman some ten years ago, and we thought then that if hospital staffs were paid per capita, which is practically what our present policy amounts to, hospital committees, being mainly composed of business men, would go into the question on a financial basis, and in most cases would decide that a small whole-time salaried medical staff would be cheaper and quite as efficient. That we did not think would be for the advantage of the profession. Perhaps we were wrong, but was the fear groundless?—I am, etc.,

R. J. Johnstone.

Belfast, April 3rd.

Sir,—I have the greatest sympathy with Dr. Garratt and the difficulties he feels and expressed in his letter to you of March 24th, because till 1913 I held the same views as he has so frequently expressed.

The Conference clearly shows that conditions of hospitals differ greatly in the industrial area from those obtaining in London or in the rural areas. In industrial areas events have marched very rapidly in recent years in the manner of them obtaining their support, and it seems to me that when these methods of raising money become applied to other areas (as London is contemplating and as Oxford has recently started with such signal success that it will certainly be copied elsewhere) events will likewise move rapidly there too, bringing in their train conditions which will make the honorary staffs desire to modify their present views.

The British Medical Association scheme should be adopted to safeguard the position in the future, even if the staff hand back to the hospital the percentage they receive till these conditions arise.

The recent correspondence in the *Times* had been instructive—apart from the two excellent letters of the Chairman of the Hospitals Committee none have been published except those opposing the scheme—but there is an increasing feeling among the lay committees that the position of hospital staffs has not been just. As a proof of this I venture to send you one paragraph of the annual report of the Leicester Royal Infirmary for 1922, published yesterday:

> "The honorary medical and surgical staff have continued to render loyal and devoted service to the institution in the treatment of the patients. Their active co-operation in the administration of the institution has helped the board to conduct the affairs harmoniously and smoothly. In recognition of their loyal services the board are particularly pleased to be able to announce that an arrangement has been made, by a unanimous vote of the board, that the honorary staff shall receive, in the shape of a percentage on certain receipts coming to the institution arising from national or municipal sources, a small recognition of their valuable services. The board are unhesitatingly of the opinion that this arrangement will cement the good relationship which has always existed between the honorary staff and the board."

I should have craved the hospitality of your columns ere this (as I much desired to enter the literary fray on this subject) had I not felt that the recording of *facts* when they had become accomplished was far more potent than the airing of my opinions.—I am, etc.,

Leicester, April 6th. Astley V. Clarke.

P.S.—Readers may have noticed an advertisement in the Journal of April 1st by the Leicester Royal Infirmary containing the words: "The Infirmary has adopted the 'Staff Fund' policy as suggested by the British Medical Association." This is, I believe, the first such, and marks a new epoch in voluntary hospital management.

Sir,—The plea of Mr. Harman in favour of the plan to eject almost all patients from Class A is that, great extension of hospital services being inevitable, it is essential at once to "stake out a claim" on behalf of their medical staffs; that the modern workman scorns charity; that staffs who decline to accept the Staff Fund can give it back or apply it to altruistic purposes; and finally, that, having committed ourselves to the Leicester motion in 1920, we are bound to support it now.

The first essential in "staking out a claim," if you would not be warned off by the police, is to show good title to the ground, and this Mr. Harman conspicuously fails to do. There is no justification for the appropriation by medical men of funds collected by laymen from laymen for purely lay purposes, neither is there precedent in the recognized customs of medical practice for the claiming of commission on money spent on food, light, firing, and similar items of maintenance. Next, if workmen despise charity, they must found and maintain hospitals for themselves. Even the patients in the "private" class, unless they pay outside nursing home rates, are undoubtedly receiving charity. To pretend that the "tariff" class are not recipients of charity to a considerable degree degrades the hospital below the level of a provident dispensary, and its staff beneath the status of the more generously salaried officers of such an institution. The third argument is equally mischievous. If this money is honestly earned, it is impertinence to suggest what each man does with his own, while to give it back at once implies that it is not honestly earned, and places it in the same category as "conscience money" returned by persons guilty of cheating the revenue officer. I would ask Mr. Souttar, who now considers himself a robber of the rich, whether, when he has reduced the number of his free patients in hospital by 75 per cent., he proposes to make similar reduction in his private fees, and if not why not? While to Dr. Wyatt, who claims that all but the destitute should pay something to him, I would remark that even a "sixpenny doctor" would hesitate to exact a fee from one who could afford but 2s. 6d. a week towards the bare necessaries of life, and hitherto we have not placed ourselves on a lower plane than these.

As for the fourth argument of Mr. Harman, in 1912 the profession embarked on a mad adventure which led to a most humiliating defeat. Applying the argument adduced, because we were exceptionally foolish in 1912, therefore we should

behave similarly in 1922. Indeed there is risk of this. It is futile to attempt by threats of resignation to coerce lay boards of hospitals. All they need do is to reply, "Unlike you, we have nothing to lose, we will resign too." And what should we do then? Mr. Harman is singularly reticent on the question of how many boards have accepted the Leicester motion. The only board that has done so to my knowledge is that of the Leicester Royal Infirmary, whereon sit paid delegates of trade unions, who report to these unions. The possibilities of abuse of their power by paid representatives of a powerful and wealthy union are obvious moreover, this practice is the negation of voluntary management. I would far rather serve in State or municipal hospital than one liable to trade union control. The abolition of voluntary staff service must lead to paid managers, and State, municipal, trade union, or approved society control. Therefore I would beg all to consider carefully whether amendments on the lines suggested in my letter of March 11th[1] are not the utmost limit that any staff that would retain the title "honorary" can demand, or any self-respecting honorary lay board can be expected to concede. They are a compromise between the policy of the Scottish hospitals on the one hand and that of the British Medical Association on the other, are based upon principles intelligible to the public, and have therefore a reasonable chance of acceptance by laymen, which cannot be said of the Leicester motion.—I am, etc.,

Chichester, March 30th. G. C. GARRATT.

SIR,—At the conference of members of staffs of voluntary hospitals recently held, as also in your reference thereto in this week's issue of the JOURNAL, it is stated that recommendation 33 is the Leicester resolution several times previously affirmed.

From the point of historical accuracy, and to prevent confusion later, might I be allowed to point out that this recommendation is a Brighton resolution sent in in January last for consideration by the Annual Representative Meeting at Glasgow. This has evidently been brought to the notice of the Hospitals Committee, approved by that body and the Council, and in favour of it the Leicester resolution has been jettisoned.

The Brighton resolution (now No. 33) will have a rider attached to it which is very much alive, and will no doubt be placed before the Annual Representative Meeting in July. This Division considers the rider will meet many objections to No. 33. It is to the effect that when the staff of a voluntary hospital is advised that the payments by any patient are derived solely from that patient and that the financial position of that patient is such as to render him unable to pay more than the full cost of maintenance, the staff should refuse to accept any portion of these payments.—I am, etc.,

L. A. PARRY,

Hove, April 4th. Honorary Secretary, Brighton Division.

REDUCTION OF MEDICAL FEES.

SIR,—It was not to be expected that Dr. Ellis's proposal would be popular; nevertheless I believe it is proper that the profession should consider the question of the readjustment of the 50 per cent. increase in fees which was adopted in the latter part of 1919. It may be that on careful examination of the conditions it would not be found advisable to make any alteration at present; although the cost of living and of practice are still much more than 50 per cent. above pre-war rates, they are certainly less than they were when this advance in fees was made. Conditions in practice are now in so many ways altered from what they were before the war that it probably would be well for the profession to discuss the whole question of fees in private practice; these are probably in many instances even now too low; in other instances it is quite reasonable to think that they should be somewhat reduced. A large number of patients who in years past were willing and accustomed to pay fairly good fees now find it difficult to pay any fees at all, much less to pay 50 per cent. more. It must be recognized that where patients expected three or four visits they now often, because of the cost, object to more than one, and in many instances, if at all possible, do without any medical attendance, so that the economic value of the 50 per cent. increase is, to say the least, doubtful.

This reconsideration of fees, if and when it takes place, must have regard not only to the different classes of patients but to the different areas of practice, and the matter must be dealt with by the profession as a whole, for, although fees were at first raised in individual practices and in detached areas, the action of the Council in recommending a minimum increase of 50 per cent. made it practically the policy of the Association, and it might, and probably would, now be considered disloyal and hardly honourable for isolated individuals to lower their fees, or any part of their fees, without the general consent of the profession; in fact, if such action was started in even a few instances the results might well be disastrous. I am particularly anxious that the initiative should come voluntarily from the profession itself; if we were forced by public opinion to make any change the result could not be so satisfactory, and our position would certainly not be dignified.

There is ample time for any Division to consider this question and lay proposals before the Representative Meeting in July.—I am, etc.,

Bradford-on-Avon, April 8th. CHAS. E. S. FLEMMING.

[1] BRITISH MEDICAL JOURNAL, p. 414.

ROUTINE PELVIMETRY IN ANTE-NATAL CASES.

SIR,—I have read Dr. Foss's letter of April 8th, criticizing mine of March 25th, with much interest. Dr. Foss "views with surprise" the fact that I rely principally on the external conjugate, and states that he uses the intercristal and interspinous measurements to determine the variety of pelvis present. I have followed more or less carefully the English literature on pelvimetry for the last twenty years, and I cannot remember a single modern authority upholding Dr. Foss's opinion; in fact, most experts agree that the intercristal and interspinous measurements are "of little value—in fact, scarcely worth the trouble of recording. . . .

"The more important measurements are those of the true pelvis, and of these the external conjugate probably gives the most information" (Dr. A. W. Bourne, of Queen Charlotte's and St. Mary's Hospitals; see BRITISH MEDICAL JOURNAL, January 18th, 1919). On the other hand, it is quite possible that I have not seen some important papers on this subject upholding Dr. Foss's views, and if so, I should much value his reference to them. If, on the other hand, Dr. Foss bases his assertion solely on his own experience I am afraid we shall have to agree to differ. Dr. Foss has the advantage over me in that his medical training is very recent and hence modern, and if he has been taught to rely on the intercristal and interspinous measurements I should be much obliged if he would state his authority. The subject is one of great interest and importance.

With regard to the estimation of the diagonal conjugate, though I always seek to obtain it, I rarely succeed, as in the ordinary pelvis it measures $4\frac{3}{4}$ inches, and as Dr. Herman said, "the finger is only about 3 inches long, and if you get near the promontory so much pain is caused by the knuckles pressing up the perineum that the patient will probably object" (BRITISH MEDICAL JOURNAL, June 30th, 1906).—I am, etc.,

Woking, April 8th. R. THORNE THORNE.

THE CLOTHING OF NATIVES IN RELATION TO TUBERCULOSIS.

SIR,—In reply to Dr. J. S. Pearse's inquiry in the JOURNAL of March 25th, asking if there are any medical reports regarding the wearing of clothes by aboriginal natives being a cause of tuberculosis among them, I would refer him to the report of the Commission appointed by the Governor-General of South Africa to inquire into the prevalence and spread of tuberculosis in South Africa (1912–14), of which I was chairman. I believe a copy of the volume is to be found in the library of the British Medical Association. But in any case I shall be pleased to lend the book. The belief that the use of European clothing is partly responsible for the spread of tuberculosis among the native races is fairly widely held by those Europeans who have an intimate knowledge of the raw native in his kraal. Its influence, however, can only be of the nature of a predisposing or contributory cause. The primary cause of tuberculosis among aboriginal natives is infection by the European, but once introduced into a native community it spreads rapidly on account of the unhygienic habitations and the extremely dirty commensal habits of the native, and also because of his great susceptibility to the disease. His susceptibility is probably due both to an inferior racial power of resistance, and to the absence of that acquired protection which the great majority of Europeans obtain as the result of mild tuberculous infections (often bovine) in very early life. In considering the effect of

clothes-wearing, the fact must not be overlooked that European clothing usually connotes the association of the native with Europeans, and also the adoption of some of the European's habits and vices, among which are alcoholic intemperance, the adoption of unsuitable food, and unhealthy occupations. Nevertheless, in itself the wearing of clothing may influence the spread of tuberculosis, because (*a*) it is generally cast-off European clothes; (*b*) it is usually of unsuitable kind; (*c*) it is worn continuously without change, often day and night, and is, generally speaking, very filthy; and (*d*) no difference in dress is made for variations of temperature, nor is it removed when, as often happens, it becomes soaked with rain or sweat.—I am, etc.,

Torquay, March 28th. A. JOHN GREGORY.

A DIPLOMA IN TUBERCULOSIS.

SIR,—Evolution in medical practice is marked by a growing tendency towards specialization. At one time it was considered sufficient to have physicians, surgeons, and general practitioners. Later alienists, obstetricians, and gynaecologists detached themselves, followed by oculists, aurists, and throat and nose, skin, rectal, urinary, venereal, and other specialists, all covered by their university or college diplomas. As time went on such diplomas were considered insufficient, and extra ones, such as the diplomas in public health and tropical medicine, were added. Now it is proposed to have still another, a diploma in tuberculosis. Where is specialization to end? It is surely enough to have departmental specialization without proceeding to specializing in single diseases. Every consulting physician is, or ought to be, a specialist in tuberculosis, and easily know all that is known about it. Also, it would soon be found necessary to specialize still further. There would arise specialists in pulmonary tuberculosis, in tubercle of the brain and spinal cord, in abdominal, osseous, glandular tuberculosis, etc.

The medical treatment of tuberculosis is extremely unsatisfactory. Fresh air and the *vis medicatrix naturae* seem to be the only reliable agents. The hypodermic injection of auto-serum has been found of benefit in surgical tuberculosis and may be found equally useful in medical cases. It seems futile to devote time and effort to attempted cure while at least one known and preventable cause is neglected: very many cases of tuberculosis, especially of the abdominal type, are due to the ingestion of milk secreted by cows suffering from tuberculosis. It is the imperative duty of the State to forbid the sale of milk from tuberculous cows. All cows ought to be examined by veterinary surgeons, and only those certified free from tuberculosis should be permitted to supply milk for human consumption.

If another diploma is really called for, one in parasitology should commend itself. It may be too sweeping an assertion to make that all disease is due to the action of parasites, but it is a fact that the part which parasites play in the genesis of disease is not, by any means, fully realized. If all diseases due to parasites were excluded from medical works the latter would be extremely short and pleasantly cheap, while treatises on tropical diseases would be non-existent. —I am, etc.,

Driffield, E. Yorks, March 26th. A. T. BRAND, M.D.

SLIPPING RIB.

SIR,—In the case reported under this heading by Dr. H. K. V. Soltau (BRITISH MEDICAL JOURNAL, April 1st, 1922, p. 516), there was no displacement of the tenth costal cartilage, the pain being localized to the tip of the eleventh rib. It might likewise be worth recording that, in the early nineties, I had under observation several out-patients, chiefly females, suffering from "pain in the side," and in each of them I was able to trace it to the tip of the tenth or of the eleventh rib. In the absence (so far as I knew) of any mention of this clinical condition in our medical literature I applied to it the name "rib-tip tenderness." This was a strictly symptomatic designation, not limited to any one of the different etiological varieties yet applicable to all of them. As such it might still serve a useful clinical purpose as a reminder to examine the costal cartilages in all cases of pleurodynia, some of which are by no means easy to identify conclusively as of pleuritic, gastric, or cardiac origin, or as purely nervous or "neurotic." A systematic examination for undue rib tenderness could hardly fail to detect the abnormality of an unattached tenth cartilage and of its liability to develop the condition of slipping rib.—I am, etc.,

London, W., April 3rd. WILLIAM EWART.

DIABETES MELLITUS: A SUGGESTION.

SIR,—Having been a sufferer from diabetes mellitus for over twenty years (since about 20 years of age), I have naturally taken great interest in the subject, especially in new lines and treatment. During these twenty years science has much advanced, many discoveries been made, and many theories advanced and applied, only to fail in practice.

That most in vogue at the moment—the fasting treatment—seemed to offer much promise, but when examined carefully and its results compared with the ordinary cases regulated by diabetic dietary, it will be found that the final result is about equal as far as time of death is concerned,[1] especially in cases that have been treated for some time by ordinary methods. It may therefore be asked why a patient should be subjected to continued underfeeding and his life thus made miserable. Better admit the failure of the modified Allan treatment at once and inform all sufferers. To have a sugar-free urine is excellent from a scientific point of view, and speaks volumes for the skill displayed in London hospitals to obtain this result. But how is it obtained? Not by correct diagnosis, for the cause of diabetes mellitus has yet to be discovered; therefore sugar-free urines have been established by haphazard lucky shots.

The chemistry of the blood and urine will serve to differentiate the various forms of diabetes and settle the question whether the pancreas is affected or not. All this is estimable, and is gradually narrowing down the number of probable causes.

Recently a much more hopeful line of investigation has arisen—that is, the bacteriological. The right line was struck by Sir W. H. Willcox when he said that the true cause was damage to the pancreas by some toxic agent. As I do a little bacteriological work myself this interests me immensely, and I hope some day to hear that the germ causing this malady has been isolated and a suitable antigen discovered. I live in expectation of this. Staphylococci, pyorrhoea (*Treponema mucosum*, Noguchi), *B. coli*, and other well-known microbes can be dismissed as only occasional causes. The possible line of investigation, to my mind, should be to search carefully the ports of entry to the system, by way of the alimentary tract more especially, and to cultivate all bacterial flora of the stomach, duodenum, jejunum, pancreas, and colon. The specimens should be obtained aseptically at operation or immediately after death, using many kinds of media, classifying all bacteria found and their proportions, special attention being paid to unknown varieties, their isolation and inoculation into animals. This appears to me to be the most suitable way of seeking to discover the true cause of diabetes mellitus. It is one upon which research is only just beginning.—I am, etc.,

Bognor, Feb. 18th. J. F. REY.

AFTER-RESULTS OF COLECTOMY.

SIR,—In taking part in the discussion which followed the reading of Sir Berkeley Moynihan's paper on the after-results of colectomy, I made certain statements which are clearly open to misinterpretation.

In criticizing the inadequate statement of results as "good," "fair," or "bad," the last person I had in mind was Sir Berkeley himself, for in his communication he had given all the data which the most captious of critics could demand. I need only add that I am indebted to Sir Berkeley Moynihan for giving me most of the opportunities I have had of investigating the pathology of intestinal stasis, and that I have the utmost admiration for his work.—I am, etc.,

ARTHUR KEITH.

Royal College of Surgeons of England, April 8th.

PROSTATIC ENLARGEMENT.

SIR,—In his letter on prostatic enlargement, published in the BRITISH MEDICAL JOURNAL of April 1st (p. 539), Mr. T. E. Hammond utters a warning against the adoption of such palliative measures as organotherapy when once the symptoms and signs of enlargement are present. He rightly states that the existence of a relationship between enlargement of the prostate and some change in the endocrine system is too problematic to form a basis of treatment by organotherapy, and that a course of organotherapy might be tried in early cases, but not when once an operation is indicated.

Whilst agreeing entirely with the tenor of Mr. Hammond's remarks, I do not think that his fears lest palliative measures

[1] P. J. Cammidge, BRITISH MEDICAL JOURNAL, October 29th, 1921, p. 708.

should be substituted for radical ones are justified, or that my remarks on the relationship of the prostate to the endocrine glands are likely to encourage attempts at organotherapy when operation is indicated. Suprapubic prostatectomy is such a satisfactory and successful operation that, if anything, the tendency is to have recourse to it in cases in which it is not strictly indicated, rather than to neglect it in those in which it is.

When the history of prostatic surgery comes to be written the same criticisms will be levelled at the operation of suprapubic prostatectomy that must be levelled at other successful operations, such as gastro-enterostomy. The very success of the operation has resulted in its having been employed at first without that discrimination and judgement that have afterwards been attained.

I quite agree with Mr. T. E. Hammond's remark that palliative measures should never be employed "when once operation is indicated." The point on which we may not entirely agree is as to when an operation *is* indicated. Moreover, when once operative measures are decided upon, is enucleation necessarily the only procedure? Although the number of cases suitable for the adoption of such partial operations as "forage" is a small one, I am convinced that these measures have a real, if restricted, place in prostatic surgery. Mr. Hammond does not mention such procedures in his letter, but I take it that he does not include them in what he terms palliative measures.—I am, etc.,

London, W., April 8th. KENNETH M. WALKER.

RESTRICTION OF INFLUENZA EPIDEMICS IN SCHOOLS.

SIR,—In their comments upon our notes on "The restriction of influenza epidemics in schools by the use of local prophylactic vaccines," Drs. Cameron and Billing have, we think, made too much of the idea that we claim to have proved the beneficial results of the administration of a vaccine by the means of a single set of figures submitted, whereas we have ourselves devoted a paragraph in our short article pointing out the difficulties of a fair interpretation of our own statistics.

We hope that, before long, you will allow us space in your columns to publish another article, which we have now in preparation, dealing with the same question, which we consider is far too important and too difficult to be settled except by the collection and comparison of statistics taken under different circumstances and covering a larger range of observations.—We are, etc.,

A. I. SIMEY,
Rugby, April 5th. J. W. H. EYRE.

The Services.

ROYAL NAVY MEDICAL CLUB.

THE annual dinner of the Royal Navy Medical Club will take place this year at the Trocadero Restaurant (Balmoral Room), on Thursday, April 27th, at 7.30 for 8 p.m. Members who wish to be present are asked to inform the Honorary Secretary, Royal Navy Medical Club, 68, Victoria Street, S.W.1, not later than seven clear days before that date.

TERRITORIAL DECORATION.

THE Territorial Decoration has been conferred upon the following officers under the terms of the Royal Warrant, October 13th, 1920:—*Royal Army Medical Corps:* Colonel William Coates, C.B., C.B.E., V.D., Honorary Colonel, East Lancs Division; Colonel E. A. Wraith, C.B.E., D.S.O., A.D.M.S., North Midland Division; Lieut.-Colonel C. I. Ellis, C.M.G., D.A.D.M.S., 43rd (Wessex) Division; Lieut.-Colonel P. G. Williamson, M.C., attached 5th Battalion West Yorkshire Regiment (ret.); Major Angus MacGillivray (ret.); Major T. H. Richmond, O.B.E., attached North Midland Brigade, R.F.A. *Sanitary Companies:* Captain J. Grounds, 1st London Sanitary Company.

DEATHS IN THE SERVICES.

SURGEON-MAJOR ISAAC NEWTON, Bengal Medical Service (retired), died at Cheltenham on March 28th. He was born on January 9th, 1838, the son of Dr. Isaac Newton, of Knaresborough, and was educated at Leeds and Paris; he took the M.R.C.S. in 1859, and entered the I.M.S. as assistant surgeon in the same year. He became surgeon-major in 1873, and retired in 1877. He served in civil employ in the Punjab, where he was successively civil surgeon of Dalhousie and superintendent of vaccination. He was the author of a small work on vaccination.

Obituary.

SIR PATRICK MANSON, G.C.M.G., M.D., LL.D., F.R.S.,

Consulting Physician, Seamen's Hospital Society; late Medical Adviser to the Colonial Office.

WITH deep regret we announce the death, on Sunday last, April 9th, of Sir Patrick Manson, whose name is closely associated with one of the greatest advances ever made in medical science. He was the son of John Manson of Fingask, Aberdeenshire, where he was born on October 3rd, 1844. He was educated at Edinburgh and at the University of Aberdeen, where he graduated M.B., C.M. in 1865 and M.D. in the following year. He spent the early part of his professional life in the East. After practising for some time in the island of Formosa he went to Amoy, one of the chief ports of China; there he was in charge of a large native hospital. Later he moved to Hong-Kong, where he took a leading part in the foundation of a College of Medicine for the Chinese. Besides lecturing on medicine he filled the office of dean of the institution, and had a great influence on its development. On his return from the East he settled in London. In 1890 he became a Member of the Royal College of Physicians, and was elected a Fellow in 1895. He joined the medical staff of the Seamen's Hospital Society in 1892; when he retired from active service in 1912 he was appointed consulting physician, and retained his position as senior teacher in the London School of Tropical Medicine.

Very soon after his arrival in the East, Manson had his ignorance of tropical diseases forcibly brought home to him. In an address delivered at St. George's Hospital, and published in the BRITISH MEDICAL JOURNAL of October 9th, 1897, he gave an account of these unpleasant but enlightening experiences. When he went to Formosa he knew nothing about beri-beri save its name, and naturally failed to recognize the disease when it came before him. The patient was a Chinese clerk employed in a European firm. Manson found him sitting propped up in a chair, short of breath, dropsical from head to foot, with a cardiac bruit, irregular tumbling action of the heart, and a feeling of distress in the chest. Thinking the case was one of heart disease he prescribed what he considered suitable remedies, but when he called next day expecting to find an improvement, the patient was dead. Some years later he saw a number of Chinese soldiers in hospital suffering from what appeared to him to be locomotor ataxy. He declared that although there was no immediate danger to life they would not recover. In defiance of this prognosis some of them in a short time were walking about and others had even returned to their military duties. A good many, however, died suddenly just like the Formosan patient. Manson found no help in his books. He noticed that, whereas some of the patients were wasted to shadows, others were swollen and oedematous. In most of them the muscles, especially those of the calf, were tender. As the Chinese are very fond of pork he thought he might be dealing with an outbreak of trichinosis, but he found no trichinae in the muscles. It was not till months had elapsed and a good many deaths had occurred that he recognized that he was confronted with an epidemic of beri-beri.

In Formosa he encountered elephantiasis, but could find no satisfactory solution of the problem it presented. Later in Amoy he saw many more forms of the disease, but the riddle of causation still remained unanswered. During a visit to London in 1874 he heard for the first time of the discovery made by Timothy Lewis in 1872 that in the blood of a proportion of the inhabitants of certain districts of India was to be found an organism which he called the *Filaria sanguinis hominis*. These parasites Lewis had met with in more than one case in association with elephantiasis or elephantoid diseases. On his return to China in 1876 Manson discovered that these parasites were present in some districts in 10 per cent., and in others in 50 per cent., of the population, whilst in some places they were not found at all. As the organism showed no evidence of growth while in the blood, or any features warranting the supposition that it was capable of reproducing itself, the inference was that it was an immature form. After much search he found that this was the case, although the discovery had been anticipated by Bancroft as well as by Lewis. The problem how the organism gained access to the human body had next to be solved, and it occurred to Manson that as it was never found in any of the natural discharges, it could not escape spontaneously so as to pass from one man to another without the aid of a carrying agent capable of penetrating the skin and absorbing the blood. It struck him that

the most likely agent in the translation of the filaria was the mosquito. To determine the frequency with which that parasite was present he examined the blood of a thousand natives, with the help of two Chinese medical students he trained for the task. These assistants were occupied in hospital, one working in the daytime, the other at night. While the one who worked at night brought many positive results, the other seldom found a filaria. Investigating this point, Manson found that in ordinary conditions of health the organisms appeared in the blood about sunset, gradually decreasing towards morning. This filarial periodicity suggested an adaptation of the habits of the parasite to the nocturnal habits of the mosquito, and Manson set to work to find out whether the filaria was ingested with the blood which the mosquitos had imbibed, and, if so, what changes occurred; he was able to see that, so far from killing the filaria, the digestive juices of the mosquito seemed to have stimulated it to fresh activity. After many months of work he succeeded in tracing the parasite through the stomach wall into the abdominal cavity and thence into the thoracic muscles of the mosquito. During this passage the filaria increased enormously in size and developed a mouth, an alimentary canal, and sexual organs. Manson conjectured that when the mosquito died the little organism it contained escaped into water and by that path reached the human body. With better appliances he tried later on in England to trace the exact route by which the filaria left the mosquito. He obtained infected insects from Dr. Bancroft of Australia, and Dr. Low of the London School of Tropical Medicine succeeded in making sections which showed the filaria in the act of passing through the proboscis of the mosquito and entering the body through the bite. It was thus proved that certain kinds of mosquito are carriers of this filaria and are agents in transmitting the diseases to which this parasite gives rise. By systematic examination of the blood of natives of many tropical countries Manson discovered blood-haunting larval filariae of three other specifically distinct nematodes—namely, *Filaria loa*, *F. perstans*, and *F. demarquayi*. The embryos of the *F. loa*, the eyeworm of tropical West Africa and its hinterland and the cause of the "Calabar swellings" so common among Europeans in those regions and so often mistaken for erythema nodosum, resemble very closely those of *F. bancrofti*. They differ, however, in minute anatomical details and also in having an exactly opposite periodicity; they enter the general circulation in the daytime and disappear from it at night. This circumstance led Manson to suggest that the liberating and intermediate host must be a biting insect such as the mangrove fly (*Chrysops dimidiata*). This suggestion was proved to be correct by Leiper.

This pregnant discovery of the transmission of an agent of disease by intermediary agents soon led to developments of the highest importance to mankind. For thousands of years malaria had levied a heavy tribute of human life and turned many a fertile and thickly peopled region in India, Africa, and Europe into a barren wilderness. In his *Malaria*, published in 1827, Macculloch traced the influence of the fell disease in the degeneracy of the race in Italy, Sicily, France, Spain, Holland, and America, and W. H. S. Jones, in his *Malaria and Greek History* (1909), contended that it played a large part in bringing about the decadence of Greece. It was the great obstacle to the colonization of tropical territories by the white man. To the discovery of the cause of this scourge Manson applied the knowledge of the conveyance of disease by insects gained from his researches on filaria. The theory of the insect-borne origin of paludal fever was not altogether new, but the faint adumbrations of modern doctrines by old writers had been forgotten when, in 1880, Laveran announced that, working in Algiers, he had found the parasite which is the cause of malaria. The importance of the discovery was not appreciated at the time, nor was the nature of the organism determined or the significance of its various phases ascertained. Laveran's statements were, however, confirmed by Richard in Algiers, Osler in America, and in Italy by Golgi, who worked out the morphological features of the tertian and quartan parasites and the schizogony or the sexual phase. Further advances in our knowledge of this part of the life-cycle of the malarial parasite were made by Celli and Marchiafava, but here for the time progress ceased. Except as far as it afforded an invaluable guide in diagnosis and treatment Laveran's discovery remained barren for more than a decade. It gave no clue to prevention; it did not explain how infection was conveyed nor throw light on the peculiar geographical and local distribution and limitation of the disease. Malaria continued to be the dragon which guarded the golden apples in the garden of the Hesperides. To slay this monster Manson came forth armed with the spear of knowledge and with unconquerable enthusiasm. In a paper on the nature and significance of the crescentic and flagellated bodies in malarial blood published in this JOURNAL on December 8th, 1894 (p. 1306), he pointed out how closely parallel the conditions of the evolution of the filaria are to those of the plasmodium. At that time the so-called "agony forms" of the parasite were generally looked upon as indications of a state preceding the death of the parasite in blood withdrawn from the body. Manson, on the other hand, reasoned that as the malaria parasite, like the filaria, was incapable of leaving the body by its own effort, being enclosed in a red corpuscle, therefore some blood-sucking animal which frequents the haunts of malaria might be the agent in transmission. For epidemiological as well as biological reasons he became convinced that the mosquito was the intermediary of the malaria parasite as he had shown it to be of the filaria. He was unable for want of material to test the hypothesis, and he could not afford to spend the necessary time in a malarious country. In the hope that someone with better opportunities might take up the search, he published a summary of his views in the BRITISH MEDICAL JOURNAL of December 8th, 1894. A sum of money was promised by the British Medical Association to enable him to go to British Guiana on condition that the Royal Society would grant a similar amount, but the plan was not carried out, and the task passed on to the capable hands of Major (now Sir) Ronald Ross, who began to work on the lines of the theory on his return to India in 1895. At first Ross had bad luck in some of his stations and at one time had to give up the search. Manson suggested that in default of human subjects he might work out the life-history of the corresponding parasites in birds which closely resemble those in man. Ross succeeded in tracing the bird parasite into the mosquito's stomach, thence into the salivary glands, down the proboscis, and back again into the bird. It was then proved that the same thing applied to the human being, and after Ross had established this Grassi, Bignami, and Bastianelli showed by what species of anopheles in Italy malaria could be communicated to man. Italian scientists also succeeded in communicating malaria to man by mosquitos which had fed on a person suffering from malaria. After a certain time these insects were fed on other men free from malaria and these in due course got the disease. But the theory met with opposition and ridicule, and for a time it seemed to be destined to the fate of Carlos Finlay's discovery of the part played by *Stegomyia calopus* in the causation of yellow fever. The neglect of that suggestion cost many thousands of lives in Havana alone between 1881, when the discovery was announced, and 1901, when it was confirmed by Reed, Carroll, Agramonte, and Lazear, and measures founded on it put an end to yellow fever in that haunt of the disease. The story of the work done in India by Ross in the face of official indifference and active obstruction, how he overcame all obstacles and brought his quest to a successful tissue, is known to all the world. The story was told by Manson in the third of the Goulstonian lectures on the life-history of the malaria germ, delivered before the London College of Physicians in March, 1896, and published in this JOURNAL on March 28th, 1896 (p. 775).

In a discussion at the Geographical Society in 1898 on the possibility of acclimatization of Europeans in tropical countries (BRITISH MEDICAL JOURNAL, April 30th, 1898, p. 1168), Manson stated that 99 per cent. of tropical diseases are caused by germs which in their extracorporeal stage are very vulnerable. In the Huxley lecture, delivered at Charing Cross Hospital in the same year, he said that besides malaria he could adduce many illustrations of the conveyance of disease by intermediary agents both from human and from veterinary pathology; he instanced yellow fever, African tick fever, trypanosomiasis, filariasis, and certain kinds of spirochaetiasis. Manson held that we were justified by analogy in conjecturing that the same principle also applied to many similar protozoal germs whose life-history had not yet been fully determined.

Ever since his return from the East Manson had pleaded for the provision of systematic instruction in tropical diseases. Some attempts had, indeed, previously been made here and there to supply teaching in tropical pathology. In the plan of a medical school drawn up by Dr. Benjamin Golding, the founder of Charing Cross Hospital, in 1822 the necessity for lectures on tropical diseases is expressly mentioned. In

1886 Dr. Felkin established in the Edinburgh Extra-Mural School a course of lectures on diseases of the tropics and climatology. It is claimed for Edinburgh that this was the first regular course of lectures of the kind delivered at any medical school in Europe or America. On Felkin's retirement the course was continued by Dr. Andrew Davidson. In February, 1899, the University of Edinburgh established a lectureship in diseases of tropical climates, and provided for a course of practical instruction in parasitology and bacteriology. In 1899 a similar lectureship was established in Aberdeen, and was held by Dr. G. A. Maconochie, who had for twenty-five years been connected with the Grant Medical College of Bombay. The first lectureship on tropical medicine in London was established at St. George's Hospital in 1895; Manson was appointed to the post, which he held till 1908, when he resigned. In 1898 a similar lectureship was instituted at Charing Cross Hospital, and to it Manson was appointed. All this marked some degree of progress, but it was inadequate for the purpose. Manson felt that what was required was a school fully equipped with a teaching staff, a hospital, and laboratories for practical instruction and research. Many difficulties had to be overcome, but fortunately Manson became medical adviser to the Colonial Office, and in that capacity was brought into association with Joseph Chamberlain, then Secretary of State for the Colonies, a statesman of large vision who perceived the vast importance of medicine in colonization. Through his influence with Chamberlain the scheme which Manson had so much at heart was brought to fulfilment. He had already given an outline of it to Mr. (now Sir James) Michelli, Secretary of the Seamen's Hospital Society, in 1896, and on April 27th, 1898, Manson was able to announce to the Geographical Society that an endeavour was being made to establish a school for the training of doctors who intended to practise in our tropical colonies. In the following year came the realization of his dream. With the whole-hearted co-operation of Chamberlain the London School of Tropical Medicine was opened at the Victoria and Albert Docks on October 2nd, 1899. An account of its foundation and development was given in the BRITISH MEDICAL JOURNAL of February 7th, 1914 (p. 321). A school on similar lines had been established at Liverpool in April, 1899, under the auspices of the late Sir Alfred Jones. The generous rivalry between the two schools has been a powerful factor in the progress made in this country in the knowledge of tropical diseases and the means of combating and preventing these scourges. They have been a model for similar institutions in various foreign countries; in France schools were founded in Paris, Bordeaux, and Marseilles. An Institut für Schiffs- und Tropen-krankheiten was founded in 1900 at Hamburg, and a Belgian State school was established at Brussels in 1906. Others have been established in India, Italy, and the United States.

Not only did Chamberlain take an active part in the foundation of the school, but he placed a sum of money at Manson's disposal to enable him to bring his malaria theory to a conclusive test which should carry conviction to every reasonable mind. With this object he sent out to the Roman Campagna, the most malarious part of Italy, a small expedition, the members of which undertook to live among the fever-stricken population, and to expose themselves all day to the sun, wind, and rain, and the emanations from the soil, retiring for the night before sunset to a special house where they were completely protected from mosquito invasion by wire gauze netting. A complementary experiment was to be made on getting mosquitos which had fed on malarial patients sent from Rome, and making them bite persons in London who had never had malaria. Both experiments were entirely successful. Drs. L. W. Sambon and G. C. Low and an artist, Mr. A. J. Terzi, with some friends lived in the Roman Campagna in the height of the fever season for many months without contracting the disease. On the other hand, a son of Manson and a laboratory assistant at the London School of Tropical Medicine, who allowed themselves to be bitten by the imported mosquitos, had fever two weeks afterwards, and the parasites were found in their blood. This was the *experimentum crucis* which finally settled the question of the causation of malaria.

Manson's career is a striking illustration of the good work that can be done amidst the difficulties and worries of general practice by an energetic man away from any scientific centre with nothing but his own enthusiasm to encourage him and with only the most rudimentary appliances to work with. In the early part of his career, besides the struggle for existence, he had a tropical climate to contend with. At home he had more formidable difficulties to encounter in the discharge of his mission as the apostle of what was a new gospel not only in medicine but in the development of the empire. He met with chilling indifference and even active hostility. But, happier than most scientific pioneers, Manson lived to see the triumph of the cause which he had so strenuously advocated, and the school of which he was the true begetter grow before his eyes from small beginnings to an institution of imperial importance.

One of his last public appearances was when he visited the school in its new building on January 20th last to receive a portrait subscribed for by a large number of past and present students of the school and other friends at home and abroad. At the same time it was announced that money had also been subscribed for a medal bearing Manson's portrait to be awarded annually to a pupil of the school distinguishing himself in clinical medicine. Manson was an inspiring teacher and had a racy, virile style that impressed students and attracted many distinguished visitors from foreign countries. He was popular with his pupils and was generous in help to all who sought it. He contributed largely to the literature of his special province. His principal work was *Tropical Diseases: Manual of Warm Climates*, published in 1898, republished twice in 1900, twice in 1903, and again in 1917. It was translated into French by Maurice Guibaud and Jean Brengues in 1904. In conjunction with Daniels he wrote the articles on beri-beri, and, in collaboration with Shipley and Sandwith, those on parasitic worms, sprue, latah, and ainhum in Allbutt and Rolleston's *System of Medicine* (1907), and articles on *Filaria sanguinis hominis*, etc., in *Quain's Dictionary of Medicine*. In 1896 he delivered the Goulstonian lectures at the College of Physicians, taking as his subject the life-history of the malaria germ outside the human body; the course was published in the BRITISH MEDICAL JOURNAL. The introductory address at St. George's Hospital, in which he urged the need for the systematic teaching of tropical pathology, was delivered in 1897; and later on (1905) he gave also the Lane lectures at San Francisco, the subject being tropical diseases.

Among Manson's other writings are papers on leprosy and other subjects in the *Medical Reports Chinese I.M. Customs Gazette* from 1871 to 1884; he wrote many papers on the *Filaria sanguinis hominis*, and finally brought all his results together in a monograph on the *Geographical Distribution, Pathological Relations, and Life-History of Filaria sanguinis hominis diurna and of Filaria sanguinis hominis perstans in connexion with Preventive Medicine* (1893). One of his last contributions was an important survey of recent discoveries in tropical medicine and hygiene, which he contributed to the British Medical Association's volume, *British Medicine in the War, 1914–17;* it was also published in the BRITISH MEDICAL JOURNAL of July 28th, 1917. Manson's scientific output was large and varied. But perhaps his best monument is the school which is the concrete expression of the ideas of which he was the fervent apostle.

Honours came in abundance to Manson. In 1900 he was made a C.M.G., in 1903 he was advanced to K.C.M.G., and on his retirement from the post of medical adviser to the Colonial Office in 1912 the King bestowed on him the honour of Knight Grand Cross of the Order "in recognition of his eminent services in connexion with the investigation of the causes and cure of tropical diseases." His own University of Aberdeen conferred on him the honorary degree of LL.D. in 1886, and the University of Oxford that of D.Sc. in 1904. He was elected a Fellow of the Royal Society in 1900. He was also a foreign Associate of the Paris Académie de Médecine. In 1911 an international committee was formed for the purpose of presenting him with a gold medal bearing his effigy. The medal, which was designed by Dr. Paul Richer of Paris, who is eminent as an artist as well as a physician, was presented to him at the International Medical Congress held in London in 1913.

In 1875 he married Henrietta Isabella, daughter of Captain J. P. Thurburn, R.N. By her he had two sons—one of whom, Philip Thurburn, a member of the medical profession, died in the East in 1902—and three daughters, one of whom married Dr. Philip Manson-Bahr.

Manson was a devoted disciple of Izaak Walton, and at one time used to fish in Scotland every year. In recent years he deserted the rivers of his native land for Ireland and took a place at Clonbur, co. Galway, where he indulged his sport to his heart's content. After his retirement from practice he retained his interest in the Tropical School and usually spent

part of the winter in London. For many years he had been crippled by gout and rheumatism, but his mind remained vigorous.

Dr. G. C. Low writes: By the death of Sir Patrick Manson tropical medicine loses one of its main pillars, and it will be hard to fill the empty place. He has been rightly termed the pioneer and founder of modern tropical medicine. Tropical medicine and its study existed, of course, before Sir Patrick's day, and much valuable work had been carried out, especially in India, on the peculiar diseases prevalent there, but no one, apart perhaps from members of the services, quite realized its importance and the necessity of special teaching for all young men proceeding abroad. Sir Patrick learned the lesson himself when working in Formosa and Amoy as a young man. Many times in after-life he confided to the writer how he would have valued a course on tropical medicine before going to the East, what hours of time and labour it would have saved him, and how much more work he could have accomplished. Yet—and this is where the stroke of genius comes in—he overcame all difficulties, mastered the subject by himself without any teaching, and by his wonderful work on the mosquito as the host of *Filaria bancrofti* laid the foundation of tropical entomology, which ultimately was to lead to the final elucidation of the etiology of malaria, yellow fever, and other insect-borne diseases. The long, tedious hours spent in study and research by himself in China were never forgotten, however, and when he returned to England he set about putting tropical work on a proper scientific basis, including the formation of special schools for its study. The usual opposition to any innovation was at once forthcoming, but here again the man showed his strength and overthrew all obstacles, finally establishing the London School of Tropical Medicine, to which he devoted the rest of his life. From a small beginning the school gradually grew, special departments of entomology, protozoology, and helminthology were added, so that everything scientific, appertaining in any way to tropical medicine, should be taught and explained. Sir Patrick lived long enough to see the fruition of his life's work; the school never looked back, the number of students increased steadily, diplomas in tropical medicine were started, and at the present moment, especially after the move to town to its new site at Endsleigh Gardens, its activities are greater than ever, only the lack of money preventing the starting of biochemical and other new departments. May I, as one of Sir Patrick's oldest pupils, mention some personal characteristics? Well do I remember my first interview with him. After some talk and questioning as to knowledge of tropical medicine, a subject was laid down for study—namely, the examination of a series of filariated mosquitos sent by Dr. Bancroft the younger from Australia; the parting admonition, happily not required, was, "Remember, this must not be a dilettanti study." This was characteristic of the man; there was nothing of the dilettante about him. All tropical maladies interested him, and his keenness in investigating their various intricacies was phenomenal and most stimulating to those working under him. At the little hospital attached to the school (the Royal Albert Dock Hospital) cases from all parts of the world were treated and much interesting research work carried out. The clinical laboratory and wards were together—the proper place for them to be—and the student could thus be instructed in every detail at first hand. It has recently been suggested that tropical schools should be situated in the tropics, but Sir Patrick was rightly not in favour of a too close application of this principle. The great advantage of a school at the centre is manifest, as cases come from every part of the world to it and many diverse maladies can be seen side by side; this is not so in the tropics. Further, more intensive work can be carried out in a temperate than in a tropical country. Still the principle of research expeditions to the tropics was always strongly advocated by him, and the necessity of the young workers having a spell abroad, to win their spurs, so to speak, has been carried out. As a clinician, Sir Patrick was always accurate and painstaking, sympathetic and kindly to his patients, and an excellent diagnostician in addition. Though often physically unfit, he never liked to miss his visits to hospital, and many times made the long journey to the Albert Docks when he should really have been in bed. To the young worker he was always kindly and sympathetic, and nothing pleased him more than to hear of some new discovery made by one of those who had been at school. Right to the end he was as keen as in his younger days, and even only a week ago was planning new schemes for another Filariasis expedition to the southern Pacific. To all who knew him intimately his loss is great and irreparable, but his name will live in the school he has founded and in the good which his discoveries have done to humanity at large.

FRANCIS DARBY BOYD, C.B., C.M.G., M.D., F.R.C.P.EDIN.,
Moncrieff-Arnott Professor of Clinical Medicine in the University of Edinburgh.

GREAT sympathy was manifested towards Professor F. D. Boyd when it became generally known at the beginning of the past winter session that illness would prevent him performing all the functions of the Moncrieff-Arnott chair of clinical medicine in the University of Edinburgh. With fine courage he carried on so far as his strength permitted him, and remained in charge of his wards in the Royal Infirmary and of his teaching there until within a few weeks of his death, which occurred on April 4th. Indeed, the last occasion on which he was out of his house was that on which the customary group photograph of his class was taken near the close of the session.

Francis Darby Boyd came from one of the families which have long been honourably connected with the progress of medicine in Edinburgh, his father being the late Mr. John Boyd, of the firm of Oliver and Boyd, for many years the publishers of the *Edinburgh Medical Journal* and of numerous medical textbooks and other works. He was born on October 19th, 1866, and so was only 55 years of age at the time of his death. He was educated at the Edinburgh Academy, and proceeded thence to the university, where he graduated as M.B., C.M. in 1888, and took his M.D. degree in 1893, gaining at that time the highly coveted gold medal for his thesis. He became a member of the Royal College of Physicians of Edinburgh in 1891, a Fellow in 1892, and a few years ago was elected to the Council, a position which he held until the close of last year. After graduation in 1888 Dr. Boyd studied abroad at Berlin and in Prague; after his return to Edinburgh he began in practice as a physician. For some years he lectured in the extra-mural school on the subjects of materia medica and therapeutics and always commanded a large following of students drawn to him by his clear and attractive presentment of a somewhat uninteresting subject. It was during these years that he carried on a series of researches in the then recently established College of Physicians Laboratory under the inspiration of the late Sir German Sims Woodhead and Professor Noël Paton (now of Glasgow University). From these researches came his well-known work on diabetes insipidus, on the pathology of albuminuria, and on various conditions of the blood in relation to nephritis and renal functions.

Professor Boyd was elected assistant physician to the Edinburgh Royal Infirmary in 1899, and he also acted as one of the physicians to the Deaconess Hospital of the Church of Scotland, becoming consulting physician to that hospital in 1913. Soon after his appointment to the staff of the Royal Infirmary he had his first experience of war service, going as he did through the South African war as physician to the Edinburgh and East of Scotland Hospital. He obtained honourable mention in dispatches, and was decorated C.M.G. in 1901. In 1910 he became major R.A.M.C. *à la suite* of the 2nd Scottish General Hospital, and when the great war began in 1914 he was mobilized and served first at Craigleith and later at Bangour (Edinburgh War Hospital). In 1917 he went to France as lieutenant-colonel in charge of the medical division of a general hospital; after his return from France early in 1918 he proceeded to Egypt and Palestine as colonel A.M.S. and consulting physician to the British army there. His work there occupied a year; he was again mentioned in dispatches, and was created a Companion of the Bath (Military Division) in 1919. Meanwhile (in 1913) he had been appointed to the senior staff of the Royal Infirmary; and in 1919, on the retirement of Professor William Russell (at age limit) Dr. Boyd was appointed Moncrieff-Arnott Professor of Clinical Medicine in the University of Edinburgh. He threw himself at once into the work of reorganizing his department after the war conditions had passed, and succeeded therein to a notable degree. Had he been spared for another ten years of active work his influence on the progress of clinical medicine in his university would indeed have been far-reaching and profound. Besides acting as examiner for the Membership of the Royal College of Physicians he was formerly a member of the Board of Examiners for entrance to the Indian Medical Service, and he

was principal medical officer to the Standard Life Assurance. He was joint editor of the Report of the Edinburgh and East of Scotland Hospital in South Africa, and he contributed to the *Edinburgh Medical Journal* "Experiences of a consulting physician on duty in the Palestine lines of communication" (1919). Amongst his recent contributions to medicine was one on "Pellagra" in 1920.

Professor Boyd was held in high estimation by the undergraduates who followed him in his wards, and he was greatly appreciated also for his post-graduate teaching. He was always clear and inspiring, was eminently sane in his judgements, and both in the infirmary and as a consultant in private practice he was consequently highly regarded and much sought after. Of his engaging social qualities and love of sport those who knew him best speak most highly, and he acted with the greatest acceptance as the secretary to the Octogenarian and joint secretary to the Harveian Dining Clubs. To his friends his death is a supreme loss, as may be gathered from Professor Alexis Thomson's tribute printed below; and the whole profession in Edinburgh mourns his passing, as was shown by the large gathering in the Dean Cemetery on the afternoon of April 7th, when what was mortal of him was consigned to mother earth. He was married in 1904, and leaves a widow and two daughters.

We are indebted to Professor Alexis Thomson for the following appreciation:

Francis Boyd's friends feel his loss deeply, too deeply for words; the personal loss overshadows that which they recognize has been sustained by the school. One of his merits was that he appeared younger than his years; the writer recalls the spring golfing parties at Sullom, years and years ago, guests of the late Sir John Batty Tuke, who prided himself on selecting among the younger generation of medicos those who combined an interest in sport with the possession of brains and the capacity and intentions of using them. Tuke deserves credit for recognizing this combination; six of the eight guests became university professors, and the remaining two leading teachers and specialists in the medical school. While capable, as above suggested, of relaxing upon occasion, Boyd could bury himself in his work and stick to it as hard as any man; good sportsman as he was, he liked nothing better than his work. He also had the strength of character that combines so well with industry and ambition; his victory over a bad stammer, which had appeared likely to dissipate any hope of academic distinction, was an apt illustration of his strength of will, for, as a teacher, his diction left nothing to be desired. As a doctor, those who knew him best liked him most; he never assumed what is traditionally known as the bedside manner; as a consultant he was admirably thorough and reliable, perhaps carrying reserve to excess, and therefore, from the patient's point of view, addicted to fewer words than were desired. The social side of his character was that which appealed most to his intimates; as secretary of the Octogenarian and joint secretary of the Harveian Dining Clubs he shed his natural reserve and showed himself in his most attractive colours—one of the most genial and kindest-hearted of men. His absence will be greatly felt at their annual gatherings.

Dr. Thomas Frederic Higgs of Dudley died on April 2nd, in his 87th year. He was educated at Dudley Grammar School and Sydney College, Birmingham, and took the diplomas of M.R.C.S.Eng. in 1858, L.R.C.P.Edin. and L.S.A. in 1860; he graduated M.D.St. Andrews in 1884. In 1860 he purchased a practice in Dudley, where he remained till his death. After serving as a district medical officer under the board of guardians he became medical officer of the workhouse, a post which he retained for forty-eight years, when he was appointed honorary consulting medical officer. He was appointed surgeon to the Dudley and borough police in 1862 and continued to hold that office, and was also senior honorary surgeon to the Dudley Dispensary. He took great interest in local educational affairs, was a member of the first school board for Dudley, and as a trustee of the Wesleyan Day School was subsequently co-opted on the Education Committee as a representative of the voluntary day schools. He was one of the founders of the Dudley High School for Girls and deputy chairman of the Dudley Grammar School board of governors. He also served for nearly a decade on the Dudley Town Council. Dr. Higgs, who was a Justice of the Peace, was a member and late chairman of the Dudley Division of the British Medical Association, and chairman of the Medical and Panel Committees of Dudley. He is survived by three sons and four daughters.

Mr. Thomas Turner, F.R.C.S., J.P., of Hereford, died recently at the advanced age of 92. He was born in June, 1830, and received his medical education at University College Hospital, taking the diplomas of L.S.A. in 1854 and M.R.C.S.Eng. in 1855; he became an F.R.C.S.Eng. in 1891. After qualifying he remained for some time as demonstrator of physiology under the late Professor Sharpey, and later took up his residence in Hereford as junior partner with the late Mr. Charles Lurgen. Until his final retirement in 1919 he was never out of harness and rarely had a holiday. In 1856 he was elected to the staff of the Hereford Dispensary, and in 1863 he was appointed surgeon to the Hereford Infirmary, retaining the latter post until he reached the age limit in 1900, when he was elected to the honorary consulting staff. In the old days he was a keen Volunteer, and retired with the rank of surgeon-major. For three years he was a councillor and for twelve years an alderman on Hereford Town Council, and he was appointed a Justice of the Peace for the borough. He married the daughter of his former partner, but she predeceased him, and he had no children. By his skill, his quiet, genial, and unassuming manner he was a general favourite in Hereford, and retained until the last the place of that city and county's most trusted and popular consultant.

Dr. Robert Bain Lothian died in Glasgow on March 30th. He was a native of that city; his father was the late Dr. John A. Lothian, who for twenty-two years was surgeon to the Glasgow Royal Infirmary. Robert Lothian was educated at Glasgow University, where he graduated M.B., C.M. in 1888. After acting as house-surgeon at the Royal Infirmary and studying for a time in London he returned to Glasgow to join his father in practice. In 1895 he was appointed casualty surgeon to the northern police district, and in 1902 he transferred to the central division, where, in addition to acting as casualty surgeon, he lectured on ambulance work to the police force and fire brigade. During the war he served in the R.A.M.C., retiring with the rank of captain. He was chairman of the Re-survey Boards of the Ministry of Pensions, Glasgow area. For many years he held a prominent place among the medical profession in Glasgow, where his loss will be greatly felt.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

Diploma in Psychological Medicine.—A short course of instruction for the D.P.M. examination will be held in Cambridge from July 12th to August 17th. The course will include lectures and practical work on psychology, the anatomy and physiology of the nervous system, morbid psychology, mental diseases, dreams, mental deficiency, etc. The fee for the full course is twelve guineas. Further particulars may be obtained from the Secretary, D.P.M. Committee, Psychological Laboratory, Cambridge.

UNIVERSITY OF LONDON.

At the meeting of the Senate on March 22nd the Vice-Chancellor referred to the death of Dr. Augustus D. Waller, F.R.S., and said that on behalf of the Senate he had addressed a letter of sympathy to Mrs. Waller and her family on their bereavement, and had deputed Sir W. H. Willcox, chairman of the Physiological Laboratory Committee, to represent the University at the funeral.

The following were recognized as teachers of the University in the subjects and at the institutions indicated:

London Hospital Medical College: Mr. G. E. Nelligan and Mr. W. S. Perrin (Surgery), Mr. F. F. Muecke, C.B.E., and Mr. N. Patterson (Oto-rhino-laryngology).

Middlesex Hospital Medical College: Mr. H. Charles (Anaesthetics), Mr. H. Watson Turner (Dental Surgery).

It was resolved to institute a University Readership in Biology tenable at Middlesex Hospital Medical School at a salary of £500; applications to be received by May 15th.

The status and designation of appointed teacher were conferred on the following:

St. Thomas's Hospital Medical School: Professor L. S. Dudgeon (Professor of Pathology), Professor J. Mellanby (Professor of Physiology), Professor F. G. Parsons (Professor of Anatomy), Professor S. G. Shattock (Professor of Morbid Anatomy).

Dr. H. W. Lyle, Dean of King's College Hospital Medical School, has been appointed a Fellow of King's College.

Professor W. D. Halliburton has been appointed a member of the board of examiners in physiology at the second examination for

medical degrees, Part II, for the remainder of the year 1921-22, in place of Professor Bainbridge, deceased.

Lord Dawson of Penn has been appointed a representative of the University at the seventh centenary celebration of the University of Padua to be held in May.

The annual service at Westminster Abbey will be on presentation day, May 4th, at 5.45 p.m. Applications for tickets, accompanied by a stamped addressed envelope, should be sent to the honorary secretary, Miss E. Jeffries Davis, 88, Gower Street, W.C.1.

Applications for grants from the Thomas Smythe Hughes Medical Research Fund to assist in original medical research must be sent in not earlier than May 1st and not later than June 15th. Further particulars can be obtained from the Academic Registrar.

The Lindley Studentship, value £120, will be awarded to a student qualified to undertake research in physiology in the Physiological Laboratory of the University. Statements of qualifications and of mode of proposed research must be sent to the Academic Registrar (from whom full regulations as to the award can be obtained) by May 1st.

A University Studentship, value £50 for one year, will be awarded to a student qualified to undertake research in physiology tenable in the Physiological Laboratory of the University, or of a school of the University. Applications must be sent to the Principal Officer (from whom further particulars can be obtained) by May 31st.

UNIVERSITY COLLEGE.

A course of four lectures on "Insects and disease" will be given at University College, London (Gower Street, W.C.1), by Sir Arthur Shipley, G.B.E., F.R.S., Master of Christ's College, Cambridge, on Tuesdays, May 2nd, 9th, 16th, and 23rd, at 5 p.m. The syllabus of the lectures is as follows: (1) Lice, their habits and life-history and their relation to disease; (2) bed-bugs and ticks as conveyers of disease; (3) flies and the way they cause and carry disease; (4) mosquitos and malaria. The lectures are addressed to advanced students of the University and others. Admission is free, without ticket.

The annual report of University College, London, states that the new building for anatomy, histology, and embryology, provided by the Rockefeller gift, has been begun, and that it is expected to be ready for occupation in March next year. The expenditure of the College on establishment account in 1921 was £150,482; the fee revenue provided £65,567. After reckoning incomes from endowments, donations, and grants from the Treasury and other public bodies, there remained a deficit of £5,185. There are, moreover, several directions in which the expenditure ought to be increased; thus an income of £15,000 a year is needed by the Department of Applied Statistics to carry on the work contemplated by its munificent founder, the late Sir Francis Galton. Capital funds to the amount of £15,000 are needed for the new chemistry laboratories.

During the year the total number of students enrolled was 3,143 (1,835 men and 1,308 women). Of these, 2,408 (1,505 men and 902 women) were taking day courses; 502 (191 men and 311 women) evening courses; 233 (138 men and 95 women) vacation courses. The day course students included 432 (326 men and 106 women) post-graduate and research students. Of the total, 212, including 76 post-graduate and research students, came from various parts of the Empire—India sending 50, Canada and New Zealand 8 each, Australia and South Africa 4 each; from European countries there were 324—59 from France, 50 from Russia, 40 from Sweden, 36 from Switzerland, 25 from Holland, 24 from Norway, 23 each from Belgium and Denmark, 14 from Italy. There were 16 from the United States of America, 10 being undergraduate and 6 research students. From other countries the largest number (23) came from Japan, of which 14 were doing post-graduate and research work.

QUEEN'S UNIVERSITY OF BELFAST.

IN publishing (April 1st, p. 544) the list of successful candidates upon whom the degrees of M.B., B.Ch., B.A.O., were conferred, it should have been stated that the following had passed their examinations with second-class honours: A. H. McC. Eaton, W. S. Gibson, W. Lascelles, Mary C. Lindsay, I. H. McCaw.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN extraordinary comitia of the Royal College of Physicians of London was held on Monday, April 10th, at 5 p.m., the President, Sir Norman Moore, Bt., being in the chair.

The President announced that after four years of office he did not wish to serve for a further year. He then gave a summary of the chief events in connexion with the College during the past year, and referred in detail to the ten Fellows of the College who had died during the year—Dr. G. D. Longstaff, Sir George Savage, Dr. Albert S. F. Leyton, Dr. F. A. Bainbridge, Dr. John Wickham Legg, Dr. John Harley, Dr. John Elliott, Dr. George Charles Bright, son of the celebrated Dr. Richard Bright, Dr. Ainslie Hollis, and Sir Patrick Manson.

Sir William Church proposed a vote of thanks to the President for his address and for his services to the College during the past year. Sir Norman Moore then vacated the chair, and the College proceeded to the election of a President. In the first ballot Sir Humphry D. Rolleston received 34 votes and Sir John Rose Bradford 17, 81 Fellows voting. In accordance with the by-laws of the College a further ballot took place, when Sir Humphry Rolleston received 58 votes, Sir John Rose Bradford 23.

Sir Humphry Rolleston was inducted President by the senior Fellow present, Sir W. S. Church. He then gave his faith to the College.

Various communications were received, and Sir Humphry Rolleston was appointed the representative of the College at the celebrations in honour of the seventh centenary of the University of Padua.

After a proposal by Dr. Sidney Phillips in regard to the Finance Committee of the College, the President declared the comitia closed.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY council was held on April 6th, when Sir Anthony Bowlby, President, was in the chair.

Votes of thanks were given to Mr. Alban Doran for his valuable services in continuing to arrange and catalogue the collection of surgical instruments in the Museum; and, also, to the Government of Trinidad for presenting to the College some skeletons excavated at Pale Seco.

Lives of the Fellows.—A report was received from the Library Committee stating that the Lives of the Fellows of the College had been completed. The work was carried out by the librarian, Mr. Plarr, and although only in manuscript, it is hoped at some future time to have it printed and offered for sale.

The Jacksonian Prize was not awarded. The subject for the year 1923 is "The pathology and treatment of malignant disease of the testicle."

Charles Brook (Linco'n) and William Coates (Manchester) were elected Fellows as Members of twenty years' standing.

Congratulations were sent to a College centenarian, Dr. C. H. Brooking of Paignton, who became a Member in 1843.

LONDON SCHOOL OF TROPICAL MEDICINE.

THE following candidates passed the examination of this school held at the termination of the sixty-eighth session (January to March, 1922):

*R. W. Cilento (winner of "Duncan" medal), *J. H. Andre, *Major G. C. Dunham (U.S. army), *E. A. Mills, *G. Giglioli, *T. G. Wynne, *J. B. Kirk, D. F. G. Moore, Captain H. Hingston (I.M.S.), W. H. Peacock, Major B. Gale (I.M.S.), B. L. Joshi, E. S. E. Mack, R. T. Carr, M. S. E. Mody, Captain J. M. R. Hennessy (I.M.S.), H. C. V. Joy, G. B. Walker, V. M. Fisher, W. H. Grace, G. G. Nacleker, M. A. El Nattan, D. R. Mehta, Miss E. G. Baillie, J. J. B. Edmond, Miss M. L. Griffiths, A. Noble, Captain C. A. Wood (I.M.S.), C. Clyne, Miss H. M. Brown, A. N. El Ramli, Miss L. S. Pigeon, A. Razik, J. G. B. Brass, J. A. Griffiths, J. S. Kerr, E. F. Peck.

* With distinction.

Medical News.

THE next session of the Dental Board of the United Kingdom will commence on Tuesday, May 9th, at 2 p.m., when the chairman, Right Hon. F. D. Acland, M.P., will take the chair and give an address; it will continue to sit from day to day until the termination of its business.

AT the meeting of the Harveian Society, to be held at the Town Hall, Harrow Road, Paddington, on Thursday, April 27th, at 8.30 p.m., a discussion will take place on influenza. The speakers will be: Sir Humphry Rolleston, Sir Thomas Horder, Dr. Sidney Phillips, Dr. R. A. Young, Dr. Thoresby Jones, Dr. Beaumont, Dr. Freeman.

A FURTHER series of demonstrations of specimens in the Museum of the Royal College of Surgeons of England will commence on Friday, April 21st, when Sir Arthur Keith will demonstrate specimens of hernia, the femoral and obturator forms, and the causation of hernia. The demonstrations, which are open to advanced students and medical practitioners, take place at 5 p.m., and will be continued on Mondays and Fridays up to and including May 8th.

A MEMORABLE evening was spent by some five-and-twenty former assistants and residents of Emeritus Professor Sir Halliday Croom on April 7th, when they had the pleasure of entertaining their old "chief" to dinner at the North British Station Hotel, Edinburgh. To mark the occasion of his retirement last year from the Chair of Midwifery in the University of Edinburgh and the completion of fifty years of teaching in the Edinburgh School of Medicine, a silver salver with a suitable inscription and the engraved autograph signatures of fifty former assistants and residents was presented to Sir Halliday by the chairman, Dr. Haig Ferguson. The health of the guest was proposed by the Chairman, and the toast was supported by Dr. George Mackie, D.S.O., and Dr. George Gibson, D.S.O. Sir Halliday Croom replied in a speech full of most interesting reminiscences of his career as a teacher of midwifery and gynaecology, delivered in his happiest vein. Among those present were Dr. Godfrey (Scarborough), Dr. Hale Puckle, Dr. Scott Macgregor (Glasgow), Dr. Duncan Main (Manchuria), Dr. Donald (Carlisle), Dr. Aarons (London), Dr. Lamond Lackie, Dr. William Fordyce, and Dr. R. W. Johnstone (Edinburgh); letters and telegrams of apology and regret were received from such distant parts as Montreal, Egypt, and New Zealand.

AT the last meeting of the Council of the Royal College of Surgeons of England (reported on another page) congratulations were sent to Dr. C. H. Brooking, of Paignton, on attaining his hundredth birthday. Dr. Brooking was educated at Guy's Hospital, and took the diploma of M.R.C.S.Eng. and the L.S.A. in 1843; he graduated M.D. at St. Andrews in 1856. He formerly practised at Brixham, and is one of the last of the Volunteers of 1852; he commanded the Artillery Volunteers at Brixham in 1859. It is stated that Dr. Brooking is the oldest medical practitioner in England.

A PORTRAIT in oils of Dr. H. H. Aitchison has been presented to the Corporation of Wallsend in recognition of his public services. Sir G. B. Hunter, in unveiling the portrait in the Council chamber, traced the development of Wallsend, and paid tribute to the large part played by Dr. Aitchison in the life and work of the district. The Mayor, in accepting the portrait, also testified to the worth of Dr. Aitchison and the esteem in which he is held.

IN connexion with the ceremony of dedicating the Osler Hall, erected in Queen's Park, Toronto, as an auditorium for the Academy of Medicine, Sir Edmund Osler has presented the academy with a portrait of his brother, the late Sir William Osler.

THE members of the Surgical Union, a union of provincial surgeons, the members of which are limited in number, visited the urological departments at King's College Hospital on April 6th. The morning was spent in attending two short lectures, followed by a lantern demonstration in the medical school. The members then saw a number of cases of cystoscopy and fulguration treatment of bladder growths in the out-patient department, and then spent some time in the radiographic department, where cases of pyelography were demonstrated. In the afternoon operations were performed on urological cases. The visitors were received by Sir John W. Thomson Walker.

THE Maternity and Child Welfare Group of the Society of Medical Officers of Health have postponed the meeting fixed for April 20th until May 18th, when Dr. R. C. Jewesbury will read a paper on "Breast feeding." The Metropolitan and Home Counties Sub-Group will meet as arranged on April 26th at 5.15 p.m. Dr. H. C. Cameron will open a discussion on "Vomiting in infancy: its meaning and treatment."

A COURSE in advanced oto-rhino-laryngology will be held at the Saint Joseph Hospital, Paris, under the direction of Dr. Georges Laurens, from April 28th to June 24th; the number of places is limited to ten, and the fee is 150 francs.

THE three societies of mental medicine at Paris have decided to organize a meeting on May 30th and 31st to commemorate the centenary of the thesis in which Bayle first described general paralysis. The meeting will be international. The subscription of 40 francs should be sent to Dr. Raymond Mallet, 284, Boulevard St. Germain, Paris.

A MEDICAL congress on accidents to workmen was recently held at Zaragoza, Spain. The Minister of Labour and the Rector of the University presided, and among the resolutions adopted was one to the effect that hernia should be regarded as entitling to two months' wages or an operation at the expense of the employer, and also that diseases contracted in hospital as a complication of an accident or contagion and death from the operation should be grounds for compensation.

DR. V. EICKEN has succeeded Professor Killian in the chair of oto-rhino-laryngology at Berlin.

THE Dutch Central Society for combating Tuberculosis recently sent out forms of inquiry. Answers were returned to 40 per cent., reporting 16,259 cases of tuberculosis (7,190 in males and 9,069 in females). As so many circulars were not answered the actual number of cases of tuberculosis is not known, but it is estimated that some 6,000 or 7,000 persons are in need of sanatorium or hospital treatment.

An account of the scheme of medical relief initiated in Russia by the American Relief Administration is given in a recent report by its medical director, Dr. Henry Beeuwkes. Dr. Beeuwkes and his assistants, who number eleven, have made a complete survey of health conditions and hospital facilities, and have drawn up a comprehensive relief plan which is already operating in Moscow, Petrograd, Kazan, Simbirsk, Samara, Saratov, Tzaritzin, Ufa, and Orenburg. "I know of no class in Russia," Dr. Beeuwkes writes, "more deserving of our admiration and assistance than the medical profession. A large percentage have died during the last three years from epidemic diseases to which they have been constantly exposed. Under-nourished and overworked, assuming the labours of their comrades who have succumbed, their weakened physical condition has made them a ready prey to infections, and their mortality rates are out of proportion to those pertaining generally. The mortality rate among physicians from typhus is reported to be 50 per cent. as against 15 per cent. for the general population."

Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.*

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London*; telephone, 2630, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London*; telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London*; telephone, 2630, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh*; telephone, 4361, Central).

QUERIES AND ANSWERS.

"I. D." asks for the name and maker of an efficient bed lift to run the patient on his bed, on to a terrace, for fresh-air treatment.

"RHEUMATIC" asks for information as to any spas in the Austrian Tyrol where treatment could be obtained for rheumatic fibrositis of hip and thigh muscles.

"BAFFLED" asks for suggestions in the treatment of the case of a professional gentleman, aged 44, who has for many years been much troubled by offensive breath. The tongue, never clean, has a coating of a brown-yellow colour, partly, perhaps, the result of pipe smoking. The teeth have been very carefully overhauled and pronounced guiltless. The bowels are regular, there is no nausea or vomiting, the appetite is fair, and dieting has been of no avail. Physical signs are negative, the lungs and nasal passages are healthy, the urine normal, and there are no headaches. Many remedies have been tried without benefit. The patient refuses to submit to a test meal, as he had an alarming experience on a previous occasion.

INCOME TAX.

"F.A.C." inquires as to the allowance due for expenses of replacement of car on the following facts: In 1914 he bought an 11.9 second-hand Belsize for £165, which he sold in April, 1921, for £170. He then purchased an 11.9 second-hand Phoenix Coupé, £450, and this he sold in November, 1921, for £230 and bought a new 11.9 Morris Oxford Coupé for £480.

*** The expense allowable on the first replacement, assuming the two cars to be of the same grade and condition, would be £450 – £170 = £280, or, allowing for the additional expense of the Coupé to-day, say £250, less any further allowance for the superior condition of the Phoenix as compared with that of the Belsize in 1914. So far as the second replacement is concerned the amount that can be claimed is the excess of the cost of a Phoenix (of same condition as that in which the car was bought in April) in November, 1921, over £230.

"C. C." earned a fee in 1920 and showed it on a declaration made for purposes of repayment. He is now being applied to by a local collector for payment of tax on the fee. Is he justified in refusing payment?

*** Yes; assuming, of course, that the untaxed fee shown on the declaration was taken into account in calculating the amount repaid. There may be a technical liability if "C. C." received a formal notice of assessment and did not lodge an objection within the prescribed time, but we can hardly imagine that claim being pressed in the circumstances.

"X." keeps one maidservant solely for practice and appointments.

*** In those circumstances the money wages and also the cost of keep and accommodation—say at the rate of 15s. a week—can be deducted as a professional expense.

"SHIP'S SURGEON" was serving out of the country from February 22nd, 1921, to March 27th, 1922, except for a period of three weeks, between voyages, when he acted as locumtenent.

*** Our correspondent appears to be liable to British income tax on the amount of his earnings less the usual allowances, and less deductions for any special expenses, such as the additional cost of uniform, if worn.

"A. W." has a resident assistant, who is of course not liable to account for tax on the value of the board and lodging received by him in kind; for this reason the local inspector is refusing to allow "A. W." to reckon the cost of that board and lodging as a professional expense.

*** The inspector has no legal justification for refusing the claim. The cost in question is clearly an allowable expense in "A. W.'s" accounts, and whether the assistant is liable for tax thereon or not is a question which in no way concerns "A. W." In the leading case of Tennant *v.* Smith which established the non-liability of benefits received in an inconvertible form the point in issue was the value of the free residence of a bank manager; he was held not liable to tax on the value of that benefit, but it was not disputed that the bank could treat the whole of the rent paid for the premises as a business expense.

LETTERS, NOTES, ETC.

MEDICAL BOOK-KEEPING.

DR. F. ARTHUR HEPWORTH (Saffron Walden) writes: "Seeker's" inquiry on this subject leads me to recommend the system of book-keeping, which is saving me much time and labour and which I find infinitely simpler than the old one—comprising day-books, ledgers, and cash-book—of my earlier experience. I use a card system for individual records and accounts, and a cash-book showing receipts on the left hand page and expenses on the right page. No day-book is kept and no ledger. The card system consists principally of white cards, size 7 inches by 5, having the patient's name and address at the top and ruled in four columns for date, particulars of case, treatment, and cash. The second column contains particulars of consultation or visit, and any clinical details which I wish to remember. Under treatment I enter prescriptions and a record of anaesthetics, operations, instrumental aid at confinements, electrical or massage treatment, articles supplied, or any other special details which are to be charged for in the last column. Fees are entered in black ink, cash payments in red ink, and when an account is paid the payment is entered in red and a red line ruled across the card. The amount paid is also entered in the cash-book at the same time. In the case of single patients this completes the booking. The whole account can be seen at a glance, and any account asked for can be made up at a moment's notice. All cards are filed in alphabetical order, subject only to the modification required to keep those for members of one family together. In the case of a family also, I file a pink ledger card in front of the group of individual cards. This ledger card contains only the totals for each quarter or half year transferred from the individual cards. This represents the whole of the posting required.

The keeping of the cash-book is important. Every amount received or paid is entered at once. The book I use is of the analytical type, having seven columns on each side. I have separate columns for private fees, panel payments, appointments like pensions' referee and life assurance, consultation fees, etc., and on the expenses side, separate columns for motor expenses, drugs, rent and taxes, and so on. The sixth column is reserved for payments and drawings on the bank, and should correspond exactly with the bank pass-book. This column can with advantage be figured in red ink. The seventh column is of course a summary of the other six.

The cash-book can be balanced on any day of the year, it can be checked by the bank pass-book, and the financial condition of one's practice can be ascertained at any time without difficulty. It is hardly necessary to say that the pass-book for my practice is separate from that for my private account.

It has been claimed that the time taken in finding a required card and in filing cards at the end of a busy evening is a serious drawback to the use of a card system. I find that this loss of time is more than compensated by the time saved in looking up old references in ledger and day-book, and by having the whole of a patient's history and cash account before me at each consultation. The time saved in posting and in making out quarterly accounts is enormous. For purposes of audit the cash-book, pass-book, and filé of receipted bills are all that are required. By having the books audited once a year all the requirements of income tax inspectors, or a possible future purchaser of the practice, can be satisfied.

DR. D. J. COCHRANE (London, N.W.8) writes to recommend the "Physician's Ledger and Record," which he obtained in the first place from Canada, renewals being supplied through Messrs. H. J. Ryman, Ltd., 49, Great Portland Street, W.1.

Several other correspondents are to be thanked for supplying particulars of bookkeeping methods in reply to the inquiry.

SUICIDE IN BORDERLAND CASES.

DR. P. H. WALKER (Mquanduli, Cape Province) writes: An inconsiderable number of suicides follow a moral lapse of some kind with inability to face the consequences, or occur in the course of illness such as typhus, enteric, or pneumonia; in certain classes of society the friends may try to bluff it out that it was an accident and deny premonitory symptoms, but in most cases the subsequent inquiry elicits, with little variation, a story of noticeable alteration of manner or mental depression without real cause for it, and, further, that no doctor was called in. That is all we get generally. If there were closer observation it would probably be recorded oftener that the depression appeared to have lifted just before the end. For Dr. Luke's case in your issue of January 28th is perfectly typical. In the prodromal stage the patient may not only show, but admit to, mental depression; a highly intelligent patient may even say—I am not safe here, I ought to be under restraint; but when the real insane stage begins he declares he is now recovered, he may appear better physically, and he is now far too cunning to say anything that could be put in a lunacy certificate.

It is going too far to say that every melancholic is a potential suicide. It would greatly simplify matters if it were true. But any melancholic may be a potential suicide, and to be wise before the event would require omniscience. As I have said, however, generally no doctor is called in, and so his prescience is not tested. When it does happen that the patient is in his doctor's hands, with the uncertainty of prognosis, apart from the danger of future legal proceedings, where would two medical men be found to agree during the prodromal stage that the patient should be certified as likely to become a danger to himself? If not certified, but persuaded to become a voluntary boarder or a hostel guest, he walks out like Dr. Luke's patient, when he becomes really insane. Hostels and half-way houses are all very well for neurotics and trivial cases of unbalance, but for the real thing they are obviously useless.

HERPES AND VARICELLA.

DR. R. E. SCHOLEFIELD (Blackheath) writes: As bearing on the discussion of the relation of herpes zoster and varicella which has given rise to much correspondence in your columns, the following case may be of interest to other readers:

> On February 27th I was called to see an elderly man, about 70 years of age, who two days before had been attacked by severe pain in his right temple, sufficient to prevent his sleeping for that night. The pain was of a burning and stabbing character, and shooting through his head. The next day he noticed spots on his brow, and on the following day, when I saw him, he had a marked eruption of vesicles from the eyebrow well up to the vertex on the right side, which in places was confluent. The content of the vesicles was slightly haemorrhagic in places, in others serous. The left brow and side of scalp was free, except for one tiny spot, but over the trunk and inside the mouth were numerous vesicles, some full, and some in process of scab formation, and some just coming out, those on the trunk showing the oval zone of erythema so typical of varicella. The temperature was 100° and there was some malaise. In the next twenty-four hours a few more spots came out, and then all began to dry into the scabs seen in varicella and herpes alike. It was impossible to trace any source of infection, and as no children were in the house no further case has been seen.

There are three possible explanations of the phenomena: (1) Varicella and herpes occurring in the same subject and coming out together; (2) varicella, with an unusual distribution and with three-quarters of the spots on the distribution of a single nerve; (3) herpes pure and simple with herpetic generalized eruption. Personally I am inclined to the third explanation. Herpes has been known to exhibit the character of an infectious disorder, and epidemics in a hospital ward are not unknown. This being so, the case would be on a par with that of a generalized vaccinia following vaccination, of which I saw an example in an adult during the war, a very unusual but not impossible event. If any of your readers have seen cases bearing on the point, and making explanations (1) and (2) more likely, I should be glad to know the details.

FIRST AID TO THE INJURED.

THE Chief Secretary of the St. John Ambulance Association writes: I notice in your issue of April 8th that attention has been called to the title of the present edition of our first-aid textbook. It is quite true that the original manual was written by the late Surgeon-Major Peter Sheppard, and subsequently rewritte by Dr. R. Bruce. The present manual, however, is not based on that work.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 27, 29, 30, 31, 32, and 33 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 28 and 29.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Six lines and under	0	9	0
Each additional line	0	1	6
Whole single column (three columns to page) ...	7	10	0
Half single column	3	15	0
Half page	10	0	0
Whole page	20	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

A British Medical Association Lecture

ON

RADIUM THERAPY.

BY

ROBERT KNOX, M.D.,

HONORARY RADIOLOGIST, KING'S COLLEGE HOSPITAL; DIRECTOR, RADIOTHERAPEUTIC DEPARTMENT, CANCER HOSPITAL.

THE subject on which I have been asked to speak covers so much ground that it will be possible only to deal with broad principles and give an indication of the value of radium in treatment—more particularly in the treatment of malignant disease, for it is in this field that so much has been expected from the use of radium.

New agents, whose powers are not at first properly appreciated, must pass through the stages of overestimation, depreciation, and possibly rejection, before their true value is arrived at. When an agent which appears to act upon all structures with which it comes in contact is employed, the difficulties increase proportionately with its effect upon these structures, and the greatest care must be exercised in all attempts to estimate its value. The radio-active bodies belong to this class, and it is very difficult even approximately to estimate their value.

The range of therapeutic activity of radiations is an exceedingly wide one, extending from the ultra-violet to the penetrating gamma rays of radium. The fundamental principle of radiation therapeutics is easily understood, if it is realized that the wave length of the radiation is the determining factor. When the correct wave length for a particular depth has been estimated, it is then merely a matter of time—that is, duration of the exposure—to produce a particular effect upon the tissues. The effect of radiations is dependent upon the power of absorption the tissues possess for these particular wave lengths, and the absorption of the radiations causes changes in the cells, which may vary in their degree; amongst others chemical changes may result which have a far-reaching effect upon the organism.

In order to obtain effects over a wide range of morbid processes, it is necessary to have at our disposal radiations of all wave lengths, so that any condition may be treated. In *x* rays and radium we possess the particular values required. Large quantities of radium may be used with advantage, as, for example, at the Middlesex Hospital, where 5½ grams have been used for varying times in the treatment of malignant disease.

Relative Values of X Rays and Radium.

A great deal of unnecessary discussion has taken place on the relative values of *x* rays and radium rays, the assumption being that these agents act differently on the tissues. The matter will be more clearly understood if we assume that we are dealing with radiations which have a very wide range of wave length, the gamma ray from radium representing the extreme limit of penetrating power. Given an equal wave length from either agent the effect will be the same. The *x*-ray value has been, up to the present, limited by the inability of the apparatus to generate the high voltage necessary to produce *x* rays equal to the gamma ray from radium. So far it has only been possible to use voltages from 200,000 to 300,000; the voltage required to produce *x* rays equal to the hardest gamma rays is approximately between one and two millions. Nevertheless, the voltages of 250,000 give us a very useful radiation, which, if applied in sufficient intensity, may give very good therapeutic results. For example, cancer of the cervix uteri may be influenced by massive doses of *x* rays administered through several ports of entry. The dose may have to be very prolonged, from five to eight hours at a single treatment. Good effects are claimed for this particular technique. Radium is more applicable to the growth, and gives very brilliant results; these are, however, purely local, and are not permanent. The use of both agents would appear to be a rational procedure. By this method of attack it is possible to obtain the maximum effect from both agents, the radium acting from a local focus, and spreading outwards to the periphery, while the *x* rays are used from the periphery to a central focus point. The tissues are thoroughly saturated and simultaneously attacked from all points. It is possible that in this way peripheral extension of the new growths may be checked.

Superficial lesions are the most favourable for treatment, in so far as they can be kept under continual observation and progress noted; occasionally it is possible to remove a piece of tissue for examination, when changes in tissue due to the treatment may be noted, and the exact character of the condition ascertained. The study of the changes induced in superficial structures gives an accurate indication of the type of case likely to respond to treatment, and also illustrates clearly the probability of influencing deeper morbid conditions; for it will be seen that the simple conditions, such as chronic inflammatory lesions, simple ulcers, naevi, etc., can be beneficially treated with a remarkable accuracy, while those conditions which verge on the malignant—that is, rodent ulcer and epithelioma—are more intractable, the very malignant forms of carcinoma frequently resisting treatment altogether.

Exactly the same sequence is noted in the so-called deep therapy. The effects are, however, much more difficult to obtain on account of the greater difficulty in administering the correct dosage; more penetrating radiations are required in order to reach the depth of the lesion, while the intervening tissues absorb in a diminishing ratio, according to their depth from the surface, the radiations which have to pass through them to reach the tumour. When these difficulties are allowed for it will be seen that the order of response is almost identical with that of the more superficial lesions.

Consideration of the Physical Data of Radium.

Before dealing with the technique and practical application of radium a short reference to the physics of radium will be useful.

The physics of radium is a most interesting but somewhat difficult subject for the average medical man, who has long ago left behind him what elementary knowledge he possessed, as a student, of physics. For future medical men there can be no doubt that the physics side of the curriculum must be increased, and it would be well if all practitioners kept closely in touch with this subject throughout their years of practice. A correct appreciation of physical laws will enable them to understand many things which are at present obscure.

It is now known that the *x* rays are another manifestation of radiant energy, of which light and heat are familiar examples. The *x* rays resemble light rays in almost every particular, the chief difference being that the *x* rays have wave lengths about 5,000 times shorter—that is, the *x* rays are situated far beyond the violet end of the visible spectrum, and may be regarded in a sense as a "treble" form of ultra-violet light. It was this very minuteness of wave length—a distance of the same order as the size of atoms—that defeated all the earliest attempts to direct and sort out the rays. Just about a single octave of light waves is visible to the eye.

RADIUM.

The prominent member of the uranium series of radio-active elements, belonging to the alkaline earth group of elements. Its parent is ionium, and its disintegration product radium emanation. Radium was discovered in 1898 by M. and Mme. Curie. The discovery was preceded by Becquerel's discovery of radio-activity in 1896.

RADIUM SALTS.

The word radium, as it is generally used, signifies a radium salt, and in a stricter sense generally up to the present radium bromide ($RaBr_2.2H_2O$). Other salts are used, however, so in describing preparations of radium it has become customary, as well as more accurate, to state the radium element content of the salt. Buyers of radium are advised in their own interests to have the salt certified by the National Physical Laboratory, Teddington.

The salts most commonly used are the sulphate, bromide, and chloride. The hydrated bromide ($RaBr_2.2H_2O$), when pure, contains about 53.6 per cent. of radium element. The pure anhydrous radium bromide (RaBr) contains 58.6 per cent. radium element. The pure sulphate ($RaSO_4$) contains 70.2 per cent. radium element and pure radium chloride ($RaCl_2$) contains 76.1 per cent. radium element. The chloride and bromide are soluble in water, while the sulphate is insoluble in water and soluble in acids.

Radium emanation has a steady decay period; it falls to half value in about five days; when using the emanation in treatment the decay value has to be taken into account in estimating the exposure.

In whatever manner the radium is used—that is, in tubes, plaques, or in the form of emanation in suitable containers—

TABLE I.—*Uranium-Radium Family.*

(1) Name.	(2) Atomic Weight.	(3) Half Decay Period.	(4) Radiation.
Uranium 1	238	5 billion yrs.	Alpha.
Uranium X1	234	24.6 minutes	Beta, gamma.
Uranium X2	234	1.15 minutes	Beta, gamma.
Uranium 2	234	Abt. 1,000,000 yrs.	Alpha.
Ionium	230	Abt. 100,000 yrs.	Alpha.
Radium	226	1,700 yrs.	Alpha.
Radium emanation (niton)	222	3.85 days	Alpha.
Radium A	218	3 minutes	Alpha.
Radium B	214	26 8 minutes	Beta, gamma.
Radium C ... ... (99.97%) (0.03%)	214	19.5 minutes	Beta, gamma (alpha).
Radium C2 ... ... (side reaction 0.03%)	210	1.4 minutes	Beta, gamma.
End 0.03%	210	—	—
Radium C1 ... ... (main reaction 99.97%)	214	0.000001 second	Alpha.
Radium D	210	16.5 yrs.	Soft beta.
Radium E	210	5 days	Soft beta.
Radium F (polonium) ...	210	136 days	Alpha.
Radium G (end product)	206	—	No rays, atoms stable.

it is found that there are three types of rays given off: alpha, beta, and gamma. The alpha ray is not used to any extent. The beta and gamma rays are most active, and induce changes in the tissues which are most important from the therapeutic point of view. It is on a correct appreciation of the biological action that successful treatment will depend. The point cannot be dealt with fully now, but it is essential that the radiologist be fully conversant with this matter.

Beta rays are negative electrons shot out from the nucleus of the transmitting radium atom with a velocity which in some cases is nearly that of light. Beta rays are more penetrating than alpha rays, the swifter or harder beta rays being half absorbed in almost 1 mm. of soft tissue or 0 1 mm. of lead or silver. The next equal thickness of these materials will then absorb about 50 per cent. of the remaining ray, so that 10 mm. of tissue, or 1 mm. of lead or silver, absorbs 99.9 per cent. of these hard beta rays. The beta rays from radium B and C, in equilibrium with a gram of radium element, produce per hour 4.3 calories of heat. A bundle of parallel beta rays will be deflected from its path by passing through a strong electromagnetic or electrostatic field due to their negative charge, and observations of this deflection in fields of known strength serve to measure the velocity of the beta rays, since the faster the electron travels the less the deviation in a field of given strength. The beta rays are closely related to the gamma rays.

Gamma rays are ether vibrations of very short wave lengths (therefore similar to light and *x* rays); they are caused by the rapid vibrations set up in electrons in the structure of the transmitting element by the electrostatic repulsion between the electron and the escaping high-speed beta ray. The hardest gamma rays from radium B and C are due to beta rays which have initial velocities corresponding to differences in potential of from 500,000 to 2,000,000 volts, and it is probable that the production of *x* rays of the same short wave length as the gamma rays from radium will require the use of such high potentials.

Recent work, using the molecular crystal structure as a space grating, has led to the determination of the wave lengths of the characteristic *x* rays and of the softer gamma rays. The wave length of the hard gamma rays is too small to be satisfactorily examined by this method. It is estimated that the wave length of the hard gamma rays lies between 0.01 and 0.001 Angström unit, while the *x* rays lie in a range between 10 and 0.05 Angström unit, visible light 7,200 to 4,000 Angström units, ultra-violet in the range 4,000 to 200 Angström units, and the longer radiant heat waves beyond the red run from 0.06 mm. down to 7,600 Angström units, the Hertzian or wireless waves following on these.

Secondary rays are formed when these primary rays impinge upon matter. The alpha rays give rise to a delta ray. Secondary beta rays are produced in matter by the absorption of the gamma rays.

Filtrations of Radiations from Radium.

For this purpose metal filters are commonly used. These are silver, brass, steel, lead, gold, platinum, and aluminium; the thickness in millimetres of these substances necessary to absorb 99.9 per cent. of the hard beta rays from radium is as indicated by the figures following:

Silver	1.0 mm.	Gold ...	0.6 mm.
Brass	1.3 ,,	Platinum	0.5 ,,
Steel	1.4 ,,	Aluminium	4.0 ,,
Lead	1.0 ,,		

The most useful screens are those of silver and brass.

TABLE II.—*Density and Screening Power of Various Materials.*

Ray Absorbing Material.	Approximate Density.	Thickness of Absorbing Material required to absorb 50 per Cent. of the Hard Beta Rays of Radium.	Thickness required to absorb 99.9 per Cent. of Hard Beta Rays of Radium.
Water	1.0	1.00 mm.	10.00 mm.
Gum rubber ...	1.0	1.00 mm.	10.00 mm.
Soft tissues ...	1.0	1.00 mm.	10.00 mm.
Bone	1.7-2.0	0 60 mm.	6.00 mm.
Glass	2.6	0.40 mm.	4.00 mm.
Aluminium ...	2.7	0.40 mm.	4.00 mm.
Steel...	7.7	0.14 mm.	1.40 mm.
Brass	8.5	0.13 mm.	1.30 mm.
Nickel	8.7	0.13 mm.	1.30 mm.
Copper	8.9	0.13 mm.	1.30 mm.
Silver	10.6	0.10 mm.	1.00 mm.
Lead...	11.3	0 10 mm.	1.00 mm.
Gold...	19.3	0.06 mm.	0.60 mm.
Platinum	21.5	0.05 mm.	0 50 mm.

Secondary radiations are given off from metal filters, and these in their turn may have to be filtered because of their injurious action upon the skin; good secondary filters are paper, rubber, gauze, etc.

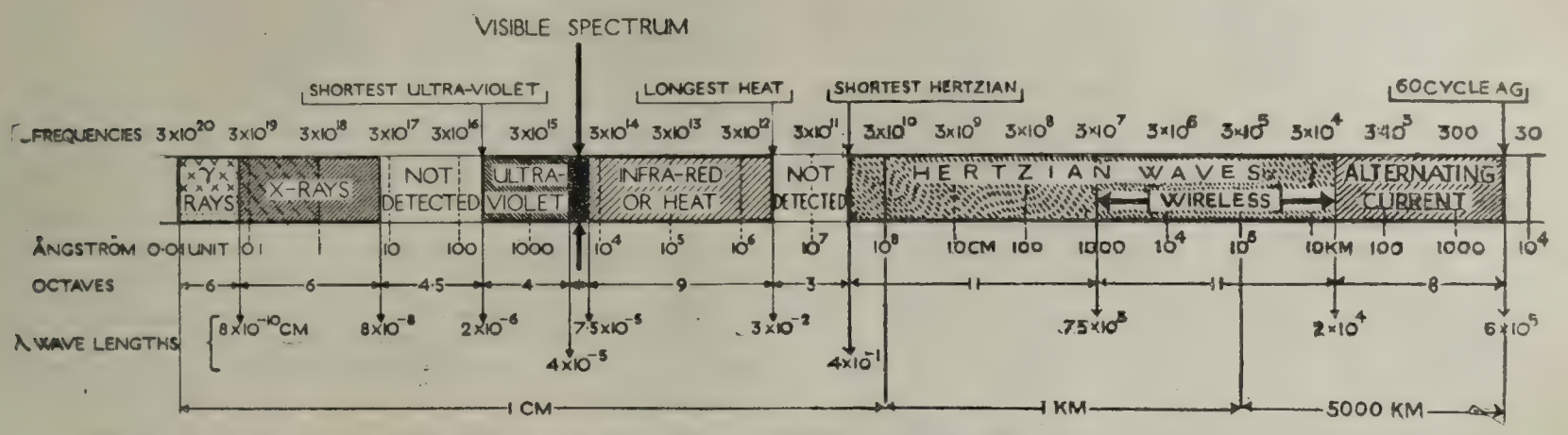
Action of Radiations upon the Tissues.

The physiological effects of the radiations from the radioactive substances are attributable to the "photo-electric" effect—that is, the liberation in the structure of the tissue cells of negative electrons. In the case of primary beta rays which are negative electrons their absorption in tissues suffices to start the action. Gamma rays, by their action in evicting secondary beta rays, produce a similar action by the absorption of these secondary beta rays.

When the aim of the exposure is to utilize the beta rays from radium compounds the duration is so relatively short that the gamma ray effect is negligible; but when it is desired to obtain the effect from the more penetrating gamma rays filtration is necessary to cut off the beta rays because of their greater action upon the superficial structure. When dealing with the effects of radiation upon the deeper structures it is necessary to remember that from a point source the intensity of the radiations diminishes inversely as the square of the distance from the source of the radiations. Consequently from a small radium tube, if the intensity of the radiations at 1 mm. is set at unity, at 2 mm. the intensity is 0.25, at 3 mm. 0.11, at 4 mm. 0.06, at 10 mm. 0.01, at 2 cm. 0.0025, at 3 cm. 0.0011.

It is evident from a consideration of these figures that the physiological effect of the gamma rays is limited to distances of 2 to 3 cm. in the treatment of malignant growths, where the dose required to induce the disappearance of the new growth is one which will almost produce a similar effect upon adjacent normal tissue. It also furnishes a scientific proof of the need for thoroughness in the technique of the treatment of malignant disease.

In whichever way the radiations produce these effects—and this is a debatable point on which sound arguments can be advanced on either side—it is imperative that if the tumour is to have administered to it an equal dose of radiations throughout its mass, the radium must be distributed at equal distances, and each tube must have an equal activity.



Illustrating diagrammatically the wide range of electromagnetic waves in Nature. (By kind permission of Dr. G. W. C. Kaye.)

For this reason it is suggested that the most rational technique is to employ that in which the radium is placed in needles or small tubes of an equal capacity and having filters of equal size. The tubes must be placed at distances not less than 2 cm. apart, and all portions of the tumour should be exposed equally. To obtain this, in many cases of malignant disease a most complete surgical operation will be required, and it is essential that a large quantity of radium should be available. The quantity of radium in each tube need not be very large: 10 mg. of element furnishes a fairly active source of radiation; in other cases 25 mg. may be used in each tube.

An alternative to the radium in such cases would be to use the penetrating *x* rays. Combined treatment ensures very thorough radiation of the tumour and its lymphatic field.

The constant endeavour of the *x*-ray instrument designer has been to increase the power of the *x*-ray machine and the vacuum tube in order that radiations of shorter and shorter wave lengths, and therefore greater and greater penetration, could be produced. It is now within the range of practical therapeutics to apply wave lengths of radiation, the production of which necessitates the use of voltages up to 300,000. Great claims are made for the efficiency of the radiations when employed in sufficient intensity and long exposures in the treatment of malignant diseases. It will be increasingly difficult, for technical reasons, to exceed that voltage to any appreciable extent. It is therefore a question whether we should not be content with the use of *x*-ray apparatus working up to 300,000 volts, and rely upon radium for wave lengths beyond those produced at that voltage.

The most important point would be, then, to ensure that a sufficient quantity of radium might be available. For hospital work a well-equipped department would require to have at least 500 milligrams in tubes, and possibly a maximum of 2 grams would be required. Apart from the difficulty of having sufficient radium in the institution, the other argument for centralization of all radiotherapeutic work, especially in deep therapy, is the fact that anaesthetics and surgical operations are often required. Blood examination should be made at intervals, and patients undergoing such heavy treatment must be placed in a hospital or a private nursing institution. The success of radiation therapy depends very largely upon the work of a number of experts acting in unison. Such combined work can more readily be carried out in a large institution.

The next point to discuss will be the varieties of disease likely to benefit from radium treatment. These may be briefly divided into two groups—non-malignant and malignant.

Radium Applications in Non-Malignant Cases.

It is not necessary to discuss cosmetic conditions other than to sound a note of warning in the treatment of the so-called port-wine stains. The greatest care must be taken in these conditions, otherwise the patient will present a result fully as disfiguring as the original mark.

In angiomas of all sizes radium is doing work that is simply remarkable, entirely removing this condition from the surgical field. This is particularly so when dealing with children.

In uterine fibroids, in 40 per cent. of the cases radium or *x* rays should be the agent of choice, but strict regard must be given to certain contraindications.

In uterine haemorrhage radium is almost a specific, but here again due regard must be given to the prevention of certain annoying immediate after-effects, and care must be exercised to ascertain the cause of the haemorrhage. It is well to make it a rule only to treat these cases after consultation with a gynaecologist.

In subacute and chronic leucorrhoea, according to recent reports, radium has proved to be efficient when other methods have failed.

In papilloma of the bladder radium is used after fulguration or operative measures.

In cases of inoperable hypertrophic goitre radium is being employed more and more; in exophthalmic goitre the tendency seems to be in favour of radium as the agent of choice.

The leukaemias offer a large palliative field, and radium seems to control the condition longer than other single methods now employed. Raying the spleen, with transfusion in severe cases, is believed to be the method of choice in many of these conditions.

Enlarged thymus in children, according to a recent article by Heublein, is a field in which radium comes to the front as the agent of choice.

Recent reports seem to indicate that radium might occupy as prominent a place in the treatment of cataract as it now does in the treatment of spring catarrh.

A surgeon seeing the results produced with radium and *x* rays in tuberculous adenitis will be induced to combine radiation treatment with the surgical if in a number of cases he does not recommend its adoption in the first place.

Radium Applications in Malignant Diseases.

At the present time radium is considered the agent of choice in skin cancer when operation has been decided against. Epithelioma, however, being difficult to control, yields only palliative results.

Cancer of the lip, when springing from the skin surface, is occasionally treated by radium. Springing from the mucous membrane (and very early) it is treated with surgery and radium, with *x* rays over the glands of the neck and chest. In advanced cases radium and *x* rays are used over the lesion and glands, including the glands of the chest.

Cancer of the lingual and buccal mucous membrane is treated with radium and fulguration. No sharp-cutting instrument should be used in this region. Salvarsan may be administered as a routine agent in these cases, giving the salvarsan at the height of the radium reaction. This is useful because it is possible to get secondary effects from the combination.

Treatment of malignant disease of the antrum should be operative *plus* radium. Metastasis does not occur so early in these cases, but the glands should be rayed as a routine measure.

Cancer of the oesophagus is a radium case—with perhaps surgery—if in the very early stage. Radium is the best palliative agent in advanced cases, but must be used with care, because of the effect of the rays on the adjoining tissues. Very penetrating *x* rays may be used from the skin surface.

Cancer of the stomach and intestinal tract is treated surgically, followed, if possible, by radiation. The mechanical difficulties in placing radium in the stomach have not been overcome.

Early cancer of the breast is considered surgical, and radium has rendered seemingly inoperable cases operable. Only in inoperable and advanced cases is radium alone employed, and then for its palliative effect. Post-operative radiation treatment is recommended in all cases of cancer. The best time for prophylactic treatment is a question that must be decided for the individual case.

Cancer of the rectum is a condition not treated satisfactorily from any standpoint. If it is inoperable, it should be treated by radium and *x* rays. Colotomy should be performed to prevent irritation to the parts. Radiations should be applied from all available aspects.

Cancer of the prostate should be removed (if early) and radium tubes and needles buried at the time of operation. If inoperable, it may be treated by the use of radium needles via the perineum, or the cross-fire method via rectum and urethra.

In cancer of the bladder radium will be useful, and a suprapubic operation is done in order to facilitate the placing of the radium and to provide for good drainage.

Early cancer of the fundus uteri is a surgical condition if the patient is in a condition to stand a radical operation; otherwise it is a case for radium, and no case, however severe, should be denied the palliative action of radium.

Much of the work which has been done in the past has been experimental and empirical. The technique has been extremely crude, and often left in the hands of men who from their lack of skill and training have not been able to use the radium to the best advantage. But haphazard methods have no place in present-day technique. Take, for example, cancer of the cervix uteri. The patient must be thoroughly prepared as for operation. The gynaecologist is the man best fitted to deal with these very difficult cases. Small quantities of radium or emanations from radium in metal tubes are used. The needle already described is most suitable for this class of work. A tube may be introduced into the cervical canal; around this small needles are inserted into the growth in positions where the greatest activity is required and can be obtained. Close apposition of the tubes to the active edges of the growth will ensure the best results. As many as twelve needles may be inserted into a growth. The cervix with the radium tube and needles is next carefully packed around with gauze, and the vaginal walls are protected (as far as that is possible) by being pushed as far away from the radium as possible. The vagina is next carefully packed and the requisite exposure given. At the end of the time arranged the radium is removed. It may be necessary to give the patient morphine or other sedatives during the exposure. At the end of about ten days the patient is inspected and another exposure given. Then at the end of three weeks a further exposure is made. After these three exposures the patient is kept under observation.

In a short time after the last exposure the improvement sets in, and it is no exaggeration to say that in a number of cases the immediate results of radium treatment are very remarkable. The local tumour disappears and leaves a firm pliable scar. The distressing symptoms clear up and for a time the patient returns to normal health.

In these cases a combination of radium and *x* rays is preferred, the latter being applied from many ports of entry around the pelvis. With the possibility of using the more penetrating *x* rays, of which so much has been heard lately, the prospect of helping the sufferer is greatly improved. With a skilful application of radium followed by large doses of *x* rays, we are almost certain to get vastly improved results. I am trying both methods singly and combined, and at present it is not possible to say which will be the more reliable method to employ in the future.

Cancer of the rectum is one of the disappointments of radium therapy; it is possible that the unfavourable results which have followed upon applications are in part due to the faulty technique. The fixation of the tube of radium is not an easy matter; great skill is required to get it into a position where it will exercise a maximum effect. It is suggested that if the growth could be brought into view by dilating the rectal canal, radium needles could be buried in the mass. In this way the irritation of the rectal mucosa would be to a large extent avoided. Long exposures would then be possible. A large number of small needles could be introduced at regular intervals of space in order to get a uniform irradiation. The aim of the treatment is to induce throughout the tumour a degree of reaction which will result in the absorption of the tumour mass. How this is brought about is not clearly understood, but it is quite clear that if a uniform irradiation is obtained the probability of favourably influencing the growth is greater.

A distinguished physician, who ought to have been better informed, is reported to have stated that radium had proved to be a failure, and that surgeons were giving up its use and turning to penetrating *x* rays in the treatment of malignant disease. This is not true at all, though it may have a semblance of truth in it, because so many disappointing results have followed the use of radium in quite unsuitable and hopeless cases. The failure of radium in those cases is not surprising; and need it be pointed out that radium merely follows upon failure of all other methods of treatment which have no doubt been tried in the cases sent for radium treatment?

Against this statement may be advanced the conclusions of an experienced observer, Professor Frankl of Vienna, who recently lectured in Dublin on the subject of *x* rays and radium. An abstract of his paper was published in the *Lancet* of December 3rd, 1921, p. 1176:

Professor Frankl pointed out that radium had a limited area of action not exceeding 4 cm., and that its effectiveness decreased in ratio to the distance, so that the peripheral portions of a tumour might receive a dose inadequate to destroy but sufficient to stimulate the cancer cells. All the cells of the body were, he said, sensitive to *x* rays or radium, but cancer cells and the specific cells of the ovary more sensitive than others, so that it was possible to destroy tumour cells and the follicles of the ovary without harming the surrounding tissues. Some gynaecologists had, perhaps, expected too much from rays and radium in the treatment of cancer of the neck of the uterus; there was no excuse for abandoning the knife, and a combination of the two methods promised to give better results than either alone; it was important to subject cases operated to subsequent treatment by rays. It was also true that in a small percentage of cases treatment by rays might render an inoperable case operable, or even bring about cure. In Frankl's clinic, of 42 cases of inoperable cancer of the cervix seven had been cured, and 58 per cent. of the cases subjected to ray treatment subsequent to operation remained well for a period of five years. In uterine haemorrhage due to the presence of myomata or unconnected with obvious signs of disease the rays acted upon the follicular elements of the ovary, and by destroying them brought about a cessation of ovarian secretion and so produced amenorrhoea. It had been suggested that small doses might stimulate the follicular epithelium of the ovary and so cure obstinate amenorrhoea.

I am in agreement with Professor Frankl in practically all that he says in regard to radium and cancer. The probability is that in time we shall arrive at a correct estimate of the value of radiations in treatment. The five years given by Professor Frankl as the longest time up to the present he has patients in good health after *x*-ray treatment is not long enough on which to base values. I could quote a large number of cases of malignant disease who have had operations and *x*-ray treatment who are at present quite well. A number of cases in which recurrence has shown itself within the five years period have cleared up and remain well. On the other hand, it is just at the five years limit that I would look out for manifestations of deep-seated secondary deposits, and I would place the critical period upon which statistics may be based, which would be of value, between five and ten years. It is between these times that the end stages of malignancy will show themselves. I mean particularly in reference to carcinoma, for I believe that sarcomata have a much shorter latent period between the discovery and the removal of the primary growth and the deep-seated recurrence.

If and when we can produce statistics, either operative or radiotherapeutical, which clearly show a good percentage of patients alive and well ten years or longer after operation or treatment by radiation, it will be possible to consider the advisability of making statements of curative work in cancer.

It has been my fate to watch a large number of cases of cancer in all parts of the body progress towards the end stages of the malady. These stages are not pleasant ones to contemplate, and they do not encourage one to become optimistic regarding the treatment of malignant disease. True, one sees an occasional brilliant result, and encouragement springs from the sight, but on the whole the results are not good. In a fairly large percentage of cases of carcinoma of the mamma the end condition is one of mediastinal involvement: that is a hopeless condition to deal with. Radiotherapeutic measures may relieve, but they never cure. The last of the involvements is the occurrence of bone metastases. These are much more common than is suspected. They are often overlooked, even in the *post-mortem* room. Radiography has been helpful in discovering these changes in bone. Bone carcinomatosis is more common than we know. It is probably the end manifestation of the cancer process, and it may be localized or very general in its distribution. Involvement of bone may occur within five years of the primary lesion, but in my experience it does not often become evident before the fifth year, and it may appear at a much later date. From the point of view of ray therapy it is a most hopeless condition. The spread of the disease is so extensive that no amount of radiation can possibly influence it for good, though temporary improvement may follow upon thorough radiation. Nor is it likely that ray therapy can prevent the spread to the osseous system unless the primary dosage can be sufficiently large to clear up the primary growth, and any possible infiltration through the lymphatics. It is quite clear that at present we are not giving anything like dosage of such quantity and quality as to influence such wide areas. I therefore plead for the extensive use of radiations from whatever source available, and I hold that in radium we have an agent which helps towards the attainment of cures, since it carries a source of very penetrating radiation into the regions

where it is most needed, and in which in a number of cases it is not possible to get the equivalent dose of *x* rays delivered. It is well to use large quantities of radiations as early as possible, and to give a sufficient number of exposures at intervals over a period of, say, two months, and then keep the patient under observation for as long as possible. Watch carefully for evidence of recurrence ;. when this occurs treat it in the same way as a primary growth would be dealt with.

In advocating the use of radium by the surgeon in his operative work, it is clear that two chief points must be realized. He must have a sufficient supply of radium in suitable applicators, and he should know something of the physical properties and action of radium. The principal fields for its use in the hands of the surgeon will be in two types of case:

1. The operable case of cancer, where the whole of the tumour can be removed. Radium is used in this class at the close of the operation as a prophylactic measure. Mr. Sampson Handley is a strong advocate of this method, and he further insists on post-operative ray treatment, the combination giving the patient the best possible chance of a complete recovery.

2. The inoperable case, in which an operation for the use of the radium is justifiable. In this type of case a large field exists, for the majority of surgically inoperable cases will have to be considered from this point of view. The field is a large one, embracing as it does a variety of forms of tumour, and an equally large variety of situations.

It is evident from a consideration of the facts submitted that the possibilities of radium in the treatment of disease have not been nearly exhausted; in fact, up to the present the technique has been more or less experimental. The experience of recent years brings forth two dominant facts. The potency of radium is now acknowledged by all competent workers; it is a most valuable adjunct to the surgeon and the *x*-ray therapist. Indispensable to both, it is clear that a great future lies before it. To utilize radium to the utmost it is imperative that much larger quantities must be used than has been customary. Instead of talking in milligrams it will be necessary to think in grams, and to devise technique which will make it possible to use with safety much larger quantities. The larger the quantity used the shorter will be the exposure. This in itself will be an important step, particularly in regions in which the applications are not well tolerated, such as the mouth, pharynx, œsophagus, rectum, bladder, etc.

The second important point is concerned with the technique of the application. In order to obtain the maximum effect the radium must be accurately applied. The surgeon must be prepared to perform operations for the insertion of the radium. In internal regions an exploratory operation may be required to locate accurately the tumour and to place the tubes in position. Take, for example, a localized tumour of the pyloric end of the stomach which is inoperable. Is it not possible to anchor the tumour in the operation wound, insert a number of small tubes into the tumour, allow a few hours for the exposure (and with large quantities of radium used this could be limited to a comparatively short period), remove the radium tubes, and close the wound? Such measures may appear to be extreme, but is it not a desperate condition which is being dealt with? Surely it is sound practice to give the patient the chance of even a forlorn hope.

The question of radiations *versus* operation must now be discussed. In all cases, with perhaps one or two exceptions, there can be no doubt that the operative should be the first choice. In all cases where possible radium should be used at the operation, placing it in positions which are likely to contain residual cells. It is surely more logical to endeavour to check at the outset any possible residues than to await their development.

The radium exposures should be followed up by thorough *x*-ray treatment. The aim of radium and *x*-ray treatment should be to administer doses of great intensity in the hope that changes may be brought about in the tissues which will lead to the disappearance of any cancer cells.

THE Mayor of Detroit has announced a grant of 1,000,000 dollars for the purpose of consolidating the Children's Free Hospital and the Michigan Hospital at Framington, to provide additional facilities for the treatment of crippled children in Michigan. Additional contributions to the amount of 5,000,000 dollars will be made as money is needed for the development of the joint hospital.

THE DIAGNOSTIC VALUE OF LUMBAR PUNCTURE IN CEREBRAL AND SPINAL HAEMORRHAGES.

BY

WILFRED HARRIS, M.D., F.R.C.P.,

PHYSICIAN FOR DISEASES OF THE NERVOUS SYSTEM, ST. MARY'S HOSPITAL, AND TO THE HOSPITAL FOR EPILEPSY AND PARALYSIS, MAIDA VALE.

FOR some few years I have realized in increasing degree the extreme diagnostic value of blood mixed with the cerebro-spinal fluid removed by lumbar puncture. It is, of course, to be assumed that the lumbar puncture has been cleanly performed without any great difficulty or prolonged searching, as if that happens local haemorrhage due to the prolonged manipulation of the needle may reach the cerebro-spinal fluid. The blood in such an event is liable to clot easily and is not intimately mixed with the fluid, unless the attempt is renewed on the following or subsequent day, by which time the blood and fluid will be intimately mixed. With this exception, the finding by lumbar puncture of free blood intimately mixed with the cerebro-spinal fluid is a practically certain and invaluable method of rapid differential diagnosis of haemorrhage occurring into the central nervous system, thus distinguishing at once between apoplexy due to haemorrhage and other causes of cerebral confusion and coma—such as embolism, thrombosis, uraemia, encephalitis, tumour, diabetic coma, epilepsy and general paralysis, disseminated sclerosis, heat-stroke, hysteria, and so on. The one other condition in which blood or its derivative pigments is constantly found in the cerebro-spinal fluid is severe concussion with laceration of the brain, and fractured base. Therefore in these two diseases of haemorrhage—either spontaneous, as in apoplexy, or traumatic, due to severe injury—lumbar puncture gives us at once a certain and invariable deciding indication as to whether the lesion is one of haemorrhage within the cranial cavity or not. An examination of the chief textbooks on diseases of the nervous system shows an almost uniform absence of reference to lumbar puncture in the differential diagnosis of apoplexies, though in one or two books devoted to diagnosis the point is mentioned, but not stressed sufficiently.

During the last week I have seen in consultation five cases of acute cerebral apoplexy, in which lumbar puncture showed the cerebro-spinal fluid to be intimately mixed with and opaque with blood. In only two of these cases had cerebral haemorrhage been suggested as the cause of the mental confusion or coma before I saw the patient, uraemia having been diagnosed in two of the cases, and encephalitis lethargica in the other.

The history of the latter case is instructive, inasmuch as the patient lived for fifteen days after the rupture of a small aneurysm on one anterior cerebral artery.

CASE I.

Miss M., aged 44, had not been feeling well, and had a fainting attack in a Turkish bath on March 3rd, but quite recovered. On March 8th she partook of tinned salmon at supper, and was taken acutely ill shortly afterwards with recurrent vomiting and diarrhoea, though other members of the family, who had eaten of the same dish, were unaffected. As soon as the sickness began she felt a "flush of blood to the head," and a sensation of sleepiness, but was quite conscious, though semi-collapsed when seen by Dr. Eric Pritchard of Hampstead at 1.30 a.m. The vomiting did not recur, and next evening she felt stiffness at the back of the neck and the flushing sensation, being drowsy but able to talk. Even on the third day, during intervals of periods of drowsiness, she would get up from the sofa and attend to business, writing cheques and letters, and was perfectly rational, though it was noticed that she had occasional visual hallucinations. Dr. Pritchard considered the case to be one of encephalitis lethargica, and a neurologist who saw her with him on the fifth day confirmed this diagnosis, although he performed lumbar puncture and found the cerebro-spinal fluid intimately mixed with blood, showing changes in colour and general appearance compatible with a history of four days in age. I saw her on the eighth day, as during that day she rapidly became worse, being comatose, with flaccid left hemiplegia, and slight rigidity and muscular twitchings on the right side. The case appeared to me as one of undoubted ingravescent cerebral haemorrhage, confirmed by the free blood found in the cerebro-spinal fluid, as I have never seen the slightest trace of blood in the fluid in cases of encephalitis lethargica. Her state made it seem probable that she could not live more than a day or two, yet she lingered another week, with total flaccid paralysis, dying on March 23rd, fifteen days after the initial symptoms of the cerebral haemorrhage. Dr. Spilsbury made a *post-mortem* examination for Dr. Pritchard and found a ruptured aneurysm, the size of a pea, on the left anterior cerebral artery, one-third of an inch from its

origin, with considerable haemorrhage between the membranes. The blood had forced its way between the frontal lobes, damaging considerably both inner frontal convolutions.

CASE II.

In another case, a woman aged 46, the diagnosis of uraemia had been made, because the doctor in attendance had treated her previously for high blood pressure and occasional albuminuria. She was eight months pregnant, and had been taken suddenly ill when returning home about 6.30 p.m., five hours before I saw her with Dr. Woodcock, of Palmer's Green. She was then quite comatose, with slight generalized rigidity, pin-point pupils, and extremely raucous stertorous breathing. The blood pressure was then 160, the knee-jerks brisk, and bilateral extensor plantar reflexes. Lumbar puncture revealed extensive haemorrhage into the cerebro-spinal fluid, which was intimately mixed and quite opaque with bright red blood. Death occurred five hours later, but the diagnosis made of pontine haemorrhage seems probably correct.

Meningeal haemorrhage resulting from fractured base, and lacerations of the brain due to concussion, will in like manner cause bloodstained cerebro-spinal fluid, the depth of stain varying in proportion to the amount of exuded blood. The staining may be no more than a distinct yellow tinge after the lapse of three or four days, as after the third day a pigment derivative from the blood, of the nature of bile pigment, appears in the cerebro-spinal fluid, due to absorption and chemical changes in a localized collection of blood in the membranes or brain substance. This yellow pigment, appearing after the third or fourth day of an intrameningeal haemorrhage, was shown many years ago by Froin to be practically identical with bile pigment, and gives the Gmelin reaction for bile pigment, but does not give the ordinary test for blood. Thus, a small localized cerebral haemorrhage in the neighbourhood of the internal capsule or other deep area within the brain substance, which has neither reached the surface nor ruptured into the lateral or third ventricle, will signalize its presence by the appearance of this yellow stain in the cerebro-spinal fluid within three days, rather than by the appearance of free blood mixing with the cerebro-spinal fluid, as is the case with the larger cerebro-spinal haemorrhages. In fractured base and laceration of the cortex the injury may be sufficient to cause death within a week, and yet the fluid may be stained only a light yellow, with never any free blood mixed with it.

Meningeal venous haemorrhage may occur from the rupture of a vein, usually into the posterior fossa, in periods of intense vascular congestion, as in men during the act of coitus, especially when performed in an abnormal position, such as when standing, and if the man is in poor health or suffering from headache at the time. Violent headache and faintness, with, very probably, vomiting, occur at once, and intense headache may persist for several days, though complete recovery is the rule after three or four weeks. Free blood in the cerebro-spinal fluid will be found by lumbar puncture during the first few days, the blood being probably recoverable within half an hour or so of a direct haemorrhage into the subarachnoid space. Venous haemorrhages may also occur upon the cortex during the severe congestion of an epileptic fit, or during the strain of violent coughing, as in whooping-cough, the blood either appearing free and intimately mixed with the cerebro-spinal fluid, or indicating its presence after the third day by the yellow tinge of bile pigment.

Spontaneous haematorrhachis, or intraspinal haemorrhage, may occur as the result of an intense muscular effort, and if the bleeding occurs low down in the spinal canal, amongst the roots of the cauda equina, the blood may clot *in situ*, and cause pain in the lower extremities, and motor and sensory paresis for years. Such a case I published in 1912 (*Proc. Roy. Soc. Med.*, Neurolog. Sect., February 15th, 1912, p. 115).

When the blood is extravasated higher up in the cerebro-spinal axis, then the mixture of blood and cerebro-spinal fluid obtained by lumbar puncture does not clot. Spontaneous haematorrhachis, with the formation of clot around one or more roots of the cauda equina, I believe, accounts for not a few cases of persistent pains in the lower extremities following a heavy muscular effort, such cases being usually diagnosed as ruptured muscle, fibrositis, or neuritis, and if the pain is in the front of the thigh the condition may be labelled "meralgia paraesthetica." Lumbar puncture would at once decide the diagnosis in such a case, possibly even one or two years after the onset of symptoms, as in the case quoted above, in which I obtained by lumbar puncture a canary-yellow fluid eighteen months after the primary attack. Another example may be given in which the lesion was almost certainly a spontaneous haematorrhachis.

CASE III.

A man, aged 61, strained his right leg in pushing a heavy iron safe with his knee. Two days later he noticed great tenderness along the front of the thigh, so that he could not bear the bedclothes over it; the pain then spread to the calf and the sole of the foot, which has ever since for the last five years felt as if he were walking on sand or pebbles. The right foot is always cold and blue; there is no anaesthesia, but a varying degree of hyperaesthesia. The knee-jerks and Achilles jerks are unaffected.

Though lumbar puncture was never done in this case, which did not come under my observation until two and a half years after the onset of symptoms, I have no doubt that spontaneous haematorrhachis was the cause, and that lumbar puncture would have shown free blood in the cerebro-spinal fluid in the first few days, and that subsequently the fluid would have been yellow-stained, probably for months.

SIMPLE GOITRE.

BY

ROBERT McCARRISON, M.D., D.Sc., LL.D., F.R.C.P.,

LIEUT.-COLONEL I.M.S.,

IN CHARGE OF THE DEFICIENCY DISEASES INQUIRY, INDIAN RESEARCH FUND ASSOCIATION.

IT may be useful at a time when the prevalence of simple goitre in this country is attracting attention to outline our present knowledge with regard to its causation. I include in the term "simple goitre" those sporadic or endemic cases often encountered in towns and country districts in England. Simple goitre is a deficiency disease due to an insufficient supply of iodine for the needs of the thyroid gland, or more properly for the needs of the body cells in the form of the gland's iodine-containing hormone. Two facts may be stated in proof of this definition: (1) Thyroid hyperplasia is readily produced by the use of diets deficient in iodine; (2) iodine in minute doses will prevent and cure goitre when administered at the proper time and season. But while theoretically goitre can, and sometimes does, arise in consequence of a deficient supply of iodine in the food, it arises more commonly in spite of the fact that there is present in the food a sufficiency of iodine. There is abundant proof of this statement; it will suffice, however, to mention in this connexion the results of one fundamental experiment. If animals be confined in dirty cages they will develop goitre spontaneously, the size of the goitre being dependent on the season of the year and the duration of exposure to the unhygienic conditions. If, however, they be confined in scrupulously clean cages of the same dimensions goitre will not arise. Since the food supply, and therefore the iodine supply, was the same in both cases, it follows that there are factors provided by unhygienic conditions of life, as in dirty animal cages, which render the available iodine in the food insufficient for the needs of the body in these particular circumstances. A sufficiency may become an insufficiency in the presence of such unhygienic conditions. Further, if an additional supply of iodine be provided, or cod-liver oil be administered, goitre will not develop in animals confined in dirty cages. This action of unhygienic conditions of life calls to mind the effect of want of sunlight in favouring the development of rickets when animals are fed on a diet deficient in vitamin A, calcium and phosphorus. The parallel must not, however, be pressed too far, for the mode of operation of the two factors—dirt and want of sunlight—differs; the parallelism is mentioned to emphasize the importance of such general hygienic conditions of life as cleanly surroundings and sunlight in the maintenance of health, an importance which is apt to be minimized in our search for more specific excitants of disease.

This effect of iodine in preventing enlargement of the thyroid gland (goitre) is to some extent exhibited also by free chlorine, although I am not yet certain how far this halogen prevents thyroid hyperplasia. So far as my experiments go they agree in their results with those of Marine, who found that iodine prevents both thyroid hyperplasia and goitre; but while chlorine has in some recent experiments prevented thyroid enlargement, it has not always prevented thyroid hyperplasia without enlargement. Two of the facts proved regarding the production of simple goitre may therefore be stated as follows: (1) That it may arise from an insufficient supply of iodine; and (2) that under unhygienic conditions of life, as represented by dirty animal cages, an additional supply of iodine is—in certain cases especially—

required for the needs of the thyroid gland; failing this additional supply goitre is prone to develop.

Previous work has demonstrated the importance of gastro-intestinal infection (in which may be included infection of the mouth, nose, tonsils, etc.) as a goitre-producing influence. The truth of this is now generally admitted. It is therefore reasonable to conclude that goitre develops in animals confined in dirty cages because their food becomes contaminated by their own excreta. Some animals are more susceptible than others to gastro-intestinal infection carried in this way: hence the individual idiosyncrasy both to goitre and to the size of the goitre that is so apparent in such an experiment. It would seem, then, that the second fact above referred to might be restated thus: Under unhygienic conditions of life, as represented by dirty animal cages or by bacteriological impurity of the alimentary tract, an additional supply of iodine is required for the needs of the thyroid gland—or more properly this additional supply is required in order that the gland may secure a sufficiency for its needs. If it does not secure this sufficiency it hypertrophies. It is unnecessary here to go over old ground [1] dealing with the experimental production of goitre in man and animals, and with the production of its congenital manifestations in animals by faecal material or faecal bacteria, or with the curative action of intestinal antiseptics in recent goitres. What I wish to point out here is that there is nothing in the newer work which does not dovetail into the older, although it may involve some reconstruction of ideas and a wider outlook regarding the combination of causes which gives rise to goitre. Before outlining these causes the most recently discovered fact may be referred to—namely, that excess of fat favours the development of goitre. Briefly expressed, this excess involves an additional strain on the resources of the thyroid gland, and may in consequence be a determining factor in goitre production. Its effect is more marked in some cases than in others, and is more apt to manifest itself in the presence of unhygienic conditions, such as are provided by dirty animal cages or pens, and by an unhygienic alimentary tract. Here, too, the fat excess increases the needs of the thyroid for iodine, and the goitre-producing influence of fat excess can be counteracted by increasing the available iodine in the food.

It is obvious, therefore, that the factors which give rise to goitre centre round the supply of iodine and the needs of the thyroid gland for iodine. Now this supply of iodine is dependent on a multiplicity of factors both extrinsic and intrinsic to the body. It is dependent on the iodine content of the food and water; and this in its turn is dependent on altitude, distance from the sea-coast, and the iodine content of the soil from which both vegetable foods and water derive their iodine supply. Again, the supply of iodine to the thyroid gland, and of the gland's iodine-containing secretion to the body cells, is dependent upon the adequate absorption and assimilation of iodine; this in its turn is influenced by factors such as disordered function of the gastro-intestinal tract and bacterial intervention in the digestive tube, both of which may interfere with the adequate absorption and assimilation of iodine. On the other hand, the needs of the thyroid for iodine are dependent on the needs of the body cells for the active iodine-containing principle of the gland, and these in their turn are dependent upon a multiplicity of factors such as food balance (excess of fats, for example, increasing these needs), metabolic variations, age, sex, puberty, sexual activity, pregnancy, menstruation, infections, and season. There is further to be considered the capacity of the thyroid gland to utilize iodine and efficiently to manufacture its hormone; here are involved such factors as heredity and excessive stimulation of the gland, which may be induced by nervous, toxic, or infectious influences, and impairment of its function, which may be induced by hereditary influences or by toxic or microbic agents, the two last being frequently of gastro-intestinal origin.

These, then, are the chief known factors—physiological, nutritional, metabolic, toxic, infectious, and nervous—which in varying combinations may cause goitre. So it comes about that while theoretically goitre may arise in consequence of actual deficiency of iodine in the food, it is much more likely to arise, and usually does arise, when a number of factors combine to render the available iodine in the food relatively insufficient for the needs of the body under the condition of life in which it finds itself. While, therefore, simple goitre is due theoretically to insufficiency of iodine, it is due in practice to a combination of factors which together bring about this insufficiency.

It is this combination of factors—a combination which may vary within wide limits in different individuals, at different seasons, and in different localities—that constitutes the true cause of goitre in any individual or locality. Indeed, while in one locality a given grouping of factors may serve to induce goitre in a considerable proportion of individuals of the same age, sex, and race, comparatively slight variations in this grouping may suffice to cause notable variations in the incidence of the malady, or lead only to its sporadic occurrence in another locality. Long familiarity with the experimental conditions under which goitre arises has taught me how subject to variation is the combination of factors that may be concerned in the production of goitre, and how different the results may be when variation has occurred in such factors as race, locality, season, climate, and hygienic conditions of life. It is often a matter of extreme difficulty to ensure in subsequent experiments precisely the same conditions as prevailed in previous ones. The fact that the experiments are carried out at different seasons of the year or in a different place, or that in one experiment the animal cages are more scrupulously cleansed than in another, at once introduces variations in causal conditions the influence of which may be paramount. The most we can do, therefore, in regard to the discovery of the cause of goitre, or, indeed, of any deficiency disease, is to determine the combination of conditions under which it arises in the particular individual or locality with which we are dealing. It is by a knowledge of these conditions and of their relative importance, by the rectification of all of them, and by refusing to confine attention to any one of them, that we may hope to prevent and cure goitre.

I have been prompted to write this brief outline of our present knowledge of the causes of goitre because this knowledge is now sufficiently definite to enable us to prevent and to cure the condition. It is pre-eminently one which need not exist in this country if such knowledge of its causation and of its prevention as we already possess be but applied. A single example in this connexion will suffice. In 1913 I demonstrated that the goitre prevalent in a large European school in India was associated with great bacteriological impurity of the water supply. So prevalent was it that 65 per cent. of girls and 45 per cent. of boys above the age of 16 years were goitrous, and a residence of seven or eight years in this school sufficed to cause goitre in 80 per cent. of the pupils. Measures directed to the purification of the water (first by iodine and later by chlorine) reduced the incidence of the disease by 50 per cent. in a period of six and a half months, and the subsequent introduction of a bacteriologically pure water supply has resulted in its complete disappearance. The prevention of goitre is a matter of attention to food and water supply, to individual and to general hygienic conditions of life, and to the varying needs of the body for iodine.

In this outline of the causes of goitre no attempt has been made to go into detail, my object being to provide a concise sketch of the present state of knowledge regarding its etiology.

REFERENCE.

[1] McCarrison: *The Thyroid Gland in Health and Disease*, London, 1917.

DETACHMENT OF THE RETINA, PROBABLY DUE TO EXPOSURE TO LIGHT DURING AN ECLIPSE.

BY

N. BISHOP HARMAN, M.B., B.CH.CANTAB., F.R.C.S.,

SENIOR OPHTHALMIC SURGEON, WEST LONDON HOSPITAL;

AND

PETER MACDONALD, M.D.ABERD.,

OPHTHALMIC SURGEON, YORK COUNTY HOSPITAL.

THERE is perhaps no eclipse of the sun without its quota of damaged eyes. Cases of injury of the usual type were seen after the eclipse of April of last year, despite the many warnings that appeared in the newspapers of the dangers of observation with the unprotected eye. Dr. Oliver Lodge described a case in the JOURNAL of May 14th, 1921 (p. 701), and cases of a similar nature were related in subsequent issues (May 21st, p. 756, and June 4th, p. 837) by Dr. G. Maxted and Mr. H. W. Archer-Hall. An unusual case in which detachment of retina of one eye occurred certainly as a sequel and probably as the direct effect of the eclipse exposure has been seen by us, and it appears of sufficient interest and rarity to merit record.

The patient is a professional man, aged 54, who was in the north during the eclipse, and was seen by one of us (P. M.) on April 13th. The eclipse of the sun (annular) occurred on April 8th. He gave a history which is set out below from notes by N. B. H., on whom the chief share in the care of the case devolved.

Notes made on April 13th (P. M.) show that: Vision right eye was perception of light in the upper part (less than half of field). Vision left eye was 6/6 with a small degree of hypermetropia, about 0.5 D. The right eye showed a very extensive detachment of the retina, involving the whole of the upper half of the eye, and the detachment ballooned downwards so as to obscure the disc and macula, which could not be seen. The vessels running downwards from the disc could be seen from a point which was estimated as being about one disc's breadth below the disc.

The point of greatest interest was the relationship between the patient's looking at the eclipse and the onset of the ocular trouble. He himself quite definitely assigned his looking at the sun as the origin of his visual defect. On first thoughts this view was not regarded with favour (P. M.), but on reconsideration of his history of the onset of the disease in this case; of the fact that the etiology of detachment of the retina is not established; that a violent stimulation of the retina is known to be able to cause damage to the nerve elements of the retina; that it is not unreasonable to regard such violent stimulation as competent to set up an exudation behind the retina; that in this case there was a history of such definite violent stimulation; that exposure to light sets up exudation elsewhere—for example, blistering in sunburn—we decided that we were justified in publishing the case as one of retinal detachment due to excessive exposure to sunlight during an eclipse. Since the patient's home was in London and he desired to return thither he was referred to N. B. H. for further observation and treatment.

When seen on April 15th he stated that he viewed the eclipse with the right eye through a piece of cinematograph film, and also through a tunnel formed by his hand. Half an hour after exposure he saw sparks in the eye; the sensation was worse on the next day. Three days later he noticed that part of the sight of the right eye was obscured; the defect appeared at first downwards and then to the right side. It rapidly got worse. He stated that his eyes had always been good, but that he had an impression that the right eye was always a little less keen of sight than the left. He had seen spots in both eyes some six months ago, but the appearance was only temporary.

Left eye: Vision 6/9, hypermetropia 0.5 D = 6/6 all; Jaeger 1 with additional 2 D. Right eye: Superfices normal, pupil slightly smaller than that of left eye; reacts to light. Fundus reflex dull. Examination showed a huge detachment of the retina as described above, but even of greater extent, for now only a narrow band of the normal lower part of the fundus could be seen. A very few fine vitreous opacities were visible. The patient was in an extremely jumpy and nervous state; he wife said he was always so.

Taking the statement of the association of the eclipse exposure with the incidence of the detachment of the retina at its face value, it seems that there was a probability of some damage to the macular region which alone would be sufficient seriously to injure vision. It therefore did not appear advisable to attempt to relieve the detachment by operation; another consideration supporting this decision was the experience (N. B. H.) that operations do not secure better end-results than the simpler treatment by rest; and, finally, the neurotic temperament of the patient and his strong aversion to operation were conclusive against it. The treatment adopted was: confinement to bed—he was not allowed up even for the natural offices; low diet, mainly slop food; elastic bandage to the one eye; blisters to the right temple on alternate nights; and a potassium iodide mixture.

April 28th. The patient says he sees more of things with the eye. The view of the normal lower part of the fundus is wider, but there is no view of disc or macula. Treatment continued.

May 12th. The great mass of the detachment has gone back, there are only patches of rugous retina, up and to the left, up and to the right, and in the macular region. The vitreous is slightly foggy. It is possible to see all the details of the disc and to trace every vessel therefrom in continuity.

May 26th. The patient says that the eye seems better. Vision 3/60. The vitreous is full of fine dust-like opacities. The retina is not quite so flat as on the last examination; there is a bulge up and outwards. Patient has come to the limit of his toleration of confinement to bed. Short walks allowed out of doors. Fuller diet given. Eye still to be bandaged. All other treatment stopped.

June 11th. A shallow detachment of about 4 D up and outwards, and some wrinkling inwards. In the macular region is a small white opaque elevation (the size of the disc) with a dark shadow under the summit; this appearance may be either due to a dimple or pigment—parallax suggests the former. Radiating outwards from the little hillock are a number of striding edges or folds which spread upwards into the shallow detachment. Disc seen clearly. Vitreous haze much less. Vision 2/60; the wall of the room is seen clearly in all its parts; there is no sense of deficiency; forms are regular. Bright light dazzles him.

June 28th. The small elevation in the macular region is of less size, and there are fine glistening lines radiating out from it; the striding edges that pass outwards to the remains of the detachment are sharper. Vitreous clear. Vision 1/60. Patient allowed to return to work three days a week.

August 31st. Conditions unchanged, patient working four days a week. "Eye does not bother him, but he does not see so well with it."

November. Report received to same effect.

The sequence of events may be fairly summarized as follows: 1. Severe damage to the macula consequent on exposure to sunlight. 2. A succeeding infiltration of the macular region. 3. Extension of the exudate in such quantity as to cause a gross detachment of the retina. 4. Absorption of the greater quantity of the fluid during the weeks of rest. 5. Exposure of the initial area of damage in the macula. 6. Onset of scarring in the macular region.

It is probably fortunate that operation was decided against. Had operation been performed no benefit could have accrued to the patient, since subsequent events proved that the macula was practically destroyed. It is even possible that, had operation been performed, it might have been held to be responsible for the macular injury; in any case, there would have been no certainty that the eclipse was alone to blame for this.

There are good grounds for believing that the majority of detachments succeed some injury or tear of the retina. In this case there was no such injury, unless it can be held that the damage to the macula consequent on the exposure constitutes a point of permeable tissue. It is much more likely that the accumulation of fluid behind the retina was an inflammatory collection—a suggestion to some extent supported by the gradual onset of the cloudiness of the vitreous some time after the detachment reached its full measure.

A METHOD OF PREVENTING PUERPERAL INFECTION.*

BY F. H. WHYTE, M.B.,

LATE EXTERN ASSISTANT, COOMBE HOSPITAL, DUBLIN.

IN making a vaginal examination or putting the hand into the uterus abnormal ascent is substituted for the natural descent, with great risk of carrying up infection. The frequency with which these apparently trivial and necessary proceedings either kill, sterilize, or are the cause of chronic invalidism is one of the worst features of obstetrics. Autogenous infections are rare, and cases arising from germs lying in the lower genital tract being pushed up by previously sterile gloved fingers are not autogenous. That the vulva and vagina (particularly its lower part) are septic towards the end of pregnancy is an undisputed fact. As a rule, the lower down in the tract the more numerous, mixed, and virulent

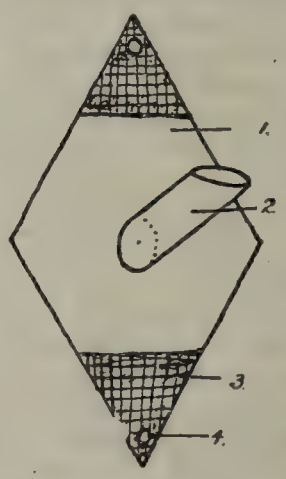


FIG. 1.

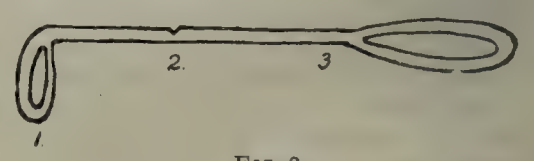


FIG. 2.

FIG. 1.—Digital funnel. 1, A diamond-shaped piece of tough white rubber 9 inches long and 5 inches wide, to cover pubis, perineum, and sides of thighs. 2, Tube part of funnel. Diameter of tube 1½ inches. Length of upper border 3 inches, lower border 3¾ inches, so that free end is cut like a Fergusson's speculum. 3, Canvas covering to strengthen angles of funnel. 4, Eye for threading tape. The manual funnel is the same except that the tube part has an oval section; its vertical diameter is 3½ inches and its transverse is 2½ inches, to admit the hand. The upper border of tube is 4 inches long and its lower is 5 inches. The width of its diamond-shaped portion is 7 inches.

FIG. 2.—Repositor for digital funnel. 1, Eye through which the tube is threaded. 2, Mark, 2½ inches from eye. 3, Handle. The instrument is made from round steel about the size of No. 7 catheter. The larger repositor for manual funnel is similar, but the eye is bigger to receive the larger tube, and the mark is 3½ inches from the eye.

do the germs become. Bacteria are common also in the urine, and the germs in the bladder may frequently cause no symptoms there, but if they reach the injured uterus their behaviour may be very different. The proximity of the

* This article was received by the Editor on November 14th, 1921.

anus to the birth canal is a source of danger also. Unfortunately the vulva and vagina cannot be sterilized. The *ante-partum* douche is, even in cases with obvious vaginal discharge, considered dangerous.

The severity of an attack of puerperal infection depends on the resistance of the patient, the time of infection, the site of the wound infected, the extent of the wound, the virulence of germs present, their number and variety (giving an opportunity for dangerous hetero-infections and symbioses to develop). Anything which influences any of these factors favourably for the patient will considerably alter the course of an attack of infection. The danger of vaginal examination is due to the fact that germs are lifted as the fingers touch the vulva and vagina and are carried higher up the genital tract, some being deposited on the cervix. The space between the fingers makes an excellent receptacle for carrying up the highly infected mucus and epithelium from below. In putting the hand into the vagina, folds in the skin of the vulva and mucous membrane of the vagina are opened up and septic epithelium and mucus are forcibly rubbed on the gloved hand. Even the anus and external urinary meatus may be so invaginated that the lower and upper borders of the hand are infected from these sources also. These are factors which assist in making the removal of adherent placentae the most dangerous proceeding of obstetrics.

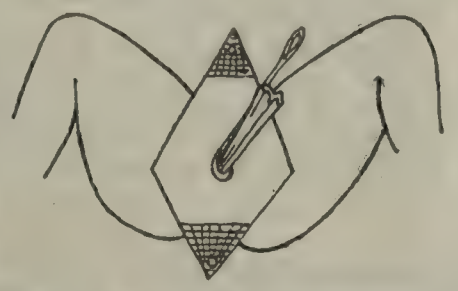


FIG. 3.—The funnel and repositor in position for introduction to vagina. The angles of the funnel are held against the resistance of invagination of first portion, and then they are turned towards the patient as in Fig. 4.

The method I wish to explain depends on the fact that the germs present and unsterilizable on the walls of the lower genital tract and neighbourhood may be passed over and not pushed higher up when making a vaginal examination or introducing the hand into the uterus. The articles required are two funnels and a repositor as in the accompanying sketches.

The smaller funnel for vaginal examination is used as follows, no upward friction between it and the vagina taking place during its insertion. The boiled funnel is smeared with sterile vaseline or sterile soap solution on the surface towards which the tube part lies, or merely on the outer side of the tube. The tube is threaded into the eye of the repositor, as seen in Fig. 3. (The eye of the repositor is such that it is almost filled by the tube.) The funnel is then placed directly opposite the vulva, the labia are separated a little if the patient is a primipara, and the tube is made to enter the vagina as an intussusception by pushing the repositor downwards and backwards into the vagina. (See Figs. 3 and 4.) By this means, as any part of the funnel comes in contact with the genital tract it remains at that level, and therefore does not move any germs present in an upward direction but only turns them aside.

The repositor is only pushed down the vagina (between the entering and returning layers of funnel) for a distance of 2½ in. or up to the mark on the back of the repositor. This is done so that the repositor may not catch on the upper end of the tube when being removed.

The repositor is removed and the examination is carried out through the tube, the fingers placing the upper portion of the funnel against the vaginal walls and arriving at the cervix without contact with the highly infected lower genital tract. The manual funnel is used in a similar way, but the hand itself is the repositor and is carried straight up into the uterus. If the outlet is not dilated up a larger repositor may be used. For version or incomplete abortions difficulty would be expected in repositing the manual funnel with the hand itself.

On removing the funnel the vagina is cleaner than when the funnel entered, and few of the germs are at a lower level, as some of them come away and others are drawn down a little as the tube is removed. By the use of the digital or manual funnel the fingers or hand obviously reach the cervix without contact with infection. To prove that the intussusception of the funnel does not carry up infection I carried out the following experiment on a female dissecting-room subject. Powdered starch was placed on the vulva and lower inch of the vagina. The digital funnel was inserted as described. The upper end was then caught with bullet forceps and the tube taken out again as it entered (care being taken with one finger in the tube that no slipping of the part in contact with the vagina took place). The funnel was now reversed once more, so that the part in contact with the starch was outermost again. A series of matches were dipped in tincture of iodine and the tube was touched at various spots, when it was seen that the blue reaction was only obtained at and below the level to which the starch was placed in the vagina.

I was fortunate enough to have Dr. MacLaverty's permission to try it in the Coombe Hospital, Dublin, where Dr. Keelan, the assistant master there, kindly took the matter in hand. The first patient we examined was in the gynaecology side. We found that the small funnel could be inserted without difficulty or annoyance to the patient, and the examination of her pelvis was quite easily conducted through the tube. Since then Dr. Keelan has tried it repeatedly in gynaecological, maternity, and abortion cases. He tells me that he found it applicable, easily worked, and sound in principle; its introduction was not resented by the patients, and examination through the tube was quite easily conducted.

Occasion has so far not arisen in which to use the manual funnel, so it is with some reluctance that I publish this method without having tried what may be the best part of the idea; but by the advice of others who have seen it and foresee its useful possibilities I am doing so now. The types of cases in which the funnels may be used are many and varied.

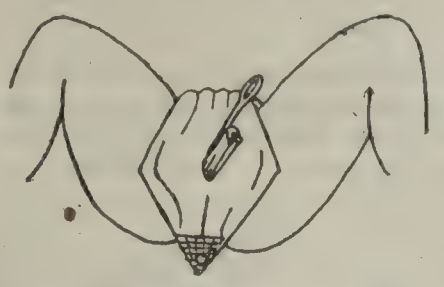


FIG. 4.—Small funnel half introduced. On removing the repositor it is necessary to introduce a finger to keep the tube in position.

The small funnel would be suitable for (1) the ordinary *ante-partum* vaginal examination. (If repeated examination is probably necessary in watching the progress of labour, a bandage may be tied above the trochanters and the funnel retained in position by tapes fastened to the bandage. A sterile cloth is tucked over the funnel, and so repeated examinations may be made without a summation of risk.) (2) The examination and treatment of early abortions. (3) A douche may be safely introduced through the tube in treating *post-partum* haemorrhage.

The large funnel may be used in (1) internal version; (2) rotation of occipito-posterior or mento-posterior presentations, the alteration of brows, etc.; (3) the removal of adherent placentae; (4) the exploration of the uterus in *post-partum* haemorrhage; (5) plugging the uterus for *post-partum* haemorrhage.

A funnel, in fact, may be used in most of the abnormal derangements of pregnancy where a finger, hand, or instrument is to be introduced into the vagina or uterus. Large instruments, as forceps, are an exception, particularly low forceps.

My apology for publishing a comparatively untried method of preventing puerperal infection is the frequency of that condition, and the hope that anyone who may chance to think the method advantageous to his patients may adopt it at once. The length of the tube portions of the small funnel (in particular) may, of course, be cut shorter to suit the length of the fingers of any hand. Messrs. Mayer and Phelps have made very suitable apparatus for my purpose.

VALENTINE MOTT'S ANEURYSM NEEDLE FOR LIGATURE OF THE INNOMINATE AND SUBCLAVIAN ARTERIES.

BY

ALBAN H. G. DORAN, F.R.C.S.,

CONSULTING SURGEON TO THE SAMARITAN FREE HOSPITAL.

My attention has recently been directed to Sir Charles Ballance's four cases of ligature of the innominate artery published in the JOURNAL last December (vol. ii, 1921, p. 1033). I am at present engaged in the preparation of a descriptive catalogue of the collection of instruments in the Museum of the Royal College of Surgeons of England, and only a few weeks ago I came across a neat little wooden case, measuring over seven inches in length, over an inch in breadth, and under three-quarters of an inch in depth. It is covered with bright red leather, its interior is lined with dark purple velvet, and the inner surface of the lid with light purple silk, padded. The lid is united to the case by the leather covering, without any metal hinge, and is closed with two hooks and eyes, one near each end of the case.

The two instruments described below are fitted accurately into "shapes," while a space at one end of the case, covered in by a lid made out of the velvet lining, is set apart for some waxed flaxen ligature thread wound round a piece of card. Mott, in his notes in Velpeau's work, states that in these operations on the great arteries he preferred "the small

strong ligatures of silk or flax." The ligature employed in his operation on the innominate artery in 1818 was silk. *Raw* silk and catgut, Mott adds, proved less satisfactory.

On the outside of the lid of the case is the following inscription, in Gothic letters, gilt:

Dr. Mott to Bransby B. Cooper.

The dealer's name and address, gilt, but in roman type, is marked on the case, below its line of closure with the lid:

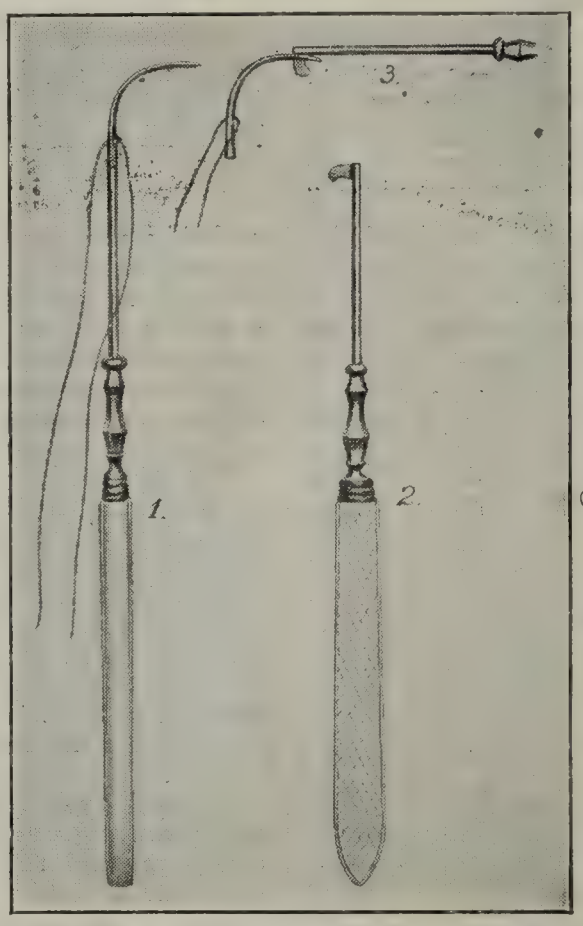
W. L. CARTER, COUTELIER DE LA MARINE ROYALE, PLACE DE L'ODÉON, 4, PARIS."

The MS. catalogue of this collection describes the instruments in question as "Mott's apparatus for ligaturing the subclavian artery, given by Professor Mott to Bransby Cooper, by whom it was presented to the donor." Then follows the donor's name and date of presentation: "J. Birkett, Esq., 1904." No further notes are preserved.

The two instruments in the case are a special mounted aneurysm needle and what Mott calls "the American aneurysm hook."

1. *The Mounted Aneurysm Needle.*— Its total length is 6⅛ in. or 15.5 cm. The metal part to the bend, quite straight, is 3⅛ in. or 7.9 cm., and the curved portion, measured by the curve, 1 in. or 2.54 cm. The stem is inserted with a highly ornamental flange into an ivory handle, chequered on its upper and lower surfaces, and rounded off into a blunt point at its free end. This needle is moderately stout and well curved at the end, where it is blunt. At about 1/8 in. or 0.3 cm. from the end lies the eye for the hooked blade, a slit about 3/16 in. or 0.4 cm. long. A second eye, made for the ligature, somewhat smaller than the other, lies in the stem just below the bend, and about a quarter of an inch (0.6 cm.) lower it unscrews from the rest of the stem. The screw is so finely fashioned that the junction is easily overlooked; on that account it is intentionally made more visible in Fig. 1.

2. *The American Aneurysm Hook or Hooked Blade.* — This instrument measures altogether 5⅜ in. or 14.6 cm. The metal part is 2⅜ in. or about 6 cm. long. The length of the blade is 3/16 in. or 0.4 cm., the depth 1/8 in. or 0.3 cm. The stem and the ivory needle are similar in pattern to the corresponding parts in the aneurysm needle. A small, flat, blunt, hooked blade projects at a right angle from under the free end of the stem, and is fashioned out of the same metal.



VALENTINE MOTT'S INSTRUMENTS FOR LIGATURE OF THE INNOMINATE AND SUBCLAVIAN ARTERIES.

FIG. 1.—The mounted aneurysm needle. The ligature lies in the lower eye of the needle, just beyond the point where it unscrews from the stem.

FIG. 2.—The "American aneurysm hook" or hooked blade.

FIG. 3.—The hook inserted into the upper eye of the needle, which is unscrewed from its stem so that it can be drawn up by the hook, leaving the ligature under the artery.

Valentine Mott, in his translation of Velpeau's *New Elements of Operative Surgery* (New York, 1851), vol. ii, p. 306, describes how he ligatured the innominate in 1818:

"The artery was denuded and kept free from pleura with the aid of a scalpel; a round silken ligature was then readily passed around it."

At page 311 Mott describes the passage of the ligature:

"With the ligature introduced into the eye of one of the smallest blunt needles, which was nearest the shank of the instrument, I pressed down the cellular substance and pleura with the convex part, and very carefully insinuated it from below upwards under the artery. The point of the needle appearing on the opposite side of the artery, *I introduced the hook into the other eye of it, then, unscrewing the shank, the needle was drawn through with the utmost facility, leaving the ligature underneath the artery.*"

The last sentence, printed here in italics, explains the meaning of the needle detachable from its stem, and the hooked blade. Mott (loc. cit., p. 301) writes: "For passing the ligature we have always used the *American aneurysmal hook*, which we consider the best that has ever been invented." According to a footnote it was devised by Drs. Parish, Hartshorne, and Hewson, of Philadelphia, about the beginning of the nineteenth century.*

These contrivances were found necessary on account of the difficulty of operating on the great arteries before the introduction of anaesthetics. The patient's neck could not be held steady, and the contraction of its muscles gave great trouble to the operator and his assistants. Resection of part of the clavicle or sternum to gain space was never attempted. The ingenious mechanism by which the needle was detached and drawn out with the hook overcame the disadvantages of manipulation of the needle and ligature when a long stem remained undetached.

The case of ligature of the innominate artery ended fatally on the twenty-sixth day, but Mott met later on with great success in operations for the ligature of the subclavian. He published a "Case in which the Right Subclavian Artery was tied just as it passes the Scaleni Muscles for an Aneurysm of the Axilla from a Gunshot Wound" (*New York Journal of Medicine and the Collateral Sciences*, vol. iv, 1845, p. 16); the case is also related in Mott's notes in his translation of Velpeau's standard work. In the original report Mott, it is necessary to bear in mind, states that—

"An aneurysmal needle, armed with a strong silk ligature, was now passed round the vessel, the point of the needle being now directed outwards and backwards, so as to avoid the subclavian vein. The artery being then tied, the edges of the wound were brought together by two interrupted sutures."

No note of this special needle and hook is to be found in the 1845 report, where Mott states that—

"It was the fourth where he had put a ligature around the subclavian artery above the clavicle on the acromial side of the scaleni muscles. All the operations have been attended with success."

However, we may conclude that he held that the use of the special detachable needle and "American aneurysm hook" was a mere matter of detail, well known to his colleagues in the city where the journal containing the report was published, whilst in his additions to Velpeau's work he thought it advisable to give a detailed description of those elegant and ingenious appliances. Again, it seems that Mott presented them to Bransby Cooper as instruments for the ligature of the subclavian. In short, Mott probably used them as a rule, if not always, in such operations on these great arteries.

It is instructive to read the opinion of a great contemporary surgeon, Robert Liston, on ligature needles for large arteries. In the fourth edition of his *Practical Surgery*, issued in 1846, the year following the publication of the case of ligature of the subclavian artery, at page 199, Liston states:

"The simple needle will answer the purpose [of passing a ligature round an artery at the root of the neck], but in case of difficulty arising in consequence of the depth of the wound, it is well to be provided with a very admirable instrument, invented and manufactured by Mr. Weiss for the purpose of surrounding deep arteries by ligatures, *or we may employ the needle used by my friend Dr. Mott*, who was the first to practise this operation. Each is so contrived that the point, after having been felt under the vessel, *can be laid hold of and detached from the stalk of the instrument.* The contrivances by which this is effected are simple and ingenious."

* We think that Valentine Mott, in turn, deserves a second footnote expressing some commendation of that great surgeon for his graceful recognition of other men's work. Hey also had recently made it known that it was Cockell of Pontefract, and not himself, who invented that well-known modification of Paré's and Scultetus's bone-saw which always goes by his name (see Hey's *Practical Observations in Surgery*, 1803, p. 8). The College possesses the set of Hey's saws used by himself at the Leeds General Infirmary. They were presented to the museum by Mr. Edward Atkinson in 1905.

TRICHOTILLOMANIA DUE TO THREADWORMS.

BY

HENRY C. SEMON, M.A., M.D., M.R.C.P.,

PHYSICIAN IN CHARGE OF THE SKIN AND VENEREAL DEPARTMENTS, ROYAL NORTHERN AND HAMPSTEAD GENERAL HOSPITALS; DERMATOLOGIST TO THE MINISTRY OF PENSIONS.

THOUGH the psychic perversion of hair avulsion (auto-epilation) cannot, strictly speaking, be classified amongst diseases of the skin, it is not infrequently referred for treatment to a dermatologist. Hallopeau first described the habit and suggested the name of trichotillomania at a dermatological demonstration in Paris in 1889,[1] and in this country Pernet[2] has twice shown cases at clinical meetings. The literature on the subject is mainly French (Voisin,[3] Féré,[4] Raymond,[5] Dubreuilh and Magne,[6] and Crutchet[7]). A detailed description of the disease, with six cases of his own (seventeen in all), was published by Wolters[8] in 1907, and in this monograph the etiology is very fully discussed.

According to the majority of these authors, the perversion may be associated with epilepsy, general paralysis of the insane, and imbecility, and is fairly frequently observed in asylums and institutions for the demented.

The hair of the moustache and of the eyebrows may be abraded reflexly and epilated, as a result of pruritus, and the habit of tearing the hair occurs also, as is well known, in hysteria, and has been observed in epidemic form in religious revivals and other exalted or depressed conditions of the mind.

So far as I am aware, however, the etiology which undoubtedly produced the "tic" in my patient has not been recognized hitherto. Although certain associated symptoms such as nail-biting, pruritus, convulsions, tumidity of the stomach, etc.—well-known accompaniments of helminthiasis—are described by the French authors enumerated, in some of their cases of trichotillomania the possibility of oxyuris as a common cause for them all does not seem to have occurred to any of them.

Mrs. C. brought her son to me for consultation on February 8th, 1922. He is six years old, and has never had a serious illness, although he looks pale and delicate, and has a coated tongue. Both parents are normal, and there is no history of hereditary disease on either side.



The boy was first noticed to pull out his hair when three years of age, and the habit had become severe enough to produce the considerable disfigurement illustrated by the photograph. The scalp is noticed to be denuded mainly in the left frontal area, and epilation was mostly with the right hand, and at times quite subconscious, so that the child would simultaneously "play with a toy with his left hand and pull out his hair with the right." The habit was not practised during sleep, and there was nothing to suggest that local pruritus in any way disturbed him. Latterly he had been turning his attention to his mother's hair.

The scalp itself appeared to be somewhat deficient in sebaceous secretion, but was not otherwise abnormal or irritated, and the hairs which I epilated (without protest) showed no evidence of dystrophy or other nutritional disturbance.

I was assured that the boy was quite bright mentally, and took a normal interest in his surroundings. Drugs prescribed to "quieten the nerves," and punishment, or threats directed against the continuance of the practice, had all proved unavailing. Inquiry elicited the fact that the appetite was exceedingly capricious, and that threadworms had been noticed in the stools, and treated ineffectively from time to time since the age of eighteen months. The indications were obvious, and the anthelmintic treatment recommended by Still[9] was instituted at once.

On February 22nd the mother reported that the "hair pulling" had ceased. Relapse has not occurred to date (March 25th), the anaemia and appetite are improving, while the risk of reinfection by unhatched ova is being obviated by the continued administration of iron sulphate (Still).

REFERENCES.

[1] Hallopeau: *Ann. de Derm. et de Syph.*, 1889, p 441. [2] Pernet: *Society for the Study of Diseases of Children*, 1904, vol. v; *British Journal of Dermatology*, 1915. [3] Voisin et Darac: Soc. de Péd. de Paris, December, 1909. [4] Féré: *T. chez les paralytiques généraux.* [5] Raymond: Tic d'une femme qui s'épile, *Journ. de Méd. Intern.*, 1902, p. 195. [6] Dubreuilh et Magne: La trichotillomanie, *Journ. de Méd. de Bordeaux*, 1905, p. 449, and in further publications. [7] Crutchet: *Thèse de Paris*, 1905. [8] Wolters: *Med. Klinik*, Nos. 23 and 24, 1907. [9] Goodhart and Still: *Textbook of Diseases of Children*, 1905.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

TREATMENT OF INFLUENZA BY SALICIN.

DURING the recent epidemic of influenza I treated 54 cases by the administration of large doses of salicin—20 grains every hour for twelve hours, and then 20 grains every two hours for the next twelve hours. The ages of these persons ranged between 74 and 16 years. Four when seen had a temperature over 104°. The next day (with one exception, when the temperature was 99°) all the patients were normal or subnormal, and remained so; they were up and about the house the day after. There were no complications or sequelae. Ten had temperatures of over 103°, of whom one the next day was 99.2°; the rest were normal. They ran the same course exactly. Thirteen had temperatures of over 102°, and were well in two days. One of these, however, after going out, developed an attack of follicular tonsillitis, to which he is very subject, and which ran its usual course to complete recovery. Twenty-two had temperatures of over 101°, and 15 over 99°. They all rapidly recovered without any drawback. In no single instance was there any bronchitis or pneumonia, nor was there any mischief left behind. The attack of tonsillitis though *post* can hardly be considered *propter* influenza, as on several previous occasions this person has been treated for that complaint; and he had been out at his work for four days before starting it. These 54 cases follow in direct sequence more than 3,000 others which have been treated since 1891 in the same manner with the same results: no ill effects from the salicin; no complications; no sequelae; no deaths.

E. B. TURNER, F.R.C.S.

GONOCOCCAL SEPTICAEMIA.

THE following case goes to prove that gonococcal septicaemia or pyaemia must occur, otherwise secondary infective involvement of other parts of the body away from the usual point of infection could not take place. In the case described below positive blood cultures were obtained on two occasions and on each a skin rash appeared which it was thought might possibly be associated with this condition.

A man, aged 38, was admitted to the surgical wards at the Paddington Infirmary with acute synovitis of the right knee. A history of gonorrhoea three months previously was supported by the condition of the prostate, which was hard, tender, and nodular; the seminal vesicles were palpable. He ran a temperature of from 102° to 104° F., and appeared more toxic than the local conditions warranted. The knee gradually settled down under treatment.

About two weeks after admission intense pain occurred over the outer side of the right thigh. This pain appeared to be localized to the deep fascia, and an acute metastatic involvement of this structure was considered probable. A few days later venous thrombosis occurred in the superficial femoral vein of the right leg about the middle of the thigh, and the leg became very oedematous. Gentle prostatic massage yielded pus and blood from the posterior urethra, and gonococci were found in the smear; previous examination had been negative. A generalized adenitis throughout the body then occurred. The cervical glands in the anterior triangle of the neck were visibly enlarged, and were very tender on palpation, and a free purulent discharge from the urethra commenced.

Ever since admission the patient's temperature had ranged from 102 to 104°, and about three weeks after admission his general condition was much worse. His pulse rate rose at times to 140, and he had frequent rigors, but neither at this time nor in the subsequent course of the disease was there any clinical evidence of endocarditis. A papular eruption appeared at this stage. It was most marked on the extensor surfaces of the forearms and backs of the hands, and on the legs below the knees; large hyperaemic spots were also present. These eruptions faded away in the course of a few days. The next complication was the sudden onset of severe pain over the localized area in the region of the internal semilunar cartilage of the left knee-joint. There was no fluid in the joint then, but a few hours later the joint was hot, painful, and tender, and was fully distended with fluid. Epididymitis of the testicle followed next day, and the right testicle became similarly involved a few days later.

Another crop of papules then appeared, associated with large hyperaemic spots half an inch in diameter as before. A blood culture at this time gave a pure culture of gonococci, from which a vaccine was prepared. The rash disappeared in about three days, and with its disappearance there was a slight improvement in his general condition. A week later another series of rigors occurred, associated with a high temperature and prostration. Hyperaemic areas and papules appeared on the arms. Blood culture was again positive for gonococci. One papule on the hand formed a pustule, but no growth of organisms was obtained from the pus. During the course of the disease arthritic pains and

slight effusions into practically all the joints of the body took place.

Gradual recovery followed, and the temperature was normal about four months after admission. The patient was discharged to the country about two weeks later, with no disability other than a definite involvement of the prostate gland and seminal vesicles, and considerable oedema of the right leg when up and about. Three months later he reported much improvement in general health, but there was still marked oedema of the right leg, with dilatation of the superficial veins. The prostate and vesicles were in the same condition as on discharge, and he is now undergoing treatment for this.

The case seems to be worth reporting in view of the excellent recovery in spite of the very widespread involvement and septicaemia (in the absence of endocarditis). The existence of gonococci in the blood stream, and the rash, which appeared to correspond in time with the rigors and septicaemia, seem also worthy of note.

I wish to express my indebtedness to Dr. G. P. Richardson, of the Inoculation Department of St. Mary's Hospital, for the bacteriological investigation, and to Dr. Stewart, medical superintendent of Paddington Infirmary, for permission to publish the case.

JAMES A. JENKINS, F.R.C.S.Eng.

Paddington Infirmary, London.

ACUTE DIFFUSE NEPHRITIS IN CHILDREN.

ACUTE diffuse nephritis in children is a comparatively rare disease, and in severe forms the symptoms are often not marked, whilst dropsy is rarely present, so that unless the urine is examined as a routine the condition is very often overlooked. Some cases, in fact, present symptoms not typical of the ordinary symptoms of nephritis, consequently the condition at first is frequently attributed to some other disease. For this reason the recording of the following case may be of some value.

A girl aged 9 was sent to this hospital on July 4th, 1921, as a case of acute appendicitis. She was undoubtedly suffering from abdominal pain, and had vomited several times that day. I noticed, however, that the pain was confined to the "umbilical region," and that there was no distension or rigidity anywhere. No tenderness was felt in the right iliac region on palpating deeply. The patient was in a state of apathy, the temperature was 103° F., the pulse rate 140, the respiration rate 36. Dyspnoea was very marked, but there was no sign of pulmonary disease, and no cyanosis. The absence of dropsy was a feature of the case. No rash was noticeable on the body. The tonsils were not inflamed, and there was no enlargement of the glands round the angle of the jaw. No specimen of urine was obtainable at the time of admission; when the father attended on the following day he stated that a week before admission the child ceased to micturate for thirty-six hours, and then the legs became swollen. On the following day micturition started again, and the swelling in both legs suddenly disappeared, but the child began to be sick every time she took food, and the bowels were very loose. The father was very emphatic that this condition commenced suddenly, and that she had never been ill before.

During the night after admission to hospital the patient vomited several times, and the bowels moved frequently, the stools containing a good deal of mucus. The following morning the temperature fell to 99° and the pulse rate to 120, but no change in the general condition of the patient was noticeable. Alkalis and saline injections were administered, but they were not retained, and the vomiting and diarrhoea continued. It was only on the third day that a specimen of urine could be obtained. It was dark in colour and acid in reaction, with a specific gravity of 1020. Albumin was present, but not in a large quantity; no blood was detected; casts, chiefly hyaline and granular, were detected, also diacetic acid. On the fourth day the temperature became subnormal and the pulse almost imperceptible, and the girl seemed beyond any hope of recovery. On the fifth day the temperature rose to 102°; it became normal next day, and thereafter so continued, whilst the pulse improved. Vomiting did not cease until the tenth day and diarrhoea continued a few days longer. Soon afterwards herpes broke out on both hands and feet, the latter being affected most. The herpes lasted a little over a week, and on its disappearance convalescence became rapid, and she was discharged on August 21st last in a healthy condition. The urine was examined daily during the last few days before her discharge and found normal in colour, reaction, specific gravity, and quantity, without a trace of albumin. Since her discharge she has attended at the hospital several times, and has kept in good health. After the disappearance of the acidosis I relied on epinephrine, as recommended by Borelli in the treatment of this form of nephritis. Epinephrine (1 in 1,000) minims 4, with water to 1 drachm, was given every four hours, and, as can be seen, the result was most satisfactory.

The case presented many peculiar and interesting features: (1) The sudden suppression of urine for thirty-six hours a few days before the girl was brought to hospital. (2) Dropsy, following the suppression of urine, first in one leg and then in both legs. The sudden disappearance of dropsy when patient commenced to micturate again. It is also of interest to note that no sign of dropsy was noticed by her family doctor in the face and hands, as is usually the case. (3) The colitis was the only complication noticed, and its severity was exhausting. (4) The appearance of herpes after convalescence had begun. The case shows the difficulty of coming to a diagnosis in severe forms of acute diffuse nephritis. Two years ago I saw a case of this kind in a girl of 16, in whom the main symptoms were vomiting and pain in the epigastric region; she was sent to hospital as a case of gastric ulcer, but examination of the urine afterwards showed the way towards a correct diagnosis.

A. R. SAMI, M.R.C.S.,
House-Surgeon.

Eccles and Patricroft Hospital, near Manchester.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

NORTH LANCS AND SOUTH WESTMORLAND BRANCH.

A VERY successful meeting of the North Lancs and South Westmorland Branch of the British Medical Association was held on April 5th at the Furness Abbey Hotel, Barrow-in-Furness, presided over by the President, Mr. A. S. BARLING of Lancaster. Dr. ALEXANDER read a short paper entitled, "A plea for earlier diagnosis of glaucoma." He outlined the symptoms of acute and chronic glaucoma, and laid stress on the necessity of quickly deciding whether a case was one of glaucoma, so as to avoid the tragedy of condemning a patient to blindness through neglect or faulty treatment. He stated that this disease constituted 1 per cent. of all eye diseases. The necessity for instillation of eserine and avoidance of atropine was pointed out. The various operative procedures were briefly noted, and the paper was illustrated by a diagram.

Dr. DEAN stated that after twenty-five years' experience he decided in favour of Hubert's small flap operation, even although Elliot's trephining operation was the more popular. He was more and more driven to the conclusion that all operations were palliative, and the ultimate results were bad as regards sight. Dr. RUTHERFORD reminded the meeting of the fact, important to the man in single-handed practice away from help, when confronted with an acute case, that simple puncture of the sclerotic into the vitreous as far back as possible, resulting in the escape of a little vitreous, tided over the emergency by relieving pressure, and could be safely done by anyone. Dr. FAWCITT thought that in all suspicious cases the urine should be examined.

Dr. G. A. JOHNSTON read notes of a case of puerperal eclampsia which he had attended from start to finish, and frequently examined urine before and after confinement without finding any trace of albumin. The patient gave birth to twins, without any difficulty, before the arrival of the doctor, and one of the twins after birth vomited a large quantity of blood but ultimately recovered. The mother for a few days was completely blind, and the blood pressure reached 200 mm. Treatment consisted of bleeding to a pint, and the administration of chloral and bromide after initial hypodermic injections of morphine and atropine. The patient was confined on March 10th, and was now (April 5th) practically well. Dr. Johnston thought the case illustrated the toxaemic origin of puerperal eclampsia, and he thought that the vomiting of blood by the baby was also toxaemic. Dr. MACDONALD thought in a case like this, where there was no albumin, the faulty metabolism was probably of hepatic origin. Dr. CRAIG mentioned a case he had in which repeated examination before and after fits failed to show albumin, and yet once or twice throughout the period the urine boiled nearly solid and rapidly cleared again, so that he thought there might have been albuminuria in Dr. Johnston's case of an evanescent nature.

Dr. REED showed a child, 4 years old, with extraordinary malformation, which was present at birth. The lower limbs were enormous as compared with the rest of the body. The feet were deformed and superdigitation was present. The child moved along the floor in a shuffling, grotesque manner—right foot and left knee alternately pressing against the floor. Dr. Reed considered the condition was due to interference with development of the lymphatic circulation, and therefore akin to elephantiasis. Other interesting cases were shown by Dr. ALLAN, Dr. MILLIGAN, Dr. FAWCITT, and Dr. LIVINGSTON.

Reports of Societies.

RECOVERY IN MENTAL CASES.

AT a meeting of the Section of Psychiatry of the Royal Society of Medicine on April 11th a discussion was opened by the President, Dr. BEDFORD PIERCE, on the subject of "Recovery."

Dr. BEDFORD PIERCE said that the recovery which he had in mind was recovery in the social sense—not the eradication of morbid tendencies, but the restoration of the previous state, enabling the patient to resume his former life. His remarks bore upon 120 cases of recovery which he had observed since 1908, in which year the system of registration of recoveries instituted by the Medico-Psychological Association was started. He divided these cases into five groups:

1. Relapsed cases which appeared to recover, but eventually did badly—21.
2. Cases in which the cause of recovery was obscure—27.
3. Obscure cases in which heredity might have had an important influence—20.
4. Cases in which recovery appeared to have been brought about by the removal of some physical condition—33.
5. Cases in which recovery appeared to depend upon the removal of some mental stress—19.

It was unfortunate, from the medical point of view, that there were so large a number of cases to which no definite reason for recovery could be assigned. In some of these cases—even those with a long history—it was extraordinary how soon convalescence began after transference to new surroundings. The benefit in these cases did not appear to be due to change of climate, food, or any bodily condition, but to new personal relationships and outlook.

Continued residence in the same mental institution was not always beneficial. One lady in the third group recovered with startling suddenness. She had been ill for four months before admission, and rapidly passed into a state of stupor, in which she required to be tube-fed, and rarely spoke to anyone. Then one day she signalized her recovery by remarking to his colleague, "You have your reward." The remark referred to an observation which the doctor had made to the nurse a few days previously when attending the patient, "Well, I suppose we shall have our reward some day." The factor of auto-suggestion as a means of recovery in these cases of stupor carried one only a little way towards the understanding of their nature. It was obvious that this lady, while stuporous, continued to receive impressions, and it seemed unlikely that his colleague's remark had anything to do with her recovery.

His largest group of recoveries (8 men and 25 women) were cases in which there was definite physical disorder. Alcohol, drugs, and sedatives were responsible in 10 of these cases; the puerperium in 8; post-operative troubles in 4; influenza in 4; and in the remainder a variety of causes, including encephalitis lethargica and diabetes.

As an instance of complicating factors he mentioned one case, a woman of 44, admitted in acute confusion, six weeks after the onset of mental symptoms following influenza. The family history was bad, there was chronic financial difficulty, the woman had been addicted to self-abuse, and she had had the responsibility of nursing her parents. Her recovery was slow, but after five months' residence she was discharged, and remained well for ten years, when, following another attack of influenza, she again had mental trouble, and died in acute mania. Here there were at least five causal factors: heredity, bad habits, financial stress, the strain of nursing, and influenza, which last was probably the one of most immediate importance.

As a general rule he never gave sedatives for restlessness or excitement. It was only when the patient began to show objective signs of wear and tear that he gave them a trial. His last group consisted of persons whose recovery seemed to depend upon the removal of mental strain or the making of new mental adjustments. The psychosis in the majority of these cases was maniacal in character. In one case the attack of mania followed the bombardment of West Hartlepool during the war, after the person concerned had rendered quite heroic aid among the wounded; others were due to grief, household worries, and an unhappy marriage. The removal from home and the introduction to a new social environment did much, but a considerable time was necessary for the recovery to take effect. It was always necessary, in working towards recovery, to bear in mind the necessity for combating secondary factors. Even when the cause was psychogenic, such as thwarted instinct, there was probably an induced toxaemia or a disturbance of the balance of the secretions. Recovery from the psychosis was due, at least in part, to the removal of the associated physical disturbance. Psychiatrists must be eclectic in their methods of treatment, and must not identify themselves with any single method. The mechanism of recovery after all was as obscure in the case of measles or herpes as in delirium or melancholia. The statement often made by those who belittled the success of psychotherapy that it lagged behind general medicine was unfair in view of the inherent difficulty of psychological problems.

Sir ROBERT ARMSTRONG-JONES differed from the psychoanalytic definition of insanity which Dr. Pierce had given—namely, as the withdrawal or retreat from an intolerable situation. He said that in every mental case it was impossible for the person to know what he was escaping from or was trying to escape from. As for the percentage of recovery, in his own experience at Claybury, which extented to nearly a quarter of a century, the recoveries were 33 per cent. Some cases recovered after fifteen or twenty years or longer. The proportion of recoveries was noteworthy among cases which had been transferred to Claybury from a private asylum; this meant no reflection upon the private asylum, because the factor at work might simply have been a fresh social adjustment. He thought that cases with heredity were really more recoverable than cases with no hereditary history at all. Many people were discharged from asylums as recovered, and yet for many months, or even years, were quite unfit to manage their own affairs. One of the greatest factors in recovery was undoubtedly auto-suggestion, which was the same thing as had been described by Chalmers, the great divine, as "the expulsive power of a new affection."

Dr. C. HUBERT BOND said that it had lately been resolved by the Board of Control that medical staffs of mental hospitals should supply copies of their recovery registers to the Board in the same way as, for many years past, they had supplied copies of their admission registers. There were about 22 000 admissions annually into institutions for the insane in this country, and the recovery rate was 33 per cent. But that recovery rate was obtained by including all cases, and it was only fair to eliminate certain groups, such as true senile dementias when clearly diagnosable, also congenital cases which were in a state of idiocy or imbecility, though not the milder forms of congenital mental defect, because upon such a condition there was often superimposed an acute psychosis from which the patient recovered and was able to resume his former life. He thought also that it would be fair, in the present state of knowledge, to eliminate cases of general paralysis from this computation; he was a little doubtful as to the elimination of epilepsy. If these forms of mental disorder were eliminated the recovery rate, instead of being 33 per cent., became 49 per cent. Of the cases admitted some 37 per cent., by all the evidence of parallel cases, were recoverable, and yet for some unknown reason did not recover. The fact that these cases did not recover was a reason for closer and more routine methods of inquiry, both on psychogenic lines and in the laboratory.

Dr. STANFORD READ pointed out that what might be regarded as recovery from the social standpoint was not necessarily recovery from the strictly scientific standpoint. Many mental symptoms were physiogenic in origin, but there were others to which it was impossible to assign a physical cause. He could not think that the question of recovery had been properly considered unless the circumstances of the individual illness had been fully ascertained, and he pleaded for a more intensive study of the individual case, especially in its psychopathological details.

Dr. THOMAS BEATON doubted whether the intensive method of the study of the individual case would reveal as much as the previous speaker supposed, for the most one could get from another individual was what he chose to reveal, and there were barriers to the personality in all cases, normal and abnormal. To his mind the course of recovery had two definite stages: (1) Gradual diminution and final cessation of the actual morbid symptoms; (2) a period of what might be called convalescence (though the patient was still ill) in which an adjustment was proceeding, quite below the level of consciousness, a state usually marked by apathy, submissiveness, and lack of initiative. Time played an important part in all mental processes, including those of the normal person; in grief, for instance, there was no remedy but time, which placed the trouble in its true perspective. With regard to the physical or psychical nature of the cause they were all very much in the dark. Rather too much stress was laid upon infections, which could not be an absolute cause. Metabolic disturbances also doubtless played a part. He dwelt upon the good effects of the confusional state as a release from the previous hallucination in which the individual had been continually rationalizing and building

on the false experience. So long as that rationalizing process went on there was little hope of recovery, but when the patient became confused the intelligence was resting, and the prognosis was more favourable. He believed in the value of sedative drugs, and recalled a case in which a man had an acute hallucinatory psychosis, and was so excited owing to his vivid hallucinations that the only way he could be controlled was by giving him a very heavy sedative, with the result that he became quite confused; at the end of a week arrangements were made for his removal, and the sedative was discontinued, whereupon the man came out of his state of confusion perfectly well and able calmly to discuss the situation.

Dr. HUBERT NORMAN dwelt upon the difficulty of making returns as to recoveries in view of the possibility of relapse. He associated himself with the previous speaker in advocating sedatives. If the deeper cell layers—deeper than those disordered—could be put out of action for the time being, it gave the others, where the disorder had occurred, a chance to settle down and recuperate.

Dr. BEDFORD PIERCE, in reply, said that with regard to the origin of mental disorder, when the condition was extremely severe he could not but think that some toxaemia played a part, in addition, of course, to any psychogenic factor. He looked upon sedatives as agents which caused a slowing down of the protoplasmic activity, thereby delaying the process of repair. Sleep induced by sedatives was probably lost time, and it was better to use baths, fresh air, and other similar methods rather than sedative drugs, though he agreed that some of these last seemed to act in a marvellous manner. He was quite convinced that some cases would never recover so long as sedatives were administered. It was the theory of some physicians with whom he had been called into consultation that if the patients could only be got to sleep the maniacal symptoms would disappear. But he believed that sleep induced by sedatives would only retard the process of recovery.

THE LYMPHOIDOCYTE AND THE TÜRK CELL.

AT a meeting of the Pathological Section of the Liverpool Medical Institution held on April 6th, with Dr. HILL ABRAM in the chair, Drs. J. C. MATTHEWS and C. V. PEARSON contributed a paper entitled "The lymphoidocyte and the Türk cell," giving an account of a research which had been suggested by an article which appeared in the *Lancet* (July 19th, 1919, p. 108), in which Knyvett Gordon described the discovery in the blood of cases of subacute bacterial endocarditis, and other diseases, of a cell to which he considered the name "lymphoidocyte" to be applicable. The writers investigated 225 cases of miscellaneous diseases, and failed to find the lymphoidocyte in any except those of leukaemia. Pappenheim's panoptic stain was used. A discussion was given of haematological terms and of staining methods, with the object of proving that the writers were conforming to well-recognized standards in the use of the term "lymphoidocyte." In the course of the research deeply stained basophil cells were occasionally seen in normal and pathological blood, and were considered to conform to that known as the Türk cell. Reasons were given for regarding the Türk cell as a lymphocyte which has undergone metaplasia, probably as a result of some stimulation or irritation. It was found in abnormal numbers in many conditions, in most of which generalized blood infection was present. Analysis of the findings did not suggest that it had any serious prognostic significance.

PREVENTION OF GYNAECOLOGICAL AFFECTIONS.

THE Glasgow Obstetrical and Gynaecological Society met in the Faculty Hall on March 15th, with the President, Dr. J. BALFOUR MARSHALL, in the chair. Dr. W. D. MACFARLANE read a paper on some preventable causes of gynaecological affections. Ever since Semmelweis (the true pioneer of antisepsis in obstetrics) published his work on the cause, concept, and prophylaxis of puerperal fever in 1861 there had been a greater zeal in the prophylactic side of obstetric practice. Much yet remained to be done in the way of eliminating from medical practice the after-results of difficult and complicated labour, or even simple labour. The large proportion of gynaecological ailments result from the accidents, used in the largest sense of the term, of childbirth. The question for discussion that evening was how many of these unfortunate conditions could be prevented.

No young graduate (continued Dr. Macfarlane) thinks or dreams of doing a major surgical operation, and yet here in the realm of obstetrics he is forced by the nature of circumstances to do so. My plea is for a more extended course of clinical obstetrics under teachers of experience. You may say that it is not very easily obtained. I think it is. It is only a question of money: and surely where the matter is one of such importance—namely, a living mother, and very particularly a healthy mother, as well as a living child—the State should be made to take cognizance of the present position, which seems to me to be far from satisfactory. Thus I think a course of clinical instruction, equal at least to that given in medicine and surgery, is an essential if many of the gynaecological affections resulting from labour are to be prevented. Another aspect of this question is worthy of consideration—the establishment of a State, county, or municipal obstetric service. Medical men in general are not over-anxious to have midwifery cases, at least in any great number, and so the practice is coming more and more into the hands of trained midwives. I heartily welcome this change, as it makes all for prevention of gynaecological cases. The chief essentials are that the nurses are well trained in modern surgical principles, and that they are intelligent and have sufficient experience to guide them in asking for medical assistance. I hope at a future meeting to elaborate this question of an obstetric service, which would, in my judgement, be a real service to the patient and relieve a busy practitioner from the worries of midwifery, which often interferes with his other work. Labour is a natural process which requires time, and should not be hurried unless in cases of emergency—certainly not hurried to suit the other necessities of the busy practitioner. Here, as I have already indicated, is a sure means of prophylaxis.

Dr. Macfarlane then discussed some preventable causes. Of these sepsis claimed its many victims, either in the way of mortality or morbidity. In regard to the latter, many cases of minor sepsis were overlooked. The patient might make no complaint at the time, the pulse might be normal, and the morning temperature normal and perhaps the lochia a little heavy. In a few days the patient was supposed to be able to move about and soon begin her work. Going over 400 consecutive cases in his journals, he found the following statements made by the patients voluntarily: "Never well since the birth of first child"; "Ever since my miscarriage I have been ill"; "Ulceration of the womb ever since first baby." On questioning these women the puerperium had apparently been normal, but they had never been well since the full-time birth or the miscarriage. He wondered how often in general practice any attention was paid to the evening temperature—a small rise not being recorded—yet here was the indication of some minor form of sepsis as a rule. Among the 400 cases there were 118 patients who aborted, some several times—as many as twelve or fourteen times; and after excluding the possibility of syphilitic infection or abortion caused by fibroids, the great proportion were associated with laceration of cervix, backward displacement of uterus, or "chronic inflammatory mischief." Most of these cases were in some degree or other, as far as the history could help, infected to a minor degree; they were never well since the miscarriage—pain and menorrhagia being the chief complaints. The young practitioner and the nurse needed to be more careful in dealing with abortion cases. Associated with these minor and unrecognized forms of sepsis the involution of the uterus was interfered with. If the causes of this condition were more carefully searched for—namely, retained pieces of placenta or membrane, blood clot, the non-suckling of the child—and attention paid to the treatment of constitutional disease of the mother or the results of *ante-partum* and *post-partum* haemorrhage, then this condition, which bulked so largely as a cause of so-called inflammation of the womb, and certainly the cause of so many backward displacements of the uterus, would be dealt with efficiently and the gynaecological affections prevented. In the 400 cases there were 77 cases of retroversely flexed uterus in which the cause seemed undoubtedly puerperal. Timely treatment by pessary might have made later operative treatment unnecessary. Pelvic peritonitis and accompanying salpingo-oöphoritis complicated 44 of the 77 retroflexions—an infection either by continuity of the mucous surfaces or by minor degrees of lymphatic sepsis. The untimely and injudicious use of forceps was responsible in many cases for either laceration of the soft parts or overstretching of the tissue, so that they never regained their former tone, and hence prolapsus uteri was favoured, or some perineal laceration was imperfectly repaired, the support to the anterior vaginal wall withdrawn; and this, complicated by overstretching of the pelvic floor, began the whole story of prolapsus uteri. There were some 54 cases of varying degree of prolapse in the 400 cases, which might undoubtedly have been reduced in number by greater care and experience. That 37 severe cases of laceration of the cervix were allowed to go untreated and be associated with repeated abortions and metro-endometrial changes was

further proof of the possibility of preventing weeks or months of illness to the mother. Again, the injudicious use of the curette was responsible for quite a number of acute uterine and pelvic conditions. It seemed to be almost a universal rule to curette when in doubt in gynaecological cases. Due regard was not often enough paid to the asepsis of the vaginal and cervical canal.

An interesting discussion followed, in which the Fellows present joined.

STRICTURE OF NASAL DUCT.

A MEETING of the Irish Ophthalmological Society was held in the Royal Victoria Eye and Ear Hospital, Dublin, on March 23rd. There was a good attendance, with the President, Mr. J. B. STORY, in the chair.

Mr. T. O. GRAHAM opened a discussion on stricture of the nasal duct. He said that to overcome epiphora various operations had been devised which had for their object the short-circuiting of the tears directly into the nose from the lacrymal sac. Toti advocated the transplantation of the outer wall of the sac bearing the entrance of the canaliculi into the outer wall of the nose. This he did by external operation. West, however, conceived the idea of attacking the lacrymal sac from the nasal cavity, thus dispensing with the external skin incision. Mr. Graham had adopted West's method and modified it. The operation was most easily carried out under local anaesthesia.

The area on the outer wall of the nose anterior to the middle turbinal is anaesthetized with the local application of 20 per cent. cocaine and adrenaline, or submucous injection of novocain may be employed. With a septum knife or small scalpel the mucous membrane about half an inch square is removed from this area. The underlying bone is then chiselled away, the window in the bone being enlarged by means of nibbling forceps such as Heymann's. In this way the inner wall of the lacrymal sac is exposed and can be invaginated into the nose by passing a probe through the lower canaliculus into the previously cocainized sac. While the probe thus invaginates the inner wall of the sac a vertical incision is made into its anterior surface with a fine-bladed sharp knife. The inner wall of the sac can then be removed with a conchotome. I find it unnecessary to use the special sharp-toothed tenaculum forceps for catching the sac. This completes the operation. The after-treatment consists in irrigating the sac through the canaliculus and preventing the formation of granulations around the artificial opening in the sac.

The difficulties encountered during the operation were enumerated as follows:

1. Thick bone, particularly a prominent sclerosed nasal process of the superior maxilla.
2. An overlying anterior ethmoidal cell which may be opened up. One finds then that two layers of bone have to be removed in order to reach the sac, which lies at the bottom of a recess in the lateral wall of the nose.
3. An enlarged anterior end of the middle turbinal which may require removal.
4. Haemorrhage during the operation. The operation may have to be completed under the sense of touch, a finger pressing into the lacrymal groove externally acting as a guide.
5. A narrow nose; in order to obtain sufficient space for approaching the sac it may be necessary to do a preliminary submucous resection of the nasal septum.

Mr. Graham had endeavoured to ascertain by observation and inquiry letter the end-results of the thirty intranasal dacryocystostomy operations performed by him during the past three years.

Twenty-two were complete successes. Four had lacrymal sac fistula prior to operations: all healed up after the intranasal drainage of the sac. Four wrote to say that they still had epiphora: two, however, admitted improvement; one said there was now only watering of the eye, and no purulent discharge. Four had not replied to the letters of inquiry; two of these patients were, however, free from trouble on leaving Dublin several weeks after the operation. All these thirty cases had been referred to the speaker for operation by ophthalmic surgeons who had carried out conservative treatment without permanent benefit.

Mr. L. J. CURTIN said his experience was not extensive, but the operation seemed to present some difficulties from the operator's point of view. (1) If the nose were narrow it was difficult to orientate properly owing to the lateral view of the site of operation. (2) Sufficient space was not always available for grasping and cutting instruments to be inserted at the same time. These obstacles could be overcome to some extent by performing a high submucous resection of the septum or by following the transseptal route. After-treatment was all-important, and it must be carried out from six to eight weeks following operation, with an occasional visit up to a later period. Granulations needed removal when they made their appearance.

In the discussion which followed the PRESIDENT, Messrs. WERNER, J. A. CRAIG, SMITH, DWYER, JOYCE, MOONEY, CRAWLEY, and MATTHEWS took part, and Mr. GRAHAM replied.

The following cases were shown by members:

Mr. STORY: Calcareous film of the cornea after sympathetic ophthalmia in 1915. Several cases of mucocele and stricture of the nasal duct; some of hypopyon keratitis under treatment.

Mr. WERNER: Case of tumour of pituitary and basilar process of occipital bone region. Case of skin graft.

Mr. CRAWLEY: Case of epiphora.

Miss MAXWELL: Case of lacrymal gland tumour treated by *x* rays and improving. Case of retinitis proliferans.

Mr. W. C. MACFETRIDGE: Case of post-neuritic atrophy of both optic nerves in a young man, attributed to sand-fly fever.

Reviews.

PUBLIC HEALTH AND GENERAL MEDICINE.

IN his foreword to *Practical Preventive Medicine*[1] Dr. MARK F. BOYD, who is professor of bacteriology and preventive medicine in the medical department of the University of Texas, expresses the opinion that the general practitioner is not using to the full the opportunities he has in the field of preventive medicine and public health. To bring home to medical students and practitioners a realization of their public health responsibilities and stimulate co-operation with public health authorities is therefore one of the purposes of his book. In his endeavour to accomplish this purpose he has produced a work of unusual interest and reliability. The general arrangement differs from that usually adopted by writers of public health textbooks, and rightly so in view of those for whom it is intended, though public health students and public health officers will find in it a great deal of useful and precise information of the utmost value, including bibliographical references at the end of each chapter. More than half the volume is devoted to epidemiology; diseases due to invading micro-organisms are dealt with in a manner which cannot fail to be helpful to the practitioner who is desirous of taking his part in the prevention as well as in the cure of disease. Separate sections are allotted to deficiency diseases, occupational diseases, diseases arising from the puerperal state, and diseases transmitted from parent to offspring.

The final chapter gives a succinct account of the public health administration in the United States. In the central or federal administration there is unquestionably a great deal of overlapping, which Dr. Boyd considers can best be remedied by the creation of a single public health department. In some States, such as New York, Massachusetts, and Minnesota, there is efficient administration, but elsewhere it is said to be manifestly inadequate. Local health administration in many parts of the country appears to be subservient to political organizations, though there are many notable exceptions. Dr. Boyd anticipates improvement in this respect by means of propaganda. He refers over and over again to the importance of educating the public in matters of hygiene and sanitation, and expresses the opinion that the avenues of instruction available are "through the press, the movies, pamphlets and circulars, lectures, special conferences and exhibits, and instruction in secondary schools." The value of this work is materially increased by the inclusion in it of a large number of illustrations and diagrams and by a very complete index to its contents.

PSYCHO-ANALYSIS AND THE FAMILY.

THOUGH Mr. FLÜGEL describes his book on the *Psycho-Analytic Study of the Family*[2] as a compilation, the material he has gathered together is presented in a manner indicative of much personal thought and consideration. The author writes with authority as an orthodox exponent of Freud's teaching, and the volume may be recommended to those who wish to obtain a clear understanding of the principles it is intended to teach. Mr. Flügel devotes some attention to views which diverge from his own, and he appears to concede rather more than some of his colleagues to the post-analytic school, notably in respect to the interpretation of symbols.

[1] *Practical Preventive Medicine.* By Mark F. Boyd, M.D., M.S., C.P.H. Philadelphia and London: W. B. Saunders Company. (Med. 8vo, pp. 352; 135 figures. 20s. net.)

[2] *The Psycho-Analytic Study of the Family.* By J. C. Flügel, B.A., Senior Lecturer in the Department of Philosophy and Psychology, University College, London. London, Vienna, and New York: The International Psycho-Analytical Press. No. 3, The International Psycho-Analytical Library. (Roy. 8vo, pp. 259. 10s. 6d. net.)

The social problem considered in this volume—namely, the influence of parents on the mental development of the child—is one of much importance. This influence is possibly somewhat overemphasized at the present time, and insufficient account is taken of inborn "sensitivity," but this is a fault in the right direction, as it concerns circumstances which are capable of being modified; it must be recognized that Freud has done much to extend and formulate our knowledge of the family situation and to draw attention to its significance in relation to the future reaction of the child. At the same time there is much in the Freudian system which arouses opposition, and to which it appears reasonable to adopt an attitude of scepticism. As an instance may be cited the chapter in this volume dealing with ideas of birth and pre-natal life, where Mr. Flügel not only describes coffins, graves, and vaults as all being symbols of the mother's womb, but seriously discusses, and seems to be attracted towards, the highly speculative theory that birth fantasies may be derived from pre-natal impressions and experiences. While such views may be, and frequently have been, criticized on theoretical grounds, certain opinions expressed in this book we regard quite definitely as biologically unsound and socially undesirable. We refer more particularly to the author's discussion on forbidden marriage relationships. Contrasting exogamous communities with modern civilizations, Mr. Flügel points out that there is a tendency for the number of forbidden relationships to become smaller as culture advances. He cites as an instance the recent removal of the ban upon the marriage with a deceased wife's sister. He then proceeds as follows:

"The same result emerges if we consider the matter . . . from the point of view of . . . an enlightened system of morality. The evidence available shows, for instance, that little if any harm is likely to ensue from the marriage of first cousins, so long as the stock is a healthy one: much the same is probably true as regards the marriage of half-brother and half-sister or even full brother and sister. Our condemnation of such unions is due to influences emanating from the repression of the incest tendencies, and not to any sound appreciation or experience of their ill effects; and in so far as the taboos consequent upon repression give way to more balanced moral judgements based on a real understanding of the issues involved, . . . the disapproval of these unions between near kin will be continued only in so far as real dangers are to be apprehended from them. Among such real dangers there may be found the biological one of the possibility of inferior offspring, especially in the case of families with marked hereditary defects, and the psychological one of too little emancipation from all the family influences, with all the consequences that this may involve. As regards this latter, however, it will have to be recognized that complete emancipation will often be beyond the bounds of possibility, and that it is often advisable to permit some degree of indulgence to overstrung unconscious tendencies, so long as this indulgence is not too persistent or too definitely pathological" (p. 229).

It is most difficult to find any justification for such views. There would seem to be no ground for the contention that a more enlightened system of morality would give social sanction to incestuous relationships. On the contrary, such sanctions would seem to be more suggestive of decadence than of progress in any race or community. From a biological point of view we should have thought that experience on the whole was definitely against inbreeding, and in any case cultured people who exhibited a desire for incestuous relationships would certainly tend to be of the psychopathic type and therefore all the more liable to produce degenerate offspring. That this is so is evidenced from the fact that incestuous fantasies so often find expression in the delusions of dementia praecox. Most sociologists will probably prefer to rely on the wisdom of the ages in regard to these matters rather than on conclusions based upon the study of the unconscious needs of the neurotic.

A MANUAL OF FEVERS.

WE welcome the appearance of the second edition of Dr. CLAUDE KER'S excellent *Manual of Fevers*.[3] The work is divided into fifteen chapters: the first two are introductory, and the rest are devoted to a consideration of the diseases usually met with in fever hospitals—namely, measles, rubella, scarlet fever, small-pox, vaccinia, chicken-pox, typhus, enteric fever, diphtheria, erysipelas, whooping-cough, mumps, and cerebro-spinal fever. An account of other diseases which are only occasionally seen in fever hospitals—namely, influenza, poliomyelitis, and encephalitis lethargica—is omitted. Although the work as a whole is a model of what a textbook intended principally for students should be, there are certain details which call for criticism. In the chapter on vaccinia no note is made of the liability of generalized vaccinia to occur when vaccination is performed on a child suffering from a skin disease, especially eczema. This is a serious omission, for neglect of this precaution has been the cause of a certain number of fatal cases. In the chapter on enteric fever no mention is made of the possibility of laboratory infection, several instances of which have lately been recorded. Dr. Ker recommends that antitoxin should not be given in relapses of diphtheria unless the symptoms are very urgent and severe; as a rule, however, the relapse of diphtheria is mild and can often be cured by local treatment only; we are not aware that alarming results of an anaphylactic nature have followed the administration of small doses of antitoxin, but it is a good rule never to exceed 9,000 units when the patient has been sensitized by a previous prophylactic or therapeutic injection. The half-tone photographs of the eruption of scarlet fever, facing p. 74, and of a serum rash, facing p. 262, might well be replaced by colour plates or omitted, as they have no value as illustrations. In spite of these shortcomings, we have no hesitation in warmly recommending the book to medical students, especially those living in London, who can beguile their long journey to and from the fever hospital by a perusal of its pages.

[3] *A Manual of Fevers*. By C. B. Ker, M.D. Second edition. Oxford Medical Publications. London: H. Frowde, and Hodder and Stoughton. 1922. (Cr. 8vo, pp. x+334; 15 figures, 6 plates. 12s. 6d. net.)

A SHORT TEXTBOOK OF SURGERY.

THE outstanding feature of Mr. MACEWEN'S *Textbook of Surgery*[4] is that it is small enough to be slipped into a student's overcoat pocket. Yet on its six hundred pages there are more than five hundred illustrations. This achievement (remarkable in these days of ponderous tomes and multiple volumes, and no doubt welcome to the student) is attained by the omission of "fractures and dislocations" in their entirety, and by a reduction in size of the illustrations, which nevertheless upon the whole are good; certainly when good they are useful, having been well chosen from an extensive collection.

An author to be brief must be dogmatic, and Mr. Macewen disarms criticism in his preface, though in fact he need not have much uneasiness on this score. Of course it is easy to take exception to certain statements—as, for example, that "chronic appendicitis is generally due to tubercle." Is it so certain either that "young carcinoma cells, like leucocytes, possess the power of slight independent locomotion," or that "*thus*" (our italics) "they infiltrate the surrounding tissues . . ."? On the other hand, the author is sometimes not dogmatic enough. When does intestinal obstruction "threaten"? And surely there should be an incisive statement about the medical man's duty when it is actually established. Such minor blemishes, however, only throw into relief the general excellence of the teaching, the sound and simple arrangement of the matter, the balanced selection of information. The book cannot fail to be popular with students.

CHEMISTRY.

THE fourth editions of Mr. A. W. STEWART'S two books on chemistry, *Recent Advances in Physical and Inorganic Chemistry*[5] and *Recent Advances in Organic Chemistry*,[6] may be warmly recommended to the many readers who take an interest in chemical problems and are anxious to know something of the progress made year by year in chemical science. The author writes very clearly, and his pages make no very great demand on the chemical knowledge of their readers, and are free from mathematical abstractions; the subjects he has chosen for discussion in the two volumes are interesting, though naturally not all of them equally so to everybody. They should be of particular interest to all students of chemistry, for they contain answers to many of the questions likely to be set in examination papers. The author's references to some of the many unsolved problems of chemistry will serve a particularly useful function by

[4] *Textbook of Surgery for Students and Practitioners*. By John A. C. Macewen, M.B., C.M., B.Sc. Glasgow: Maclehose, Jackson, and Co. 1922. (Demy 8vo, pp. 619; 535 figures. 30s. net.)

[5] *Recent Advances in Physical and Inorganic Chemistry*. By A. W. Stewart, D.Sc.; with an introduction by Sir W. Ramsay, K.C.B., F.R.S. Fourth edition. London and New York: Longmans, Green, and Co. (Demy 8vo, pp. 302; 5 plates, 23 figures. 18s. net.)

[6] *Recent Advances in Organic Chemistry*. By A. W. Stewart, D.Sc.; with an introduction by J. N. Collie, LL.D., F.R.S. Fourth edition. London and New York: Longmans, Green, and Co. (Demy 8vo, pp. 371, 21s. net.)

indicating directions in which research seems most promising or most required. It is no doubt unfortunate for the purchaser that the prices of the fourth editions of books should be about half as big again as those of the third editions, although no material increase in the number of pages has taken place; but presumably the high prices of labour and materials have left the publishers no choice in the matter.

The second volume of the third edition of Professor LEWIS's *System of Physical Chemistry* deals with *Thermodynamics*,[7] and supplies the advanced student and the teacher of chemical physics with a very thorough account of the subject with which it deals. The treatment throughout is of necessity highly mathematical; the subjects discussed are in the main theoretical, although Professor Lewis incorporates what he can of practical and technological chemistry. The book is admirably turned out by the publishers and should be of great service to mathematically minded chemists.

The first volume of the *Introduction to the Chemistry of Plant Products*,[8] by Dr. HAAS and Mr. HILL, sets out to furnish the botanist with an introduction to the chemistry of botany, and the chemist and chemical physiologist with a knowledge of the substances of chemical interest and importance derived from plants. It is divided into ten sections dealing with the different classes of chemical compounds or agents—fats, carbohydrates, glucosides, tannins, pigments, enzymes, and so forth—met with in the vegetable kingdom. The book contains a deal of information not previously collected together, and should be of service to botanists, physiologists, and chemists alike.

Dr. CUSHMAN's *Chemistry and Civilization*[9] consists of six discursive chapters in which the author, regarding the science from different points of view, endeavours to set out the main facts about it that should appeal to the man in the street. His treatment is largely historical, but besides delving into the past the author looks forward to the future. The book is meant for readers who know nothing of chemistry as well as for those who have a little knowledge of it, and should prove interesting to both parties.

Professor COPAUX's *Introduction to General Chemistry*,[10] translated by Dr. LEFFMANN, is a short and well-written account of the subject meant for intelligent students of chemistry, and not demanding (as do so many such introductions) any great knowledge of mathematics. The metal called glucinum by the French is properly referred to as beryllium in English, a point which may have escaped the translator.

The second and enlarged edition of Mr. KINGZETT's *Popular Chemical Dictionary*[11] may be recommended to the vast class of general readers who want a book in which they can look up the meaning of the chemical terms or names of chemical substances so commonly met with in everyday books and papers. We have nothing but praise for this dictionary, which fills a long-felt want and should help in stimulating the man in the street to take an interest in chemical science and technology. It is well printed, and in general remarkably accurate; the "mustard gas" mentioned on page 221 is more properly called dichlordiethyl sulphide.

The application of the electronic theory of matter to the problems of chemical constitution made in Professor FRY's *Electronic Conception of Valence and the Constitution of Benzene*[12] is a highly interesting study for chemists. The author seeks to establish a new type of structural chemical formula, the "electronic formula"; he adds to the already long list a new structural formula for benzene, C_6H_6, that goes farther in explaining graphically the chemistry of the benzene ring than any of its predecessors. The book should be read by all who are interested in the foundations of chemical science.

[7] *A System of Physical Chemistry.* In three volumes By W. C. McC. Lewis, M.A. R.U.I., D.Sc.Liverp. Vol. II: *Thermodynamics.* Third edition. London: Longmans, Green, and Co. (Demy 8vo, pp. 451; 56 figures. 15s. net.)

[8] *An Introduction to the Chemistry of Plant Products.* By P. Haas, D.Sc., Ph.D., and T. G. Hill, A.R.C.S., F.L.S. Vol. I: *On the Nature and Significance of the Commoner Organic Compounds of Plants.* Third edition. London and New York: Longmans, Green, and Co. (Demy 8vo, pp. 427. 16s. net.)

[9] *Chemistry and Civilization.* By A. S. Cushman, A.M., Ph.D. Edinburgh: E. and S. Livingstone (Demy 8vo, pp. 151; illustrated. 15s. net.)

[10] *Introduction to General Chemistry: An Exposition of the Principles of Modern Chemistry.* By H. Copaux; translated by H. Leffmann, A.M., M.D. Philadelphia: P. Blakiston's Sons and Co. (Cr. 8vo, pp. 201; 30 figures. 2.00 dols. net.)

[11] *The Popular Chemical Dictionary: A Compendious Encyclopaedia.* By C. T. Kingzett, F.I.C., F.C.S. Second edition. London: Baillière, Tindall, and Cox. (Demy 8vo, pp. viii + 539; illustrated. 21s. net.)

[12] *Electronic Conception of Valence and the Constitution of Benzene.* By H. S. Fry, Ph.D. London and New York: Longmans, Green, and Co. (Demy 8vo, pp. 318. 16s. net.)

NOTES ON BOOKS.

THE ninth edition of Professor Dr. MAX JOSEPH's well-known *Lehrbuch der Hautkrankheiten*[13] is smaller than its predecessors. Owing to economic conditions the author states that he has been compelled to reduce its size as much as possible in order to prevent the price being so great as to make it unsaleable. As it is, the price quoted for bound copies for export is M. 130 in Germany, a considerable sum, but at the current rate of exchange a very small fraction of a pound note. Considering the size of the book (only 258 pages of text) it is remarkably complete, and the author claims that all important advances have been included in it. We do not, however, notice any mention of the work lately done on the subject of protein therapy in its possible applications to dermatological problems. This is a promising field of research, and although up to the present no startling developments have taken place, something should have been said about it. The classification adopted is mainly pathological, and is founded on a combination of those of Hebra and Auspitz; it is fairly convenient, but of course, like all other systems, is open to objection. The book is well illustrated in black and white; a large proportion of the figures are of microscopic slides and principally of pathological interest—in fact, the book is strongest on the pathological side. While acknowledging that this is a sound textbook of dermatology, although perhaps too much compressed, there is no reason to recommend it to the British student or practitioner in preference to the several excellent works lately published in his own language.

Readings in Evolution, Genetics, and Eugenics,[14] compiled by Professor NEWMAN of Chicago, is a book of composite authorship in which the attempt is made to give an account of evolutionary biology in all its phases. Many of its chapters are taken from the works of other writers, Professor Newman being responsible for the nexal pages or chapters. It is divided into five parts, of which the first two deal with such subjects as the history and development of our views on organic evolution, and the evidences for its existence as derived from palaeontology, geographical distribution, classification, morphology, and the like. The third part discusses the causal factors of organic evolution, and is naturally mainly concerned with Darwin's work and the modifications of his views that have been approved or suggested. Part four is given to genetics, variation, biometry, and Mendel's laws of heredity; part five to eugenics and euthenics, which may be defined as the sciences of being born well and of learning to live well. The book is well arranged, and Professor Newman is to be congratulated upon the skill with which he has welded his material into a consecutive whole. It is designed for university students of biology and evolution, and has been written to fill a want said to have been long felt in America.

The official report of the Conference held last January between Commissioners of the Board of Control and medical superintendents and chairmen of mental hospitals has been published, as a pamphlet of 120 pages, by H.M. Stationery Office, at the price of 2s. 6d. The purpose of the Conference was to consider in what directions lunacy administration and the treatment of persons suffering from mental disease may be improved. The Conference was convened by Sir Frederick Willis, Chairman of the Board, and opened by Sir Alfred Mond, Minister of Health. An account of the proceedings appeared in our columns at the time.

Dr. JOHN P. TURNER has produced a rather trivial little book entitled *Ringworm and its Successful Treatment*.[15] He claims to be able to cure this obstinate complaint by successive applications of tincture of iodine, oil of cade, ammoniated mercury, and resorcin, in a time varying from a fortnight to thirty weeks. X rays find no place in his system of therapy.

[13] *Lehrbuch der Hautkrankheiten für Ärzte und Studierende.* By Professor Dr. Max Joseph. Ninth edition. Leipzig: G. Thieme. 1922. (Roy. 8vo. pp. 253; 2 plates, 63 figures. M. 130.)

[14] *Readings in Evolution, Genetics, and Eugenics.* By H. H. Newman, Professor of Zoology in the University of Chicago. Chicago, Ill.: The University of Chicago Press. 1921. (Med. 8vo, pp. xviii+523; 101 figures. 3.75 dols.)

[15] *Ringworm and its Successful Treatment.* By John P. Turner, M.D. Philadelphia: F. A. Davis Company. 1921. (Cr. 8vo, pp. 62; 8 figures. 1 dollar net.)

MEDICINAL AND DIETETIC PREPARATIONS.

Diabetic Flour for Bread-making.

WE have received from Messrs. Allen and Hanbury (37, Lombard Street, London, E.C.3) a specimen of a new diabetic flour, which they have prepared in response to certain suggestions made at a discussion on the treatment of diabetes at the Medical Society of London.

In this discussion[1] Dr. E. I. Spriggs pointed out that although the diabetic flours prepared by firms of repute were satisfactory, in that the results of analysis agreed with the manufacturers' claims, nevertheless most of these breads contained an undesirable amount of fat. He recommended a bread made from casein and white of egg, and gave directions for its preparation.

Messrs. Allen and Hanbury have prepared a flour from a mixture of casein and lactalbumin, with the addition of leavening agents—namely, cream of tartar and sodium bicarbonate. This flour, with the addition of white of egg, makes a bread essentially similar to that described by Dr. Spriggs, and the patient is saved the serious inconvenience of preparing casein from skimmed milk in his own home.

The special advantages claimed for the flour are that it contains a vanishingly small amount of carbohydrate and no fat, and that a palatable bread can easily be made from the flour. Analysis shows that the flour contained no fat and not more than 1 per cent. of carbohydrate, which latter consists only of lactose. The protein amounts to 73 per cent. of the whole flour. Two ounces of the diabetic flour mixed with the white of two eggs and baked gave a palatable loaf which possessed good keeping qualities. The preparation and cooking can be performed with ease and require no greater skill than any ordinary culinary operation. The directions on the box state that one packet is to be mixed with three eggs. This mixture gives a satisfactory product on baking, but of course the yolks of the eggs provide a considerable amount of fat. The yolk of a hen's egg contains about 5 grams (75 grains) of fat; if a fat-free bread is desired only the whites of eggs should be used.

The analysis and tests show therefore that the flour is a thoroughly satisfactory diabetic preparation; it should prove of great value to clinicians who are desirous of reducing to a minimum the fat as well as the carbohydrate in the diet of their patients.

THE PHYSIOLOGY OF LIFE ON THE ANDES.

SOME account of the recent expedition to the Andes for the purpose of physiological investigation of life at high altitudes was given at a meeting of the Chelsea Clinical Society on April 11th by Mr. JOSEPH BARCROFT, F.R.S., Reader in Physiology at Cambridge University.

The expedition was arranged originally by the Royal Society, which appointed a committee to supervise it. It was supported financially by the Presbyterian Hospital, New York, Harvard Medical School, the Rockefeller Institute, the University of Toronto, the Carnegie Fund, and the Moray Fund of Edinburgh; it also received substantial subscriptions from Sir Robert Hadfield and Sir Peter Mackie. The expedition was also greatly helped by the facilities afforded by the Peruvian Corporation, Limited, and the Cerro de Pasco Copper Corporation, as well as by the Pacific Steam Navigation Company and the Grace Line.

A Mountain Laboratory.

The members of the expedition, in addition to the leader, Mr. Barcroft, were Professor J. C. Meakins of Edinburgh, Mr. Doggart of Cambridge, Dr. Redfeld and Dr. Forbes of Harvard, Dr. Bock of Massachusetts General Hospital, Dr. Harrop of the Presbyterian Hospital, New York, and Dr. Binger of the Rockefeller Institute. The British contingent sailed on November 17th last to find, on arriving at Callao, the Peruvian port, that the American contingent had already been there a fortnight and had spent the time in preparing a laboratory in the shape of a luggage van 45 ft. in length, excellently adapted to this new use. The Central Railway of Peru attains a height of 15,880 ft., which is about 100 ft. higher than Mont Blanc, so that up to this altitude the party had at its disposal an excellent mobile laboratory, electric light and power, and plenty of water.

[1] BRITISH MEDICAL JOURNAL, 1921, vol. ii, p. 705.

Mr. Barcroft said that the greatest advantage which the Andes presented as a field for high altitude research was the fact that there was a native population living under these alpine conditions. So far as one could judge, the race had lived here for many generations, going back to a time before the occupation not only of the Spaniards but of the Incas. These people lived at a barometric pressure of somewhere about 450 mm. of mercury, or a little over half the normal height. The town of Cerro de Pasco, which was situated at a height of 14,000 ft., was the third largest in Peru, and had been the centre of a mining industry for hundreds of years. In addition to the native population there was another population, consisting of the mining engineers and executive staff of the copper corporation, who offered themselves very willingly as subjects for experiment.

Effects of High Altitude.

The members of the expedition suffered from mountain sickness in varying degrees. None of them slept well; some had short hours of sleep, and others, while sleeping the allotted hours, had fitful and broken rest. At the end of a month all of them were mentally quite exhausted. It was clear, however, from the activities of the mining staff, that a fair amount of mental work could be sustained for long periods at 14,000 ft., but with regard to muscular work there were evident limitations to the effort even of the most acclimatized. In some respects it was surprising how much exercise could be taken. Dancing and lawn tennis were possible so long as the exercise took place on the flat, but on even the gentlest gradient the limitation which the low barometric pressure placed on the powers was obvious. The natives could perform some remarkable feats, even to carrying 100 lb. of ore on the back from a mine 250 ft. deep, but this was only done with frequent pauses, due to the necessity of squaring the oxygen account.

The facial appearance under these conditions underwent considerable change, especially in colour. Many of the natives were sallow, but those who were ruddy had cheeks which were purplish rather than pink. One of the mining engineers had an unusually fresh complexion, but not until the party saw him at sea-level subsequently did they discover that it was pink rather than purple. The actual colour of the arterial blood bore out this observation. If taken from the radial or brachial arteries, without exposure to air, the blood appeared to be venous in character, and was, in point of fact, usually about 85 per cent. saturated with oxygen, or, as the Americans said, 15 per cent. unsaturated. The lips and nails of the visitors were obviously cyanosed on arrival, and this cyanosis, although it decreased, never entirely went away. Another interesting physical sign, which was often seen, though not present in the majority of the natives, was clubbing of the fingers, and several cases were examined in which this condition was found to be unassociated with any cardiac or pulmonary lesions such as might be suspected if the appearance was met with at sea-level. The shape of the chest, as indicated by *x*-ray photographs, showed that the sternum was carried in an elevated position, and the ribs were more horizontal than in the case of normal people. This was true both of the American engineers and of the native population, but during the month of the party's stay none of the members acquired the habit of carrying the chest distended.

Blood Changes.

The red blood corpuscles were found to be increased in numbers, up to between 6,000,000 and 7,000,000 in members of the party, while among the residents counts up to 8,000,000 were made, with corresponding increase in the haemoglobin. There was also a marked rise in the reticulated red blood corpuscles observed among members of the party on arrival, and a corresponding fall subsequent to the descent. No nucleated red blood corpuscles were seen. The chemical changes in the blood were also of considerable interest, but in a general way they suggested that the blood acquired its oxygen more easily at high altitudes than at sea-level.

Altogether, it was clear that life could be carried on in a comparatively satisfactory manner without the production of gross permanent disabilities, consistently with the degree of unsaturation of the blood already described, for no member of the party suffered from this stay in the heights of the Andes, and Mr. Barcroft believed that there was no suffering among the mining community, at all events during the first five decades of life.

NINETIETH ANNUAL MEETING
of the
British Medical Association,
GLASGOW, 1922.

THE ninetieth Annual Meeting of the British Medical Association will be held at Glasgow this summer, under the presidency of Sir William Macewen, LL.D., F.R.S., Professor of Surgery in the University, who will deliver his Address to the Association on the evening of Tuesday, July 25th. The sectional meetings for scientific and clinical work will be held as usual on the three following days, the mornings being given up to papers and discussions and the afternoons to clinical and laboratory demonstrations. The University Court has granted the use of the University buildings for the scientific and other purposes of the meeting. The Annual Representative Meeting will begin on the previous Friday, July 21st. The provisional programme for the scientific work of the meeting is being drawn up by the officers of the various Sections, whose names were printed in the SUPPLEMENT of February 18th, 1922, p. 39; and brief announcements of the sectional arrangements, as these are made, appear from time to time in the JOURNAL.

The last day of the meeting, Saturday, July 29th, in accordance with the custom of previous Annual Meetings, has been set apart for excursions to places of interest in Glasgow and the neighbouring West Highlands. The article published below (the fourth of the series) gives a preliminary sketch of the neighbourhood of Glasgow. Further descriptive notes will be published in subsequent issues. A note on the accommodation for visitors at Glasgow was printed in last week's SUPPLEMENT.

GLASGOW AND ITS NEIGHBOURHOOD.*

IT has been said that among the great advantages enjoyed by the city of Glasgow none ranks ahead of the satisfying knowledge that immediately beyond the municipal boundaries lies a countryside of unparalleled enchantment. Sometimes it is suggested that the charm of Glasgow is that "it is so easy to get out of it," and, while that statement may seem to imply a reproach, it is in reality a compliment. Visitors to the Annual Meeting of the British Medical Association in July will, undoubtedly, be impressed by the facilities afforded for learning something of the city's environment.

Custom has decreed that every city through its local historians, its archaeologists, geologists, botanists, or guide-book chroniclers must make the most of the situation in which it is placed, and, if evidence of interesting features be not clear of itself, it must be suitably treated by skilful writers—usually enthusiasts in their subject — to make it attractive. But in Glasgow visitors readily discover that any policeman on point duty will tell them where to board a tramcar that with only one change *en route* runs to "the bonnie bonnie banks o' Loch Lomond," the Queen of Scottish lakes; and, while a journey by train may be quicker (and better advised), still the fact remains that the city tramlines are a link between the busy streets and the solitudes of the Highlands.

"Westward ho!" has a significance in Glasgow as a slogan for travellers. One can almost hear it sounding in the air of a summer morning when the tourists trek to the Broomielaw, where a part of the magnificent fleet of river steamers is ever in waiting to convey all who will to the lands of desire that border the glorious Firth of Clyde. The very hoardings one passes on the way to the University proclaim, with picturesque insistence, how easy it is to reach "the land o' Burns," the Trossachs, the castle towns of Dumbarton, Stirling, Edinburgh, the famous golf courses of Prestwick, Turnberry, and, probably most wonderful of all, the unequalled inland course at Gleneagles. Many visitors are inspired to travel by the pictorial suggestion of posters that tell now of the beauties of the Kyles of Bute on the Isle of Arran; of Rothesay (the "Madeira of Scotland"); of the green uplands of Lanarkshire, the sylvan beauties of the Bridge of Allan and Dunblane district; of the romantic appeal of Aberfoyle, Loch Ard, and the Lake of Menteith. Nor may one omit the attractions of Inveraray, the home of the Argylls, or the wonders of those railroad tracks — the West Highland and Callander and Oban lines—that convey one through country of magnificent beauty.



LOCH LOMOND FROM INCH TAVANAGH.
(Photograph by T. and R. Annan and Sons.)

Glasgow is the centre from which in the season the tourist traffic radiates to all these points, that in the broadest sense are the city's environment, for from no centre are they more easily reached by rail, by road, or by river. The Glasgow schoolboy was not so far out when he wrote "the wonderful thing about Glasgow's environment is that it is nearer the city than the environment of any other place."

The Isle of Arran.

It were impossible within the limits of this brief article to envisage the whole, and it may be well to choose items of interest on the same principle as one might make choice from an enticing menu. The Isle of Arran has been mentioned. Geologists will find it unique. The island has gained the repute of epitomizing the geological history of both the Highlands and the Lowlands of Scotland. There are folded and contorted Highland schists, the strata of Old Red Sandstone, Carboniferous, and Triassic Ages, and indication of the Chalk of Lower Lias. Then again there are evidences

* Previous articles, on the City and University of Glasgow, have appeared in the BRITISH MEDICAL JOURNAL of December 3rd, 1921, p. 961, January 7th, 1922, p. 29, and February 11th, 1922, p. 242.

everywhere of volcanic action, while the glacial epoch has also left its marks in perched blocks, erratic boulders, ice-worn rock surfaces, moraines, and traces of glacial lakes. Raised sea-beaches, indicating periods of land upheaval, are readily traced, and there are caves formed by the action of the sea waves in ancient cliffs now far beyond the reach of the sea. Arran is also of supreme interest to botanists, possessing as it does a rich flora and fauna. One botanist declares that in a single month (August) he noted upwards of three hundred flowering plants, including some alpines, and a profusion of mosses, ferns, liverworts, and seaweeds. The marine zoologist finds scope, too, in Arran for study in rock pools, and is well rewarded if his energies are directed to dredging off shore.



DUMBARTON ROCK ON THE CLYDE.
(Photograph by T. and R. Annan and Sons.)

Millport Marine Biological Station.

Mention of marine zoology naturally suggests the proximity to Arran and Ayrshire of the Cumbraes and the Marine Biological Station at Millport. The romantic associations of the Burns Country and the "auld Brig o' Doon," the cottage where Burns was born, and the Memorial Gardens with their impressive monument, may appeal to many; yet, of more practical interest at the moment, the Marine Station will draw many visitors to Millport. The station owes its origin to the late Dr. Robertson, "the Cumbrae Naturalist," who died in 1897, and to the late Sir John Murray, of the famous *Challenger* expedition. Its genesis was an old canal boat used as a laboratory, and known as "The Ark." Ultimately an association was formed and the present buildings were erected from the funds. Large additions have been made to it from time to time, and its equipment has been greatly improved. It was established on its present basis in 1901, and has for its object the investigation of the marine flora and fauna of the district known as the Clyde sea area and the fostering and encouragement of biological research. The equipment includes laboratories with a very complete collection of microscopical and physiological apparatus, a museum for the preservation and exhibition of specimens, a valuable reference library, and an aquarium with a special system of tanks for research work.



STIRLING CASTLE.
(Photograph by T. and R. Annan and Sons.)

Blantyre.

So far our random choice has taken us to Arran, to Ayr, and to the Cumbraes; it may now be applied to find for us other interests to intrigue the fancy or inclination of the moment we are at present anticipating. The Medical Faculty of Glasgow is proud of the memory of one of its earliest members, the late Dr. Livingstone. His birthplace, Blantyre, is distant from the city some few miles. There he worked in a cotton-mill until ambition and zeal for foreign missionary work fired his imagination. Something of the strength of his Scottish character and determination is realized in the tale told that to pursue his studies he had to walk from Blantyre daily to the old cottage in the High Street. The activities of the coal-mining industry have sullied somewhat the one-time beautiful district in which he first saw the light, but many visitors still find their way to the early home of our greatest medical missionary, and if industrialism has shorn the pilgrims' shrine of something of its early simplicity, the memory of the intrepid explorer is still cherished and adds its lustre to the village of his birth.

Birthplace of the Hunters.

In rural proximity to Glasgow, at East Kilbride, there is the birthplace of John and William Hunter. The former was surgeon to St. George's Hospital and Surgeon-Extraordinary to the King; an investigator in the sciences of anatomy, physiology, and pathology; and originator of the museum that is now the property of the Royal College of Surgeons of England. The latter, a great obstetrical surgeon also, was founder of the Hunterian Museum at Glasgow University, regarding which a special article will appear in our columns later. The Hunters were born at Long Calderwood, East Kilbride, about seven miles distant from the city. "It is not known to a tithe of the men you meet," writes one of their biographers, "that a small Scottish farmer, who more than a century ago tilled the soil within a very few miles of Glasgow, had two sons who raised themselves to the very highest position possible for men to reach in connexion with science, and the profession which they adorned; and not only so, but conferred blessings of a priceless, imperishable kind on the whole human race." To the old home of the Hunters many may wish to pay a visit, and will find that, while the surroundings may have taken on the touch of modernity, something of the old-world charm still remains.

Opportunity to say something regarding other centres of interest mentioned in the preliminary survey in this article will occur later. It may be mentioned, however, that Stirling and Dumbarton Castle can be reached by motor in an evening run. So also may Aberfoyle and the Lake of Menteith. An hour's journey by train takes one from Glasgow to Edinburgh, and in other regards the three railway companies serving Glasgow arrange their time-tables to suit connexions with the river steamers and ensure pleasant and undelayed transit to all parts of Scotland. In that, as in so many other respects, Glasgow is ideally situated for the holding of a conference.

British Medical Journal.

SATURDAY, APRIL 22ND, 1922.

PUBLIC ASYLUMS AND MENTAL HOSPITALS.

A NUMBER of recommendations in regard to the administration of asylums are made in a recent report by the Quaker Medical Society.[1] The report is perhaps all the more valuable as its writers show themselves to be deeply impressed by the difficulties inherent in the whole question, and it is written in "a Quaker spirit with a genuine desire to help." Naturally some of the suggestions are similar to those which have been made from other sources. It is recognized that certain of the present difficulties are due to the antiquated premises in which the staff of a number of asylums have to carry on their work, and it is suggested that a levelling-up process is necessary to bring these institutions into line with the more modern. Reference is made to the grouping of cases on sociological lines, and to the need of an improvement in the daily lot of those who are capable of responding to their environment. The latter aim may, it is suggested, be attained by a more varied supply of literature and games, by the organization of simple hobbies and handicrafts, and by habit training, re-education, encouragement of initiative, and a more varied dietary. A great deal is done, of course, in these directions in most asylums, and occupation-therapy forms part of the routine treatment in all these institutions. Yet it is doubtful if the possibilities of rehabilitation in the insane have hitherto been completely explored.

Much may often be done for apparently grossly deteriorated cases, but a certain attitude of pessimism is apt to arise in work which makes severe demands on doctors and nurses, and which is attended with a great deal of difficulty and discouragement. The apathy which is apt to invade these institutions is easily to be understood in view of the almost complete isolation, in some instances, from the outside world. This tendency would be largely counteracted if the public took a more intelligent and sympathetic interest in the patients in these hospitals. It is suggested in this report that regular visits from social workers to teach simple hobbies and handicrafts, as well as to help those of literary and intellectual tastes, on the lines of similar voluntary helpers' work in military hospitals during the war, would help a good deal. With this we are in entire agreement, because at present the patient who is sent to the asylum is, apart from his relatives, shunned by society, and it is seldom indeed that he is even visited by the clergyman of the parish to which he belongs. Often the lot of the patient who has recovered from an episode of insanity is one of considerable stress, and it is difficult for him to resume his place in the outside world. The public regard him with timidity, and employment is not always easy to obtain. If it were not for the existence of a Mental After-Care Association—an organization which, as we had occasion to show the other day, does much useful work for the asylum patient—there would be no alternative but the workhouse for a number of recovered cases. It is pointed cut in this report that after-care welfare work amongst patients is still greatly needed, and this might be undertaken by trained psychiatric social workers, as has been done in America under the stimulating influence of the National Committee for Mental Hygiene.

[1] *The Friend*, February 17th, 1922.

A plea is made for a broader outlook in regard to mental cases on the legislative and administrative side. Reference is made to the fact that the supervision of the Board of Control is largely advisory, and that the Board has little authority over visiting committees, which may grow perfunctory in the discharge of their duties and conservative in outlook, whilst still fulfilling their legal obligations. The suggestion that visiting committees should be empowered to appoint suitable lay visitors, not necessarily from amongst their own members, to visit patients in mental hospitals frequently and freely, has much to commend it.

While we are entirely in sympathy with a more enlightened policy in regard to the treatment of mental disorder as a whole, it is well to remember that mental disease cannot always be dealt with on exactly the same lines as physical disease, since it tends to find expression in definitely abnormal conduct. Hence insanity must always of necessity involve legal and civil considerations, as well as medical. The legislative side of mental disorder is summarized in this report as follows: (1) The safeguarding of the individual against wrongful incarceration; (2) the protection of the insane patient against self-inflicted injury and ill treatment by others; (3) the protection of the public against the dangerous lunatic; (4) the defining of the civil status of the lunatic. In spite of a number of recent statements as to improper detention, we believe the mechanism at the command of the Board of Control is adequate to prevent its occurrence. Rather may there be an increasing tendency to withhold the protection of certification in certain cases where it is desirable and necessary. It must not be forgotten that, quite apart from seriously anti-social acts, the psychopathic personality is apt to exert a most unfavourable influence upon his wife and family, and his isolation may be necessary for the sake of others, just as in the case of infectious diseases. There still is such a disorder as insanity, and to give the paranoiac the label of "neurasthenia" does not render him a less dangerous element in society. A balanced attitude towards the whole question of mental disorder is particularly necessary at the present time; whatever may be done in the way of internal reform in asylums, these institutions will always be viewed by the public with a certain fear, suspicion, and dislike. Insanity will always be one of the maladies the most dreaded, and this dread will inevitably tend to express itself by some measure of antagonism to those who are responsible for the care of the insane.

MINERS' NYSTAGMUS.

THE Medical Research Council, at the request of the Home Office, appointed in 1920 a special committee to investigate the causation and means of prevention of miners' nystagmus. The members of the committee are Professor J. S. Haldane, M.D., F.R.S. (chairman), Professor E. L. Collis, M.D., T. Lister Llewellyn, M.D. (secretary), G. H. Pooley, F.R.C.S., and W. H. R. Rivers, M.D., F.R.S. The committee has issued its first report;[1] this comprises a summary of its primary conclusions, a general report on the disease by Dr. Lister Llewellyn, and a report by Dr. Rivers on psycho-neurotic symptoms associated with the disease.

Miners' nystagmus is a disease of comparatively late discovery. The earliest reference known is one by C. Turner Thackrah in a book published in London in 1832. He wrote of colliers: "Their eyes, from swelling of the lids, appear small, are affected with chronic inflammation and intolerance of full light, and many, after a few years' trial, are obliged, by the injury which their

[1] Special Report Series, No. 65, Privy Council Medical Research Council. First Report of the Miners' Nystagmus Committee. London: H.M. Stationery Office. 1922. Pp. 64. Price 1s. 6d. net.

health has sustained, and especially the weakness of their eyes, to leave the mine." Dr. Gillet of Sheffield is said to have recognized the disease in 1854. The first detailed record of a case was made by Decondé, a Belgian doctor, in 1861, in a paper dealing with nystagmus generally. In 1875 C. Bell Taylor of Nottingham published a paper on "Miners' nystagmus, a new disease," in which he held the condition to be due to the overburdening of the eye muscles and to the sustained effort to see in a deficient light. Thereafter many observations on the disease were published and a variety of conditions were assigned to its production—for instance, work in a strained position, poisoning by coal gases, and labyrinthine disturbance. Two workers—Romiée of Belgium and Josiah Court of this country—have consistently maintained that deficient light was the essential factor in the production of the disease. Opinion is now generally in favour of this view, and the finding of the committee is completely in favour of it. The modern teaching is that the disease is either a general fatigue of the whole oculo-motor system or a general neurosis with special local manifestations in the oculo-motor apparatus.

The disease was added to the schedule of industrial diseases in the Workmen's Compensation Act of 1906. At first "nystagmus" was given as the specific symptom of the disease; but in 1913 a wider definition was drawn up—"the disease known as miners' nystagmus, whether occurring in miners or others, and whether the symptom of oscillation of the eyeballs be present or not." With the wider definition the number of cases receiving compensation has risen rapidly. In 1920 no fewer than 2,865 new cases were certified, making a total of 7,028, receiving compensation to the amount of £300,000 per annum on an employment roll of 978,000. It may be taken that the total incapacity rate in the United Kingdom, France, Belgium, and Germany is 0.2 per cent. of men employed underground, but the number of those who show nystagmus on examination is much higher, varying from 5 to 35 per cent. in different districts. It is calculated that the total economic loss to this country alone from this one disease is one million sterling a year.

The first and most general subjective symptom is failure of sight, which is most marked at night-time, especially in the dark winter months. The worker cannot perform the more skilled part of his work, he fails to find his tools, walking underground is difficult, the movements of his comrades' lamps annoy him, he may become irritable or quarrelsome, and his bad work may lead to further trouble. As the disease progresses sleep is broken by headaches and dreams, there is giddiness on exertion and dread of light. Later, after prolonged absence from work, well-marked neurotic and even hysterical symptoms may appear. Some men after failure are able to work at once on the surface, but most require complete rest. Total incapacity may last from one to twelve months, after which time there is ability to do almost any surface work. A few extreme cases never completely recover: these men are unable to do any colliery work again. It is observed that with the beginnings of recovery the earlier the man starts surface work the better is the prognosis. A considerable body of evidence was found indicating that the attention paid to the disease, and "compensation," have increased the frequency with which claims are made. "The increase of the number of cases of nystagmus is probably more due to the new consciousness that men were suffering from it than to any real increase." Dr. Rivers puts it thus: "It is quite certain that compensation has not increased the prevalence of nystagmus in the strict sense. It is solely through its action upon the psychical and psycho-neurotic aspects of the disorder that the increased frequency of disability has come about." When a man's attention is called to his trouble, a mild or latent attack may be converted into the manifest variety. "It would be quite possible to 'infect' a pit, hitherto free from certified cases of nystagmus, by the introduction of a few bad cases." Stoppages of work bring out numbers of cases—men who have carried on successfully when out of work claim half-pay on their disability. Duration of compensation is to some extent influenced by methods of compensation; in one district a high incidence, low rate of return to work, and a high cost of each case, is related to a practice of lump-sum settlement: "it is quite common for men to return to work underground after such a settlement."

There is clear evidence that deficiency of light during work at the coal face is the essential cause of the disease. It is found in all classes of coal mines, and in ironstone mines where, on account of the presence of thin coal seams, safety lamps are employed. It is very uncommon in the purely naked-light mines—for example, those of Somerset and the Forest of Dean. It is common on the Continent, where safety lamps are almost universally used. It is very uncommon in America, where open lights and electric cap lamps are used. The badness of the light in the mines was demonstrated by Llewellyn in 1912; he made a large number of observations, and found that the average illumination at the coal face in safety-lamp pits was 0.018 of a foot-candle, and in candle pits 0.09. (The standard artificial lighting for schools at the child's desk is 2.5 foot-candles.) The bad light in mines is due to the feebleness of the illumination—whether lamp or electric—the rapid fouling of its protecting gauze or glass, the distance from the working point, and the high degree of absorption of light by the surrounding blackness of the coal. A lowered percentage of oxygen, the presence of moisture, and the coal dust in the air all lower the feeble light of the safety lamp. Professor Haldane examined the possibility of the disease being due to the gases abnormally present in the air of the mines. Excess of CO_2 and deficiency of oxygen could not be responsible, for these are found to a greater extent in naked-light pits, where nystagmus is practically absent. Firedamp was found experimentally to have no more physiological action than the nitrogen normally present in air. Minute traces of carbon monoxide—about 0.005 per cent.—are present, a much too low proportion to cause any appreciable physiological effects. Professor Haldane writes: "We may therefore conclude with complete certainty that the abnormal constituents in ordinary mine air have nothing to do with the production of miners' nystagmus."

The influence of alcohol was investigated and discounted. Accidents, shock, and acute illness increase liability to the disease. Hereditary predisposition, if any, is small and probably acts where there are congenital ocular defects. Errors of refraction are so common amongst the general population that their influence is difficult to determine; correction of these errors gives relief to symptoms, but may not check the oscillations. Rest from pit work and surface employment are the only known means of treatment; medicinal treatment, except that directed to the general health of the patient, is of little avail. Dark glasses delay recovery. No man loses his sight from the nystagmus, and it is the first duty of the doctor to assure his patient that the disease is curable, for nothing is so certain to re-establish the man's confidence in himself. "To tell a collier that he should never go down a pit again is almost to pass a sentence of industrial death upon him." Early employment on the surface plays as great a part in the treatment of the disease as work underground does in its production. Unfortunately, compensation arrangements check surface employment; it does not pay.

The committee unanimously agree that: (1) The essential factor in the production of miners' nystagmus

is deficient illumination, other factors have no direct influence on the disease; (2) the deficient illumination is due to the low illuminating power of the safety lamps generally used by coal miners; (3) workers at the coal face are more affected than other underground workers, and this appears to be due to the unrelieved blackness of the coal and the greater need for accurate vision; (4) distinct signs of nystagmus are present in a large proportion of coal miners, though only in a small proportion do the symptoms ever become so severe as to cause even temporary incapacity for work underground. The committee recommends that the standard of illumination should be improved to at least an equality with open-light pits, by the use of the electric cap lamp or other method which brings the light nearer the working area without shining directly into the eyes, and by an increase of whitewashing and stone dusting. It believes that by the application of these remedies miners' nystagmus of sufficient severity to cause disablement can, by degrees, be entirely prevented. Lastly, it recommends that both workman and employer be granted power to appeal to the medical referee, at intervals of not less than six months from the original certificate of disablement or date of last appeal, to assess the incapacity present. In this appeal the medical referee should certify that the man is: (1) totally incapacitated; or (2) partially incapacitated—(*a*) fit for surface work, (*b*) fit for suitable work below ground; or (3) not incapacitated.

Further investigations are in progress into the causation of the disease and into the operation underground of remedial measures, with a view to assisting the introduction and trial of new methods. This first report of the committee is sure to be received with the greatest interest by all those who have to do with the mines and the miners. It is well written, with a sufficiency of detail to establish every statement, yet it is commendably brief. The committee is to be congratulated on its work.

SCIENTIFIC SECTIONS AT THE GLASGOW ANNUAL MEETING.

The officers of the Section of Public Health at the forthcoming Annual Meeting of the British Medical Association at Glasgow are arranging an exhibition in the Kelvin Hall. This is a large hall adjacent to the University, where the sectional meetings will take place. In this hall the usual Annual Exhibition of drugs, foods, and appliances will be held, but a separate part is to be allocated for the purpose of the exhibition of the Public Health Section. A committee has been appointed in connexion with this exhibition, consisting of the medical officer of health of Glasgow, the city bacteriologist, and the medical members of Glasgow Town Council, with certain officers of the Section. The aim is to show specimens of public health interest from all the departments of Glasgow Corporation. For July 26th the following is the provisional programme of the Section: Dr. Richard J. Reece will open a discussion on "Port sanitation in relation to the public health of the country," Dr. F. E. Fremantle, M.P., a discussion on "Public health economics," and Dr. John Brownlee a discussion on "Statistics." On July 27th Dr. Roberts will open a discussion on "Defects in children on attaining school age," and Dr. McKail a discussion on "Industrial fatigue and vocational selection on a basis of physical inquiry"; the administrative requirements for the various types of tuberculosis will also be discussed. The following provisional arrangements have been made by the Section of Neurology and Psychological Medicine. July 26th will be devoted to psychotherapy. On July 27th Sir James Purves Stewart will open a discussion on "The treatment of neurosyphilis"; and on July 28th miscellaneous papers will be communicated. The officers of the Section of Medical Sociology have chosen as the subject for discussion "Alcohol as a beverage in its relation to certain social problems"; the problems selected are industrial efficiency, crime, mental disorders, and infantile mortality; the list of papers and openers of discussions is not yet complete. The officers of the Section of Pathology have arranged the following provisional programme. On July 26th there will be a discussion on "The origin of cancer in relation to specific forms of irritation," opened by Professor Fibiger of Copenhagen. On Thursday, July 27th, a discussion will take place on "Animal and vegetable pathology in relation to human disease," opened by Professors F. G. Hobday, F.R.C.V.S., and W. H. Lang, F.R.S. The officers of the Section of Otology have arranged the following preliminary programme: A discussion on "Septic sinus thrombosis, its diagnosis and treatment," with opening papers by Sir William Milligan and Mr. Hunter Tod; a paper by Professor Holger Mygind entitled "Otogenic collateral meningitis"; and a paper by Dr. J. S. Fraser and Dr. Stephen Young entitled "Is it worth while to remove aural polypi?"

THE EPIDEMICS IN EASTERN EUROPE.

The resolutions adopted by the European Health Conference, which met in Warsaw at the close of last month, have just been issued by the League of Nations. This is a document of 16 pages, printed in French, English, and German, and it is dated Geneva, March 31st, 1922. Medical delegates attended from twenty-eight countries; the representative of Great Britain was Colonel S. P. James, M.D., of the Ministry of Health; the Italian delegates included Dr. Aldo Castellani, of the London School of Tropical Medicine. The object of the Conference was to draw up a detailed report on the epidemic situation in Eastern Europe, and submit plans for an international campaign. The Conference having heard a report by the Health Section of the League and by delegations of the different States, and having visited the quarantine stations, hospitals, and other organizations for the anti-epidemic campaign in the Russo-Polish frontier zone, recorded its unanimous opinion in a resolution of five paragraphs. The gist of these is as follows: (1) The conditions in Eastern Europe during and after the war favoured the development of dangerous epidemics, especially the insect-borne diseases typhus and relapsing fever; the food and water-borne diseases such as cholera, enteric fever, and dysentery; and other communicable diseases such as small pox. (2) The countries thus attacked did all that was possible in circumstances of great difficulty, and organized and carried out measures of control and defence; these produced a marked improvement in the first nine months of 1921. (3) Unfortunately, towards the end of the year a new and intense access of adverse conditions associated with famine, migration, and repatriation, severely overtaxed the anti-epidemic arrangements; the result was a sudden and violent recrudescence of typhus and relapsing fever, and an epidemic of cholera. The Conference is convinced that the increasing prevalence and extension of cholera in the Ukraine, together with the mass-migration towards the north-west from these and other famine-stricken areas, form an immediate danger to the rest of Europe, and the situation as a whole grows more menacing. (4) Unless much greater efforts are made without delay, the Conference believes that the present epidemiological situation will cause much more suffering and death in the infected areas, impede reconstruction, hamper trade, and threaten the whole continent of Europe. (5) The difficulties of dealing with the situation are accentuated by the lack of medical men and trained personnel, caused in part by disease and death among those who have devoted their lives to this campaign. On the motion of Dr. Castellani the Conference recommended that training courses for all grades of medical and sanitary staffs should be organized at two or three centres, with an expert international teaching staff. Further resolutions covered the following points: (1) International measures for regulating and notifying other infectious diseases besides those named in the Paris Convention; (2) mutual recognition of certificates for protective vaccination, disinfection, and delousing; (3) closer co-operation between all

States on matters of public health, based on systematic instruction and education of the people; (4) friendly mediation by the Health Section of the League of Nations when separate health conventions are drawn up between different States. Another resolution laid stress on the need for measures against famine, which is one of the chief causes of the present epidemics in Russia and the Ukraine. A concluding resolution outlined the steps to be taken to secure financial aid and co-operation by all European countries in the campaign against the epidemics in Eastern Europe, this organization to have representatives upon it of States not members of the League of Nations. The report and recommendations of the Warsaw Conference will be communicated to the Genoa Conference.

A PSYCHIATRIC MILESTONE.

THE one hundredth anniversary of the establishment of Bloomingdale Hospital as a separate department for mental diseases of the Society of the New York Hospital was celebrated on May 26th, 1921. An account of the centenary celebration has been published in a volume entitled *A Psychiatric Milestone*,[1] which is both interesting and instructive. The Bloomingdale Hospital was founded at a time when a wave of reform in the treatment of the insane was rising in Europe under the influence of Pinel in France and William and Samuel Tuke in England. Thomas Eddy, a philanthropic Quaker governor of the Society of the New York Hospital, becoming aware of this movement, was largely responsible for the creation of this institution, which has done so much for the insane in America. The history of the hospital was well worth recording, and as a number of well-known psychiatrists gave addresses at the centenary, we are presented with a valuable survey of the modern attitude towards the problems of mental disorder. Dr. W. L. Russell, medical superintendent, in describing the medical development of Bloomingdale Hospital, points out with a great deal of truth that, notwithstanding the great benefit which has been derived from physical measures in the study and treatment of mental disorders and the well-founded hopes of greater advances in this direction, the main task still continues to be what Pinel calls the management of the mind. Thus the treatment of the insane differs in some respects from that of any other form of illness; it must be humanistic and personal rather than strictly scientific. The creation of the right kind of atmosphere in an asylum is perhaps of even more importance than a research laboratory. Because this is so, as Dr. Russell says, the medical superintendent must, like Pinel, be willing to forget the empty honour of his titular distinction as a physician and do whatever may be necessary to make the institution a truly medical agency for the healing of the sick. This and other observations may be regarded as timely reminders that the executive duties of the medical superintendent should not be lightly handed over to lay control, as every administrative act must have a direct influence on the well-being and treatment—in a wide sense—of the patients in a hospital for the insane.

INTERNATIONAL EXCHANGE OF LECTURERS.

THE idea of instituting an exchange of lecturers in medicine between England and Continental countries, with which a beginning was made last year, is now being pursued further by the University of London. We have received from the academic registrar of the University information regarding lectures in medical subjects by professors from Holland and from the University of Paris to be given in London next month at the house of the Royal Society of Medicine, 1, Wimpole Street, W.1, at 5 p.m. On Wednesday, May 3rd, Dr. C. Winkler, professor of clinical psychiatry in the University of Utrecht, will give a lecture in English on "The human neo-cerebellum," in the course of which he will demonstrate a case of olivo-pontine cerebellar atrophy; the chair will be taken by Sir Frederick Mott. On Monday, May 22nd, Professor F. Widal will lecture on "Anti-anaphylaxie," with Lord Dawson of Penn in the chair; on Thursday May 25th, Professor H. Vaquez will lecture on "De l'érythrémie (Maladie de Vaquez-Osler)," with Sir Wilmot Herringham in the chair; and on Wednesday, May 31st, Professor J. Babinski will lecture on "Des reflexes de défense," with Sir J. Purves Stewart in the chair. These three lectures will be delivered in French. Particulars of two further lectures, by Dr. Murk Jansen of Leiden on June 12th, and by Professor Hijmans Van Den Bergh of Utrecht, on June 21st, will be announced later. All these addresses, arranged under the scheme for the international exchange of lecturers in medicine, are intended for advanced students of the University of London and others interested in the subjects. Admission is free without ticket. The University is naturally anxious to obtain good audiences for these distinguished visitors from France and Holland. Brief announcements will appear from time to time in the Diary of Lectures which appears each week on the last page of the SUPPLEMENT.

[1] *A Psychiatric Milestone. Bloomingdale Hospital Centenary, 1821–1921.* Privately printed by the Society of the New York Hospital. 19–1. (Med. 8vo, pp. 220; 6 illustrations.)

"THE JOURNAL OF METABOLIC RESEARCH."

IN giving a cordial welcome to the first number of our new monthly contemporary *The Journal of Metabolic Research*,[1] we realize that the absence of a publication with such a title in America, where for years metabolic investigation has been ardently and successfully pursued, is curious. Readers have been accustomed to look to the *Journal of Biological Chemistry* and other publications for the results of American work, but that such a means of publication as this, which began its career in January, was required, appears clear from the overwhelming response to a circular letter dispatched on the question. Five answers only, some of them from the highest authorities, were adverse, on the ground that the existing journals were sufficient and that the number should not be increased, or that other journals were to be launched which would cover this field. A larger number of correspondents endorsed the project, but excused themselves from participation for personal reasons. The response was, however, so unexpectedly hearty and strong that the plans for the appearance of the journal were carried into effect more rapidly than had originally been contemplated. The editor, Dr. Frederick M. Allen, whose name is so inseparably connected with the treatment of diabetes, is supported by fifty-four collaborators, including F. W. Peabody, L. G. Rowntree, H. S. Plummer, R. T. Woodyatt, E. V. McCollum, E. C. Kendall, J. T. Halsey, P. B. Hawk, Yandell Henderson, and Casimir Funk. The journal is published monthly by the Physiatric Institute—physiatrics meaning the cure of disease by nature, and not, as may as well at once be confessed we first fancied, a misprint for the more familiar word signifying the treatment of mental diseases. The get-up of the journal is admirable. All the seven articles in this instalment are on the pathology of diabetes, and all but two by the editor, who leads off with an interesting investigation into the hydropic degeneration of the islands of Langerhans after partial pancreatectomy. This change is proved to be a specific diabetic phenomenon produced solely by overstrain of the function of the cells by diets in excess of the weakened assimilative power. The causation of this hydropic degeneration, which may occur in prolonged hyperglycaemia, even without glycosuria, is discussed in subsequent papers. Further issues of this new journal, in which it may be anticipated that basal metabolism will receive due attention, will be awaited with interest.

SUSPENDED IMPURITY IN THE AIR.

SIR NAPIER SHAW, professor of meteorology in the Royal College of Science, communicated to a recent meeting of the Royal Society a paper by J. S. Owens, M.D., giving a preliminary account of an investigation undertaken in order

[1] *The Journal of Metabolic Research*, vol. i, January, 1922. Edited by Frederick M. Allen. Published monthly by the Physiatric Institute, New Jersey. (Pp. 153; 22 plates. 10 dols. per year.)

to devise a simple and effective method of examining the quantity and nature of dust in the air, in industrial fumes, dust in mines, smoke fogs, and the like. Dr. Owens, whose name is well known for his inquiries into smoke abatement, has devised a new method of sampling for measurement and examination: a fine jet of air is made to strike a glass surface with high velocity, and the dust is deposited on the glass; various applications of the method have been found possible. As illustrating one application experiments were described which indicate that visibility is usually a function of the amount of suspended impurity; that suspended dust travels over great distances, records being described of dust which presumably must have come from the Continent; and that the microscopical examination of such dust records indicates certain curious differences depending upon wind direction, which at present cannot be explained.

BEIT MEMORIAL FELLOWSHIPS.

THE trustees of the Beit Memorial Fellowships for medical research have now approved certain changes in the regulations. Henceforth the election of Fellows will take place in July instead of December, and work will begin on October 1st instead of January 1st. Fellows will be classified in future into Junior, Fourth Year, and Senior Fellows. Not more than six Junior Fellowships, each of £350 a year, will be awarded annually, the usual tenure being three years. An extension of one year (Fourth Year Fellowship), at £400 per annum, may be granted on the recommendation of the Advisory Board. A limited number of Senior Fellowships at £600 per annum may be awarded, the usual tenure being three years; candidates for these must have been first elected Junior Fellows on or after January 1st, 1920. No change will be made in the emolument of any Fellowship held at the coming into force of these amended regulations on May 1st.

FELLOWSHIP OF MEDICINE.

THE following further lectures have been arranged by the Fellowship of Medicine in addition to those we announced in this column last week (p. 615) during May. On June 13th, Sir William Hale-White on "The clinical symptoms of *coli* infection of the urine"; on June 19th, Professor H. Maclean on "Recent work on albuminuria and glycosuria"; on July 12th, Professor A. Todd on "Surgery in rheumatoid arthritis"; and on July 19th, Mr. Victor Bonney on "Myomectomy, as opposed to hysterectomy." The lectures, which are open to members of the profession, will be delivered in the West Lecture Hall of the Royal Society of Medicine, 1, Wimpole Street, W., at 5 p.m. The syllabus of a two weeks' special course in general medicine, from May 1st to May 13th, can be obtained on application to the Secretary of the Fellowship of Medicine, as can also the syllabus of a course of six lecture-demonstrations on gastro-intestinal affections in children arranged at the Children's Clinic, Western General Dispensary, from May 15th to June 1st.

WE regret to announce the death at Ashburton, Devon, on April 19th, of Sir Alfred Pearce Gould, K.C.V.O., C.B.E., consulting surgeon to the Middlesex Hospital, at the age of 70.

THE Liverpool Medical Institution has established a lectureship to commemorate the work of the late Hugh Owen Thomas. The memorial lecture will be given in the theatre of the institution on Tuesday, April 25th, at 4.30 p.m., by Sir Robert Jones, K.B.E., C.B., who has been appointed first lecturer. Sir Robert Jones has chosen for the title of his lecture, "Hugh Owen Thomas—the man and his work." The lecture is open to all medical men and women.

THE British Chirurgical Club has recently paid a visit to Holland. The party spent two days at Amsterdam, where the clinics of Professors Noordenbos and Lanz were attended. Going thence to the Hague, the members were received by Dr. Schoemaker and spent two days in his clinic; Sunday, April 9th, was also passed at the Hague, and then followed two days at Utrecht with Professor Laméris. Much of great interest was seen at all three centres.

VENEREAL DISEASE.

A COMMITTEE OF INQUIRY.

IN a letter to the *Times* on November 22nd, 1921, Lord Dawson of Penn reiterated a suggestion he had previously made (January, 1921) that the differences of opinion in regard to the best way of handling the complex problem of venereal disease would be more easily elucidated if they were embodied in the two following propositions:

> (1) What, in the present state of knowledge, are the most efficient medical measures for preventing these diseases?
>
> (2) How far is it ethically justifiable to apply such measures?

Lord Dawson went on to suggest that those who had the technical knowledge should get together in conference and try to arrive at conclusions on the medical and administrative aspects of the problem uninfluenced by any ethical proposition. Until some conclusion, supported by a considerable preponderance of opinion, had been reached, it could not, he said, be reasonably expected that the Ministry of Health should do otherwise than maintain impartiality, giving a fair field and no favour to the two schools of thought and action. Then, with such conclusions before them, a wider public would have to decide whether it was ethically justifiable to found a policy upon sound opinion which could only be based upon knowledge; and the Ministry of Health might with advantage extend its encouragement to a round table conference of experts widely representative, who should consider the technical aspects of the problem.

The following correspondence has passed recently between the Minister of Health and Lord Dawson:

Ministry of Health, Whitehall, S.W.1,
January 3rd, 1922.

Dear Lord Dawson,

I have noted with interest your proposal that a committee of medical men possessing the requisite special knowledge should be constituted to inquire into certain aspects of the problem of venereal disease.

I understand that in your opinion the best hope of solving this complex problem is first to endeavour to secure an authoritative pronouncement on its medical and medico-administrative aspects, the more so as men of eminence hold divergent views upon it.

The community as a whole would then consider this medical pronouncement side by side with the weighty moral and social issues involved and through its responsible representatives determine the right policy to be pursued.

As Minister of Health I am deeply concerned with this grave problem and write to say that I will afford encouragement and support to the holding of the investigation. That you should gather together a Selection Committee to nominate the members of the Committee of Inquiry would seem to be a sound and practicable method of securing the end in view.

Yours sincerely,
ALFRED MOND.

32, Wimpole Street, W.1,
March 31st, 1922.

Dear Sir Alfred Mond,

After receiving your letter of the 3rd January I proceeded to take action and with the following result.

The Committee of Selection was constituted as follows:

Sir Clifford Allbutt	Sir Archibald Garrod
Sir Anthony Bowlby	Professor Kenwood
Lord Dawson of Penn	Sir Norman Moore
Sir Walter Fletcher	Sir John Thomson Walker.

This Committee of Selection has secured the services of a Committee of Inquiry, which I am sure you will agree is alike strong in the abilities of its members and its

widely representative character. The membership of this Committee of Inquiry is as follows:

Mr. C. J. Bond, F.R.C.S.	Professor Kenwood
Surg. Commander Reginald Bond, R.N.	Sir William Leishman
Dr. John Brownlee	Dr. F. Menzies
Professor Bulloch	Sir Frederick Mott
Dr. D. S. Davies	Dr. Sequeira
Professor Dreyer	Dr. Spilsbury
Col. F. E. Fremantle, M.P.	Mr. Kenneth Walker, F.R.C.S.
Dr. Dorothy Hare	

In the opinion of the Selection Committee it is of importance that the Committee of Inquiry should be presided over by a distinguished lawyer, and they have been so fortunate as to secure the services of the Right Hon. Lord Trevethin as Chairman and Mr. T. J. Tomlin, K.C., as Vice-Chairman.

The Committee of Inquiry thus constituted has the support and confidence of both the National Council for Combating Venereal Diseases, and the Society for the Prevention of Venereal Disease.

The Committee of Selection have carefully considered the terms of reference to the Committee of Inquiry and are unanimously of opinion that the following are both succinct and comprehensive:

"To consider and report upon the best medical measures for preventing Venereal Disease in the civil community having regard to administrative practicability, including cost."

This reference has the approval of the distinguished Chairman of the Committee of Inquiry.

The Committee of Selection are confident you will share their view that it would be difficult to find a Committee of Inquiry more deserving of confidence and of the support and encouragement which as Minister of Health you have already promised to extend to its deliberations.

We are in complete agreement that after the Committee of Inquiry has reported the community as a whole will have to decide how far its recommendations can be properly made the basis of policy and action.

Yours sincerely,

DAWSON OF PENN.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

The Easter Recess.

ON April 12th the House of Commons adjourned until April 26th, and the Lords adjourned until May 2nd.

Pensions Administration Debate.

Mr. Charles White, on April 11th, moved in the House of Commons for a select committee of inquiry into the procedure under which pensions were being reduced. He recalled that he had been a member of a Select Committee which sat in 1919 and 1920, and he appreciated that a Departmental Committee had since sat. He expected it would be said that further review at the present time was unnecessary. Nevertheless he asked for the appointment because the estimates were being reduced by about £20,000,000, and it was believed that concerted action was being taken by medical boards and inquiry officers to reduce the amounts of pensions. He asked, without any intention of being offensive, whether any hint had been given that economy must be extended in this direction.

Mr. White submitted that pensions were being reduced after the most casual and cursory examination by medical boards, and that dependants' allowances were being lessened or ended without adequate inquiry. In theory there were safeguards, but in practice they did not sufficiently protect. Allowances were being cut off in cases in which they had been granted on account of previous ill health being aggravated by war service. He submitted that there were thousands of such cases in which the men were left as human derelicts unable to obtain employment. He believed that this occurred largely because the Pensions Committees had ceased to function.

Mr. F. Roberts seconded the motion. He sought a specific answer from Mr. Macpherson whether appeals were turned down because records were not available of a man's disability on service. In regard to the full disability grant of 40s. a week he thought that it should be made absolutely firm, and not subject to possible reduction in 1923 as regards 20 per cent. on account of lowered cost of living. Other points which he suggested should be placed before the Committee were the pensions for widows and orphans and the qualification for entitlement. Captain Bowyer and Captain Loseby continued the discussion, the latter criticizing the Ministry for the way in which they had dealt with the questions of attributability and aggravation.

The Minister's Reply.

Mr. Macpherson, in replying, said it was evident there was suspicion that because the Estimates had been brought down by £3,000,000 below what was suggested by the Geddes Committee that there was something wrong. He had previously stated, and was glad to repeat, that whatever economies were made, they should not affect the legitimate rights of the ex-service men. He had to deal with three and a half million cases, an amount nearly equal to the population of Scotland. It would be strange if some members could not come to the House of Commons with some individual case for inquiry. The first fact which he wished to impress upon the House was that the expenditure on pensions must inevitably and necessarily be a declining quantity in the future. When he became Minister of Pensions they amounted to £123,000,000 a year; they had come down this year to £111,000,000; and next year they would be £90,000,000. A year and a half ago the Ministry was receiving as many as 500,000 new claims to pensions per week, and during the last six months they had, on the average, 1,000 claims per week.

Secondly, the diminution in the expenditure had been due to three important causes. There was the re-marriage of women and dependants; children grew beyond the pensionable age of 16 and went into employment; and there was the calamity of death. In the last year, from these three causes alone, there had been a diminution of £2,500,000 in the estimate.

The third broad reason for the diminutions had to be stated more generally. The Ministry had had during the last three years spent £45,000,000 on treatment and treatment allowances, whereas in 1919 they had spent only £1,000,000. Was not that a proof that so far from stinting the men the country was prepared to pay for their welfare? The right thing to do was to attempt by all possible means to restore these men to the social and industrial life of the community. Medical treatment had been given without stint. Every year at least 500,000 men got treatment, ranging from three or four weeks to eight or nine months, and in many cases over a year or more. On any one day no fewer than 125,000 men were receiving treatment and treatment allowances—and these were generous. In the past his Department had absorbed no fewer than one-fifth of the medical profession of the country in order to give the best possible medical treatment to these men. Having spent that enormous sum of £45,000,000 in three years, were they not expected to get any return from it? Were they not expected to find men better and pensions naturally decreasing? Considering the recuperative powers of the men, it would be severe condemnation of the Government and of the Ministry if after such an expenditure they could not show some beneficial results.

Lastly, Mr. Macpherson gave another group of reasons for the diminution. Foremost, there had been a reduction in the expenditure on administration. With the concurrence of the Departmental Committee they had reduced the membership of medical boards from three to two, and they were reducing the committees in the country from 1,200 to less than 200; they had reduced the staff employed by these people, and they had reduced the main headquarters of the Ministry by 14 per cent. There was not another Minister that could show the same record. All these items accounted for the reduction of expenditure. Mr. Roberts had suggested the time had come to get rid of irksome re-examinations by medical boards. That was exactly what they had done. Under the War Pensions Act he had established a final medical board, and he hoped that by the end of next year every pensioner in the country would be examined to see whether his disability was final or not. One of the first reforms he effected at the Ministry was to make the interval of time for calling up men one year instead of three months. In arranging that final boards should be established by the end of the year he had guarded the pension when there was any doubt as to finality. In every case he gave the man the benefit of the doubt. He had left the disability a conditional disability, so that if a man got worse in the future he would be able to go to an appeal board and get a proportionate amount. Coming to the actual reductions made, Mr. Macpherson again protested against the suggestion that the Government had influenced medical boards. The controlling power was in the hands of ex-service men. He believed he was right in saying that every doctor employed was an ex-service man, and 96.8 of the men who controlled the destinies of ex-service men were ex-service men themselves. The accusation made was absurd and base. He could support this assurance by figures. If there had been a general and artificial reduction of pensions it would be reflected in the figures of assessment, but they showed exactly the contrary. Men who were awarded what was termed a "conditional" pension were normally given that pension for a year, and were then medically re-examined. As far back as the figures available went—namely, two years—he found that pensions were now decreasing less than two years ago. In 1920, taking all the results of the medical re-examination of 50,000 men for six months, the average reduction in the rate of assessment on account of the improvement of the man's health was as much as six and a half points in the pensions' scale; in other words, something like 19.5 per cent. During the last six months the average rate had been 4.3 points, or something like 13 per cent. only in the scale. It was known very well that the majority of wounds was comparatively slight. The gist of the figures amounted to this—that as between now and a year ago the proportionate cases in each grade and for each degree of pension—ranging from the seriously disabled man who was getting 80, 90, or 100 per cent. disablement,

to the minor injury which was compensated for by a weekly allowance for one, two, or three years—remained exactly the same. That was to say, 7 per cent. now were and 7 per cent. a year ago were getting pensions of 70 per cent. or over. The men who had comparatively minor degrees of disorder or injury had steadily improved in health by the medical treatment provided as well as by their natural powers of recuperation, while on the other hand those who were very severely disabled had been left to draw their pensions. He quite understood that throughout certain parts of the country there was some misgiving as to the results of the examination, but what had he done? He had established medical appeal boards, with specialists on every one of them and not a single reduction was made without a personal examination by the appeal board. Members who brought forward cases against the Ministry never referred to cases which had been admitted. These medical appeal boards had in a majority of cases granted an increase, and not a decrease of the amount of pension. He had provided that there should be a jury appointed by the Lord Chancellor, of two doctors and one ex-service man to consider any appeal which came from the award of the Medical Appeal Board as to finality.

Dealing next with the question of change of entitlement, Mr. Macpherson said the charge was that the Ministry of Pensions not only changed entitlement but cancelled the pension altogether where at some given period in a pensioner's life a pension had been awarded. No one regretted more than he did that such review should be necessary. The facts were very simple. During the last year of the war and during the first year after the armistice, when thousands of men were being demobilized, the work of dealing with claims to pensions was a business of so large a volume that it was perfectly impossible for the staff of the Ministry to deal with the men at times. They had as many as 350,000 men in the military hospitals at that time. They had discharges of 60,000 men a day. These men were coming from every corner of the globe. They had no medical certificates. They were so anxious to get out of the army that they never went to the doctor to be re-examined. They rushed out with no evidence that they had any sign of disability. In the course of time they came back, and with the merest prima facie evidence they were granted pensions. He came across so many cases at that time that it was necessary to review entitlement in those cases. He regretted to find that all over the country men were drawing pensions to which they were not entitled. Having given a few extreme cases, Mr. Macpherson asked whether he was to be expected not to examine in such matters when he found that there were cases at that time still surviving. The regiments had come from all corners of the globe, their medical certificates were with the units in Mesopotamia, Egypt, and East Africa, and it was only now that he had been able to collect with a skilled staff all these medical cards. No fewer than 31,000,000 of these cards covering half an acre in cabinets existed at the present time. The House would realize the amount of work the Ministry had had to do during the last month. The process was now nearly completed. They had reviewed only 2 per cent. of those cases. In the result where the medical boards had reviewed these cases they had in the vast majority given the benefit of the doubt, and that he believed was done in accordance with the wish of the country.

Referring to the medical appeal tribunal, Mr. Macpherson said he was hoping that a conference would take place between officials of the Ministry and the Lord Chancellor's officials, because he believed there were cases that it would be wise to reopen where fresh and undoubted evidence had been obtained by the man in support of his claim. In resisting the motion for the appointment of a Select Committee, Mr. Macpherson said that the Departmental Committee which he appointed had sat for nearly eight months, and out of their 168 recommendations he believed that 116 were in active operation. Since then under the War Pensions Act last year he had appointed an Advisory Committee, and had met representatives from that House, of the country, and the various shades of opinion amongst the ex-service men, and he intended to consult them more.

Several other members followed, but the discussion was not completed when the House adjourned.

Grants to Voluntary Hospitals.—Mr. G. Barker asked, on April 12th, with reference to the terms and conditions of grants to voluntary hospitals, if the Treasury would modify the stipulation that grants made by the Commission were to be applied wholly to maintenance and in no case to capital expenditure. He made this inquiry in the interests of hospitals in the course of erection with the desire that the authorities in financial difficulties might be able to appeal to the Commission for aid to complete the work in hand. Sir A. Mond said that the Government decided against the proposal of Lord Cave's Committee for a grant in aid of capital expenditure on hospitals, on the ground that the hospitals were not paying their way on the existing buildings, and that it was unwise to build while costs were so high. He could hold out no hope of reconsideration of this decision in the present circumstances.

London Hospital Women Students.—Sir John Norton-Griffiths asked, on April 12th, if the attention of the Minister of Health had been drawn to the report that the London Hospital authorities proposed to restrict their medical teaching to men students; whether the hospital received any assistance by way of grants from the public funds; whether such grant was made with or without conditions as to its employment; and whether, seeing that the restrictions of medical teaching to male students was neither beneficial to the public health nor in agreement with the principle of grants from public funds to quasi-organizations were made the Ministry proposed to take any action in the matter. Sir J. Gilmour, in reply, said that the Minister's attention had been drawn to the subject. The only payments made to the London Hospital from the Ministry of Health's vote were in respect of the treatment of specific diseases. No part of the grant made by the Voluntary Hospitals Commission were applicable to the expenditure of the Medical School. He understood that in the opinion of the University Grants Committee, who made certain grants to the Medical School, the question of requiring a particular school to admit women students would arise only if facilities for University education in medicine of qualified women students were inadequate. This situation had not arisen in London University.

The Schick Test for Diphtheria.—Mr. Bromfield asked, on April 11th, whether the Minister of Health had contracted with the Wellcome Laboratories for a supply of material for the Schick test for liability to diphtheria and for a supply of toxin-antitoxin for immunizing purposes, and if so, the cost and conditions. Sir A. Mond said that no contract had been made. In the few cases in which his department had supplied the material these had been obtained from the firm in question at 12s. 6d. for fifty doses of Schick toxin and 40s. for twenty-five doses of toxin-antitoxin mixture, less the usual discount. No conditions attached to this supply.

Naval Disability Pensions.—Major Barnston, for the Minister of Pensions, stated on April 12th, in answer to Sir T. Bramsdon, that arrangements had been made under which the origin of the disability of naval invalids would be inquired into by a naval medical board. When a man claimed that his condition was due to service in the war his case would be considered by the Ministry of Pensions.

London Asylum Patients Discharge.—Sir Alfred Mond, on April 12th, gave an assurance that all applications for the discharge of patients from the London County Mental Hospitals were considered and dealt with at each hospital by the members of visiting subcommittees appointed by the Asylum and Mental Deficiency Committee for the management of that hospital, and by them alone.

University Education for ex-Service Men.—Mr. Fisher stated, on April 11th, in answer to Sir J. D. Rees, that the latest date prescribed for the lodging of applications under the ex-service student's scheme of university training was June 30th, 1920. Applications after that date had been exceptionally entertained where the lodging of an application was prevented by retention in the forces in a remote theatre of the war or by retention in hospitals. Otherwise fresh awards had ceased. The total number of students admitted to the benefit was 26,470. The last award was made on March 7th, 1922. The sum of six million was a provisional anticipation of the total cost when the scheme was first put forward. The excess of two million fell over the total period of operations.

Imported Milk.—Sir Alfred Mond, on inquiry by Mr. Hurd, on April 11th, said that so far as he was aware the conditions of production of foreign milk imported into this country were not worse than those which existed on many British farms. The amount of fresh milk imported was insignificant, and the processes to which sterilized, dried, and condensed milks were submitted were necessarily such as to minimize the risk of danger to health. All consignments of imported milk or milk products were liable to be inspected at the port of entry and those which were found to be unfit for human consumption were condemned.

ROYAL MEDICAL BENEVOLENT FUND.

THE annual meeting of the Royal Medical Benevolent Fund was held on April 4th, when Sir CHARTERS SYMONDS, Honorary Treasurer, was in the chair.

Dr. NEWTON PITT, Honorary Secretary, presented the annual report, which stated that the income in the grant department showed an increase of £500 over the previous year, and this enabled the committee to increase the amount of the grants in some of the more urgent cases. Many more really deserved an increase, but this was not possible. If each subscriber would make a point of asking one medical friend to become a contributor this would help the committee greatly. At present only 7 per cent. of the profession subscribed. The total received during the year in subscriptions and donations was £3,856, while the amount distributed to 241 cases was £3,372.

In the annuity department the income amounted to £4,122. There are 178 annuitants, fifty of which are of the value of £26 per annum, one hundred of £20 per annum, and the remainder varying amounts.

The *War Emergency Fund* had expended since its inception upwards of £20,000, and at the present time were educating over forty sons and daughters of medical men at public and other schools. The total amount received for this Fund was £35,620.

Cordial votes of thanks were accorded to the Officers, to the Editors of the *British Medical Journal* and the *Lancet*, and the Honorary Auditors.

Sir Thomas Barlow, Bt., K.C.V.O., was re-elected President, Sir Charters J. Symonds, K.B.E., Honorary Treasurer, and Dr. Newton Pitt, O.B.E., Honorary Secretary.

England and Wales.

VOLUNTARY HOSPITALS COMMISSION.

WE are informed by the Ministry of Health that the grants made by the Voluntary Hospitals Commission now amount to over £127,000. Among the more important of the recent grants are:

	£
Bristol Royal Infirmary (for reopening closed beds)	3,350
Sheffield Royal Infirmary	10,000
Sheffield Royal Hospital	7,650
Royal Albert Hospital, Devonport	1,000
Middlesex Hospital	5,000
West London Hospital	3,500
Prince of Wales Hospital, Tottenham	1,800

The majority of grants up to the present have been made to London hospitals, but this is mainly due to the fact that the figures for income and expenditure in 1921 were available earlier in the case of hospitals in London than in the provinces. Hospitals which had a deficit on the maintenance account for 1921 should, it is added, take steps to complete their accounts without delay, so that they may be in a position to apply through the local Hospital Committee for a grant.

MEDICAL REMUNERATION AT PLACES OF DETENTION.

The London County Council is reducing the remuneration of doctors employed part time at the two places of detention in London in association with reformatory and industrial schools. The present remuneration of the practitioners attached to these two places—Pentonville Road and Ponton Road—is £120 and £150 a year respectively. It is proposed now to vary the remuneration according to the number of children in the institutions, which number has a tendency to fall. The scale is to be £40 10s. a year when the total number of persons (children and staff) entitled to medical attendance is under thirty, 11s. a year for each person beyond thirty, and an additional payment of £54 in respect of every 1,000 children passing through the institutions in a year. As the children dealt with at Ponton Road are of a younger age than those at Pentonville Road, and consequently need more medical care, an extra sum of £13 10s. a year is to be granted to the medical officer at the former place. The total remuneration on the basis of last year's numbers will be approximately £132 for the officer at Pentonville Road and £102 for the officer at Ponton Road.

THE QUALITY OF GAS SUPPLIED IN LONDON.

Figures were submitted to the meeting of the London County Council on April 4th with regard to the quality of the gas supplied in London. The three gas companies which supply the greater part of London are the Gas Light and Coke Company, the South Metropolitan Gas Company, and the Commercial Gas Company, and the percentages of carbon monoxide in the gas supplied by these companies in January and February of this year were respectively 15.8, 7.6, and 12.5. The corresponding figures for 1921 were 19.7, 9.6, and 17.7. Only once during the past ten years—at the time of the coal strike of 1912—has the amount of carbon monoxide in the gas supplied by any one of these companies exceeded the 20 per cent. which was stated by Professor J. S. Haldane in his evidence recently before the Departmental Committee of the Board of Trade to be a reasonable maximum.

THE ROYAL LIVERPOOL CHILDREN'S HOSPITAL.

The annual meeting of this hospital took place on April 3rd, and the report showed a deficit of £9,000 during the year 1921. Unfortunately, the total amount of the subscriptions came to less than £1,000. The chairman, Mr. Alfred Holt, pointed out the inevitable result of such a calamitous state of the hospital's finances. If sufficient support was not forthcoming, the council would be compelled to close some of the wards. In every direction the council had been held in check by shortage of funds. The system of payment by patients had been approved and the funds collected had more than justified the council in changing the practice of the last half-century. The treasurer's statement emphasized the parlous condition of the hospital's finances, stating that there was a very considerable decrease not only in the amount of annual subscriptions but in the number of subscribers as well. A bazaar is to be held next December with the object of wiping out the present deficit, but the final solution of supporting the hospital and keeping it out of debt has still to be found.

Two new appointments to the honorary staff have been made which it was found were essential to the efficiency of the hospital: Dr. W. Johnson was appointed honorary assistant physician, and Mr. P. W. Leathart was appointed honorary surgeon to the ear, nose, and throat department.

Scotland.

THE MORISON LECTURES.

PROFESSOR ELLIOT SMITH'S Morison Lectures on the evolution of the human intellect will be given, as already announced, at the Royal College of Physicians of Edinburgh during the first week in May. The first lecture, on Monday, May 1st, will deal with man's pedigree and intellectual supremacy, and the nature of the factors that contributed to the attainment of his distinctive mental aptitudes. In the second lecture, on Wednesday, May 3rd, Professor Elliot Smith will discuss the part played by the acquisition of stereoscopic vision in stimulating the growth and elaboration of the cerebral cortex along the lines that eventually made possible the emergence of the human intellectual abilities. At the beginning of the third lecture on Friday, May 5th, the influence of the cultivation of the sense of hearing will be discussed, and the lecturer will conclude his course by considering the method of attainment of intellectual pre-eminence within the human family. The lectures, which will be given at 5 o'clock on each day, will be illustrated by lantern slides.

CHILD WELFARE INSTITUTE FOR SCOTLAND.

Reference was made in the JOURNAL of April 8th (p. 579) to an impending conference to consider the report of a provisional committee appointed in 1918 for the purpose of indicating how effect might best be given to the scheme for establishing a Child Welfare Institute for Scotland. The conference, held in Edinburgh on April 4th, under the presidency of Lord Provost Hutchison, was reminded that the trustees of the Carnegie United Kingdom Trust had offered £40,000 for the establishment of a Scottish Institute for Child Welfare, that the offer had been gratefully accepted in 1918, that a provisional committee had been for nearly four years considering the draft constitution and endeavouring to find a site for the institute, and that the trustees were feeling some disappointment that more rapid progress had not been made. Sir Leslie Mackenzie then presented a draft constitution and scheme of organization; he showed how the buildings known as James Gillespie's School could be adapted, indicated possible sources of income, and submitted an estimate of some of the annual expenses which would be necessary. In the long discussion which followed criticism was mainly directed towards the financial proposals, many speakers holding that the present was not a suitable time to establish such an institute, which would put an extra burden on the ratepayers; several were frankly incredulous as to the estimated cost of running the institute, and Professor Munro Kerr of Glasgow said he did not believe it was possible to conduct an institute of the kind on £1,500 a year and contribute anything to science. With the exception of Professor Munro Kerr the medical representatives present took no part in the discussion, which, as has been said, dealt entirely with finance; but among themselves there was a free expression of opinion that many, if not all, the objects sought for in the Institute might be obtained by co-operation with existing medical institutions and by strengthening the resources of existing child-welfare work; the proposal to set up a special library of child-welfare literature in such a city of libraries was regarded as superfluous. In the end the Lord Provost suggested that the meeting could approve generally of the constitution, that it could be sent down to all local authorities and associations and others interested for their observations, and that these bodies should be asked whether they would support an institute founded on this constitution. This suggestion was unanimously agreed to. On the day following the meeting the *Scotsman* newspaper published a leading article entitled "The Ratepayers' Burden" in which it was maintained that whilst an institute of child welfare was an estimable object in itself, the present was distinctly not the time for further costly social developments. It was also pointed out that circumstances had greatly changed since 1918, when the offer of the Carnegie Trustees had been accepted. Since the meeting a number of letters have appeared in the newspapers, most of them emphasizing the

financial difficulties of the scheme and of the time. A writer in the *Glasgow Herald* suggests that the Carnegie Trustees should earmark the grant, without prejudice, and allow a final decision to be deferred, say, till 1925.

ACTION AGAINST THE ROYAL FACULTY OF PHYSICIANS AND SURGEONS.

A judgement given by Lord Ashmore in an action by a dental student against the Royal Faculty of Physicians and Surgeons of Glasgow and the Incorporated Glasgow Dental Hospital contains some observations of general interest. A full report appears in the *Glasgow Herald* of April 5th. His lordship said that the question in this case, stated generally, was whether a certificate of attendance granted to the plaintiff by the dean of the Glasgow Dental Hospital was or was not binding on the defendants. The determination of this general question, however, had involved a somewhat intricate inquiry as to the genuineness or otherwise of initials of members of the staff of the Dental Hospital upon charts which purported to record the details of the plaintiff's work as a student at the hospital. He said that he ought to explain that counsel for the defendants also contended, and he thought rightly so, that the defendants in the discharge of their administrative duties towards the plaintiff, and in a question with him, were not bound to establish positively and definitely that the pencillings in question were not genuine; but that it was sufficient for them to show—as his lordship thought they had shown—that they acted as they did not capriciously, but reasonably and regularly and with all care and consideration that the circumstances called for and permitted. Lord Ashmore gave judgement for the defendants, the Royal Faculty of Physicians and Surgeons of Glasgow and the Incorporated Glasgow Dental Hospital, and found them entitled to costs.

Correspondence.

PERNICIOUS ANAEMIA.

SIR,—Dr. William Hunter, in the JOURNAL of March 18th, expresses his intention of giving a new name ("glossitic anaemia") to the disease long and generally known as pernicious anaemia. His reasons for the change are, briefly, two in number.

First, he claims that patients are frightened by the name "pernicious anaemia." No doubt many of them are, but not, in the majority of cases, for the reason he urges. The word 'pernicious," if we look it up in the dictionary, no doubt has the meaning "deadly." But as used in general speech it has not this connotation. If we say that a man is a pernicious liar we mean that he is a specially virulent sort of liar but not that his lying causes death and destruction; if we say that to be constantly changing the names of well-known diseases is a pernicious habit we mean that it is a habit to be severely reprobated but not one with necessarily fatal consequences. But if a patient has had some friend or acquaintance who has been said to be suffering from pernicious anaemia he has probably seen him get rapidly worse and speedily die without the treatment that has been applied doing much, if anything, to delay the fatal ending, and he is naturally frightened if he is told that he has the same fell disease. To call the condition "glossitic anaemia" would only have a very temporary effect. Patients for a time would be cheered by being told that they had not pernicious anaemia but only glossitic anaemia (just as many patients in past days have been reassured that they had not a cancer but only a sarcoma), but before long they would learn that the sufferers died just as surely from glossitic anaemia as from pernicious anaemia, and the name would soon acquire the same dread significance.

Secondly, he claims that glossitis is a constant and early sign of pernicious anaemia, and consequently is of outstanding value as a distinctive feature of the disease. To this I may say that for twenty years past I have especially asked every one of many scores of cases of pernicious anaemia that I have seen about soreness of the tongue. The majority have admitted it, but quite a considerable proportion have never had any sign of it, even up to a fairly late stage of the disease. I can confidently assert that "*sore tongue*," *though a frequent sign, is by no means a constant feature of pernicious anaemia, and, further, that even when it does occur it is not necessarily an early sign.*

A recent article in the JOURNAL gives evidence of the confusion which is liable to arise from attempts to change the names of well-known diseases. A suggestion was made some years ago to designate pernicious anaemia by the term "Addisonian anaemia." Mr. Thomas Sinclair of Belfast, writing in the JOURNAL of March 11th on the surgery of the blood, says: "In pernicious anaemia the part played by surgery has hitherto been inglorious if we consider the results of splenectomy in the management of the ordinary type; while in the Addisonian variety the extirpation of the adrenals has been equally unsuccessful." It is evident that he has been misled by this "pernicious" habit of changing names into confusing the so-called Addisonian anaemia ("the Addisonian variety of pernicious anaemia"), which has nothing to do with the adrenals, with Addison's disease, which, of course, has!

The one point in which I am in hearty agreement with Dr. Hunter is in his regret that both the public and practitioners in general have come to regard pernicious anaemia as almost necessarily speedily fatal, whereas it is a disease which is, for a time at any rate, eminently amenable to treatment, in which life may often be much prolonged and which may occasionally be cured.—I am, etc.,

Manchester, April 9th. CHARLES H. MELLAND.

SUNLIGHT AND RICKETS.

SIR,—At the conclusion of your leading article in last week's JOURNAL (p. 611) on sunlight and rickets it is suggested that studies similar to my own in India should be repeated in this country, paying due attention both to diet and to hygiene. Such inquiries have already been carried out in Glasgow by Dr. Leonard Findlay in 1915, and again in 1918 by Miss Ferguson, working under the direction of Dr. Findlay and Professor Noël Paton. In 1919, through my association with these investigators, I became familiar with their work, and this knowledge enabled me to appreciate the fact that, if Findlay's views were correct, rickets should be common among the better classes in Nasik, where seclusion of women and children is practised. My investigations followed closely those of the Glasgow inquiry.

In Nasik conditions for such an inquiry could hardly have been better arranged in a laboratory experiment. Here the better classes had the confinement factor present with the better diet, while the poorer classes ate the poorer diet and were not confined. It would be impossible in this country to find the causal factors so suitably arranged. Bad hygiene and poor diet are both found in the poorer classes, and neither in the well-to-do; hence the well-to-do must be left out of account altogether, and in Miss Ferguson's study of the one social class it was found that the great predisposing factor was bad hygiene and poor parental care.

To my mind, the striking point was the occurrence of rickets in the better classes in India, and probably this is the only country in the world (excepting some Mohammedan states) where such a condition of affairs exists and also where seclusion of women and children is a definite custom. It should be mentioned, however, that this system of purdah—that is, seclusion of women and children—is not a religious matter so far as Hindus are concerned. All the Hindus that I have met repudiate the suggestion that their women kept purdah, but they readily admit that they are secluded by custom.

I tink the strongest evidence in favour of Findlay's view is to be found in my cases of late rickets. Sixteen out of seventeen cases were in the better classes, all were females, and the age of onset in the big majority was between 12 and 13 years. Well-to-do girls go to school and run about till the age of 12, when they go into seclusion. Within a few months of this late rickets develops. There is no change in the diet. Their brothers, who eat the same diet but who do not go into purdah, do not get the disease. Neither do poorer Hindu women, who eat a much poorer diet and who keep no purdah whatever.

Lastly, I may mention that the houses occupied by the better classes in Nasik are not stuffy in the sense that we understand the term in this country. There was an absence of moving air and the rooms were small, hot, and very dark. —I am, etc.,

Glasgow, April 17th. H. S. HUTCHISON.

SIR,—I read with interest your article on rickets in the JOURNAL of April 15th (p. 611). I was reminded by it of a conversation I had a few years ago in the lion house at

the Dublin Zoo. A good many lions are bred there, and a very intelligent keeper discussed their health and upbringing. He said the chief trouble they had with them was rickets, but since they had increased the amount of fat in their diet no cases of rickets had occurred. This would tend to show that the food factor is of greater importance, as the lion house is light and airy.—I am, etc.,

Acton, W., April 16th. W. A. RUDD, M.D.

THE HOSPITAL POLICY OF THE LABOUR PARTY.

SIR,—It seems to me that the most important recommendation of the Labour party in its statement of policy with regard to hospitals is one which you do not name specifically at the beginning of your leading article of April 8th (p. 571), although it is dealt with in the course of your argument. Recommendation 11 says: "It [the Labour movement] would make all public hospitals free and open to everyone who would be likely to derive benefit from institutional treatment." This proposition (assuming that the Labour party uses the term "public hospital" to distinguish it from the private hospital or nursing home) could only be carried out by the State, and so leads naturally to Recommendation 1 and indicates the authority which, in the opinion of the Labour party, should organize a complete hospital system.

Free hospital treatment open to everybody is by no means an impossible proposition. The State, through municipalities and other public bodies, has already taken over the provision of many necessities, such as roads, sewers, water supply, postal services, the treatment of some diseases, the prevention of others, education. There is no reason to suppose that the State provision of free hospital treatment would be any more difficult than the State provision of free education. It could hardly be more costly.

In discussing the proposition of free hospital treatment for all it would be useful to have a résumé of the arguments in favour of the retention of the voluntary system, and of the evidence in support of those arguments; and for this reason I regret that your very able leader was limited mainly to criticism of the misstatements and perversions of the Labour party's manifesto. Doubtless the arguments for the voluntary system have already been set forth by Lord Cave's Committee. But the best answer to Labour's statement is to reiterate the arguments on the other side.

I suggest that the advantages of the voluntary system are to be found under the following headings: cost, competition, humane treatment of patients, freedom of staffs from bureaucratic control, encouragement of the charitable. The matters in which the voluntary system is likely to fail unless very strenuous efforts can be made are: accommodation, distribution, co-ordination, transport. The directions in which no solution will be found, whatever the aspirations of the Labour party may be, are: the avoidance of class distinction and the abolition of hours of waiting. And it is highly unlikely that representation of public bodies or of small contributors on boards of management will lead to any benefit.

There is, perhaps, some interest in the question whether there is any difference, and if so what, in the provision by public authorities of such things as sewers, and of such advantages as education and hospitals. Is it not possible that sewers do not directly affect the individual, who is therefore indifferent to the provider, whereas with the more intimate concerns of education and health there is a tendency to feel that better value is obtained by paying for them directly rather than unwittingly by means of rates?—I am, etc.,

London, W., April 12th. CHAS. BUTTAR.

SIR,—The leading article in the JOURNAL of April 8th (p. 571) is unjust to the leaders of progressive political thought and to those medical men and women who have spent laborious years in seeking some better way by which the people may have their ills attended.

The profession of medicine has always been held in unusual honour by all sections of progressive political thought. It has been, indeed, looked to as one of the safeguards of the personal liberty of the citizen. The doctor could be relied upon, it was thought, by virtue of his humanist calling to give a sympathetic ear to the poor and ailing as against a robust and well-to-do oppressor. Recent difficulties have not arisen on this side, but have their origin in the conduct of the insurance system by which the Government, societies, and medical practitioners appear to come into positions of disharmony.

The tragedy of the insurance service has given birth to fresh evils. The new form of service tends to set up standards of practice in which the essentials of our art in the care of the individual are subordinated to the need of keeping pace with exacting non-medical details required by a bureaucratic control. In the impossible task of working for patient, society, and committee, complaints multiply and all four parties are at loggerheads. The public, reading of these quarrels in the press, is critical of medical affairs. Tales of the wealth of doctors, their motor cars, frequent and expensive holidays, and other forms of luxuriant living mask the fact that the great majority of medical men and women have small incomes and live as modest and strenuous a life as any section of the community. The alienation of some part of public sympathy is accompanied by the increase of eclectic practitioners, mental cults, and spiritual healing, unwelcome facts to those who believe the soundest and highest forms of healing of body and mind are and should be obtainable within the fraternity of medicine.

The ancient traditions of our profession have always had an humanitarian basis, and included the highest consideration for the individual patient. This regard for the personal freedom and welfare of the patient has been equally the chief aim with the leaders of progressive political thought. They have sought in every way to gain the whole-hearted co-operation of the profession on behalf of the health of the community. How, then, has the separation, so strongly marked in the leading article, arisen? It is partly, at least, a misconception which could be removed by amicable parley. We may remind ourselves of the results of such time-old disputes by the words of Coriolanus on meeting the tribunes of the people:

> "when two authorities are up,
> Neither supreme, how soon confusion
> May enter 'twixt the gap of both, and take
> The one by the other."

The fresh disaster which has so suddenly arisen, in so far as it results from practical administrative and financial difficulties with which the Government and the societies have to contend, is their business to solve. The profession, however, is being penalized apparently through these bodies seeking to transfer blame to the profession for their own deficiencies. They cherish the fond illusion that if they can control the doctor most of these difficulties will disappear. The doctor will be taught to manage their members, and that will save them much trouble. The system now being evolved seems to be a means to that end. It is not only foreign to the customs of the healing art, but bears little resemblance to the aims and principles expressed in the best progressive political literature. On the contrary, it is directly opposed to them. Instead of making for social freedom and the evolution of a fraternal body politic, the present trend restricts the individual, creates animosity, and makes for inefficiency.

There is no support in the best progressive opinion for the control of any section of the community by another. The trend of thought is strongly against such a development and in favour of independence of the arts and crafts. Least of all would it support any governmental, financial, or industrial sections in an attempt to control and refashion an art and craft so specialized as that of medicine.

The present issue is confused partly by the use of terms which are now beginning to pass into disuse. Such are "State service" and "nationalization," referred to in the article. These earlier names have become abused and distasteful and should be replaced by others relevant to present aims.

It is clear the profession in England will during the next generation find itself on a new road. In which direction should we tend? In a letter already far too long it is impossible to pursue such a question. What we need to remember is that the best progressive political thought, far from being inimical to medical interests, is the warmest advocate of the profession. It would not hinder or enslave but aid the evolution of medicine as a free art and craft and assist its true function of thinking out and applying the best means for the relief of ailing humanity and the advancement of the health of the community.—I am, etc.,

Forest Gate, E., April 11th. V. J. BATTESON.

THE NATURE AND SIGNIFICANCE OF HEART SYMPTOMS.

SIR,—Sir James Mackenzie's article of April 1st (p. 505) raises one very interesting question, for which I think no satisfactory solution has yet been offered. We are told that one of the characteristics of heart muscle is the latent period.

This latent period may roughly be divided into two parts. No stimulus, however strong, if applied during the first half will produce a response. In the second half a stimulus will produce a response of subnormal strength, to be followed by an interval equal to the remaining moiety of the interrupted latent period and the succeeding one, before the occurrence of another normal beat. In practice these experimental deductions are confirmed in the normal heart, subject to occasional extra-systoles of auricular origin.

There are, however, two conditions—auricular fibrillation and idio-ventricular rhythm—in which the heart muscle seems to lose this characteristic.

Sir James Mackenzie has suggested, in explanation of some other peculiarities which these conditions have in common, that there is a difference in the quality rather than in the quantity of the stimulus governing the ventricular contractions. Adami suggested some years ago that the impulse arising from the sino-auricular node governed dilatation no less than contraction, and that the first part of the latent period, during which no stimulus is effective, might be regarded as a period of active dilatation, or stretching of the cardiac muscle, such as occurs in other muscles under the influence of reciprocal enervation.

Grouping these two suggestions some conclusions may, I think, be tentatively drawn, subject to further experimental findings:

(1) That the cardiac cycle consists not merely of an active and a passive phase, but of two phases of oppositely directed activity.

(2) That the co-ordination and timing of these two phases is under the control of the conducting system of the heart.

(3) That with the disappearance of this control sporadic impulses of a contractile or dilatory nature arise at different points in the heart musculature, and thus lead both to defective filling of the ventricles on the one hand and inadequate contraction on the other.

Finally, it may be suggested that the latent period, or dilatory phase, is characteristic of the conducting system; and that the difference in quality, suggested by Sir James Mackenzie, may well be the entire disappearance of active dilatation, to be replaced by passive dilatation and irregular and inco-ordinated contraction.—I am, etc.,

Dublin, April 5th. T. W. T. DILLON.

THE RECOGNITION OF AORTIC INCOMPETENCE.

SIR,—It has long been my intention to write to the JOURNAL concerning a systolic murmur at the second right space, and my attention was recalled to the subject by Dr. Brockbank's remark that he could not "hear ear to ear" with Dr. Broomhead. This murmur is undoubtedly very common, and I could let Dr. Brockbank hear it at any time. Before the war I had made the murmur the subject of a very complete investigation and had satisfied myself that I had discovered the cause of it. I did not at that time publish the paper and it has lain ever since waiting the light of day. I may say that it was at the instigation of the late Professor Greenfield of Edinburgh University and of Dr. Alex. James of Edinburgh that I went into the subject of this—as far as I could ascertain—unrecorded murmur, and that I hope to send a communication to the JOURNAL in due course.—I am, etc.,

Perth, April 7th. THOMAS LINDSAY, M.B., F.R.C.S.E.

VIENNA KLINIKS.

SIR,—In the Klinik Hajek I saw a course being held in English for eight people, presumably Americans and English. These courses are of an advanced kind, specially adapted to the graduate student. All the cases are carefully selected and studied beforehand, so that no time is lost. This is in contrast to the English method, whereby half the time is wasted in the routine work connected with the clinic.

At the Klinik Hajek constant use is made of the binocular glass of Wesserly, whereby both eyes are used for all operations. I may add that Professor Hegener of Hamburg always uses his binocular apparatus, even for the out-patient examinations. No instrument maker in London seems to know anything about such instruments.

This Klinik is a large building with many small wards. Particularly striking is the large number of cases of total extirpation of the larynx. The Klinik also possesses a large phonetic laboratory with a speech clinic, which runs morning and afternoon five days in the week. It has an excellent apparatus equipment, including a fine drum for making speech records and a laryngostroboscope. It is in charge of Dr. Hugo Stern. He states that he has treated 613 cases of laryngectomy, and has taught all but two to speak well. His method is to teach them to swallow (!) air and then speak with a new vibrating adjustment formed in the lower pharynx. The success is almost incredible. Many persons return to employments where they have to speak much and to telephone. At my visit two such cases happened to come in; they were actually able to speak clearly. The result depends on the skill of the physician in teaching the patient to swallow air; this is not the gift of everybody.

The interest of Vienna in speech work is remarkable. At another hospital there is a large speech clinic in charge of a physician. In the building of the Physiological Laboratory there is the Phonogram Archive founded by the famous Professor Sigmund Exner. A Society of Experimental Phonetics—whose members are largely medical men—holds regular meetings.

This account would not be complete without reference to the conditions of living in Vienna. Two pictures may be contrasted. Living at the finest hotel and in the most expensive style I did not succeed in spending more than 6 shillings a day, as the rate of exchange was £1 = 45,000 crowns. The other picture was a sad one. An American has arranged so that the professors of the University can obtain a lunch at a certain restaurant for 40 crowns (= 1 farthing). A hundred of the most famous men of science and learning are present every day. A tram fare costs 60 crowns and they cannot afford to go home and back for lunch.—I am, etc.,

E. W. SCRIPTURE,
Medical Officer of the Speech Clinic,
West End Hospital, London.

London, E., March 29th.

REDUCTION OF MEDICAL FEES.

SIR,—I would like to assure Dr. Wilson Shaw that I had no desire to make an "April fool" of him, and that I really intended him to take me seriously. I fully sympathize with his grievances, but I am afraid most of the facts he brings to your notice are entirely beside the mark as far as the suggestion contained in my letter is concerned.

If the profession consider that their pre-war fees were not a just recompense for their services, I see no reason why the whole question of fees should not be reconsidered on its merits; but to obtain that increase under the cloak of the increased cost of living solely, as was recommended by the Council of the British Medical Association, would, in my opinion, be a lack of honour on the part of the profession. It is in honour bound to fall into line with those who, like the civil servants, have been compulsorily required to submit to a reduction of their bonuses and salaries as the cost of living has come down. How much greater prestige will the profession obtain if it does this on its own initiative than if compelled to do so through the force of public opinion!

It is chiefly those who are in touch with medico-politics who appreciate the loss of prestige the profession has undergone of late years. I fully realize that it will be a big act of self-denial on the part of each one of us, and I speak for myself if my suggestion is carried out by the Council, and consequently all the more honour to us, but I am fully convinced that we are in duty bound, as the cost of living has decreased, to make some reduction on that 50 per cent. increase, and that by doing so we shall show the public that our fight against the State for just and fair remuneration is entirely a matter of principle and not a grabbing for mere filthy lucre.—I am, etc.,

Woldingham, April 9th, 1922. W. McD. ELLIS.

THE CONFERENCE OF STAFFS OF HOSPITALS.

SIR,—Mr. Harman is right[1]; he made no mention of non-payment of lay boards while insisting on their voluntary uncontrolled service, and thereby demonstrated his failure to grasp essential factors. Plainly, if hereafter boards are paid, the party who pays, be it State, county council, or trade union, will eventually rule the board, and farewell then to voluntary

[1] BRITISH MEDICAL JOURNAL, April 8th, 1922, p. 582.

control. Moreover, those "volunteers" whom he mentions, once they had accepted the King's money, were liable to court martial if they disobeyed orders, and their "voluntary" enlistment was no protection to them. Mr. Harman evades my actual question, which had reference only to logic and sentiment. In December, 1920, having in the morning repudiated logic on the plea of sentiment, in the afternoon he supported the Leicester motion, which originally began: "That the logical position for the members . . . to take up . . . is." It was a crudely unsentimental plan based exclusively on logic. It is true that Dr. Clarke, perceiving that Mr. Harman had torpedoed his pet proposal, held hurried consultation with him, and elided the passage quoted, but this belated tactical manœuvre in no way altered the facts, and indeed, while erasing the word "logic" from his motion, Dr. Clarke forgot to eliminate it from his speech. I described at the time my impression of that conference thus: "All the morning we did lip-service to the 'voluntary system' to preserve our dignity, and murdered it in the afternoon to line our pockets." Mr. Harman has turned a second somersault concerning the Gordon Dill scheme, which he applauded in November, 1921,[1] and now condemns. Three is said to be a lucky number; is it too much to hope that he may exhibit presently a third performance, and rescue the voluntary system from inevitable ruin by execrating the Leicester motion?—I am, etc.,

Chichester, April 8th. G. C. GARRATT.

SIR,—I thank Dr. Garratt and yourself for the courtesy of a sight of Dr. Garratt's letter of April 8th. This letter, and that of his dated March 30th (printed in your issue of April 15th), contain so many excursions that, were I to attempt to deal with them seriatim, I fear my labour would be in vain; for even if you were so liberal of space as to print so much, I doubt if anyone would spare the time to read it. Besides, the answers to them all—are they not written in the pages of that admirable report of the proceedings of the recent Conference which was printed in the SUPPLEMENT of April 1st?

The proper retort to Dr. Garratt's general criticism, to my thinking, is not to be found in adventures into scrappy polemics or guessings as to what may be or what may hap, but it is to be found by concentrating attention on the essential points of the Association policy. These points are summed up in paragraph 3 of the introductory section of the report (printed in the SUPPLEMENT of February 25th, 1922, p. 45):

> "3. The Association recognizes a dual policy as regards the voluntary hospitals: (*a*) that the purely charitable side should be continued wherein the whole cost of the maintenance of indigent patients is met by the gratuitous contributions received by the hospital and on whose behalf the services of the honorary medical staffs are given gratuitously; (*b*) that other patients who are not indigent may be received for treatment at voluntary hospitals when adequate treatment cannot be obtained elsewhere, and that for them payment should be received by the hospital either from the patients themselves or on their behalf from the authority or body referring them to the hospital, and that on account of their treatment some method of remuneration of the honorary medical staff should be arranged."

The real question is: Are these points fair and just as between all parties concerned? I for one think that they are both fair and just, and so fair and just that we members of hospital staffs may, as reasonable men, press the acceptance of them upon those other reasonable men who manage our hospitals.—I am, etc.,

London, W.1, April 12th. N. BISHOP HARMAN.

ANTISEPTIC COAL-TAR DYES.

SIR,—With reference to the leader in last week's issue of the JOURNAL on the antiseptic action of the coal-tar dyes, it is an interesting fact that this action has been known to the mill workers in Yorkshire for many years.

More than twenty years ago the owner of a mill in Yorkshire for manufacturing and dyeing serges showed me round his works. I noticed a mill operative who had cut his finger dip it, while still bleeding, into a vat of, as far as I can remember, indigo-blue. I asked the reason for this and was informed by the owner of the mill that it was the custom of all the operatives, when they cut themselves, to bathe the injured part in the dye, as they were convinced that this prevented sepsis and hastened healing. I regret now that I did not pursue the matter further.—I am, etc.,

Glasgow, April 16th. DAVID MACDONALD.

[1] BRITISH MEDICAL JOURNAL, SUPPLEMENT, November 26th, 1921, p. 198.

RESUSCITATION AFTER APPARENT DEATH.

SIR,—Correspondence on resuscitation after apparent death induces me to place on record the following remarkable case in which blood-letting after apparent death saved a life. It emphasizes the importance and urgency of venesection under exceptional circumstances. And the rapidity of the procedure was an essential factor if success were to be obtained.

A. B., a diver, aged 27, was removed out of a depth of water alongside a pier. He was wearing a diving dress, and was believed to be dead. I was quickly to hand and found him in breathless asphyxia with dilated pupils and insensitive conjunctivae. No pulse could be felt nor heart sounds heard on applying my head to the bare cold chest. I adopted the practice of artificial respiration (Howard method) for at least three minutes, having previously opened a vein over the right elbow with a pocket knife from one of the assembled crowd. Friction of the extremities and warmth were being attended to. Blood oozed from the vein soon after its incision, when suddenly it spurted and there was a voluntary respiratory gasp. Artificial respiration was soon followed by natural breathing. Fifteen ounces or thereabouts of venous blood had escaped from the vein when I tied the incision with my handkerchief over a small pad.

I found the interior of the diving dress quite dry and so no water had entered his chest.

The patient remained, after his removal home, blind and semi-unconscious for forty-eight hours. Petechiae were noticed on the body; melaena followed with blood in the urine. The ophthalmoscope detected retinal haemorrhages. He was also deaf. His vision returned gradually on the fourteenth day. He had no memory of what had happened to him.

At no period did he have subcutaneous injections or saline infusion. The only course of medication was calomel and Epsom salts.

He was restored to health after six weeks of invalidism.

The history of this man is interesting, for had I not released the engorgement of his venous system, had I cut down on the cardiac region and squeezed the heart, surely I should have spoilt what spark of life was still resident in that congested organ. The subsequent record of the case proves that there was much capillary escape of blood into the body tissues, including the head and abdomen.—I am, etc.,

Bournemouth, March 20th. JOHN F. BRISCOE.

Obituary.

ARTHUR WILLIAM BACOT, F.E.S.,

Entomologist to the Lister Institute of Preventive Medicine.

By the death of Mr. A. W. Bacot on April 12th, from typhus fever contracted in the course of experimental research into this disease in Cairo, medical entomology has suffered a grievous loss, and his death adds one more to the already long toll of victims which this disease has claimed in the attempt to solve its still mysterious etiology. The circumstances are doubly tragic in that as we write (April 18th) his colleague Dr. J. A. Arkwright, who fell sick of the same disease about April 6th, lies in a critical condition.

Bacot and Arkwright went to Cairo in January of this year, at the request of the Egyptian Government, to carry out researches into typhus fever, a disease which has long been endemic in that city. The opportunity of continuing their researches in a city where fresh material would generally be available was welcomed by both experts, and all the more so as their previous experience both with trench fever, typhus fever (in Warsaw and at home), and the *Rickettsia* problem generally had indicated what might prove to be likely lines of investigation. Laboratory accommodation was provided for them at the Hygienic Institute, of which Dr. Charles Todd is director, and there, as we know from letters dated so recently as April 3rd, both workers were mainly occupied with experiments on lice infected with typhus virus obtained from cases at the Infectious Hospital. Mr. Bacot fell ill about March 25th, and for some days the diagnosis was uncertain, the onset suggesting enterica. He was removed to the Fever Hospital at Abbasieh on March 30th, and from that date the diagnosis was not in doubt. He reached a crisis about April 8th, but lung trouble with some secondary fever intervened and death took place on April 12th. Dr. Arkwright was removed to hospital on April 7th, and his wife, who had accompanied him to Cairo, was installed to help in the nursing.

Arthur William Bacot was appointed entomologist to the Lister Institute in 1911 with a long record behind him of experience and research in insect bionomics, and from that date his energies were devoted to the medical aspect of his subject. Probably few persons in the world were so well qualified as he in insect lore and experimental technique, to

carry out research on insect vectors in connexion with human disease. Contributions from his pen, published in these pages and elsewhere since 1911, number nearly forty; here one can pick out only the more salient features of his work. From 1911 to 1914 Bacot was chiefly occupied with research into the bionomics of fleas and their rôle in the transmission of plague from rat to man. With C. J. Martin he conducted a most fascinating experimental investigation into the minute mechanism by which the infected rat-flea succeeds in passing on the virus of plague. He showed also, among other researches on fleas, that certain bacteria taken into the alimentary canal during the larval phase might survive the metamorphosis. In July, 1914, Bacot proceeded to Sierra Leone to take part in an investigation into yellow fever, his services being placed at the disposal of the Colonial Office. His work for this Commission on the bionomics of *Stegomyia fasciata* (*Aedes calopus*) appeared in 1916.

On his return to this country in October, 1915, Bacot turned his attention to the bionomics of lice, with the special object of devising simple means of sterilizing clothing and preventing louse-borne infection, and he accepted the position of honorary adviser to the War Office on entomological questions. During the war Bacot's advice in all matters pertaining to insecticides was eagerly sought and valued. In December, 1917, Bacot and Arkwright joined the Trench Fever Committee formed by the Director-General A.M.S. for the study of trench fever, and the committee was not long in being before definite experimental evidence was obtained of the carriage of the trench fever virus by the louse. Bacot had control of the entomological side of the inquiry, was responsible for the supply of infected lice, and superintended their feeding on trench fever patients and the collection of the louse excreta for further experiment. In the course of this work Arkwright, Bacot, and Duncan described the peculiar *Rickettsia* bodies found by them in the gut lumen and excreta of infected lice. These bodies did not appear in the louse until a period of eight or twelve days had elapsed after a feed on a trench fever patient, and it was only then that such lice were found capable of again infecting men.

Parallel experiments were undertaken with typhus fever virus obtained from Ireland in 1918, and since that time Bacot's work has been concerned almost exclusively with experimental research bearing on the rôle of *Rickettsia* bodies not only in lice experimentally infected with the virus of typhus fever but also in insects other than lice, such as the bed-bug, which appears to harbour very similar parasites. In 1920 Bacot's services were lent to a Commission appointed by the League of Red Cross Societies which proceeded to Poland to investigate typhus fever. The work of this Commission, recently published in book form by Drs. Wolbach and Todd, strongly supports the claim of *Rickettsia* bodies to represent the actual virus of typhus fever; the subject, however, is still *sub judice*. While in Warsaw (1920) Bacot fell a victim to trench fever, and he communicated to the BRITISH MEDICAL JOURNAL (1921) an admirable account of that illness with fully documented experimental details. This is of some interest in the light of his tragic death from typhus.

The loss to science by his death at the comparatively early age of 56 deprives the Lister Institute of a most able and fruitful investigator and a personality that charmed all who had the pleasure of his friendship.

J. C. G. L.

Dr. MAJOR GREENWOOD sends the following tribute to Bacot's memory:

Bacot knew the risks he ran. In his letters to me from Poland he dwelt upon the danger of infection from the excreta of lice; he was aware that even his masterly technique was not accident proof; he knew what was the prognosis of typhus in a man of 56. He also knew that no younger man had his special powers or could take his place in the collaboration with his friend Arkwright. So he gave himself for humanity, without, I believe, even dreaming that it *was* a sacrifice, for the note of the man's character was a selflessness which is rarer than unselfishness. He combined a masculine scepticism in thought with a feminine tenderness in action which I suppose Plato loved in Socrates:

"'But I may and must pray to the gods that my departure hence be a fortunate one; so I offer this prayer, and may it be granted.' With these words he raised the cup to his lips and very cheerfully and quietly drained it. Up to that time most of us had been able to restrain our tears fairly well, but when we watched him drinking and saw that he had drunk the poison, we could do so no longer, but in spite of myself my tears rolled down in floods, so that I wrapped my face in my cloak and wept for myself; for it was not for him that I wept, but for my own misfortune in being deprived of such a friend."

There is more than one Phaedo amongst Arthur Bacot's friends.

THE LATE PROFESSOR F. D. BOYD.

DR. NORMAN WALKER writes: Boyd and I were at the Edinburgh Academy together, but four years' difference in age makes a big gap between schoolboys, and I only knew him then as a small boy with very red hair, a very bad stammer, and a rather hasty temper. Nature gradually altered the first, and the others were conquered by his own determination. Those who listened to his lucid and interesting clinical lectures in recent years will hardly believe that in his student days conversation with a stranger was positively painful. It was probably this failing which was responsible for the fact that he failed to obtain honours with his M.B., and he used whimsically to recall his experience of meeting in an oral an examiner who had an equally bad stammer and who thought he was impertinently mimicking him. He was house-physician with Dr. Brakenridge, one of the last of the old school of Edinburgh physicians, who combined a select family practice with hospital and consulting work. When I returned to Edinburgh in 1891 I found myself within a few yards of the house where Boyd had just put up his plate, and we took up the threads of a friendship which was unbroken and unclouded for over thirty years.

I do not think he had any medical ancestry, but he had an interesting family connexion with the Royal Infirmary, for his uncle, Sir Thomas Boyd, was Lord Provost when the new infirmary was built, and contributed so much to the success of that great undertaking that the managers placed his bust *vis-à-vis* to that of Drummond, who was Lord Provost when the original Royal Infirmary was founded, at the main entrance of the institution. He had the inestimable advantage of having to struggle hard in his early days, and he owed his ultimate success to his own exertions only. The way of the Edinburgh consultant is different from that of his London colleague, and Boyd began as a general practitioner, and to a small extent as a club doctor. It was probably this experience and the knowledge therein acquired that there was some good as well as a lot of evil in contract practice which was responsible for the moderate attitude he assumed during the Insurance Act controversy in 1911. Later he secured the appointment of Certifying Factory Surgeon for Edinburgh; then that of extramural clinical tutor, the duties of which post occupied the hours from 6.30 to 8.30 on four evenings of each week throughout the session; and he was one of the physicians to the New Town Dispensary, then one of the most popular of these peculiarly Edinburgh institutions. All these appointments brought him in a little money which enabled him to keep the wolf from the door. They took up a lot of his time, but not all his time. He kept steadily in view his ambition to be a hospital and consulting physician, and every minute he could spare was spent in research work in the laboratory of the Royal College of Physicians. There, under the influence of Noël Paton, he devoted himself mainly to biochemical work and published many papers, alone or conjointly with fellow workers. For a time he lectured in the extramural school on materia medica and therapeutics, and held for the usual term the post of university examiner in these subjects. But I think he was glad when the time came when he was able to transfer his energies to the teaching of clinical medicine, for, like most Edinburgh physicians, he was devoted to teaching, and he let nothing stand in the way of his clinics. As professor of clinical medicine he was chairman of the Clinical Medicine Board, and he was responsible for the organization of the special examination in clinical methods which elicited the encomiums of the inspector of the General Medical Council.

I think the outstanding features of his character were his determination and conscientiousness. To some people work is easy; they have no temptations not to work. It was not so with Boyd. He was a keen and excellent golfer, a keen fisherman, and a good shot. Whist and later bridge attracted him, and he was one of the liveliest at the gathering of the Octogenarian Club, of which he was secretary from its initiation. But he never let any of his diversions interfere with his work. No one could ever get Boyd to play golf with them on his dispensary afternoons, and the number of times when he did not do his out-patients at the infirmary must

have been very few. In all these years, living so close, we saw a great deal of each other, and many a night we sat into the small hours discussing matters grave and gay. He had a very sound judgement and a well-balanced mind. His temper flamed up against injustice and wrong-doing, but it soon subsided, and his ultimate attitude to an erring brother was rather that of sorrow than of anger. His attitude during the war was characteristic of the man, and both as a very intimate friend and as convener of the Emergency Committee I probably knew more of it than anyone. He was very busy and very useful at home, he had no burning desire for military glory, and he was just beginning to reap the harvest of all his hard work in a rapidly increasing consulting practice. Further, he had only recently been appointed principal medical officer to the Standard Life Insurance Company, and the directors were not anxious to lose even for a time his services. But after careful consideration of the pros and cons he came to the conclusion that it was his duty to go, and that for him settled the matter. First as physician to the 58th General Hospital in France, and later as consultant to the forces in Egypt and Palestine, he rendered very valuable services to the army, which were recognized by the decoration of a Companionship of the Bath. His C.M.G. had been awarded for his services in the South African war.*

A few days before his death he indicated a desire that there should be no display at his funeral, and in accordance with this wish the arrangements made were of the simplest possible character. But the respect and affection in which he was held were shown by the very large assemblage of Edinburgh's leading citizens when he was laid in his last rest in the Dean Cemetery beside so many of Edinburgh's honoured dead. To Mrs. Boyd, who has borne so heroically the tragedy of his long sufferings, and to his two fatherless daughters the sympathies of their friends go out in the fullest measure.

THE LATE SIR PATRICK MANSON.

Memorial Service in St. Paul's.

A SERVICE in memory of Sir Patrick Manson, G.C.M.G., M.D., F.R.S., was held at noon in St. Paul's Cathedral on Wednesday, April 12th. The officiating clergy were the Right Rev. Bishop Montgomery, Prelate of the Order of St. Michael and St. George, the Venerable E. E. Holmes, Archdeacon of London and Canon Residentiary of St. Paul's, Canon Alexander, and the Rev. E. T. R. Johnston. The service was choral, and included the hymns "Abide with me" and "Now the labourer's task is o'er," Psalm xxiii, and the anthem by S. S. Wesley, "Thou wilt keep him in perfect peace, whose mind is stayed on Thee." The lesson was from 1 Corinthians xv, and at the end of the service Chopin's "Marche funèbre" was played. The widow, Lady Manson, and Dr. and Mrs. P. Manson-Bahr were among the chief mourners. The Secretary of State for the Colonies was represented by Lord Wodehouse, the Royal Society by Sir Ronald Ross, the Royal College of Physicians by Sir Humphry Rolleston, the Royal Society of Tropical Medicine and Hygiene by Sir James Cantlie, the Seamen's Hospital Society by Sir James Michelli, the Lister Institute by Sir Frederick Andrewes, the Royal Society of Medicine by Sir John Bland-Sutton, the Medical Society of London by Mr. James Berry, the University of Cambridge by Professor G. H. F. Nuttall, the London School of Tropical Medicine by Dr. H. B. G. Newham and Professor R. T. Leiper, the London (Royal Free Hospital) School of Medicine for Women by Dr. May Thorne, St. George's Hospital Medical School by Dr. Harold Spitta, the Tropical Diseases Bureau by Dr. A. G. Bagshawe, the Wellcome Bureau of Scientific Research by Dr. Andrew Balfour, the Army Medical Service by Major-General Sir William Leishman, and the Ministry of Pensions by Colonel Sir Lisle Webb. The British Medical Association was represented by Dr. N. G. Horner, Assistant Editor of the *British Medical Journal*, and Dr. R. Scott Stevenson, Sub-editor. The large attendance also included Admiral of the Fleet Sir Henry Jackson, Sir Reginald Antrobus, Sir Charles Lucas, Dr. J. Mitchell Bruce, Miss Aldrich Blake, and Dr. G. C. Low, Senior Physician to the Hospital for Tropical Diseases, Endsleigh Gardens.

AT a recent meeting of the Toronto Academy of Medicine Dr. Newton A. Powell, chairman of the Hospital Supplies Committee, presented a bronze tablet to the Academy in memory of the Fellows who died on active service during the war.

The Services.

TEMPORARY NAVAL RANK.

THE Board of Admiralty have decided that medical officers who were granted temporary commissions as Surgeon Rear-Admirals and Surgeon Commanders during the war, and whose commissions did not terminate before November 11th, 1918, are entitled to retain their rank and also to wear the uniform of that rank on State and other occasions of ceremony within the British Empire. The dresses and occasions on which they are to be worn will be found on pp. 2301–2 of the *Quarterly Navy List*.

I.M.S. DINNER.

THE annual dinner of the Indian Medical Service will be held at the Trocadero Restaurant on Wednesday, June 14th, at 7.45 p.m., with Lieut.-Colonel J. Anderson, C.I.E., in the chair. Tickets and all particulars may be obtained from the joint honorary secretary, Colonel J. J. Pratt, I.M.S.(ret.), 63, Addison Road, Kensington, W.14.

DEATHS IN THE SERVICES.

Lieut.-Colonel David Stuart Erskine Bain, Madras Medical Service (retired), died at St. Heliers, Jersey, on March 31st, aged 66. He was born in Edinburgh on July 23rd, 1855, the son of Staff Surgeon David Stuart Erskine Bain, Army Medical Department; he received his medical education at Charing Cross Hospital, taking the M.R.C.S. and L.S.A. in 1876. After filling the posts of resident medical officer, Newark-on-Trent Hospital, and of medical officer of the Small-pox Hospital in the same town, he entered the I.M.S. as surgeon in 1879; he became lieutenant-colonel on March 31st, 1899, and retired on April 5th, 1910. Most of his service was spent in civil employment in the Madras Presidency, where he was superintendent of the Madras Lunatic Asylum (1884), garrison surgeon, Bangalore (1885), civil surgeon of Negapatam (1890), and civil surgeon of Coorg (1892). He rejoined for service in the late war from February 1st, 1915, serving in the York Place Indian Hospital at Brighton till it was closed at the end of that year.

Surgeon Major Robert Edward Heath died at Eastbourne on January 8th, aged 83. He was born at Arklow, county Wicklow, on January 1st, 1839, and educated at Belfast and Dublin; he graduated M.D. Queen's University, Ireland, in 1859, and took the M.R.C.S. in the following year. He entered the army as assistant surgeon on October 1st, 1860, became surgeon-major in 1875, and retired on half-pay in 1877. He served in the Hazara campaign on the north-west frontier of India in 1868.

Universities and Colleges.

UNIVERSITY OF WALES.

THE Council of the University of Wales has decided to confer the honorary degree of LL.D. upon Sir A. Garrod Thomas, M.D., at the meeting of the University Court to be held at Aberystwyth next July.

UNIVERSITY OF GLASGOW.

AT the graduation ceremony on April 18th the following degrees were conferred:

M.D.—J. A. Gilfillan.

M.B., CH.B.—*H. M. Walker, *J. T. Moffat, *J. E. Jeffrey, *J. M'Nair, *R. M'L. Carmichael, *W. Gibson, R. Adam, W. R. Allan, Martha L. Anderson, W. Bain, A. Baird, D. Baird, B. Barrowman, Mary E. Berry, A. R. Black, Margaret W. Blackwood, A. W. Borland, Jemima G. Brodie, A. O. Bruce, Catherine M'L. Buchanan, J. I. Cameron, J. A. Cameron, Katharine L. Couper, W. Davie, C. D. H. Eason, I. Fine, Margaret A. Galbraith, W. Geyer, G. S. Gilchrist, Marget L. Gilchrist, Katharine J. Guthrie, J. M. Hain, D. R. Hamilton, E. E. Henderson, Catherine Hill, Isobel R. Hill, M. Jackson, H. Kay, Jean V. Kirkwood, D. Lamont, Rhoda M. J. Lochhead, G. M'Alpine, T. S. MacDonald, W. D. Macfarlane, W. M'Kendrick, H. M'Kerlie, Mary H. Maclachlan, R. S. V. Marshall, J. C. M'I. Matheson, P. Milligan, Elizabeth M. Nairn, W. G. Niblock, G. S. P. Noble, Margaret M. Paterson, Joanna T. Rae, W. Robinson, J. Rowatt, Rosemary E. Scanlan, J. Shaw, Isobel M. Smith, J. Sneddon, A. V. Steen, A. Symon, A. B. Taylor, C. N. Temple, D. M. Thompson, Eleanor M. Torrance, A. A. Van-Lingen, J. W. Walker, Elizabeth Wheatley, A. Wilson.

B.Sc. (*in Public Health*).—H. A. Ross.

* With commendation.

The following University prizes were also distributed:

An Arnott prize of £25 for examination in physiological physics, H. S. Russell. Bellahouston gold medals for eminent merit in thesis for M.D., D. K. Adams, T. J. Mackie, Noah Morris. Asher Asher gold medal, special class prize, for laryngology and rhinology, R. H. Burnett.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

AT the monthly business meeting of the President and Fellows held on April 7th the following were admitted to the Licence to practise midwifery of the College: Roger Calleja, Creina Shepherd.

At the same meeting Dr. Arthur Frederick Bernard Shaw was duly elected a Fellow.

THE list of successful candidates at the examination of the London School of Tropical Medicine printed last week (p. 628) should have indicated that Dr. D. Fitzgerald Moore passed with distinction.

Medical News.

SIR THOMAS LEWIS will deliver the seventh Mellon lecture on May 8th before the Society of Experimental Biology of the School of Medicine, Pittsburgh University, U.S.A., on the subject of clinical electro-cardiography.

THE Illuminating Engineering Society will hold a joint discussion with the Sections of Surgery and Ophthalmology of the Royal Society of Medicine, on the use of light in hospitals, including the illumination of wards and operating tables, and some other special applications of light. The discussion will take place on Thursday, April 27th, at 8 p.m., at the house of the Royal Society of Arts, John Street, Adelphi, W.C.2.

DR. NORMAN MACLEOD HARRIS, who served abroad during the war with the Canadian Army Medical Corps, has been appointed chief of the division of medical research of the Canadian Dominion Department of Health.

A COURSE of fourteen lectures on psycho-neuroses will be given by Dr. Millais Culpin at the London Hospital Medical College on Tuesdays and Fridays at 5.15 p.m., commencing on May 2nd. The fee for the course will be one guinea.

AT the evening meeting of the Pharmaceutical Society of Great Britain, 17, Bloomsbury Square, W.C., on April 25th, Mr. A. C. Abraham will discuss the pharmaceutical aspects of opium, and Mr. F. Browne, secretary of the *Codex* sub-committee, will deal with standards for surgical dressings. The chair will be taken at 8 p.m., and medical friends of members and associates will be cordially welcomed.

AT the meeting of the Glasgow Medical Lunch Club on April 13th the president of the club, Dr. Frank W. Martin, was entertained as the guest of honour on the occasion of his marriage. Dr. W. Adam Burns, who was in the chair, referred to the recent wedding, and on behalf of the members expressed their good wishes to Dr. Martin for his happiness and prosperity. Dr. David McKail presented to him, in the name of the club, a handsome silver salver, suitably inscribed.

AT the annual competitions of the St. John Ambulance Association at Reading on April 8th the Mayor presented Dr. G. H. R. Holden with a silver cigar and cigarette case, in recognition of his twenty-one years' service as chairman of the Reading centre.

FOR the Harringay division of Tottenham Dr. A. G. Newell of Harringay was re-elected a councillor by a majority of 1,164 in a straight contest with a Labour candidate.

AT the meeting of the Assurance Medical Society to be held at the house of the Medical Society of London on Wednesday, May 10th, at 5.30 p.m., papers will be read by Mr. W. McAdam Eccles on "Further experiences of war wounds in general in relation to life assurance," and by Mr. G. E. Gask, C.M.G., on "War wounds of the chest and their prognosis in relation to life assurance."

DURING the Annual Conference of the Chartered Society of Massage and Medical Gymnastics a lecture and demonstration on "Tendon transplantation" will be given at the Salford Royal Hospital, on Saturday, April 29th, at 10.30 a.m., by Mr. Robert Ollerenshaw, F.R.C.S., Honorary Surgeon in charge of the Orthopaedic Department. Medical practitioners and students are invited to attend.

A COURSE of twelve lectures on the management and feeding of infants and young children will be given to medical practitioners by Dr. Eric Pritchard, physician in charge of the Infant Welfare Department at the St. Marylebone General Dispensary, Welbeck Street, W., commencing on Monday, May 1st, at 6 p.m. The fee for the course is two guineas.

PROFESSOR MAURICE ARTHUS, the well-known physiologist of Lausanne University, proposes to give a gratuitous course to students in experimental biology from July 24th to August 12th. Inquiries should be addressed to him at the Physiological Institute, Champ de l'Air, Lausanne.

THE cases of plague in India show signs of increasing. In the week ending January 7th, 1922, there were 1,944 seizures and 1,518 deaths, in that ending February 4th 2,580 seizures and 1,975 deaths, while in the week ending March 4th there were 4,004 seizures and 3,133 deaths.

SIR F. J. WILLIS, the Chairman, and Mr. A. H. Trevor and Dr. A. Rotherham, two Commissioners of the Board of Control, have been appointed to hold a sworn inquiry into the allegations of ill treatment on the part of certain attendants at Long Grove Mental Hospital, Epsom, which were made by Mr. Cox, an ex-inspector of police, before Sir Cyril Cobb's Committee. The inquiry will be opened at Long Grove Mental Hospital on Monday, April 24th, at 11 a.m., and will be open to the public.

THE centenary of Bretonneau will be celebrated at Tours from June 24th to 26th. Pierre Bretonneau first described diphtheria and gave it its name, and also differentiated typhoid fever. A committee of patronage has been formed, consisting of Professors Achard, Gilbert, Jeanselme, Menetrier, Hervé, and Widal, and Drs. Villaret, Laignel-Lavastine, Apert, Tricot-Royer, and Singer. The subscription of 20 francs should be sent to Dr. Dubreuil-Chambardel, École de Médecine, Tours.

THE annual post-graduate course on oto-rhino-laryngology, held by Professor Moure at Bordeaux, will take place this year from July 24th to August 5th, immediately after the tenth International Congress on Otology at Paris.

A VIOLENT outbreak of small-pox has occurred at San Domingo, Haiti. There have been 22,000 cases with 225 deaths.

PROFESSOR J. PETRI, of Berlin, the inventor of the "Petri dish," died recently.

FESTIVITIES have been organized to take place at Pau to celebrate the second centenary of Théophile de Bordeu (1722–76), the founder of the Vitalistic School at Montpellier.

A BUST of Dr. José Penna, the Argentine epidemiologist, was recently unveiled in the medical department of the University of Buenos Aires.

DURING 1921 four well-known Paris dermatologists—Brocq, Darier, Queyrat, and Thibierge—had to resign their hospital appointments owing to the age limit.

IT is announced that a site in Bloomsbury, adjoining the land reserved by the Government for the new buildings of the University of London, has been acquired by the Trustees of the Rockefeller Foundation, in agreement with the Minister of Health, for the proposed School of Hygiene in London.

Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.*

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2630, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2630, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin;* telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

PARKINSON'S DISEASE.

MAJOR S. S. VAZIFDAR, I.M.S. (Bombay), writes: I shall be obliged if any reader will give information on the following two points: (1) Is there any remedy to check permanently the tremors and further progress of paralysis agitans? In a patient that I have, gelsemium temporarily arrested the tremors. Parathyroid extract and electrical treatment were tried ineffectively. (2) Has thyroid grafting been done in England for arresting senescence? If so, with what effect? Has thyroid or parathyroid grafting been done in any case of Parkinson's disease? If so, with what result?

SALINE TASTE.

DR. CHARLES BEGG (Bath) writes: Can any of your readers throw light on the cause of an intense salt taste in the mouth? My patient is a lady aged 40, condition of mouth and teeth perfect, general health excellent. She consulted me only for this intense saline taste, which is increased when tea is taken but is present always in a lesser degree with all food, and worse without food. She has been taking small doses of thyroid and salol for some time, and is living chiefly on eggs, milk, toast, and butter.

INCOME TAX.

"G. W. G." inquires whether deductions can be claimed for post-graduate lectures and postal instruction.

*** Inasmuch as the expenditure is incurred to *improve* the professional ability, the answer is in the negative.

"MEDICO" is employed by a local authority as assistant medical officer, and is allowed £30 for travelling expenses. He asks if he can claim full motor car expenses.

*** Under the Income Tax Acts the salary falls for assessment under Schedule E, and expenses can be deducted only in so far as they are incurred "wholly, exclusively, and necessarily in the performance of the duties of the office." We apprehend that "Medico" will have considerable difficulty in proving to the income tax authorities that the amount allowed him by the employing local authority is less than the amount "necessarily" incurred by him in the performance of the duties of that employment.

"B. G." inquires as to the amount he can claim in respect of various car transactions.

*** Depreciation cannot be allowed, under the Income Tax Acts, in connexion with assessments on professional profits. A definite answer cannot be given because "B. G." does not state the original cost to him of the Swift and Argyll cars, nor does he say whether they were then new or secondhand. The ultimate result is that these two cars have been replaced by a new Calcott at a total cost of £470. Assuming that the two original cars cost as much as a new Calcott would then have cost, "B. G." seems entitled to deduct £470 as professional expenses laid out over the periods stated.

LETTERS, NOTES, ETC.

STAMMERING.

THE MEDICAL OFFICER OF THE SPEECH CLINIC, West End Hospital (London), writes: In your issue of April 1st you quote the report of the Chief Medical Officer of Education for the year 1913 as stating that "in this country, broadly speaking, stammering has not been viewed as a disease, and consequently has been to a large extent ignored by medical men." The condition to-day is the same. Although stammering is a neurotic condition belonging to the same class as hysteria, the anxiety neuroses, the phobias, etc., it has been completely neglected by medical science. Most physicians consider it incurable, and tell the patients to wait and they will outgrow it. Others consider it to be merely a bad habit that can be corrected by exercises. Few recognize that it involves a defect of character of a serious kind. The treatment of such a disease can be carried out only under medical care.

FENCING AND PHYSIC.

MR. A. LANDON WHITEHOUSE, M.R.C.S., L.D.S. (117, Park Street, W.1), writes: So many doctors have been interested in fencing (vide the "Doyen" Cup and the "Savage" Shield) that it would seem a pity if this ideal exercise should not continue to receive support from the profession. For patients and physicians it has many advantages. It can be indulged indoor or outdoor, at all seasons, and in little space; it is a sport which can be started at any age. Might I, through the courtesy of your columns, ask members of the Association, interested in the formation of a medical team to visit the London "Salles" and to advance the sport among doctors, to communicate with me?

ALPINE TREATMENT OF TUBERCULOSIS.

DR. JOHN BAIN, M.B.Glasg., Medical Officer, ss. *Goorkha*, writes: I have read with much interest the letter of Dr. Felix Savy (March 4th, p. 374) upholding the claims of the climate of Great Britain as opposed to those of Switzerland as being quite suitable for the treatment of pulmonary tuberculosis. With all that he says I am entirely in agreement, and my experience of the home treatment of phthisis was gained not in the bracing atmosphere of a sanatorium, but in the Tyneside town of South Shields, the climate of which I am afraid could not be claimed, even by an enthusiastic Tynesider, as an ideal one for the treatment of patients suffering from lung trouble. One had only to open a window in Shields for an hour to see how grimy and smut-stained the exposed portion of the curtain had become, thus showing what a vast amount of impurities were floating about in the air. Yet it was in this smoke-laden atmosphere that I was able for several years before the war to arrest successfully the spread of tuberculosis in the lungs of quite a number of young people of both sexes. These patients all belonged to the industrial classes, and the sanatorium was brought to them by putting them to bed as long as absolute rest was necessary, and opening wide day and night the windows of their bedrooms; in addition the usual sanatorium routine was carried out as far as a busy panel practitioner could give his supervision, and they also received the appropriate medical treatment. Thus by a combination of medical treatment and open-air methods quite a number of young people made permanent recoveries from attacks of undoubted pulmonary phthisis in a climate which most people would regard as utterly unsuitable for this purpose. My object always was to get my patients better in the town and district in which they contracted the disease, and where by force of circumstances they were compelled to stay and to earn their living.

THE TREATMENT OF PNEUMONIA.

DR. A. J. MANASSEH (Beyrout, Syria) writes: I should like to add my testimony once more to that of Dr. Arthur J. Mathison on the treatment of lobar pneumonia by potassium iodide and creosote (BRITISH MEDICAL JOURNAL, March 11th, 1922, p. 420); I have found these drugs, as he has, a specific remedy for this disease. I have for years used the following mixture, recommended, I believe, for the first time by Dr. Mathison, and I have always found it reliable in giving very satisfactory results in the minimum of time:

℞ Potass. iod.	...	ʒ j
Creosote	...	ʒ ss
Ex. glycyrrhiz. liq.	...	ʒ iv
Sp. vin. gallic.	...	ʒ vj
Aquae	ad	ʒ xij

Sig.: Two tablespoonfuls every four hours.

I have had within the last four weeks ten cases of lobar pneumonia; for these, the above mixture was used at different periods of development. The temperature came down between the fifth and tenth days and convalescence followed without any interruption. I need not say that all hygienic measures were taken to ensure plenty of fresh air and sunshine to the sufferers.

ABSENT TREATMENT AT SEA.

IT is stated that American sea captains have not been slow in availing themselves of the wireless medical advice offered by the United States Public Health Service. A hospital in New York reported that it had received a message at 10 o'clock one night from a steamship saying that a man on board was suffering from pain in the abdomen, persistent vomiting, and inability to lie down owing to the pain. The medical officer on duty promptly prescribed treatment, and next morning the ship sent a wireless message of thanks saying that the patient was much better.

BRITISH FINE CHEMICALS.

THE Association of British Chemical Manufacturers (166, Piccadilly, W.1) has published a new list of fine chemicals which are manufactured in this country by members of the association, including a large number of organic products, fine inorganic chemicals, indicators, and microscopic stains. The manufacture of fine chemicals is recognized as a key industry of high importance in which this country ought to be independent of foreign supplies, and the present time is critical in the establishment of the industry on a permanent and successful basis. It is pointed out, for instance, that there are certain chemicals on this list of which a permanent supply cannot be guaranteed unless there is sufficient demand. The names of the various chemicals are given, with an indication of the particular firms which manufacture each preparation. The firms included number thirty-eight in all.

THE HORRORS OF PROHIBITION.

A CORRESPONDENT sends us the following item of information, giving it the cryptic heading "*Dry* Rot": Four Texas doctors have sued the state federal prohibition director for 10,000 dollars, on the ground that they were subjected to "shameful humiliation and disgrace" in the eyes of both their patients and their fellow practitioners by his refusal to renew permits for the plaintiffs to prescribe alcohol for their patients.

THE CINEMATOGRAPH AND VIVISECTION.

THE HON. STEPHEN COLERIDGE writes: You have accused me in your paper of making "an attack on experimental medicine." I have never done so; all I attack is the infliction of severe suffering upon animals not for their own good, and if this is done in the pursuit of experimental medicine I attack that infliction of severe suffering. I have no quarrel with experimental medicine if it is not stained with cruelty to animals.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 29, 32, 33, 34, and 35 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 30 and 31.

THE appointment of certifying factory surgeon at Crondall (Hants) is vacant.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Six lines and under	0	9	0
Each additional line	0	1	6
Whole single column (three columns to page)	7	10	0
Half single column	3	15	0
Half page	10	0	0
Whole page	20	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

The Milroy Lectures

ON THE

INFLUENCE OF INDUSTRIAL EMPLOYMENT UPON GENERAL HEALTH.

DELIVERED BEFORE THE ROYAL COLLEGE OF PHYSICIANS OF LONDON ON MARCH 9TH, 14TH, AND 16TH, 1922,

BY

MAJOR GREENWOOD,

READER IN MEDICAL STATISTICS IN THE UNIVERSITY OF LONDON; FORMERLY STATISTICIAN TO THE LISTER INSTITUTE.

LECTURE I.

WITHIN the thirty-six years which have passed since the death of Dr. Gavin Milroy many aspects of State medicine have been examined by those to whom the College has accorded the honour of lecturing upon his foundation. Some —for instance, Dr. Boycott in his lectures on ankylostomiasis (1911), or Dr. Collis in his account of the etiology of industrial pneumonoconioses (1915)—have had the privilege of describing evils to the amelioration of which their own researches were substantial contributions. Others—such as the late Dr. Bulstrode (1903) and Dr. Hamer (1906)—have brought ripe experience and wide erudition to bear upon more general and still unsolved problems.

The theme I have chosen—the direct and indirect influence of industrial employment upon health—involves the consideration of both solved and unsolved problems. I am conscious that neither by virtue of having contributed to the solution of the former, nor by intimate knowledge of the difficulties of the latter, am I well fitted to throw light upon so important a topic. But the topic is so important, the data are so numerous and so interesting, that the least competent lecturer can hardly fail to advance some propositions worthy of attention.

ANCIENT INDUSTRY.

Factory production, as we understand the term, is so novel, it is so short a time (measured in human generations) since our country was a self-contained agricultural state, that modern industrial medicine has but few traditions. To the founder of this College a description of twentieth-century medico-industrial problems would appear as monstrous, as grotesque, as the story of economic conditions in the nineteenth century seemed to John Ball in Morris's tale. We must pass back to the Roman civilization before we find anything even faintly analogous to our own times. Then we do reach a great population dependent upon imported food supplies; an external luxury and security which moved the envy of Gibbon; a complex social organization which, by the magnitude of its taxation and the multitude of its civil servants, might have inspired the indignant rhetoric of a Harmsworth.

Professor Frank of Baltimore has recently pointed out that an attempt to read into Roman history the economic motives of our time is doomed to failure, but he has likewise shown to how great an extent industrial mass production —factory production—entered into the system of life. In Rome—as indeed in England down to a time covered by the lives of some still with us—the base of the system was agricultural; the organization of the villa became capitalistic before the end of the Republic. After the conquest of Sicily, agricultural production was diverted into channels and adopted methods which remind us of what happened in England during the first half of the sixteenth century. Cattle raising and olive cultivation tended to replace tillage for cereals, and the main source of food was no longer at home. Before the time of the Empire one form of the modern population question had become acute; the *plebs urbana* was the counterpart of our urban "proletariat." With the change of system, the task of keeping alive a population superfluous for agriculture and no longer so urgently needed for foreign wars provided an opening for industrial organization. This organization developed, but capriciously and incompletely. The best instance of monopolistic mass production is that of brick making; the great property of Domitius Afer, which ultimately passed by inheritance to Marcus Aurelius and became an imperial trust, is a good example. To take another instance, the table ware of Aretinum was widely disseminated; factories in the valley of the Po supplied all the empire except the south-east (Frank, p. 168); ultimately branch factories in Gaul swamped the parent establishments. The scale of production was large; a Cornelius had forty designers, Calidius Strigo at least twenty. Bronze and copper ware also seem to have been manufactured on a large scale, while other examples could be given. We are thus assured that a citizen of the Roman Empire must have been familiar with some of the conditions of industrial life; yet no ancient writer has attempted to describe that life.

I suppose that anyone who reads the Roman classics with enough scholarship to overcome the mere obstacles of a foreign idiom, but with too little to be attracted and charmed by linguistic delicacies, perceives the essential inhumanity of the humaner letters, the narrowness of the range of life. Sometimes the vituperation of a slave in comedy—for example, the speech of Olympo in *Casina*, Act 1, 117 et seq. —or a thumbnail sketch of an interior, such as that of the mill in Apuleius (*Metam.*, IX, cap. 12, p. 197 of van der Vliet's edition), reveals the hardship and squalor which formed the background of recorded history, but that is all. To quote Macaulay—a philistine, no doubt, but a learned one —"there is a great gulf [between us and the Romans] which no learning will empower a man to clear. Strength of imagination may enable him to create a world unlike our own; but the chances are a thousand to one that it is not the world which has passed away" (Trevelyan, p. 369). Roman literature as an instrument of culture has had many hard things said of it—the hardest and the truest would be that it is often theatrical and nearly always snobbish.

These vices have not only diminished the historical value of the lay writers; they have tainted professional literature. We all know what Cato and the elder Pliny thought of physicians. A greater than either, Tully himself, has indeed allowed a kind of respectability to arts such as medicine of a certain value (*non mediocris utilitas*), but only provided they are practised by persons to whose station in life they are suitable (*iis quorum ordini conveniunt: de Off.*, I, cap. 42). A society which thus esteems physicians will have the physicians it deserves; one gathers from Sir Clifford Allbutt's great work how small those deserts were. Galen practised in Rome for many years and wrote a large treatise on hygiene, not the least celebrated of his books and of special interest to the College, for it was one of those translated by our first president into a Latin esteemed by Erasmus superior to the Greek original. Indeed many worse books on hygiene have been written; Galen's remarks upon physical exercise would secure approval to-day, and if by hygiene we might understand the regulation of the lives of those who may do what they please, we could not wish for a better teacher. Galen makes it perfectly clear that this is the only social class with which he is concerned. He says:

> "What is literally speaking the best cannot be attained in all lives, for the greatest part of mankind live encumbered by affairs which must needs injure those engaged in them and are unable to change their condition. Some are driven by poverty to this way of life, others by servitude entailed by inheritance or imposed by force. These indeed according to common speech are the only forms of servitude, although for my part I hold that those who, urged by ambition or cupidity, encumber their lives with occupations which leave them insufficient leisure to care for health are really slaves of the worst kind of masters. To lay down rules of hygiene for such persons is idle. But if anyone by luck or design is free, to him it is proper to describe how he may be healthy, may be tried as little as possible by disease and may grow old agreeably" (*de San. Tuend.*, II, 1, Kuehn, VI, 82).

The only hygienic prescription for the "greatest part of mankind" which I have found in this treatise is a recommendation to common folk whose bodies are full of crudities to take a purge on holidays instead of making matters worse by intemperance and the consumption of bad food (see Book VI, 7, Kuehn, p. 412). This is a modest contribution to the art of industrial hygiene. When, more than fifteen hundred years later, Bernardinus Ramazzini* said that it was unworthy of a practising physician to amuse himself with trifles, he may have had, if not Galen, at least some Galenists in mind. When he added: "I have thought it highly serviceable to the State to submit the diseases of artificers to a diligent examination, which until now nobody has devoted to them, and to prescribe their appropriate remedies," he claimed nothing but his rightful priority. The hygienic lessons which might have been learned from centuries of industrial experience in the Roman world were not learned, or at least were not transmitted to posterity. When towards the end of the eighteenth century our profession was again faced by the hygienic difficulties which the aggregation of handworkers divorced from agriculture imposes upon

* See the preface to *de Morbis Artificum Diatriba*, second edition; p. 272 of the edition of his works printed in London in 1717.

social life, ancient medical literature, to which great prestige still attached, could teach it nothing. This is one of the reasons why the writings of physicians on industrial disease, down to the beginning of the nineteenth century and even beyond, are less valuable than, recalling the rich field of observation, we should have expected.

THE HEALTH OF THE WORKING CLASSES AT THE END OF THE EIGHTEENTH CENTURY.

Although there was difference of opinion as to whether the condition of the people at the end of the eighteenth century were worse than it had been at some earlier date, there was none as to the proposition that it was absolutely bad. Burke was not an "agitator," yet he spoke of the "innumerable servile, degrading, unseemly, unmanly, and often most unwholesome and pestiferous occupations, to which by the social economy so many wretches are inevitably doomed," and added this remarkable passage:

"If it were not generally pernicious to disturb the natural course of things, and to impede, in any degree, the great wheel of circulation which is turned by the strangely directed labour of these unhappy people, I should be infinitely more inclined forcibly to rescue them from their miserable industry, than violently to disturb the tranquil repose of monastic quietude. Humanity, and perhaps policy, might better justify me in the one than in the other. It is a subject upon which I have often reflected, and never reflected without feeling from it" (*Reflections on the Revolution in France*, Payne's edition, p. 190).

The medical history of the great industrial districts during this period is an incident of one of the classics of British medical scholarship, and a story which Dr. Charles Creighton has told nobody need tell again. We find very large populations herded together in circumstances peculiarly favourable to the dissemination of contagious disease, and consequently we have a gloomy succession of typhus, relapsing fever, and small-pox. I permit myself but two remarks—the first is to emphasize the truth contained in the following words of Creighton:

"The long period of comparative immunity from typhus near the beginning of the nineteenth century was first broken, both in Great Britain and in Ireland, by the very severe winter of 1814–15; but it was not until the great depression of trade following the peace of 1815 (which made a difference of forty millions sterling a year in the public expenditure) and the bad harvest of 1816 that typhus fever and relapsing fever became truly epidemic, chiefly in Ireland but also in Scotland and England. The lesson of the history is unmistakable: with all the inducements to typhus from neglect of sanitation in the midst of rapidly increasing numbers, there was surprisingly little of the disease so long as trade was brisk and the means of subsistence abundant. The reckoning came in the thirty years following the Peace" (Creighton, II, 167).

We are apt to forget that the penalty of sin against the laws of hygiene is rarely exacted at once. We cannot rightly appraise the significance of current rates of mortality or morbidity unless we know what went before; that is why medical history is worth studying.

The second remark is that as early as 1796 it had been realized by some that poverty was not the only factor of industrial ill health, that it was not entirely because factory hands were wretchedly lodged, clothed, and fed that they died in such myriads. These points are quite clearly taken in the resolutions submitted to the Manchester Board of Health by Dr. Perceval on January 25th, 1796 (see *Select Documents*, p. 495). The first asserts that those working in factories are "peculiarly disposed to be affected by the contagion of fever," and that infection so received is liable to be propagated outside the factory. The second and third are as follows:

"The large factories are generally injurious to the constitution of those employed in them, even when no particular diseases prevail, from the close confinement which is enjoined, from the debilitating effects of hot and impure air, and from the want of the active exercises which nature points out as essential in childhood and youth, to invigorate the system and to fit our species for the employments and for the duties of manhood.

"The untimely labour of the night, and the protracted labour of the day, with respect to children, not only tends to diminish future expectations as to the general sum of life and industry, by impairing the strength and destroying the vital stamina of the rising generation, but it too often gives encouragement to idleness, extravagance, and profligacy in the parents, who, contrary to the order of nature, subsist by the oppression of their offspring."

These resolutions enunciated for the first time the proposition that in addition to the bringing into existence of slum populations, one could find in the *immediate* circumstances of mass production conditions noxious to general health. We shall see that this side of the matter did not in the ensuing century receive the attention it deserved, that it is nearly true to say that the close study of intrinsic factory hygiene has been postponed to our generation.

THE EARLY NINETEENTH CENTURY.

In his history of English sanitary institutions Sir John Simon devoted a chapter to the "Growth of humanity in British politics," because he perceived that a quickened sense of humanity, or an uneasy social conscience, was very largely the motive of the public and private inquiries during the first forty years of the nineteenth century which produced the legislation of Queen Victoria. No less powerful motive would have sufficed to call into being the large amount of literature which appeared—especially between 1830 and 1850. The general historical value of this material is great, but from the medical side it is inevitably defective. Very few people can reason well when they are angry, even when they are righteously angry; attack provokes defence or counter-attack; in presence of social evils a generous-minded man acutely conscious of these evils is sorely tempted to use any intellectual weapon to his hand, and to forget the story of Eli's sons. Then, again, nobody can free himself from the empire of intellectual theories, the idols of the study. These shortcomings, absolutely inevitable shortcomings (we do not see them in our own researches, but the Milroy lecturer of 2022 will point them out), are obvious enough in the reports of committees and commissions of inquiry eighty or ninety years ago. Here we are interested chiefly in the intellectual side of the work, and its defects, I think, may be resumed under two headings; (*a*) an inadequate grasp of the statistical method; (*b*) a failure to escape from Galenical realism. The former defect was, I think, the more serious. It was not until after most of the reports to which I refer had been completed that we possessed accurate statistics of mortality through which we could relate deaths to risk. Wanting these data, appreciations of mortality could only be obtained indirectly, and the limited value of the indirect methods was not always perceived by those who used them. The pioneer investigators, Thackrah of Leeds and Edwin Chadwick, almost exclusively based conclusions as to the comparative healthiness of different localities or trades upon confrontations of the mean ages at death. Although the fallacy of this method seems to us very obvious, and had been already exposed at the time to which we refer by both Neison and Farr, little notice was taken of the criticisms, with the result that many of the statistical tables printed by Chadwick are of very small value. Another indirect method of assessing the importance of particular causes of deaths, that of comparing the proportion of such deaths to all deaths in several trades or localities, which was also extensively used, although less objectionable, can only be trusted if precautions are observed and subsidiary tests employed which the early Victorian writers neglected. These statistical errors were imposed upon the inquirers by the nature of their data, and the only blame attaching to them is that they were too chary of self-criticism, a charge on which a verdict of guilty will be returned against all of us on some future day of reckoning. These criticisms are directed to the attempts to estimate English regional or occupational mortality during the years of the nineteenth century before the establishment of the General Register Office; we must, I think, deem them unsuccessful attempts and confine ourselves to the years following 1838 so far as the discussion of mortality is concerned.

But the General Register Office has necessarily been restricted to the study of births, marriages, and deaths, while the various commissions and committees of the early and mid-Victorian age printed much evidence of a statistical character dealing with the morbidity, physique, housing conditions, and factory conditions of the working classes. These data are ample to establish the existence eighty years ago of a vast amount of unwholesomeness—enough to justify the severest strictures of Chadwick and Simon. They are not, however, sufficient to sustain a comparison between the circumstances of the industrially employed and the rural populations of the time, owing to errors of method. When it is not possible to examine all the members of the "universe" under consideration—this possibility is only realized in a complete census and then only for very simple characters—one is forced to adopt the method of sampling, and the validity of inferences drawn from the examination of the samples depends upon (1) a satisfactory assurance that the sampling has been random or, if not random, that the bias

can be characterized, and (2) measurement of the probable range of random fluctuations of sampling. In the best recent sociological inquiries, such as those of Professor Bowley and his colleagues, to which I shall again refer, the importance of these considerations has been realized. This was not so eighty years since. A good deal of the evidence tendered consisted of the opinions of "experts" resting upon experience the sufficiency of which cannot be determined. Many of the statistics relate to small collections of data reduced to categories the significance of which may have varied, and probably did vary, from observer to observer. To attempt to deduce from these fragments any measure which shall confirm or weaken the teaching of mortality statistics is, I fear, a hopeless undertaking. I can illustrate the difficulties from a recent instance.

The Ministry of National Service issued in 1920 an analysis of the results of physical examination by medical boards from November 1st, 1917, to October 1st, 1918. The information contained in this report is enough to prove that the absolute volume of physical inefficiency in this country is enormous; the simple fact that out of 2,425,184 examinations or re-examinations more than a quarter of a million men were found to be "totally and permanently unfit for any form of military service" is a very dreadful fact, explain it how we may. But the authors of the report did not confine themselves to the recital of these facts; they deemed it "probable, therefore, that the men examined during the year under review may be regarded in the aggregate as fairly representing the manhood of military age of the country in the early part of the twentieth century from the standpoint of health and physique." In other words, they claimed to have fulfilled the requirements of random sampling.

Down to October 31st, 1917, and after August 4th, 1914, the War Office had recruited in England and Wales 3,190,618 men for general service and 615,365 men for other grades—that is, 3,805,983 men mainly between the ages of 18 and 40 had been excluded from the Ministry of National Service's field of sampling. From a consideration of the enumerated population in 1911 and the rates of mortality, I should suppose that between 6,800,000 and 7,200,000 men came within the limits of 18 and 40 during the period of War Office recruiting—that is, the War Office had already dealt with something like half the available population. What are the grounds for inferring that the residue were a random sample? The Ministry of National Service adduced the following arguments:

1. In the early days of the war many unfit men were passed as fit owing to haste and ill-considered methods of examination.
2. A very large number of men were at first protected, and those protected industries "employed an abnormally high proportion of the physically fit."
3. Men were examined who "had been previously rejected when the need was less urgent."
4. A large proportion of lads attained the age of 18 during the war.
5. A certain number of men between the ages of 41 and 51 first became liable for service under the Military Service (No. 2) Act.

That portion of the Ministry's experience which relates to youths who attained the age of 18 after October 31st, 1917, is, so far as selection by the War Office is concerned, not biased; men between 41 and 51 in protected industries were not, I think, examined. To admit the wider claim is to accept the first three propositions. Of these (2) *might* be partially verified; the mortality at military ages of coal-miners and of agricultural workers is less than the average; whether this is true of other protected industries is a question I cannot answer, nor does it receive any statistical discussion in the Report. Propositions (1) and (3), which assume the existence of two biases, the one tending to raise, the other to lower the proportion of unfit men removed from the population or added to it, seem to me quite incapable of being tested. The mere fact of the existence of the former bias, which the Report states to be "notorious," and of the latter, the existence of which was within the direct knowledge of the Ministry of National Service, must, as I think, deprive the data—with the exception just noticed—of any claim to be regarded as random samples of manhood of military age; at the most there was a random sampling of youths of 18. It is no strong argument in favour of the accuracy of a sum total to be able to say that two of the items cast are wrong, and to surmise that their errors *may* cancel out. (See par. 54, p. 24, of the Annual Report of the Chief Medical Officer of the Board of Education; Cmd. 995 of 1920.)

Perhaps data exist to establish the propositions which I suggest are doubtful; in any event the subject can be discussed viva voce. When similar uncertainties attach to the data of two generations ago, we cannot pass behind the printed words and must neglect what we think needs verification.

The other defect of the earlier literature is historically interesting, but may be dealt with more briefly. Galenical etiology put the maximum of stress upon the all-embracing atmosphere, its katastases and their operation upon men's bodies leading, when an appropriate dyscrasia existed, to humoral corruptions. In time the doctrine—not originally, as I have tried to show elsewhere, unreasonable—became, like the peccant humours themselves, extremely corrupt; the belief in some putrefaction or subtle organic impurity of the air—a notion which survives in the belief in the etiological importance of sewer gas—dominated scientific opinion until late in the nineteenth century. Simon, writing in 1858 of typhus, held that "the exhalations from a patient undergoing it are, till they have been neutralized by dilution with pure air, capable of communicating the same form of disease" (Simon, 1445), and adds a footnote explaining the susceptibility and powers of transmitting the disease of the famine-stricken by the undefaecated condition of their tissues and juices, an explanation which would have been acceptable to Galen.

Our grandfathers had, of course, grasped the importance of an etiological factor which Galen mentioned but slighted; they were fully awake to the dangers of water or food supplies liable to contamination with excremental matter. But, after making this extremely important exception, one finds little in their etiology which would have been strange to Linacre. This, I think, is the reason why, next to water and drains, ventilation—and ventilation in a rather restricted sense of the term—was the staple of Chadwick's and Simon's reports. This preoccupation caused them to miss etiological factors to which we are now beginning to attach importance, especially, perhaps, the physiologico-psychological predisposing causes of ill health. But, since ventilation, expressed in terms of a wider philosophy than the Galenical, is still recognized to be of the highest importance, what was lost was not perhaps much.

METHODS OF INVESTIGATION.

I have now brought the story down to an epoch from which into our generation a continuous statistical record exists. As a loyal member of this College, mindful of the importance the College attaches to the study of historical origins, whether of theory or practice, it was my duty to describe, however imperfectly, the fragments of early experience handed down to us. What remains must be examined with more precision, and I shall first indicate the manner in which, as I think, one ought to proceed.

In the first place, we may adopt the historical-statistical method. We know that this country, already a great industrial nation seventy years ago, has become more and more industrialized. It no longer, indeed, enjoys—if that be the fitting expression—the industrial hegemony of the world, but in each successive decennium a larger proportion of its citizens have spent their lives in industrial pursuits. Hence our records of mortality are those of a continuously changing community, the change being one of increasing urbanization. The changes in the extent and distribution of mortality are changes highly correlated with industrialization. These must therefore be examined both as a whole and in the several divisions of the country which have been more or less immediately concerned in industrial development.

But unless we can place beside this chronological record that of some other country wherein the economic development has differed very much from that of England and Wales, we shall be unable to draw any conclusions as to the influence of industry upon the changes in the public health which our mortality registers indicate. For this purpose I employ the vital statistics of Sweden, a country the statistics of which are nearly as valuable as our own, and have been published regularly for a much longer period. Seventy years ago Sweden was almost wholly an agricultural and maritime state; at a time when more than half our population was already urbanized not more than 10 per cent. of the Swedes lived in towns (Hendriks). In the last forty years industrialization has notably advanced in Sweden, and now almost half her people live by industry; even now, however, there is relatively much less factory employment in Sweden than in England and Wales.

But the historical-statistical method, even with the help of such a control series as here utilized, is impotent to provide answers to all our questions. In no other branch of statistics is the method of multiple correlation more needed or more difficult to employ. We must have resort to the method of contemporaneous comparisons and must contrast the industrial and non-industrial sections of the population observed over one and the same period, that period being our own generation. It will soon appear that even this method is treacherous, that there are numerous etiological factors which available data leave obscure. Indeed, my analysis raises more questions than it settles, and, chiefly for that reason, I exclude technical discussions to which, as a statistical epidemiologist, I attach importance.

THE VICTORIAN AGE.

In the Supplement to the thirty-fifth Annual Report of the Registrar-General, almost the last and one of the finest contributions to official literature of Dr. William Farr, there is a table, which I reproduce (Table I), of the death rates at

TABLE I.—*Annual Mortality per Cent. of Males and Females in England and Wales.*

(Supplement to 35th Annual Report of the Registrar-General, p. xxvi.)

Ages.	Males.		Females.	
	1838-54.	1838-71.	1838-54.	1838-71.
All ages	2.33	2.33	2 17	2.15
0	7.25	7.26	6.23	6.27
5	0.92	0.97	0 91	0.95
10	0.52	0.49	0.54	0.50
15	0.82	0.78	0 75	0.80
25	1 00	0.99	1.06	1.01
35	1.28	1.30	1.27	1.23
45	1.85	1.85	1 59	1 56
55	3.18	3.20	2 82	2.80
65	6.69	6.71	6.00	5.89
75	14.76	14.71	13.44	13.43
85	30.14	30.55	27.92	27.95
95	44.03	44.11	43.22	43 04

ages for the seventeen years 1838–54 and for the whole available period 1838–71. It will be noticed that from the age of 5 to the age of 25 the death rate of males is slightly lower in the second than in the first half of the table, but from 35 to 75 the two rates are either equal or that of the complete series is higher. The death rates of women exhibit a decline at each age above 5. In the middle period of life male mortality either did not improve or somewhat deteriorated over this series of thirty-four years. These are the rates of all England and Wales, and, since the agricultural population was declining, are increasingly weighted by the experience of the industrial districts. In Table II are set out some details of contrasting areas selected from the ninth Annual Report of the Registrar-General and from the first two decennial supplements. It will be seen that, with the exception of the registration district of Manchester, mortality at ages 10–15 was less in 1861–70 than in 1838–44. This is also true of the ages 15–20 and 20–25, but not generally true of later maturity. Take as an example the age group 45–55, and compare the South-Western Registration area, which included, and still includes, a large proportion of agriculturally employed persons, with the great industrial districts of Birmingham and Manchester. The South-Western rate on males was in 1861–70 almost the same (not quite 2 per cent. higher) as in 1838–44. So was the Birmingham rate (a decrease of less than 1 per cent.). The ratios of the two rates were 1.77 to 1 in 1838–44, 1.73 to 1 in 1861–70. The female rates were in the proportion of 1.50 to 1 in the former and of 1.62 to 1 in the latter period. Manchester emerges still worse from the comparison; the ratios are 1.95 and 2.18 for males, 2.20 and 2.35 for females. Contrast these with the rates upon adolescents. The mortality of males aged 10–15 in Birmingham was in 1861–70 only 79 per cent. of what it had been in 1838–44, of females 78 per cent. The adolescent mortality in the South-West had improved, but not so much—86 per cent. and 81 per cent.; so that the ratio of town to country fell, 1.21 to 1.11 for males, 1.07 to 1.03 for females. This is a different picture, but Manchester makes an even worse showing than in ages of maturity; her ratios to the South-Western are 1.27 and 1.70 males, 1.34 and 1.40 females. We must be careful not to attach great importance to particular instances; even our national vital statistics are to be used with caution or we are entangled in the snare of realism. We all know how increasingly untrustworthy as measures of mortality in the capital the old bills became, because London "within the bills" grew less and less typical of London as an economic or social unit. The same difficulty is met when we compare any registration district at intervals of many years. The

TABLE II.—*Rates of Mortality per 1,000 at Different Ages and in Certain Registration Districts.*

	1838-44.		1851-60.		1861-70.	
AGED 10 TO 15.	M.	F.	M.	F.	M.	F.
England and Wales ...	5.04	5.48	4.88	5 06	4.46	4.48
London...	4.82	4.66	4.52	4.15	4.24	4.07
Birmingham	5.39	5.47	4.97	4.90	4.24	4.24
Manchester	5.67	6.81	5.75	5.60	6.51	5.79
South-Western Counties...	4.46	5.09	4.38	4 94	3.83	4.13
AGED 15 TO 25.						
England and Wales ...	8.05	8.33	6.69 8.83	7.38 8.53	6.16 8.45	6.62 7.96
London...	7.59	6.19	6.25 8.31	5.43 6 43	5.82 8 23	5.10 6.22
Birmingham	7.58	7 35	6.53 7 92	6.56 7.37	5.55 7.55	5.14 7.02
Manchester	9.26	8.71	8.43 10 14	7.85 9 49	9.39 11.67	7.40 9.55
South-Western Counties...	9.26	9.09	5.59 8 83	6.77 9.93	5.38 8.30	6.76 7.63
AGED 25 TO 35.						
England and Wales ...	9.58	10.09	9.57	9.92	9.90	9.68
London...	10.70	9.17	10 50	8.75	10.85	8.80
Birmingham	10.96	9.26	10.12	9.85	10.85	9.10
Manchester	12.93	12 48	12.93	12.29	14 69	13.07
South-Western Counties...	9.26	8.71	9.32	8.90	9.67	8 71
AGED 35 TO 45.						
England and Wales ...	12.49	12.42	12.48	12.15	13.46	12.03
London...	17.88	13.77	16.29	12.81	17.14	12.84
Birmingham	17.46	13.78	16.24	13.72	17.70	13.08
Manchester	19.84	17.80	20.35	17.37	23.25	19.26
South-Western Counties...	10.81	10.45	11.01	10.24	11.68	9.96
AGED 45 TO 55.						
England and Wales ...	17.76	15.48	17.96	15 20	19 16	15.55
London...	27.26	20.01	24.68	18.06	25.68	18.52
Birmingham	27.58	19.28	25.87	19.08	27.41	19.82
Manchester	30.40	28.31	31.70	27.16	34.58	28.76
South-Western Counties...	15.55	12.88	15.32	12.55	15.83	12.26
AGED 55 TO 65.						
England and Wales ...	31.41	27.82	30.85	27.01	33.00	27.77
London...	48.12	38.05	42.43	33.27	43.85	33.45
Birmingham	44.28	37.43	45.81	35.23	46.57	38.48
Manchester	52.47	44.66	52.66	44.76	60.67	50.31
South-Western Counties...	27.41	23.87	27.38	23.02	27.24	22.36

name persists, the proportion what is measured bears to what we think we are measuring changes. I believe we may infer from these statistics no more than that in those palmy days of industrial supremacy which followed the repeal of the Corn Laws adolescent mortality in the whole population improved, while the mortality of adults did not improve but even deteriorated, and deteriorated more in the industrial districts than in the agricultural areas. But perhaps this was a world phenomenon purely accidentally correlated with the growth of modern industry. To settle this we must extend our horizon and take notice of the changes in some other country where, during this period, industrial employment was unimportant. In Table III the statistics of England and Wales are compared with those of Sweden; I shall have to mention these again later, now I invite attention to the parting of the ways between Sweden and ourselves; within this period Swedish mortality during ages of maturity at first higher than ours, crossed the English line in its descending path and established a superiority which has ever since characterized it.

If we now recur to the social-hygienic progress of the time some correlative facts are noteworthy. Nearly all the legislation relating to industrial employment before the reign of Victoria was intended to shield children and young persons

TABLE III.—*Rates of Mortality in England and Wales and in Sweden.*

	MALES.						FEMALES.					
Ages:	15-20.		20-25.		25-35.		15-20.		20-25.		25-35.	
	England and Wales.	Sweden.	England and Wales.	Sweden.	England and Wales.	Sweden.	England and Wales.	Sweden.	England and Wales.	Sweden.	England and Wales.	Sweden.
1846-50 ...	7.3	4.9	10.0	7.0	10 5	8.9	8.1	4.7	9.6	5.7	11.2	7.1
1851-55 ...	7.0	5.4	9.2	7.5	10.0	9.7	7.8	4.9	8.9	5.7	10.3	7 8
1856-60 ...	6.4	5.9	8.4	8.1	9.2	8.8	7.1	5.5	8.2	6 0	9.6	7.5
1861-65 ...	6.4	4.5	8.7	6.6	9.7	7.2	6.9	4.1	8.2	4.9	9.8	6.3
1866-70 ...	6.0	5.2	8.3	7 4	10.1	8.4	6.4	4.3	7.8	5.3	9.6	7.0
1871-75 ...	5.7	4.5	8.1	7.7	10.0	8,5	5.9	4.3	7.4	5.7	9.2	7.2
1876-80 ...	4.9	4.6	6.7	6.6	8.7	7.2	5.0	4.6	6.2	5 4	8.0	6.7
1881-85 ...	4.5	4.5	6.0	6.7	8.2	7.0	4.7	4.6	5.9	5.3	7.9	6.4
1886-90 ...	4.1	4.5	5.5	6.5	7.4	6.6	4.1	4.5	5.2	5.3	6.9	6.3
1891-95 ...	4.0	4.6	5.2	6.8	7.1	6.7	4.0	4.7	4.8	5.7	6.6	6.4
1896-1900 ...	3.6	4.7	4.9	6.7	6.5	6.7	3.3	4.8	4.1	5.7	5.6	6.3
1901-05 ...	3.2	4.8	4.4	6.7	5.9	6.4	3.0	5.0	3.7	5 6	5.0	6 3
1906-10 ...	3.0	4.3	4.0	6.3	5.3	6.0	2.8	4.5	3.3	5.5	4.5	5.9
Ages:	35-45.		45-55.		55-65.		35-45.		45-55.		55-65.	
1846-50 ...	13.6	14.2	19.2	22 6	33.2	36.9	13.7	10.6	17.0	15.2	29 7	28 4
1851-55 ...	12.9	11.6	18.6	23.0	31 5	38.1	12.6	11.4	15.8	15.8	27.8	30.0
1856-60 ...	12.2	11.9	17.5	19.2	30.4	33.7	11.9	10.3	14.8	14 5	26 5	28.2
1861-65 ...	13.2	10 1	18.9	16.5	32.8	31.1	12.1	8.7	15.5	12 2	27.9	24.5
1866-70 ...	13.8	11.8	19 6	18.6	33.5	34.2	12.1	9.8	15.8	13 6	27.9	26.4
1871-75 ...	14.3	10.8	20.3	16.2	34.8	28.4	12.0	9.2	15.9	11.9	28.7	22.4
1876-80 ...	13.4	9.3	19.8	14.0	31.9	24.8	11.2	8.1	15.4	10.7	28.6	20.0
1881-85 ...	12.8	8.9	19.3	13.6	31.2	24.4	11 0	7.9	15.2	10.4	28.1	19.4
1886-90 ...	12.0	8.2	19.4	12.6	35.2	22.8	10.3	7.7	15.0	9.9	28.8	18.5
1891-95 ...	12.0	8.2	19.6	12.3	35.9	22.6	10 2	7.7	15.2	9.9	29.5	18 2
1896-1900 ...	11.1	8.1	18.3	12.0	34.1	21.7	9.1	7.4	14.3	9.6	27.4	17.0
1901-05 ...	9.7	7.6	17.0	11.7	32.4	20.8	8 0	7.2	13.1	9.3	25.4	16.8
1906-10 ...	8.6	7.1	15.5	10 9	31.2	20.1	7.1	6.8	12 0	8 9	24.3	16.0

from ill treatment, by the horrors of which "even the methodical and dry language of official documents is startled into life" (Gibbins), and it was not until 1833 that these victims received the protection of State-appointed inspectors. It was not until 1847 that the Ten Hours Act, which still only applied to *female* adults, did indirectly shorten the hours of labour of men. But this Act, as the provisions of and discussion upon an Act of 1850 indicate, was often evaded, and it is substantially correct to say that the Factory Act of 1867 was the first to deal with the matter on a really wide scale.

This Act brought within its scope all the metal trades, foundries, engineering shops, the manufacture of paper and of glass, the tobacco industry, and printing. It also provided that any place in which fifty or more persons were industrially employed should be deemed a factory. A few years before this Greenhow's studies of industry and disease had been published in the medical reports of the Privy Council, and, as Professor Collis and I have suggested elsewhere (Collis and Greenwood, p. 33), the provisions of the Act respecting the removal of injurious dust may well have been motived by Greenhow's researches.

In this year, too, the first Workshops Act was passed, regulating the conduct of industrial establishments employing less than fifty persons. Young persons and women might only be employed for twelve hours, less half an hour for meals, and no protected person might be employed after 2 p.m. on Saturdays. The duty of enforcing this Act was not, however, laid upon the State inspectors until 1871.

We see, then, that industrial health legislation almost to the end of the period we have been considering only concerned protected persons—women and children—that the Act which indirectly affected the working conditions of adult men only became fully operative within a year or two of its close.

With these facts we may correlate the stagnation—if not worse—of adult mortality. *After* this period, after indirectly effective legislation dealing with adult labour, the rate of mortality at ages of maturity did decline. Put into other words, the story is this: The generation from 1837 to 1870 was, hygienically speaking, characterized by (1) a very considerable improvement of public sanitation, in particular of urban water supplies; (2) a reduction of hours of labour and an improvement of the conditions of industrial work amongst "young persons" and women. There was also improvement, but, to judge by still existing conditions, not a very great improvement, of the domestic housing of the working classes. Both (1) and (2) would be expected to produce their greatest effects upon mortality at ages between, say, 2 and 20 (in childhood and adolescence). The conditions of domestic insanitation which multiply infant deaths were not improved; the factory laws only helped the young persons and women, and a large proportion of the industrially employed women were and are young women. Hence the stagnation of mortality in the earliest years of life and after adolescence, together with the improvement in later childhood and at adolescence, may be consequences of what was done and what was left undone. One of our greatest sanitary triumphs has been over water-borne diseases such as typhoid. At the period under notice typhoid was not statistically distinguished from typhus; in 1851–60 the combined group was responsible for 14.1 per cent. and 12.8 per cent. of all deaths at ages 10–15 and 15–20 (males), but for less than 5 per cent. of deaths at ages over 35. But this recital does *not* authorize us to replace correlation by causation.

No student of medical history doubts the truth of Bishop Butler's words: "What a wonderful incongruity it is for a man to see the doubtfulness in which things are involved, and yet to be impatient out of action, or vehement in it." Read Dr Creighton's interpretation of the epidemiology of

plague in the light of Pariset's theory; none of the rich, the exhaustive series of facts but is perfectly congruent with the theory; the pieces fit together like the elements of a jigsaw puzzle. Yet we all recognize now that Pariset's theory is false. The condition that a hypothesis shall describe all the available facts is necessary to its validity but is not sufficient to guarantee it more than a provisional value. We have to bear this in mind when we seek to interpret the vast complex of industrial phenomena. We are to remember that an industrial community attracts to itself immigrants both from the non-industrial districts of the country within which it is situated and from other countries, and subjects these migrants to a new form of environmental selection.

In Dr. Perry's study of one of the great seats of the American cotton manufacturing industry it is shown that the incidence of mortality upon workers of different races varies enormously. The general death rate per 1,000, at ages 15–45, over the period studied (1908–12) was 6.97 amongst Americans, 8.31 amongst English, and 17.26 amongst Irish (p. 238). This is perhaps an example of the consequences of introducing an "unsalted" population to factory life of which I shall speak later. But as the supply of home-born labourers increases and migration relatively decreases it might be that the incidence of excess mortality would be shifted to the later ages. It might be that the phenomenon to which I have drawn attention is rather due to a change in the character of the population than in the nature of their environment. To study this matter we should need data which do not exist; the possibility can be stated, its probability cannot be measured. Still there is one set of facts which, though by no means decisive, is yet of importance.

I have already commented upon the unfavourable comparison between our mortality in later ages and that of Sweden, and the favourable contrast between our adolescent mortality and that in the Scandinavian countries. More will be said of this; now I would remark that, in the opinion of many Swedish medical men and statisticians, the extremely unfavourable position between the ages of 15 and 25 is attributable to industrial employment. It is noteworthy that Swedish industrial legislation for the protection of young persons in the matter of length of hours, night employment, etc., is still less stringent than our own and only became really effective within the last twenty years; that is to say, that the rising importance of Swedish industries which has been associated with a stagnation of mortality at adolescent ages did not, as did the Victorian growth of factory industry, produce either so early or so complete a legislative interference in the interests of national hygiene as we have experienced. Again I repeat the caution that other explanations are possible. Still it is a fact that the country in which growing industries were accompanied by hygienic control of juvenile labour experienced a declining juvenile mortality; the country which introduced such control late in time has had a stationary juvenile mortality.

EXCISION OF THE HEAD OF THE FEMUR IN ARTHRITIS DEFORMANS (OSTEO-ARTHRITIS) OF THE HIP-JOINT.*

BY

HARRY PLATT, M.S., F.R.C.S.,

HONORARY SURGEON AND SURGEON-IN-CHARGE, ORTHOPAEDIC SERVICE, ANCOATS HOSPITAL, MANCHESTER; CONSULTING SURGEON, GRANGETHORPE HOSPITAL (MINISTRY OF PENSIONS), MANCHESTER; LATE HUNTERIAN PROFESSOR OF SURGERY, ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE variable terminology of chronic joint diseases has been productive of much confusion, but it is well recognized that the chronic "non-specific" joint diseases of adult life fall into two great groups—the rheumatoid and the osteo-arthritic—each presenting a clinical picture and a train of morbid joint changes of a distinctive type. Both were formerly included under the term "arthritis deformans," but should properly be regarded as separate clinical and pathological entities; if the term is retained it is more applicable to the osteo-arthritic class alone, for it is here that bony deformation of the articular ends is a conspicuous feature.

We may thus define osteo-arthritis of the hip-joint as a chronic monarticular lesion, the dominant pathological changes being of a hypertrophic nature as indicated by the development of marginal osteophytic deposits with expansion and mushrooming of the femoral head, but with no tendency towards the production of true ankylosis. The term "morbus coxae senilis," often applied to this affection, is a misnomer. The clinical, pathological, and radiographic pictures of osteo-arthritis of the hip may be seen at varying periods of life: in the adolescent, in the young adult, in middle life, and in old age. It is, however, in the middle-aged individual that we encounter the fully matured arthritis with its consequent serious crippling and disablement.

ETIOLOGICAL CONSIDERATIONS.

A review of some forty cases under observation and treatment during the past few years seems to show that osteo-arthritis of the hip can be classified into three more or less arbitrary groups.

1. *Infective.*—In this group there is definite evidence of the continued existence over a long period of time of some active focus of infection, this in the majority of instances being sepsis in connexion with the mouth or nasal passages. In these patients the joint changes are often far advanced in early middle life.

2. *Traumatic.*—Under this heading are included those cases of osteo-arthritis of the hip which appear to follow the infliction of a single severe trauma. In a certain number of cases this has been an actual crush fracture of the neck of the femur without immediate displacement; absence of displacement accounts for the fact that the patient is able to bear weight on the limb almost at once, and in consequence the actual lesion may escape diagnosis. In this class of case there is invariably a latent period between the infliction of the injury and the onset of the subjective signs of arthritis, and it is usual for the patient to consider that complete recovery from the accident had occurred. The age incidence in this group tends to be higher than in the infective class. The end result of this type of incomplete fracture may be contrasted with the hip-joint disability seen in cases of non-union following a complete solution of continuity of the femoral neck.

3. *Secondary.*—The third class comprises those cases in which there is seen to be the development of signs of progressive arthritis in a hip-joint which at an earlier period—in childhood or adolescence—has been the seat of some deforming process, such as pseudo-coxalgia or arthritis deformans juvenilis. These hip-joints from early life have exhibited a structure departing from the anatomical normal, but there has been a period of complete quiescence from symptoms until in later life certain influences, such as infection, trauma, or chronic strain, provide the necessary etiological factors to initiate a renewal of active arthritis.

The separation of these different groups is somewhat artificial, for it is probable that in the majority of cases of osteo-arthritis of the hip-joint the actual etiology is complex and represents the interplay of a combination of factors.

CLINICAL CONSIDERATIONS.

I shall not give a long description of the ordinary clinical features, pathological changes, and radiographic signs characteristic of osteo-arthritis of the hip-joint, but will content myself by briefly emphasizing certain important clinical aspects of the typical case.

Early Stages.—In the early stages the outstanding symptom is the long persistence of severe pain localized to the region of the hip-joint, and referred along the distribution of both the sciatic and anterior crural nerves. Many of these patients are diagnosed as suffering from so-called sciatica, and receive the whole gamut of inappropriate treatment for a long time before the underlying lesion is discovered; it is therefore important that an early efficient physical examination of such a patient should be made. There are certain difficulties in the way, for at this period the early bone changes may be relatively inconspicuous or invisible even in the best radiograms; again, in obese individuals it is no easy matter to obtain good hip-joint skiagrams. It should be unnecessary to insist on the futility of interpretations derived from the examination of a radiogram of one hip-joint alone without comparison with its fellow. In the earlier stages of the disease the limitation in the mobility of the joint is comparatively slight; it usually affects the range of abduction only, but in some cases the movements of flexion and internal rotation also. The patient himself is often soon aware that a restricted mobility has developed because of his inability to bend down in comfort to take off or lace the boot on the affected side.

* Read before the Manchester Medical Society, March 22nd, 1922.

Later Stages.—In the later stages there is a progressively increasing fixation and deformation of the hip-joint structures. Although the resulting fixation of the hip-joint may appear at first sight to be complete, it is even in an advanced stage dependent partly on the existence of muscular spasm, as examination under an anaesthetic will prove. The hip-joint follows its usual plan of reproducing the classical malposition of flexion and adduction. By this time the radiographic signs are gross enough to be apparent at the first glance, and they confirm the knowledge derived from clinical examination, that in spite of an advanced deformation of the joint surfaces true fibrous or bony ankylosis has not occurred. From the patient's point of view it is a pity that ankylosis is not reached in a short time, as it would lead to cessation of the intolerable pain.

I have indicated the course of the average severe case in which the resulting disablement is dependent on a combination of two dominating factors—namely, a continuance of severe pain and a steadily increasing fixation of the hip-joint in malposition. It is not every case, however, which advances to such a marked degree of deformation; in some patients the bony changes are arrested at an early phase, and associated with these changes of lesser magnitude the clinical features are often relatively mild.

TREATMENT.

It is illogical to suppose that the administration of this or that drug combined with the local application of the various forms of balneotherapy or physiotherapy can influence the train of morbid changes in a hip-joint already the seat of arthritis. It is not denied, however, that such measures are efficacious in producing temporary relief of the subjective signs. Given the recognition of early arthritis, a period of complete rest with immobilization of the hip-joint in the correct position of abduction, followed later by the provision of a suitable walking splint designed to eliminate full weight-bearing, will tend to prevent or at least arrest the development of gross deforming bony changes. It is assumed also that if the determining etiological factor is infection, complete eradication of every discoverable focus will be carried out.



FIG. 1.—The shaded area of the femoral head indicates the amount which is removed at the operation; the line of section for the temporary elevation of the great trochanter and the elevation of the aponeurotic flap from the vastus externus are also shown.



FIG. 2.—Illustrates the conformation and position of the hip-joint at the end of the operation.

In the practical handling of osteo-arthritis of the hip-joint, however, the critical period at which the ideal early preventive treatment is applicable is often long past, and we are called upon to deal with the serious disablement of the later stages. It is then that the question of the value of operative treatment becomes of paramount importance to the patient.

Operative Treatment.

Four main classes of operative procedure have been employed: (1) Manipulation under anaesthesia; (2) the simple removal of osteophytic deposits; (3) surgical fixation of the hip-joint—that is, arthrodesis; and (4) simple excision of the head of the femur. Great care and judgement must be exercised in choosing patients for operation, and it is necessary in each case to have a clear conception of what constitutes the essential disability from the patient's own point of view. This may be either pain or progressive deformity, or a combination of the two. Within certain limits age alone does not constitute a standard of suitability or unsuitability. In my own series excision of the head of the femur has been performed in an individual aged 61, and in another aged 65, with results quite as satisfactory as in younger patients. Patients for operation should be robust or "wiry," capable of tolerating the minor discomforts of post-operative immobilization and of early post-operative physiotherapy, and endowed with a determination to collaborate with the surgeon in the long period of after-treatment which may be necessary.

1. *Manipulation under Anaesthesia.*—In the early or middle phases of the arthritic process, when the infiltration and thickening of the joint capsule is slight, when the osteophytes are scanty and plastic, and when the femoral head shows little or no deformation, forcible manipulation particularly directed towards the achievement of the full range of abduction is a therapeutic manœuvre of extraordinary value. This procedure is eminently suitable for patients in whom pain has not been a prominent feature, but who are more especially concerned about the increasing limitation of mobility in the hip-joint. Sir Robert Jones has long employed this form of treatment in picked cases with striking success. More recently Petrén of Lund[1] has commented upon the undoubted efficacy of forced movements, which in his view should be powerful and painful! Manipulative treatment has no permanent curative effect, but from a symptomatic point of view its beneficial effects may last for several years, or even indefinitely where the arthritic process has undergone spontaneous arrest at an early stage.

2. *Excision of the Osteophytic Outgrowths.*—This operation is in some measure the open equivalent of the bloodless manipulation. Its rationale is founded upon the view that the limitation of mobility is chiefly dependent on the mechanical obstacles afforded by the presence of osteophytes. Removal of the hypertrophied lip of the acetabular roof was advocated as a definite limited operative procedure both by Sampson Handley and De Courcy Wheeler some years ago, and has been termed "cheilotomy." Occasionally the osteophytic growths in the acetabular region assume a somewhat bizarre form, and arise from the floor of the cavity itself, thereby producing greater interference with mobility than the commoner hypertrophied acetabular margin. Their operative removal has been recorded by Brackett of Boston, who also in a number of cases carried out independently an operation of a similar nature to the cheilotomy of Handley and Wheeler. On the whole the operations in this category are of very limited application. The operative exposure of a good many of these hip-joints has impressed on me the fact that the ordinary osteophytic deposit on the acetabular rim plays a small part in producing limitation of mobility.

3. *Arthrodesis.*—The operation of surgical fixation of the hip-joint for osteo-arthritis has been warmly advocated by Albee and given a very efficient trial by Brackett. Designed to transform a painful progressively stiffening hip into a painless fixed hip ankylosed in the position of maximum utility, the operation is, in theory, exceedingly attractive. An investigation into the end-results of a series of hip-joint arthrodeses performed in Boston and published recently has shown that a good many results have been disappointing, owing to the difficulty of obtaining solid bony ankylosis. Where complete fixation has failed the adduction malposition has returned and the functional result in such cases has been comparatively poor. Most surgeons who have attempted to perform arthrodesis on many hip-joints have experienced the same technical difficulty. Bony ankylosis can be ensured only after the complete removal of the whole of the smooth sclerosed bony tissue which represents the articular surfaces in these joints after the disappearance of the cartilaginous covering. The period of post-operative fixation must be prolonged and full weight-bearing postponed until it is determined by clinical and radiographic tests that true ankylosis has been secured. The scope of the operation and the necessarily prolonged after-treatment render it suitable only for younger individuals.

Excision of the Head of the Femur.

I now come to the operation which has engaged my special attention for some time past. Excision of the hip-joint or excision of the head of the femur has for a long time been one of the standard operations of surgery for many affections. Of late years it has fallen into disrepute, and deservedly so, for as performed in the old manner with complete lack of correct after-treatment the usual end-result was an unstable pathological dislocation. The operation flourished in the surgical epoch of excision of joints when surgeons were primarily concerned with the eradication of disease and operations were less commonly conceived in terms of function. The operation here designated "excision of the head of the femur," as applied to osteo-arthritis of the hip-joint and carried out in the manner to be described, is a somewhat different proceeding. It is fundamentally reconstructive, and not destructive, in type.

In brief, the operation involves the following steps: (*a*) The removal of the overhanging mushroomed portion of the femoral head, leaving the stump of the neck of a reasonable length and with a slightly expanded upper end rounded off so as to simulate a new head; (*b*) the stump of the neck is brought deeply into the acetabulum by fully abducting the limb; (*c*) the great trochanter, which has been detached as an integral step in the exposure of the hip-joint, is reattached to the femoral shaft at a lower level, thus acquiring a position of mechanical advantage (Figs. 1 and 2). This latter manœuvre is an important feature of the operation. I have used it only in my later operations and before I was aware that it had been already introduced by Royal Whitman of New York as part of his reconstructive operation on the hip for old fractures of the neck of the femur. There are other technical details of importance and interest. In removing the femoral head it is necessary to use a wide osteotome with a curved shaft in order to reproduce the rounded stump of the neck. The surface of the cancellous tissue thus exposed, after being smoothed off by filing, is thoroughly impregnated with Horsley's wax. The same procedure is carried out in the raw area left by the detachment of the trochanter. In addition, this latter area is covered by a small aponeurotic flap elevated from the vastus externus and turned upwards, leaving bare the femur in the region where the trochanter is to find its new site. With regard to the approach to the hip-joint used in this operation, in my experience the postero-lateral route described by Brackett[2] is of all methods the most adequate.

After the operation the patient is nursed for six weeks on an abduction frame; the hip is completely immobilized by means of a fixed extension for the first three weeks only; after that gentle massage and active movements through a small range are given each day. In the intervals of treatment the patient is encouraged to repeat the attempts at active movement, the foot now being anchored to the lower part of the frame by a slack clove-hitch bandage. At the expiration of the six weeks' recumbency, if the patient has moved the hip with fair comfort (and this is usual), a calliper walking splint is applied and he is allowed to get up on crutches. A few weeks later full weight is borne on the calliper ring and the crutches discarded. The physiotherapeutic treatment is continued for some months, and the calliper splint is retained for at least six months; but in my experience the hip-joint is stable after three months, and the natural tendency of the patient is to discard the calliper at an early date.

The operation here described has given me exceedingly gratifying results, and for this reason has been described in some detail. I believe that it is applicable for the relief of the pain or malposition in moderately advanced cases of osteo-arthritis of the hip-joint at any age, provided the patient is constitutionally fit to undergo a major operation. There are few mechanical difficulties in the way of its fairly rapid performance; it takes less time and is less provocative of shock than an efficiently carried out arthrodesis. It is thus specially suitable for older patients, but my own trend at the present time is in favour of utilizing it also as an alternative to arthrodesis in younger individuals. The operation appears to give complete relief from the intolerable pain, and it also ensures the correction of the malposition. The degree of mobility in the reconstructed joint varies in different cases and under the influence of many factors. To some extent the range of mobility depends on the amount of bone removed in the resection of the femoral head—a factor which, as is well known, so often determines the function of any joint excision or arthroplasty. In a few individuals the range of mobility, which is free in the early days after the operation, later diminishes very considerably, but this, happily, is not associated with any return of the old pain and discomfort.

It is not suggested that this operation is in any way original either in its conception or its application, but a somewhat intimate acquaintance with the technicalities involved in its performance and personal experience of its effectiveness have urged me to emphasize its place in the repertoire of surgical procedures available for osteo-arthritis of the hip-joint.

REFERENCES.

[1] *Acta Med. Scandinavica*, 1921, vol. lv, fasc. ii. [2] *Boston Med. and Surg. Journ.*, February 5th, 1912.

THE ETIOLOGY AND TREATMENT OF DIABETES:

WITH SPECIAL REFERENCE TO THE SIGNIFICANCE OF A STARCH-SPLITTING AND ACETONE-FORMING ORGANISM FOUND IN THE STOOLS OF DIABETIC PATIENTS.

BY

ARNOLD RENSHAW, M.D.LOND., D.P.H.,

LECTURER IN PATHOLOGY, MANCHESTER UNIVERSITY; BACTERIOLOGIST, ROYAL EYE HOSPITAL, MANCHESTER; AND HONORARY PATHOLOGIST, ANCOATS HOSPITAL, MANCHESTER;

AND

THOMAS H. FAIRBROTHER, M.Sc.VICT.

In the consideration of the pathology of diabetes very little is known concerning the source of the acetone bodies—acetone, diacetic acid, and beta oxybutyric acid—which are eliminated from the body in this disease, and which are considered to be the cause of the acidosis and coma which result from their accumulation. The generally accepted view is that these bodies are derived from the amino-acids of the protein molecule, from the fats of the tissues, or even from carbohydrates, but the tendency is rather to explain their origin from the oxybutyric acid derived from fats.

In other words, there is general confusion on this point, and Adami correctly focuses present-day knowledge concerning them when he says, "we cannot as yet say definitely what is the origin of these bodies, whether from the amino-acids of the protein molecule, from the fatty acids, or from the carbohydrates." No one has, so far as is known, laid down any experimental proof that these bodies may be derived from the carbohydrates by bacterial action within the alimentary canal.

Bacteria capable of producing acetone from starch or other carbohydrates have been known to exist for some time; thus in 1905 Schardinger[1] first described such organisms. Secondly, under the name of "Amylobacter," Bredemann,[2] in 1909, described acetone-producing bacteria possessing spores. In this country attention was called to the practical application of these bacteria to industry by Fernbach and Strange[3] (Eng. Pat., 1912, No. 21,073), who actually manufactured acetone on the commercial scale by the ferment action produced by those bacteria on starchy foods.

It is known that the acetone production from starch is not restricted to the action of one particular bacterium, but it is very likely that there exists a family of the bacteria which have been described generically as "Amylobacter." The difference between the members of the family is not completely understood yet, but there are distinct differences in size—particularly in the width of the different organisms. Chemically, the point of similarity seems to be acetone production, which is common to all, and the point of difference the nature of the alcohol produced along with the acetone. Thus Fernbach's organism produces acetone and butyl alcohol, and this was developed during the war by Dr. Weizmann on account of the value of these two products, the one as a solvent for gun-cotton, and the latter for its use in connexion with isoprene, an intermediate body in the synthesis of india-rubber. In addition to this there is a complete description in the literature of another organism, *B. acetoethylicum*, described by Northup, Ashe, and Senior.[4] This organism produces 10 per cent. acetone and 25 per cent. ethyl alcohol and small quantities of propyl and butyl alcohol. It is a much thinner organism than the one described by Fernbach, being only 0.2 to 0.3 μ against 0.8 to 1.0 μ.

A description of the acetone-butyl alcohol fermentation from starch and its technical application is given by Gill[5] and a description of the organism was published by Thaysen[6] in

1921. The attention of the authors was drawn to this process in 1919, and the similarity of the products formed by it with those found in diabetes at once suggested to them the possibility of the organism being connected with this disease. Two differences were noted: in diabetes glucose was also present in the urine in addition to the acetone bodies; and in the case of the organism the result of fermentation yielded also butyl alcohol.

It appeared probable, however, that the products of such a fermentation in the alimentary canal by this or a similar organism might upset the glycogenic function of the liver, resulting in the excessive accumulation of glucose in the blood, with a consequent overflow elimination by the kidneys as soon as the blood sugar content became too high. It was further highly probable that the butyl alcohol or other alcohol formed during the course of such a fermentation could be oxidized in the liver so as to avoid elimination as such by the kidneys. This substance might, in fact, be the cause of the pigmentary cirrhosis of the liver sometimes met with in diabetes. It was resolved therefore to examine the stools of diabetic patients for the presence of an acetone-producing organism of the Amylobacter group, and attempts were begun in 1919 to isolate such a bacillus and to obtain ultimately a typical acetone fermentation therefrom. At the time these experiments were started very little information was available to the authors regarding methods of cultivating the organism, and successive publications had to be studied to glean a knowledge of the conditions required for a typical fermentation to be carried to a successful completion. The presence of such an organism in the stools of diabetic patients was quickly detected, and this organism produced a certain amount of gas and set up a fermentation in starch media. Films of these cultures showed the presence of a spore-forming bacillus very similar to the organism described as *B. amylobacter* by Fernbach, and described by Gill in 1919. A recent case of diabetes in a very young girl presented a very favourable opportunity for obtaining such organisms in greater numbers than were obtainable in older patients where the disease is of more chronic type.

The results of the present investigations show that in each of five cases we have isolated from the stools of diabetic patients an organism which is capable of producing acetone, N butyl alcohol, beta oxybutyric acid, and diacetic acid. The acetone and alcohol are present, as will be seen, in large quantity in good fermentations. Further, an analysis of the stools of these patients has been made and acetone has been recovered from the stools to a certain extent.

In view of the ready absorption of acetone by the blood, the full fermentation yield of acetone cannot be expected in the stool as passed per rectum; but the presence of this substance in the stool, together with the presence of an acetone-producing organism, would point to the alimentary canal as the source of intoxication in diabetes. This fact is significant when it is remembered that the organism flourishes best in carbohydrate media, and that carbohydrate foods are contra-indicated in diabetes. The further description can best be considered as follows:

Methods and Media Used.

The following media were used:

Culture Medium A (Semifluid).—Quantities: Ground rice 54 grams, fine oatmeal 6 grams, water to make 1,000 c.cm. The rice and oatmeal are fed slowly into warm water with good stirring. Care should be taken to avoid lumps. Bring to the boil and keep at the boil for a short time to ensure that the starch is gelatinized. Make up to volume and tube out. Sterilize for two hours at 30 lb. pressure.

Alternative Medium (Semifluid).—Quantities: Ground maize 60 grams, made up to 1,000 c.cm. of mash with water. The method of making up is the same as above. The important part is to have the material finely ground and to see that the mash is perfectly homogeneous, otherwise sterilization is difficult. For weaker strains better progress may be made with a 4 or 5 per cent. mash made up in the same way.

Culture Medium B (Solid).—First make up 1,000 c.cm. wort. Mash 100 grams of finely ground maize (or 90 grams of ground rice and 10 grams of oatmeal) with water to make up 1,000 c.cm. After boiling for fifteen minutes cool to 60° C. Add 10 grams of ground malt and keep at 60° C. for one hour, stirring all the time. Then bring to the boil for fifteen minutes to kill the diastase. To this add 10 grams of gelatin, 10 grams of calcium carbonate, and 20 grams of agar. Heat gently to bring these into solution, then filter. Tube out and sterilize for one hour at 15 lb. pressure.

Method of Isolation.

The stool from the patient is emulsified with sterile water or saline. If two or three days old this emulsion will contain spores, and it can be pasteurized for fifteen minutes at 75° C. before inoculating into Medium A. If fresh, it is preferable to inoculate direct without pasteurizing. In any case heavy inoculations of the stool should be made by means of a sterile pipette to the bottom of the tube containing Medium A. These are then incubated for one to three days. Gassing may or may not result, but the medium should become rather more liquid even in impure cultures. Spores will now have formed, and pasteurization may be carried out for ten to twenty minutes, at 75° to 80° C., when portions of the culture are diluted in sterile saline. It is preferable now to mix them in culture Medium B so as to isolate separate colonies. This medium should be melted and then cooled to 42° C. before admixture of the diluted pasteurized growth from the previous incubation, the medium being poured before solidification into sterile glass tubes 6 by 1 fitted at each end with sterile rubber stoppers. (These tubes should have been plugged with wool at each end and sterilized, the stoppers having been autoclaved.)

When solidified the inoculated tubes are incubated until growth occurs and the medium is split by the gas formation, which occurs round the colonies of the acetone-producing organisms or other bacteria. The tube is then uncorked at one end, warmed to allow the solid medium to slide out into sterile Petri dishes, and then cut up into slices, scrapings obtained from the different colonies being inoculated into tubes of Medium A. These tubes should now contain the organism in pure culture, and further fermentation should proceed at a more rapid rate. In view, however, of the small amount of inoculum obtained from the scrapings two days may elapse before even slight fermentation is visible; but when once established the culture should be pasteurized and inoculated heavily into several tubes. Two or three tubes at least of an actively growing culture obtained as above should be then inoculated into a warm flask of the starch medium containing one litre of 6 per cent. mash. (Approximately 50 c.cm. of actively growing inoculum are required for one litre of mash.)

The flasks should be incubated until fermentation is completed, usually thirty-six to forty-eight hours being required in a good fermentation. The contents of the flask are then distilled and the distillate examined quantitatively for acetone and butyl alcohol, and qualitatively for diacetic and oxybutyric acids. The presence of a good fermentation is represented visibly by the evolution of a considerable amount of gas, which consists of CO_2 and H_2. This may be so vigorous that the plugs of the tubes or flasks, if caked with inspissated mash, may be blown out. Meanwhile, the starch is being split up by the diastatic ferment liberated by the growth of the bacillus, and a clear watery fluid forms in which masses of partially digested starch may be carried up to the surface, there to form a head in the tube or flask. This head later sinks and a clear supernatant watery fluid remains.

In the above method, if it is desired to dispense with the solid medium in the anaerobic tube, the only other method available is to take a number of tubes containing high dilutions of the bacteria and to attempt, by repeated pasteurization, incubation, and dilution, to obtain the organism in pure culture.

It cannot be too clearly indicated, however, that there are numerous impurities which will prevent the fermentation from being carried out, and the only way in which good fermentations can be obtained is apparently by the simultaneous growth in masses of large numbers of the organisms. Reference will be made to these impurities later in regard to treatment. It is probably only on account of the presence of other bacterial impurities in the food within the alimentary canal that diabetes is not a more rapidly fatal disease—these impurities lowering the yield of acetone bodies which would otherwise be formed. Further, the great difficulty of carrying through a fermentation *in vitro* from such highly infected material as faeces cannot be too clearly indicated.

Description of Organism.

The organism isolated is a Gram-positive rod-shaped bacillus and is a facultative spore-forming anaerobe. The bacillus is usually straight, 4 to 6 μ in length, and about 0.9 to 1.2 μ in thickness. The ends are slightly rounded. It may occur singly or in chains of two to six organisms, or the forms may lie parallel, two or three parallel forms being fairly common, and parallel forms may be present even when the members are existing in chain formation. It is possible that this may represent fission in two planes—longitudinal and transverse. Young cultures are slightly motile, and in forms more than twenty-four hours old central spores may develop. The spores are oval in shape, protrude beyond the width of the bacillus, do not take the Gram stain, and usually have a small vestige of bacillary protoplasm left at each end. This vestige tends ultimately to disappear in older spores. The bacilli take basic stains, being well stained by carbol fuchsin (1 in 10), and less definitely stained by methylene-blue. The Gram staining in young forms is quite definite. We suggest that the term *Bacillus amyloclasticus intestinalis* be applied to the organism as found in the intestine of man.

Result of Fermentations.

By the activity of the organisms proteolytic and diastatic enzymes are liberated. The diastatic enzyme, by its action, splits up starch; the proteolytic enzyme is manifest by the slight liquefaction of gelatin which occurs round the site of the colonies produced in Medium B. The organism develops best under anaerobic or partially anaerobic conditions, these conditions being satisfied when cultures are inoculated to the bottom of the tubes or flasks containing a well-gelatinized mash. In order to obtain an active fermentation of starch it appears necessary for a liberal amount of inoculum to be added (up to 5 per cent. of the tube or flask to be inoculated), since the fermentation appears to be retarded and even suppressed unless a large mass of organisms is growing simultaneously in one part of the medium. It is not, therefore, a good method to disseminate too freely the inoculum added.

The bacilli require a small quantity of protein with their starch, but experiments in hand appear to show that peptone can be substituted for protein, although it was at one time considered that peptone would not suffice. (See also *Journ. Biol. Chem.*, 1919, 39, 1–21.)

If the reaction of the mass is taken in which fermentation is actively proceeding it is found to rise rapidly, ultimately alling on completion as follows:

1. Before incubation 10 c.cm. of mash required 0.3 c.cm. N/10 NaOH to neutralize.
2. After twenty-four hours 10 c.cm. of mash required 3.96 c.cm. N/10 NaOH to neutralize.
3. After forty-two hours 10 c.cm. of mash required 2 c.cm. N/10 NaOH to neutralize.

In addition there is a considerable evolution of gas, which is found to consist of hydrogen and CO_2. The estimation of the acidity can be regarded as indication of the progress of fermentation.

Examination of Products of Fermentation.

The signs of completed fermentation are cessation of gas evolution, and no further fall in the acidity of the liquor. The final acidity in a normal fermentation is such that 10 c.cm. of the mash require 1.8 to 2.5 c.cm. of N/10 NaOH for neutralization. (Boil off dissolved CO_2 before testing the acidity, and use phenolphthalein as an indicator.) The mixture of acetone and alcohols is referred to as mixed oil, and the estimation is carried out as follows:

The plug of the flask is removed and replaced by a stopper carrying a tube to a condenser, and the mash is distilled until no further oily drops are noticed in the condenser. Usually this distillate is 10 to 15 per cent. of the total volume in the first flask. The distillate is saturated with common salt and redistilled until no further oily drops are noticed.

The second distillate is saturated with anhydrous potassium carbonate and poured into a measuring cylinder. The potassium carbonate solution settles to the bottom, and there is a very definite dividing line between this and the layer of oil. The volume of mixed oil obtained is read off on the cylinder. (If preferred, it may be separated in a separating funnel and weighed in a closed bottle.)

For estimation of the acetone in the mixed oil, the latter must be diluted to a suitable strength. If 25 c.cm. of iodine are used in the iodoform estimation the amount taken should contain about 0.01 gram acetone. For example, if the mixed oil contains approximately one-third its weight of acetone, 10 c.cm. are taken and made up to 100 c.cm. Then 10 c.cm. of this dilution are taken and made up to 250 c.cm., and 10 c.cm. of this last dilution will contain approximately 0.01 gram of acetone, and it is the amount used for titration.

Take 10 c.cm. of this diluted liquor, add 25 c.cm. N/10 iodine solution and 6 c.cm. of 20 per cent. NaOH solution; allow to stand for five minutes, then add 6 c.cm. of 20 per cent. HCl and titrate the liberated iodine with sodium thiosulphate (N/10). This gives the amount of iodine not used in the making of iodoform from the acetone, so that the difference between 25 c.cm. and this figure is the amount of iodine used; 1 c.cm. of N/10 iodine is equivalent to 0.000967 gram acetone.

Results of Case Examination.

The results obtained in cases in which fermentation was carried to completion were as follows:

Urine Examination.

Patient.	Sugar (Grams per Litre).	Diacetic Acid.	Acetone (Grams per Litre).
Ma. ...	45.4 grams	Present	0.72 gram.
Ho. ...	40.3 ,,	Present	0.047 ,,
Wa. ...	20.0 ,,	Large amount	0.097 ,,
Ba. ...	42.7 ,,	Present	0.70 ,,
Br. ...	30.0 ,,	Present	0.25 ,,

Stool Examination.

Patient.	Acetone in Stool as Percentage on Dry Stool.	General Remarks as to Bacteriology, etc.
Ma.	0.06 per cent.	B. amyloclasticus intestinalis present; also a long, thick bacillus from which it had to be freed by repeated pasteurization and subculturing.
Ho.	0.043 per cent. with in addition acetone bodies equivalent to 0.02 per cent. crotonic acid	B. amyloclasticus intestinalis found.
Wa.	Not examined	B. amyloclasticus intestinalis found.
Ba.	0.036 per cent.	B. amyloclasticus intestinalis.
Br.	0.08 per cent.	B. amyloclasticus intestinalis.

Fermentation on Starch Media by Organism Isolated from Stool in each Case.

Final acidity of mash being approximately 2 c.cm. N/10 NaOH to neutralize 10 c.cm. in each case.

Patient.	Mixed Oil Products.	Percentage Weight of Acetone on Starch.	Nature of Oils.
Ma.	20 c.cm. on 55 gm. starch and 5 gm. oatmeal	9.2	N butyl alcohol equivalent to twice amount of acetone present.
Ho.	17.2 c.cm. on 54 gm. starch and 6 gm. oatmeal	6.8	Diacetic acid and N butyl alcohol present. Trace of iso-butyl alcohol.
Wa.	9 c.cm. on 25 gm. starch and oatmeal	6.6	Acetone and N butyl alcohol.
Ba.	13 c.cm. on 50 gm. rice and 5 gm. oatmeal	5.8	N butyl alcohol and acetone.
Br.	10 c.cm. on 27 gm. rice and 3 gm. oatmeal	5.2	Acetone; N butyl alcohol; trace iso-butyl alcohol.

The alcohols were identified by preparing the 3.5 dinitro-benzoyl esters and examination of the same.

Altogether nine cases of alleged diabetes have been under examination. Of these, five have been completed, and the results are indicated in the tables. The remaining four are receiving further experimental work. The organism has been detected microscopically in two of the remaining cases, but with it foreign organisms, which have retarded its action in the complete massive fermentation of starch, and great difficulties have been met with in obtaining the organism in pure culture.* There is sufficient indication that in a short time these difficulties will be overcome and that the experimental results can be added to the five reported cases. Of the other two, one shows glycosuria following emotional disturbances, and the other is a young child now rendered sugar-free. As controls, eleven non-diabetic stools have been examined, and the organism has not been detected in any case.

Occurrence of Similar Organisms in Nature.

The acetone bacillus which was used during the war was believed to occur on decaying maize, on bad potatoes, and on other decaying vegetable matter. Northup isolated *B. acetoethylicum* from bad potatoes. Jute retting is supposed to be due to a similar organism, and in this respect the incidence of diabetes in Dundee amongst jute workers is highly suggestive of a bacterial infection by our bacillus. Occurring as it does on decaying vegetable life it is easy to understand how such a heat-resistant, spore-forming organism should enter the alimentary canal of human beings. It is probable that, if this be so, one of the post-war effects will be a considerable increase in the incidence of diabetes and of acidosis.

Discussion of Results with a View to Treatment.

The degradation of the complex starch molecule probably occurs by the formation of fatty acids with large molecules and then successive oxidation of two carbon atoms at a time, starting in the beta carbon atom. Ultimately, through the stage of intermediate fatty acids, the four-carbon fatty acid (butyric acid) will be arrived at. Oxidation will proceed normally at the beta carbon atom, producing the beta oxybutyric acid; this is capable of further oxidation at the same point to aceto-acetic acid, and this will be ultimately broken up, giving acetone and CO_2. The changes can be followed by means of the following formulae:

CH_3	CH_3	CH_3	CH_3
|	|	|	|
CH_2	$CH.OH$	$C=O$	$C=O$
|	|	|	|
CH_2	CH_2	CH_2	CH_3
|	|	|	+
$COOH$	$COOH$	$COOH$	CO_2
Butyric acid.	Beta oxybutyric acid.	Aceto-acetic acid.	Acetone and carbon dioxide.

* Since this article was prepared for press one of these two has given typical fermentations.

Thus it would appear that the beta oxybutyric acid and the aceto-acetic acid produced in the course of the disease are intermediate products leading ultimately to acetone, providing the conditions are favourable. This conclusion is supported by the observations on the fermentation, where it is noted that the end of the reaction is determined by the fall in the acidity of the mash.

The fact that the alcohols produced in the fermentation are not detected in the excreta of diabetic patients can be explained to some extent by their absorption and possible oxidation in the liver to products which would not be easily detected. Stepp[7] claims that he has detected aldehydes (or substances which react in every way like aldehydes) in the blood of diabetic patients. Aldehydes would be the first products of the oxidation of normal alcohols, and complete oxidation would lead to CO_2 and water. In endeavouring to obtain good yields of acetone the inhibitory effects of certain bacteria came to be recognized. Thus Thaysen states that the organism which causes most damage to a fermentation is the *B. volutans*. Others have described the *B. acidi lactici*, and we have found the presence of a diplococcus and of a large thick bacillus, of unknown identity as yet, to be responsible for much inhibition. It appears probable that these facts, combined with a diet so composed as to allow digestion and absorption by the patient of foods which the bacteria cannot assimilate, will prove an important part of treatment, combined with the administration of certain antiseptics. In this respect the authors[8] would call attention to their work on the subject of antiseptic action amongst the coal-tar dyestuffs, which gives useful data as to the relative value of dyes as antiseptics in regard to different organisms.

SUMMARY.

1. From the stools of diabetics a new organism (*B. amyloclasticus intestinalis*) has been isolated which splits up starchy foods, forming oxybutyric acid, diacetic acid, butyl alcohol, and acetone. Sugar is also formed during this fermentation.

2. Acetone has been found in quantities capable of estimation in the stools of diabetics.

3. In diabetes carbohydrate fermentation occurs in the alimentary canal, forming abnormal products which probably so affect the glycogenic function of the liver as to lead to improper storage therein of the glucose from the alimentary canal during digestion.

4. Definite lines of treatment include elimination or suppression of this organism.

We wish to express our indebtedness for access to diabetic cases to Dr. J. Gray Clegg, Dr. Wm. Stirling, and Dr. Langley; and to Mr. A. Gill, B.Sc., for his technical assistance with the various processes herein detailed.

REFERENCES.

[1] Schardinger: *Centralbl. f. Bakteriol.*, 1905, 14, Abt. ii, 772. [2] Bredemann: *Centralbl. f. Bakteriol.*, 1909, 23, Abt. ii. [3] Fernbach and Strange (Eng. Pat., 1912, No. 21,073). [4] Northup, Ashe, and Senior: *Journ. Biol. Chem.*, 1919, 39, 1–28; *Journ. Ind. Eng. Chem.*, 1919, 11, 723–27. [5] Amos Gill: *Journ. of Society of Chemical Industry*, July 31st, 1919, vol. xxxviii, pp. 273–80. [6] Thaysen: *Journ. of Institute of Brewing*, vol. xxvii, No. 11, pp. 529–542. [7] Stepp: *Biochem. Zeit.*, 107, 60–80 (1920) [8] Fairbrother and Renshaw: *Journ. of Path. and Bact.*, vol. xxv, 1922, pp. 145–151.

FRAGILITAS OSSIUM ASSOCIATED WITH BLUE SCLEROTICS IN FOUR GENERATIONS.

BY

J. BROWNING ALEXANDER, M.D., M.R.C.P.LOND.,

PHYSICIAN WITH CHARGE OF OUT-PATIENTS, PRINCE OF WALES'S GENERAL HOSPITAL, AND CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST.

INSTANCES of fragilitas ossium associated with blue sclerotics have from time to time appeared in medical literature, and as recently as December 24th, 1921, Blegvad and Haxthausen of Copenhagen reported in the BRITISH MEDICAL JOURNAL cases showing, not only blue sclerotics and brittle bones, but also associated with macular atrophy of the skin and zonular cataract. Such cases are, however, sufficiently rare to warrant putting on record the following history:

The patient, F. F., aged 7½ years, presented himself at my out-patient department about a year ago. The history was that he suffered from repeated fractures—the most recent having been one of the lower end of the right tibia. Some deformity was present in the right leg and the right thigh, and it was ascertained that both the tibia and the femur had been previously fractured—the latter having occurred at birth. In addition a history was obtained of past fractures of the left humerus and the tibia and fibula of the left leg. These had healed with apparent perfect union and minimal amount of callus. The most striking feature which one observed when the boy entered the consulting room was the marked blueness of both sclerotics. The child was somewhat pale and debilitated, the forehead more prominent than normal, but no evidence of rickets was apparent. In other respects the mother stated that the boy had always been healthy. The mother, to whom the boy bore a strong resemblance, showed very deep blue sclerotics. She had, however, no fractures. Her hearing was defective, and she informed me that she had suffered from deafness for many years. The patient's two sisters, whom I saw later, also presented blue sclerotics, with, however, no history of fractures. On inquiring further into the history of the family I found that the aunt of the patient (the patient's mother's sister) had sustained altogether seven fractures during her life and had, as in the other members of the family, deep blue sclerotics. The grandmother and great-grandmother had both been the subjects of fragile bones and blue sclerotics. No further history of these phenomena was forthcoming in previous generations to the ones already mentioned; it is quite possible, however, that a careful study of this family's genealogy would have revealed the same condition in former generations.

This remarkable association of brittle bones and blue sclerotics was first described by Eddowes in 1900, who suggested that "the transparency of the sclerotics indicated a want of quantity or quality of fibrous tissue forming the framework of the various organs of the body, and probably explained the want of spring or toughness in the bones of these individuals." The importance of heredity in these cases was most clearly indicated by Stephenson and Harman in 1910, who published accounts of the same family of blue sclerotics—altogether 55 individuals in five generations, 31 of whom showed typical sclerotics. No mention was then made of fragile bones; but in 1915 Stephenson showed at the London Ophthalmological Society a mother and two daughters with fractures, belonging to this family. Rolleston, in 1911, reported 4 cases of blue sclerotics in three generations, with fragile bones occurring only in the third generation. Peters, in 1908, published the account of blue sclerotics in a family during three generations, and five years later further reported the occurrence of fractures in these cases. The interesting case reported by Ostheiner in the *Journal of the American Medical Association* of December, 1914, had blue sclerotics and nine fractures between the ages of 1½ and 4 years. In this case there was no history of the condition occurring in other members of the family. The literature of the subject is further enhanced by the publication of similar cases by Burrows, in 1911 (a family of 29 individuals—13 with blue sclerotics, and 9 of the 13 with brittle bones); Poynton, in 1913 (1 case); Hoffmann, in 1915 (3 cases); E. Bronson, in 1917 (description of two families); and Olaf Blegvad and Holger Haxthausen, BRITISH MEDICAL JOURNAL, December 24th, 1921.

There seems to be little doubt that the blueness of the sclerotics is due to the increased transmission of the colour of the choroidal pigment and not to any inherent colouring of the sclerotics themselves. Some think, however, that there is an actual thinning of the sclerotics. Fridenberg has suggested that the blue sclerotics are due to a transparency depending upon the absence of lime salts in the connective tissue of the sclera. The long-standing deafness in the case of the mother described is worthy of notice, and might possibly be explained, as Bronson suggested, by a deposition of calcium salts in the middle ear, relating to the abnormal osteogenetic process.

THE RECOGNITION AND TREATMENT OF MINOR DEGREES OF FIBROSITIS.

BY

THOMAS MARLIN, M.D., D.P.H., D.M.R.E.,

ASSISTANT ELECTRO- AND PHYSIO-THERAPEUTIST TO THE MIDDLESEX HOSPITAL.

KNOWING the danger of missing an internal lesion which may be associated with superficial pain we naturally in such cases look for some objective sign. Failure to realize that the cause of many pains can be definitely detected in the soft tissues may explain why their examination is neglected. A patient who complains of pain in the region of the right scapula may be taken as an example. There may be some tenderness on pressure over a particular area, but otherwise nothing definite is noted; there is no swelling, no grating in the joints, and the lungs and heart are normal. The teeth may be surveyed and search made for some source of infection or irritation, without finding anything to confirm the patient's statement. If, however, we now devote a little

more time to the soft tissues where the pain appears to be, comparing if necessary with the other side, we may note some resistance in a part of the muscle, and the patient will tell us we are exactly on the offending spot; on continuing the examination we may presently discover that the resistance is due to a definite fibrous thickening. Further useful information may be obtained by working from the patient's point of view. When we palpate the tissues and try to define the indurations, we are carrying out the ideal massage for this condition, and the sufferer will know at once that to continue those manipulations would do good. In this we have the key to the treatment—namely, massage, which is not merely superficial rubbing, but is really a repetition of the manipulations carried out during our examination. Changes can actually be felt to take place in the fibrous tissue under the influence of massage.

The foregoing is typical of the easily recognized condition of fibrositis as seen in muscular rheumatism; more obscure cases may be due to minor degrees of fibrositis which may be difficult to diagnose. Time and patience are necessary, but frank co-operation with the patient will tell us if we are on the right track. The following case is instructive:

A lady, aged 34, had had a fall on the coccyx fifteen years previously, and had since suffered pain round the coccyx and right side of sacrum. The pain was of a vague character, fairly limited in distribution, and, though not always acute, generally gave rise to some feeling of discomfort. Latterly she had become very irritable and a worry to her relatives. The pelvic organs were declared healthy, and a small anal fissure had been operated on, but as no benefit resulted from this further consultations were held. Apparently the advisability of the removal of the coccyx was discussed, though it was pointed out that there might be a large mental element present, as the patient was considered highly neurotic. Had it been possible to guarantee cure, the patient would gladly have undergone the operation, but at this stage she consulted me. The painful area was gently palpated for evidence of fibrositis, yet, even before I had time to make up my mind, the patient exclaimed, "Do you know, I have been waiting for years for someone just to do that to me." This remark was very significant. She had done all she could to obtain relief, had offered herself for examination and treatment by different medical men, and on every occasion had tried to direct attention to the actual seat of pain. Casual examination had shown nothing to account for it, and the search had been carried farther afield without success.

As the examination proceeded the tissues soon relaxed sufficiently to allow certain definite painful fibrous strands to be felt. My mind was now fully made up that here was a case of fibrositis with every reasonable prospect of clearing up. The treatment, which consisted of massage and diathermy, was attended by improvement, and after thirteen visits the patient was quite free from pain. There has been no return of any discomfort since she was last seen over twelve months ago.

It will be observed that we may easily be misled unless we keep before us the possibility of fibrositis. A person with pain in the left side of the chest may have a systolic murmur at the apex, yet the origin of his complaint be entirely in the intercostal muscles. Similarly, people may have pain in the loins arising from the muscles in the back and quite unconnected with the kidneys, even though the urine might show a trace of albumin. In the case just quoted the anal fissure was not to blame, yet had some pelvic disorder been present our minds would have turned to that as the causative agent.

In certain other conditions the cause may be found in a region unsuspected by the patient. Headache is often due to indurations in the upper fibres of the trapezius, and relief quickly follows appropriate treatment of these areas. In several cases of flatulent dyspepsia the condition has been speedily cured by treatment directed to fibrous nodules or strands in the erector spinae muscles.

In one instance a lady who for several months had had headache and sickness, with actual vomiting after dinner, was seen one afternoon during an attack of headache; this disappeared after about ten minutes' massage to the back of the neck, and there was no sickness that evening—the first time for months. Further examination revealed indurations in the erector spinae muscles. These disappeared after massage, and she has now been quite well for over nine months.

The simple headaches may be due to spasm or cramp of the scalp muscles induced by the pathological condition in the trapezii, and the relief can thus be explained; but I hesitate to advance any definite theory as to the disappearance of the dyspepsia. We know, however, that if one muscle or set of muscles is painful on contraction the antagonistic muscles, which do not merely relax but rather pay out, will be awkward in their movement, being more or less on tension all the time to avoid or limit jarring of the painful muscles. If, then, there is trouble in the erector spinae muscles the abdominal muscles will be correspondingly affected, and thus may react on the normal digestion processes.

The possibility of eye-strain and other sources of irritation or infection must of course be borne in mind, and as superficial pain may be due to, or an accompaniment of, deep-seated lesions, masseurs must have some guide to help them. This they may obtain from the patient. A patient with reflex spasm in the abdominal muscles set up by an inflamed appendix or an enlarged spleen draws away from the examining hand. On the contrary, the person with fibrositis feels at once that the manipulations are going to the seat of his trouble, and asks for prolongation of the treatment as it is so comforting. This guide eliminates the chance of doing damage in obscure cases, and has also enabled me at different times to attack confidently various pains associated with definite organic disease, but which nevertheless appeared to be due in part to local conditions. To quote two examples:

A man consulted me with regard to pains shooting from the back beneath the ribs, round towards the front of the body. I came to the conclusion that he had hereditary syphilis, and refused to treat him until he had submitted to examination and treatment by someone else. When he had started on a course of salvarsan I treated his back, with much benefit.

The other case, a lady, aged 22, who had definite evidence of intracranial pressure, asked me to treat her for violent headaches. I specifically warned the mother that at the most we were only dealing with a symptom, and no matter how much improvement might ensue, she must be prepared to go on with the operative measures which had been arranged to take place later. Massage to the trapezii, which were tight and contracted, gave such pronounced relief that, in spite of my previous warning, the mother began to doubt the diagnosis already made, and only with difficulty was she persuaded that trephining was still necessary.

A CASE OF OSTEITIS DEFORMANS

(*PAGET'S DISEASE*).

BY

J. LINDSAY, M.D., M.R.C.P.,

PHYSICIAN TO THE ROYAL MINERAL WATER HOSPITAL, BATH;

AND

R. G. GORDON, M.D., M.R.C.P.ED.,

PHYSICIAN TO THE ROYAL MINERAL WATER HOSPITAL, BATH.

CASES of Paget's disease are of sufficient rarity to make it desirable to put on record such a striking case as the present one.

W., aged 54, was always well in childhood, and at the age of 22 joined the army. He served for nineteen years, fourteen of which were spent in South Africa, Egypt, India, and Burma. He only went sick six times during his service; he had malaria three times, twice in India and once in Burma, with one month's sick leave each time. He had dengue fever in Madras and influenza twice. At the outbreak of war he volunteered for service and was sent to Canada on special work. He spent five years in the service and never missed a day's duty for sickness. He has suffered from piles and a certain amount of constipation ever since he was 30 years of age.

Family History.—His mother died of Bright's disease at an advanced age. His father died at the age of 88 after suffering considerably from arthritis in both hips. Two paternal uncles also suffered very much from the same trouble.

History of Present Illness.—The first time he ever noticed any trouble with his locomotor system was after a bad attack of sciatica in Burma fifteen years ago. He was coming down the river a distance of 1,000 miles, returning to Rangoon, and the sciatica came on five days after leaving his station. He attributes the onset to getting thoroughly wet while snipe shooting. He was never quite the same since this attack, but there was no serious trouble until 1915, and even then the stiffness did not trouble him to any great extent. In January, 1915, he was in Halifax and got worse every year, having very bad colds. Six months after the armistice he applied for a medical board and was sent to Harrogate. In the winter he had chronic nasal catarrh, which left him deaf. In 1918 he began to notice enlargement of his bones, more particularly of his head, as he constantly required new hats, and finally had to have these made for him as nothing was kept in stock which would fit him. He had for the last four or five years suffered from a good deal of pain and stiffness in the left hip, which had been relieved temporarily by ionization, otherwise he had suffered no pain. There was no history of trauma at any time that he could remember.

The patient appeared in very fair general health, but the enlargement of the head gave him a peculiar aspect. He walked slowly and stiffly, owing to limitation of movement in the left hip, and required the help of a stick, but at his own pace could cover up to half a mile without undue fatigue. The following bones were found to be affected by the osteitis: The whole of the cranium was markedly enlarged, with considerable outgrowth of the frontal bones. The facial bones were practically unaffected. The cervical vertebrae were not noticeably enlarged, but there was a good deal of osteitis in the lower dorsal region. The ribs were not affected. The lumbar vertebrae were not involved to the extent of the dorsal.

The ilia were considerably enlarged. The right shoulder girdle was only very slightly affected. The right humerus was markedly affected in the head and lower part of the shaft. The upper third of the right ulna and whole of the right radius were involved, the arm showing considerable bowing. The small bones of the right wrist and hand were not affected in any way. The left shoulder girdle, clavicle, and coracoid were slightly involved; the head of the left humerus and the shaft scarcely at all. The olecranon process and head of the left ulna were involved, but the rest of the bone and the radius had almost entirely escaped. The small bones of the wrist and hand were normal. The head of the right femur was involved to a certain extent, as was the shaft, and the ischium was slightly affected. The lower end of the right femur was markedly affected, as were the tibia and fibula, the leg showing decided bowing. The left pubis ischium and femur were very markedly affected, and there was a decided superimposed arthritis in the left hip-joint. The tibia was very markedly affected and the fibula to a less degree, the knee-joint showing a mild arthritis. Small bones of the ankle and foot were not affected, nor were the lower portions of the tibia. The articular surfaces were, on the whole, free, except for the left hip and left knee. These were painful on extreme movement in any direction, but more particularly in abduction and external rotation of the hip.

Examination of the heart and lungs was negative. No abnormalities were found in the abdomen, with the exception of slight piles both external and internal. This did not trouble him to any great extent except for slight bleeding about once in six weeks. The teeth, though many had had fillings, were healthy and the gums showed no pyorrhoea. Mr. Mumford kindly examined the nose and throat, and reported as follows: A chronic post-nasal catarrh with chronic pharyngitis. Pus was exuding from the antrum in considerable quantities. He did not advise operation, as in the porous condition of the skull bones infection might be spread farther. The tonsils were comparatively healthy. Blood examination showed no abnormalities, and the urine examination was negative. The Wassermann reaction in the blood was negative. The diet had been so varied, owing to his residence in India, Canada, and England, that no conclusions could be drawn.

Treatment.—He was given ionization to the left hip, as this had given him relief before, and he was instructed in the use of nasal antiseptics. After four weeks the pain in the hip was somewhat relieved, but otherwise he remained *in statu quo*.

This case seems to correspond exactly to the original clinical picture described by Paget. There is no obvious cause for the onset of the inflammation, it being noticeable that there is no history of trauma. Certain observers have lately suggested that Paget's disease occurs after blows on the various parts of the skeleton. It would seem, however, that the conditions are definitely distinguishable, and Paget's disease cannot be classed with the cases of traumatic osteitis. The course of the disease is slow and does not affect the general health to any extent. In the present case there was little or no pain except in the left hip and knee, which would seem to be due more to superimposed arthritis than to the actual inflammation of the bones. Pain is not always absent in Paget's disease, as in some cases tender points have been described frequently on the tibia and sometimes in the skull. The progressive enlargement of the vault of the skull is exceedingly characteristic, and the *x* rays at once puts the diagnosis beyond doubt. So far no treatment has been discovered which holds out any prospect of relief. In the cases of traumatic osteitis referred to above Lane seems to have had some success by scraping out cancellated parts of the bone, but in such a widespread condition as the present this treatment is obviously inapplicable.

"PERNICIOUS ANAEMIA," APLASTIC OR TOXIC.

BY

J. F. REY, M.R.C.S., L.R.C.P.,

BOGNOR.

AN interesting case of "pernicious anaemia" recently came under my care. The patient was an Englishman, aged 48, who had a splendid health record; he weathered the strenuous South African campaign, suffering great privation and exposure, and remained physically fit and worked hard afterwards, but eventually in 1917 his "nerves gave way" owing to privations, business worries, and bad food. His weight decreased; haemorrhoids, from which he had suffered for twenty years, caused trouble, and were removed by operation in March, 1918. Nine months later bleeding and discharge began to occur at intervals every few weeks. In 1919 his appetite became poor, and he felt languid, depressed, and fatigued; flatulence was marked, and his colour became pale. In November, 1920, he had "influenzal catarrh" with diarrhoea lasting fourteen days; an anal abscess developed and burst, leaving an anal fistula. This was successfully cured, under cocaine anaesthesia, during his present treatment.

The blood picture of the aplastic type of pernicious anaemia, as given by H. Vasquez and Ch. Aubertin in *Le Traitement des Anémies*, is as follows:

No poikilocytosis, no anisocytosis, no polychromatophilia, decreased number of leucocytes, relative decrease of polymorphonuclears; no myelocytes; no eosinophils; no nucleated reds, no haematoblasts. Coagulation absent or greatly decreased.

Now the first blood picture of the case here related conformed to this type in all particulars except the anisocytosis: only a few large red cells were found. The relative number of mononuclears throughout the course of the disease was excessive and this pointed to the existence of a bacillary infection which was not overcome. I was led, therefore, to believe that I was dealing with a case of toxic anaemia.

	Jan. 27, 1921.	Feb. 23, 1921.	April 21, 1921.	July 4, 1921.
Red cells	2,800,000	2,500,000	5,800,000	6,800,000
Haemoglobin (Haldane's)	45%	65%	95%	105%
Colour index	0.9	0.77	0.8	0.78
Leucocytes	6,542	7,500	8,125	8,417
Polymorphs	62.4%	24.5%	50.6%	49%
Mononuclears	33.2%	64.7%	43.4%	46%
,, large ...	5.6%	43.2%	35%	27%
,, small ...	27.9%	21.5%	8.4%	19%
Hyaline cells	3.2%	7.7%	5%	4%
Eosinophils	Nil	3.1%	1%	1%
Mast cells	0.9%	Nil	Nil	Nil
Eichhorst's corpuscles ...	Nil	Nil	1 per 1,000 reds	2% reds
Abnormal cells	A few large red cells	None	None	None
Arneth's index (normal 2.76)	2.91	4.05	2.23	2.55

The diarrhoea was first checked by astringents and tincture of opium. Gastritis was troublesome until the discovery that there was a lack of free hydrochloric acid in the gastric contents. The administration of hydrochloric acid in large quantities overcame this and stopped the excessive flatulence which he had after meals. Carbohydrates were restricted; later he gradually took to normal diet. Injections of soamin were given until the maximum amount was injected. Capsules of beta naphthol (1½ grams) were given daily and also haemoglobin.

When I saw the patient on July 4th, 1921, he appeared in excellent health, eating well of everything, sleeping well, enjoying all sports, and complaining of no fatigue. In this condition he returned to South Africa to resume his former work. On October 1st, 1921, all medicine was discontinued. In a note dated February 15th, 1922, he states that he is "absolutely fit in every way."

THE LOCAL APPLICATION OF TUBERCULIN.

BY

JAMES CROCKET, M.D., D.P.H., M.R.C.P.,

LECTURER ON TUBERCULOSIS, GLASGOW UNIVERSITY; MEDICAL SUPERINTENDENT, CONSUMPTION SANATORIA OF SCOTLAND, BRIDGE OF WEIR.

MODERN writers on tuberculosis tend to decry the value of tuberculin. Fowler, in his recent volume on tuberculosis, says that "nothing at all is heard now of tuberculin as a remedy." It does not, however, follow from this that it is not being used to good purpose. While not a specific for tuberculosis of the lungs, it is, if given in small doses at weekly intervals, undoubtedly an influential factor for good. Cases treated with tuberculin make more satisfactory and more rapid progress than others not receiving such injections. In addition to using tuberculin hypodermically in pulmonary tuberculosis, we have for several years been using it locally—in gland cases, in lupus, and in abdominal tuberculosis particularly—with excellent results.

The tuberculin is made up in an ointment, using anhydrous lanoline as a basis when lupus or adenitis is treated. It is made up in the form of a liniment when dealing with abdominal disease or pulmonary tuberculosis. The strength of the preparation varies according to the reactive power of the patient, the aim being to secure a definite reaction at the site

into which it is rubbed, the reaction being indicated by a roughening, a reddening, or a papular eruption on the skin. The ointment or liniment should not be strong enough to produce a general reaction, as indicated by an increase of temperature, anorexia, or malaise. No case dealt with by us along the lines mentioned has ever shown such a reaction. Koch's old tuberculin T. or P.T., or preferably equal parts of both, is used. We generally make up the ointment in four strengths —namely, No. 4, 1 in 4; No. 3, 1 in 3; No. 2, 1 in 2; No. 1, 1 in 1. In dealing with glands, for example, we begin with the weakest ointment, No. 4, one part of tuberculin to four of anhydrous lanoline, rubbing in a piece the size of a pea. If there be a reaction, we keep on with that, applying a similar amount every five days. If there be no reaction, we go on to the stronger form. In some cases we have to use the strongest form—namely, equal parts of tuberculin and anhydrous lanoline—before a satisfactory reaction and result are obtained. If, on the other hand, the reaction be very severe from using the weakest of the four strengths, the 1 in 4, it is necessary to use a still weaker preparation. In several instances we have had to use it as weak as one part of tuberculin to eight parts of anhydrous lanoline.

A diminution of the size of the glands is usually noted within a week or two. It may take several months to cause them to disappear. Treatment of glands by operation produces more rapid results in gland cases, it is true. On the other hand, recrudescence of the disease is very common after operation; further, dissemination of the disease not infrequently ensues in such cases, and at the best there is the tell-tale disfiguring scar. When dealt with by tuberculin the cure results along nature's own lines by the production of antibodies and by raising the resistance of the individual. Four cases may be quoted.

1. A carter, aged 46, was admitted to the sanatorium with two large masses on either side of the neck. Treatment with tuberculin locally resulted in those masses, which in one instance were as large as a closed fist, becoming scarcely palpable. Treatment lasted for five months.

2. This patient was seen at the dispensary in Glasgow. Her mother was a patient in the sanatorium suffering from pulmonary tuberculosis, spinal disease, and tuberculosis of the knee. The patient herself had been operated on, she did not know how often, for glands of the neck. There were several discharging scars reaching almost from one ear to the other. Numerous glands, varying in size, were palpable on both sides of the neck, and above the right clavicle there was an irregular mass about three inches broad. She told us that she had received instructions to go into a Glasgow hospital to have a further operation. We asked the Glasgow Corporation to send her to us, in order that we might try conservative measures. The inunction of tuberculin has resulted in a total disappearance of the glands on both sides of the neck. The patient has increased in weight. All toxic symptoms, which previously were very marked, have disappeared.

3. A woman was admitted to the sanatorium with very large masses of glands well down both sides of the neck; she also had involvement of the lungs. There was infiltration to the level of the fourth rib on the left side, and to the second rib on the right. We gave her tuberculin inunctions immediately on admission, using 1 in 3 ointment. An improvement was noted within a fortnight. After a month we went on to 1 in 2 ointment, and kept on that for four months, applying it twice each week. At the end of that period we used 1 in 1. She was able to stand the stronger ointment without excessive reaction. We discharged her from the sanatorium after six and a half months. The glands were not palpable, and the lung disease perfectly quiescent.

4. A young lady, aged 20, was admitted with a scattered mass of glands reaching from the mastoid process to the clavicle on the right side. They were matted together and adherent to the skin, and, although there was no ulceration, the condition was very disfiguring. Tuberculin was applied by inunctions, and all traces of the glands were removed within six months.

These cases, selected at random, illustrate the results very generally obtained. In treating glands other measures may of course be required. For example, when there is caseation the caseous matter must be aspirated from time to time. When there is associated scrofuloderma the ulcerating areas must be cleaned, and may require to be touched up with acid nitrate of mercury or pure lysol to accelerate healing. When there are discharging sinuses the injection of Calot's oil or paste or of bipp facilitates their closure. Ultra-violet rays from a tungsten arc lamp may also help. Probably any septic organisms which keep up the irritation and cause the ulceration are thereby destroyed. Further, the action of tuberculin locally is facilitated and accelerated if it be combined with other measures, particularly (1) exposure to x rays, giving almost a Sabouraud pastille dose once a week; (2) the application of radium emanations, using 30 mg. for twenty minutes on four successive days, screening that with 1½ mm. of lead; (3) the injection of tuberculin, giving it in minute doses 0.000C001 c.cm. to begin with, every seven days, and increasing gradually, reaching if possible pure tuberculin. All reactions must be avoided.

Polypharmacy, so called, at times is not without its value. Certain drugs are more efficacious in combination than alone. Likewise tuberculin, combined with other measures, is specially effective. That tuberculin is the deciding factor I have no doubt. The results are lacking in most of the cases if it be omitted. In using tuberculin locally for pulmonary and abdominal cases the strength that is utilized also depends on the reaction power of the individual. The tuberculin is mixed with linimentum camphorae compositum in the proportion of 1 to 5 minims to 1 drachm. The weakest is used to begin with. That is increased if there be no reaction till the maximum is reached. With such treatment one commonly has witnessed excellent results, in cases of tuberculosis of the abdomen particularly. Many cases could be quoted. The liniment is applied every three or five days, and a flannel binder or belt is kept to assist in its more thorough application. In those cases also the results are greatly accelerated if the treatment be combined with other measures, such as x rays, and tuberculin hypodermically. Cases of lung disease, where the disease causes tightness and pain in the chest, are often greatly benefited.

An extensive trial of tuberculin over many years has convinced one that while it is in certain methods of administration a two-edged sword, it is also a powerful weapon for good. Certainly it should not be relegated to the dust-heap or allowed to sink into oblivion. Its efficiency may be tested in the simple manner outlined above by any practitioner. Those particular forms of tuberculosis are only too common everywhere. The method is absolutely safe. No case, out of hundreds dealt with by us, has to any degree been the worse for the treatment at any time.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

AN ABDOMINAL FORM OF INFLUENZA (?).

DURING the last few days, following upon a mild epidemic of influenza, we have seen several cases showing unusual symptoms, sufficiently rare in our experience to warrant us in describing them.

From April 18th, when the first case was seen, to April 24th we have observed 10 (8 adults and 2 children), distributed amongst five families. Their chief features are as follows: Puffiness of the face with oedema of the eyelids and redness and oedema of the conjunctivae over the outer half of the eyeballs. The eyelids are drooping, and in some cases completely closed; there is no purulent discharge. In each case there is abdominal pain, referred to the umbilicus, with vomiting, and in some of the cases diarrhoea, with considerable collapse. The temperature is about 102°, and remains so for several days; the pulse rate is not raised in proportion. The tongue is greyish, but not much coated; the abdomen is a little distended and somewhat resistant. A marked feature is pain in the muscles of the neck on flexing the head; the arms and legs feel stiff and heavy, and some of the patients complained of pain in the calves, especially on walking downstairs. There is no albuminuria and no skin eruption.

We shall be interested to know if your readers have seen similar cases.

D. A. RICE, M.B., B.Ch.
Milford Haven. H. O. WILLIAMS, M.B., B.S.

Reports of Societies.

ABDOMINAL EMERGENCIES.

A MEETING of the Cardiff Medical Society was held on April 11th, with Dr. F. BUCKHAM in the chair, when a paper was read by Mr. GEARY GRANT on abdominal emergencies. He laid stress on the importance of a painstaking history and careful physical examination with such methods as x rays, cystoscopic examination, and differential leucocyte counts where circumstances and time permitted, but deprecated what Mayo termed in another connexion "deadly and scientific delay." The importance of attempting to make an approximate diagnosis was, first, to exclude an extra-abdominal condition simulating an acute abdomen. The case described at that meeting by Professor Emrys-Roberts well illustrated this, and showed that although an exploratory

laparotomy was in many cases fairly free from risks it was not always so, and, in the case referred to, proved fatal. Secondly, it was of great importance that the location of the lesion should, if possible, be determined in order that the incision made should give the best possible approach. The incision, for example, to remove an appendix was quite unsuitable for dealing with a perforated gastric or duodenal ulcer, and required either undue extension, with severance of motor nerves, or a fresh incision and unnecessary waste of time. He gave a short list of some of the commoner conditions outside the abdomen which mimicked the acute abdomen, and some of those conditions, which, whilst abdominal, did not require surgical treatment, among these being Henoch's purpura, which on occasion simulated intussusception. He stated that he was of opinion that, with a small child under an anaesthetic, it was always possible by a combined rectal and abdominal examination to feel the intussusceptum. Among abdominal emergencies he related a case which was taken into the surgical unit at King Edward VII's Hospital, Cardiff, of a man crushed between buffers, when, on exploring the abdomen, a coil of proximal jejunum was found to be torn across for two-thirds of its circumference, with the mucous membrane protruding as a rosette, but without the escape of the smallest amount of intestinal contents. He instanced this as an example of protective sympathetic stimulation with inhibition of peristalsis and spasmodic closure of the pylorus, and of the possible duodenal sphincter described by Ochsner, Murphy, and Cannon, and quoted by Dr. Langdon Brown, in which it was found that after high intestinal suture, for nearly six hours after recovery from anaesthesia, the pylorus remained tightly closed, the period of time required for primary sealing of the intestinal wound (*Physiological Principles of Treatment*, Langdon Brown). In the above case, after repair of the intestine, the abdominal wound was closed without drainage and the patient recovered without any untoward symptoms.

Among other cases described by Mr. Geary Grant was one of Sampson Handley's ileus duplex, and also a case of mesenteric thrombosis of forty-eight hours' duration, where two feet of bowel were found to be gangrenous and were resected, the ends being closed and a lateral anastomosis performed; the patient died in twelve hours. He stated that such a measure should never be adopted, that the only chance for the patient was resection of the gangrenous gut widely, and the tying in of a Paul's tube at each end.

Mr. J. BERRY HAYCRAFT said that in his experience perforation of the small intestine generally produced the appearance of a rosette as described by Mr. Grant, but that single perforations, unaccompanied by crushing or other abdominal lesion, were usually associated with extravasation of faeces. In jejunal perforations there was more extravasation than in those of the lower ileum, and this was probably due to the thicker muscular wall of the jejunum contracting more actively than that of the ileum. In multiple severe injuries of the intestine and mesentery, on the other hand, complete paralysis often supervened, and there was no extravasation, the coil of injured gut lying beneath the wound, and the abdominal wall remaining flaccid, with slight tenderness over the damaged bowel, though the patient presented the general appearance of grave abdominal lesion. Paralytic ileus continued in many of these cases after resection.

Professor E. EMRYS-ROBERTS and Dr. H. A. HAIG showed the following specimens and sections:

1. The case of a man admitted to hospital as an acute abdomen on March 13th, 1922. Pain radiated to the left testicle, and there was violent vomiting; the symptoms abated somewhat, but laparotomy was decided upon and carried out on March 21st; no abdominal lesion was discovered. Shortly after, vomiting restarted, becoming faecal in character on April 1st; death ensued on April 4th. At the autopsy the following sequence of events was recorded: On the auricular surface of the mitral valve were two elongated vegetations, each 1.5 cm. by 0.5 cm.; the left kidney was the seat of a recent infarct; coils of the jejunum had become fixed by adhesions to the laparotomy wound; and a volvulus of a portion of the gut, accompanied by great dilatation of the proximal end of the jejunum, together with the duodenum and stomach, had supervened.

2. Carcinoma of the proximal end of the appendix, accompanied by great hypertrophy of the muscular coats of the viscus. The carcinomatous growth was limited to the base of the appendix, the caecum not being invaded. Clinically the symptoms resembled those of appendicitis.

3. An appendix removed at operation, subsequently fixed and bisected in the longitudinal mesial plane. It demonstrated the presence of an oval stercolith, 1 cm. by 0.5 cm., at a distance of 1 cm. from the tip. At its distal pole was a perforation, through which protruded a small accessory stercolith. The surrounding tissues showed acute inflammatory changes.

4. Consecutive sections of an epithelioma of the jaw during treatment by radium. They showed increasing degenerative effects, due to the action of the radium, and, in addition, the proteolytic action on the epitheliomatous tissues of the secondarily invading bacteria. Whereas in the earlier sections the tissues were infiltrated to a considerable degree by polymorphonuclear leucocytes, these had decreased and had almost disappeared in the most recent section.

MILK AND THE PUBLIC HEALTH.

A MEETING of the Section of State Medicine of the Royal Academy of Medicine in Ireland was held on March 24th, with the President, Dr. T. HENNESSY, in the chair, when Dr. J. W. BIGGER read a paper on the subject of milk and the public health. He said that artificial feeding of infants introduced a great number of dangers which were not present in breast feeding. Cow's milk differed chemically from human, but its constitution could be modified so as to render it a suitable food. The great danger in the use of cow's milk was the presence of bacteria, which might come from disease of the cow, disease of the milker, or from the addition of cow's faeces to the milk. Tuberculosis was the most important disease of the cow transmissible to man, and 8 per cent. of Dublin milks were found to contain tubercle bacilli. Tubercle-free herds were essential, and these could be secured by routine tuberculin tests. Repeated veterinary inspection of the cows and medical inspection of the workers could prevent any great epidemics of infectious disease due to milk. Infantile diarrhoea, from which 382 deaths occurred in Dublin last year, was probably the most fatal disease due to milk. Its cause was to be found in dirt, chiefly in cows' faeces. An examination of 100 Dublin milks showed that they were grossly contaminated, but not more so than the milks of other cities in which no regulations as to the cleanliness of milk were in force. Clean conditions at the time of milking and the thorough cleansing and sterilizing of milk vessels would secure clean milk. An experiment at a farm was described. By the adoption of simple precautions to prevent the access of dirt to the milk, and without special apparatus, it was found possible to reduce the number of bacteria to about one-thirtieth of those present under the old conditions. The time taken by this clean milk to sour was about three times as long as before the institution of the clean conditions—about 185 hours on an average. Dr. Bigger advocated a scheme for the supplying of pure certified milk similar to those in England and the United States, and also of the fixing of maximum standards of bacterial contamination. He appealed to the members of the Academy to impress on their patients the importance and the practicability of clean milk and the dangers of dirty milk.

Sir ANDREW HORNE mentioned the gradual evolution of infant feeding from the time when he was a student in the Rotunda Hospital, where a large number of wet nurses were employed, through the various stages of bottle feeding. In his experience cow's milk was a dangerous food for infants during the summer months, and dried milk was accordingly used by him. The effect of Government control in Denmark pointed to the necessity of similar schemes for the securing of clean milk in Ireland.

Dr. ELLA WEBB expressed the opinion that there was no really satisfactory substitute for fresh clean cow's milk. She had not been successful in the use of dried milks, and preferred condensed milk supplemented by cod-liver oil, orange juice, and raw eggs.

Dr. SOLOMONS gave some experiences of his work in a baby club, and pointed out that when a baby was given clean milk from the model farm it did well, but when it was put on a bought milk it lost weight and suffered from diarrhoea. He mentioned that in his experience maternity nurses delighted in bottle feeding. He was pessimistic as to the possibility of a pure milk supply, and thought pasteurization a more practicable step.

Dr. FITZGIBBON asked if the danger lay with the bacteria or with their poisonous products in the milk. He believed that town dairies were very beneficial, as their milk could be obtained fresh. During the summer months he used unsweetened condensed milk, which he found more satisfactory than dried milk. In cases of diarrhoea it was important to examine the conditions under which the milk was kept in the home. Vessels and bottles were often filthy even in good-class houses.

Sir JOHN MOORE explained that the connexion between the outbreak of infantile diarrhoea and the temperature four feet under ground was due to the onset of a plague of flies. He

mentioned the filthy conditions of the milk churns at the railway stations.

The PRESIDENT thought it well to consider the industrial aspect of the milk trade. Irish dairy cattle had been sacrificed to beef, and the Limerick cow had been replaced by the shorthorn, which is very prone to acquire tuberculosis. He advocated a model farm in every county and the elevation of the position of the milker. In his opinion the breeding of goats was desirable.

Dr. T. T. O'FARRELL, Dr. KIRKPATRICK, Dr. DE BURCA, and Sir JOHN LUMSDEN also spoke.

FOOD POISONING DUE TO GAERTNER'S BACILLUS.

AT a meeting of the Section of Pathology of the Royal Academy of Medicine in Ireland, held on March 31st, the President, Dr. O'KELLY, read a paper on an outbreak of bacterial food poisoning, due to the *Bacillus enteritidis* of Gaertner, which occurred in October, 1921. The outbreak took place in an institution, at least 150 out of 170 of the inmates in one block of the building being affected. With the exception of a few servants, no other members of the institution fell ill. The only article of food not common to the occupants on the day on which the outbreak started was porridge and milk at breakfast. This was served only to the occupants of the affected block. The symptoms were headache, vomiting, nausea, abdominal pain, and diarrhoea, with a temperature reaching in some cases 104° F. No death occurred, convalescence was rapid, and no after-effects were observed. The average incubation period was about twenty-five hours. In searching for the source of infection of the milk which was regarded as the vehicle, it was found that one of the servants attached to the institution had suffered from an attack of gastro-enteritis a week previously. This servant was not attached to the kitchen, but worked in an adjoining portion of the building. It was suggested that this man was responsible for the infection of the milk, either indirectly through flies carrying the organism from a lavatory used by the servants which was about fifty yards distant from the room in which the milk for porridge was set aside, or directly by infecting the milk with soiled hands. It was not established that he was in the habit of taking milk from this supply, but he had access to it, and this alternative hypothesis was put forward. Gaertner's bacillus was recovered from three out of four samples of faeces from victims of the outbreak, but the faeces of the servant who was regarded as the temporary carrier gave a negative finding. His faeces were only obtained with difficulty some six weeks after his recovery. The blood of some of the victims and that of the servant carrier, collected during the outbreak, possessed agglutinins for Gaertner's bacillus in low dilutions. Some weeks later fresh samples of blood yielded higher titres. The organism isolated behaved on culture media like other members of the Salmonella group. It agglutinated with an anti-Gaertner serum, and was pathogenic for mice. The servants attached to the institution, with the exception of five who had access to the milk served with the porridge, escaped infection, although they used the peccant milk at their breakfast. Their escape was explained by the fact that the milk had been added to the tea in bulk, and experiments carried out by Dr. O'Kelly showed that the temperature to which the organisms were exposed was sufficient to kill them.

This was the second outbreak of bacterial food poisoning recorded in Ireland, and another interesting feature was the vehicle; only nine outbreaks in which milk was at fault had been collected by Savage in the British cases, and none in the Continental records. (The investigation was carried out under a grant from the Medical Research Council.)

Ovarian Pregnancy.

Dr. LANE showed a specimen of ovarian pregnancy. The patient had menstruated three weeks before admission, and came in to hospital as a possible case of appendicitis. On operation a clot containing the foetus was found in the abdomen which had evidently come from a sac which was visible in the ovary. The operation was performed by Sir William Taylor in the Meath Hospital. Dr. ROWLETTE expressed interest in the recording of another case of ovarian pregnancy, which he believed to be only the second recorded in Dublin. The case appeared to be a genuine one. Dr. HENRY STOKES, who had been present at the operation, said that the tubes were quite intact, but there was a hole about the size of a shilling in the back of the right ovary.

HEREDITARY CLEIDO-CRANIAL DYSOSTOSIS.

A MEETING of the Ulster Medical Society was held in the Medical Institute, Belfast, on March 9th, with the President, Dr. ROBERT HALL, in the chair, when Mr. S. T. IRWIN showed a case of hereditary cleido-cranial dysostosis, a disease first described in 1897 by Marie and Sainton, and so named by them. Descriptions of less than 100 cases occur in medical literature. In 1910 Fitzwilliams contributed the first considerable article in English in the *Lancet*, reviewing the 60 cases found up to that time. In 1918 La Chapelle published his thesis on the malformation, whilst Jansen in 1912 discussed the causation of the disease and its allied conditions—achondroplasia, mongolism, etc. The disease was essentially a dystrophy of membrane bones just as achondroplasia was a dystrophy of cartilage bones. Mr. Irwin's case showed all the typical deformities associated with dysostosis. The child (aged 7) was small for her age; the head was large by comparison with the face; all the fontanelles could be felt by palpation; the anterior fontanelle was as big as a five-shilling piece; the base of the skull was short as compared with the width; the face bones were deficient in lime salts; the nasal bones were hardly recognizable on *x*-ray examination. The dentition was somewhat delayed, though not markedly so; the central portion of the lower jaw (the part derived from Meckel's cartilage) was better developed than the rami. Each clavicle consisted of two separate parts, the inner in each case being the longer. The parts were separated on each side by about a finger-breadth. Only the outer ends were bony, the inner being cartilaginous. All the movements at the shoulder were greatly increased in range, and the shoulders could be brought together in front of the chest. There was no abnormality in chest or abdomen. Both femoral necks were in the position of coxa vara, and there was a well-marked lordosis on the lumbar spine. There was a deficiency of bone on the pelvis, the symphysis pubis and both rami, as well as part of the ischial ramus, being unossified. The proximal phalanx of the great toe was longer than normal, and the terminal phalanges of the fingers and toes were more pointed than usual. After demonstrating the deformities on the patient, a series of lantern slides of *x*-ray and other photographs were shown illustrating the contrast between dysostosis and achondroplasia. Mr. Irwin concluded by an account of Jansen's theory of increased amniotic pressure as the cause of the condition, and compared it with the work of Stockard, who produced deformities in fishes by delaying development at "moments of supremacy" during the growth of the embryo.

X-Ray Therapy.

Dr. R. M. BEATH read a paper entitled "*X*-ray therapy: its biological action and scope in medicine." He gave a brief notice of the history of the subject and of the difficulties of the early workers; great advances had been made, but it was still in its infancy, and explained the physics and technique of the subject. In regard to *x*-ray therapy in medicine, he dealt first with the superficial conditions; the most striking success was in ringworm of the scalp, where the epilation action in the cure was well known. In hirsuties a permanent alopecia would be required and the risk of telangiectasis and atrophy was too great. Hyperidrosis of armpits was relieved by a few applications at three weeks' interval. Pruritus ani, sycosis, psoriasis, scaly eczema, lichenification, and keloid were all relieved or cured, sometimes dramatically, sometimes with little change. Lupus vulgaris was very hopeful, but not lupus erythematosus. The early and middle grades of acne vulgaris were amenable to *x* ray, although curable by ordinary local means, but where there was nodulation with fibrotic or keloidal changes there was a direct indication for *x*-ray treatment; no other agent could reach the deeper seated lesions and cause their involution. Rodent ulcer also yielded. Of the deeper seated affections it was a very valuable remedy in exophthalmic goitre, although of little in simple goitre. Of 14 cases 3 improved out of all recognition, 7 showed a very considerable improvement, 1 was a total failure, and 3 did not return. Dr. Beath then gave details of the signs of improvement in these cases: six treatments twice weekly, repeated after an interval of three weeks, were usually sufficient as regards tuberculous glands; the most striking results were obtained where the neck was full of glands breaking down and caseating, with sinuses and ulceration. The swelling also disappeared in Hodgkin's disease, but the results were not permanent, and the swellings appeared elsewhere; the same held good with

spleno-medullary leukaemia. In enlarged prostate the results so far did not suggest supersedence of operation. In operable malignant disease operation followed by post-operative radiation was the best treatment.

A meeting of the Ulster Medical Society was also held in the Belfast Medical Institute on March 23rd, when Mr. REGINALD MORTON gave an address on recent developments in *x*-ray therapeutics. Mr. Morton dealt very exhaustively with the present position of *x*-ray therapeutics in regard chiefly to cancer. He said that the profession must readjust its mind to these methods of treatment, but at the same time he deprecated the unfortunate publications in the daily press. He gave the history of a number of cases, pointing out success and failure. To carry out the treatment it was necessary for the operator to devote his whole time; it was unquestionably a "whole-time job." Future years would show the permanency of the improvements and cures, or the return of the disease. A number of Fellows made remarks and asked questions; it was felt that the new developments were a great advance, but that time was required to assign its exact value.

TREATMENT OF TUBERCULOSIS.

AT a meeting of the Tuberculosis Society held at the Margaret Street Hospital, London, W., on April 24th, there was a prolonged discussion on the therapeutics of tuberculosis. The chair was taken by Dr. F. R. WALTERS, who in his opening paper emphasized the importance of adequate treatment of slight fever in pulmonary tuberculosis, and suggested that slight attacks were so often neglected because no adequate temperature record was taken. The general practitioner should deal with slight fever far more strictly, and the worst thing that could be done was to tell the patient he must walk about out of doors. In the early stages there should be a combination of rest and fresh air. The patient must be kept warm, while having plenty of cool air to breathe. There should be physiological as well as physical rest, and an absence of all emotional disturbance, worry, or excitement. Treatment causing fatigue should be avoided as much as possible, and in some feverish cases, in dealing with patients in an institution, it might be necessary to restrain the nurse's excessive zeal for washing. It was always a great mistake to tire the patient out. Dealing with various remedies, Dr. Walters said there was a distinct place for creosote, but it should be prescribed rather in a liquid form than in capsules. It should be well diluted and given after meals. In his own experience, continuous inhalations had been rather disappointing. There were cases of irritating cough where the remedy might be very useful, but a great drawback was the fact that patients who had been under fresh-air treatment much resented having what they called "muzzles" put upon them. Speaking of more serious attacks of fever, Dr. Walters said he felt strongly on the question of diet. He had known a man to lose his chance of recovery because the practitioner who treated him in the early stages of the febrile attack put him on low diet. The patient ought to be fed to a reasonable extent on digestible food, but not on slops. In regard to haemoptysis, complete rest was of course necessary in severe cases. The patient should be kept in a recumbent position, and not flat on his back. Cool air was essential. Ice to suck was of little value, except as an adjunct to prevent thirst. Silence was important. He was strongly opposed to the routine treatment by morphine. The patient could be quieted in other ways. Inhalations of turpentine proved very useful. In severe haemorrhage the amount of liquids taken should be restricted to 15 oz. a day. The intermuscular injection of calcium chloride had been found very effective.

Dr. NEVILLE COX read a paper on artificial pneumothorax, which he thought was the greatest advance in the treatment of pulmonary tuberculosis made in the past fifty years. Pointing out how difficult it was to tabulate statistics he claimed that if only 1 per cent. were saved by the treatment it would be well worth while. There were of course the risks of gas embolism and pleural shock. These might be avoided by careful technique. In his own experience since the war he had never used the treatment except when what he might call the classical indications were present—that is, extensive, progressive, apparently unilateral cases, with abundant bacilli and persistent fever. Probably suitable cases would not comprise more than 3 or 4 per cent. in a sanatorium. Dr. Neumann, of the Schatzalp, Davos, said about 12 per cent. was the average, but he thought that too high. There was scope for a great deal of judgement in the selection of the cases. He suggested that a stage had now been reached at which pneumothorax might be more extensively used.

Dr. JANE WALKER agreed with Dr. Cox. Pneumothorax, she thought, should be offered to a patient who had been in a sanatorium for six months and who was making no progress. In her own experience there had been disappointments, but she believed more than 1 per cent. were saved by the treatment. In reply to Dr. Cox, Dr. Walker said refills might be done at the dispensary, but patients should be given time to lie down and rest. In reply to the Chairman, Dr. Walker said it was most difficult to say for what length of time injections should be continued. The intervals might gradually be lengthened. Children did not require as long a period as adults. In some cases the treatment had to be continued for four or five years, or for all the patient's lifetime.

Dr. H. A. ELLIS mentioned a suggested classification of humanity into "acid persons" and "alkaline persons"; according to this notion tuberculosis was an alkaline disease, and as a case got worse, the alkalinity increased. The alkaline person had a low blood pressure, which always went with tubercle. He and his fellow workers came to the conclusion that very rarely did a person with a blood pressure of 125 mm. Hg suffer from active tubercle, whereas with the pressure down to about 115 mm. there was always danger. If they increased the acidity of the patient they improved his chances enormously. These conclusions had driven them towards acid forms of medicine, and, although difficulties had to be faced, the results had been encouraging. Dr. Ellis gave further particulars, dwelling especially upon the newer methods of testing urine. An individual in normal health had an alkaline morning tide every day.

Dr. SANDISON gave some details regarding his recent visit to Switzerland. He was still perplexed as to the real value of the altitude treatment, which, of course, could not be applied to industrial cases. There were cases in which it was beneficial, and it might be well worth trying. He did see cases, however, which should never have been allowed to make the journey. Some doctors still advised an immediate journey to the Alps, when it was the very worst thing that could happen to the patient.

The question of *x*-ray control, raised by Dr. HERNAMAN JOHNSON, was also discussed.

SYPHILIS OF THE HEART.

A MEETING was held on April 7th of the West London Medico-Chirurgical Society, with the President, Sir G. LENTHAL CHEATLE, K.C.B., in the chair, when a paper on syphilis of the heart was read by Dr. HAROLD WILTSHIRE. He referred to the supposed rarity of this condition in former days, but changes in the heart and aorta were, however, of common occurrence in syphilis. Statistics showed that the myocardium and coronary arteries were frequently affected. Infection of the heart began in the secondary stage of syphilis. It could be compared to a septicaemic condition in which the *Spirochaeta pallida* were circulating in the blood and invading the perivascular lymphatic spaces through terminal blood capillaries, setting up there a round-celled infiltration as a tissue reaction against this invasion. In the secondary stage careful examination of the heart would often reveal irregularity, cardiac embarrassment, or other signs of disordered action, indicating this early infection. Syphilis of the heart usually occurred as a primary aortitis and not as a primary endocarditis. The pericardium and endocardium were scarcely ever affected. In the later stages, the disease appeared as a diffuse myocarditis or as an aortitis. In the latter condition, the first part of the aorta was usually affected just above the valves and the openings of the coronary arteries. The infiltration spread transversely, then quickly upwards, and more slowly downwards—the latter direction being the more important. Diagnosis was easy where myocarditis and aortic lesions were present. Cases of insidious heart trouble without any definite cause, especially in middle-aged patients, should give rise to the thought of syphilis. The symptom of pain, as a sense of constriction behind the sternum, was very suspicious in such cases. In aortic regurgitation statistics showed 70 per cent. of cases were due to syphilis. Regarding treatment, great care should be exercised in giving salvarsan to cases where the coronary arteries were involved. It was considered safer to begin with a course of mercury iodide, with rest in bed, and followed by salvarsan given cautiously. The prognosis was extremely bad, for hardly a case lived for more than three years after diagnosis.

Reviews.

A HISTORY OF NURSING.

THERE is scarcely anything which gives such an assurance for present good and future progress on sound lines as a well-balanced veneration for the past, based upon a good knowledge of history. If only such a knowledge were more common, how many mistakes in the development of the commonweal, what repetition of identical or similar experiments, each foredoomed by the record of history to failure, would be avoided! To none is a history of their art and craft more needed than to those who serve. Doctors, nurses, and teachers, whether of learning or religion, each need in a very special manner to know what the forebears in their own mystery did and attained. For the nursing sisterhood Miss LAVINIA L. DOCK, the Secretary of the International Council of Nurses, and Miss ISABEL MAITLAND STEWART, of the Teachers' College, Columbia University, have done a good work in their volume entitled *A Short History of Nursing*.[1]

Nursing is a very ancient profession; it is as old as motherhood. It has flourished in many forms and been deeply affected by great social movements. It has been in the homes as good and as bad as the home life of the people. It has ever been the handmaid of medicine, and it has fluctuated as medicine has been aroused or fallen into sleep. In a very old Indian description of a model hospital it is said that the nurse should be—

"skilled in every kind of service that a patient may require, endowed with general cleverness, competent to cook food, skilled in bathing or washing the patient, well conversant with rubbing or massaging the limbs, lifting the patient or assisting him to walk about, well skilled in making and cleaning beds, ready, patient, and skilful in waiting upon one who is ailing, never unwilling to do anything that may be ordered."

These nurses were young men belonging to subcastes of the Brahmins or priestly orders. Hippocrates makes no mention of nurses by name, though his writings and those of his followers give the entire technique of what would now be called nursing in most minute detail and with a perfect understanding. Probably the medical students did this work. In Christian times nursing has been greatly associated with religion, not always with advantage. St. Chrysostom (the author of one of the most beautiful of ancient prayers in the English Prayer Book) enjoined a stern asceticism upon the nurses or deaconesses, but one direction was to go unwashed! Three great military nursing orders—the Knights Hospitallers of St. John, the Teutonic Knights, and the Knights of St. Lazarus—at one time provided excellent nursing services, and made provision for a corresponding order of women. Many of the hospitals built by the Knights Hospitallers were of great architectural beauty and were furnished in the most complete way known to their times. As late as 1783, at the time of the earthquake in Sicily, the Order of St. John did brilliant work in the relief of the sufferers.

When medicine declined in the West the arts of medicine and nursing were fostered amongst the Arabians, who became especially eminent in the care of eye cases and of the blind. In the Middle Ages many orders of secular and religious nurses were established, such as the followers of St. Francis, the "Brothers Minor," and of Clarissa, the "Poor Clares." The influence of ecclesiasticism sterilized the efficiency of the higher grades of these orders, but the "tertiaries," who did not leave their homes and renounce the world, carried on valuable work amongst the poor and sick, and these orders do good service in Italy to-day. Many famous nurses of mediaeval times are now canonized. In Flanders the Beguines antedated the work of St. Francis, and their founder, a priest, asserted their claim to freedom of thought and action, so that they were subject to accusations of heresy and of thinking it unnecessary "to fast, or to obey mortal men." One of the most famous of their hospitals exists in all its beauty to-day at Beaune, in France. The hardening effects of ecclesiastical authority on the one hand, and of puritanism on the other, had disastrous results upon nursing for many years. The nuns might not care for or even look at any of the parts of the human body except the head and extremities. The lay nurse became a "Sairey Gamp." The building of modern nursing began with the work of Vincent de Paul and the Frenchwomen associated with him. He was a simple parish priest, whose study of social conditions brought him to a most advanced point of view, one indeed that was considered revolutionary. He advocated education for the young, including manual training and the teaching of skilled trades. To deal with beggary he proposed farm colonies and graded work. He saw that some individuals could never maintain themselves, and believed that it was the duty of organized society to care for them. To deal with poverty he desired first friendly visiting so that the poor might be known personally, and then relief that did not overlap or fail. Charity was not to consist of alms but of constructive aid. A Parisian lady who became conscious of the needs of the patients in the Hôtel-Dieu of Paris persuaded him to organize a band of lady visitors, and so came about his Sisters of Charity; he did not allow them to take vows; they served on an annual contract, and were free to leave and to marry.

"My daughters," he said, "you are not religious in the technical sense, and if there should be found some marplot among you to say 'it is better to be a nun,' ah! my daughters, your company will be ready for extreme unction. Fear this, my daughters, and while you live permit no such change; never consent to it. Nuns must needs have a cloister, but the Sister of Charity must needs go everywhere."

Since then there has been a steady revival of the art of nursing. Many have contributed to it: Howard, the prison reformer, and Elizabeth Fry, the Quaker, in England; Amalie Sieveking and Pastor Fliedner, the founder of the deaconesses of Kaiserswerth in Germany, who learned much from Miss Fry, and who in turn gave her first lessons to Florence Nightingale, who went there first as a visitor and later for a longer stay. That brings us to the critical period of modern nursing, which developed in the Crimean war, and afterwards was carried to other countries by many workers, amongst whom ranks Edith Cavell as the messenger of the new craftsmanship to Belgium.

This book deals with all these developments in a lucid and readable fashion, and enters into some detail on the present state of nursing in various countries and of the status of nurses. It is well worth the reading of every nurse, be she a novice or one of years of service. It will be an inspiration to each. We commend also to the notice of the chiefs of training schools for nurses the variant of the Hippocratic oath written by Mrs. Cadwallader Jones, a member of the board of managers of the City Hospital, New York:

"You do solemnly swear, each by whatever she holds most sacred—

"That you will be loyal to the physicians under whom you serve, as a good soldier is loyal to his officers.

"That you will be just and generous to all worthy members of your profession, aiding them when it will be in your power to do so.

"That you will live your lives and lead your profession in uprightness and honour.

"That into whatsoever house you enter, it shall be for the good of the sick to the utmost of your power, and that you will hold yourself aloof from all temptation.

"That whatsoever you shall see or hear of the lives of men and women, whether they be your patients or members of their households, you will keep inviolably secret, whether you are in other households or among your own friends."

[1] *A Short History of Nursing, from the Earliest Times to the Present Day.* By Lavinia L. Dock, Secretary of the International Council of Nurses, in collaboration with Isabel Maitland Stewart, A.M.R.N., Assistant Professor, Department of Nursing and Health, Teachers' College Columbia University, New York. New York and London: G. P. Putnam's Sons. 1920. (Demy 8vo, pp. 398. 17s. 6d. net.)

TRACHEO-BRONCHOSCOPY.

SOME six years ago Dr. M. MANN of Dresden wrote in German an essay on tracheo-bronchoscopy forming a kind of appendix to the atlas he published in 1911. An English translation has now been published with the title, *Textbook of Tracheo-Bronchoscopy*.[2] The first fifty-four pages of the book are devoted to an excellent account of the instruments and technique employed in tracheo-bronchoscopy. The second part deals with practice; its first chapter, of some eighty-five pages, concerns the extraction of foreign bodies, and in it are recorded case reports of every sort of foreign body which has found its way into the trachea or bronchi. The reports are minutely classified and subdivided, and many of the cases are of great interest and highly instructive. They are so numerous, however, that the effect is somewhat laboured and tedious, the text being overburdened with detail. This part concludes with a dissertation on the indications and contraindications for upper and lower bronchoscopy, and

[2] *Textbook of Tracheo-Bronchoscopy (Technical and Practical).* By Sanitätsrat Dr. M. Mann (Dresden). Translated by A. R. Moodie, M.A., M.D., Ch.B., F.R.C.S.Edin. London: John Bale, Sons, and Danielsson, Ltd. 1920. (Sup. roy. 8vo, pp. 292; 15 plates, 50 figures. 31s. 6d. net.)

finally ends with the aphorism, "Never the upper from vanity, never the lower from indolence." These final pages are helpful, and the conclusions of the author seem well reasoned, but it is perhaps right to say that his views, and especially the aphorism, have been severely criticized by Dr. Chevalier Jackson.

The remainder of the book is devoted to tracheo-bronchoscopy in diseases of the trachea and bronchi, and to diseases of the tracheo-bronchial tree resulting from pathological changes in its surroundings. In this the author makes a plea for a more extensive use of bronchoscopy in general medicine, a field which he believes has been neglected. This section, again, is very detailed, and many cases are quoted. The results seem, however, to have been more of scientific and academic interest than of practical benefit to the patients; enthusiastic as he is, the author will probably not carry most of his readers quite so far as he would wish. This part, however, is a valuable and in some respects original contribution to scientific medicine, and is worthy of close study. At the end of the book are several beautifully executed plates in colour. Although much has been written on this subject there are few handbooks, and this one by Dr. Mann is a valuable addition to the number.

GALL STONES.

THE first edition of Professor CHAUFFARD's charmingly written and authoritative *La Lithiase Biliaire* appeared in 1914 (and was reviewed in this column on May 16th, p. 1073), and the second edition,[3] though preserving the same arrangement, contains much new material, including a chapter on the diagnosis of gall stones by *x* rays, and seven new plates. This work is especially welcome, as it combines the ripe clinical experience and literary knowledge of a foremost French physician, with an account of researches into chemical problems connected with the subject which have been carried out in conjunction with Grigaut, Brodin, and Guy Laroche. While allotting a due share of credit to Naunyn's view that gall stones are the local product of inflammation of the mucous membrane of the gall bladder, the claim that it is an exclusive cause is successfully combated, thus agreeing with Aschoff's and Bacmeister's conclusions as to the aseptic formation of pure cholesterol calculi. Chauffard and his co-workers have shown the existence and importance of an excess of cholesterol in the blood as a cause of gall stones, and Grigaut ascribes this excess to failure of the liver cells to excrete cholesterol into the bile in the form of cholalic acid, which is a solvent for cholesterol. A new and interesting observation, illustrated by two plates, is Gosset, Loevy, and Magrow's that multiple small faceted calculi originate inside the villi of the gall bladder as minute collections of cells surrounded by cholesterol; these are shed, grow, and, at first round, subsequently become faceted, their multiplicity and similarity being thus explained. Chauffard has made a special study of the points that become tender on pressure in biliary colic; this is perhaps rather a difficult subject from the comparatively large number of these spots; of these eight points two are due to his own observations—the pancreatico-choledocian zone just above and to the right of the umbilicus, which is often as definitely marked out as McBurney's point in appendicitis, and the right phrenic spot between the two heads of the sterno-mastoid muscle which is of value in the differential diagnosis from appendicitis and disease of the pylorus.

In the new chapter on skiagraphy in gall-stone disease a graceful reference is made to the work of the American radiologists; the importance of employing soft rays is insisted on, and an account of the detection of adhesions in connexion with the biliary tract is given. In reference to the transparency of gall stones composed solely of cholesterol a case is described in which the thick bile cast a shadow while three contained calculi were invisible. The limitations of skiagraphy in diagnosis are pointed out, one being that the number of calculi shown may not correspond with that actually present. The discussion of the indications and contraindications for operation represents the position of a broad-minded physician who is not inclined to yield up the whole of his province to the enterprising surgeon; thus he is not in favour of routine operation in the early stages so as to avoid complications in the future, for, though the operative mortality (1 to 2 per cent.) of such cases is low, it is higher than that of hepatic colic; further, the analogy of a first attack of appendicitis, a far more dangerous condition, is not exact. The cases in which operative interference is advisable are those complicated with infection, those with much pain, and those with chronic jaundice.

To sum up, this work is a most up-to-date and attractive account of gall-stone disease from the physician's point of view, and contains much information about its medical treatment.

[3] *La Lithiase Biliaire.* Par A. Chauffard. Deuxième édition. Clinique Médicale de Saint-Antoine. Paris: Masson et Cie. 1922. (Med. 8vo, pp. 247; 16 plates. Fr. 20 net.)

RADIOLOGY OF THE HEART AND GREAT VESSELS.

DR. R. CHAPERON has been induced to write a book on his anatomical and radiological studies of the vessels at the base of the heart,[4] because so many observers have differed on material points in regard to the interpretation of the right and left sides of the central thoracic shadow, as shown by radiography. In the first portion of the book the diagrams and opinions of many authors are set forth. The method the author used in this research is exactly described, and then the shadows to the right and left sides are discussed and compared, the radiographs reproduced as illustrations showing the various vessels injected with opaque material. The shadow of the aortic arch is dealt with very completely, and the author seems to have proved conclusively that, in the normal, the ascending portion of the aorta takes no part in the formation of the shadows in the upper right side, but is well inside the whole of the superior vena cava, the whole of this upper right shadow being caused by the latter.

We can recommend this essay, which is written clearly and is also well illustrated, to all radiologists; it will be of especial value to those interested in the radiology of the heart and great vessels, a branch which has been somewhat neglected in this country, but has received attention from many French writers.

ORGANIC CHEMISTRY.

A TRANSLATION by Dr. Spielman of Volume I of RICHTER'S *Organic Chemistry* was published some time ago; the the translation of Volume II[5] by Dr. D'ALBE is now completed. It contains only those substances of the group described as "carbocyclic compounds," a term referring to bodies having a ring structure but including only those in which no element but carbon participates in the formation of the ring.

Formerly a textbook of organic chemistry might be roundly complete and yet not exceed moderate dimensions. To-day the attempt at completeness will produce a volume of encyclopaedic dimensions unless recourse be had to drastic abridgement which must at length lead to diminished usefulness. The limit to which abridgement of description should be carried in preference to the omission of less essential subject matter is probably reached in the present volume, which contains within 728 octavo pages the quantity of matter covered by an index of over 5,000 entries; for the work has been almost reduced to the character of a collection of notes. The following quotation from the article "Adrenalin," page 370, illustrates the style:

> "On heating with NaOH it decomposes with elimination of methyl-amine. Methylation and subsequent oxidation produce veratric acid. This settles its constitution, which is confirmed by synthesis. The latter starts from chloraceto-pyro-catechin (obtained from pyro-catechin and chloracetyl chloride), which yields inactive adrenalin by transformation with methyl-amine and reduction with Al amalgam."

Doubtless there is a large class of workers to whom this volume will prove useful, since it provides in a readily accessible form information on physical constants, memoranda on relationships of substances, and references to original papers; the latter are abundant. Beyond question its pages contain the utmost information possible in the space allotted, and what is given has been selected with excellent discrimination. The text appears to be extremely accurate. Names of substances under particular consideration are printed distinctively in bold type, thus facilitating perusal and reference. The nomenclature does not agree uniformly with the system generally used in this country, but the divergences need

[4] *Étude anatomo-radiologique des vaisseaux de la base du coeur, vus de face.* Par Dr. Robert Chaperon. Paris: Masson et Cie. 1922. (Roy. 8vo, pp. 62; 12 figures, 11 plates. Fr. 6 net.)

[5] *Organic Chemistry, or Chemistry of the Carbon Compounds.* By V. von Richter. Edited by Professor R. Anschütz and Dr. H. Meerwein. Vol. II: *Chemistry of the Carbocyclic Compounds.* Translated from the eleventh German edition by E. E. Fournier D'Albe, D.Sc., A.R.C.Sc. London: Kegan Paul, Trench, Trübner and Co., Ltd.; Philadelphia: P. Blakiston's Son and Co. 1922. (Demy 8vo, pp. xvi+760. 35s. net.)

produce no confusion. To those, however, whose study of organic chemistry is ancillary to another object, such as the study of medicine, the book will afford too little assistance to be greatly valued by them.

GENERAL BIOLOGY.

The importance of what may be termed general biology is gradually becoming more fully realized. The study of pure morphology became imperative after the publication of Darwin's *Origin of Species*, but the necessity for the acquirement of a knowledge of structural detail is no longer so pressing; indeed, we are nearing the point of surfeit, and biologists are beginning to inquire more actively into the problems of life itself.

Professor Étienne Rabaud's book, *Éléments de Biologie Générale*,[6] is written from this aspect, and deals with the subject mainly from a zoological standpoint, though the botanical side is not ignored. The scope and method of general biology are defined in the introduction, in which the author puts forward views that many are now disposed more fully to appreciate. Morphology, it is pointed out, important though it be, is by no means sufficient, and indeed, when studied by itself, has often led to erroneous conclusions. Neither is physiology alone sufficient. Organisms must be studied from all points of view—reactions to environment, variations, and so on. The first chapter is devoted to a consideration of living matter, its physico-chemical constitution and colloidal complexes, tropisms, and tactisms. The summary it contains of the present state of knowledge of these fundamentally important matters is excellent.

Passing from these, Professor Rabaud proceeds to discuss the formation of multicellular organisms. He attaches considerable importance to Massart's experiments on the polarity of vegetable organs published in 1917. Growth, regeneration, variation, adaptation, and the origin of sex are some of the many subjects considered. The much discussed questions of instinct and intelligence are also briefly touched upon. It is perhaps well that the author should have been brief here, for though very much has been written about these subjects, there is as yet little that is definite or agreed upon. It has been impossible to treat any of these many and varied aspects of general biology in anything but a cursory manner within the compass of a small volume. Nevertheless, what has been attempted has been done well, and the book can be recommended to all interested in the subject.

ELEMENTS OF BOTANY.

The textbook of *Botany for Students of Medicine and Pharmacy*,[7] by Professor Fritch and Dr. Salisbury, sets out to cover the same ground as the syllabuses of the Pharmaceutical Society's minor examination and the various boards for the examination of medical students. The authors have, in addition, endeavoured to give an adequate account of the vegetable kingdom from the biological standpoint, thereby making their text much more interesting to the reader. The book begins with an introduction written by Professor Boycott; then follow twenty chapters in which the structure and functions of plants and their constituent parts are lucidly described. The last ten chapters deal with the various types of vegetation, from algae to flowering plants, their classification and development. The book is well illustrated.

The *Introduction to the Structure and Reproduction of Plants*[8] by the same authors is a companion volume designed to meet the requirements of higher school examinations in botany and the needs of the first-year students at the universities. The book is written on broad lines, and is admirably illustrated; the index is unusually complete. In this volume there is a refreshing absence of the formality, the stock types, oft-used pictures, and generally uninteresting detail with which many botanical textbooks have made us familiar.

[6] *Éléments de Biologie Générale.* Par Étienne Rabaud, Professeur de Biologie expérimentale à la Faculté des Sciences de Paris. Paris: Félix Alcan. (Demy 8vo, pp. 444; 51 figures. Fr. 21.)

[7] *Botany for Students of Medicine and Pharmacy.* By F. E. Fritch, D.Sc., Ph.D., F.L.S., and E. J. Salisbury, D.Sc., F.L.S. London: G. Bell and Sons, Ltd. (Demy 8vo, pp. xiii + 357; 163 figures. 10s. 6d. net.)

[8] *An Introduction to the Structure and Reproduction of Plants.* By F. E. Fritch, D.Sc., Ph.D., F.L.S., and E. J. Salisbury, D.Sc., F.L.S. London: G. Bell and Sons, Ltd. (Demy 8vo, pp. 466; 230 figures. 15s. net.)

NOTES ON BOOKS.

Armand-Delille and L. Nègre have published a second edition of their handbook, *Technique de la Réaction de Déviation du Complément de Bordet et Gengou*,[9] a little volume which is intended to be a practical guide to the performance of those serological tests used in the diagnosis of syphilis, tuberculosis, and echinococcus disease. In an introductory section the beginner is made acquainted with the theoretical considerations which it is necessary to understand in order to perform these tests intelligently, and the details of the preparation of the ingredients of the reaction, antigen, complement, and amboceptor, are clearly explained. The technique described most fully for the performance of the Wassermann reaction is that used by Calmette and Massol—namely, the incubation of the patient's serum with increasing quantities of complement: it does not differ from such methods as are described and recommended by the Medical Research Council in this country, except that Calmette and Massol use larger quantities of serum for the test; but other methods are also mentioned. The last three chapters in the book are devoted to a study of the other diseases in which complement deviation is employed for diagnosis, more particularly tuberculosis and echinococcus disease. A fairly comprehensive bibliography is appended, and there are twenty-five good illustrations. The book is primarily intended for students wishing to learn to carry out these tests, and to them this handbook will be very useful. Except for purposes of comparison on some special point it has little interest to other laboratory workers in this country.

Professor Knapp has written a book giving a general account of the prophylaxis and treatment of enteroptosis;[10] due emphasis is laid on each of the various methods of treatment that can be employed. It is addressed to specialists and surgeons.

We have received the first number of a new monthly journal entitled *Revista de Medicina Legal de Cuba*, which is the organ of the Cuban society of forensic medicine. It contains an interesting article by the editor, Dr. A. B. Fernández, on morgues in various countries.

[9] *Technique de la Réaction de Déviation du Complément de Bordet et Gengou.* By P. F. Armand-Delille and L. Nègre. Second edition. Paris: Masson et Cie. 1922. (Cr. 8vo, pp. viii + 194; 22 figures, 1 plate. Fr. 9 net.)

[10] *Die Prophylaxe und Therapie der Enteroptose.* Für die ärztliche Praxis dargestellt. Von Professor Dr. L. Knapp. Berlin and Vienna: Urban and Schwarzenberg. 1921. (Sup. roy. 8vo, pp. 118. M. 42.)

THE EXISTING FACILITIES FOR POST-GRADUATE INSTRUCTION IN LONDON.

The munificent offer by the Rockefeller Foundation of two million dollars to defray the cost of building and equipping an Institute of Hygiene in London, which has been accepted by the Minister of Health on behalf of the Government, has fulfilled an important recommendation of the Athlone Committee on Post-Graduate Medical Education, the report of which was published in May, 1921 (see Journal, June 25th, 1921, p. 942). Little progress has, however, been made towards the fulfilment of the main part of the report of the Committee, nor in the present financial state of this country is there much immediate hope of the establishment of the central post-graduate school and hospital which it recommended. In these circumstances it behoves those who are interested in the success of post-graduate teaching in London to make greater use of the facilities already existing; they are not few, and are on the increase.

Before considering the facilities it may be advisable to inquire into the question of what classes of qualified medical practitioners are at present demanding and receiving post-graduate instruction. The Athlone Committee considered that the graduates requiring such instruction might be divided into seven categories: (*a*) Graduates who have recently qualified; (*b*) general practitioners of some years' standing, who require general courses in medicine and surgery of a simple and practical nature; (*c*) general practitioners who seek instruction in special subjects in order to keep breast of advances in specialties in which they are interested; (*d*) graduates from home and abroad who seek a higher degree or diploma, such as the M.D., F.R.C.S., D.P.H., or D.T.M. and H.; (*e*) officers in the R.A.M.C., Naval, Army, Indian, and Colonial Medical Services, who want to keep themselves abreast of clinical work or who are preparing for examinations for promotion; (*f*) graduates who require facilities for extended medical research; and (*g*) graduates

from abroad falling into categories (*b*), (*c*), and (*f*). This extended classification may, perhaps, be summarized into recent graduates (including those seeking higher degrees or promotion in the services), general practitioners who want to "rub up" their general knowledge, and general practitioners who require intensive instruction in a specialty. It would seem, therefore, that to accommodate these classes of medical practitioners there are required, in the first place, comparatively elementary courses in different subjects, lasting, perhaps, about a month, and in the second place a series of advanced courses, lasting from perhaps two or three months to a year, to meet the needs of the expert post-graduate student in the specialties or the special examinations for which he desires to prepare.

The body formed by the amalgamation of the Fellowship of Medicine and Post-Graduate Medical Association has bridged the gap in post-graduate instruction with a certain measure of success. It has sought to be a rallying point for medical strangers in London by providing a central inquiry office and reading and recreation rooms. It has for some years enjoyed the hospitality of the Royal Society of Medicine. It has arranged with the medical schools in London and other hospitals for a certain number of post-graduate courses, and its tickets admit the holders to these hospitals and courses. The Fellowship issues a monthly bulletin containing a programme of the work in the hospitals associated with it, specifying the names of teachers and lecturers, together with the time and place at which the instruction is given. The average number of medical practitioners who at present take advantage of the facilities provided by the Fellowship of Medicine is stated to be about thirty-five a month, the majority of whom appear to come from the dominions, the colonies, or from foreign countries. A certain number of the teaching schools in London which formerly adhered to the scheme of the Fellowship of Medicine now, however, act independently, and it is a matter of some difficulty for the qualified practitioner who desires post-graduate instruction to know exactly what facilities there are in existence in London and what may best meet his needs.

While some medical men have a very definite idea of what they want and see that they get it, others, it is to be feared, wander round from hospital to hospital, from clinic to clinic, from operating theatre to operating theatre, and achieve during a not unpleasant holiday merely a great variety of fleeting medical and surgical impressions. With better and more definite co-ordination this comparative waste of time ought not to take place. Perhaps this co-ordination might best come through a liaison between home sources of supply of students, together with the India Office, the Colonial Office, the Foreign Office, foreign embassies and consulates, and a central office keeping itself in touch with all the hospitals giving post-graduate instruction of any kind in London.

We have addressed inquiries to most of the hospitals in London asking what post-graduate facilities they are providing at the present time, and replies have been received from many of them. The subjects of public health and of tropical medicine and hygiene may be mentioned only to be dismissed in a word, for the existing courses for the D.P.H. and D.T.M. and H. in London are well known and adequate. In regard to the diploma in psychiatry, instruction has been organized at the Maudsley Hospital, the Bethlem Hospital, and the National Hospital for the Paralysed and Epileptic, Queen Square. Classes for higher degrees and diplomas and for examinations for promotion in the services are held at the West London Post-Graduate College (West London Hospital, Hammersmith) and at the North-East London Post-Graduate College, Prince of Wales's Hospital, Tottenham; with these and the special classes (for instance, for the F.R.C.S.) at the teaching schools, the needs in this respect seem to be met. The West London Post-Graduate College also holds complete courses in general medicine and surgery for bringing practitioners up to date, and gives special courses as desired; the number is not limited, the courses last generally from one to three months, and are held throughout the year. At the North-East London Post-Graduate College intensive courses of two weeks are held, which may be described as "refresher" courses, and at these the attendance is limited to thirty; other "specialist" courses are held, lasting from one to twelve months, intended for those engaged in general practice; both types of courses are held throughout the year. The practitioners attending these courses are chiefly general practitioners with a few service men.

At St. Bartholomew's Hospital a vacation course, lasting nearly three weeks, is held each year during the summer vacation, the numbers being limited, for the purpose of bringing general medical knowledge up to date; a considerable number of graduates also attend the special departments of this hospital. At the London Hospital there is a six months' course for school medical officers (actual and intending) and general practitioners intending to undertake the work of school clinics on a part-time basis; it began this year on February 1st. At Guy's Hospital medical practitioners act as clinical assistants in the various departments of the hospital for not less than three months, but, except for the Fellowship courses, no post-graduate work is carried on, although a course is at present under consideration. At St. Thomas's Hospital a special post-graduate course is in contemplation, limited to fifteen members, but at present the post-graduate work there chiefly takes the form of "hospital practice" and deals with the newer methods of clinical investigation; the view strongly held at this hospital is that a general hospital whose chief duty is to instruct undergraduates is not suitable for extensive post-graduate teaching. The authorities at University College Hospital state that they also are averse to post-graduate teaching at an undergraduate hospital, but post-graduate students who propose to take up special research work are welcomed; practitioners of any nationality are admitted to the ordinary work of the hospital. At the Royal Northern Hospital two schemes of post-graduate instruction are at present under consideration, but otherwise only a course of surgical demonstrations is held, in connexion with the Fellowship of Medicine. At the Hampstead Hospital a course of surgery is conducted in connexion with the Fellowship of Medicine.

At the special hospitals fewer difficulties attend the commingling of undergraduates and graduates for instruction, and many qualified medical practitioners have long been accustomed to attend these hospitals for instruction in the different specialized branches of medicine. In regard to ophthalmic work, Moorfields Hospital has special courses lasting for five months or more, from October to February, and from March to July; facilities are given for special study and for the special examinations in ophthalmology. At the Royal Westminster Ophthalmic Hospital special courses last for ten weeks, but practical and clinical teaching is carried on all the year round; at present a revision course is conducted in connexion with the Fellowship of Medicine. In regard to diseases of the ear and throat, the Hospital for Diseases of the Throat, Golden Square, does not hold any definite courses of study, as the opinion there is that the practical work in the out-patient department and wards fulfils all the requirements. In the past, courses of lectures and demonstrations have been held at this hospital, but its authorities have come to the conclusion that for their special work such courses are not of much value, and that the interests of post-graduate students are best served by developing the clinical work; three to six months is the most usual period for a course of study. At the Central London Nose, Ear, and Throat Hospital, Gray's Inn Road, there were last year 53 post-graduate students; such students usually attend the practice of the hospital for three months. The course of instruction continues without interruption throughout the year, but recently special "intensive courses" have been held, consisting of lectures or demonstrations every day for ten days on particular subjects, and also a special course on methods of examination; apart from the regular post-graduate students, 21 practitioners attended the last intensive course.

At the Brompton Hospital for Consumption there are many post-graduate students, chiefly those who intend to devote themselves to public health and tuberculosis work; these students attend the practice of the hospital for one, two, or three months, up to six months if desired; as some members of the staff are away during August and September this period of the year is not recommended to post-graduate students.

At the Hospital for Women, Soho Square, special courses are held lasting six weeks, commencing in October, January, and March, and the number of students is limited in each course to nine. Instruction is given daily from 2 to 5 o'clock, consisting, in addition to attendance at operations and the out-patient department, of clinical lectures, pathological demonstrations, and demonstrations in radio-therapeutics. At the Samaritan Free Hospital for Women, Marylebone Road, there are no post-graduate courses, but each visiting surgeon has two qualified clinical assistants.

At the Hospital for Diseases of the Skin, Blackfriars Road, demonstrations of cases are given daily, but there are no

special post-graduate courses. At the St. John's Hospital for the Skin there are clinical demonstrations in the afternoons, and a special course of lectures is given by the members of the honorary staff during the winter months, followed by demonstrations and clinical instruction on special cases; a special course of practical instruction on the bacteriology, mycology, and histo-pathology of the skin is given in the laboratories of the hospital.

At the Hospital for Sick Children, Great Ormond Street, special courses are conducted for from one to three months or longer, from October to July inclusive, for the purpose of keeping up to date the knowledge of children's diseases by practitioners both in general practice and in special studies. At Paddington Green Children's Hospital there is a course of post-graduate instruction in connexion with the Fellowship of Medicine.

At the National Hospital for the Paralysed and Epileptic, Queen Square, post-graduate courses are held three times in the year—from January to March, April to June, and October to December—the duration of each course being about ten weeks; instruction is given in the anatomy, physiology, and pathology of the nervous system, in addition to clinical instruction of a comprehensive character. At the Hospital for Epilepsy and Paralysis, Maida Vale, no attempt has yet been made to give definite courses, but the amount of material at the hospital is stated to be sufficient to illustrate any particular branch of nervous work that post-graduate students may be interested in; at the present time the hospital co-operates with the Fellowship of Medicine and gives a "refresher" course of one week's duration. At the Royal National Orthopaedic Hospital the organization of special post-graduate teaching has long been in contemplation, but hitherto no systematic courses have been given, except that the hospital is taking part in the courses organized at various special hospitals by the Fellowship of Medicine.

In South-West London there has been a development of considerable importance, for there post-graduate instruction is being carried on in a well-equipped municipal (formerly Poor Law) hospital in a suburban district, linked up with a neighbouring general hospital. A committee has been formed of representatives of the staff of the Bolingbroke Hospital, the Wandsworth Division of the British Medical Association, and the South-West London Medical Society. Under the auspices of this committee a post-graduate association has been formed, affiliated with the Fellowship of Medicine, and courses of instruction are being conducted in connexion with the Bolingbroke Hospital and the St. James's Municipal Hospital. The intention of this Association is to give the local general practitioners the opportunity of obtaining post-graduate instruction with the minimum loss of time, as all the work is carried out in the midst of the district. We are informed that classes on any special subject can be arranged, with a minimum of six members. Similar courses of instruction might be started with advantage by the consultant staffs of municipal hospitals in other suburban areas.

This summary of the post-graduate instruction provided in London at the present time is perhaps somewhat incomplete and inadequate, for not all the hospitals to which inquiries were sent have replied. But it contains information enough to show that there is a considerable supply of facilities in post-graduate instruction already in existence, and as it would seem that the establishment of a central post-graduate school and hospital must for a considerable time remain an unattainable ideal, fuller use might well be made of them.

THE late Mr. John Christopher Geiselbrecht has made munificent bequests to hospitals, including the following: £6,000 to the Star and Garter Hospital, Richmond; £4,000 to the Miller General Hospital, Greenwich; £2,000 to the Metropolitan Hospital, Kingsland Road; £1,000 each to the Samaritan Hospital for Women, City of London Dispensary, and the Queen's Hospital for Children, Hackney Road; £800 to the Paddington Hospital for Sick Children; £600 to the Eltham and Mottingham Cottage Hospital; £500 each to the Central London Throat, Nose, and Ear Hospital, Royal Hospital for Diseases of the Chest, City Road, Hospital for Women, Soho, French Hospital, Soho, Dreadnought Hospital for Seamen, and the British Hospital for Mothers of Babies; £400 each to the National Hospital for the Paralysed and Epileptic, Evelina Hospital for Sick Children, Royal London Ophthalmic Hospital, and the Hospital for Sick Children, Great Ormond Street; and £200 to St. Peter's Hospital for Stone. He has also bequeathed 500 shares in the Alliance Assurance Company to the King Edward's Hospital Fund.

MOTOR NOTES FOR MEDICAL MEN.

BY H. MASSAC BUIST.

PROPOSED CHANGES IN THE LAW.

THE Departmental Committee on the Taxation and Regulation of Road Vehicles has been asked to take evidence on the taxation question raised in connexion with licences to use motor vehicles. In a few days the Budget is due to be introduced. Some motor owners, therefore, imagine that there will be an entire recasting of the scheme of motor taxation forthwith, because many of their organizations are seeking for a reversion to the fuel tax. It would, however, be impossible to recast all the arrangements within so short a space of time, even if it were possible, which it is not, to revert to a tax on fuel. The fact is that part of the Government programme is entirely a matter of placation. The issue will be the same as when the present law was going through the House of Commons. By reason of the numerous grounds on which a retention of the tax on fuel became impracticable, the Government of the day, not wishing to force on motor owners a method of taxation to which, it was represented, they were opposed in the gross, invited an alternative proposition to the present style of tax in face of the impracticability of that on fuel. No motoring organization has ever accepted that invitation, simply because the alternative was a tax on tyres, and no motoring body dare suggest that this would be preferable to one on horse-power. If a man has bad luck in buying a tyre it would only aggravate his grievance if he had to pay an extra tax as well as the money with which to buy a substitute tyre. There may be modifications in the particular methods of levying the tax according to horse-power. For instance, there will be concessions in the Budget in regard to trade car licences. But there will not be any reversion to the fuel tax unless a miracle has happened since last the matter was gone into very thoroughly by the various Government departments concerned. The fact that, now that some of the motoring bodies, in an endeavour to get back to the fuel tax, are willing to concede that no rebates should be allowed makes no difference. Their chief cry, of course, is the Automobile Association's slogan concerning the current system, to the effect that it is "a tax on ownership, not on use."

The Tax on the Right to Use.

If we consider the matter historically, however, the slogan proves to be utterly worthless because, before this scheme of taxation came into operation two financial years ago, we had in force a system of taxation which takes us back to the earliest phase at which the motor movement really became a practical proposition—namely, eighteen years, when in January, 1904, there came into operation the Motor Car Act of 1903. This is still the law governing the movement in general, and as applied to taxation from 1904 onwards it was based on every owner paying a horse-power Treasury rating tax on his vehicle. Therefore there is nothing new in the principle of "a tax on ownership, not on use." Secondly, that slogan is a false expression of the fact, because the tax is not on ownership at all. A man can have any motor vehicle he likes stored in his motor-house and pay no tax on it. On the contrary, the tax is one levied on the right to use a car, and not on the ownership of it. In that sense a fuel tax is also a tax on the means to use a car, which is surely the same thing in practice as a tax on the right to use one. Besides, if we are to tax motoring at all, it must be on the right to use the given vehicle. If it were not so, we should have to run all round the country and tax everybody, because they might take a ride on a motor bus by paying a penny bus fare. This particular agitation has been purposely worked up. A large majority of members of the Automobile Association and Motor Union, which is the largest motoring body in the world, with a membership of over 150,000, has taken no notice of its referendum in spite of the great publicity given to the matter. Three weeks after it was out the Association was glad to announce that 35,000 returns had been made, which is not one in four. Even so, as was announced in these columns, it has been open to any member of the public who is a motorist, but who is not a member of the Association, to apply for such a form and fill it in.

The Problem of Clashing Interests.

Meantime the Second Interim Report of the Departmental Committee on the Regulation and Taxation of Road Vehicles has been issued, and is found to contain a vast number of

recommendations for embodiment in an Act which it is intended shall codify the various laws on the subject, and supersede our admittedly quite obsolete enactments governing road vehicle use. In considering the recommendations, however, it is advisable that the medical man should avoid the error into which, apparently, most commentators on the subject have fallen when they have assumed that because these recommendations are made they will, in fact, become law. The Committee has endeavoured to do its best on behalf of each of the many classes interested, with the result that a careful consideration of the document, as distinct from a single glance at such parts of it as concern any one section, will bring before the reader more clearly than any other means known to me the fact that at this stage there exists a large number of specialized motoring interests which deliberately clash with a large number of other specialized motoring interests. For instance, the regulations recommended for the encouragement of utility motoring are admitted by those concerned with that branch to be extremely generous, though a certain amount of resentment is expressed in those quarters at the suggestion that drivers of machines whose situation prevents them from hearing readily, or becoming aware of the presence of vehicles desirous of overtaking them, should be provided with mirrors and with sound-receiving devices, it being held by the complainants that this is putting yet an additional burden on the commercial vehicle user for the benefit of the private motorist. But the driver of the passenger car knows how necessary are these and sundry other recommendations. The various speeds at which it is suggested that large vehicles should be allowed to go would, if permitted by a future law, make a great difference in the conditions under which private vehicles will take the road in future. Motorists are more or less paying for the maintenance of the roads, yet a consideration of the classes of vehicles which are to be allowed on them, including some wherein the speed is restricted to 5 m.p.h., and which, progressing at such a speed, will take pieces out of any at present known road surface, are matters which, we may anticipate, will be debated hotly in the House. There are special recommendations to encourage trailers; also the use of pneumatic tyres for large vehicles, particularly of the passenger-carrying, motor-omnibus types up to 3½ tons. Machines so equipped are to be allowed to travel at a very lively turn of speed indeed, and that despite the fact that the air-filled tyre is at present frankly in the experimental stages. Some very ugly accidents have happened when one of these tyres has blown off the rim, or punctured, or become suddenly deflated through a tube being pinched when negotiating a turn, or what not. The story of the pneumatic tyre as applied to heavy vehicles in this country is one with a high percentage of disasters for miles travelled. Yet few would grumble at any endeavour of a Government department to produce a law that would be, if anything, a little ahead of the times in exchange for all our other motor laws that are years behind them.

One private motorist described the very generous regulations proposed in regard to the use of various classes of utility vehicles as "a doctor's benefit," by which he meant that, if such regulations came into operation at once, we should have a great increase in the number of road accidents. Curiously, the report states that the Committee has come to the conclusion that "there is no evidence at the present time that would justify prohibition or restriction of the use of left-hand vehicles in this country from the point of view of public safety." This is certainly a remarkable discovery after the findings and recommendations of coroners' inquests all over the country, many of them presided over by medical men; also of the mounting toll of accidents due to the use of left-side driven machines, which, in any case, have to be pulled too far out on their wrong side when a driver wishes to discover whether it is possible for him to overtake the vehicle ahead before it can be ascertained whether the way is quite clear. The left-side drive is a very awkward one in the case of the covered classes of utility vehicles, including light tradesmen's delivery vans and the larger sorts of lorries, to say nothing of the "heavy" used trailer fashion. Many of the suggested regulations in regard to trailers, alike as to speed and to their permissible length, making them virtually road trains, while being very convenient from the point of view of those who would transport their goods by this cheap means, are certainly calculated to add increasingly to the embarrassment, if not to the dangers, of road travel, and to the costs of road maintenance.

Obtaining Evidence in Defence of Charges.

As regards the use of passenger cars, the chief alteration proposed concerns the abolition of the speed limit and the substitution of prosecution on the grounds of dangerous, or otherwise undesirable, driving. The report points out frankly that the 20 miles an hour speed limit is a dead letter in practice. It also plainly indicates that there ought to be an end of the present 10 miles an hour speed limits in specified areas. The latter is a sound conclusion, especially in face of the now notorious, and in many cases, long since forgotten prejudicial influences which were instrumental in securing permission to establish a great number of the fixed speed limit areas about the country. It is recommended, instead, that in all areas where it is necessary drivers should be warned by signs as to how slow a maximum speed is advisable and, for the rest, that there should be prosecution for all undesirable driving.

As to the period within which a motorist may be proceeded against for alleged undesirable driving, it is proposed that there should be an increase of from 21 up to 28 days within which the police may serve a summons. But it is intended that this should be offset, in part, by desiring the police to give to an accused motorist earlier notice than the formal summons of the intention to prosecute. This, however, does not go far enough, because if proceedings are to be undertaken under the heading of undesirable driving, obviously they are far graver than the current and past series of prosecutions chiefly on the lines of infringing what is admitted to be a purely arbitrary and obsolete law—namely, the present speed limit of twenty miles an hour. It is therefore doubly important that reasonable facilities should be provided for the accused to gather evidence upon which to conduct his case. Obviously if a driver is not to be told at the time he is alleged to have offended, how is he to reconstruct the conditions of driving, especially as it is not recommended that it should be compulsory to advise a motorist until the actual moment of serving the summons. An interval of twenty-eight days after the event, or even two days, would often render it quite impossible to collect witnesses or to take photographs of road conditions obtaining at the given time, and so on. Certainly this part of the proposed changes will be subject to much debate—a point which was brought out at length, with the adduction of numerous instances, in these columns something like a year ago when the matter of the abolition or increase of the speed limit was under review.

Minor Recommendations.

A very important recommendation is that tampering with motor vehicles should hereafter be regarded as a criminal offence. The penalties proposed to be imposed in respect of offences against dangerous driving, and so on, are none too severe provided the conditions of prosecution are reasonable. At present the conditions proposed are not reasonable, either in face of the penalties or in face of any other penalties that might be substituted. A sufficient guarantee is not proposed to be afforded to the accused that he will have what is even a reasonable opportunity of making out his case, apart from which there is the common belief that in the police force promotion is sometimes related to the number of prosecutions secured. Therefore it is necessary that much greater safeguards than any suggested should be provided in this connexion. The recommendations in regard to doing away with certain red-tape details about taking out licences are excellent, as is that to the effect that the police should have regard to the object of this proposed law, as distinct from working according to the letter and against its spirit. Unfortunately a recommendation like the latter is rarely embodied in an Act. If it were, still it would depend entirely on the given bench being prejudiced one way or the other as to whether it would have any weight in practice. The regulations proposed in connexion with the overhang in utility vehicles show that there is no intention to make improvement in this connexion. It is suggested by the Committee that the police should have the power to test brakes. This is a proposal of doubtful value. On the one hand it would virtually make the police responsible for all vehicles taking the road with efficient brakes in good working order, and, on the other, might lead to most vexatious and tyre-destroying demonstrations to satisfy the police. In any case, much clearer regulations and more closely limited powers than are indicated would have to be laid down.

British Medical Journal.

SATURDAY, APRIL 29TH, 1922.

MEDICAL PERIODICALS.

MEDICAL journalism is the smallest of the medical specialities, but its followers probably come in for more candid criticism than those of any other; this is not surprising, since publicity is their aim, periodical publication is provocative, and every reader is clearly entitled to form his own opinion. Criticism may be favourable or unfavourable, but the former is seldom vocal, while the latter is commonly expressed with great vigour. Though the validity of the criticism is always weighed, as a rule no reply is or should be made: the final decision must be left to the arbitrament of time and the event. Now and again, however, the medical journalist is invited to state the grounds of the faith that is in him, and to set forth some of his difficulties. Such an occasion was recently afforded to Dr. George H. Simmons, editor of the *Journal of the American Medical Association*, when he was called on to give an address as President of the Institute of Medicine of Chicago. Very wisely he selected "Medical periodical literature" as his subject, since he could speak from "an acquaintance of nearly thirty years with medical journalism." In what follows we shall endeavour to give the chief points he made, since his observations may be read with interest even by those on this side of the Atlantic who feel that their withers are unwrung. At the same time it has to be admitted that the faults on which he expatiated are not wholly unknown here.

Dr. Simmons began by mentioning incidentally that in 1848, when Oliver Wendell Holmes was chairman of a committee of the American Medical Association on medical literature, the number of medical journals published in the United States was 20, that it had risen to 230 in 1903, and that it had since declined to 120, in spite of a remarkable increase in periodicals devoted solely to scientific medicine. Moreover, Dr. Simmons notes "a distinct change in the type of papers appearing in medical journals to-day as compared with twenty years ago. The therapeutic article of the past, replete with favourite prescriptions, often proprietary in character, has given way to scientific contributions on therapeutic methods, on pharmacology, on pathology, on etiology, on methods of diagnosis, on prophylaxis." Though the number of medical journals has decreased in America, it seems doubtful whether the volume of writing for publication has undergone any diminution, for the *Journal of the American Medical Association* is now receiving between fourteen and fifteen hundred manuscripts a year, exclusive of the papers submitted to the sections of the annual meeting. Dr. Simmons estimates that three-fifths of the manuscripts voluntarily offered are returned, and the greater part of his address was concerned with the reasons for rejection.

One reason is lack of space. A fair percentage of the papers were excellent both in matter and in manner of presentation, and there could be no doubt about them. Among other papers one that is informative, that presents new facts or practical information, if fairly well written, is not returned, though it may be necessary, with the author's help or approval, to shorten or revise. In this connexion the subject of length is raised; it, "like Einstein's theory as to space and time, is a matter of relativity. A paper of five hundred words may be long: one of five thousand may be short." But undue length is a common fault, and Dr. Simmons finds three chief reasons for it. The first is "rambling," due to the absence of a plan, so that the author repeats himself and goes a long way round to reach a given point. Cross-headings are recommended, not only because in a paper more than a page or so long they encourage the reader, but because the task of introducing them reveals to the author defects in the logical arrangement of his matter. Next the difficulty many experience in making a beginning is touched upon. If the way to begin a paper is not immediately obvious Dr. Simmons recommends the perplexed author to "go right to the subject without preliminaries"; to begin in the middle if necessary; when the end is reached the difficulty of the beginning will usually have disappeared. Sharpey, the father of English physiology, was at pains to impress on his pupils the importance of learning how to report their results. His first injunction was to state conclusions at the beginning; this was the old plan of the university thesis, in composing which the candidate was required to set out at the beginning the proposition he intended to prove. The influence of Sharpey's teaching is still plainly to be traced in the writings of the chief English physiologists, though some of the lesser lights tend to lapse into presenting their readers with "protocols" of experiments related in laboratory slang. Dr. Simmons would have a long article begin with "a brief digest" to encourage the reader, and end with conclusions reflecting the author's premisses and deductions to help the abstractor. We may interject here that an abstractor who works on this system will often fail to do his duty by his readers.

The second cause of undue length is verbosity—a blemish which, Dr. Simmons admits, exists in the writings of most of us. It is to be remedied by revision; during that process the writer will be astonished to find how many words, phrases, clauses, sentences, and occasionally even paragraphs, can be erased without detriment to the meaning. Such deletions not only save space, but improve the style and help the reader.

The third fault enumerated is prolixity or diffuseness—the tedious discussion of non-essential details and the particularizing on trivialities. In an extreme form this fault is displayed by papers (of which it is said the American *Journal* receives specimens every week) in which the author who has a new fact or observation to make buries it in a mass of material which sometimes takes the form of a long historical introduction.

Dr. Simmons has a small opinion, as material for publication in a medical journal, of papers prepared for reading to a medical society; "as a rule, they are not so well thought out or as carefully written as are those prepared especially for printing." Some are composed to fill a vacancy, others are mere pot-boilers. Others, again, are designed to open discussions, and, while fulfilling that purpose, are not suitable for printing without drastic revision; they may be listened to out of courtesy or are carried through by the speaker's personality, but in cold type are not read. Certain societies founded recently in this country have made it a condition that the papers and discussions before them shall not be reported or printed, and from time to time older-established societies decide to put a veto on publication; this course has been taken lately by one of the sections of the Royal Society of Medicine. Were the reporting of meetings to become the exception and not the rule it would probably, by encouraging the tentative presentation of hypotheses and greater freedom of debate, be to the advantage both of medical societies and of the readers of medical journals.

The real remedy for the defects he sees—defects which, in spite of all that editorial staffs can do, continue to mar medical literature—is, in Dr. Simmons's opinion,

that the art of writing should be more carefully studied and all writings submitted to thorough revision. In support of this he quotes Sir Clifford Allbutt's method as described in his book *Notes on the Composition of Scientific Papers*. That book is, or should be, too well known in this country to make it necessary for us to quote from it; we will only recall that Sir Clifford's plan is first to jot down ideas and facts on slips of paper and sort them under headings; then to make a first draft and revise it; then a second and revise it; then a third and revise it; and then to put the whole away for at least a week "in order that the final reading may be done with refreshed attention." After an inspection of some of the manuscripts in the Osler Library, which is being catalogued in Oxford before its transfer to Montreal, Dr. Simmons is able to say that Sir William Osler worked in much the same way. He was able to trace one article through its various stages: first there were notes on odd bits of paper, evidently written at odd moments; then there was a rough outline of the paper in longhand; then the first typewritten copy, with interlineations, transpositions, and deletions; next the second typewritten copy, which had been considerably modified; and finally, the third typewritten copy, which had been given to the printer. If, Dr. Simmons pertinently asks, this is the method of the masters, "what about the rest of us?" He concludes his address with an apposite quotation from Barrie: "The man of science appears to be the only man who has something to say just now, and the only man who does not know how to say it."

A SMALL-POX EPIDEMIC ON THE GOLD COAST.

THE duties of a health officer in the outskirts of the empire are of necessity different from those of medical officers of health in the home country; opportunities are presented for the exercise of the best that is in a man in the way of initiative and individual responsibility. This is well illustrated by Dr. P. S. Selwyn-Clarke's monograph[1] on an epidemic of variola in a part of the world where the disease is endemic, and where its virulence to-day resembles that of the pandemic which swept over Europe fifty years ago.

The epidemic, during which 300 cases occurred, affected Accra and the surrounding district on the Gold Coast. As regards native treatment of the disease, Dr. Selwyn-Clarke "frequently observed the attendants or friends of patients rupturing mature vesicles with the aid of a pointed stick." This is of curious interest. Rhazes for the same purpose used a needle of gold or silver, and in the Anglo-Saxon leech-book of the physician Bald, belonging to the tenth century, part of the treatment of the pocks is to "delve away each one of them with a thorn." "Poccas" or "poc-adle" is definitely mentioned in Bald's second volume, and the late Dr. J. F. Payne was satisfied that this meant small-pox.[2] Rhazes and Bald flourished in the same century—one in Baghdad, the other in England, and it seems that after a thousand years their method of treating small-pox is practised on the Gold Coast in Africa. Statistics of 264 cases admitted to hospital are given by Dr. Selwyn-Clarke. Among them there were 68 deaths (25.7 per cent.), the average age at death being 26 years. Of the 68 "only one patient gave doubtful evidence of successful vaccination performed prior to being exposed to infection." Of the haemorrhagic type 14 cases were admitted, 8 of them purpura variolosa, and 6 of the haemorrhagic pustular. Only one of the 14 recovered. Of the admissions 199 cases (75 per cent.) were variola vera, made up of 125 confluent and 74 discrete. The fatality rate of the 199 was 27.6 per cent., of the confluent 37.6, and of the discrete 10.8. Of modified small-pox there were 51 cases, with no deaths.

The powers provided by the law for the control of infection in the Gold Coast Colony are in the form of ordinances and orders, including quarantine and vaccination ordinances. Notification became compulsory only when an area had been declared "infected" and a quarantine order applied. Hospital and contact accommodation was primitive, but was extended. Attention was given to the occurrence of aerial convection from the hospital, and the conclusion was reached that the balance of evidence on the whole negatived the theory of aerial dissemination of the virus, but on the general question Dr. Selwyn-Clarke is of opinion that owing to risks of direct or mediate infection and inevitable leakages, the requirements of the Local Government Board in Britain as to sites should be carefully fulfilled.

As to vaccination, the total population of the affected area was about 55,000; only about 3,600 successful vaccinations had been performed during the two years 1918 and 1919, but in the epidemic year, 1920, the number mounted to nearly 70,000, the excess over the total population being explained by measures taken to deal with immigrant labourers and native passengers by sea. This was accomplished notwithstanding that the vaccination ordinance was not in force during the earlier partof 1920. Fearing an outbreak, Dr. Selwyn-Clarke set about training native sanitary inspectors in the art of vaccination. A useful system of passes for passengers was introduced, these being issued in the first instance only to persons who had had small-pox or been recently vaccinated, or were prepared to submit to immediate vaccination. To make the system effective all the roads were guarded by police posts, and to minimize inconvenience a public vaccinator was stationed at every police post. It is clear, in short, that the health officer exercised a benevolent despotism in fighting the disease and protecting against infection the population committed to his charge. Valuable information is given as to the vaccine material employed. Dried lymph in glass ampoules gave very disappointing results, so that its use was abandoned, but the suggestion is made that the defect may have consisted of acid impurity in the glycerin. Lanolinated vaccine lymph, prepared at Hayle, Cornwall, and sent out to the colony on ice, gave constantly good results when used shortly after its arrival, but deteriorated quickly on exposure to tropical heat, and the suggestion has been made that thermos flasks might be used where ice and ice chests are not available.

Dr. Selwyn-Clarke's report contains much interesting matter that cannot be touched on here, and he is to be congratulated, both on his management of the epidemic and the manner of his record.

[1] *A Monograph on Small-pox in the Negro and Negroid Tribes of British West Africa, with special reference to the Gold Coast Colony.* By P. S. Selwyn-Clarke, M.C., M.D., B.S.Lond., D.P.H.Camb., Medical Officer of Health, West African Medical Service. London: John Bale, Sons, and Danielsson.

[2] *English Medicine in the Anglo-Saxon Times.* By J. F. Payne, M.D. Oxford: Clarendon Press, 1904.

INSPECTION OF EXAMINATIONS.

THE General Medical Council has just published a very important volume of reports on the Inspection of Examinations in 1920–21. The Council hopes that it may have a large circulation, and to this end has issued it at the very low price of 7s. 6d. (post free 8s. 6d.), though it contains 900 pages, and must in these days have been produced only at a much higher cost. Four inspectors were occupied in the work of visiting the examinations, Dr. Howard H. Tooth in Medicine, Sir Hector C. Cameron in Surgery, Sir William J. Smyly in Midwifery, and Dr. R. Bruce Low those for diplomas or degrees in Public Health. The volume contains a brief introductory report by the Council's Examination Committee

on the three final subjects of the curriculum—Medicine, Surgery, and Midwifery; a report by the Council's Public Health Committee on the inspection of the D.P.H. examinations; a general report on his own subject by each of the four inspectors, and also, in detail, a report on each individual examination visited by the inspectors; to these are appended the remarks of each body on the inspector's report on its own examination, and a copy of all the questions set at every examination. The volume will therefore serve the important purpose of showing to every teacher and examiner the lines followed by all the universities and licensing bodies in testing the fitness of candidates to receive the degrees or diplomas to which they aspire. Most examiners will probably admit to themselves the risk, in the preparation of questions, of getting more or less into a rut unless they keep a close eye on their own mental processes. The Council's publication provides them with a mine from which to dig new ideas for their own work; at the same time the character of the questions asked indicates the scope of the teaching given at the various schools. Indeed, it is difficult to see how any teacher or examiner who wishes to keep himself up to date can afford to be without this volume of Reports, and it was a good thought on the part of the Council to make it available to all concerned. The contents of the volume must, of course, have played an important part in the Council's draft schemes for revision of the whole teaching of the medical and public health sciences on which it is at present engaged. Its provisional recommendations have been sent to the licensing bodies and are now under their consideration. The Conjoint Examining Board in England of the Royal College of Physicians of London and the Royal College of Surgeons of England has in fact issued provisional regulations to come into force on January 1st, 1923. They embody the details of the new medical curriculum, and will apply to all medical students who have not passed the required preliminary examination in general education before the first day of next year. They are provisional in the sense that the Royal Colleges reserve to themselves the right to revise them after the observations of the English Universities have been made public. The whole matter will be considered by the General Medical Council at its meeting in May.

HEALTH ORGANIZATION OF THE LEAGUE OF NATIONS.

AN important branch of the work of the League of Nations is that of its health organization. The International Health Conference which was held in London in April, 1920, declared that the epidemic situation was menacing to all Europe, and that the task of fighting epidemics was beyond the strength of voluntary associations. The Conference urged, therefore, that the task should be entrusted to the League of Nations as the only official international organization with sufficient authority and power to undertake the work. In accordance with this recommendation an Epidemics Commission was set up by the Council of the League, and since the end of 1920 this Commission has co-operated with the Polish health authorities in their campaign against epidemics. The Commission, at the head of which was Dr. Norman White, formerly Sanitary Commissioner with the Government of India, had complete autonomy, but was responsible to the Council of the League. The funds placed at its disposal by the Governments which are members of the League were not large enough to make possible an anti-epidemic campaign on the scale originally planned, so the Commission began its work in Poland, and delivered to the Polish health authorities the motor transport, soap, clothing, medical stores, etc., most needed at the outset of the campaign; it also provided funds for the repair and equipment of bathing and disinfecting establishments, quarantine stations, and hospitals, and gave fifty complete fifty-bed hospital units. The work of this Commission was the first experiment in international sanitary co-operation on a large scale, and it has been a success. Last autumn, however, the epidemic situation in Russia, and the consequent danger to her western neighbours, became greatly aggravated on account of the famine, and more drastic measures were found necessary to deal with the situation. An all-European anti-epidemic conference was therefore convened by Poland at Warsaw, with the approval of the Council of the League of Nations, and twenty-seven different nations took part. An account of the resolutions adopted was given in our last issue, at p. 653. It was notable as being the first general European conference in which Soviet Russia and Soviet Ukraine were represented. The Conference drew up a general report of the situation, and the lines were laid down for a series of sanitary conventions, which are now being negotiated between the States of central and eastern Europe as a first defence against epidemics. Finally, the Conference prepared a detailed plan for an anti-epidemic campaign in Russia and in the border States, and recommended that the conduct of this campaign should be entrusted to the League of Nations health organization and the Epidemics Commission. The Conference requested the Council of the League to transmit its recommendations to the Genoa Conference, on the ground that the latter was to deal with the economic reconstruction of Europe, and because an epidemic campaign in eastern Europe was in its opinion the indispensable preliminary to the work of economic reconstruction. It is hoped that the Genoa Conference will decide upon the measures to be taken with reference to the anti-epidemic campaign, and whether they shall be carried out by the health organization of the League of Nations. This health organization consists of, first, a committee appointed by the Council of the League, which acts as the executive body of the organization; second, the Office National d'Hygiène Publique in Paris, a body in existence before the war, which, though not a League organization, acts in close co-operation with the latter, and in practice serves as its general committee, drawing up draft conventions and laying down general lines of policy; third, a secretariat, which forms the health section of the Secretariat-General of the League. The Epidemics Commission—originally, as has been said, an independent body—is now also attached to the health section, and is therefore really a part of the health organization. An Epidemiological Intelligence Service has been organized to keep the health authorities of all nations informed as to the incidence of epidemic diseases, and a monthly bulletin is being issued containing statistics and charts of the incidence all over the world of cholera, typhus, dysentery, small-pox, and other infectious diseases. Another branch of the work of the health organization was the conference held in London in December, 1921, on the standardization of serums and serological tests, when, as reported at the time, a programme of inquiry and research was elaborated, to be carried out by the various laboratories and centralized in the Copenhagen Institute. The results will be examined at a forthcoming conference to be held at the Pasteur Institute in Paris.

A CORONER'S VERDICT.

WE have again to call attention to an inquest which furnishes material for comment. An inquiry into the death of a boy of 5 years was held lately at Sandown, Isle of Wight, by the acting coroner in the island—a layman—and a report of the inquest appears in the *Isle of Wight Chronicle* of April 13th, 1922. The father's evidence was to the effect that the child had been suffering from occasional cough and swollen glands. Dr. G. B. Wood advised removal of the tonsils as soon as the child was in better health. Accordingly, on April 9th, Dr. Wood performed the operation, Dr. H. B. Billups gave the anaesthetic, and the district nurse assisted. In her evidence the nurse stated that Dr. Billups sounded the child's heart beforehand, and administered the anaesthetic by the usual method of a mask over the nose and mouth; the mask was taken away for removal of the left tonsil. After this the child showed signs of coming round, and anaesthesia was continued by nasal tube. During removal of the right tonsil the child turned blue, and Dr. Wood ceased the operation at once

Blood was removed from the mouth and throat, and every effort made by artificial respiration to restore the child, but without success. In reply to the coroner, she said that she saw no reason at all why the operation should not be performed. Dr. Wood in his evidence described the case. The tonsils were much enlarged. On the day before the operation he examined the heart, and Dr. Billups did so next day. The anaesthetic consisted of three parts of ether and two of chloroform; the child took it very well. He had almost finished the operation when the child began to come to, and anaesthesia was continued by means of Junker's inhaler. Soon afterwards the child turned pale and the breathing seemed to stop; artificial respiration was at once begun, but there was no sign of recovery. The child was not under the anaesthetic more than ten minutes. Dr. Wood said that with the approval of the parents and the coroner he and Dr. Billups arranged for Dr. Horsburgh of Ryde to make a *post-mortem* examination; this showed that the child was suffering from a marked degree of status lymphaticus, and Dr. Horsburgh agreed that the cause of death was status lymphaticus. This evidence was confirmed by Dr. Billups, who described the precautions he took and explained that the condition could not be ascertained during life, though it was quite easy to do so after death. He added that Dr. Horsburgh said it was the largest thymus gland he had ever seen. The coroner's finding is reported as follows: "The Coroner said he felt great sympathy with the parents, and the case was a painful one so far as the doctors were concerned. He was afraid, however, that he could not go so far as the doctors in the opinions they had expressed. He thought the circumstances and justice would be met if he stated in his verdict that death was due to shock following an operation." It will be noted that Dr. Horsburgh and his colleagues appear from the newspaper reports to have been disposed to regard status lymphaticus alone as the cause of death, and it was presumably this view that the coroner found himself unable to accept when he said that he could not go as far as the doctors in the opinion they had expressed. While it seems clear that the operation could not be entirely excluded and must indeed be recognized as the immediate cause of death, we consider that the coroner would have been well advised to have included in his verdict a statement that the death was accelerated by status lymphaticus, in order to make quite clear that the medical men had been in no way at fault. The verdict, too, should have been one of misadventure. The circumstances connected with the making of the *post-mortem* examination appear to have been irregular, and we are of opinion that the coroner in this case should have ordered a *post-mortem* examination and should have called the medical man who made that *post-mortem* examination as a witness.

SCIENTIFIC SECTIONS AT THE GLASGOW ANNUAL MEETING.

THE officers of the Section of Anaesthetics at the forthcoming Annual Meeting of the British Medical Association in Glasgow have arranged the following programme: (1) A discussion on the broncho-pulmonary complications following operation under anaesthesia; (2) a paper and demonstration by Dr. A. L. Flemming on effects produced by exposing tissues to various concentrations of anaesthetic vapour; (3) demonstration of anaesthetic apparatus. The officers of the Section of Microbiology (including Bacteriology) have arranged the following provisional programme: (1) "The bacteriophage," by Dr. F. D'Herelle (Pasteur Institute, Paris) and Dr. F. W. Twort; (2) "The bacteriology of influenza," by Dr. Mervyn H. Gordon; (3) "Some similarities and dissimilarities in the microbiology of plant and animal diseases," by Professor V. H. Blackman; (4) "Mutation of species," by Dr. W. B. Brierley. Demonstrations will be arranged by Sir William Leishman, Professor Graham Kerr, and others. The officers of the Section of Anatomy have chosen the following preliminary list of subjects for discussion: (1) "The relation of the urethra to the vagina," by Professor J. C. Brash (Birmingham); (2) "The naked-eye anatomy of the bone marrow, with age changes," by Mr. Piney (Birmingham); (3) "The teaching of anatomy by radiology in the anatomy department," by Dr. J. M. Woodburn Morison (Manchester); (4) "The problem of the structure of the vertebrate head," by Dr. W. B. Primrose (Glasgow); (5) A discussion on the administration of the Anatomy Act will be opened by Dr. Alexander Macphail, Dr. Adam Patrick (16, Buckingham Terrace, Glasgow, W.), one of the honorary secretaries of the Section of Medicine, asks us to say that he or his co-secretaries will be glad to hear of any members who might wish to submit short papers in the Section, in addition to having the names of any who desire to take part in discussions. In our issue of April 15th (p. 614) it was stated that the officers of the Section of Obstetrics and Gynaecology hoped to include Professor Kennedy among the speakers on "Stillbirth and pre-natal deaths." In order to prevent confusion it should be pointed out that this referred to Dr. A. M. Kennedy, of Cardiff, Professor of Medicine in the University of Wales, and not to Dr. Robert Kennedy, St. Mungo Professor of Surgery in the University of Glasgow, and surgeon to the Glasgow Royal Infirmary. The names of the officers of the Scientific Sections were printed in the SUPPLEMENT of February 18th (p. 39). The meetings of the Sections will be held on Wednesday, Thursday, and Friday, July 26th, 27th, and 28th.

LIST OF SCIENTIFIC PERIODICALS.

MENTION was made a few months ago (January 14th, p. 71, of a scheme of the Conjoint Board of Scientific Societies to provide a world list of scientific periodical publications. The compilation of the list will be undertaken by the staff of the British Museum, and already material has been collected in the museum by various societies and by the Conjoint Board. We are informed that it is intended to include in the list medical journals in all branches which contain the results of original research. The list will give the titles of periodicals in existence on January 1st, 1900, or issued after that date in alphabetical order. The British Museum has no funds out of which to defray the cost of printing and publication, but it is hoped that a sufficient number of libraries will agree in advance to purchase one or more copies of the list at the price of two guineas each. The libraries in London, Oxford, Cambridge, Edinburgh, Dublin, and Aberystwyth, which take in such periodicals, will be indicated, and wherever possible at least one library in the United Kingdom will be mentioned for each periodical. As has already been mentioned, the need for such a list of periodicals devoted to tropical medicine was recognized some time ago by the British Medical Association, and Professor R. T. Leiper, Director of the Department of Helminthology at the London School of Tropical Medicine, undertook to supervise the compilation of a list showing all the libraries in London and some other centres in which a periodical can be consulted. The list will indicate how far the file of any periodical in any particular library is complete—a piece of information which will often save an investigator a great deal of time.

INTERNATIONAL CONGRESS OF OTOLOGY.

THE International Congress of Otology, as has already been announced, will be held on July 19th, 20th, and 21st, at the École de Médecine, Paris. The Congress will follow the annual meeting of the Société Française d'Oto-Rhino-Laryngologie, which will be held in Paris on July 17th and 18th, and the date originally fixed for the Congress has been altered so as not to clash with the Annual Meeting of the British Medical Association in Glasgow. The chairman and one of the secretaries of the British Organizing Committee of the Congress have paid a visit to Paris and were impressed with the anxiety of their French colleagues to make the Congress a success and to welcome a large number of English-speaking visitors. The subscription to the Congress is 100 fr. (£2 at present exchange), and cheques for this amount should be sent to the treasurer, Dr. G. Laurens, 4, Avenue Hoche, Paris (8); those who intend to read papers or to join in the

debates should write direct to Dr. Hautant, 28, Rue Marbeuf, Paris (8e). An exhibition of anatomical and pathological specimens (macroscopic and microscopic) illustrating diseases of the ear, nose, and throat is being organized, and particulars of the preparations for exhibition should be sent to Dr. P. Truffert, 2, Rue Ambroise Paré, Paris (10e). It should be mentioned that lantern slides on the Continent are not of the square format, 8.2 cm. by 8.2 cm., but are what is called of the "international" size — namely, 8.5 cm. by 10 cm. The *Rapports* will be printed and circulated before the Congress to every member who has paid his subscription. A ladies' committee is being organized in Paris, with Madame Hautant as chairman, and among others she will be assisted by Mesdames Robinson, Jarvis, and Gross, who are the wives of English and American medical men settled in Paris, and are all fluent linguists. The corresponding member in London of the committee is Mrs. Lionel Colledge, 36, Belsize Grove, London, N.W.3. Tentative arrangements have been made, for those who intend to attend the Congress, at the Hotel St. James and Albany, 211, Rue St. Honoré; this hotel is situated centrally, and a room will be put at the disposal of members of the Congress where notices can be posted and appointments arranged. Any further information may be had from either of the honorary secretaries, Mr. Lionel Colledge, 22, Queen Anne Street, London, and Mr. J. S. Fraser, 50, Melville Street, Edinburgh.

A NATIONAL COUNCIL FOR MENTAL HYGIENE.

WE may recall that the meeting at which it is proposed to form a National Council for Mental Hygiene will be held on Thursday next, May 4th, at the house of the Royal Society of Medicine. The purpose the founders of the Council have in view was explained by Sir Courtauld Thomson in a letter published in our columns of April 1st (p. 538). The letter pointed out that the recent establishment of a few hospitals and clinics for the treatment of "functional nervous disorders," which might be more scientifically labelled "minor disorders of the mind," affords evidence of the fact that the early recognition and treatment of these maladies is generally regarded as a matter of importance, and went on to state that many societies and associations, old and young, are engaged in promoting the study of mental disorders, the welfare of the insane, the problems of industrial psychology, and the various aspects of mental deficiency. The hope of the founders of the National Council for Mental Hygiene is that it may be a central organization encouraging these institutions and societies to expand and to add to their usefulness by organized co-operation. The meeting on May 4th will decide on the constitution of the Council, will elect officers, and carry out other business. The chair will be taken by Sir Courtauld Thomson at 5 p.m., and the speakers will include Sir Humphry Rolleston, K.C.B., President of the Royal College of Physicians of London, Dr. Henry Head, F.R.S., Sir Leslie Scott, K.C., M.P., Lieut.-General Sir John Goodwin, K.C.B., and Sir Maurice Craig, C.B.E.

LETHARGIC ENCEPHALITIS.

ACUTE epidemic encephalitis (lethargic encephalitis)[1] was the subject chosen for intensive discussion at its first meeting on December 28th and 29th, 1920, at New York City by the Association for Research in Nervous and Mental Diseases. The information thus brought together by thirty-five contributors is now presented in a rather novel form: instead of printing each contributor's paper in full, each contributor is credited with the facts that he has established, but duplication of reports has been avoided; in addition the discussions of various problems by question and answer are printed in a way somewhat suggesting that of proceedings in a court of law. The considerable task of editing has been discharged by a committee of fifteen, prominent among whom are Drs. C. L. Dana, F. Tilney, and Foster Kennedy. The introduction to the volume consists of Dr. W. Timme's presidential address at the meeting, and sets out the aims and working methods of this new American Association for Research in Nervous and Mental Diseases —namely, to co-ordinate efforts in one direction at a time, so that all the available data bearing on the disease under investigation can be collected and analysed according to a well-thought-out scheme; it thus recalls the collective investigation of the eighties in this country, in the origination of which the late Sir George Humphry took such a prominent part. The result of this method as applied to acute epidemic encephalitis is now shown in a mass of material, valuable for reference, dealing with the history, etiology, morbid anatomy, pathology, symptoms, diagnosis, and prognosis. Each section contains the final conclusions arrived at, and these are careful and well considered. As regards the etiology, pathogenesis, and incidence it is not yet possible to form final conclusions. The consideration of the symptoms occupies about half the volume, and is divided into three sections devoted respectively to those referable to the brain, to the spinal cord and peripheral nerves, and the psychotic manifestations. The diagnosis between lethargic encephalitis and acute poliomyelitis, especially when the diseases are fruste or atypical, may be impossible, and in the absence of knowledge as to the nature of the responsible agent the committee did not feel able to report upon the merits of any particular method of combating the disease. The concluding chapters on the morbid anatomy and on the bacteriology, experimental pathology, pathogenesis, and immunology of the disease are well illustrated. Finally, there is a useful bibliography.

[1] *Acute Epidemic Encephalitis (Lethargic Encephalitis).* An investigation by the Association for Research in Nervous and Mental Diseases. Report of papers and discussions at the meeting of the Association, December 28th and 29th, 1920. New York: Paul B. Hoeber. 1921. (Pp. xxii+258; 36 figures. 2.50 dols.)

POST-GRADUATE LECTURES AND COURSES IN LONDON.

THE first of the series of lectures recently arranged by the Fellowship of Medicine will be given at the house of the Royal Society of Medicine, 1, Wimpole Street, on Monday next, May 1st, at 5 p.m., by Sir Humphry Rolleston, K.C.B., on "Recent physiology of the liver and its application in practice." Particulars as to other lectures were published on April 15th (p. 615), and it was at the same time stated that a special post-graduate course in general medicine had been arranged to be held at various hospitals in London from May 1st to 13th. Copies of the complete programme of lectures and the syllabus of the special course will be forwarded on application to the Secretary of the Fellowship, 1, Wimpole Street, W.1. The fee for the post-graduate course is five guineas; the lectures are open free to all members of the medical profession.

SIR HUMPHRY ROLLESTON has accepted an invitation of the Council of St. John's College, Cambridge, to give the next Linacre lecture on May 6th, 1922. The subject he has selected is "Medical Aspects of Old Age."

TWO Hunterian lectures on the results and treatment of gunshot wounds of the blood vessels will be delivered in the theatre of the Royal College of Surgeons of England, Lincoln's Inn Fields, by Professor Harold Burrows, C.B.E., F.R.C.S., on Wednesday and Thursday, May 10th and 11th, at 5 o'clock.

PROFESSOR E. MELLANBY, M.D., will deliver the Oliver-Sharpey lectures before the Royal College of Physicians of London on Tuesday and Thursday, May 2nd and 4th. The lectures will be given at 5 o'clock, at the College, Pall Mall East; the subject is, "Some common defects of diet and their pathological significance."

THE Association of Surgeons of Great Britain and Ireland will meet in Leeds on May 4th under the presidency of Sir Berkeley Moynihan, who will open a discussion on gall stones, their complications and the treatment which should be adopted. Among the subjects to be considered on May 5th are the surgery of the parathyroids and of tuberculous disease of the spine.

India.

KASHMIR MISSION HOSPITAL.

THE report of the Kashmir medical mission of the Church Missionary Society for 1921 states that there were during the year 12,133 new out-patients, with a total attendance of 25,670. There were 1,706 in-patients in the hospital and 3,785 surgical operations were performed, including 774 major operations. The medical superintendent records that enteric fever was very prevalent last year, especially in the city of Srinagar, and more cases of enteric fever were admitted to hospital than in any previous year; owing to the insanitary habits of the people of the city it is extremely difficult to cope with this disease. A special appeal is being made for funds to bring the present electrical appliances up to date, and it is estimated that £250 will be required. The hospital's financial revenue for the year is the largest that has ever been received, totalling 50,000 rupees; the largest item, that of fees, amounted to 17,000 rupees; the deficit of the previous year was wiped out, and a balance of over 8,000 rupees has been carried forward. During the year the Viceroy and Lady Reading visited the hospital and expressed their admiration of the work carried on. In regard to the Leper Hospital, during the year 113 new cases were admitted, making a total of 216 patients. The new treatment by ethyl esters was begun, and so far seven cases were treated: a dose of 1 c.cm. was given to commence with, which has been increased to 2 c.cm. (5 c.cm. being the maximum dose); the cases are showing signs of improvement. Sodium gynocardate, it is stated, is being given to 20 cases by mouth, but without apparent benefit. The hope was expressed that the State would adopt measures for the compulsory segregation of lepers in Kashmir, by which means alone leprosy could be stamped out in that country. The entire cost of the upkeep of the Leper Hospital is borne by the Kashmir State. The superintendent of the Mission Hospital and honorary superintendent of the Leper Hospital is Dr. H. T. Holland.

THE GENERAL MEDICAL COUNCIL DELEGATE TO INDIA.

Dr. Norman Walker has completed his tour of Bombay, Lahore, Delhi, Lucknow, Amritsar, and Agra, and whilst at Delhi addressed a small gathering of members of the Legislative Assembly and explained that the mission entrusted to him by Mr. Montagu (the late Secretary of State for India) was to ascertain how the Indian medical student could be given the same status with the British Medical Council as that of students in all other parts of the world.

MALARIA IN BOMBAY.

"It is with a real sense of alarm that the community have viewed the enormous increase of malaria in Bombay within the past nine months. . . ." On this text forty-five British and Indian firms and heads of establishments in the Fort have addressed an urgent letter to the Bombay Municipality. They complain of the large numbers of malaria mosquitos infesting their store rooms, godowns, and other premises, and declare their conviction that "unless some very stringent measures are adopted by the Municipality with the close co-operation of the residents of this city," more especially those living in the specially infected Fort area, the effect of the scourge "will have a most disastrous influence upon all living in Bombay." The letter emphasizes that its signatories are not only considering the deaths that malaria causes, but also the prevalence of non-fatal malaria attacks.

ALL-INDIA AMBULANCE COMPETITION.

Owing to the railway strike, and the fact that in present conditions many railway, police, and military teams have found it impossible to attend, it has been necessary to cancel the All-India Ambulance meeting this year. It is hoped to hold it next year at Allahabad, at the end of January or beginning of February.

INFANT MORTALITY IN INDIA.

The Countess of Dufferin's Fund has placed at the disposal of the Local Governments of Bombay and Bengal respectively the services of Dr. Florence Barnes and Dr. Dagmar Curjel for the purpose of making an inquiry into the conditions of women industrial workers during childbirth. The inquiry will take about a year, and it is believed that many facts will be elicited which will be of great service in reducing maternal and infant mortality in all classes of life and in all parts of India.

INDIAN MEDICAL SCHOOLS.

An appeal is being made for the funds of the Lady Hardinge Medical College, and the opportunity is taken to draw attention to the special features of this institution. The College is devoted to the medical education of the women of India, and draws women from all parts of India, not excluding the distant Presidency of Madras, and also from the States of the ruling princes and chiefs of India. —One of the last official acts performed by Lord Ronaldshay as Governor of Bengal was the opening of the Ronaldshay Medical School, the foundation stone of which he laid nearly two years ago at Burdwan. The School owes its existence to the generosity of the Maharajadhiraja Bahadur.

England and Wales.

ORTHOPAEDIC SURGERY AT THE LEEDS GENERAL INFIRMARY.

FOR some years the formation of an orthopaedic department at the Leeds Infirmary has been under the consideration of the Board and the Faculty. It will be remembered that during the latter years of the war the Second Northern General Hospital at Beckett's Park, Leeds, was converted into an orthopaedic centre, and the large experience which was in this way brought before the surgeons of Leeds and of those others who were associated with them in the work has undoubtedly acted as a stimulus to the formation of a new department for the treatment of deformities and other conditions calling for orthopaedic treatment. The new department is to be under the control of Mr. S. W. Daw, who has been assistant surgeon to the infirmary since the year 1913; so far as the infirmary is concerned Mr. Daw's work will be confined to the orthopaedic department. As it was determined that the transference to the special department of one member of the surgical staff should not alter the number of surgeons, this has led to a vacancy on the assistant surgical staff, which will be filled in due course. The formation of the department calls for the appointment of two additional residents, a resident orthopaedic officer and an orthopaedic house-surgeon; the former will be paid a salary of £150, and will rank with the other senior residents; the latter will rank with the other house physicians and surgeons. The out-patient department will, in the first instance, be open on Tuesdays at 10 a.m., and this will provide the usual access for all cases which are not of an urgent character. Operations of a non-urgent character will be performed on Saturdays at 10 a.m. The scope of the department has been very carefully discussed by the Faculty and a general understanding arrived at, but it is fully grasped that this may require reconsideration at a later date. In the meantime, also, eight male beds and four female beds have been allotted to the department for the treatment of cases other than fractures. The number of beds which will be required for fractures is uncertain, but the fracture cases are to be segregated and placed under the care of the officer in charge of the department. A certain number of cots will also be allotted to the department, and the officer in charge will share with the other members of the surgical staff the beds in the two semi-convalescent hospitals at Cookridge which are at their disposal.

It has also been arranged that the medical side of the house shall be intimately associated with the work, and especially with the after-treatment. This will be given effect to by the association with the department of one or more members of the medical staff who will exercise supervision over the departments of massage, electrotherapy, and physiotherapy. It is hoped that in the near future a Lectureship in Orthopaedic Surgery will be established at the University, and that a School of Massage will develop in connexion with the department, nor is the hope a vain one that it may not be long before curative workshops may arise somewhere in Leeds which shall be under the control of the department. The development of the department will be watched with sympathetic interest by all who are concerned in hospital work, and most of all by Mr. Daw's immediate colleagues, who rejoice to see him provided with work for which he has a special aptitude. It is interesting to recall with what enthusiasm the early work of Ogston and Macewen on genu valgum was followed in Leeds; Mr. Pridgin Teale, Mr.

Jessop, and very notably the late Mr. McGill were ardent disciples of these two men in their capacity of orthopaedic surgeons. The writer of these lines well remembers the admiration which he heard expressed of the work of these two men, both happily with us still, when first he went to Leeds in 1883. He also remembers quoting in their hearing the teaching of Ogston, and his discussion of the merits of the two operations. It will be remembered that Ogston's was the earlier operation, and that it even now appears the more scientific as aiming at the removal of the essential deformity, while that of Macewen savoured rather of making a deformity to neutralize that which already existed—at least this was how it appeared to the students. Ogston used to tell his students that he thought he got as good results by one operation as by the other; but with characteristic honesty he used to point out that one of the operations was his own, and he used to advise that the operation of Macewen should be adopted as being the better of the two. There must be many old Leeds students who will almost *hear* Mr. Jessop's comment: "That showed the greatness of the man," as indeed it did.

In this scheme the teaching of the students has received careful consideration; all students will serve for some time in the department, will receive more careful training in the management of recent fractures, and will be enabled to follow the after-treatment under more favourable conditions than have hitherto prevailed.

Medical Arrangements in Birmingham.

The Faculty of Medicine of the University of Birmingham has arranged a unique and important post-graduate course of lectures and demonstrations on "Crime and punishment," commencing on Monday, May 15th. The course is a comprehensive one and includes "Mental defect," "Insanity," and two special lectures by Dr. Maurice Nicoll, the lecturer for the year to the university in psychotherapy, the subject being considered in all its aspects. The work will occupy the greater part of each day from the beginning to the final day of the series on Friday, May 26th. The course is of exceptional interest in so far as it is not wholly theoretical, a considerable proportion of the available time being devoted to practical demonstration. A leaflet containing detailed information can be obtained on application to the Dean of the Medical Faculty.

The Ingleby lectures will be delivered this year, on May 17th and 24th, by Professor James Russell, the subject being "Clinical studies in some of the albuminurias of childhood, with special reference to orthostatic albuminuria." The lectures commence at 4 o'clock in the Medical Lecture Theatre in the Edmund Street Buildings of the University.

The Manchester Radiological Department.

Important additions have been made possible at the radiological department of Manchester Royal Infirmary by the generosity of Mr. Robert McDougall, who has given £5,000 to be spent entirely at the discretion of the infirmary's authorities, in memory of his father, the late Mr. Arthur McDougall, a member of a well-known Manchester firm of flour-millers. This is the second time within a year that the department of radiology has been fortunate in receiving important donations, £4,000 having been given recently by an anonymous donor for research work.

Scotland.

Lister Ward at Glasgow Royal Infirmary.

In the *Glasgow Herald* of April 18th there appears above the signature of Mr. James A. Morris an eloquent plea for the retention of the Lister ward in the Glasgow Royal Infirmary. He says that while Glasgow has raised herself from a very ancient but commercially unimportant township to one of the greatest seaports of the world, yet she has ever been pertinaciously blind to that form of enlightenment which finds expression in veneration of the memorials of her past. That this spirit should still circumscribe her mentality is the more extraordinary because Glasgow is not and never has been a city without leaders in refinement. Her ancient university and its ripe scholarship are not unknown; and in art has not one of the most vital and pregnant schools of modern European painting taken its name from the city? Moreover, in spiritual things, which are ever the more enduring, her exalted motto, "Let Glasgow flourish by the preaching of the Word," indicates at least a one-time spiritual aspiration; while in the world realms of medical research and surgical achievement Lister's name stands pre-eminent. Yet because of the purely material and evanescent she has in her ancient architectural monuments, as in the preservation of the shrines of the spirit, deliberately turned her back on the altitudes of life, if only she may thereby and for the moment grasp a temporary relief and ephemeral convenience by the destruction of some irreplaceable landmark or shrine. Of her ancient buildings all save the Cathedral, Provand's Lordship, and the Tolbooth steeple have gone irretrievably; but even of those remaining the Cathedral, and in lesser degree the Tolbooth steeple, have suffered sore mishandling from the spiritual forebears of those who would to-day destroy the Lister ward. It will afford matter for a curious homily upon Glasgow if, with all her wealth of heart, her powerful brain and inexhaustible vitality, she yet in her blindness destroys a shrine that in Paris, Vienna, or Rome would be held as above rubies.

Scottish Western Asylums' Research Institute.

In the annual report for 1921 of the Scottish Western Asylums' Research Institute, the director of the laboratory, Dr. W. Whitelaw, states that 470 specimens were examined from the associated asylums, including 220 Wassermann reactions in bloods, 50 cerebro-spinal fluid examinations, and 200 other examinations. During the year he had continued the investigation of groups of cases of insanity by inquiring into the possibility of there being any sources of infections. He was especially interested in the possibility of demonstrating that organisms isolated from foci of the teeth, tonsils, stomach, and bowels might be infecting agents; the results so far have been disappointing. Dr. Whitelaw stated that he hoped to get some of the assistant physicians in the associated asylums to co-operate with him in this work.

Health of Perth.

In the annual report of the medical officer of health of Perth for 1921, Dr. C. Parker Stewart records that the mortality for the past year was 14.7 per 1,000, a figure which was one of the lowest on record; the mortality from tuberculosis was the lowest on record, the decline in that disease being from 2 per 1,000 in 1900 to 0.7 in 1921. The birth rate for the year was 19.4 per 1,000, as compared with 22 in 1920 and 28.1 in 1899.

Correspondence.

GASTRO-JEJUNOSTOMY FOR PERFORATED GASTRIC AND DUODENAL ULCER.

Sir,—Mr. Southam, in his paper of April 8th, on the treatment of perforated gastric and duodenal ulcer, raises the question, Should an immediate gastro-enterostomy be performed? It is an important point, inasmuch as perforation is a surgical abdominal emergency, in which frequently severe shock is already present before operation, and in which, therefore, no unnecessary prolongation of the operation is justified. It would be instructive to hear the opinions of acknowledged masters of stomach surgery on this point.

Mr. Southam, following up his cases with the assistance of the radiologist, states that 90 per cent. required no further operative treatment. I may say that many years ago, long before stomachs were examined by the *x* rays, either before or after operation, I came to the conclusion that far the majority of patients who perforate have no further symptoms of gastric or duodenal ulcer. I stumbled upon this quite accidentally. I used to perform gastro-jejunostomy (and in those days it was considered the panacea for gastric ulcer) as part of the routine for perforation. But I came across cases who were so ill at the time of operation that I was afraid to prolong it after closing the perforation, and so closed the abdomen with the intention of performing the anastomosis a few weeks later. But, to my surprise, I found nearly all of these patients complained of no symptoms whatever on recovery from the simple closure of the perforation. I used to keep these patients under observation for months, but symptoms almost never appeared. I was hereby led to abandon gastro-jejunostomy as part of the routine operation for perforation, and only to adopt it in those cases where symptoms persisted or recurred. These formed a very small minority. It may be said that symptoms may have recurred later, after the patients had passed out of observation, and that they may have fallen into other hands. I do not think this likely. Any patient who has perforated and come through

the operation for it knows more or less that his life has been saved, and would almost inevitably return to the surgeon he supposed had saved his life if at any future date he required treatment for symptoms which he knew preceded his former catastrophe. Further, patients who have been finally discharged have always been told to report themselves immediately for any symptoms of "indigestion"; a few, but only a few, have done so.

I am convinced, explain it how one may, that far the majority of patients who have perforations simply closed are cured finally of their ulcers. If that is so the correct treatment would seem to be to suture only at the time of perforation, reserving for further operation those patients who show evidence, clinical or radiographic, or both, that their ulcers have not healed. It will then be found that nearly all of them require no further surgical treatment.—I am, etc.,

Portsmouth, April 17th. CHARLES P. CHILDE, F.R.C.S.

DRAINAGE IN ABDOMINAL EMERGENCIES.

SIR,—Miss A. Churchill's paper (BRITISH MEDICAL JOURNAL, April 15th, p. 591) raises most important questions on abdominal drainage. It is interesting and instructive to hear the opinions of junior surgeons who do the bulk of hospital emergencies, and whose daily routine is made up of such cases. More particularly is the question of drainage vital in regard to acute conditions of the appendix. Whether a tube or other drain be introduced into the pelvis in a case of ruptured gastric or duodenal ulcer (and I do not think any other drainage is now thought of in such cases) has but little influence on prognosis. At most it is only kept in for twenty-four hours, allows the immediate escape of a possibly infected material, never prolongs healing, and does not produce faecal fistula, intestinal obstruction, or cause any serious damage whatsoever.

With appendicitis it is otherwise. Drainage is often, I imagine, the deciding factor between life and death, or, alternatively, between a convalescence of three weeks and one of double or treble this period. If some rules could be laid down for the general guidance of surgeons, they would be helpful, though it would have to be conceded that each case must be considered and treated on its merits.

Tentatively and with due humility I would suggest—

1. That no drainage is necessary where the appendix is unruptured.
2. Where rupture occurs during removal of the appendix drainage is unnecessary.
3. It is not necessary to drain an appendix abscess which is completely surrounded by omentum.
4. In third-day cases, or in those of shorter duration, where the appendix is ruptured, but the appendix and the extravasated material are completely intraperitoneal, it is unnecessary to drain.
5. Where there is a plentiful flow of peritoneal fluid, and where, without damage to the abdominal contents, the infected material, including concretions, can be easily mopped out, no drainage need be employed, even in cases of a duration longer than forty-eight hours.

On the other hand, drainage should be adopted—

1. Where there is general peritoneal *infection*, as distinct from peritoneal inflammation. Infection will be indicated by the absence of walling off, by a scanty peritoneal fluid, by general intestinal distension, and by the odour characteristic of *Bacillus coli* before the region of the ruptured appendix is reached. A plentiful outpouring of peritoneal fluid, on the other hand, is a favourable omen, and is strong evidence for complete closure of the peritoneum.
2. Where in late cases there is a localized abscess with rigid walls and the appendix is not removed. In such cases an attempt should be made to open directly into the abscess.
3. Where the appendix is truly retroperitoneal and ruptured, and a considerable area of cellular tissue usually behind the caecum is soiled.

Three other points may be added:

1. Drainage tube or rubber dam drain should attain its object by the shortest intraperitoneal route. If a portion of it must lie within the peritoneal cavity it should lie along the parietes and never be completely surrounded by gut.
2. In purulent cases it is difficult to protect the wound adequately, and healing is but little prolonged and is often much hastened by a rubber dam drainage of the wound itself.
3. No antiseptics other than ether should be introduced within the abdomen, more especially if the peritoneum is to be completely closed.

—I am, etc.,

Belfast, April 15th. S. T. IRWIN.

ROUTINE PELVIMETRY IN ANTE-NATAL CASES.

SIR,—I have read with interest Dr. Thorne Thorne's letter of March 25th and Dr. Foss's criticism of that letter of April 8th.

I quite agree with Dr. Thorne Thorne that routine pelvimetry in ante-natal cases, especially in primiparae or in multiparae giving a history of previous difficult labours, is absolutely essential to good midwifery.

At the same time I think with Dr. Foss that Dr. Thorne Thorne might go somewhat further and take the other external diameters of the pelvis, as well as the external conjugate and diagonal conjugate. Marked shortening of the external conjugate is certainly a sign that the true conjugate is diminished.

But, to quote from a very excellent book called *Midwifery by Ten Teachers*, the ten teachers being the present lecturers on the subject at the ten medical schools of the larger London hospitals—

> "The external conjugate is supposed to be 3¼ inches longer than the true conjugate; but this is not exact, as the thickness of the bones and subcutaneous tissues varies so much. Hence it is only a rough guide; if it is over 7½ inches the true conjugate is probably not shortened, if less than 7 inches the true conjugate probably is shortened."

Again, the same authorities state that—

> "External pelvimetry is of value because the size of the internal measurements can be more or less accurately deduced from it, generally *less* rather than *more*, but *chiefly* because it indicates the *type* of contracted pelvis present."

That, I think, is the weak point of merely taking the external conjugate, for if that is found to be shortened it gives no information as to whether a generally contracted or a flat rachitic pelvis or any other type of contraction is present. In a flattened pelvis typical measurements would be—intercristal 11 in., interspinous 11 in., external conjugate 6 in., against the normal 11, 10, and 7½ in., the iliac bones in this type of contraction being everted and flared out so that the anterior superior spines come to lie in the same line or even external to the line of the iliac crests.

In a generally contracted pelvis all the diameters are dwarfed, and typical measurements would be intercristal 9½ in., interspinous 8 in., and external conjugate 6 in.

In both these cases the external conjugate is the same, and yet the type of contraction, the mechanism of delivery, if effected *per vias naturales*, the prognosis as regards the mother and the child, and the management and treatment of the case, are essentially different.

To quote the same authorities—

> "A conjugate of 3¾ inches in a generally contracted pelvis may be considered for purposes of treatment as being equivalent to a conjugate of 3½ inches in a flattened pelvis."

In a flattened pelvis, incarceration of the gravid uterus, malpresentation, prolapse of the cord, denting of the cranial bones, early rupture of the membranes, etc., are common. In a generally contracted pelvis these complications are rare.

Again, in minor degrees of flattened pelvis, podalic version is sometimes indicated as an alternative to the forceps. A generally contracted pelvis, however, is a positive contra-indication to podalic version.

It is therefore, in my opinion, very important to know exactly what type of contracted pelvis one is dealing with, and this cannot be done by relying solely on the external conjugate measurement.—I am, etc.,

Chislehurst, April 15th. H. GRAHAM-HODGSON.

SIR,—I must beg a little more of your space to reply to Dr. Thorne Thorne's letter in the JOURNAL of April 15th, in which he asks for my authority—other than my own experience, which he deems inadequate—for my assertion that I regard the external conjugate as fallacious.

I venture to quote the following from *Midwifery by Ten Teachers* (Comyns Berkeley, Russell Andrews, J. Fairbairn, etc.):

> "The fact that the external conjugate diameter is a little more or less than normal is of no import owing to the difficulty which at times is experienced in measuring it on account of the soft parts covering the spine of the last lumbar vertebra, . . . it is only a rough guide."

This is ancient history—1917. I therefore quote from the *Encyclopaedia of Midwifery and Diseases of Women*, 1921 (section by A. W. Russell):

"External conjugate is taken, etc., . . . measures about 8 inches, but is so variable even in ordinary conditions that it is not reliable. . . ."

I am sorry that Dr. Thorne Thorne has so much difficulty in determining the diagonal conjugate and thence the true conjugate. My first authority says:

"The internal diameters are of the utmost importance . . . if the pelvis is larger than normal the fingers will not reach it (the sacral promontory), but if at all contracted the promontory should be easily palpable."

If Dr. Thorne Thorne will admit my experience as evidence, I must say that I found this so during an extensive course in an ante-natal clinic in London.—I am, etc.,

Woking, April 16th. R. STAFFORD FOSS.

SIR,—I was very interested indeed in Dr. Thorne Thorne's letter on the above subject. The question of routine is an important one; its efficiency will mean that many abnormalities are diagnosed and treated at an early date, which if left to the last moment might be a much graver source of danger to the patient and anxiety to her physician.

Apparently opinions differ as to the reliability of the different measurements, but it would seem that this operation of external pelvimetry is one that it is well worth adopting as a routine, for (1) the measurements may suggest a contracted pelvis, or (2) in the process of measuring some abnormal condition that otherwise might have escaped notice may be recognized.

If the slightest doubt exist that the pelvis be not normal then I think it is well to think of the internal measurements and the probable course of the case as indicated by them.—I am, etc.,

Dublin, April 17th. R. E. TOTTENHAM.

THE WORK OF SIR PATRICK MANSON.

SIR,—Patrick Manson was a great man who, with Laveran, Golgi, and Bruce, flung wide the gates of parasitology for tropical medicine to enter. Your obituary of him to-day is a warm but temperate eulogy, and a good history of his career; but there are some elements in it which may lead to confusion among any who consult it for future biographical purposes; and I should like, with your permission, to discuss them, if only for the sake of a book which I am now completing. The points are as follows:

In the *Lancet*, January 12th, 1878, Cobbold mentioned a suggestion of Bancroft made to him on April 20th, 1877, previously, that the embryos of *Filaria bancrofti* may be carried by mosquitos. Between these dates Manson appears to have proved the point, at least partially. Where did the suggestion originally emanate?

At the beginning of his fourth paragraph your biographer seems to suggest that this work of Manson's was the first case in which "the transmission of an agent of disease by intermediary agents" was ever proved to occur. Surely many cases had been previously proved by older parasitologists; and the life-cycle of *F. bancrofti* in mosquitos (so far as Manson had then determined it) appears to be largely the counterpart of that of *F. medinensis* in *Cyclops* as found by Fedschenko on Leuckart's suggestion many years previously. I believe that Manson knew of Fedschenko's work when he commenced his own.

Does your biographer do full justice to Manson's admirable studies on the pathogenesis of the numerous and various lesions of filariasis?

Until 1897 both Manson and I thought that mosquitos live for only four or five days after feeding—a mistake which had impaired his *Filaria* work. My studies of 1893 on malaria proved the contrary; and then my find of malaria spores in the salivary glands of mosquitos in July, 1898, suggested that *Filaria* embryos might work their way similarly into the mosquito's proboscis. Did not S. P. James prove this hypothesis simultaneously with Manson and Low in 1900? The obituary does not mention these points.

The theory that malaria must have entered Greece about 500 B.C. and helped to cause subsequent decadence there is mine. It was fully stated after my first visit to Greece in a lecture at Oxford (*Journal of Tropical Medicine*, November 15th, 1906), and was almost self-evident from the first. W. H. S. Jones subsequently added valuable historical corroboration in a book dedicated to me; but I do not see why your biographer gives the credit to Macculloch, who, when he wrote in 1827, could not possibly have been able to adduce sufficient scientific reasons for such views.

Of course Manson did not invent the mosquito theory of malaria. Many strong reasons for it were given long before him, but he added the strongest one of all. It consisted of two parts. The first part, which indicated merely some suctorial insect, was probably the profoundest induction ever made in medicine. But the second part was quite wrong and misled him and me like a will-o'-the-wisp for more than two years. It was entirely my own new method which subsequently gave us the mosquito cycle, the mode of infection, and the species of mosquito; and it was MacCallum's work of 1897 which finally exposed the previous error.

The story of grants promised to Manson by the British Medical Association but refused by the Royal Society is curious. The Society tells me that it can find no record of the application; but he certainly wrote to me on July 10th, 1895, that "the Royal Society have declined to give me the grant I asked for." Yet he does not mention the British Medical Association. What was the date of its grant?

Can anyone say why Manson did not use the opportunities and material (both malaria and mosquitos) which he had in his hospital at the Albert Docks to prove his own theory? They were often much better than mine in India, and I urged him at least twice to do so.

C. Finlay did not discover that *Stegomyia calopus* carries yellow fever; he only conjectured so. Surely there is a wide interval between speculation and proof.

So also—for obvious statistical reasons—the Campagna experiment was no "conclusive test" of the mosquito theory of malaria. Yet we see it often trotted out as such in the lay press. It appeared even in the *Times'* obituary notice of Manson—where, by the way, Bruce is claimed as his disciple!

I fear that your biographer's references to my work, though kindly meant, will only confuse matters more; but I am too tired of the subject to attempt to correct them. The facts have been set out often enough, especially in your own pages.—I am, etc.,

London, April 15th. RONALD ROSS.

*** The minutes of the meeting of the Journal and Finance Committee of the British Medical Association held on January 16th, 1895, recommended "That Dr. P. Manson be granted £150 to assist him to proceed to the West Indies to study the malarial parasite." The minutes of the Council show that the recommendation was accepted by the Council at its meeting on the same day.

The grant was made in consequence of the interest excited by Manson's paper "On the nature and significance of the crescentic and flagellated bodies in malarial blood," published in the JOURNAL of December 8th, 1894. In this paper, after describing the changes observed in the parasite in the blood vessels, Manson asked, "What is the provision made for the life outside the body?". He described the changes observed in the parasite in blood withdrawn from the body, laying special stress on the crescentic body. It had, he stated, not been observed to undergo development in the circulating blood; it had been observed to undergo development after it had been removed from the human body, and only then—a circumstance which, with other considerations, he said, "points to the conclusion that the crescentic body is intended to carry on the life of the species *outside* the human body." He concluded this section of his paper as follows:

"Therefore, seeing that neither the physiological arrangements of the human body, nor pathological processes, nor the inherent powers and organism of the parasite itself provide for its escape from the human body, and seeing that such escape is necessary, some extraneous agency, such as is likely to be frequently, if not constantly, supplied in natural conditions, must come to the assistance of the parasite. What is this extraneous agent which assists the malaria organism to escape from the human body?"

He then said that a similar problem had presented itself to him in connexion with the filaria of the blood—*F. nocturna;* and went on:

"The mosquito having been shown to be the agent by which the filaria is removed from the human blood vessels, this or a similar suctorial insect must be the agent which removes from the human blood vessels those forms of the malaria organism which are destined to continue the existence of this organism outside the body."

In the concluding paragraph of his paper he wrote:

"The hypothesis I have ventured to formulate seems so well grounded that I for one, did circumstances permit, would approach its experimental demonstration with confidence."

There is no information in this office as to whether Manson actually made an application to the Royal Society, but it is known that he intended to do so. He did not carry out his intention of going to the West Indies, so that the grant made to him by the British Medical Association was not claimed.

April 24th, 1922.

VOLUNTARY HOSPITALS.

SIR,—Many letters have appeared recently in both the medical and the lay press as to the payment of medical staffs of "voluntary hospitals." The main point in dispute is the meaning of the term "voluntary hospital." If we accept the ruling of Logic, *the connotation of a term consists of the qualities or attributes possessed by objects bearing that name.* No amount of sophistry can alter the fact that both the lay public and the medical profession have hitherto regarded medical service, given gratuitously by an honorary medical staff, as an outstanding feature, or attribute, of the voluntary hospital. Yet we are now invited to believe that the conditions of service of the medical staff have no bearing on the voluntary status of a hospital, and the chairman of the Hospitals Committee of the British Medical Association has suggested that the same is true of the services of the board of management. This argument is urged upon us by those who profess themselves strong advocates of the retention of the voluntary hospital system.

It is an undoubted fact that the trustiest weapons of the skilled debater are material fallacies, often used without deliberate intent to mislead. In this controversy the time-honoured argumentum ad populum has been freely employed—that is, an argument resting not upon the merits of the case, but upon the stirring up of feelings likely to prevent the formation of a dispassionate judgement. A woful picture has been painted of the dire fate which will overtake us if we fail to claim at least a "peppercorn rent" out of the smallest payments made by patients to the hospitals. It has been argued that patients who pay only a proportion of the cost of their maintenance believe that they are paying for medical treatment as well as for food, and apparently we are urged to give colour to this delusion. Surely this is beside the point! The question is not what the patients *think*, but what we *know*, and we must be well aware that to deprive the hospitals of a part of sums paid for maintenance is to diminish our hopes of avoiding the evils of State control. Moreover, the average hospital patient is not devoid of common sense, and it is incredible that he regards a sum of (say) 2s. per diem as sufficient to cover expense of maintenance and medical fees.

If we accept this policy we can no longer claim the title of "honorary" medical officers to our hospitals without incurring deserved derision from the public. The lay press has not been slow to seize upon it, and it has given the mud-throwing section of the public a plausible excuse for making the profession its target.

Those who are opposed to this policy of the British Medical Association are strongly urged to instruct their representatives to vote for the rider to the Brighton resolution at the Annual Representative Meeting in July next. The purport of this rider has been explained by Mr. Parry in his letter in the BRITISH MEDICAL JOURNAL of April 15th.—We are, etc.,

G. O. LAMBERT.
J. L. JOYCE.

Reading, April 17th.

THE HOSPITAL POLICY OF THE LABOUR PARTY.

SIR,—Any experienced practitioner who has read the programme of the Labour party with regard to medical administration cannot fail to be struck by its resemblance to the advertisement of a patent medicine. The symptoms are graphically described, great stress is laid upon those which are of least significance, and the conclusion is irresistible—that the only remedy which can cure the disease is the advertised nostrum.

Does any impartial observer believe that a tenth part of the Labour party's promises can come to fruition? It is already pledged to such enormous expenditure in other directions that little can be left for medical reform, and what useful purpose is served by a lofty and comprehensive programme which will never be realized?

One of the curious and unexpected results of the late war is the predominance of the doctrinaire. It might be thought that, of all experiences, a war would bring home to humanity the realities of life. The exact reverse has been the case, and there has probably never been a period in which the breach between theories and facts was so wide. A perusal of the literature, medical and sociological, of the last two years will, I am sure, convince anyone of the truth of this statement. A psychological analysis of the fact would be interesting, but so far I have not seen an adequate explanation of it.—I am, etc.,

A. CAMPBELL STARK.

Wanstead Park, Essex, April 23rd.

REDUCTION OF MEDICAL FEES.

SIR,—Dr. Ellis's letters in the JOURNAL of April 1st and 22nd appear to me to be based on unsound reasoning. Medical fees were increased by 50 per cent. some years after the cost of living had risen well over 100 per cent. During that time the public were financially the gainers. This delay was due to patriotic reasons during a time of national stress and danger. It should not be used as a precedent for reduction of fees when the cost of living still remains over 80 per cent. above the pre-war level. For such a step Dr. Ellis brings forward as reasons "loss of prestige, self-denial, honour"—high-sounding terms, but a bitter mockery to the medical man, who finds it hard to make both ends meet and put away a trifle for his old age, even if his practice returns a figure which, pre-war, would have meant a fair livelihood.

The medical profession is not in honour bound to fall into line with those who, like civil servants, have been compulsorily required to submit to a reduction of their bonus and salaries. By how much were those salaries increased? In the great majority of cases by very much more than 50 per cent. The great majority are still well over 50 per cent. above pre-war level.

Why Dr. Ellis mentions civil servants in particular is not clear, as they are in no way comparable to medical men. Their appointments are pensionable; therefore they are not compelled to save for their old age or for days of sickness. Again, they can live in what style they like; they are not forced to buy or rent houses of good appearance, keep neat maidservants, buy and maintain motor cars, all at prices at least 80 per cent. above the pre-war level. All these must the medical man do, should he wish to earn a living in practice.—I am, etc.,

W. HERBERT BUTCHER.

Leicester, April 24th.

"ALASTRIM."

SIR,—The introduction into medical nomenclature of the word "alastrim" is much to be deplored. It is supposed to signify small-pox of a mild type, but as a matter of fact the true meaning of the word is not known. If we must import new terms—and it is a practice we Britishers seem to revel in—an attempt might at any rate be made to see that they have some utility. Already the use of this silly word is beginning to cause confusion in the lay mind, and as it is quite superfluous I would earnestly appeal for its utter banishment.—I am, etc.,

J. JOHNSTONE JERVIS.

Leeds, April 20th.

REPORTS OF SOCIETIES.

SIR,—At the annual meeting of the Pathological Section of the Royal Society of Medicine a discussion took place with reference to the publication in the medical journals of reports of papers and of the discussions arising out of them.

It was decided to continue the present policy of the Section, which holds that it is undesirable that any reports should be published except such abstracts as the authors of any papers may hand to the secretary, with the request that he shall forward them to a particular journal. It was also decided to continue the present rule that no report of any discussion be published. Under the resolutions passed the secretary will in future, at the request of any author, forward an abstract provided by the latter to any particular medical journal for editorial consideration with a view to publication.

I have been instructed by the Section to bring these resolutions to your notice.—I am, etc.,

W. W. C. TOPLEY,
Honorary Secretary, Institute of Pathology, Charing Cross Hospital Medical School.

London, W.C.2, April 20th.

ANOTHER CONFUSION OF NAMES.

SIR,—The recent correspondence in the *Times* newspaper concerning the fees of practising consultants has brought a considerable addition to my morning mail. These letters are written apparently under the impression that I am the medical correspondent of that paper. Will you allow me to make it clear that I have not, and never have had, that honour?—I am, etc.,

C. M. WILSON.

London, W.1, April 22nd.

CLAYDEN *v.* WOOD-HILL.

SIR,—I am sending you the eighth list of subscriptions to the Wood-Hill Fund, and shall be much obliged if you will kindly insert it in your next issue.—I am, etc.,

HAMILTON A. BALLANCE,
Honorary Treasurer.

All Saints Green, Norwich,
April 21st.

Eighth List of Subscriptions.

Amount previously acknowledged, £1,239 17s. 10d.

£21.

The Members of the Blackburn and District Medical Society, per Dr. Jeffrey Ramsay, O.B.E., Hon. Treas.

The Hertfordshire Local Medical and Panel Committees, per Dr. James J. Smith, Hon. Sec.

£16 9s.

Members of the North Glamorgan and Brecknock Division of the B.M.A., per Dr. Arthur T. Jones, Hon. Sec.: Dr. Alfred Jones, £2 2s. Drs. Ll. Jones, C. Biddle, E. L. Ward, H. R. Helsby, L. Roberts, E. J. Griffiths, A. T. Jones, Howel Pierce, £1 1s. each. Dr. Jayne, £1. Drs. W. E. Thomas, B. M. Lewis, L. J. Roberts, Abel Evans, R. H. Moffit, Foster James, G. M. Dawkin, R. Ryce, 10s. 6d. each. Dr. R. F. Thomas, 10s. Dr. Binks, 5s.

£14 14s.

First instalment from Members of the Rochdale Division of the B.M.A., per Dr. James Melvin, Hon. Sec.: Drs. W. H. Bateman, L. Kilroe, S. Wilson, F. W. Mackichan, J. C. Jefferson, A. Dickson, H. Harris, H. G. Ramsbottom, James Melvin, W. H. Carse, W. S. Joss (Rochdale), George Geddes, H. H. J. Hitchon (Heywood), James Melvin (Bamford), £1 1s. each.

£11 9s. 6d.

Members of the Northampton Division of the B.M.A., per Dr. W. M. Robson, Hon. Sec.: Drs. W. E. Audland, A. W. Cooke, J. More, W. M. Robson, W. Ross, E. A. Sanders, D. Stone, P. S. White, R. Winterbotham, £1 1s. each. Dr. F. Grindon, £1. Dr. D. F. Bull, 10s. 6d. Dr. A. Glen Hayes, 10s.

£10 10s.

The Medical Board of the Liverpool Royal Infirmary, per Dr. John Hay, Hon. Sec.

Professor David Drummond, C.B.E., President of the B.M.A., per Dr. Alfred Cox, O.B.E.

The Medical Committee of the Royal Free Hospital, per Mr. Cecil A. Joll, Hon. Sec.

Members of the Bournemouth Medical Society, per Lieut.-Colonel A. Heygate Vernon, R.A.M.C., Hon. Treas.

£9 2s. 6d.

Members of the South-Eastern Counties of Scotland Division of the B.M.A., per Dr. M. J. Oliver, Hon. Sec.: Dr. Tyrrell (Galashiels), £1 1s. Dr. MacRobert (Innerleithen), £1. Drs. Dixon, S. G. Davidson, Mallace, Turnbull, Barrie, Ross Haddon (Hawick), Somerville (Galashiels), Evans (Newcastleton), Herriott, and Oliver (St. Boswells), 10s. 6d. each. Drs. Fleming and S. Davidson (Kelso), 10s. each. Drs. P. Henderson (Galashiels) and Rutherford (Fairnington), 7s. 6d. each. Dr. McMillan (Melrose), 2s. 6d. £9 3s. 6d. (less commission on cheques, 1s.).

£8 17s.

Practitioners in the Isle of Ely, per Mr. A. C. S. Waters, Hon. Sec. Isle of Ely Division of the B.M.A.: Dr. J. G. Slade, £2 2s. Dr. F. H. Beckett, 10s. Drs. C. E. Stephens, P. H. Henley, G. H. Lucas, W. Meikle, T. E. Price, C. C. Ling, C. H. Harding, J. W. A. Wilson, A. Pain, A. C. S. Waters, A. S. Robertson, G. B. Davis, F. E. W. Rogers, H. R. Reynolds, J. W. Hay, E. A. Bullmore, R. Butterworth, A. E. P. Parker, W. H. Hardy, D. H. Scott, W. Groom, C. W. Howe, H. C. Meacock, J. G. Burgess, J. J. Waddelow, 5s. each.

£8 13s. 6d.

Members of the Guildford Division of the B.M.A., per Mr. H. P. Gabb, M.C., Hon. Sec.: Drs. Mitchell and O'Connor, £1 1s. each. Drs. Cliff Hodges, Lyndon, Sheaf, and Sloman, £1 each. Drs. Jobson, Parker, and Weaver, 10s. 6d. each. Drs. Gabb and Pearse, 10s. each.

£5 15s. 6d.

The Members of the Chichester and Worthing Division of the B.M.A., per Dr. H. J. M. Milbank-Smith, Hon. Sec.

£5 5s.

The Honorary Medical Staff of Ancoats Hospital, Manchester, per Dr. A. H. Holmes, Hon. Treas.

£5.

Sir Rickman J. Godlee, Bt., K.C.V.O., Whitchurch, Oxon.

£2 2s.

Dr. J. H. Bustead, Bungay
Mr. S. C. Homesfield, Stowmarket
Dr. M. H. Hannigan, Botesdale
Dr. Charles R. Smith, Beccles
Dr. J. T. C. Laing, London

£2.

Dr. Mildred Clark, Queensland

£1 1s.

Dr. W. J. Pickup, Coventry
Captain D. W. Pailthorpe, M.C., R.A.M.C., Khartoum
Dr. John B. Lowe, Weeke
Dr. Cecil H. W. Page, North Walsham
Dr. T. Wood Locket, Bratton

£1.

"S. A.," Cambridge

10s.

Dr. John W. Sandoe, Broad Clyst

The Services.

EXAMINATION OF R.A.M.C. OFFICERS FOR PROMOTION.

THE campaigns covered by the *Official History of the War, Medical Services, General History, Volume I*, have been selected for the paper to be set at the October examination of majors of the Royal Army Medical Corps for promotion to the rank of lieutenant-colonel. This is in addition to questions on the campaign of the British Army in France and Belgium, 1914, from the outbreak of hostilities to the events covered by Field-Marshal French's dispatch of November 20th, 1914.

NO. 20 GENERAL HOSPITAL.

Annual Dinner.

The third annual dinner and reunion of officers of No. 20 General Hospital will be held on Monday, May 15th, at 7 for 7.30 p.m., at the Florence Restaurant, Rupert Street, London, W.1. Major-General S. Guise Moores, C.B., C.M.G., will preside. Old members of the mess are requested to apply for full particulars to the Hon. Secretary, Mr. Harold Drinkwater, 7, Cavendish Place, W.1.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

THE following candidates have satisfied the examiners in both parts of the examination for the D.P.H.:

L. W. Barlow, W. H. Blackburn, J. S. Cook, P. L. Davies, Charlotte A. Douglas, Janet W. Hepburn, M. S. Moore, Georgina Murdoch, *V. Nath, *J. H. Reford, A. G. M. Severn, Elaine B. S. Stocquart.

* Distinguished in the Principles of Hygiene.

UNIVERSITY OF BIRMINGHAM.

Ingleby Lectures.

THE Ingleby Lectures will be delivered in the Medical Theatre of the University of Birmingham by Dr. James W. Russell, Professor of Medicine in the University, on May 17th and 24th, at 4 p.m., the subject selected being "Clinical studies in some of the albuminurias of childhood, with special reference to orthostatic albuminuria."

Obituary.

SIR ALFRED PEARCE GOULD, K.C.V.O., C.B.E., M.S., F.R.C.S.,

Consulting Surgeon to the Middlesex Hospital; formerly Vice-Chancellor of the University of London.

WE announced last week with much regret the sudden death on April 19th, during a holiday in Devonshire, of Sir Alfred Pearce Gould, K.C.V.O., the distinguished surgeon.

Alfred Pearce Gould was born on January 2nd, 1852, the second son of the Rev. George Gould, minister of St. Mary's Baptist Church, Norwich. He was educated at Amersham Hall, Caversham, and afterwards at University College, London, and University College Hospital. He obtained the M.R.C.S. diploma in 1873 and the F.R.C.S. four years later. In 1874 he graduated M.B., B.S. at the University of London, with the gold medal and scholarship in medicine, surgery, and obstetric medicine, and the gold medal in forensic medicine. In 1876 he obtained the M.S. degree with gold medal. After serving in turn as house-physician, house surgeon, surgical registrar, and demonstrator of anatomy at University College Hospital, he was elected assistant surgeon and lecturer on anatomy to Westminster Hospital in 1877. He resigned these posts in 1882 on his election as assistant surgeon to the Middlesex Hospital. From 1886 to 1892 he was Dean of the Middlesex Hospital Medical School. He became full surgeon in 1896, and consulting surgeon on his retirement in 1916 from the active staff. On its formation in 1896 he took charge of the cancer out-patient department, and was closely concerned with the establishment and endowment of the cancer investigation department. Among other institutions which he served for a time as surgeon were the London Temperance Hospital, the Royal Chest Hospital, and the Hospital for Epilepsy, Maida Vale.

Sir A. Pearce Gould for many years took an active part in the medical life of London, and held a large number of important offices. From 1900 to 1916 he was a member of the Council of the Royal College of Surgeons of England, Vice-President in 1908–9, and Bradshaw Lecturer in 1910; for ten years he was examiner in surgery for the Conjoint Board in England, and he examined also for the Universities of Oxford and Bristol. He long represented the Royal College of Surgeons on the Senate of the University of London, was Dean of the Faculty of Medicine from 1912 to 1916, and Vice-Chancellor of the University in 1916–17. He was a Fellow of University College, and as a member of its Council he showed special interest in the work of the Brown Institute and the East London College. His friendship for the latter body brought him into touch with the Drapers' Company, which made him an Honorary Freeman. A former secretary of the Royal Medico-Chirurgical Society, he was joint treasurer of the Royal Society of Medicine when it moved to its new house, and subsequently president of the Clinical Section. In the Medical Society of London he had been Lettsomian Lecturer, annual orator, and president. He was a past president of the Röntgen Society, and an honorary member of the Royal Hungarian Medical Society. When the International Congress of Medicine met in London in 1913 he served as chairman of the Committee of Management.

As a surgical writer he was best known for his *Elements of Surgical Diagnosis*, of which the first edition appeared in 1884, and the fifth three years ago in conjunction with his son, Eric Pearce Gould. He contributed the articles on Injuries and Diseases of Blood Vessels and Diseases of the Chest to Treves's *System of Surgery*, and was joint editor

with Collins Warren of the second edition of the *International Textbook of Surgery*. His other writings included the Bradshaw lecture on cancer, papers on amputation of the breast and the operative treatment of varicose veins, and an article on radium and cancer published in these columns in 1914.

The work of medical benevolent societies and other philanthropic agencies made a strong appeal to Pearce Gould. He was for long Chairman of the Society for the Relief of Widows and Orphans of Medical Men, Chairman from its inception of the War Emergency Fund of the Royal Medical Benevolent Fund, member of Council of the Metropolitan Hospital Sunday Fund and the Royal Surgical Aid Society, and Consulting Surgeon to the Royal National Mission to Deep-Sea Fishermen. His devotion to the cause of temperance was well known, and he was often persuaded to address public meetings and contribute articles in favour of total abstinence to temperance journals. Only a week or two before his death he had resigned the Presidency of the Society for the Study of Inebriety.

In August, 1914, he was mobilized as Major R.A.M.C.(T.F.) in charge of the surgical division of the Third London General Hospital, and was promoted lieutenant-colonel in 1915. On several occasions he acted temporarily as commanding officer, and after the armistice he again took charge until the closing of the hospital eighteen months later. During those six years he also served as consulting surgeon to various Red Cross and auxiliary hospitals. In 1917 he was one of a party of surgeons sent to France by the D.G. A.M.S. to report on the Carrel-Dakin treatment of war wounds; and from the institution of medical appeal tribunals he served as a medical member of the officers' board. He was created K.C.V.O. in 1910, and in recognition of his war services C.B.E.(Mil.) in 1919.

He retired from active practice a year ago and went to live at Hampstead. For nearly thirty years he spent his holidays on Dartmoor; his outdoor recreations were walking, gardening, and fishing. A fine tenor voice made him in much request at students' concerts in earlier days, and his interest in music was kept up until the end.

Sir Alfred Pearce Gould married twice, and had three sons and five daughters. His third son was killed in action in France; his second son is assistant surgeon to the Middlesex Hospital. A largely attended memorial service was held on April 24th at the Regent's Park Baptist Chapel, of which he had been a regular member for forty-two years and an elder for the past thirty years. He was one of the outstanding laymen of the Baptist denomination, and gave a large share of his time and thoughts to the missionary movement.

A HOSPITAL COLLEAGUE writes:

Gould was a brilliant clinical teacher, and his classes were always crowded. Being before everything a general surgeon, with practical knowledge of almost every branch of surgery, he could teach profitably on whatever material came to hand. There were no bare patches. His commanding presence, intense earnestness, and admirable exposition compelled attention. It is not surprising that he attracted pupils, not only from the whole of the United Kingdom, but also from the overseas dominions and elsewhere. He never allowed his extensive private practice to interfere with his hospital work. He was always very punctual and never failed to find, on arriving at the hospital, a large gathering of students and others waiting to accompany him on his rounds. The tramp of Gould and his class was a familiar sound in the hospital in those days. He took a very keen interest in the welfare of the students, and was the member of the staff usually appealed to by them in times of trouble or difficulty; and many were the occasions on which he lent a helping hand. They found in him a staunch friend and wise counsellor.

Gould was a strong, self-reliant man, holding convictions which were very difficult to shake. He was impatient of criticism and at times rather quick-tempered. In debate he was rather too apt to undervalue the other point of view, but in spite of these defects of his qualities he was a most valuable member of committees. He was an indefatigable worker and never spared himself. He took life very seriously and rarely unbent, except in his own beloved home circle, where he was a charming host and delighted to welcome his friends. His quiet, assured manner, wide knowledge, and well-balanced judgement made him a first-rate consultant. I have seen patients a little afraid of him at first, but only until they had discovered, which they soon did, that beneath his somewhat stern and rugged exterior there lay a warm heart and kindly disposition. Gould truly devoted his life to his hospital and profession. He was a fine upright man, a most loyal and generous colleague, and a faithful friend.

Another colleague sends the following appreciation:

Those who were closely associated with Sir Alfred Pearce Gould professionally must always have been impressed bo two strong characteristics—his zeal for his profession and his remarkable devotion to the best interests of his patients, why trusted him implicitly and always seemed to know that his energies and great surgical talents were being employed to the utmost on their behalf. He was a general surgeon in the best sense of the term, for although he was always ready to recognize superior skill in those who devoted themselves to special branches, he was always insistent that a sound general training should form the foundation of a specialty. It was probably by his forcible teaching that he will be best remembered, and those who had the privilege of being taught by him in the wards will call to mind the way in which he insisted that the students should examine patients for themselves and verify what had been told them. What struck us particularly in the wards was the thoroughness of his examination of the patients and the amount of thought he would expend before making a diagnosis, and the correctness of the latter when he had made up his mind. "Lightning diagnosis" had evidently no charm for him.

As an operator he was clean, thorough, and extremely careful, preferring large surgery to that which is smaller and finer; never in a hurry when actually operating, and particular about the closing of wounds and dressings. In removal of the breast for malignant disease in particular he was a great advocate of a thorough and complete operation. To the surgical treatment of malignant diseases he devoted a great deal of attention, advocating extensive removal as the best method of extirpation; and yet one remembers his stating that, in his opinion, the last word in the cure of malignant disease was probably not to be the surgeon's knife. His enthusiasm for treatment by radium when this was first introduced was well known, and if he was somewhat disappointed in the results he did not cease to believe it was a step onwards in a direction in which he was so much interested. A very busy practical life left Sir Alfred but little time for writing, so that his published works have been fewer than we could have wished; he himself would probably have said that the *Elements of Surgical Diagnosis* was his best work, for it was a subject in which he was not only interested but was undoubtedly a great authority. In assisting him in the preparation of his Lettsomian lectures on diseases of the blood vessels at the Medical Society of London, which were the outcome of a large amount of work, revision, and study, one was particularly struck by his determination that what he did should be done well; he was joint editor of the *International Textbook of Surgery*, and to this work he devoted a considerable amount of time and energy. If his other contributions to medical literature in the form of lectures and communications to journals have not been many, they have borne the impress of a wide knowledge and experience.

ROBERT SHINGLETON SMITH, M.D., F.R.C.P.,

Consulting Physician, Bristol Royal Infirmary.

WE regret to record the death of one of the leading physicians of Bristol, Dr. R. Shingleton Smith, which took place on April 15th at his residence, Deepholm, Clifton Park, at the age of 76.

Robert Shingleton Smith was born at Sherborne, Dorset, in 1845, went to school at Queen's College, Taunton, and received his medical education at King's College Hospital, London. He was senior scholar, associate, and honorary fellow of King's College, and university scholar in midwifery. He graduated B.Sc. in 1866, M.B. in 1867, and M.D.Lond. (gold medal) in 1868. He took the diplomas of M.R.C.S.Eng. in 1867 and M.R.C.P.Lond. in 1877, and was elected F.R.C.P. in 1885. The honorary M.D. degree of the University of Bristol was conferred on him in 1912. After holding office as Sambrooke medical registrar at King's College Hospital, and resident medical officer at the St. Pancras and Northern Dispensary, he went to Bristol as house-surgeon at the Royal Infirmary. He was appointed honorary physician to Bristol Royal Infirmary in 1873, and continued to hold that appointment until 1905, when he was elected consulting physician. He also became consulting physician to the Bristol Dispensary and to the Cossham Memorial Hospital, and he was president of the Winsley Sanatorium, Bath.

Dr. Shingleton Smith did valuable work in connexion with the foundation of University College, Bristol, which has since obtained incorporation as a university, particularly during the time he was honorary secretary to the organizing committee of the college. Subsequently he became the lecturer on physiology at the University College, and later professor of medicine. He was held in high esteem by his medical colleagues, and was one of the founders of the Bristol Medico-Chirurgical Society, of which he was honorary secretary for fourteen years, and subsequently president. He was an old member of the British Medical Association, and a former president of the Bath and Bristol Branch. For twenty years he was the editor of the *Bristol Medico-Chirurgical Journal*, which prospered greatly under his guidance, and he was the author of numerous contributions to medical literature, particularly on the subject of tuberculosis.

Dr. Shingleton Smith had many interests outside medicine, especially in astronomy, archaeology, and horticulture. His wife died some years ago; the youngest of his three sons was killed in Mesopotamia during the war; more recently his second son, Dr. Lionel Shingleton Smith, died as the result of an accident while in practice; and much sympathy is felt with his surviving son, his three grandchildren, and with his sister, who lived with him.

A friend and colleague writes: Brilliant as a student and attaining the highest eminence as a consulting physician, it is rather the warm-hearted, generous, kindly man, always so ready to help others, to encourage his younger colleagues, to relieve those in trouble, that those who were privileged to know him and to come under his influence now mourn. Simplicity in mind and manner and a gentle courtesy made one almost forget his scientific eminence and feel only the presence of a friend. Yet how hardly his courage was tried when, after prolonged illness, he lost both his beautiful daughters, two of his sons, and also his wife, only his intimate friends were allowed to realize. I was one of his class of students in physiology, and later his house-physician, till I became his colleague on the Royal Infirmary staff for seventeen years, until he retired. For many years he entrusted his private practice to my care whenever he was away from home, but it was the intimate friendship in his family that was the greater privilege. One realized that his relaxations were activities, that the hours snatched from his very full and busy professional life were devoted to his garden and hothouses, to reading the best of current literature, or visits to the Zoological Gardens, in which he took a most active interest, or in the evening observing stars and planets with his big telescope. Otherwise he was examining histological slides, unless he was entertaining his friends hospitably with his family. His energy, up to the last few years, seemed inexhaustible; and though his interests were manifold, the work he put in was never perfunctory. It seemed difficult to realize that shortly after he had started in practice he developed pulmonary tuberculosis, and was sent on a voyage for his health. With a keen sense of humour, he was a fine raconteur, and, among many stories of his life, one recalls his amusement at his having won a gold medal in Obstetrics when he had read for honours in Medicine and took but little interest in Obstetrics, whereas his fellow student who read for honours in Obstetrics snatched the gold medal in Medicine, although his interest was devoted to Obstetrics. P. W. W.

THE LATE SIR PATRICK MANSON.

DR. CHARLES F. HARFORD writes: Sir Patrick Manson has left behind a great inspiration to all who had the good fortune to be closely associated with him, and I would like to add some reminiscences to those which have already been contributed by others.

A lecture on the malarial parasite given by Manson at the Hunterian Society, being the Hunterian oration for 1894, was my first introduction both to the lecturer and to the subject of the lecture. It made a great impression upon me, as I had recently been invalided home from Africa with blackwater fever. When Livingstone College was founded, of which I was the first principal, Manson was one of our earliest lecturers, and in the Livingstone College Report for 1894–95 I find the following note: "Dr. Manson, who during the past year has been appointed lecturer on tropical diseases at St. George's and Charing Cross Hospitals (the only lectureships on this subject connected with the London Medical Schools), gave instruction on some diseases of the tropics." Thus it came about that before there was any School of Tropical Medicine Manson in his usual generous way thought it worth while to help young missionaries to the tropics to obtain some elementary knowledge of the risks incidental to those parts of the world. Nor did he only lecture to these students, but took them round his wards at Connaught Road, and this he did for many years, often working far beyond his strength. On one occasion I remember him coming to his lecture in a cab accompanied by his daughter in order that she might help him in and out of the college. From those days I constantly consulted him on matters relating to the spread of knowledge of tropical diseases to the general public, and he was always sympathetic and recognized the great importance of this work.

Another reminiscence relates to his address to the Royal Colonial Institute, in which he announced the experiments which it was proposed to carry out in the Roman Campagna, Drs. Low and Sambon being in charge of the expedition, as described in the obituary notice in the BRITISH MEDICAL JOURNAL. I have often heard research workers describing their successful experiments, but I have never heard any medical man announce beforehand to a public audience that he intended to make a certain experiment, giving the details, and stating that it would be successful. To his great credit and to the credit of those who did the work, and also those who allowed themselves to be the subjects for inoculation with infected mosquitos, the experiment was brilliantly successful.

In conclusion, let me give two instances, among many, of Manson's powers of diagnosis.

An Indian missionary who had suffered from a prolonged attack of chronic fever on his return from Bengal was seen by Manson. He had been treated by one doctor for enteric fever and by a second for malaria with large and continued doses of quinine. Referring to this latter Manson made the characteristic remark, "Why cannot people take 'No' for an answer?" He regarded the reaction to quinine as a matter of great diagnostic value. Eventually he identified this patient as a case of kala-azar, treated him successfully with atoxyl, with the result that he recovered, and some years later returned to India.

Another instance was that of a missionary lady who went to him with unusual attacks of fever. He found trypanosomes in her blood, which had only previously been found in the human blood in Forde's case in the Gambia, which was seen by Dutton. It was, I think, while this patient was under treatment for trypanosoma fever that Castellani found trypanosomes in cases of sleeping sickness in Uganda. Manson's patient died of sleeping sickness, a remarkable confirmation of the importance of this discovery.

How much we all owe to this great man it is difficult to estimate. He has left us an example of painstaking research, indomitable perseverance, and kind consideration; his monument is in our hearts.

DR. PHILIP MANSON-BAHR writes: Few teachers of medicine of modern times can have exercised a more profound or stimulating influence upon their colleagues or pupils than did the late Sir Patrick Manson. He was so eminently human in all his thoughts, words, and actions that he attracted all those with whom he came into contact. His attitude of mind, always a lofty one, was never better exemplified than when handling a knotty scientific problem. What better advice could be extended to any young man entering the field of research than the following lines he wrote to me in Fiji in 1910:

"Never refuse to see what you do not want to see, or which might go against your most cherished hypotheses, or against the views of authorities. These are just the clues to follow up, as is also, and emphatically so, the thing you have never seen or heard of before.

"The thing you cannot get a pigeon-hole for is the finger-point showing the way to discovery."

Manson's influence naturally extended far beyond the confines of the school he founded; the moral effect of his work was worldwide. One instinctively knew that his hypotheses, founded as they always were upon intensive contemplation, had an uncanny habit of coming true. In this respect may be cited his forecast of the probable life-history of *Filaria loa* and of the *Schistosoma haematobium*. He readily gave of his store of knowledge to all who sought after it, and there are many who mourn his loss and readily acknowledge the debt they owe him. His interest in the progress of tropical medicine and his absorbing passion for that child of his creation—the London School of Tropical Medicine—remained unabated to the end. He was actively engaged in searching for fresh fields of scientific exploration and in furthering the interests of the Tropical School till he became unconscious. Those who were so fortunate as to have been associated with him feel most strongly, great as

was his influence during life, that it will be greater still now that he has gone, and that the world cannot yet adequately apportion the exact place the name of Manson will fill in the history of medicine; but that that place will be a very eminent one there can be no doubt whatever.

H. W. KAYE, M.D.,

Director of Medical Services, Ministry of Pensions.

The untimely death of Dr. H. W. Kaye, of the Ministry of Pensions Medical Department, at his home at Hatfield Peverel, on April 21st, is a loss not only to his wide circle of friends but to the Department and to the country. In the Ministry of National Service, and still more in the Ministry of Pensions, where, as Director of Medical Services, he was in charge of the department providing treatment to war-disabled officers and men, he found congenial spheres for the employment of his great and special abilities and experience, and also for the actual expression of the fundamental motive of his life—the betterment of the health of his fellow beings. If ever a man consecrated and shaped his life to this noble end and died in doing so, it was Kaye.

Henry Wynyard Kaye was educated at Winchester, Oxford, and the London Hospital; he graduated B.A. at Oxford in 1898, M.B., B.Ch. in 1903, and M.D. in 1908. He passed several years in practice at Rome, San Remo, and Strathpeffer; he was so employed when war broke out. He served in France continuously from 1914 to 1918, when he joined the Headquarters Staff of the Ministry of National Service under Sir James Galloway, Chief Commissioner of Medical Services, to whom he was attached as personal assistant. When the recruiting activities of that Ministry ceased and its medical organization became amalgamated with the Medical Department of the Ministry of Pensions early in 1919, Dr. Kaye became a Director of Medical Services under the Director-General, Colonel Sir Lisle Webb, K.B.E., C.B., C.M.G. At that time Dr. Kaye was engaged, among other duties, in completing the "Report on the Physical Examination of Men of Military Age by National Service Medical Boards," very largely his own work. As Director of Medical Services he was in charge of the Department of Medical Statistics and General Medical Information. He was placed in charge of the provision of treatment by the Ministry, continuing, however, the collation of medical statistics until this work passed to the Statistical Department of the Ministry.

Kaye's life was one of incessant activity. In addition to his official duties, he acted as Secretary of the Medical Disability Committee, consisting of representatives of the Royal Colleges in London and a small number of Ministerial officials, which advises the Minister of Pensions on medical questions and has been of inestimable service. He was also a member of the Comité Permanent Interallié and sat on the Editorial Committee of the *Revue Interalliée pour l'étude des questions intéressant les Mutilés de la Guerre*, the official organ of the Comité. Last year he attended the General Congress of the Committee at Rome as the principal delegate of the Ministry and received from the King of Italy the Commandership of the Order of the Crown of Italy. To these and to other committees on which he sat—for instance, the War Office Shell-shock Committee—he brought a clear and critical but always constructive mind, a ready wit, a friendly presence, and a courtesy and patience which never varied.

Stricken down by pneumonia whilst addressing a meeting of his medical colleagues at Leeds, he fell, as he would wish, at the post of duty. An indefatigable worker, a most loyal servant of the public, a delightful comrade, and a true friend, his death leaves a gap which no doubt may in time be filled—except in the hearts of those who knew and loved him.

The late Mr. Arthur Bacot, F.E.S.—The funeral of the late Mr. Arthur Bacot, entomologist to the Lister Institute of Preventive Medicine, which took place in the British Cemetery, Old Cairo, on April 12th, was attended by a large number of representatives of the different branches of scientific work in Cairo. The coffin was carried to the grave by his friends and colleagues from the Laboratories, both Egyptian and British, and a mark of appreciation of his work was the large number of Egyptian doctors and scientists present. Among the many senders of wreaths and flowers were the staff of the Lister Institute, London, the staff of the Public Health Laboratories, Cairo, the Director-General of the Egyptian Public Health Department, the staff of the Fever Hospital, Abbassia, in addition to many personal friends.

We much regret to announce the death of Dr. John Adams, one of the best-known general practitioners of Glasgow, a former chairman of the Scottish Committee of the British Medical Association and member of Council. We hope to publish a memoir in an early issue.

Medical News.

Dr. Thomas Fawsitt, who retired from active practice in Oldham in 1920 after fifty years of medical and philanthropic work in the town, has been admitted to the honorary freedom of the borough. On the casket in which the roll was presented there was a view in enamel of the Oldham Royal Infirmary, of which Dr. Fawsitt was the first medical man to be elected president. After the freedom was conferred the Testimonial Committee presented to Dr. Fawsitt his portrait in oils. This portrait has been given to the corporation and by them added to the permanent collection in the art gallery.

Dr. David Huskie, provost of Moffat and an ex-president of the Border Counties Branch of the British Medical Association, has been presented by his friends with a Fiat motor car in recognition of his services to the town and district during the last quarter of a century in his professional capacity and also as civic head of the burgh. Mrs. Huskie was on the same occasion presented with a set of furs and muff.

At the meeting of the Senate of the National University of Ireland, on April 21st, Dr. Maurice R. J. Hayes, F.R.C.S.I., was appointed to the Professorship of Materia Medica and Therapeutics, University College, Dublin.

The National Council for Combating Venereal Diseases has, at the request of the Corporation of London, called a conference in the Council Chamber, Guildhall, on Wednesday, May 3rd, at 10.30 a.m., to consider "how persons infected with venereal disease can best be retained under treatment until a non-infective condition has been attained." The proceedings will be opened by the Lord Mayor, and Lord Gorell (President) will take the chair.

The annual meeting of the Medical Missionary Auxiliary of the Church Missionary Society will be held in the Queen's Hall, Langham Place, W.1, on Wednesday, May 3rd. The chair will be taken by Sir Leonard Rogers at 7.30 p.m., and among the speakers will be Dr. R. B. Coleman (Old Cairo), Dr. D. D. Main (Hangchow), and Dr. Emmeline M. Stewart (Isfahan, Persia). Tickets for admission can be obtained on application to the Loan Department, Church Missionary Society, Salisbury Square, Fleet Street, E.C.4.

As already announced, a lecture on the human neocerebellum will be given by Professor Winkler on Wednesday, May 3rd, at 1, Wimpole Street, W. The chair will be taken by Sir Frederick Mott; admission is free without ticket.

A course of four lectures on "Insects and disease" will be given at University College, London, by Sir Arthur Shipley, G.B.E., F.R.S., on Tuesdays, May 2nd, 9th, 16th, and 23rd, at 5 p.m.

A course of eight lectures on pathological research in its relation to medicine will be given during the summer session in the Lecture Room of the Bacteriological Department of the Institute of Pathology and Research, St. Mary's Hospital, Paddington, W. The lectures, which are open without fee to members of the medical profession and all students of medical schools, will be delivered on Thursdays, at 5 p.m. The first of the series was given by Sir Almroth Wright on Thursday last, when the subject was "New avenues in immunization." Sir Archibald Garrod, Regius Professor of Medicine in the University of Oxford, will deliver the lecture, on May 4th, on "More inborn errors of metabolism."

Dr. C. B. Gervis, formerly vice-chairman, has been appointed chairman of the Seaford Urban District Council for the ensuing year.

Permission has been granted to Dr. R. Hensleigh Walter, late medical officer of the Norton Manor Auxiliary Hospital, Somerset, to wear the insignia of the Médaille du roi Albert conferred on him by the King of the Belgians for war services.

With reference to the statements recently made that a method had been discovered of disinfecting wool or other material infected with anthrax by means of ultra-violet rays, it is reported by the Home Office Committee on Anthrax that a test of the method was recently carried out by the Committee at Liverpool, in which the apparatus was supplied and manipulated by the inventors, and that samples taken from bales of wool subjected to the process showed, on being examined bacteriologically, that the anthrax spores had not been destroyed and that there was no indication of disinfection.

ON the occasion of his retirement, after thirty-seven years' service as medical officer of the Romford Poor Law Institution, Dr. J. A. Fraser was entertained by the officers and staff of the institution and presented with an illuminated address, a kit bag, a travelling companion, and a clock.

THE University of London Press, Ltd., announce the very early publication of a popular volume on *Suggestion and Mental Analysis*, by Dr. William Brown, Wilde Reader in Mental Philosophy in the University of Oxford. The book is intended as an elementary summary of modern methods on mind cure, and comprises an appreciation and criticism of M. Coué's views, indicating their relation to other methods of suggestion and doctrines of psycho-analysis.

L'ART ANCIEN S.A., of Lugano, Switzerland, has published, in English, a catalogue of early medical books. This catalogue furnishes a description of 16 medical manuscripts of the Middle Ages, 26 medical books printed before the end of the fifteenth century, and more than 175 books of the seventeenth and eighteenth centuries.

INCREASES in the tuition fees in the medical department for the next academic year have been announced by the Johns Hopkins University; from next October the cost of tuition at the medical school will be 300 dollars a year instead of 250 dollars.

A COMMITTEE has been organized in Spain to hold a national demonstration on the occasion of the retirement of Dr. Ramon y Cajal from the medical school of Madrid, which is to take place on May 1st. The president of the organizing committee is Dr. C. M. Cortezo, president of the Royal Academy of Medicine in Spain, and the plans of the committee include a special edition of Cajal's works and the erection of a monument.

IN the week ending April 22nd the number of deaths from influenza in the 105 great towns of England and Wales was 93, as compared with 109 in the previous week.

Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.*

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2630, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2630, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin;* telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

B. COLI BACILLURIA.

"IGNORAMUS" asks the following questions:

1. In an otherwise healthy subject what significance is to be attached to the presence of the *Bacillus coli* in the urine when no cystitis is present?
2. How does the bacillus get into the urinary tract?
3. Is the operation of internal urethrotomy justified when the bacillus can be demonstrated in the urine?
4. What treatment is best calculated to banish the bacillus from the urine and to prevent its recurrence?
5. Is prolonged medication with sublimed sulphur harmful to either the kidneys or prostate?

*** The following brief answers may be suggested to these questions:

1. A bacilluria may indicate a lesion anywhere in the urinary tract, or in certain cases occurs without any such lesion existing, the kidneys acting merely as a means of eliminating bacilli in the blood stream. The absence of any symptoms of cystitis is less important than the absence of pus cells.

2. Bacilli are carried into the blood stream and passed through the kidney. This is the commonest mode of infection. Direct infection of the bladder from the bowel also takes place, but this is probably a less common method.

3. Yes.

4. Treatment of any bowel condition such as constipation is of prime importance. The diet should contain very little milk, and an excess of fluids. Urotropin is sometimes of use.

5. No.

INCOME TAX.

"J. R. T." inquires as to the deduction due in respect of his "first automobile."

*** (*a*) All running costs except those incurred in connexion with private as distinct from professional use, and (*b*) the cost of any cycle or other means of conveyance sold on the purchase of the car, less the sum received for its sale.

A deduction for fall in value of the car cannot be admitted by the Revenue authorities, as that form of allowance is restricted to traders as distinct from professional men. The replacement expenditure is allowed in lieu of the annual deduction for depreciation.

LETTERS, NOTES, ETC.

TOUTING MONEY LENDERS.

WE are invited once more to warn members of the medical profession, especially the younger members, against falling into the hands of money lenders; once in, it is often very difficult to get out. The circulars issued are often insidiously expressed in the hope of appealing to the special circumstances of the recipient. We have recently been shown a circular letter of a London money lender offering exceptionally low terms for private cash advances to medical practitioners, repayable quarterly out of panel or other funds. Although it is stated that "unpleasant money-lending methods will be completely eliminated," we should not be disposed to place much reliance on this promise.

THE CINEMATOGRAPH AND VIVISECTION.

THE DUCHESS OF HAMILTON, in the course of a letter on the subject, writes: My attention has been drawn to an article in the BRITISH MEDICAL JOURNAL of April 8th, in which you refer to my letter to the *Times* on the subject of the cinematograph and vivisection before students. You say that it is not true that painful experiments are unnecessarily performed to illustrate lectures to medical students.

May I say in justification of my letter which you quote that the Act in no way guarantees absence of pain during experiments before students. The law does not enforce the presence of an inspector during these experiments, or of a qualified anaesthetist; does not forbid the use of curare or morphine; provides no punishment for those who for purposes of science use light anaesthesia. British physiological textbooks, written for the use of students, contain frequent warnings against deep anaesthesia on the ground that such a condition of the animal frustrates the object of the experiment. The choice of what is "necessary" depends on the individual taste of the vivisector concerned, and records of experiments performed before students show wide divergence of selection. The Act also ignores the obligation of the investigator to give the *coup de grâce* without delay.

THE HEMPYEMA.

THE following story in the current number of the *London Hospital Gazette* is new to us and may amuse a wider audience:

"I was going round the wards the other morning, when I saw one of the most conscientious girl students doggedly percussing a chest. 'What have you got there?' I asked in my usual light-hearted manner. 'I don't quite know,' she answered hesitantly, 'but I think it's a hempyema!' 'A what?' I gasped, horrified beyond description. 'A hempyema!' she replied firmly and unblushingly. 'Why do you call it a hempyema, and not an empyema?' I asked at last gently, greatly ashamed, and fearing to hurt her feelings. 'I always did call it an empyema till yesterday,' she explained, 'but ——.' 'What happened yesterday?' I interrupted, scarcely able to control my excitement. 'Yesterday afternoon,' she replied, 'the Chief came round and he told us that the first thing to do with an empyema was to aspirate it!'"

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 29, 32, 33, 34, and 35 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 30 and 31.

THE appointment of certifying factory surgeon at Neilston (Renfrew) is vacant.

THE appointment of Medical Referee under the Workmen's Compensation Act, 1906, for the Abingdon, Faringdon, Reading, Wallingford, Wantage, Banbury, Oxford, Thame, and Witney County Courts in Circuit No. 36 is vacant. Applications to the Private Secretary, Home Office, by May 13th.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Six lines and under	0	9	0
Each additional line	0	1	6
Whole single column (three columns to page) ...	7	10	0
Half single column	3	15	0
Half page	10	0	0
Whole page	20	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

An Address
ON
THE TREATMENT OF PARALYSIS IN CHILDREN.

DELIVERED TO THE SECTION OF DISEASES OF CHILDREN OF THE ROYAL SOCIETY OF MEDICINE,

BY

SIR ROBERT JONES, K.B.E., C.B., CH.M., F.R.C.S.,
PRESIDENT OF THE SECTION.

A BODY such as this Section of the Royal Society of Medicine is of inestimable value in bringing together the physician and the surgeon in their manifold activities, and I would emphasize again that a specialism should be attained by a process of mental evolution, and be practised only after a thorough grasp of the fundamental principles of medicine and surgery has been won. Even now there should be a closer association between the work of the physician and that of the surgeon; they are not practising two different arts, and in a large number of cases their combined energies should be devoted to a common end.

On a visit recently with Sir Anthony Bowlby to one of the hospitals in the United States we were impressed by the fact that Harvey Cushing and his class went round the orthopaedic wards with Lovett and his class, and a return visit was paid to the neurological wards. Problems of common interest were discussed and valuable suggestions made. It would be to the common good if physician and surgeon in our teaching hospitals, with their students, could meet in common in the wards. The surgeon, if he is receptive, has always something to learn from the physician, and the physician may sometimes glean a stray idea from the surgeon. Take a group of cases with potential deformity, say the osteo-arthritic group. The surgeon with his mind obsessed by deformity is very apt to think that his whole duty is to correct it, and no serious attempt is made to check the infection; while the physician may ignore the sure onset of deformity in his eagerness to discover a microbe. This is all wrong. If we walk round a ward where such cases abound we find ankylosing ankles in full extension, flexed knees and hips, and crooked spines. Yet all these are preventable. The student who becomes the practitioner is encouraged to look upon such results as the inevitable sequence of disease with far-reaching evil effect. A closer affiliation between physician and surgeon would obviate all this; the applied knowledge of each is essential to the scientific conduct of the case. The practitioner in the remote village would then know that such cases have both a medical and a surgical aspect, and, as he has to practise both as a physician and a surgeon, the knowledge would relieve him of serious responsibility. Medical sins of omission and surgical sins of commission would both be prevented by a closer affiliation of these great branches of our profession.

I propose to deal with some points in the treatment of the paralyses in children, affections which require the close association of neurologist and surgeon. Poliomyelitis is the most common of the paralytic affections attacking the child, and yet it is not sufficiently emphasized that this affection may not be accompanied by paralysis. Paralysis is incidental, not essential.

The many and very extensive epidemics that have occurred in America, and their careful tabulation by Lovett and others, confirm the conclusion of observers in other countries that there is considerable variation in the onset, although, generally speaking, it is that of an acute infection. I can recall several instances in which I have failed to obtain any history of an acute beginning. In one remarkable instance three children were affected in one family. In one of the children extensive paralysis followed an acute onset; in another the acute onset was followed by pain, but no evidence could be gathered of even a transient paralysis; in the third child extensive paralysis occurred suddenly, with no febrile symptoms and no complaint of pain. In quite a number of cases hyperaesthesia appears before the paralysis. It is difficult to elicit a reliable history of the sequence of symptoms in young children. We are better able to obtain information from young adults; some of them have noted a numbness preceding the loss of power, while others have complained of a burning sensation in the extremities and sometimes of shooting pains. In one case, following a febrile attack, the right leg was affected and, four months later, the quadriceps of the opposite leg. Such late developments, however, must be very rare.

We are accustomed to look upon the first stage as extending from the onset until all pain has disappeared. If there is no pain, or very transient pain, it is wiser to consider the first or acute stage as lasting six weeks, but so long as pain lasts we must look upon it as indicating active irritation of the cord. I have known the stage of pain to last for nine weeks; in that case, although the paralysis was extensive, it was of a very transient character. Lovett tells us that in America it has proved very necessary that the surgeon should be possessed of the evidence upon which a diagnosis of poliomyelitis has been made. They found it imperative to have recourse to lumbar puncture, because many abortive cases occurred which were potential dangers to the family and State; only in this way could the isolation of the abortive case be secured. It had the further advantage of securing rest in the pre-paralytic stage, and of arousing suspicion whenever a transient weakness was discovered in a muscle or muscle group. We must bear in mind that while lumbar puncture is valuable for diagnostic purposes, it is also a mode of treatment which has proved of benefit in the acute stages of the affection.

The second period usually lasts for two years, and corresponds to the absorptive changes in the cord. During part of this stage the motor area is frustrated in its efforts to send impulses to muscles; in time, however, some of the paths recover and muscular power returns. Even while the power returns, trophic disturbances begin, affecting both circulation and growth, and it is in this period that deformities appear, unless appropriate measures are adopted. The surgeon, unfortunately, too often comes on the scene only in time to correct conditions which should not have arisen, and when preventive measures are too late. The reflex arc being broken, the reflexes in the affected area are diminished or lost. The electrical examination of the paralysed muscles is only of value when the tests are carried out by an expert. If the muscle retains its faradic excitability when tested a few days after the onset of the disease, a good prognosis may be given. If, on the other hand, the muscle has lost its faradic excitability, and the response to interrupted galvanic stimulation is slow (the reaction of degeneration), this is evidence of interruption of the lower motor neuron, and the prognosis is correspondingly more grave. From the electrical examination at this stage no accurate prognosis can be given as to the ultimate fate of the affected muscles. The difficulties of diagnosis during the stage of onset are sometimes complicated by pre-existing conditions, such as shortening from fracture, congenital dislocation of the hip, infantile hemiplegia, and in one very interesting case I remember the spasmodic conditions of the limbs due to spastic paraplegia were considerably modified by a superimposed poliomyelitis.

In the early days of treatment it is usually impossible to state the degree of shortening which will ultimately persist. It is very rare to find a shortening of more than three inches. The shortening is not definitely proportionate to the degree of residual paralysis, but bears a closer relation to trophic changes. In one case there was complete paralysis of the right leg and a mere paresis of the left quadriceps, yet the left leg was an inch shorter than the right. In another instance a paralysis confined to the calf muscles resulted in a limb with two and a half inches of shortening. It is equally difficult to foretell the degree of recovery of function. Although it is unusual, I have seen cases in which a muscle has only begun to improve after three years of complete paralysis. When the stage of onset and tenderness is protracted, recovery of the muscles is usually postponed, but the improvement continues for a longer period. Lovett has pointed out, and I can confirm it from my own observation, that cases which present a fairly complete paralysis below a definite level are unfavourable, and that cases which have a considerable amount of total paralysis persisting after three months will only make a very partial recovery. There are, however, notable exceptions.

TREATMENT.

Intimately connected with the question of prognosis is that of treatment, which very largely influences it. From the onset to the end of the second stage, and even later, we have to avoid meddlesome methods, and to recognize that muscles we are apt to look upon as paralysed may after all be merely weak. I pointed out, many years ago, that a muscle exhibiting the reaction of degeneration is not necessarily outside the pale of hope, and that while we may be certain that if

a muscle reacts to faradism it will recover the converse does not always hold. Prognosis is more hopeful if from the first we visualize the obstacles to recovery and avoid them.

Rest.

The early treatment of poliomyelitis is usually the responsibility of the general practitioner, who has to direct the case on correct principles. During the stage of onset we must trust entirely to rest, and even then protect the muscles which are weak and obstruct the coming of deformity. The head and spinal column should be kept absolutely at rest in obedience to the general law as applied to inflamed structures. Rigid fixation of the head and spine is a relief to pain, but if the pain is slight for physiological reasons rest is imperative. The appliance should be cosy and so constructed that nursing is rendered harmless, and nothing should be allowed to take place which might conceivably frighten the child. Body and mind should be kept at rest. While active mischief is present in the cord electricity and massage should be avoided. It is not physiological to irritate and stimulate peripheral ends of nerves connected with inflamed centres. The practice is irrational, cruel, and reactionary. Applications of heat and cold are equally to be condemned. We are dealing with a damaged cord, which must be zealously guarded from fussy therapy. Deformity must be prevented at this stage as well as at every other, and this can be done without any irritation to the child. We must remember that deformity involves a loss of power both in the contracted and in the overstretched muscle groups. The deformities which we usually have to guard against are: contraction of the feet in plantar flexion, flexion of the hips and knees, adduction of the shoulder, and curvatures of the spine. If the child is on a frame soft pillows can be used to correct other deformities; but again I would repeat that nothing is to be done in any way likely to worry the child. Crying is one of the worst evils to inflict upon a tender head and spine.

Before approaching the second phase of treatment I must beg of you, as I have so often done before, to remember that a muscle which is submitted to stretching will lose its function, and that we must draw a distinction between a muscle paralysed by destruction of its governing cell and a muscle disabled and impotent from overstretching. This was pointed out by Thomas forty years ago. It is the fundamental element in our treatment of the disabled muscle. In poliomyelitis the factors that are at work in abnormally elongating muscles are—unopposed muscular action; the influence of gravity, as in plantar flexion of the ankle; deflection of body weight in walking, such as occurs in the foot when, in paralysis of the tibial group, the patient walks on his inner ankle. I will not spend time in giving concrete examples and proofs; they have on several occasions been supplied in abundance, but, although there is a general agreement with the theory, practice leaves much to be desired. If by stretching a normal muscle for a lengthened period we deprive it of power, how important it becomes that a partially paralysed muscle, struggling for function, should receive a helping hand! It cannot be too strongly stated that a paralysed muscle should be kept relaxed, without a solitary break in continuity, until recovery occurs. This should be done at once, for when the deformities become fixed the contracted muscles become structurally shortened and, in accordance with a well-recognized physiological law, all the tissues on the contracted side participate in the change. From this it follows that, in paralysis of the deltoid, the arm should be kept abducted; in paralysis of the flexors of the arm the elbow should be kept flexed and pronated; when the foot has lost the power of dorsiflexion, it should be maintained in dorsiflexion—and so, in all deformities, the functioning muscles should be stretched and the weak ones relaxed.

The next principle I would emphasize is that as recovery begins to take place the relaxation must be lessened by small degrees, the extent being regulated by the patient's ability to make use of the muscle in the extended range. There is yet another important fact—namely, that if a muscle is overexercised it will begin to lose power. I have met with many instances where a recovering muscle has lost all its power when it has been given its liberty too soon. We must therefore be careful not to overtax a weak muscle. Cases are continually occurring where recovery ceases in a muscle asked to do more work than it is physiologically capable of doing.

In this second stage we are constantly called upon to correct deformity which, as we know, if left may deprive the lengthened muscle of all hope of recovery; but we must also remember that the shortened muscle is also weakened, because its range of movement is necessarily confined to a limited radius. I will not enter into details of the methods employed to correct deformity; it is enough to say that it can be done by a splint and bandage, and that in the lower extremities we secure the assistance of gravity. Excepting in extreme instances the knife is never needed. The correction is called for in the case of the lower extremities in order to enable the patient to stand and walk with or without assistance, and to attain this end without the production of secondary deformities. In the case of the upper extremity, deformities are corrected mainly in order to obtain function.

Massage.

As soon as the patient is made straight, we devote our attention to the development of his muscles. This is a long and arduous task and too often becomes a routine. "Give the child massage" is often the prescription, as though it were a dose of castor oil. Our aim is to develop the weak muscles and not the strong ones, and yet massage and exercise as usually practised bring into play most prominently the muscles which we should desire to neglect. It is the duty of a physician or surgeon to instruct the masseuse as to her line of conduct, and to explain to her what is needed, and why. We then obtain intelligent co-operation. We shall then know that the muscles will not be fatigued, and that while they are massaged they remain in a position of relaxation and that all the movements are of a kind not calculated to strain the weak group. If the extensors of the wrist are weak, the wrist-joint will be kept dorsiflexed and not once allowed to move in the direction of plantar flexion. If the dorsiflexors of the foot are under treatment, the foot should never be plantar-flexed below the right angle; and both in the wrist and foot the fingers and toes should be actively exercised before an attempt is made to move the heavy joints.

Colin Mackenzie, in his suggestive work on the action of muscles, emphasizes the necessity of minimizing strain on weakened muscles during their re-education. A man suffering from a recovering deltoid, who cannot elevate his arm beyond a right angle when he stands erect, and is opposed by gravity, can complete the range of movement if he lies on a flat table covered with chalk in order to avoid friction, and so with the other groups. By this means very early voluntary effort becomes effective. The splints during this period should be so designed that no pressure on muscle can take place, and, where possible, massage should be practised without their removal.

Muscle Re-education.

Muscle training is of extreme value. It is based on the principle of concentrating the patient's attention so that brain cell and muscle will work in accord. Everything should be eliminated which interferes with the untrammelled action of the paralysed muscle, and when the slightest response follows an effort the enthusiastic expert will almost supply the patient with energy to persevere.

We can perhaps best illustrate this in the case of a limb with paralysis of the quadriceps. Very slight voluntary movement should be started early, but that movement should not be allowed to act on the joint, for the muscle is not strong enough to act against any such resistance. The knee, therefore, is kept fixed in full extension in order to rest the quadriceps. The first sign of recovery will be watched for, and the moment a voluntary twitch is observed education is to be commenced. The masseuse teaches the patient to practise drawing up the patella. When this can be done, she is then told to put her finger against the upper border of the patella and to give a little resistance to the action of the muscle. To allow the child to flex her knee at this stage would be to invite calamity. When the muscle has gained considerable strength the rigid splint may be changed for one that allows only a few degrees of flexion, and as soon as the patient has muscular control of the knee within that radius the range of flexion can be increased by degrees. The massage should be gentle in these early stages, for considerable damage is done if rough. All we can expect from it is an improvement in the nutrition of muscle. I could give scores of instances where recovering muscles have weakened by fatigue from immoderate exercise and from energetic massage. Recovery from this is brought about by rest. My experience coincides with that of Lovett, who has drawn attention to the dangers of overexercising a weak but recovering muscle. He instances the gastrocnemius muscle:

"a normal gastrocnemius should be able to raise twice the body weight; if it is reduced to one-quarter of its normal strength by a paralysis it is easy to see that walking is a continued overuse of this muscle. Nowhere have I seen the effects of overfatigue more clearly exemplified than in the observation of this muscle. If the muscle is protected, much walking prevented, and a very high heel put on to throw it out of action, as a rule it is amenable to treatment, and I have seen instances where in a year or so the muscle returned to its full normal strength; but I have never seen a case of any considerable weakening of the gastrocnemius muscle do otherwise than badly when walking was allowed freely and the leg not protected by a high heel." This is all borne out by examples we commonly see where paralytics who are undergoing intensive treatment make no progress until they are laid up by some other affection, and the muscles instead of deteriorating gain considerable power. Experience justifies us in concluding that exercise without weight-bearing should be continued until the muscles have gained considerable strength, and that when the time for walking comes it should be regulated with scientific precision.

Electrical Stimulation.

I have spoken of rest, massage, and muscle re-education, and these are the means which appeal to me as of the greatest value; but electrical stimulation is a legitimate and useful means of giving certain muscles a mild and beneficial exercise, and the object of the treatment is to make the muscles contract. It is harmful as well as useless to immerse the affected limb in a bath and allow the current to pass through the water. If any action results it will be contraction of the normal muscles and stretching of the paralysed ones.

During the convalescent stage until there is recovery of faradic excitability interrupted galvanic stimulation is employed. It should be possible in a majority of cases for a specially trained masseuse, loyal to instructions, to stimulate the paralysed muscle to contract without the spread of the stimulus to the normal ones. Faradic stimulation is of service only with recovering muscles which will again react to this form of stimulus, or for those muscles weakened but not paralysed. Fatigue must not be brought on; the electrically provoked exercise must stop short of this. It should be painless, or practically so, and not cause terror to the child. If it does, it should be discontinued. For reasons that are obvious a paralysed limb should always be kept warm.

Correction of Deformities.

As the object of treatment is to secure for the patient the highest possible degree of function we must prevent or obliterate all deformities. Deformities are primarily due to the contraction of muscles; other preventable factors assist. Although they can be rectified at any stage their persistence through the early months will have inflicted very serious damage to the weak muscle groups. I have seen marked contractions of the hips in five weeks after the onset, and of all deformities, if allowed to become fixed, they are the most difficult to deal with—if we exclude scoliosis—and are a prolific cause of secondary deformities. They occur with greatest certainty where the glutei are weak and the flexors retain some power. They are favoured by sitting and crawling, and are best treated by the use of a double frame, so that the stretching may be continuous. Treatment by posture, such as lying on the face, is less effective, as it is intermittent and violates the fundamental principle we have enunciated in regard to the stretching of muscles. The same criticism applies to scoliosis. There is no position like the recumbent one until the maximum of recovery is assured.

Shoulder contractions are also obstinate, and are due to paralysis of the deltoid and overaction of the pectoralis major and latissimus dorsi; the arm should be abducted from the first, and if adduction has occurred the deformity may be corrected by stretching and an abduction splint applied, as advised by Colin Mackenzie. To see a paralytic child, unprotected, sitting or lying in a heap is a pathetic instance of surgical ignorance or neglect. Deformities, where possible, should be rectified by mild and persuasive means, but there is no excuse in these days which can be accepted to explain either their occurrence or continued existence. Much can be learnt from the gait of paralytics, as so well described by Lovett. When the gluteus maximus is paralysed we find that when weight is borne on the affected side the body is thrown back with a sudden lurch and the patient hurries with the other leg. It is like that of a patient with an amputation of the upper third of the thigh wearing an artificial leg. Paralysis of the adductors does not cause much limp, but it can be detected by asking the patient to put one foot directly in front of the other. With weak adductors this can only be done by swinging the body.

If the hip flexors are involved the patient brings the affected limb in front by a forward twist of that side. In paralysis of the quadriceps one of several methods may be adopted. He may keep the knee from flexing as he walks by pressing the thigh back with one hand, or as the affected limb touches the ground the patient hyperextends the knee to lock the joint; both these practices produce genu recurvatum. Again, he may walk with his leg rotated outwards to avoid the action of gravity; if he has strong hamstrings he can lock the knee without fully extending, simply by bending the whole body forwards.

The gluteus medius, an antagonist to the adductors, draws the thigh outwards when the pelvis is fixed, or abducts the trunk when the thigh is fixed. Its paralysis causes a characteristic gait. When the patient bears weight in walking on the affected side he lurches over to that side in an attempt to balance, and the lameness is often indistinguishable from that caused by marked shortening of the leg. Lovett has shown us that the limp is largely obliterated during the examination by giving the patient a weight of five to fifteen pounds to carry in the hand of the affected side. It changes the centre of gravity and compensates for the weakness of the muscle.

With weak abdominal muscles the patient stands and walks sway-backed with the hip flexed, marked lumbar lordosis, and prominent abdomen. Unilateral paralysis of the abdominal muscles causes the patient to drop the pelvis on the weak side in taking the weight on the good leg. It is similar to the position taken by a patient with congenital dislocation of the hip when standing on the affected leg. I need not describe other gaits, but it will be seen that by observing the patient's walk the more characteristic paralyses may be noted.

In the third or chronic stage, when all the recovery we can expect has occurred, the surgeon's task is one of restoring his patient to usefulness. The correction of deformity is absolutely essential, for no muscle can be restored unless this is done, and from the mechanical side it is impossible to walk with joints flexed or hyperextended. Of the methods by which we correct various deformities I need only say they are simple. That our present methods will be improved is a commonplace, but there is no reason even now that paralysis should be followed by deformity, except scoliosis, and there is no reason why, if deformity has been allowed to appear, it should not be corrected by one of many means at our disposal.

Splints are used for three objects—the prevention of deformity, the correction of deformity, and to assist the function of the upper arm or locomotion in the lower limb. They should be simple in design and made of light material only just sufficiently strong to effect their task. They must be looked upon as the lesser evils, and when they can be safely discarded they should. In the lower limb apparatus is indicated if the patient cannot walk so well without such aid, or if he can only walk or stand in a position of deformity. When a splint is applied, we must carefully note whether its use prevents or induces secondary deformities. But granted that apparatus in itself is undesirable, the conditions which it is put on to prevent are still more undesirable. These are inability to walk, the acquirement of malposition and permanent deformity, and the stretching of paralysed muscles. We must remember that deformity starts as a postural malposition, becomes fixed by adaptive changes in the soft parts, and progresses to permanent bony deformity in accordance with Wolff's law. These deformities are of every type—dislocation of the femur, knock-knee, genu recurvatum, flexed joints, subluxation of the tibia, contracted and dropping of the shoulder, and scoliosis.

When we come to a general consideration of operations we find they are of two types: one to stabilize a flail joint by operation on the skeleton, the other to restore muscular balance. Our views on the value of arthrodesis have been modified of late years as the result of the introduction of other methods. In the knee-joint it is never necessary in children, and but very rarely in adults. The inconvenience of a stiff knee is a serious one, and the problem is better dealt with by the application of a splint which will permit of flexion. The same may be said of the hip. Arthrodesis of the ankle yields at best an imperfect functional result, and although, perhaps, at times desirable in adults, it is contra-

indicated in young children, and less desirable in older children, than other methods at our command. Arthrodesis of the astragalo-calcanean joint, so performed as to correct any lateral deviation in the feet, is proving of increasing value, for excessive lateral mobility without stability is difficult of control by mechanical means. Arthrodesis of the shoulder is of considerable advantage when the deltoid is irrecoverable and the function of the rest of the arm is good. Before it is performed the muscles of the shoulder girdle must be working, as the object of the operation is to fix the head of the humerus into the glenoid at an appropriate angle so that the arm may be moved by the scapular muscles. In children over 10 the scapular movements become very free as they grow up, and after an arthrodesis the arm can be placed to the back of the neck, and into the trouser pocket. This operation should be but rarely performed in the adult, and its limitations should always be fully described to the patient.

In a technically successful operation in an adult the patient was dissatisfied with the result because previously she could do her hair and fasten the back of her dress by placing the paralysed arm in position with the other, whereas after the arthrodesis the inability to mobilize the scapula sufficiently in adult life prevented the extremes of motion required in these two movements. As a preliminary to arthrodesis of the shoulder intensive exercises for the scapular muscles are needed, and unless the patient can shrug the shoulder with considerable power arthrodesis is contraindicated.

If an arthrodesis is performed on the adult the arm should be fixed in abduction at a lesser angle than in the case of a child. In the child the scapular movement can be considerably increased over the normal range during the years of growth. In the adult there is a danger, if the abduction is extreme, that the arm cannot be brought to the side. This is a very serious functional result.

Tendon transplantation is beginning to appear in its true perspective, and the complicated operations in vogue some years back are no longer performed. Its object is to improve or to restore muscular balance, and it is to be condemned unless it is performed with a reasonable chance of improving function. The transplanted muscle should become a true substitute for the muscle which is paralysed. It may be performed in order to prevent or correct deformity, and the recent tendency of surgical practice is to employ it in conjunction with operations designed to improve stability. Its task in that case is not so responsible as when the transplanted tendon is called upon to do the whole of the work itself. Tendon transplantation is a procedure which calls for sound judgement and irreproachable technique.

Every case represents a separate anatomical problem, and it is not indicated unless there are normal tendons to transplant. The question of operation does not arise when the muscles are all partially paralysed. If nothing has been done in order to relieve the paralysed muscles from tension an operation is not justified until relaxation has been tried, and it is fundamental that all deformity should be fully corrected before a transplantation is done. Naughton Dunn of Birmingham has lately made a distinct advance in the treatment of paralysed feet which require apparatus, by shortening and stabilizing the foot. The operation consists of arthrodesis of the astragalo-calcanean joint and the removal of various portions of bone from the tarsus, retaining the function of the ankle-joint and fortifying plantar flexion by transplantation of the muscles which pass to the sole into the tendo Achillis. I examined some fifty cases upon whom this operation had been performed, and the results were excellent, most of the patients walking without apparatus.

Associated with the success of tendon transplantation is the recognition of those principles which bear upon the relaxation of muscle and fatigue. Any attempt to overwork a transplanted tendon results in weakening it, and until it gains strength it should be treated as if it were partially paralysed. Massage and re-education should be conducted in the absence of weight-bearing.

With improved technique the operation of tendon fixation has gained in surgical esteem, and has made much headway since Tilanus introduced it, much of the improvement being based on the experimental work of Gallie. It consists of the utilization of paralysed tendons as ligaments. The success depends largely upon the anchorage being made very near the articular ends of bone on both sides of the joint, so that a very short piece of tendon is under strain. For instance, in paralytic foot-drop, the tendon of the paralysed calf muscles is divided, and the lower end split longitudinally, one half being brought through the tibia and the other through the fibula, with the foot kept at a right angle. In this way we form a very firm ligament, which prevents dorsiflexion of the foot. These fixation operations have supplanted the employment of silk ligaments, but the practical point wants emphasizing—that it is essential the tendons should be fixed just above and below the joint, in order to minimize the danger of stretching. More lately free fascial transplants are being used to form ligaments, but our experience is not sufficient to allow a considered judgement.

The tendency of modern surgery is to stabilize the ankle, and the surgeon calls to his aid a variety of methods. If he deals with a calcaneo-cavus where only the flexors of the toes are working, and perhaps the peronei, he first performs arthrodesis of the calcaneo-astragaloid joint to give lateral stability, and then of the front of the foot, shortening it at the same time. He does not touch the ankle-joint. The peronei and flexors of the toes are passed through the back of the os calcis. If the muscles are weak and will not bear the full strain of body weight, the lower portion of the impotent tendo Achillis is transformed into a strong ligament. In short, he employs arthrodesis to shorten the foot so that leverage is rendered less harmful, and to prevent lateral instability; he employs tendon transplantation to supplant a paralysed calf muscle, and he limits the movement of the ankle by a tendon fixation in order that the transplanted tendons may be saved from fatigue. This is excellent team work, in which all the structures of the foot participate. For pronounced knock-knee, so often found in neglected paralysis, subcutaneous osteotomy is sufficient.

The deformity produced by shortening can now be overcome by an operation devised to lengthen the femur, just in the same way as we lengthen a tendon. If the shortening is the result of a paralytic dislocation the displacement can be reduced and the capsule plicated. In fact, there is no deformity to be met with that should baffle surgical art. Operations, however, are but *incidents* in the treatment of paralysis, and it is upon recognition of sound principles in the after-care that we depend for the restoration of function.

Nerve transplantation, which at one time seemed so reasonable, is no longer practised, and our observations during the war upon nerve transplantation in paralysis of the peripheral nerves confirm us in discouraging it in infantile paralysis. The direct neurolization of paralysed muscle is only in its experimental stage, and the result will be followed with great interest and considerable misgiving.

My apology for bringing before so learned an audience these elementary but practical principles is that I fear that, even in high places, men are content to give them a mere academic homage.

The Milroy Lectures

ON THE

INFLUENCE OF INDUSTRIAL EMPLOYMENT UPON GENERAL HEALTH.

DELIVERED BEFORE THE ROYAL COLLEGE OF PHYSICIANS OF LONDON ON MARCH 9TH, 14TH, AND 16TH, 1922,

BY

MAJOR GREENWOOD,

READER IN MEDICAL STATISTICS IN THE UNIVERSITY OF LONDON; FORMERLY STATISTICIAN TO THE LISTER INSTITUTE.

LECTURE II.

I HAVE pointed out the difference between the courses of the death rates at ages in England and Sweden through the last sixty years, how greatly our mortality has improved both absolutely and relatively to that of Sweden in the younger age groups, how unfavourable is the comparison at later ages. Our later adult mortality was indeed still deteriorating relatively to that of Sweden as recently as 1890, and a subsequent improvement has only brought it within 42 per cent. of the Swedish rate. Nor if we compare typical districts of England can it be said that the regions with a high initial rate, such as Lancashire, have improved much faster than those, such as the South-Western Group of Registration Counties, with an initially low rate. If the comparison be extended to other countries the same conclusion is reached, that expressed by Dr. Stevenson in the following words:

"Considering the whole country as a single area of urban type in comparison with other countries the same feature is observed. Our position is relatively very favourable in early adult life, and

TABLE I.—*Death Rates per 1,000 Living from Pulmonary Tuberculosis in Sweden.*

Age.	1911.		1912.		1913.		1914.		1915.		England and Wales, 1901–10.		
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Age.	Males.	Females.
0–5	0.446	0.371	0.375	0 358	0.271	0.347	0 394	0.354	0.429	0 392		0.351	0 304
5–10	0.186	0.370	0.219	0.232	0 190	0.277	0.224	0.336	0.187	0.286		0.137	0.194
10–15	0.310	0.733	0.303	0.848	0.357	0.725	0.358	0 867	0.421	0 861		0.171	0.396
15–20	1.578	2 153	1.727	2.236	1.546	2.057	1.601	2.323	1.690	2.483		0.756	0.988
20–30	2.681	2.938	2 623	3.041	2.632	2.925	2.723	2 987	2.972	3.158	20–25	1.521	1.235
30–40	2.146	2.580	2.204	2.360	1.893	2.490	2.153	2.558	2.085	2.838	25–35	1.965	1.475
40–50	1.741	2.084	2.025	2.034	1.700	2.002	1.748	1,953	1.780	2.219	35–45	2.446	1.551
50–60	1.736	1.551	2.069	1.729	1.773	1.599	1.871	1 641	1.965	1.576	45–55	2.753	1.310
60–70	1 831	1.571	1.890	1.609	1.935	1.416	1.977	1.432	2 004	1.588	55–65	2.379	1.047
70–	1.423	1.049	1.170	1.066	1.133	1.070	1.155	0.963	1.068	1.036	65–75	1.521	0.756
											75	0.567	0.357

very unfavourable when the middle of life is past, and particularly at 45–65." (Supplement to Seventy-fifth Annual Report of the Registrar-General, Pt. III, p. xxxiii.)

Bearing in mind the actual stages of economic development of England and Sweden, it may be said that there is some analogy between the position of Sweden now and that of England fifty years ago. Most of Sweden's economic development has occurred since 1870. In that year only 20 per cent. of her population depended upon industrial pursuits; this proportion had reached 45 per cent. in 1910. Consequently the very high rates of adolescent mortality in Sweden are perhaps correlative with the changes of environment and of survival values which an economic revolution imposes. Such is indeed the opinion of the most competent Swedish writers. The proximate cause of the excessive Swedish mortality is pulmonary tuberculosis (see Table I). At the beginning of the nineteenth century (see Sundbärg, II) phthisis was of the "old age" type, and its frequency in the middle of the century was either stationary or increasing (Runborg and Sundbärg). Sundbärg thought that the responsible factor was industrialization. Of the increasing mortality at ages 15 to 20 he wrote:

"The cause of this difference between earlier and more recent times seems to us to lie in the fact that formerly the adolescent boy and girl remained *at home* for a longer time. Nowadays one goes more frequently and at an earlier age to the city or the factory. The new conditions of existence bring in many cases increased dangers to health and life—dangers which, especially in the case of women, often lead to tuberculosis" (Sundbärg, I, 204).

Widell has recently (see *Dödlighets och Lifsläng dstabeller för Åren, 1816–1910*, p. 13, and *Dödlighets och Lifsläng dstabeller för Årtiondet, 1901–10*, p. 19) affirmed this conclusion.

But there are two important distinctions between the circumstances of England a generation ago and of Sweden now. The first is that Sweden has been an emigrating country—she has lost on balance 843,281 persons in the last fifty years; the second is that Swedish late adult mortality is less than ours is now, and, *a fortiori*, less than ours was a generation ago. Both Sundbärg and Widell think that the decline of spirit drinking has been an important cause of the decreasing mortality at later adult ages. The consumption of spirits reached a maximum in 1871–75, and declined until 1909, since when it has been almost stationary, with, if anything, a slight upward tendency. The cause of the decline seems to be a matter of controversy (see *Sweden*, vol. i, p. 743).

Of the effects of emigration upon the rates of mortality of the home-keeping population I shall not speak in these lectures; they are too complex to be fitly discussed incidentally. The same must be said of a different form of selection—that imposed by the operation of mortality itself. Upon neither subject do my inquiries throw light, yet both must be kept in mind, and I mention them here to warn you against too absolute inferences from the contrasting series of mortality rates which I have examined.

INFLUENCE OF MIGRATION.

But although I am not prepared to discuss the wider aspects of migration, I do desire to examine in some detail one part of a subject to which Dr. Hamer has devoted close attention (see in particular Hamer, 1912, and Hamer, 1921), because its importance is suggested by the quotation I have just made from Sundbärg.

It is difficult to summarize a connected argument in a few words, but I think the gist of Dr. Hamer's contentions is as follows. So far as concerns the influence of emigration in the popular sense of the term—that is, migration from one country to another—Dr. Hamer thinks that those European countries in which economic prosperity has advanced but which have lost population by emigration and have also experienced a decline in the death rate from phthisis, have parted with a large proportion of their weaker citizens, and he shows that the decline in the phthisis rate has been correlated with an outward movement of population in search of health to Australia, America, and elsewhere. On the other hand, in some countries—notably Ireland, where domestic, social, and economic conditions have been bad—emigration has removed a larger proportion of the healthy young adults, and the death rate from phthisis amongst home keepers has either remained stationary or declined but little. This branch of the subject I shall not discuss, but turn at once to the problematical effect of internal migration. Dr. Hamer has shown (making skilful use of the late Sir George Buchanan's report upon phthisis in Kent, Surrey, and Sussex) that rural districts especially ravaged by phthisis are precisely those which a study of age distribution and of other local circumstances proves to have suffered a heavy loss by townward migration. He has also pointed out the favourable rates of mortality experienced by the urban districts as a whole in comparison with country districts at adolescent ages. Hence he attaches much importance to the lure of the towns for the young, vigorous, and ambitious adolescents. But, it may be said, this goes no way to account for the very heavy excess mortality at ages of maturity in towns. Dr. Hamer, however, remarks that there is a townward trend of immigration at later ages of life, but the quality of the immigrants is different. In adolescence and young manhood it is a migration of the vigorous and hopeful; at later ages it tends to be a migration of those broken in the struggle for life, seeking, not perhaps with much hope, what has hitherto escaped them. The immigration of the young and healthy lowers, the immigration of the middle-aged and unhealthy increases, the urban death rate.

I am not quite sure whether Dr. Hamer is prepared to press his theory of the importance of migration as a factor of mortality beyond the point just reached, so that any discredit belonging to the very speculative extension I am about to make belongs exclusively to me, while, should it be found worthy of consideration, the credit is entirely Dr. Hamer's.

It is possible that the change of environment from town to country may have an extremely unfavourable effect upon the immigrants, the supposition invoked by Sundbärg to explain the Swedish experience at ages 15 to 20. Before theorizing about this we may inquire whether the *scale* of internal migration is large enough to make any supposed effect upon the health of migrants a substantial factor of mortality.

The report of the Census of 1911 (General Report, Cd. 8491 of 1917, pp. 203 et seq.) contains an experimental tabulation of the age distribution of immigrants in certain large towns and boroughs. The age group of greatest immigration proves to be 25 to 35, in which decennium the proportion is of the order of

20 per cent. of the enumerated urban population in that age group. In the districts examined it was as high as 22.4 per cent. in the industrial borough of Swindon, 19.4 in Bradford and Burton-on-Trent, 18.9 in the county of London, and only so low as 16.4 in the non-industrial borough of Hastings. If we take 20 per cent., as found in this experimental tabulation, to be a fair characterization of industrial towns as a whole, is there a sufficient supply of country-born persons to furnish the immigrants, or must they be no more than transfers from one town to another?

A precise answer cannot be made to this question, but the difference between actual increase and natural increase of rural districts is very large. Thus, the increase of the *de facto* populations of the registration counties of Huntingdon, Bedford, and Shropshire between 1901 and 1911 was 31,506, the excess of annual births over annual deaths 57,221, leaving an outward balance of 25,715. Numerous examples of urban trends are to be found in Mr. T. A. Welton's book. One cannot doubt that in most manufacturing towns the numbers of country born and bred immigrants are very large, so that Dr. Hamer is almost certainly correct in supposing there to be ample material for the revelation of effects.

In the brief discussion I devoted to the topic in my paper on tuberculosis (Greenwood, 1920) I tacitly and too lightly assumed that the supposedly healthy and ambitious immigrants from the country died in the towns at a lower rate than the town-born coevals and so depressed the average mortality at adolescent ages. I suggest that the very reverse of this may be the truth. A considerable literature has arisen of recent years around the question of bringing "unsalted" populations into contact with urban civilization (Colonel Bushnell's monograph is an admirable introduction to the subject); perhaps what happens to an extreme degree when Dryden's noble savage becomes a townsman happens to a less degree when Corydon repairs to the tenement, the picture palace, and the factory. Adolescent migration perhaps increases mortality in *both* populations—rural mortality by the withdrawal of those best fitted to survive under the rural environment, urban mortality by the introduction of those ill adapted to survive under urban conditions. I shall show that the mortality at ages 25 to 35 of bootmakers in Leicestershire and Northamptonshire is much greater than that of the north-western cotton operatives, in particular the mortality from phthisis. The statistically rural population of these counties lives under conditions much more closely approximating to what the Londoner thinks of as "country" than does the rural population of Lancashire and Cheshire. But this is a faint argument, and until by such an inquiry as that of Dr. Perry in America we can gather more knowledge of the provenance of factory workers the subject must remain obscure. In any case I do not suggest that migration is all-important. Thus the rate of mortality of cotton operatives passes above that of the Leicestershire and Northants bootmakers at 45, and there can be little probability that the townward movement of failures at ages over 45 has a substantial effect upon the mortality rates of a highly skilled industry such as the cotton manufacture. I have, however, some other relevant facts.

Dr. Miyagima has been kind enough to give me some suggestive particulars respecting mortality in Japan. In that empire mortality from tuberculosis has tended to increase, and in 1901–05 was 50 per cent. higher than in 1886–90. According to the statistics of 1908–12 the excess over English rates is especially noteworthy between the ages of 20 and 30; at 25 the mortality in Japan is more than twice that of England and Wales. According some investigations of Dr. I. Ishiwara, the rate of mortality upon girls employed in cotton mills is especially severe. Annually not less than 210,000 girls are invited from the country districts into the mills, and the annual rate of discharge from ill health is 80,000—that is, more than a third of the *numbers* recruited (not of course the same *individuals*). Of the 80,000 discharges, 6,000 are said to be due to tuberculosis, and 70 per cent. of all deaths amongst those discharged are due to tuberculosis. The Government has been led to take special action to deal with the sanitary condition of the factories.

These results are consistent with the hypothesis I have suggested, but naturally a foreigner ignorant of the language and customs of the country is not in a position to make full use of the statistics. The apparent partial immunity of Jews to phthisis (Fishberg) is also a relevant circumstance.

So I must leave this important question with no more than a speculative answer. Yet enough has been shown to justify a closer research. Notwithstanding the bureaucratic interference with the lives of citizens which our newspapers bewail, there is a suprisingly large number of quite simple but important facts which we do *not* record.

POVERTY.

Sundbärg's remarks upon mortality in Sweden invited this not, I hope, unseasonable digression. I now return to more obvious subjects of inquiry. A very large proportion of townsmen and women are desperately poor, and the *hygienic* evils of poverty, the radii of its vicious circles (well described in Dr. Hurry's recent book), smaller in industrial towns than in the country. I will not overstate the case; the eclogues, whether of Virgil or Pope, are not a reliable guide to life even in the sheep-raising districts. Many agricultural labourers are wretchedly housed and miserably poor. But the etiological importance of unsuitable housing is so largely a function of density, of mere aggregation, that the hygienic evils of tenement houses which Dr. Wanklyn described in 1913 as constituting a "gigantic tax on the public health," or of the back-to-back houses which Dr. Robertson so recently stigmatized, are essentially town evils. Bad housing, however, is not the only consequence of poverty: low real wages mean the deprivation of other things besides house-room. The housing conditions of a town are not absolute measures of the economic prosperity of its inhabitants.

The question, then, may be asked whether mortality can be adequately expressed as a function of the two variables—housing and real income; if so we need seek no farther. But that the general etiology of the death rate in industrial towns cannot be fully expressed in terms of these two variables is suggested by the researches of Professor A. L. Bowley and Professor Burnett-Hurst. Their inquiry was no doubt prompted by the well-known book of Mr. Rowntree on the industrial conditions of York, but it followed a different plan.

No study on the scale of Mr. Rowntree's, *a fortiori* none such as the late Charles Booth's investigation, can be carried out save at enormous expense of time and money. The method of exhaustive enumeration must be reserved for such relatively simple particulars as are ascertained by a census; in fact, some statisticians hold that the census authorities already ask too much. But if we cannot measure the "universe" we can at least measure a sample of it, and, in a majority of cases, the sample will tell us all we need to know. The theory of the method is expounded in all text-books of statistics, and its practical application is subject to various limitations, but none of these are of much importance in the particular circumstances of the inquiry I am about to describe.

A Sampling Inquiry.

Professors Bowley and Burnett-Hurst inquired into housing accommodation and economic circumstances in each of the four county boroughs of Reading, Bolton, Warrington, and Northampton (they also investigated the urban district of Stanley, but this district is not comparable with the others from the present point of view). In assessing housing accommodation the census standard was modified. "An adult (including boys over 18 years and girls over 16 years) is counted as one, other boys and girls over 14 as 3/4, children from 5 to 14 as 1/2, and children under 5 as 1/4. The household is then reckoned as containing so many equivalent adults. It is then found on examination that five equivalent adults can be accommodated in a five-roomed house, allowing 500 cubic feet per adult, with a little give and take; and one person or less per room on this basis may be regarded as a reasonable standard of sufficiency" (Bowley, p. 677).

In his work on York Mr. Rowntree adopted a minimum standard of diet and minimum requirements for fuel, clothing, and house rent. The three latter depend on local conditions, the former on physiological evidence. Actually the diets quoted in Mr. Rowntree's book as obtained by his poorest *observed* class yielded about 2,600 calories per "man" (Greenwood and Thompson), a provision which would now cost at least three times the sum allowed in Mr. Rowntree's scheme—namely, 3s. per week; the *theoretical* standard was 3,500 calories. Professors Bowley and Burnett-Hurst modified Mr. Rowntree's theoretical food standard by assuming the purchase of two pounds of meat weekly, and this, allowing also for rise of prices between 1899 and 1913, brought the estimated per caput expenditure for an adult to 4s. 6d. weekly—rather less than half of what it would cost now.

"In making comparisons with the standard, it is to be observed that nothing is allowed for insurance (other than State), pocket money, tram fares, beer, betting, newspapers, or any of the other ordinary objects of expenditure other than necessaries. On the other hand, we do not reckon profit from allotments (which are numerous in Reading and can provide perhaps a weekly shillingsworth of potatoes, beans, etc., together with less nourishing vegetables), and have, no doubt, omitted small earnings of the school children and wives" (Bowley, p. 685).

The authors, having made the necessary calculations, determined the percentages of working-class families below the poverty standard as just defined; these, and the percentages of overcrowded families computed by their method (owing to certain special difficulties—see Bowley and Burnett-

TABLE II.—*The Relation of Working-Class Households to New Standard of Poverty* (op. cit., p. 239).

Percentages of all Working-Class Households.

	Bolton.	Northampton.	Warrington.	Reading.
Above line.				
40s. or more	11	14½	9	1
30s. to 40s.	10	10	6	3
20s. to 30s.	17	22	13	6
10s. to 20s.	27	30	24	20
0s. to 10s.	20	12½	31	44
Unknown	7	3	4	3
Total above	92	92	87	77
Below line.				
Unknown	1	1	2	1
0s. to 10s.	7	7	11	18
10s. or more	0	0	0	4
Total below	8	8	13	23

TABLE III.—*Number of Overcrowded Houses* (Bowley and Burnett-Hurst, op. cit., p. 21).

No. of Rooms:	1	2	3	4	5	6	7	8	Total Overcrowded.	Total No. of Working-Class Homes.	Percentage Overcrowded.
Northampton	0	0	2	13	14	29	2	0	60	693	8.7
Warrington ...	0	3	14	67	22	18	1	1	126	640	13.7
Reading ...	1	0	6	27	48	2	0	0	84	622	13.5

Hurst, op. cit., p. 225–6—this overcrowding index could not be computed from the Bolton data; by the Census test, however, Bolton was better than Warrington, worse than Reading, and much worse than Northampton) are shown in Tables II and III. The death rates at ages 25 to 45 and 45 to 65, computed from the vital statistics of 1911, 1912, and 1913, are shown in Table IV, and as percentages of the rates in Reading in Table V. If we take the percentage of working-class

TABLE IV.—*Death Rates from All Causes per 1,000 Persons (1911–13).*

	Ages:	0–5.	5–15.	15–25.	25–45.	45–65.
Bolton.	Males	47.7	3 2	3 7	7.0	27 7
	Females	41.8	3 0	3.1	5.6	21.0
Northampton.	Males	36.0	2.4	4.3	5.6	18.0
	Females	30.9	2 6	3.8	4.7	15.1
Reading.	Males	26 8	2.2	3 0	5 5	16.8
	Females	23 5	2 0	2.5	4.5	12 2
Warrington.	Males	43.4	3 8	3 5	7 5	25.4
	Females	44.1	4.0	3.0	5.9	21.0

TABLE V.—*Mortality Rates from All Causes Expressed in Terms of Reading 1911–13.*

	Ages:	0–5.	5–15.	15–25.	25–45.	45–65.
Reading.	Male	100	100	100	100	100
	Female	100	100	100	100	100
Northampton.	Male	134	109	143	102	107
	Female	131	130	152	104	124
Bolton.	Male	178	145	123	127	165
	Female	178	150	124	124	172
Warrington.	Male	181	173	117	136	151
	Female	183	200	120	131	172

families below the standard as an average measure of poverty in the economic sense, we see that there is no close relation between mortality and real wages in these towns. Reading, which is by this test far the most poverty-stricken of the towns, has the least mortality at every age. On the other hand, the two Lancashire towns which (except in the age group 15 to 25) have the worst mortalities have also the most overcrowded dwellings. But the housing conditions of Northampton are better than those of Reading, yet only at ages 25 to 45 (of course, a very important exception) are the Reading and Northampton mortalities upon a par.

It is sufficiently well known that the industries of these towns are widely different. In Reading the principal employer of industrial labour is a great biscuit firm upon which a fifth to a quarter of the working class directly depend (Bowley and Burnett-Hurst, op. cit., p. 160); this branch of manufacture does not need a large *proportion* of skilled industrial workers. The staple industry of Northampton is the manufacture of boots and shoes, which, with ancillary processes, employs 42 per cent. of occupied males and 43 per cent. of occupied females (after excluding professional occupations, Government employees, and soldiers). Warrington contains some of the largest ironworks in the country, and iron work is by far the largest single industry, but there are numerous other branches of manufacture. Bolton is one of the great textile towns. There is, then, no homogeneity between any two of the towns in respect of industrial processes, but Bolton and Northampton probably employ a larger percentage of skilled industrial workers than the other two cities (in the iron trade alongside of the skilled men there work many labourers on small wages; when the inquiry was carried out many of the latter earned 20s. to 24s. per week of fifty-three hours).

Can we say that there are any obvious conditions common to the highly skilled Northampton population and the lowly skilled Reading population, on the one hand, and not characterizing the highly skilled Bolton and the moderately highly skilled Warrington population on the other? There are some noticed by our authors:

> "Northampton," they remark, "for a manufacturing town is remarkably clean; the boot and shoe factories do not require tall chimneys pouring out dense volumes of smoke, and the number of factories from which pollution takes place is very small. Warrington, on the other hand, is at times 'one mass of smoke'" (op. cit., p. 93).

Bolton, although less smoky than Warrington, is nearer to Warrington in this respect than to Reading or Northampton. In Northampton and Reading Professors Bowley and Burnett-Hurst remark upon the plentiful provision of allotments (op. cit., p. 81; Bowley, p. 685). Perhaps we have here a distinction of some importance; I do not mean that the contributions to family supplies derived from allotments—after all only a minority of the working population can cultivate gardens even in Reading—invalidate the authors' economic classifications, but that the general conditions which render gardening possible at all for the working classes may be significant of much. That treeless desert which saddens the traveller by the North-Western Railway, and inspired so much excellent mid-Victorian prose, is not, perhaps, only an aesthetic blemish. Socrates' remark, "Now shall I go on and mention to you also windless air, calm sea, and all that sort of thing, and say that stillness causes decay and destruction and the opposite brings preservation?" (*Theaetetus*, IX), has found a brilliant exponent in Dr. Leonard Hill, who has displayed a factor of mortality we cannot neglect.

I do *not* mean that the Lancashire towns are surrounded by a windless air; I only suggest that the squalid monotony which seems to be the external characteristic of some of our north-western manufacturing towns may promote decay and destruction. This is certainly not the whole explanation. If one considers the details of the death rates, it will be found that the greatest discrepancy between Northampton and Reading on the one hand, and Bolton and Warrington on the other, is under the articles of deaths from pneumonia. At 45 to 65 the Bolton and Warrington rates per 1,000 living were 2.1 and 2.8 on males, 1.1 and 1.9 on females; the Northampton and Reading rates were 0.9 and 0.8 on males, 0.3 and 0.5 on females. But Bolton and Warrington are in the north-western area, while Northampton and Reading are in the south-midland district.

It is notorious that the rate of mortality from pneumonia is higher in the north than in the south of England; that of rural districts in the north is higher than the urban district rate in the south. What portion, then, of the excess mortality from these causes should be debited to climatological factors?

The obvious test is to compare urban with rural mortality in the north-west, but unfortunately the industrialization of Lancashire is so great that the districts which are more than nominally rural contain a very small population. An

unsatisfactory test, but the best available, is to make use of the decennial returns of registration counties.

A comparison extended over a whole decennium is affected by the fact that prior to 1911 the death rates were not corrected for institutions. However, the accompanying table (VI), based on the decennium 1901–10 and comparing

TABLE VI.—*Rates of Mortality from Certain Causes 1901–10.*

	Ages 45–55.		Ages 55–65.	
	Pneumonia.	Bronchitis.	Pneumonia.	Bronchitis.
England and Wales:				
Male	1.53	0.73	2.49	2 66
Female	0.75	0.62	1.44	2.29
Lancashire:				
Male	2 45	1.43	3.85	5.09
Female	1.20	1.33	2 27	4.60
Northants:				
Male	0.85	0 37	1 29	1.31
Female	0.34	0.28	0.69	1.46
Cumberland:				
Male	1 94	0.44	2.83	1.93
Female	0.91	0.37	1.60	1.73
Westmorland:				
Male	0 91	0.19	1 76	0.95
Female	0.56	0.29	0.89	0.53

England and Wales, Lancashire, Northants, Cumberland, and Westmorland, is instructive. If we assume that the whole of the excess mortality in Cumberland above the all-England rate is due to climatological factors and ignore the rates of sparsely populated Westmorland entirely, we see that Lancastrian males die of pneumonia in the age group 45 to 55 26 per cent. faster than the males of Cumberland and 36 per cent. faster in the next age group. They die more than three times as fast as the Cumberland males of bronchitis at 45 to 55 and more than two and a half times as fast in the age group 55 to 65.

Speaking of pneumonia in 1912, Dr. Stevenson remarked:

"The range of mortality is extreme, being almost four times as great for males in county boroughs of the North as for females in the rural districts of the South, and three times as great when males alone are compared. Even when comparison is restricted to the same class of area in each case the mortality of the North is in no instance very much less than twice that of the South. No doubt this depends to some extent upon industrial conditions, but these can scarcely explain the great difference between the North and the Midlands. Evidently pneumonia is to a large extent a preventable disease, and the North of England has still much to learn with regard to its prevention" (75th Annual Report of the Registrar-General, Cd. 7028 of 1914, p. xciv).

Time does not permit of other detailed comparisons, but the course of phthisis mortality is interesting. At 15 to 25, Northamptom is the worst of the towns (2.5 per 1,000, males, 1.8 per 1000, females), and, excepting women in Warrington, there is nothing to choose between Reading and the northern towns (Reading 0.9 and 0.9, Warrington 1.0 and 1.5, Bolton 0.8 and 0.9). In the next age group, Warrington is worse, but not significantly worse than Northampton. At 45 to 65 Warrington and Bolton differ considerably from the other two towns (Warrington 3.9 and 1.7, Bolton 2.8 and 0.9, Northampton 2.1 and 0.6, Reading 1.5 and 0.9).

This comparison, while sufficient to make it probable that variations of real wages do not account fully for great discrepancies of mortality—thus refuting the newspaper contention that if we only abstain from national and local taxation for medical and hygienic "fads" all would be well—certainly does not unerringly reveal some *one* industrial factor in the northern towns which destroys life. Yet these figures do bring to light an important industrial correlation. In the year 1913 Northampton experienced the highest death rate at ages 20 to 25 (males) of any county borough in England and Wales, and at 15 to 25 the death rates for both sexes were much higher than in the other towns of our series. Turning to the causes of deaths, it appears that the phthisis mortality was very high. We certainly cannot explain it by the generally unfavourable sanitary conditions of the town; we have seen that at later ages Northampton stands better than Warrington or Bolton. We may of course say that the low Northampton mortality at 25 to 45 is partly owing to the high and selective mortality at 15 to 25, but it remains to consider what these influences are which make for so high a mortality at the earlier age. The mortality of boot and shoe manufacturers from phthisis is very great, disproportionately great in comparison with their mortality from all causes. Using the comparative mortality figures of the Registrar-General (1910–12), shoemakers are found to have had a mortality from all causes 88 per cent. greater than that of the clergy; their mortality from phthisis exceeded that of the clergy by no less than 356 per cent.

Dr. Jacques Bertillon summarizes an analysis of thirteen set of tables in the following words:

"The results of these different tables are sufficiently concordant except the French table, the mortality is average (rather slightly less than average at all ages in the four English tables, the Swiss table, and the Parisian table for 1890–99). It is slightly above the average in the two Scottish tables, the Paris 1885–89 table, and that of Leipzig. It is very sensibly above the average (especially below 35) in the French table. All the tables agree in showing that phthisis is frequent at all ages. Other diseases of the respiratory system are, on the contrary, rare" (p. 171).

The occupational incidence of disease I propose to examine in the next lecture; I mention the case of shoemakers here, since it arises in connexion with our study of the four towns; as perhaps the best instance they afford of an industrial correlation not associated with specially low wages or bad housing.

I have dwelt upon the vital statistics of these four towns because for them alone we have contemporaneous measurements of economic status, and only when such are available over a much wider area can we hope to know the real mass etiology of death rates. The field covered was too small to render it probable that definite hygienic inferences could be drawn. But even this small experiment has taught us much, and suggested that investigations on the lines of Professor Bowley and Professor Burnett-Hurst's inquiries would be of sanitary as well as economic importance—if, indeed, in a civilized commonwealth economic and hygienic interests can ever be separated.

I conclude with a few remarks upon the significance of some wider data.

Working Life.

Hygienists are grateful to Dr. E. C. Snow for devising, and to the late Registrar-General, Sir Bernard Mallet, for arranging the publication of, a long series of sectional life tables based on the experience of the years 1911 and 1912.

It is of course easy to overrate the importance of the life table as an instrument of hygienic research. The beauty of the technical methods used for its construction and graduation appeal to the professional statistician, the symbolical notation in which those methods are (necessarily) displayed strikes awe into the heart of the non-actuarial medical officer, who is apt to suppose that there is a special intellectual prestige attaching to those who can freely utter such mysterious phrases as "curtate expectation of life" or "osculatory interpolation." One sometimes forgets that life-table constants are subject to precisely the same difficulties of interpretation as the death rates themselves from which they are deduced. The life table of any district is based upon the death toll taken of *contemporaneously existing* lives. Could we make a life table for persons followed individually from the cradle to the grave, the result would probably differ greatly from such tables as we can construct. I am a less enthusiastic admirer of the life table as an instrument of research than is Dr. Brownlee. The life tables we have do, however, answer some important questions.

By the age of 25 the period of apprenticeship is almost over, by 55 the prime of working power in the industrial classes is past. Of the possible term of thirty years here covered what is the average number actually lived in areas of different industrial and geographical types? In the table I provide such approximations to the answer as can be deduced from sectional life tables (the short tables of the General Register Office have been used).

TABLE VII.—"*Partial*" *Expectation of Life for Males during the Thirty Years from Attained Age 25.*

NORTH-WEST OF ENGLAND.

Great Industrial Towns.—Bolton, 26.8; Burnley, 27.3; Halifax, 27.1; Huddersfield, 27.1; Leeds, 26.7; Oldham, 26.5; Preston, 26.6.—Average, 26.9 years.

Non-Industrial Areas.—County of Cumberland, 27.1; County of Westmorland, 27.7; Rural Districts of the West Riding, 27.5.—Average, 27.4 years.

SOUTH-WEST OF ENGLAND.

Industrial Towns.—Bristol, 27.1; Plymouth, 26.4; Southampton, 26.2.—Average, 26.6 years.

Non-Industrial Areas.—Dorset, 27.8; Wilts, 27.8; Devon (rural), 27.7.—Average, 27.8 years.

MIDLANDS.

Industrial Towns.—Coventry, 27.7; Derby, 27.6; Nottingham, 26.8; Leicester, 27.3.—Average, 27.4 years.

Non-Industrial.—Derbyshire (rural), 27.8 years.

EAST ANGLIA.

Industrial.—Norwich, 27.6 years.

Non-Industrial.—Rural Districts of Norfolk and Suffolk, 27.9 years.

At a glance such figures as these are reassuring. The difference between the best and worst in the table, between Oldham and the rural districts of Norfolk and Suffolk, is only 1.4 years. But were we able to take them at their precise face value these figures would

be very depressing. The average value of the seven Lancastrian industrial towns is 26.9 years. Between the rural areas of different parts of the country the administrative counties of Westmorland, Dorset, Wiltshire, the rural parts of Norfolk, Suffolk, Devon, and Derby there is hardly any difference—the lowest is 27.7, the highest 27.9, the average 27.8. Therefore every man who passes his productive years from 25 to 55 under the rural conditions will have 0.9 of a year more to live in that productive period than a man of the same entering age in the industrial towns; the urban man power is 96.76 per cent. of the rural man power, defining man power as years of life lived from 25 to 55. Put in other words, were the urban conditions hygienically as good as the rural conditions the urban population might be reduced to 96.76 per cent. of its strength, and it would possess precisely the same productive power as now, although these rural samples themselves only yield 92.67 per cent. of the theoretically possible span, thirty years.

As a further illustration, I consider the partial expectation at 20 for the thirty-five years to 55 (males). Having applied the method to the ten industrial registration districts of Stoke-on-Trent, Wolverhampton, Walsall, West Bromwich, Dudley, King's Norton, Birmingham, Aston, Leicester, and Nottingham, and to the agricultural district formed by excluding the registration district of Lincoln from the registration county, the following results were reached:

In 1851–60 the urban man power was 96.7 per cent. of the agricultural man power; in 1901–10 it was 97.1 per cent. of it. Sixty years ago the Lincolnshire males lost 13 per cent. of their possible time, and now lose 8.4 per cent. Sixty years ago the urban males lost 16 per cent., and still lose 11 per cent. (Greenwood, p. 178). Again, I make the reservation that results based upon the mortality of two years (which is the case of the figures used above and referring to 1911–12) have only the value of samples, and are subject to errors of sampling. Space does not permit me to discuss the evaluation of the error of sampling for a somewhat complex expression such as the partial expectation, but I find it to be of the same order as that of the death rates, and there is little reason to doubt that the kind of difference shown in these few examples is of the order of magnitude of the "true" difference.

THE VALUE OF VACCINES IN THE TREATMENT OF WHOOPING-COUGH.

BY

DONALD PATERSON, B.A., M.R.C.P.,

PHYSICIAN TO OUT-PATIENTS, THE HOSPITAL FOR SICK CHILDREN, GREAT ORMOND STREET, LONDON;

AND

JAMES M. SMELLIE, M.D.EDIN.,

PHYSICIAN TO OUT-PATIENTS, THE CHILDREN'S HOSPITAL, AND MEDICAL REGISTRAR, QUEEN'S HOSPITAL, BIRMINGHAM.

THE object of this paper is to record some observations on and the results of vaccine treatment of cases of whooping-cough. The majority were out-patients, a few being in-patients, at the Hospital for Sick Children, Great Ormond Street, during the months of January, February, and March, 1922.

For purposes of age and sex incidence we have included all those cases of whooping-cough which attended the out-patient department of this hospital during the year 1921 and the first 196 cases that attended in 1922, making 1,000 cases in all. The seasonal incidence has been taken from the 804 cases attending during 1921.

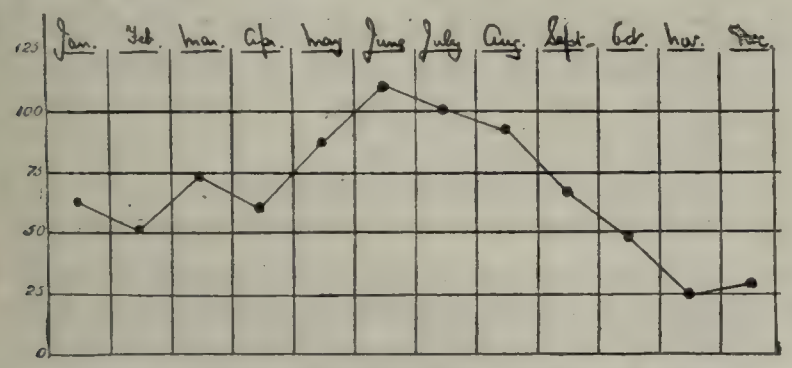


CHART 1.—Seasonal incidence, 1921. (Based on 804 cases.)

As will be seen from Chart 1 the *seasonal incidence* reached its maximum in June, when there were 109 cases, and fell to the minimum in November, when there were 25 cases. The *sex incidence* shows 530 girls to 470 boys. The *age incidence* (see Chart 2) shows the maximum at 1 to 2 years, and the vast majority occur before the age of 6 years, or within twelve months of starting school.

Symptoms.

The average duration of the cough before the onset of the whoop in 100 of our cases seen during January, February, and March, 1922, was two weeks. In some cases the whoop started within a few days of the onset of the cough, but in other cases was delayed as long as three to four weeks.

The onset, duration, and termination of the whoops and vomits were on the average identical. At the onset the

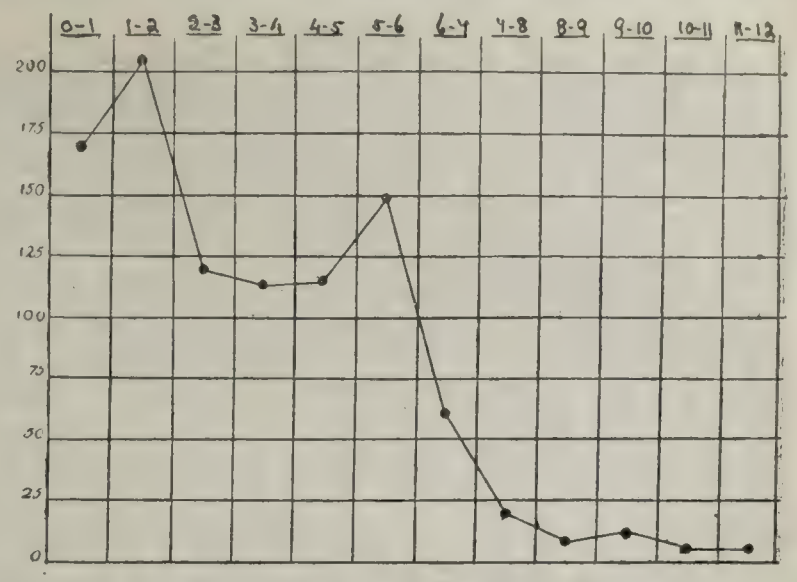


CHART 2.—Age incidence. (Based on 1,000 cases.)

whoops were much more severe and frequent during the night than by day. As the disease declined the whoops became gradually less during the night, and in the later stages of the disease were entirely confined to the day.

In very young children gross wasting as a result of the incessant vomiting was a very serious feature, and was of importance even in the older children. Where vomiting was severe obstinate constipation was a concurrent symptom.

A sublingual ulcer was looked for on at least one occasion in 62 cases; it was present in 11, or 18 per cent. In several it was not present at the first examination early in the disease; it was usually found to develop during the second or third week. In 9 of these cases, or 82 per cent., the age of the children was between 1 and 3 years. The ulcer healed very rapidly; a careful and continuous search would, we have no doubt, reveal this ulcer in a much larger proportion of cases.

Bronchitis is present in the majority of cases. The signs may be scattered rhonchi; and early in the disease, almost at the level of the diaphragm, a girdle of fine crepitations is very frequently heard. In small children massive collapse, dyspnoea, and cyanosis sometimes complicated the clinical picture and gave rise to the diagnosis of bronchopneumonia. These physical signs are, in our opinion, brought about by the thick tenacious secretion present in the bronchi plugging the smaller bronchioles of the most dependent parts of the lungs, thus giving rise to collapse in this area with consequent fine crepitations.

In 4 out of 80 cases the tonsils had been removed. In 18 cases there was injection but no enlargement; 18 others showed moderate enlargement with injection; in the remaining 40 cases, or 50 per cent., the tonsils were grossly enlarged and injected. The injection is, no doubt, secondary to the coughing.

Duration.

The average duration of the disease in our 100 cases, as measured from the onset of the cough to the termination of the whoop or vomit, was six and a half to seven weeks, while the average duration of the whoop was four and a half to five weeks.

Complications.

Epistaxis was a not infrequent complication, and was much commoner in older children, though of minor importance. Bronchopneumonia, on the other hand, occurred in 5 per cent. of 200 cases, but gave rise to grave anxiety, 4 out of our 10 cases proving fatal. Among other complications were subconjunctival haemorrhages and laryngitis; puffiness of the face was not infrequent, and in the more severe cases called for an examination of the urine to exclude nephritis. Pain, referred to the diaphragm, the intercostals, and the abdominal muscles, due to the violent straining and coughing, was frequently complained of by the older children. Convulsions occurred only in association with bronchopneumonia, and the two cases we observed both proved fatal. *Post-mortem* examination in one of them showed on microscopical examination marked cerebral congestion only.

In 5 to 10 per cent. of our cases a fresh attack of bronchitis caused a recurrence of the whoops.

Mortality.

The mortality in 200 cases observed during three months was 2 per cent.; these four cases died of bronchopneumonia, and two of them terminated in severe convulsions.

Diagnosis.

In the earliest stage, before the cough is paroxysmal or the whoop or vomit appears, the diagnosis is extremely difficult. A fretful, peevish child aged 1 to 3 years, with a short hacking cough, possibly laryngitis, slight unexplained pyrexia, and usually a girdle of fine crepitations at the level of the diaphragm, should make one suspect the onset of this disease. Briefly the clinical picture is that of an ill child; the physical signs are comparatively slight.

In the later stages the diagnosis becomes less difficult. The characteristic expiratory paroxysms with whoop and vomit, the slightly puffy face, the subconjunctival ecchymosis, the occasional epistaxis, and the presence of a sublingual ulcer, all point towards pertussis.

We have unfortunately occasionally observed this sublingual ulcer in children of the same age in which it commonly occurs in whooping-cough (1 to 3 years), and in these cases there could be no question of whooping-cough playing a part in its formation. We agree that these ulcers are formed by the tongue striking on the sharp lower incisors during the forcible expiratory spasms of coughing.

In our opinion the whoop is not necessary for diagnosis. In eight families where several children were suffering from undoubted whooping-cough one child was observed to have typical cough without the whoop. On the other hand, a typical paroxysmal cough with a vomit and a whoop may be found in cases of tuberculosis with caseous mediastinal glands. The presence of tuberculosis in other parts of the body and the length of the history may help to clear up the diagnosis. A foreign body in the trachea may also closely simulate pertussis in this respect.

Treatment.

The number of patients treated with vaccine and followed to their recovery was 64. Of these, 6 were given bi-weekly injections and treated as in-patients, while the remaining 58 were given weekly injections while attending the out-patient department.

Dosage of Vaccines.—The vaccine was supplied by a well-known London laboratory, and the dosage we employed was as follows:

Initial injection:	
Bordet's bacillus	500 million.
Influenza bacillus (Pfeiffer)...	125 ,,
Pneumococci	25 ,,
Second injection:	
Bordet's bacillus	1,000 million.
Influenza bacillus	250 ,,
Pneumococci	50 ,,
Third and subsequent injections:	
Bordet's bacillus	2,000 million.
Influenza bacillus	500 ,,
Pneumococci	100 ,,

For the purposes of this paper the length of the disease was defined as from the onset of the cough to the termination of the whoop.

RESULTS.

A. *Vaccinated Cases.*

1. In 58 of the out-patient cases treated with weekly injections the average duration was 7 weeks; those treated within the first week of the onset showed an average duration of 5.7 weeks; those in the second week of the disease an average duration of 5.9 weeks; those in the third week an average duration of 7.2 weeks; in the fourth week an average duration of 7.6 weeks; in the fifth week an average duration of 9 weeks.

2. In the 6 cases treated with bi-weekly injections as in-patients the average duration was 6.6 weeks.

B. *Non-vaccinated Cases.*

The average duration of the disease in 42 control cases that were not treated with vaccine was 6.4 weeks.

Did the vaccine shorten the duration or severity of the whoop?

In the vaccine-treated cases the average duration of the whoop was 4.8 weeks; in the non-vaccinated cases 4.4 weeks. Even in the vaccinated cases treated in the first or second week, and occasionally before the whoop developed, the shortening of the duration of the disease would appear to be negligible. In several cases exposed to infection and seen early in the stage of incubation, vaccine treatment appeared to have no appreciable value as a prophylactic measure. It appeared to us that the vaccine which we used when given weekly, or bi-weekly, entirely failed to influence the duration or the severity of the disease either favourably or unfavourably.

The administration of vaccines to children presents difficulties. The injections were painful and upset the children considerably, especially the larger doses, so that they lost confidence in us. Unless whooping-cough vaccine can be shown to be of more therapeutic value than it has been in our hands, we consider that the distress to the child, and the risk of losing his confidence, does not justify its use.

We lack experience in vaccine therapy and fully realize that the wrong organism, intervals between injections, and dosage may have been used in this investigation. We are of the opinion that the following points in treatment aid in the shortening of the disease and the prevention of complications.

Hygienic.—Fresh air seemed an all-important point, and undoubtedly those children allowed to run about outside with the usual precautions against exposure did much better than those confined to the house. Even those with a moderate degree of bronchitis benefited greatly with this treatment. Where there is insomnia and exhaustion, consequent on the greater severity and frequency of the whoops at night, this can be alleviated by getting the child to rest and sleep during the day.

Dietetic.—Anorexia and vomiting being constant symptoms, wasting was a constant sequel; it was often found necessary to vary the diet frequently, children taking and retaining cow's milk or some of the proprietary foods best during the acute stage. The all-important point seemed to be to prevent this wasting and to keep the child in as good physical condition as possible. The feeds were given in small amounts and at frequent intervals, and when possible immediately following on a paroxysm of coughing and vomiting.

Medicinal.—We found cod-liver oil and malt a most useful remedy. Children on this treatment actually seemed to put on weight, and during the stage of recovery from the disease a preparation of iron was added to the cod-liver oil with great benefit. To cases of bronchitis with numerous moist sounds in the chest the following mixture could be given with great benefit to a child aged 1 year, and in suitable doses to older children, every four hours:

Tincture of belladonna	miij
Potassium bromide	gr. iij
Glycerin	mx
Water	to 3j

All our cases, both vaccinated and non-vaccinated, were given cod-liver oil and malt in suitable doses, with a liniment for the chest.

Our thanks are due to Miss Marian A. Lawson, of the Royal Free Hospital, for her very valuable assistance in administering the vaccines.

AN ARTERIO-VENOUS ANEURYSM TREATED BY LIGATION OF THE LEFT SUBCLAVIAN ARTERY.

BY

CHARLES NOON, F.R.C.S.,

ASSISTANT SURGEON, NORFOLK AND NORWICH HOSPITAL.

LIGATION of the first part of the left subclavian artery is so rarely done that I think the following case may be worthy of record.

History.

A man, aged 24, was admitted to the Norfolk and Norwich Hospital on June 6th, 1921, complaining of swelling of the left upper extremity. He stated that while serving in France he was wounded in the region of the left clavicle on May 17th, 1917. After receiving treatment in various hospitals he was discharged from the army in November, 1917, on account of pain and weakness of the left arm. At the time of his discharge from the army the arm was not swollen, but at the end of 1918 he began to notice gradual increase in size of the whole of the left upper extremity, and a pulsating swelling appeared in the region of the left clavicle. The size of the arm continued to increase until there was very little use in it, and he had to carry it about in a sling. Dilated veins appeared on the surface of the axilla, arm, and forearm, and the skin of the left upper extremity assumed a dull livid colour. A superficial ulcer appeared on the flexor surface of the forearm in June, 1921, and rapidly increased in size.

Condition on Admission.

In regard to his general condition, the patient was a fairly healthy-looking, but somewhat pale man. His temperature was 98°, pulse rate 80, respirations 20; tongue clean, teeth fair. With reference to the local condition the left supraclavicular fossa was obliterated by a well-marked pulsating swelling. Pulsation was also visible below the clavicle, but was less well marked than above it. There were numerous dilated and tortuous veins running over the left upper extremity, especially well marked in the axilla. The whole of the arm and forearm was a dull livid colour; the arm was much swollen, the circumference of the upper arm 4 inches below the acromion process measuring 17 inches. There was a superficial ulcer situated on the flexor surface of the forearm, having all the characteristics of a varicose ulcer. The movements of the thumb and fingers were normal: there was no loss of sensation in the hand. The pulsation in the region of the left clavicle was felt to be expansile and diffuse, extending above and below the bone. A well-marked bruit could be heard over the whole of the left side of the chest, especially well marked over the pulsating swelling above and below the clavicle. The left radial pulse was less easily felt than the right. Heart and lung normal.

X-ray Examination.—There was a small foreign body situated behind the centre of the left clavicle.

A diagnosis was made of arterio-venous aneurysm between the second part of the left subclavian artery and the left subclavian vein. Rest, careful bandaging, and elevation of the arm improved the condition slightly, but considerable swelling persisted in spite of these measures. The varicose ulceration of the forearm continued to increase; operative treatment was therefore decided upon.

Operation: Ligation of the First Part of the Left Subclavian Artery.

On September 25th, 1921, an anaesthetic (chloroform and ether) having been administered, the patient was placed in the dorsal position, the shoulders slightly raised, and the head turned towards the right side. An incision was then made from the centre of the anterior border of the left sterno-mastoid muscle extending downwards to a point just internal and below the left sterno-clavicular joint. A second incision was then made from this point extending outwards parallel with and half an inch below the left clavicle. A triangular flap of skin and superficial fascia was then raised, exposing the left border of the manubrium sterni and the inner two-thirds of the left clavicle; the attachments of the sterno-mastoid muscle to the clavicle were then defined. The muscular attachments to the superficial surface of the clavicle were next divided; the periosteum covering the superficial aspect of the clavicle was divided and separated from the bone; the clavicle was then divided at its centre and the inner half removed subperiosteally. The left half of the manubrium sterni was next cut away. The base of the wound now consisted of the periosteum, which covered the posterior surface of the manubrium sterni, the periosteum separated from the posterior surface of the clavicle, a layer of deep cervical fascia and muscular tissue consisting of part of the sterno-hyoid and sterno-thyroid muscles. The base of the wound was then enlarged by dissecting away the exposed periosteum; the sterno-hyoid and sterno-thyroid muscles were defined and retracted. The common carotid artery was then defined running along the inner aspect of the wound. The left innominate vein, formed by the left internal jugular and left subclavian veins, was now defined, and retracted outwards and downwards with some difficulty. The left subclavian artery could then be felt at the bottom of a deep wound surrounded by fatty tissue. About half an inch of the vessel was exposed, and it was found that compression of the vessel caused complete arrest of pulsation in the aneurysm. An aneurysm needle was then passed round the first part of the subclavian artery, and the vessel tied with No. 3 silk by a knot after the method of Ballance and Edmunds. This method consists of passing the separate strands of ligature material round the vessel, tying each in a simple knot in the same direction, and then by using the two strands on each side as one completing the square knot. A few bleeding points were ligatured and the wound closed; a small rubber drainage tube was retained in the wound for twenty-four hours. Dressings were applied, and the hand and limb carefully bandaged. The time taken to complete the operation was two and a half hours.

Post-operative Treatment and Progress.

On September 26th, twenty-four hours after the operation, there was considerable respiratory distress, the respirations varying from 44 to 58 a minute; the pulse rate was 120, and the temperature was 100.5°. On September 27th the pulse rate was 140, fair volume and tension; the respirations 52, and the temperature 102°. The condition appeared to be due to an attack of acute bronchitis, probably caused by the administration of an unusually long anaesthetic. The condition gradually improved, and at the end of a week the temperature, pulse, and respiration were normal. The wound healed by first intention, and the stitches were removed on the eighth day. The radial pulse after the operation could not be felt, but the arm and forearm remained warm, and there was never any loss of sensation. No decrease in the swelling of the arm was noticed until the fifth day after the operation, when the limb began to decrease in size, so that nineteen days after the operation the upper arm had decreased 5 inches in circumference, measuring 12 inches instead of 17 inches. The varicose ulceration of the forearm began to heal rapidly, and had completely healed five weeks after the operation. Massage to the hand and forearm was started four weeks after the operation, and eight weeks from the date of the operation the patient was discharged from the hospital, when no pulsation could be felt at the site of the aneurysm, but a slight bruit could still be heard. There was excellent power in the arm, forearm, and hand.

Remarks.

This was a case of arterio-venous aneurysm between the second part of the left subclavian artery and the left subclavian vein; the condition which demanded relief was the extreme swelling of the left upper extremity, which from the size and pain which it caused completely crippled the patient. The severe varicose ulceration of the forearm, associated with the varicose condition of the veins of the arm and forearm, made the possibility of septic thrombosis a very real danger. Alleviation of the condition seemed to be possible by one of the following procedures—namely, a reconstructive operation on the blood vessels which had for its object the closure of the abnormal communication between the artery and the vein, or ligation of the first part of the left subclavian artery as near to the arterio-venous aneurysm as possible; in either case it would be necessary to expose the artery and vein on the proximal side of the aneurysmal sac. When the first part of the subclavian artery had been exposed it was found that pressure on the artery at once stopped completely the pulsation in the aneurysm. From the condition of the parts it seemed very inadvisable to attempt a dissection to separate the artery from the vein, and to attempt to expose the abnormal communication between them. It was therefore decided to be content with ligation of the first part of the left subclavian artery. The completion of the operation was followed by recovery.

Success in performing this operation would appear to depend upon the elimination of the three complications which are likely to follow—namely, haemorrhage, shock, and sepsis. Before the introduction of the antiseptic and aseptic era this operation was practically certain to result in failure. Cases of ligation of the first part of the left subclavian artery have been successfully performed and reported by Halstead of Baltimore in 1892. Dr. John C. Da Costa twice ligatured the vessel, and both patients recovered. Nassau of Philadelphia also successfully ligatured the vessel. In 1897 Curts, and in 1899 Allingham, also reported successful cases. There have certainly been other reported and unreported cases; still the operation is rarely required and seldom done.

Haemorrhage after the operation is to be avoided by paying every attention to an aseptic technique and by careful ligation of the vessel with the most suitable material. It is probable that a ligature tied with the ordinary knot is more likely to ulcerate than one tied after the method of Ballance and Edmunds. The ligature should be tied so that the vessel is merely compressed and the coats of the artery are not divided. It has been stated that Halstead and Barling consider an absorbable material should be used for the ligature material.

It is an interesting fact that gangrene of the upper extremity rarely follows ligation of the subclavian artery; this, of course, is accounted for by the very free anastomosis which is present; still, cases have been recorded in which gangrene has followed the operation, so that it is important to take every precaution to prevent it. For the control of gangrene after operation for aneurysm two things are under the control of the surgeon provided there is no indication for immediate operation—namely, the method of operating and the time of operation. In the former the primary consideration is to save as many of the affected vessels as possible; in the latter, to allow sufficient time for the establishment of the collateral circulation. In this case the immediate result of the operation was to increase slightly the swelling of the arm, but this began to rapidly decrease five days after the operation. The radial pulse ceased on ligaturing the artery, and had not returned three months after the operation; but the collateral circulation is well maintained, the swelling of the arm is only slight, and the patient can use the hand well.

I have to thank Sir Hamilton Ballance for his advice and help in treating this case.

THE report of the school medical officers of Tokyo states that in 1921 there were 4,273 cases of scrofula, 399 of anaemia, 939 of cardiac disease, and 1,335 children with narrow chests; the cases constituted 9 per cent. of the school children of the city. According to this report nearly all children who contract tuberculous disease before the age of 14 succumb before they reach the age of 20.

THE USE OF THE VAN DEN BERGH TEST IN THE DIFFERENTIATION OF OBSTRUCTIVE FROM OTHER TYPES OF JAUNDICE.

BY

J. W. McNEE, M.D., D.Sc., M.R.C.P.

(From the Medical Unit, University College Hospital.)

AT a recent meeting of the Association of Physicians of Great Britain and Ireland, held in Oxford, Professor Hijmans van den Bergh of Groningen gave a short account of his important work on the presence of bile pigment (bilirubin) in the blood serum under normal and pathological circumstances. In doing so he made reference to the test for bilirubin in serum and other albuminous fluids which is now prominently associated with his name. I have made use of this test in the wards and in experimental work for some months, and the results obtained have up to the present fully realized expectations. It was intended to wait until a much larger series of observations had been carried out, but since none of the work of van den Bergh has so far been published in English the writer has been asked to make some of the main facts accessible at once, leaving the fuller account for subsequent publication. It must therefore be understood that the conclusions reached in this short paper cannot be regarded as final, unless confirmed elsewhere or by future work on the subject.

The first account of the work of Hijmans van den Bergh on the presence of bile pigment in serum appeared in 1913,[1] and a full description of his observations has been collected in a monograph entitled *Die Gallenfarbstoff im Blute*, published in 1918.[2] More recently (June, 1921) a short summary of the main methods and facts appeared in the *Presse Médicale*.[3]

Confirmation of some of the chief results claimed by van den Bergh has already been given in Germany by Lepehne (1921) [4] and Rosenthal and Holzer (1921).[5]

The clinical application of the test in the differentiation of various types of jaundice will be dealt with here alone, although this is merely a small part of the ground which has been covered by van den Bergh. The important observations which are more concerned with experimental work on diseases of the liver, and with the occurrence of latent jaundice under conditions in which icterus has not hitherto been recognized to exist, must be omitted. It is already certain, however, that future research work on hepatic disorders must be greatly influenced by the application of the knowledge made available by van den Bergh's methods.

The chief clinical value of the test is that by its use jaundice due to obstruction of the main bile ducts by carcinoma, hepatic cirrhosis, obstruction in the portal fissure, or gall stone in the common bile duct, can be clearly differentiated from jaundice of haemolytic origin or due to functional derangement of the liver cells. In this latter category are now included the various forms of haemolytic and acholuric jaundice, and also functional jaundice, such as catarrhal jaundice, toxic jaundice in infective diseases (typhoid fever, pneumonia), icterus neonatorum, etc. It is perhaps not yet generally accepted, except by those who have followed closely the work on hepatic disorders published in recent years, that all modern work strengthens more and more the view that a true haemolytic icterus, apart from the liver, does occur, and also that "catarrhal jaundice" depends on a hepatitis with functional derangement of the liver and not on an obstruction to the bile ducts. The newer methods of van den Bergh throw further light on the question from a new angle, and entirely support both the occurrence of a functional icterus apart from biliary obstruction, and of a haemolytic icterus with which the liver itself is not concerned.

The value of van den Bergh's test in the differentiation of obstructive from what may be termed functional and haemolytic jaundice is illustrated by a few chosen reports of cases given at the end of this short communication.

MECHANISM AND TECHNIQUE OF THE TEST.

Hijmans van den Bergh began his work faced with a difficulty which has confronted all who have worked chemically or experimentally on the different forms of jaundice—namely, the want of a delicate and trustworthy test for small amounts of bile pigment in an albuminous fluid such as blood serum. The tests hitherto employed, such as the Gmelin and Huppert tests, with their various modifications, have many disadvantages (especially in albuminous fluids), and are, besides, far from delicate for quantitative estimations.

Van den Bergh has applied for his purpose the so-called "diazo reaction," first described by Ehrlich, who found that bilirubin, when dissolved in chloroform or alcohol, gives with diazonium salts a reddish colour in neutral solutions and a bluish colour in acid solutions. Making use of this reaction to detect the presence of bilirubin in blood serum, van den Bergh and Snapper found that it gives extraordinarily delicate and certain results. They observed, for example, that every normal serum contains bilirubin in a dilution of from 1 in 400,000 to 1 in 250,000. Such a dilution in human serum is readily detected by the diazo test. They found further, after much observation, that no other substance likely to be present will give the reaction, and they have never detected any other substance in a human serum, except bilirubin, which has given a positive result. Biliverdin does not react to the test. It is to be noted also that lutein, which in certain cases (diabetes, etc.) may deeply colour human blood serum and even give the appearance of jaundice to the skin, does not give the reaction.

Technique of the Test.

For the test, as ordinarily carried out, about 3 c.cm. of serum may be required, although less will suffice after some practice has been obtained. The blood is taken from a vein in the usual way into a dry test tube, allowed to clot, and the separated serum is then removed by a pipette. It is best to begin to practise the test on a case of fairly intense icterus.

Apparatus and Reagents Required.

1. A few test tubes of ordinary size.
2. Freshly prepared Ehrlich's diazo reagent. This consists of two solutions, each of which keeps well, but the mixture of the two must only be made immediately prior to the test. The two solutions are made up in the following proportions:

A.	Sulphanilic acid	1 c.cm.
	Concentrated HCl	15 c.cm.
	Distilled water...	1,000 c.cm.
B.	Sodium nitrite	0.5 gram
	Distilled water...	100 c.cm.

The diazo reagent consists of a mixture of these two solutions in the proportion of 25 c.cm. of solution A to 0.75 c.cm. of solution B.

3. A graduated 1 c.cm. pipette.
4. Absolute alcohol (96 per cent.).
5. A centrifuge and centrifuge tubes.

The test is then carried out as follows: To 1 c.cm. of the serum, in a small test tube, van den Bergh adds 0.25 c.cm. of freshly prepared diazo reagent. (Lepehne, and the writer, have found that better results are frequently obtained by adding 1 c.cm. of the reagent.) One of three events may now occur:

1. *An Immediate (Direct) Reaction.*—This begins instantly and is *maximal in ten to thirty seconds.* The colour reaction obtained is a bluish-violet, of intensity depending on the amount of bilirubin present.

2. *A Delayed Reaction.*—This begins only after one to fifteen minutes, or even longer, and consists in the development of a reddish coloration, which gradually deepens and becomes more violet. (It will be seen later that this reaction is not made use of further, being replaced by the so-called *indirect reaction or test*—vide infra.)

3. *A Bi-phasic Reaction.*—In this a slight reddish colour appears immediately (ten to thirty seconds), which after a minute or much longer time is seen to deepen gradually and become more violet.

Interpretation.

If the reaction is immediate or direct an obstructive jaundice is indicated.

If a direct or immediate reaction is not obtained proceed as follows: To 1 c.cm. of serum add 2 c.cm. of 96 per cent. alcohol. The mixture is made in a centrifuge tube, which is then centrifugalized until all the albuminous precipitate has sunk to the bottom to leave a clear yellowish supernatant fluid. To 1 c.cm. of this supernatant fluid add 0.5 c.cm. of alcohol and 0.25 c.cm. of Ehrlich's diazo reagent. (The reason for the addition of 0.5 c.cm. of alcohol is to get a proper dilution for the quantitative test, referred to below, and may be omitted where that test is not being carried out.) A violet-red colour is then obtained if bilirubin be present, which is of maximal intensity almost at once.

Where no direct reaction has been given, but a perfect indirect reaction after alcohol precipitation, then the jaundice

can be inferred to be either haemolytic in origin or dependent on some functional derangement of the liver cells without obstruction.

It should be mentioned that all serums which give a direct reaction will give in addition an indirect reaction, but the converse is not, of course, true.

By these two simple tests, therefore, a distinction can be drawn between icterus due to obstruction of the main bile ducts from gall stones, tumours, hepatic cirrhosis, etc., and an icterus of haemolytic, infective, or functional origin.

What is the mechanism of the test, and how is it that the bilirubin present in the serum in obstructive jaundice reacts to the diazo reagent quite differently from the bilirubin in haemolytic, catarrhal, and other forms of jaundice?

It appears to depend on the fact that the bilirubin differs molecularly in the two conditions, and, without going deeply into theoretical considerations here, van den Bergh suggests that in the case of bilirubin giving the indirect test only, the pigment has been in some way bound to albuminoid substances in the serum, and the union is only broken down by time or by alcoholic precipitation. The reader must be referred to the original papers for further consideration of this point.

Taking this short explanation for granted, the rationale of the *bi-phasic reaction* becomes intelligible. It would appear to depend on the presence of both types of bilirubin, in different proportions, in the same serum. If the first variety predominates, the reaction might be described as *bi-phasic direct*, and the other as *bi-phasic indirect*. The occurrence of the bi-phasic reaction is fortunately not very common, but until much further experience with the test has been gained it is best for the moment to draw no absolute conclusion in a case giving such a result. The writer is finding such cases of great interest at present, and it is already evident that in, for example, cardiac valvular disease with failure, back pressure, and hepatic enlargement, the icterus which sometimes occurs may be at first functional, and later obstructive in type as the hepatic enlargement increases, the bilirubin showing a gradual transition through a bi-phasic stage with the test.

Application of the Test for the Quantitative Estimation of Bile in Serum.

Although the simple test as described above will probably be the first to be commonly used clinically, it is an obvious advantage to be able to estimate the increase or decrease of bile pigment in the blood serum, especially in cases of obstructive jaundice. This may have importance, for example, in cases of suspected carcinoma of the liver, or in the recognition of the exit of a gall stone from the common bile duct. It is, of course, well known that the icteric tint of the skin changes comparatively slowly. It has also an importance in the study of various forms of "latent icterus," such as in cases of pernicious anaemia. These questions will be dealt with in a later communication.

The so-called *indirect test* of van den Bergh, which, as has been stated, is given by all forms of icterus whether obstructive or non-obstructive, lends itself easily to a quantitative estimation of bilirubin by a colorimetric method. For full details of the method the original papers should be consulted, but the main principles may be briefly given here. At first van den Bergh made use of chemically pure bilirubin to prepare a solution for comparison, but he was able soon to replace this with an artificial standard solution giving a colour suitable for comparison. This solution, moreover, is made up in a strength which can give a definite reading in "units" of bilirubin. The artificial solution consists of iron sulphocyanide dissolved in ether, in a concentration of 1 in 32,000 normal. This solution is of a colour which corresponds exactly with that of azo-bilirubin (as produced in the "indirect test") of 1 in 200,000, the quantity found to be the average amount in the serum of a healthy individual. An indirect reaction giving a colour exactly corresponding to this standard is taken as indicative of "1 unit" of bilirubin.

The Solution of Sulphocyanide.

The standard solution of iron sulphocyanide is prepared as follows:

Dissolve 0.1508 gram of ammonium iron-alum in 50 c.cm. concentrated HCl, and add water to 250 c.cm. This gives a dilution of 1 in 8,000 normal, which will keep for about six months.

To 3 c.cm. of this solution add an equal volume of 20 per cent. potassium sulphocyanide and 12 c.cm. of ether. Shake well, and when all the reddish colour has passed into the ether transfer the ether carefully, either into a colorimeter, or other comparative tube. This solution is in a concentration of 1 in 32;000 normal, and must be prepared freshly each day a test (or tests) is made.

I have made use of the simple Autenrieth-Funk colorimeter for the quantitative estimation, but any form of colorimeter is, of course, applicable. For rough clinical use dilution of the fluid obtained in the indirect test may be made in test tubes of equal calibre, and reasonably accurate comparative results obtained. It should be pointed out that even with the complete technique of van den Bergh the results are of an accuracy which is adequate for clinical purposes only. There are various fallacies which prevent a completely accurate estimation of the whole of the bilirubin present in any serum. One of the chief of these depends on the fact that some bile pigment is always carried down in the albuminous precipitate when alcohol is added. The amount, however, is always small, and is greater in cases of obstructive than of non-obstructive icterus.

REPORT OF CASES.

Case 1.

Female. History of three attacks of jaundice, with vomiting and epigastric pain, within a period of a few months. Stools clay-coloured. X-ray examination showed two shadows at the level of the twelfth rib, to the right of the middle line, but deeply back in the body. There was doubt as to what these shadows were—biliary calculi, renal calculi, or calcified glands. On the clinical features of the case a diagnosis of gall stone blocking the common bile duct was made.

On applying the van den Bergh test the following result was obtained:

Direct test ... Negative.
Indirect test ... Positive (3 units of bilirubin).

Exploratory laparotomy was performed; the gall bladder and bile ducts were normal, and patent throughout. The liver was not enlarged, but icteric in colour. The diagnosis was changed to catarrhal jaundice, and the patient made a straightforward recovery.

Case 2.

Female. This patient, a nurse in a fever hospital, had been previously admitted for jaundice, which was said to have followed a febrile illness of some weeks' duration. Typhoid was at first suspected, but the Widal reactions for the enteric group of fevers were negative. The jaundice passed off, but the patient was re-admitted for a second attack, accompanied by pain in the right hypochondrium. The stools were light coloured. A diagnosis of gall stones was made.

The result of the van den Bergh test was as follows:

Direct test ... Negative.
Indirect test ... Positive (4½ units of bilirubin).

The abdomen was opened, but the gall bladder and bile ducts were found to be normal. The patient quickly recovered, and the jaundice passed off.

Case 3.

Female. History of several attacks of severe pain in the right hypochondrium. Never jaundiced until one week before admission. Jaundice of moderate degree. Cholecystitis was the diagnosis regarded as probable.

The van den Bergh test gave the following result:

Direct test ... Positive.
Indirect test ... 4 units of bilirubin.

At operation the gall bladder was found to be much contracted and embedded in dense adhesions passing along the portal fissure. One large stone was removed from the gall bladder, but examination of the common bile duct was almost impossible owing to the dense adhesions. A leak unfortunately occurred from the septic gall bladder, and fatal peritonitis followed. At the necropsy the gall bladder was found to be greatly contracted and strictured. The common bile duct was embedded in dense adhesions, but no stones were found.

Case 4.

Male. History of jaundice of three weeks' duration; loss of weight; stools light coloured. Nothing could be made out by palpation of the abdomen.

The van den Bergh test resulted as follows:

Direct test ... Positive.
Indirect test ... 12 units of bilirubin.

At operation a carcinoma of the head of the pancreas was found, obstructing the ampulla of Vater.

The writer wishes to thank members of the staff of University College Hospital and Lewisham General Hospital for access to cases. The work forms part of an investigation carried out under the auspices of the Medical Research Council.

REFERENCES.

[1] Hijmans van den Bergh, A., and Snapper, I.: Die Farbstoffe des Serums, *Deut. Arch. f. klin. Med.*, 1913, cx, 540. [2] Hijmans van den Bergh, A.: Monograph, *Die Gallenfarbstoff im Blute*; Leiden, van Doesburgh, 1918; and Barth, Leipzig, 1918. [3] Hijmans van den Bergh, A.: La recherche de la bilirubine dans le plasma sanguin par la méthode de la réaction diazoïque, *Presse Médicale*, 1921, No. xlv, 441. [4] Lepehne, G.: Weitere Untersuchungen ueber Gallenfarbstoff im Blutserum des Menschen, *Deut. Arch. f. klin. Med.*, 1921, cxxxv, 79. [5] Rosenthal, F., and Holzer, P.: Beiträge zur Lehre von den mechanischen und dynamischen Ikterusformen, *Deut. Arch. f. klin. Med.*, 1921, cxxxv, 257.

AN ETHEREAL EXTRACT OF STRAWBERRIES FOR THE TREATMENT OF SPRUE.

BY

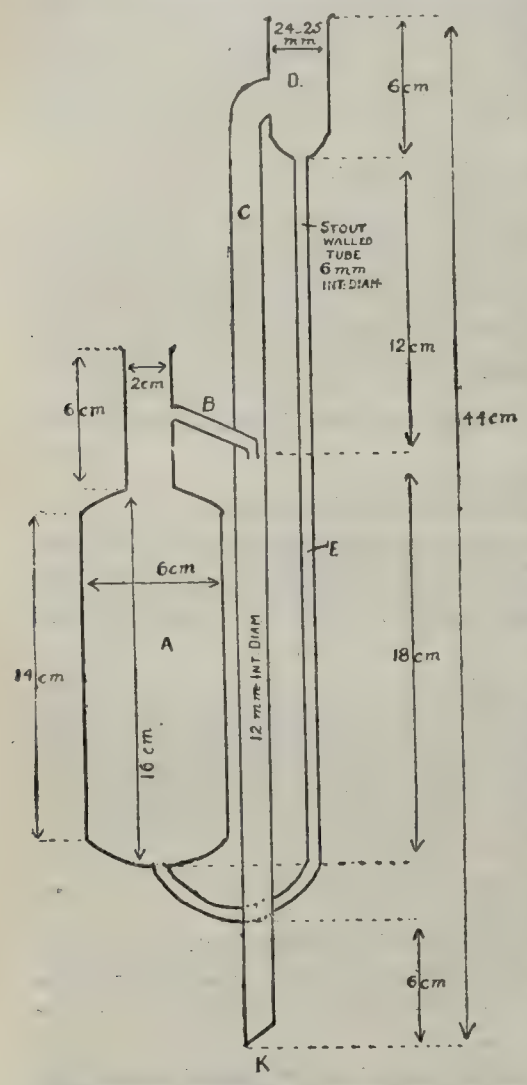
ALDO CASTELLANI, C.M.G., M.D., M.R.C.P.,

AND

K. C. BROWNING, M.A., F.I.C.

[*A Preliminary Note.*]

THE favourable influence of a strawberry diet on sprue has been known for some time. As it is difficult and expensive to get strawberries except in the short season, and, moreover, strawberries forcibly grown out of season do not seem to have the same beneficial effect, we sought a method by which the active principle or principles could be extracted and stored.



Continuous extraction apparatus for extracting a solution with a light solvent. A, Condenser is fitted at D. The solvent is in a flask at K. The solution to be extracted is placed in A, which is then closed by a cork. Small Raschig rings can be put in A to help the extraction.

The experiments of Dr. S. S. Zilva (*Biochemical Journal*, 1920, pp. 494–501) and those of Osborne and Mendel (*Biochemical Journal*, 1920) on the extraction of antiscorbutic and antineuritic principles from cabbages and carrots suggested the method which was adopted. Dr. Zilva showed that it was possible to extract, by means of alcohol, the fat-soluble factor from cabbages and carrots, and that the alcoholic extract also contained the antineuritic and, to a smaller extent, the antiscorbutic factors. He also showed that if the alcoholic extract of cabbages and carrots were further extracted with ether, the ether contained a substance which promoted recovery and renewed growth in rats declining in weight on account of a fat-soluble factor deficiency.

After a number of preliminary experiments, the following procedure was adopted:

Fresh strawberries were crushed with about 5 per cent. of their weight of absolute alcohol and filtered in a powerful filter press. The juice was then extracted for days in a continuous ether-extraction apparatus. The ethereal extract was immediately concentrated in a vacuum over phosphorus pentoxide, a small quantity of either starch or lactose being added. The residue was dried as completely as possible in a vacuum over phosphorus pentoxide, as this appears to ensure greater stability.

The apparatus used is illustrated, and is very convenient. To get the most rapid extraction by thoroughly mixing the solvent with the solution being extracted, a number of Raschig rings are placed in A. These consist of rings whose diameter is equal to their length. They can be made of any suitable material—for example, by cutting 5/16 in. aluminium tubing, 22 gauge, or from glasses. Prolonged experience has shown their value in extractions (cf. Bayer and Co., *Journal of Soc. Chem. Ind.*, 1919, 752a).

The extract we have prepared (mixed with a little starch) is of a dark red colour, has a granular-scaly appearance, is somewhat soft, and has a very powerful fragrant smell of fresh strawberries. A minute quantity of it has been kept in an amber tube for the last ten months (since last June), and apparently has not lost any of its characteristics, being of the same colour, and its fragrant smell being just as strong.

The experimental investigation of this extract is difficult, as sprue cannot be reproduced in the lower animals; we have to rely therefore only on clinical observations, but owing to the question of expense only a very small amount of extract was prepared, and our clinical investigation has been most limited. We may say that we have tried it in two cases of typical sprue in conjunction with the usual milk diet and alkaline treatment. It was given in 5-grain doses three or four times a day and seemed to have a beneficial effect, apparently hastening the improvement in the general condition; but much further work will be necessary before it will be possible to come to any definite conclusion as regards its therapeutic effects. We have thought it advisable, however, to publish this brief note to enable other observers who might be interested in the subject to prepare the extract during the approaching strawberry season, and to experiment further with it.

HYDRONEPHROSIS DUE TO ABERRANT RENAL ARTERY.

BY

E. C. BEVERS, M.B., B.CH.OXON., F.R.C.S.ENG. AND EDIN.,

HONORARY SURGEON, RADCLIFFE INFIRMARY, OXFORD, AND LITCHFIELD LECTURER IN SURGERY, OXFORD UNIVERSITY.

SOME doubt has recently been expressed as to how far abnormal renal vessels are responsible for the hydronephrosis with which they are associated. In the following case the hydronephrosis appeared to be directly due to the aberrant vessel, and the symptoms disappeared after the operation, which consisted simply of division of the abnormal vessel.

E. H., a well-developed, healthy young man of 22, stated that in the summer of 1918 he experienced pain under the right costal margin, and in the mid-axillary line; this pain went through to his back, but never down the flank or into his leg. The attacks of pain were infrequent to begin with and of short duration; later they became more frequent and more severe, generally coming on in the early morning, lasting about two hours, and passing off after he had walked about a little.

At the commencement this pain came on about once a fortnight; these attacks have gradually increased in frequency, and at the present date (January 5th, 1921) they are appearing three times a week.

In the early part of 1920 there was one bad attack which lasted twelve hours and kept him in bed for a few days. When the pain is severe there is biliary vomiting, but blood has never been brought up; there was no frequency of micturition during the attacks, but he states that there was frequency and the passage of an increased quantity of urine after the attacks.

Between the attacks he feels quite well, his appetite is good, and he has lost no weight, and no history of jaundice could be obtained. He had suffered from malaria while on foreign service in 1916 and 1917.

I have given this history in detail as the patient was very clear as to the nature of the attacks, their increasing frequency and severity, the relief obtained by moving about, and his perfect health in between the attacks.

The right kidney was palpable, not unduly mobile, and at the time did not appear to be enlarged, but was distinctly tender. The left kidney was not palpable, and nothing else of an abnormal nature could be detected in his abdomen. A radiograph of both kidneys was taken, but was negative. His urine was normal, and cystoscopic examination showed both ureteric orifices to be normal and acting well.

Operation.

On January 10th, 1921, the right kidney was exposed by the usual oblique lumbar incision; it was found to be enlarged, and some difficulty was experienced in delivering the lower pole; when the kidney was eventually brought up to the surface, this difficulty was found to be due to an aberrant renal vessel which was passing directly outwards and behind the ureter to the extreme lower pole of the kidney. This was divided and ligatured; the pelvis was found to be dilated to a considerable extent above the level of the divided artery; the ureter below was traced downwards for some distance, and appeared to be of normal calibre. The pelvis of the kidney was opened and a catheter passed down into the ureter without difficulty; there was no evidence of valve or constriction at the junction of the ureter with the pelvis of the kidney. The opening in the pelvis was sutured, the kidney dropped back, and the wound closed with a small drainage tube in the upper angle. There was no leakage of urine. The patient made a good recovery, and has been quite free from his symptoms since.

I first saw this patient in August, 1920, and was unable to come to a diagnosis. He had consulted several medical men from time to time, and was referred to me again in January, 1921, by a pensions board for an explanation of his symptoms, as the question had arisen as to whether his condition could be attributed to military service.

I never saw the patient during an attack of pain, which is perhaps the reason why no enlargement of the kidney was made out on examination; I was induced to explore the kidney because it was obvious that the patient

was suffering very severe discomfort, which rendered him unfit to follow an occupation, and because from time to time one comes across cases of unilateral renal pain in which no very obvious explanation can be found for the patient's symptoms. An operation in such case may, as here, reveal the cause of the pain. In another similar case I found at operation a cyst of the left renal cortex (the size of a pigeon's egg); it was not palpable before operation, and its removal cured the patient's symptoms. In other cases where no cause for the pain can be found at the operation, simple decapsulation of the kidneys will often effect a cure; so that exploration of the kidney concerned is always justifiable in cases of continued renal pain without obvious cause. That the artery was the cause of the hydronephrosis in this case seems a reasonable assumption, as the dilatation extended to the point where the vessel crossed behind the ureter, and ceased below that point, and as the patient's symptoms have disappeared after division of the vessel.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

CONGENITAL ABSENCE OF DELTOID MUSCLE.

WHILST examining a man, aged 23, for life assurance I discovered the fact that he had no right deltoid muscle; he was otherwise of normal muscular development. He knew of no muscular peculiarity in either of his parents or his brothers. He had served four years in the army during the late war, and was well able to carry out his duties. It was interesting to note how he managed to raise his arm in the absence of the deltoid muscle. He could abduct his arm quite normally until it reached the height of his shoulder; it then became tremulous. He gave a slight jerk, which dislocated the head of the humerus backwards until it rested apparently against the muscles attached to the spine of the scapula. With this firm support the pectoral muscles seemed to be able to raise the arm to its full extent upwards.

When standing at ease the head of the humerus showed up well under a very thin covering of skin and subcutaneous tissues, the capsule of the joint was thin and loose, and the head of the bone could be moved freely to and fro in its socket. The arm hung down by the side with the elbow slightly bent and pointing outwards; the hand was rotated inwards with the radial side resting against the leg.

The biceps muscle was specially well developed, and he asserted that his right arm was stronger than his left. He had never felt inconvenience from the absence of the deltoid.

London, E.C. E. J. TYRRELL.

A CASE OF HEAD INJURY.

THE following case may be of interest to record as showing the great degree to which the brain may be damaged with little sign of external injury:

On Sunday, April 2nd, about 9.40 p.m., a girl, apparently about 20 years of age, was brought unconscious to my house, with the history that from a bus travelling at a moderate speed she had jumped off facing the wrong way and fallen on her back.

I could find no external sign of injury except a very slight degree of bogginess above the occiput. There was no bleeding from mouth, nose, or ears. The pupils were equal, neither contracted nor dilated, and the corneal reflex was present, though not brisk. She could not be roused by shouting.

During the first ten to fifteen minutes Cheyne-Stokes breathing was marked, and towards the end of that time she began to vomit and move her head and limbs in a restless manner; just before the vomiting her pupils became nearly fully dilated. After this her breathing became quiet and regular except when interrupted by vomiting or retching. Later on movements became more purposeful—for example, she tried to remove her gloves by biting the tips of the fingers and pulling out her hands. At 10.30 p.m., when she left the house, her pupils were, as at first, neither contracted nor dilated. She could still not be roused to answer questions, nor did she make any sound herself.

As the identity of the girl could not be discovered she was sent in an ambulance to the local cottage hospital. The matron reported afterwards that the girl was restless and retched several times without the unconsciousness becoming any less deep. Her condition remained the same until 1.50 a.m., when she suddenly stopped breathing and died about two minutes later, without becoming cyanosed.

Post-mortem examination showed a small abrasion above the right elbow as the only external sign of injury. The scalp above the occiput, over an area about two inches square, and the right temporal muscle were infiltrated with blood clot. There was subpial haemorrhage over the whole upper surface of the left cerebral hemisphere, and disintegration and haemorrhage at both frontal poles, particularly the left. There was, lastly, an extradural haemorrhage of about three drachms in the right middle fossa. No sign of fracture could be found. No examination of the rest of the body was made.

The diametrical transmission of the injuring force was most marked, as the infiltration of the scalp was greater on the right side than on the left. The mechanics of the meningeal haemorrhage is more difficult to understand. I can only suggest that, since a considerable degree of deformation of the skull is possible in a young subject (the girl's age was 17), the meningeal artery might be damaged by momentary stretching. It is true that an elastic artery might be expected to recover from stress better than the more rigid skull, but it is hard to suggest any more plausible theory. In any case the disparity between the clinical symptoms and the internal damage must remain the most interesting feature of the case.

Grays, Essex. L. G. JACOB, M.B., B.Ch.Cantab.

PAIN IN THIGH: CEREBRAL AND PULMONARY HAEMORRHAGE: DEATH.

IN the BRITISH MEDICAL JOURNAL of April 22nd, 1922 (p. 635), Dr. Wilfred Harris states that intraspinal haemorrhage in the region of the cauda equina may, after clotting, cause obscure pain in the lower extremities which may lead the medical attendant astray.

A man, aged 30, of previous good health, suffered from intense pain in his left thigh. I could find nothing locally to account for his pain, and prescribed a liniment, which he said gave him relief. After a few days' suffering he returned to work.

A little later he complained of severe pain under the right mamma. His temperature was raised; as I heard a rub I strapped his chest, with good results. I saw no reason to doubt my diagnosis of pleurisy, but was puzzled by oozing of blood from his gums. Scurvy and a tropical disease were discounted. A few days later his pleurisy had cleared up, but his gums were now bleeding freely. Suddenly he passed into a state of unconsciousness and died in two hours.

Post mortem I found a recent haemorrhage in the internal capsule and a haemorrhage into the right lower lobe of the lung anteriorly. The cause of the haemorrhages I could not decide on.

The pain in his thigh was a mystery till I read Dr. Wilfred Harris's article. Possibly he had had an intraspinal haemorrhage.

Had I examined his nervous system carefully when I first saw him I might have detected some signs and symptoms, but pains in the legs are fairly common, and when a pain is relieved by a simple liniment one does not think of rare diseases.

Kilnhurst, near Rotherham. CHARLES J. HILL AITKEN, M.D.

SIMPLE TEST FOR SUGAR.

A DROP of urine containing sugar evaporated on a microscope slide over the flame of a spirit lamp leaves a "tacky" glistening film of syrup. Further heating turns this film a rich golden colour. Full heating converts the deposit into burnt sugar or caramel. Urine containing 14 grains to the ounce, according to fermentation test, gave the reaction after dilution with five times its volume of water. The test was demonstrated at a meeting of the North Lancashire and South Westmorland Branch at Kendal last October.

JOHN LIVINGSTON, M.D.Durh., F.R.C.S.Ed.

Barrow-in-Furness.

THE Graduate School of Medicine of the University of Pennsylvania, in association with the Medical Society of the State of Pennsylvania, is undertaking the establishment, at a number of points throughout the state, of post-graduate medical extension groups, whereby medical practitioners situated far from the hospitals of the larger cities will be able to keep in touch with recent developments in clinical work and discoveries in medical science.

Reports of Societies.

CHOREA GRAVIDARUM.

A MEETING of the Midland Obstetrical and Gynaecological Society was held at the King Edward VII Hospital, Cardiff, on April 6th, when the President, Professor EWEN MACLEAN, read a short communication on three cases of chorea gravidarum. The cases described conformed to the type of ordinary, or Sydenham's, chorea as distinguished from the far more grave Huntington's chorea. As regards etiology of chorea gravidarum it was generally held that in these cases we were dealing with a true chorea and not a manifestation of toxaemia. This view was supported by the frequency of a rheumatic history, evidence of endocarditis in a large proportion of cases, and the detailed resemblance to Sydenham's chorea, while in the majority of cases other evidences of toxaemia, such as albuminuria and severe vomiting, were absent. The incidence of the disease was commonest in primigravidae, though it might recur in subsequent pregnancies, and the onset was more frequent in the earlier months of pregnancy. Milder types tended to recover under treatment, rarely, if ever, developed mental symptoms, and only exceptionally miscarried. The severe types were frequently associated with abortion, and were held to be responsible for a maternal mortality as high as 20 to 30 per cent. As regards treatment, mild cases responded to rest and dieting associated with arsenic, bromide, chloral, etc., as the symptoms indicated. In severe cases the prognosis, immediate and remote, was bad; treatment as a rule was ineffective, and the induction of abortion or premature labour before the signs of exhaustion became established appeared to be the best line of treatment to adopt.

Case 1.—A 3-gravida, aged 26, had a history of rheumatism and of two previous miscarriages. She was six months pregnant when seen, and had been having severe choreic convulsions for two months. With rest, screening, and occasional doses of chloral and bromide, her condition rapidly cleared up. Normal delivery took place at term, and there were no more choreic fits. The urine was normal throughout.

Case 2.—A primigravida, aged 24, was two months pregnant. She had chorea eighteen months and acute rheumatism twelve months previously, and chorea for the past two weeks, the condition becoming worse in spite of treatment. Pregnancy was terminated, and rapid improvement and cure followed. The urine was normal.

Case 3.—A primigravida, aged 22, was seven months pregnant. She had a history of chorea on and off for four years. Under treatment, with complete rest and silence, potassium bromide and arsenic, the choreic symptoms improved steadily, and she was awaiting the onset of labour. The urine was normal throughout.

It was noteworthy that all three cases gave a history of antecedent rheumatism or chorea; none showed albuminuria or other evidence of toxaemia; none showed any tendency to spontaneous abortion; and the one severe case in which abortion was induced showed almost immediate relief of symptoms.

Mr. E. TENISON COLLINS showed the following specimens: (1) Uterus and both appendages removed from a nullipara, aged 25, for menorrhagia. The uterus was irregularly enlarged, some of the nodules being very soft, and were thought to be possibly sarcomatous. The pathological report stated that only fibrous tissue was present. (2) A large ovarian tumour removed from a woman of 55. The tumour on section showed some cystic spaces and considerable areas of what appeared to be fat. No pathological report was yet available. (3) A bone stilette, which, when passed by a woman to procure abortion, had disappeared inside her. It was located by *x* rays and found free in the pelvis without any evidence of infection or inflammation. (4) A large stone removed by vaginal cystotomy. In spite of the presence of cystitis, the wound had healed uninterruptedly.

Dr. PURSLOW showed a specimen of foetus compressus. The specimen shown had been expelled early in labour, and was followed in due course by a full-term female child. There was a single placenta, the condition being one of homonymous twins.

Dr. RAYNER reported a case of rupture of the uterus during natural delivery. The patient, aged 25, had had two previous normal pregnancies. The pelvis was normal. She had been in labour two hours, when one very strong pain expelled the child, which was dead, with a loop of cord wound tightly round its neck. The placenta was expelled, and the uterus retracted firmly. When left the woman was comfortable, with a pulse rate of 115. An hour later she collapsed, the pulse rate rose to 150, with signs of internal haemorrhage, and free fluid in the flanks, but the uterus was still well retracted. There was free blood in the peritoneal cavity, and a 3-in. tear in the uterus, the right uterine artery being lacerated. These lesions were dealt with by suture and ligature, and she made a good recovery. Dr. Rayner suggested that the cause of rupture in a healthy uterus, as this was, might be violent movements of the child after the birth of the head, and thought that some of those cases diagnosed as *post-partum* shock might in reality be minor degrees of ruptured uterus.

Dr. STRACHAN showed a specimen of anencephaly in which the placenta was attached to the base of the skull by a thick, firm amniotic band, and a small placenta succenturiata was actually adherent to the skull. There was evidence of other amniotic adhesions in the stunted growth of the left hand. Dr. Strachan pointed out the significance of these obvious amniotic adhesions in view of the theory that amniotic adhesions during the early weeks of gestation cramped the growth of the cerebrum, with the ultimate result that the cranial bones did not develop and anencephaly resulted.

Dr. STRACHAN also showed a specimen demonstrating placental apoplexy. The specimen was the uterus and placenta from a woman admitted in the last stages of eclampsia, who died undelivered. There was extensive retroplacental haemorrhage, with obvious bleeding into the placental tissue, and a microscope slide showed haemorrhagic infiltration of the uterine muscle. Retroplacental haemorrhage might cause death by actual excessive loss of blood, or lead to congestion in the separated portion of placenta, and thus to intraplacental haemorrhage. From this necrotic area of placenta toxaemia leading on to eclampsia might develop.

Dr. B. K. TENISON COLLINS showed a specimen of fibromyoma complicating pregnancy. There was a history of two and a half months' amenorrhoea, but the uterus was felt as a hard mobile mass, considerably larger than the period of amenorrhoea, filling the pelvis and rising into the abdomen. Subtotal hysterectomy was performed. The uterus was irregularly enlarged by multiple fibroids and contained a two and a half months' foetus.

HOSPITAL LIGHTING.

A DISCUSSION on hospital lighting took place at a combined meeting of the Illuminating Engineering Society with the Sections of Surgery and Ophthalmology of the Royal Society of Medicine on April 27th. Sir JOHN HERBERT PARSONS, who presided, said that of all the instruments which the surgeon or physician had to use light was the most important and subtle, and its proper quality and direction made all the difference to the observations.

The discussion was opened by Mr. JOHN DARCH, an illuminating engineer, who laid it down as axiomatic that quiet and pleasant ward lighting could best be obtained by combining a system of general with a system of local illumination. The general illumination might be quite small, but it must be well diffused and without glare, while the local lighting should provide each patient with three foot-candles on his book, should be under the patient's or his nurse's control, and should not be in the centre of the bed-head, but 15 in. to the patient's left to avoid heat on the head and gloss on the book. It should also illuminate the chart, and, not to offend anyone else, should be recessed in a dark-green shade. For a night light nothing was more soothing than a quiet, indirect illumination. There should be no gloss above the dado (which should be dark) and the ceilings and friezes should be white. The operating room presented other problems. Here the surgeon was often worried by shadow or glare, and sometimes by uneven or ill-directed light. The ideal light for operating would be in the open under a clouded sky, and that condition should be the aim in artificial lighting. The room should be designed to secure the greatest possible angular expanse of glass without admitting direct sunlight. The ceilings and wall surfaces should be white, smooth, and washable, and a pale-green dado would afford some relief to the eye. Artificial illumination must be abundant—not less than 25 foot-candles—and so thoroughly diffused as to eliminate conflicting shadows. There should be no exposed light sources within the ordinary field of vision, and the colour of the light should be as white as possible. The speaker's own idea was to have the operating theatre quite clear of fittings, and to light the

room entirely from outside the window by clusters of powerful lamps enclosed in waterproof reflectors; nothing was better than the white flame arcs which were used before the war. Provision must be made for emergency lighting, but risks of failure were now so greatly reduced that to cumber the ground with alternative fittings, each one a dust-trap, was not justifiable. It was sufficient precaution to place one half of the lamps on an entirely separate circuit, and to have in another room an accumulator large enough to maintain some powerful hand lamps for several hours. No doubt artificial daylight would be very useful when a suitable lamp of sufficient intensity was forthcoming, but such daylight lamps as were available were too feeble and clumsy for surgical use. Mr. Darch, in closing, put in a word for the dispenser, who frequently had to work under very bad lighting conditions; he suggested that a plain white screen would save him from eyestrain when using graduated glass measures.

In the subsequent discussion Mr. C. C. CHOYCE said that in certain operations, particularly gynaecological ones, it was sometimes an advantage to have two horizontal beams coming one from each side of the sitting operator. He liked the idea of lighting the theatre from outside altogether, but he questioned whether it might not mean additional risk of breakdown. He mentioned that Professor Carrel, of New York, had been working in theatres the walls and floors of which were entirely black, which, he believed, obviated eye-strain. Black was a funereal colour, and probably a dark olive-green would serve the same purpose. Floors should certainly be dark, and walls up to eye-level lighter, and above eye-level perhaps white.

Mr. W. T. HOLMES SPICER pointed out that if the light was generally diffused exact definition was not obtainable. The surgeon needed the shadows to guide him. All glare should be excluded, as well as all reflections—he was speaking of ophthalmic work—except those from the eye under examination. In 1893 he was staying with Professor Snellen, of Utrecht, who had then adopted the principle of operating in an otherwise darkened room, with a window whose separate panes could be uncovered at will, so that he had a beam of light exactly under his control, and Snellen claimed that much acuter vision was possible under those conditions.

A number of engineers also took part in the discussion. One of them urged the advantages of artificial daylight, or at least of an illuminant of constant colour, so as to permit of the proper examination of rashes and other conditions in which colour was important. One or two microscopists also took part, and discussed the best light for the microscope, which it was agreed was light of shorter wave-lengths, although to go too far to the violet end of the spectrum was not consistent with comfortable vision. Mr. C. RAPHAEL criticized indirect lighting, which he considered cheerless and also very expensive. The original installation was more costly than that for direct lighting, and the running costs were very much greater. The "scialytic" lamp and other models for shadowless lighting were demonstrated at the close of the meeting.

A MEETING of the West Kent Medico-Chirurgical Society was held in the Miller General Hospital, Greenwich, on April 21st, when the President, Dr. C. T. T. COMBER, O.B.E., occupied the chair. Dr. MAURICE DAVIDSON showed two cases of encephalitis lethargica in young girls, one of whom was mild and had recovered with the exception of pain in the neck; the other was more severe and showed seventh nerve palsy after eighteen months. Dr. JAMESON showed a young girl with transposition of the thoracic and abdominal viscera. Mr. C. J. S. THOMPSON, M.B.E. (Curator of the Wellcome Historical Museum), delivered a lecture entitled "Parturition chairs, their history and use," which he illustrated by lantern slides. The first was used at Luxor; stools were mentioned in the book of Exodus of the Bible. The chairs usually had a horseshoe-shaped piece cut out of the bottom; later, hand-grips were added, then foot-rests. Leather upholstery of the seat and back came into use. In Cyprus the chair was made of a solid block of wood with two cavities. Chairs were in use in Germany in the seventeenth century. Parturition chairs were still in use in Turkey, Egypt, and Japan. Smellie mentioned their use in this country, and there was also a reference in a play by Ben Jonson, but the lecturer had never been able to discover one in England.

THE next congress of thalasso-therapy, which was to have been held at Venice next October, has been postponed till the spring of 1923, when it will receive the patronage of the King of Italy.

Reviews.

NERVE EXHAUSTION.

SIR MAURICE CRAIG has written a small volume on *Nerve Exhaustion*,[1] designed for the use of the medical practitioner. He has aimed to keep the text as free from technical terms as possible in order that it may be easily understood by those medical men who either have not had the time or have lacked the opportunity to study psychology. Particular stress is laid on the problem of the prevention of nerve exhaustion, and with this end in view much attention is given to the condition of "hypersensitivity," which the author finds constitutes the invariable basis of nervous collapse. This condition manifests itself in both the physical and psychical spheres, and may be inherent, or acquired by an undisciplined or ill-regulated use of the nervous system. If the signs of this hypersensitivity are recognized, either in the child or adult, it is suggested that the graver and more intractable symptoms which follow may be avoided by submitting the patient to a life suitable to his capacities.

A chapter on causation is followed by one on symptomatology. The manifold symptoms of nervous exhaustion are included under the headings of sensation, disorders of perception, including hallucinations, attention, emotion, association of ideas, habit, memory, movement and action, will power and action, impulse, suicide and homicide, jealousy, irritability and suggestibility, conflict and dissociation, including fugues, adaption and regression, anxiety, fatigue and headache, and various bodily symptoms. A survey of this section indicates that the term "nervous exhaustion" is here used in a very general sense; it is made to include a wide range of morbid manifestations, and Sir Maurice Craig evidently does not intend to use the term as synonymous with neurasthenia. A special chapter is devoted to sleeplessness, and the practitioner will find in it a number of useful hints with regard to the treatment of this troublesome symptom. The question as to the use of drugs is fully discussed, but we miss any reference to the treatment of the anxiety state which is often responsible for persistent insomnia.

The section on diagnosis is somewhat scanty, and might usefully be expanded in a future edition. Especially would it seem necessary to remind the practitioner of the possibility of overlooking an early case of general paralysis, as the symptoms in this disorder often closely resemble those of neurasthenia. The author has included in his chapter on treatment some important observations on the lunacy law and the question of certification. Owing to his great experience his views on these questions carry much weight and deserve close consideration. He points out that the treatment of the more severe forms of functional nerve disorder is greatly hampered by legal considerations, and urges a considerable modification of the law as it now stands in order that a number of cases may be treated away from home without the necessity for certification. It is probable that the modifications in the existing law which Sir Maurice Craig advocates will be before long carried into effect, and if not to the extent that he would wish, at any rate sufficiently to remove some of the difficulties which at present prevent the carrying out of adequate treatment in a number of cases.

PROBLEMS OF LEUKAEMIA.

PROFESSOR ELLERMANN'S book on the *Leucosis of Fowls and Leucemia Problems*[2] is of interest because it describes in detail the author's important researches on these diseases of fowls, and discusses the bearing these investigations have upon the leukaemic diseases of man. The word "leucosis" has been proposed because in the fowl there are many different disease complexes due to abnormal production of leucocytes, in some of which no changes are to be found in the peripheral blood. To avoid the use of such expressions as "aleukaemic-leukaemia" or "pseudo-leukaemia" the name "leucosis" is employed to designate all diseases characterized by an excessive production of leucocytes. In the fowl there are three distinct varieties of leucosis—the lymphatic, the myelotic, and the intravascular lymphoid leucosis. In the lymphatic leucosis there is no anaemia and the blood picture is normal, but *post mortem* it is found that the liver is much enlarged and studded

[1] *Nerve Exhaustion.* By Maurice Craig, C.B.E., M.D.Cantab., F.R.C.P. Lond. London: J. and A. Churchill. 1922. (Demy 8vo, pp. 148. 6s. net.)

[2] *The Leucosis of Fowls and Leucemia Problems.* By Vilhelm Ellermann, M.D. London: Gyldendal, 11, Hanover Square. 1922. (Demy 8vo, pp. 105; 3 coloured plates, 8 figures. 7s. 6d. net.)

with white points, and the spleen and kidney enlarged; microscopically hyperplasia of all lymphatic tissue is seen; this disease is essentially a lymphoblastic hyperplasia. In myeloic leucosis, a rapidly fatal infection of fowls, the spleen is relatively more enlarged than the liver, and the bone marrow is greyish-red; microscopically the liver, kidney, and spleen are seen to be infiltrated with myelocytes, and the peripheral blood may contain up to 600,000 leucocytes per c.mm., the majority being myelocytes. The intravascular lymphoid leucosis corresponds more closely to the lymphatic leukaemia of man, and shows a great increase in lymphoidocytes in the circulating blood, together with a mild degree of anaemia.

It was Ellermann and Bang who first, by injecting an emulsion of the organs of an infected fowl into a normal fowl, demonstrated that the leucosis of fowls is communicable. They were able to propagate the infection from generation to generation. In 1908 they concluded, therefore, that the infective agent is an ultramicroscopic filtrable virus; they found that it was possible to transmit the disease in sequence by the injection of a Berkefeld filtrate of a saline emulsion of liver, spleen, and kidney of infected animals.

The diseases of fowls characterized by excessive production of leucocytes show many points of resemblance to the lymphatic and splenomedullary leukaemias of man, and suggest the possibility that human leukaemias may also be due to some hitherto undiscovered infective agent. In support of this there has already accumulated a certain amount of evidence; leukaemia often appears to be endemic, and occasionally cases have occurred in hospitals and other institutions which have suggested communication of an infection. But such a point can only be decided by further researches and the accumulation of clinical evidence. Unquestionably Professor Ellermann and his co-workers have greatly enlarged our knowledge of these obscure blood diseases and opened up many new lines of inquiry. This book will provide interesting and stimulating reading to all who have made a special study of the various human blood diseases.

GYNAECOLOGICAL TEXTBOOKS.

THE early appearance of the second edition of *Diseases of Women*,[3] by Ten Teachers, shows that this book has realized the well-deserved popularity which we anticipated. It is stated to have undergone a careful revision, and the authors are to be congratulated on achieving this and at the same time reducing the size of the volume by a few pages. In part this reduction has been accomplished by condensation of the letterpress, in part by leaving out a number of the illustrations. The process does not seem to have affected the book adversely in any measure, the omitted pictures being not wholly essential to the elucidation of the text. The difficulty of obtaining uniformity in outlook where so many authors are engaged in a collective effort can still be observed, but in our opinion this is less noticeable than it was in the first edition, and, in any case, it is not a shortcoming of real moment. It is unnecessary to notice this volume at any length, as it is a comparatively short time since we had the pleasure of reviewing the first edition, and the changes, so far as we have been able to detect them, are mainly in matters of detail. The book remains an admirably clear, comprehensive, and, withal, simple exposition of gynaecology as it is practised and taught in this country. The student who is reasonably familiar with its contents need have no fear of any examiner in the subject, while the practitioner who has this book in his library will find in it all the information that he is likely to require in connexion with his gynaecological cases. We congratulate the authors, and the publishers also, on the success of a valuable book.

The appearance of the second edition of Professor W. E. FOTHERGILL'S *Manual of Diseases of Women*[4] shows that this work has found its public. As in the first edition, the main points of interest lie in the strictly pathological classification adopted in the description of gynaecological disorders, and in the strongly individual note that runs through all the teaching. Professor Fothergill was one of the pioneers in the introduction of a pathological classification into descriptive gynaecological textbooks, and he must be gratified to see how many of the best textbooks have been modelled upon the same system. At the same time we feel that, when pursued as rigidly as is the case in this manual, the method seems to involve a good deal of repetition, and that some modification of it would make for simplification from the point of view of the student. For the gynaecologist, however, this strict classification has very considerable advantages, and there is no doubt that this feature is, as we have said, one of the main grounds on which the book makes its appeal. Any defects in the method adopted by Professor Fothergill should stimulate other teachers to strive after a better pathological classification.

The fact that many gynaecologists will disagree with the author upon small points makes the book all the more worth reading. It stimulates the reader to challenge views which he may have adopted long since without due examination as to their correctness or otherwise, and may have continued to hold without feeling the need for revising them. Some of Professor Fothergill's refreshingly direct expressions of opinion have this tonic effect. In his preface the author says: "The douche-can and the plug are passing away at last. The pessary is also going; for vaginal surgery has advanced until it is now possible to guarantee a cure in practically every case of genital prolapse without opening the abdomen." All this is correct, but it is not the profound statement which it might appear at first sight to be, nor is it true to the extent which Professor Fothergill would seem to believe or hope. The pessary must always remain for those who, for one reason or other, decline operative treatment, and the can and the plug, however much abused, have also their legitimate and useful sphere (as subsequently described in the author's pages), even if it be only one case out of a hundred in which they are commonly prescribed. Professor Fothergill states that the rôle of radiology in pelvic surgery has hardly reached the textbook stage, and that organo-therapy remains in the journalistic phase but promises to take its place in the books of the future. While not challenging these statements we should have thought that experience in both these domains was now becoming crystallized to an extent which would justify some remarks for the instruction of the student and the guidance of the practitioner. We shall look forward to discussion of these subjects in Professor Fothergill's next edition.

TWO YEARBOOKS OF TREATMENT.

THE *Medical Annual*[5] has now reached its fortieth volume, and there is no sign of decrease in value or interest. Probably no periodical is more widely read by the English family doctor than this, and there is certainly nothing else which in such compact form can keep him abreast of new developments in medicine, whether internal, surgical, or specialized. There is a sanity in this yearly review that soberly appraises innovations. The practitioner may learn from this volume that there are drawbacks to some greatly vaunted remedy, or that some method which he unhesitatingly has regarded as quackery deserves further consideration. Among the newer subjects discussed mention may be made of that of endocrinology by Dr. Langdon Brown, an admirable summary; of neurological surgery (under several headings) by Mrs. Ramsay Hunt; of non-specific protein therapy, in which Dr. Herbert French briefly describes the methods of performing cutaneous tests for food- and pollen-idiosyncrasies, and the desensitization of sufferers by inoculation. There are noteworthy articles, too, on mental diseases by Dr. Stanford Read, and on psychological medicine by Dr. J. A. Hadfield. In a short but instructive survey Mr. Thurstan Holland describes the aid now obtainable from x rays in diagnosis, a field in which immense progress has been made since the war. Mr. Hey Groves has written a clear and well-illustrated account of advances in orthopaedic surgery, and a great deal of new work on syphilis is collected and reviewed by Colonel Harrison. We note with satisfaction that the publishers have been able to reduce the price of the book from 25s. to 20s., without interfering with the quality of the paper, the printing, or the illustrations.

[3] *Diseases of Women*. By Ten Teachers. Edited by Comyns Berkeley, H. Russell Andrews, and J. S. Fairbairn. Second edition. London: Edward Arnold and Co. 1922. (Med. 8vo, pp. 641, with 215 figures; 8 coloured plates. 30s. net.)

[4] *Manual of Diseases of Women*. By W. E. Fothergill, M.A., B.Sc., M.D., Professor of Obstetrics and Gynaecology, Victoria University, Manchester. Edinburgh: W. Green and Son, Ltd. 1922. (Demy 8vo, pp. xix + 433; 149 figures. 10s. net.)

[5] *The Medical Annual, 1922*. Bristol: John Wright and Sons. 1922. (Demy 8vo, pp. lxxxvii + 742; illustrated. 20s. net.)

Dr. CHEINISSE, who is responsible for the section of the *Presse Médicale*[6] devoted to therapeutic progress, presents in his yearbook of treatment for 1921 a summary of new suggestions which have appeared during the past year. The scope of the book is much more strictly limited to therapeutic details than is the case in the *Medical Annual*. The French yearbook is a summary of information about drugs and their doses; no mention is made of surgical measures of therapeusis. The arrangement is alphabetical according to diseases. For the most part the novelties in treatment are described in uncritical quotations from the authors' statements, but the references to the original articles are invariably given. A study of the American and English accounts of the treatment of diabetes by fasting has stimulated the editor to one of his most interesting digressions. He states that the method is not new, that it had its origin in France many years ago, and that it has never been more than a palliative which may diminish the gravity of the disease but does not cure it. If, in succeeding volumes, the editor continues to review his subjects critically after this fashion he will add immensely to the real value of the publication. This is only the second year of issue, and such works must necessarily start from small beginnings.

MEDICAL OPHTHALMOLOGY.

MANY years have passed since the publication of the last edition of a book with a somewhat similar title by Gowers and Marcus Gunn, and although that work is a classic and can still be read with advantage by practitioners of medicine and by ophthalmic surgeons, yet there was need for a more up-to-date exposition of the subject; we therefore offer a cordial welcome to the work of FOSTER MOORE,[7] which has recently been published. In his preface the author states that his aim has been "to give a concise account of the pathological conditions of the eyes and their connexions, which, for the most part, are of interest in general medical diseases." Most excellently has he succeeded in his aim; the book is packed with information, and references are given in footnotes on each page, which will be found to be of the greatest value to the reader. For the most part the subject of treatment is excluded.

The changes are described, as a rule, under the headings of the separate diseases, but in Chapter I will be found a very important group of eye signs and symptoms. These are described without special reference to the diseases with which they are connected; for instance, Gordon Holmes's and Lister's work on the cortical representation of vision, papilloedema, nystagmus, retinal haemorrhage in general, bi-nasal hemianopia, indirect paralysis of the cranial nerves, and haemorrhage into the optic nerve sheath. Especially good are the chapters on arterio-sclerosis, the anaemias, and renal retinitis, fields in which the author has done a great deal of valuable work; but the whole book is excellent, and as an instance of the sane way in which it is written we would commend the remarks on the question of small errors of refraction as a cause for epilepsy and migraine.

In our opinion this book is one of the most useful to the physician and to the ophthalmic surgeon alike that has appeared in this country in recent years. The printing and paper are good, the illustrations admirably illustrate the text, there is a very full index, both of subjects and of authors, and the typographical errors are very few.

THE HYGIENE OF THE SCHOOL CHILD.

WE are familiar with books on the hygiene of the child written by members of our own profession, but we have received recently a volume written by a layman, LEWIS M. TERMAN, Associate Professor of Education of the Leland Stanford Junior University,[8] and designed for use in normal schools, colleges, and teachers' reading circles. It is a well-balanced statement of the conditions of health, and the effects, mental and physical, likely to follow departures from those conditions. With an essentially practical outlook upon health, the author begins by a statistical statement of the values of humanity and the lost values of the dead, which is a striking commentary on the economy of efficient public health services. He computes, or cites computations of, the values of the individual in dollars, and these values translated into pounds sterling at pre-war rates of exchange read as follows: It is computed that the new-born child has an average money value of at least £20. The value increases to £200 by five years, to £800 by twenty years, and drops again to £600 by fifty years. The minimum average loss to society from each postponable death has been elaborately calculated at £300. It is estimated that of the 1,500,000 deaths in the United States each year at least 42 per cent. (600,000) are postponable. The annual loss from this cause is therefore £200,000,000. The loss from preventable illness is calculated at £400,000,000 per annum, or four times the total expenditure on public education. Much of this loss is due to sheer ignorance.

> "The daring researches of a few score bacteriologists are more than offset by the thousands of people who still use liverwort for jaundice because of the fancied resemblance of its leaf to the human liver; by tens of thousands who treat infectious diseases by suggestion; by the millions who spend hard-earned money for patented consumption cures. Popular notions regarding personal hygiene are little better than a seething welter of ignorance and superstition, not all of which is confined to those who are confessedly uneducated."

If this had been written by a physician the layman would have remarked that the physician was exalting his office.

The book is divided into chapters, dealing with the physical basis of education; the general laws of growth and factors of influence; physiological differences between children and adults; physiological age; disorders of growth; malnutrition; tuberculosis; ventilation; teeth; nose and throat; hearing; vision; headache in school children; mental hygiene; speech defects; sleep; and some of the evils of school life. Nearly all are very well written and show an understanding of the practical application of medicine to school medical inspection. To each chapter is appended a list of references to original papers or books recommended for consultation. In the last chapter there are some well-considered cautionary remarks on the effects of school life.

> "There is reason to believe that the intellectual apathy of older children and adults is sometimes due to school over-dosage, or to other kinds of educational malpractice. It has often been charged that the school has a depressing effect upon a child's spontaneity; that it mechanizes his mental processes, and destroys the individualistic elements in his personality."

Attempts have been made to measure this depressing effect by observations of spontaneously controlled drawings. Fortunately the exuberance of vitality is so marked a characteristic of childhood and youth that many escape without observable injury. Nor are the evils which do exist beyond remedy. There is no reason why the school should not be as healthful in its influence upon both body and mind as the most perfectly ordered home. Until it approximates to this ideal, the campaign for school reform should continue. The book is well written, and will be of value to English readers as well as to those for whom it was designed.

SEROLOGY.

IN a volume of less than three hundred pages on the groundwork of serology ASCOLI states clearly the chief facts of that department of science, and in the translation into German which Dr. R. S. HOFFMANN[9] has made the reader's time is saved by the liberal use of marginal headings. After tracing the history of serology in an initial chapter, theories of immunity are discussed in detail. An account of the chief antitoxic and antibacterial serums is next given, and this is followed by a description of the best known antibodies. Complement-fixation has a chapter to itself, as also has the sero-diagnosis of syphilis. The meiostagmin reaction for the diagnosis of malignant disease is described, as well as Abderhalden's procedure for the same purpose. In a final chapter the main facts of anaphylaxis are enumerated.

This book is an excellent compendium of current Continental teaching on the subject of immunity, and may be recommended to those requiring a work of that kind. The authors, however, have but little to say about the Schick test, in connexion with diphtheria outbreaks; furthermore, recent work

---

[6] *L'Année Thérapeutique*. By L. Cheinisse. Second year, 1921. Paris: Masson et Cie. 1912. (Post 8vo, pp. 152. Fr. 6 net.)

[7] *Medical Ophthalmology*. By R. Foster Moore, O.B.E., M.A., B.Ch. Cantab., F.R.C.S. London: J. and A. Churchill. 1922. (Demy 8vo, pp. viii + 300; 80 figures. 15s. net.)

[8] *The Hygiene of the School Child*. By Lewis M. Terman, Associate Professor of Education, Leland Stanford Junior University. London: George G. Harrap and Co. 1922. (Cr. 8vo, pp. 417; 33 figures, 9 plates. 10s. 6d. net.)

[9] *Grundriss der Serologie*. By Dr. A. Ascoli. Translated into German by Dr. R. S. Hoffmann, Third edition. Vienna and Leipzig: J. Safár. 1921. (Med. 8vo, pp. 272; 29 figures, 8 plates. M.32; bound, M.66.)

on the serological types of pneumococcus and meningococcus is ignored, as also is Dreyer's technique for applying the agglutination test. Doubtless reference to these matters, and also to the recent work of Dale on anaphylaxis, will be made in future editions of a work that claims to cover the groundwork of serological science.

NOTES ON BOOKS.

THE third edition of the late Professor L. DONCASTER'S *Heredity in the Light of Recent Research*[10] was not completely revised at the time of this brilliant worker's lamented death; the additions rendered desirable by the labours of Professor Morgan and his school with regard to hereditary transmission, and intended to be summarized in an appendix, have not been made. Since the second edition in 1912 the progress of knowledge has rendered necessary some modification and additions to the chapters dealing with the inheritance of acquired characters, heredity in man, and heredity in sex. An interesting discussion showing the fallacies attending some of the experiments made in connexion with the subject leads to the conclusion that, though the hypothesis of the inheritance must be regarded as non-proven, recent evidence makes a dogmatic denial of its possibility inadvisable. The widely held belief in maternal impressions is shown to have no firmer foundation than accidental coincidence. The chapter devoted to heredity in man deals in an interesting and clear manner with the transmitted liability to tuberculosis, insanity, and other conditions. This small book contains much to satisfy the medical man's desire for knowledge on this important and advancing subject.

Many are the methods that have been devised to popularize a study of hygiene and to simplify for the general public the laws of health. That of Sir ROBERT FIRTH, by means of a small fourteen-page folder, is excellent, and in *Health in a Few Words*[11] he has succeeded in setting forth in simple language that which ought to be known by everyone who desires to keep in good health. The various sections of the leaflet deal with the dwelling, air, water, food, personal hygiene, infantile mortality, infection, and disinfection. That upon personal hygiene is particularly clear and concise. It hardly seems possible to have put into 350 words so much valuable information as this section contains. Public health officers ought to find the judicious distribution of this leaflet of great assistance to them.

The *Medical Record* of New York, which has been appearing as a weekly periodical for the last fifty-six years, has ceased to exist as a separate publication; it has been combined with the *New York Medical Journal*, which appears semi-monthly. For the first thirty-eight years the *Medical Record* was edited by Dr. George F. Shrady; he was succeeded by his assistant, Dr. Thomas L. Stedman. The periodical was published throughout the whole of its career by the firm of William Wood and Company, which has been engaged in medical publication for 118 years.

[10] *Heredity in the Light of Recent Research.* By the late L. Doncaster, Sc.D., F.R.S., Derby Professor of Zoology, Liverpool University. Third edition. The Cambridge Manuals of Science and Literature, No. 2, Cambridge, 1921. (Pp. 163; 13 figures. 4s.)

[11] *Health in Few Words.* By R. H. Firth, D.P.H., F.R.C.S. London: John Bale, Sons, and Danielsson, Ltd. 1921. (3 × 4½, pp. 14. 2d.; post free, 3d.)

THE OPIUM COMMISSION OF THE LEAGUE OF NATIONS.

[FROM A CORRESPONDENT AT GENEVA.]

THE Advisory Commission of the League of Nations with regard to the traffic in opium and dangerous drugs began its second session in Geneva on April 19th. It was expected that the business might be finished in three days, but owing to difficulties arising from the recrudescence of opium cultivation in China the sittings continued for more than a week. The Chairman was Sir Malcolm Delevingne, of the Home Office, who was the British representative. The representative of France, M. Bourgeois, occupied the vice-chair, and the other countries represented were Germany, the Netherlands, Portugal, India, China, Japan, and Siam. This was the first appearance of Germany at a council table of the League of Nations, and the representative of that country, Dr. Anselmino, evidently felt himself in a position of difficulty. Germany was invited to sit on the Opium Commission chiefly on account of that country's interest in the manufacture of drugs, but Germany is not yet a member of the League of Nations, and therefore its representative abstained from voting, and took only a slight part in the discussion. In addition to the accredited representatives from the nine countries there were three assessors—namely, Sir John Jordan, lately British Minister Plenipotentiary in Peking, Mrs. Hamilton Wright (United States), and M. Brenier (France).

More than two days were spent in a discussion on the Chinese problem. At the first session of the Commission last year the Chinese Government undertook to appoint commissioners who should tour the provinces and report upon any recrudescence of opium cultivation. When the Chinese representative on this occasion, Mr. Chao-Hsin Chu, produced the promised reports it was found that they were of a very untrustworthy character. In many cases the investigation had been made at a time of year when, at any rate in a rapid tour over the vast areas involved, it was not possible to detect a poppy crop. The poppy flowers in March and April; yet, in quite a Gilbertian manner, the investigations appeared to have taken place mostly in October and November. The optimistic statements of these Chinese commissioners were at variance with more authentic information from unbiased sources, and Mr. Chu admitted that much of his information was unsatisfactory. He persistently refused, however, every suggestion of interference, even in the most helpful spirit, by the League of Nations, contending that the opium question was not a China question but an international question, and that no special action must be taken with regard to China which was not taken with regard to other opium-producing countries. To arrive at some compromise which should not hurt the susceptibilities of China, and yet should restrain the undoubted recrudescence of poppy cultivation in that disturbed country during the last five years, taxed all the wit of the Commission, and the situation was made more piquant because the Japanese representative, who admitted that there had been an extensive importation of drugs into his country beyond all legitimate requirements, professed himself most anxious that the League should undertake investigations into the measures by which the Japanese Government is now combating the illicit traffic.

The principal piece of work which the Commission has done is to set up a system of importation certificates under which, if a dealer in dangerous drugs in one country desires to import such drugs from another country, he must obtain from his own Government a certificate of approval for each consignment, together with the statement that, in the case of raw opium, it is required for legitimate purposes, and, in the case of morphine, heroin, cocaine, or medicinal opium, that it is required solely for medicinal or scientific purposes. The use of the words "legitimate" with regard to opium and of "medicinal or scientific" with regard to prepared drugs is a compromise arrived at chiefly to meet the position of India. The Government of the exporting country will not issue its licence until the certificate from the Government of the importing country has been received. If this recommendation is adopted by the Council of the League this month it will come into force for Europe and America next September, and for the Far East and Australasia next January. The Commission itself is only an advisory body.

One sitting of the Commission was devoted to exploring what might be considered the maximum legitimate consumption of dangerous drugs. A report prepared by Sir George Buchanan and Dr. Carrière, of Switzerland, was presented, which described certain investigations in a few civilized countries, relatively small in population, and in which there was little or no material abuse of the drugs, or, if there was such abuse, means existed for determining with reasonable accuracy the extent of the proper medicinal use. The countries originally selected for this purpose were Belgium, Switzerland, the Scandinavian countries, and Australia and New Zealand. No useful figures are yet to hand with regard to the two last, and as for Belgium, in view of new legislation and administrative measures there, it is considered that more useful information may be obtained at a somewhat later date. In Switzerland Dr. Carrière has sought the co-operation of doctors, pharmacists, and the hospitals, and has arrived at figures representing within a margin of 20 per cent. what he believes to be the total legitimate consumption, and similar inquiries have been carried out in Denmark and in Sweden by Dr. Madsen. The year to which the following figures (see table, p. 725) relate is, in the case of Switzerland, 1921, in Sweden, 1920, and in Denmark, 1917.

The considerable consumption of heroin in Switzerland appears to have no counterpart in Scandinavian countries: in Sweden the amount of heroin consumed was only two kilograms. It will be seen also that the consumption of cocaine

	Total Quantity in kilograms.	Per Head of Population (grams).
SWITZERLAND.		
Opium and preparations and extracts	704	0.17
Morphine	234	0.058
Heroin	174	0.043
Cocaine	229	0.057
SWEDEN.		
Opium	1,600	0.27
Morphine	120	0.02
Cocaine	150	0.025
DENMARK.		
Opium	467	0.16
Morphine	98	0.033
Cocaine	48	0.016

is more than twice as great per head of population in Switzerland as in Sweden, and more than three times as great as in Denmark. These three countries can be properly compared because all are small countries, all were neutral in the war, and all have a relatively high standard of health; the annual mortality rate in Switzerland is 14 per 1000, in Sweden 13.29, and in Denmark 13.4.

Dr. F. Norman White, who occupies an official position on the International Health Committee of the League, was present at this sitting of the Opium Commission, and amplified Dr. Carrière's report. He said that the investigators who had carried out the task in Switzerland were impressed by the great difficulty of undertaking any similar inquiry in a larger country. The difficult question was to decide as to the limits of legitimate use. If it was said that all opium prescribed by a doctor was legitimate, it must be remembered that, at any rate in some countries, these drugs might be abused by the medical profession. Moreover, even among practitioners in countries where there was a high standard of medical qualification, great diversity of opinion existed as to the use of these drugs. Some doctors used them too much, other perhaps not enough. One of the members of the Commission asked to what extent Dr. White thought that the results arrived at for European countries might be safely applied to oriental countries like India, where racial characteristics, habits of life, and incidence of disease were all different. Dr. White replied that in western countries it might be assumed that the use of a drug was legitimate if it was prescribed by a doctor, but in such a country as India it was necessary to define, not merely legitimate use, but also the doctor. He had known native practitioners in India who used opium very skilfully in the treatment of disease, but according to western standards their use of the drug would be regarded as illegitimate. He agreed that there was much greater tolerance for narcotic drugs amongst the Indian native population than amongst Europeans. The representative of India on the Commission, Mr. Campbell, stated that the average annual consumption of opium in all forms among the population of 240,000,000 of British India was between 26 and 27 grains a head. If cocaine were taken as equivalent to morphine, and both morphine and cocaine as equivalent to ten times the quantity of opium, the consumption in Denmark would represent about 10½ grains of opium a head, or about 40 per cent. of the consumption in India.

Discussion took place on the wisdom of encouraging the use of synthetic drugs which, while possessing the same medicinal value as morphine or cocaine, were less likely to form the drug habit. Dr. White believed that the new synthetic drugs led to nothing corresponding to the cocaine habit. There were instances of perversity, of course, but these needed no special legislation any more than the fact that now and again an alcoholic subject became maniacal on eau-de-Cologne was a reason for special legislation against that spirit. He regarded eucaine, from the habit-forming point of view, as not one-hundredth part as dangerous as cocaine; it did not give rise to those so-called pleasurable sensations which were the root of the mischief. The German representative said that in his country research was being directed to the replacement of habit-forming drugs by others, approximately equal in medicinal value, which were not injurious. It was understood that the Health Commission of the League of Nations would get in touch with the German Government on this matter. Dr. White demurred to a suggestion from Mrs. Hamilton Wright that legislation should be introduced to prevent or limit the medical use of drugs. He did not think that medical initiative should be bound in that way. There were certain cases in which he, were he a practising physician, would be very sorry not to have opium at his command, and he believed that many doctors did not use it enough. He was pressed by some members of the Commission to suggest a figure for consumption per head of population which might represent the utmost limit of legitimate use, so that if it were exceeded in any country suspicion would be aroused. In reply he pointed out the difficulty of expressing the potency of one drug in terms of another, and also the fact that a relatively high figure for a given country—as in the present case of Switzerland compared with Denmark—might simply mean that the statistics had been collected more carefully. A figure which should serve as a danger signal could only be arrived at as the result of an inquiry extending over several years and concerned with a number of countries.

It was reported by Britain, America, Germany, Holland, and Japan that information could and would be obtained in those countries as to the manufacture and sale of cocaine and the purposes for which the drug was produced, and the Secretariat of the League was instructed to stimulate such inquiries and correlate the results.

SIR THOMAS BROWNE:

THE STORY OF HIS SKULL, HIS WIG, AND HIS COFFIN PLATE.

BY

REV. CANON F. J. MEYRICK,

ST. PETER MANCROFT VICARAGE, NORWICH.

A PATHETIC irony seems to follow the great author of the *Religio Medici*, *Urn Burial*, and *Vulgar Errors*, even beyond the grave.

"To be knav'd out of our graves, to have our sculls made drinking bowls and our bones turned into pipes . . . are tragicall abominations escaped by burning burials."

The writer of these words suffered at least a part of a "tragicall abomination," for his skull, though never "made into a drinking bowl," was almost certainly "knav'd" out of his grave. In the chancel of the great Church of St. Peter Mancroft, Norwich, is a tablet which tells us that—

"Near to the foot of this pillar lies Sir Thomas Browne Knight and Doctor in Physick, the author of Religio Medici and other learned Bookes, who practis'd Physick in ye City 46 years and died Oct 19 1682 in ye 77th year of his Age," etc., etc.

The story of the "knaving" is, and must always be, wrapt in some mystery. This much is known. In 1840 the aged incumbent, the Rev. John Bowman, was mourning the loss of his wife. A grave was being prepared for her in the chancel of the church. A local antiquary, whose "acquisitive complex" was abnormally developed even for an antiquary, took from the coffin of Sir Thomas Browne the coffin plate, which was broken when forced from the lead coffin. Though he strenuously denied the theft and declared the coffin plate was in the possession of the sexton, yet in 1893, fifty-three years later, the broken plate was found in his desk among his acquired treasures and rightly returned by his executors to the church from whence he had borrowed it.

The coffin plate, which is now restored, is carefully preserved by the church authorities as near as is convenient to its original resting place. It is in the form of an heraldic escutcheon measuring 7 in. by 6 in., and broken into two nearly equal halves. On it are engraved remarkable words, of which Sir Thomas's eldest son, Edward Browne, was the author. Edward, like his father, was a ripe scholar and a great traveller. He was the author of an extraordinarily interesting book of travels in divers parts of Europe, "printed for Benj. Tooke, at the Sign of the *Ship* in St. Paul's Churchyard MDCLXXXV." He had the reputation of being the best bred man of Charles II's Court, was President of the College of Physicians, and physician to St. Bartholomew's Hospital. The words read as follows:

"Hoc loculo indormiens corporis spagyrici pulvere plumbum in aurum convertit" ["Sleeping in this grave, by the dust of his alchemic body he changes the lead to gold"].

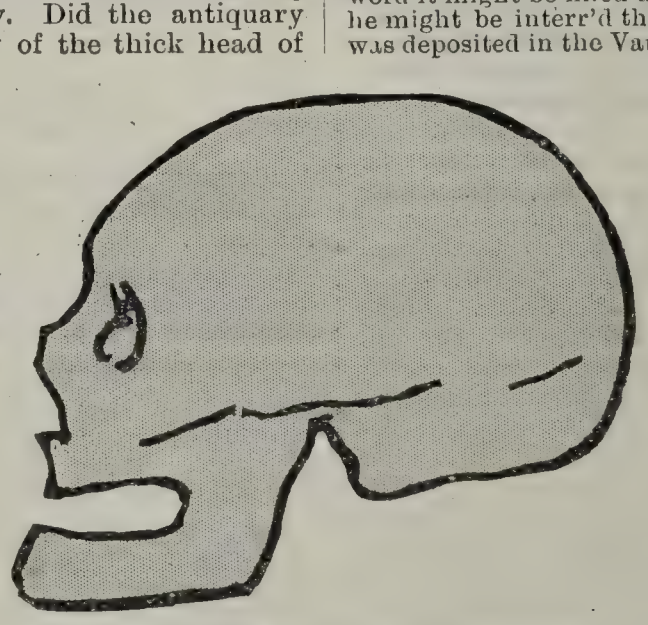
The acquisitive antiquary who claimed to have looked into the coffin declared that the lead of the coffin had actually decomposed and changed to carbonate which crumbled at the touch. However, as we have seen, little reliance can be set upon the witness of this man. This same antiquary

declared in 1847 that seven years before, looking into the coffin, he saw not only the skull but also the hair of Sir Thomas Browne, and he described the hair as "profuse and perfect and of a fine auburn colour."

Meanwhile, in 1845, a skull had been presented to the hospital as that of Sir Thomas Browne. Unfortunately there is no record of the gift in the hospital books. Since 1845 the skull and some hair have been preserved in the hospital museum, of late years in a silver casket, presented by the late Professor Osler, perhaps the greatest authority in his day on Sir Thomas and his writings.

Many questions have been asked about the skull. No one knows who stole it or by what means it reached a certain Dr. Lubbock, who is said to be the donor of the relic to the hospital. It has been suggested, without a shadow of evidence, that the sexton stole the skull, hawked it about Norwich, and finally sold it to Dr. Lubbock. Now the sexton in 1840, when the grave was "knav'd," was a most worthy and loyal servant of the church. His son followed him, and his grandson, a great lover of Sir Thomas, is serving the church to-day. The sexton of 1840 was a man of considerable means, for he could afford to present the church that he served with such fidelity with a beautiful oak door.

Did the antiquary, who was the only man who claimed to have seen the skull and who most certainly "borrowed" the coffin plate, also "borrow," with or without the churchwardens' consent, the skull? It looks like it. Yet in dealing with relics, it is wise to walk warily. Did the antiquary really look into the grave? The story of the thick head of hair is not very convincing. For is it possible that a man who lived to 77 and who for forty years was responsible for a great practice should have died with a head covered with profuse auburn hair? There are many possibilities. It is possible that Sir Thomas was buried in his wig. It is possible, on the other hand, that the antiquary, satisfied with the coffin plate, never looked into the coffin at all. It is even possible, though unlikely, that the faithful old sexton with dry humour palmed off another skull (in 1840 the crypts were choked with them) on to the greedy antiquary.



Rough tracing showing the skull with its low and depressed forehead.

Clearly we must walk warily. Orthodoxy and dogma are dangerous in matters relating to relics. The great philosopher's own words (*Pseudodoxia Epidemica*, Chapter V) warn us of the danger of credulity:

"A third cause of common Errors, is the Credulity of men, that is, an easie assent to what is obtruded; or a believing at first ear, what is delivered by others. This is a weakness in the understanding, without examination assenting unto things, which from their Names and Causes do carry persuasion; whereby men often swallow falsities for truths, dubiosities for certainties, sensibilities for possibilities, and things impossible, as possibilities themselves. Which, though a weakness of the Intellect, and most discoverable in vulgar heads; yet hath it sometimes fallen upon wiser brains, and great advancers of Truth."

And this cause of error, the philosopher tells us, is supinity or neglect of inquiry, "rather believing than going to see; or doubting with ease and gratis, than believing with difficulty and purchase."

Let us therefore "go to see." In the museum of the hospital there is the skull. At first sight, with little or no knowledge of craniology, we would say: This cannot possibly be the skull of Sir Thomas Browne—that low, receding, depressed forehead is never that behind which the *Religio Medici* was conceived.

We look elsewhere for evidence of the shape of the philosopher's head. There are, fortunately, no less than four contemporary portraits. There is one in the treasury of St. Peter Mancroft—a half-length, three-quarter face. The portrait was presented to the church by Dr. Edward Howman, who owned and occupied Sir Thomas Browne's house after the philosopher's death. A second portrait is in the Bodleian Library—also a half-length and three-quarter face, and was probably painted in 1671 or 1672, just after Sir Thomas had been knighted. A third portrait is in the Royal College of Physicians, London, and represents Sir Thomas as somewhat older than in the other two pictures.

In all three pictures, though there are differences in cast of countenance and in details of dress, you see a noble face of a man of over sixty. There is a touch of melancholy in each face, and each picture represents a man who, so far from having the straitened forehead of the fool, rejoiced in the noble, intellectual forehead of a scholar. This is what one would expect, unless one had been to the museum and seen the skull.

There is a fourth and less well known portrait. It is at Devonshire House, Piccadilly, and some years ago the Duke of Devonshire kindly allowed it to be photographed and published in Norwich. It is probably the work of Van Somer, a Dutch artist who came to England in 1606. It represents the Browne family when Thomas was a few years old. Thomas Browne, mercer of London, and Anne his wife, are with their four children, Anne, Jane, Mary, and the future Sir Thomas. Even at this early age Thomas has a high forehead, the child's eyes being actually nearer the point (if a child's chin has a point!) of the chin than the top of the forehead.

Another possibility has been suggested. Dr. Beverley, a great collector of all that concerns Sir Thomas, sends me a copy of a MS. in the British Museum. It reads as follows and throws a new possibility on the skull's authenticity:

"The late Dr. Jeffery gave notice to Sir Thomas Browne's nearest relative that his vault wanted Reparation, who sent him word it might be filled up, which when the Dr. knew, desired that he might be interr'd thereon, who shortly after Dying His corpse was deposited in the Vault and afterwards filled up with earth and over the Doctor on a stone is this Ins: Johannis Jeffery, S.T.P., etc. etc. 1720 anno aet. suae 73."

From this we learn that soon after the burial of Sir Thomas Browne in 1682 his vault was filled up with soil, and that in 1720 the grave was opened, and over the coffin of Sir Thomas Browne was laid the body of Dr. Jeffery. This John Jeffery was vicar, or, as he was then called, minister, of St. Peter Mancroft, for forty-two years, from 1678 to 1720. He was appointed Archdeacon of Norwich in 1694. Sir Thomas Browne, who lived hardly a stone's throw from this church, was for four years not only his greatest parishioner but his greatest friend. It has been suggested that when in 1840 the gravediggers disturbed the "filled-up" vault of Sir Thomas they must have first come upon the skeleton of John Jeffery, and that therefore the low, depressed skull is that of the archdeacon and not the philosopher. A picture of the archdeacon disposes of this possibility. The vicar was even more noble-browed than his great parishioner!

At first sight the conclusion drawn from the skull and the portraits seems almost irresistible. For could such a skull boast a brow so nobly shaped? Yet we know that artists are necessarily idealists. Portraits were in quite early times types rather than likenesses. Even when they became likenesses, something typical remained. In Caroline days may it not have been the fashion to give eminent men the high forehead that we see in Van Dyck's Charles I in the Wallace Collection, or in his Henrietta Maria in the National Portrait Gallery?

On the whole we believe, then, the tradition is true that the antiquary knew what he was doing when he rifled the grave and "knav'd" the skull, and that the governors of the Norfolk and Norwich Hospital have been guarding the great man's skull for nearly eighty years. The unbroken tradition in the sexton's family carries great weight. The Potters for four generations have all been faithful servants of the church, and the present verger, Mr. Douro Potter, is entirely convinced that the skull which the hospital authorities are returning to the church is the skull that held the brain that gave birth to the *Religio Medici*.

If a great scholar—Dr. E. Browne—wrote the Latin inscription on the coffin plate in 1682, another great scholar—Dr. Pollock, Bishop of Norwich—has in 1922 written that which is to mark the spot in the chancel of St. Peter Mancroft where the skull will lie. It is as follows:

O caput augustum, Petro custode sepulchri
Sit tibi pax; nomen vivat in urbe; vale.

British Medical Journal.

SATURDAY, MAY 6TH, 1922.

THE MEDICAL CURRICULUM.

EVERY extension of our knowledge, every additional appreciation of the influence and effect of disease, has its natural corollary in a demand for revision of the curriculum. Although a wise conservatism has been the order of the day, a time has periodically come when the demands could no longer be legitimately or even safely denied. Such a time had arrived immediately prior to the outbreak of the war, and, although postponement of their consideration was thereby rendered necessary, further investigation and discussion have only confirmed and emphasized their justice and urgency. The firstfruits of the deliberations—which were resumed so soon as the war had ended—are to be seen in the provisional Regulations recently published by the Conjoint Board of the Royal College of Physicians of London and the Royal College of Surgeons of England. The Regulations are designed to come into effect at the beginning of next year; should they do so—and this would appear to be contingent on the acceptance of the General Medical Council's recommendations by other examining bodies—they will apply to candidates who have not passed the required preliminary examination in general education before January 1st, 1923. This seems rather short notice, but we may say at once that the reforms suggested are such as almost unreservedly to command approval. In the main they are the lengthening of the curriculum, the recognition of the importance of pathology and bacteriology, which are to be the subjects of a separate examination, and the requirement of attendance at ante-natal, infant welfare, and other clinics.

The lengthening of the curriculum is attained by removing the subjects of chemistry and physics into a pre-medical curriculum, in accordance with what we believe to be a generally accepted proposition that a knowledge of these two subjects should be required from any senior pupil, at a public or secondary school, who is intending to adopt a scientific career. There are not wanting signs that such schools are both willing and anxious to provide the instruction required. By the adoption of this measure almost a complete academic year is added to the medical curriculum, for, although it is proposed that general biology shall still be retained, it appears only as an addendum to physiology, and is no longer made a subject for examination; this alteration in its position seems to be only preliminary to its disappearance as a separate subject from the curriculum of the Royal Colleges. If this be the case, we are of opinion that it would be kinder to remove it altogether than to leave it in so ambiguous a place. Biology can never be wholly eliminated from the medical curriculum, since it is required in connexion with the study of so many subjects—embryology, experimental physiology, parasitology, and bacteriology. We hold, however, that the subject is so vast that only parts of it can ever be studied by the medical student, and that these parts can be most intelligently and satisfactorily taken at a later period of the curriculum, when a knowledge of the facts and principles of human anatomy and physiology has already been acquired. Biology, in other words, should be taught in terms of comparative anatomy and physiology rather than in terms of pure science, and may profitably be left to the teachers of anatomy, physiology, pathology, and bacteriology to be supplied at the appropriate times.

The First Professional Examination is divided into two parts. The subjects of Part I are Anatomy, including histology and embryology, and Physiology, including biochemistry. The introduction of embryology, the allocation of histology to anatomy, and the separate recognition of biochemistry are all innovations in keeping with the spirit and trend of the times. The examination in embryology will be according to a schedule, the details of which are not given, although from the known practical character of the examinations at the Royal Colleges we may presume it will include the general principles of embryology and have special reference to congenital anomalies. The subjects of Part II are Pharmacology, Practical Pharmacy, and Materia Medica. Five terms, or two winters and a summer, are the periods of study prescribed in preparation for this examination, periods which differ little, if at all, from those of the older regulations and which are identical with periods required by most universities, including the University of London. We are sorry to observe that a candidate is to be allowed to pass the examination in anatomy or physiology separately provided a standard of 25 per cent. is attained at the examination in the other subject. We believe this to be a mistake in more ways than one; moreover, as a student is not allowed to proceed with the work for the final examination until he has passed the whole of Part I of the first examination, the concession appears to be of dubious value. We trust further consideration will be given to this matter before the regulations reach their final form.

The Final Examination is divided into two sections. The subjects of Section I are Pathology, including morbid anatomy, morbid histology and clinical pathology, and Bacteriology; all these subjects must be passed by a candidate at one and the same time. The subjects of Section II are Medicine, Surgery, Midwifery, and Gynaecology, and they may be taken by a candidate, as at present, separately or together. The institution of a separate examination in pathology and bacteriology is, we think, from the educational point of view, the most important change in the Regulations, and will go far to redress the balance between the clinical and scientific sides of the final examination. The curriculum for Section II of the Final Examination has been extended to include courses in diseases of children and in the care of infants, in diseases of the throat, nose and ear, in diseases of the skin, in venereal diseases, in radiology, and in mechano-therapeutics. Candidates are to be required to produce evidence that they themselves have performed *post-mortem* examinations; that they have attended ante-natal clinics, have attended five labours conducted by a teacher or member of the staff of an approved hospital, and have themselves conducted fifteen other labours. The intention of these Regulations is sufficiently obvious; it is to give a more systematic and practical training in what have been the more obscure, but what are from the point of view of prevention of disease certain of the most important, branches of medicine. Attendance at courses of lectures on medicine, surgery, and midwifery is, we notice, no longer required, but the somewhat wasteful procedure, from the point of view of time, of attendance at a vaccination station is retained, although we should imagine an adequate course of instruction could readily be arranged in the sero-therapy department of any of the larger hospitals.

The broad general purpose of the changes, it will be seen, is, while retaining the strongly practical character which has always been the feature of the Conjoint Board examinations, to take the opportunity afforded by the extension of the curriculum to strengthen the more purely scientific side, and at the same time to widen the bounds of the curriculum in conformity with the progress of knowledge. The time chosen for the changes is far from being inopportune, coinciding as it does with an

epoch in which great advances have been made in medicine, and with a time at which the large entry of medical students into the schools has made a more severe type of curriculum both possible and desirable. It will further be noted that if the pre-medical curriculum is completed at school there should be little, if any, addition to the cost to the student of his training.

A new and high standard of medical qualification has now been set by the Conjoint Board in England; it cannot but affect the attitude of other examining bodies and must eventually have a great and far-reaching influence on medical education, and through that on the profession as a whole. Not for the first time has the wise statesmanship of the Royal Colleges been exercised to the benefit of the profession, but never, we think, to greater or more salutary effect.

RENAL EFFICIENCY TESTS.

MUCH attention has been directed during the past year to the subject of renal function and the clinical tests by means of which the efficiency of the kidneys may be estimated. The subject was made the text of an extremely interesting discussion that took place at a combined meeting of the Section of Medicine, the Section of Pathology and Bacteriology, and the Section of Physiology, Pharmacology, Therapeutics, and Dietetics, held at Newcastle during the Annual Meeting of the British Medical Association last year.[1] It has also been extensively debated by physicians, pathologists, and genito-urinary surgeons at the recent meetings of the Urological Section of the Royal Society of Medicine. The conclusions arrived at as a result of these discussions should for more than one reason be of great interest to the profession.

Renal efficiency is a most important topic, and on this score alone merits the attention of physicians and surgeons alike. But that which lends even greater interest to the investigation of renal functions is the fact that it has afforded a common ground for the meeting together and exchanging of ideas between representatives of so many and such diverse branches of medical science and practice. In these days of intense specialization there is a tendency for the worker in one department of medicine to lose touch with his fellow in another department, and undoubtedly much valuable knowledge is incompletely utilized from lack of liaison between the various branches of the profession. By the organization of these discussions on renal function among physicians, physiologists, pathologists, and genito-urinary surgeons the British Medical Association and the Section of Urology of the Royal Society of Medicine have done excellent service to medicine as a whole.

One result of these meetings has been to emphasize the fact that a test of renal efficiency, if it is to be of any real value, must be capable of simple and rapid performance. The number of tests that have from time to time been suggested is already too great. What is required is a simple test, or combination of tests, which will give the necessary information without the need for employing elaborate apparatus or complicated analyses. In the present stage of knowledge a careful clinical examination of the patient, reinforced by the carrying out of a few simple tests, will furnish an estimate of the functional value of the kidneys more accurate than that to be attained by the performance of numerous and complicated laboratory analyses. The time has not yet arrived for the employment of abstruse mathematical formulae and constants. Much new knowledge will have to be gathered before the functional value and (what is still more necessary) the functional reserve power of a kidney can be stated in figures. In the meanwhile reliance must be placed chiefly on the clinical examination, and on the results of such simple tests as the estimation of the blood urea, the determination of urea concentration as carried out by Professor Hugh Maclean, and the tests of the kidney's power to excrete dyes. Although a certain divergence of view is, not unnaturally, noticeable on this last point, the trend of recent opinion seems to support the use of the dye tests in estimating renal efficiency. Whilst it is true that we have no scientific proof that there is a parallelism between the excretion of a dye and the excretion of the products of nitrogenous metabolism, there nevertheless exists a weight of clinical experience in favour of the use of such simple procedures as the indigo-carmine and phenolsulphonephthalein tests. Of these two, the former appears to have gained the greater favour. Its popularity amongst speakers at the meeting of the Section of Urology of the Royal Society of Medicine would seem to depend not only on its simplicity but also on the accuracy of the results obtained. More especially would the indigo-carmine test appear to be of use in those cases in which it is necessary to estimate the relative value of a kidney as compared with its fellow on the opposite side. In the experience of several speakers an appreciable delay in the appearance of the dye at the ureteric orifice had been noted in cases in which the renal lesion was comparatively trivial.

Although it is difficult to sum up in a few words the conclusions arrived at as the outcome of these debates, and although it must be conceded that considerable discrepancies occurred in the experiences of some of the speakers, a very definite common factor of agreement undoubtedly existed. Emphasis was laid generally on the fact that a renal efficiency test, however valuable it may be, is only one of the means at our disposal for arriving at a conclusion as to the functional value of a kidney, and that its importance in relation to that of the clinical examination must never be overestimated. With regard to the nature of the tests to be employed an equal degree of agreement was reached. While such methods as the diastase reaction and the estimation of blood sugar and of electrical resistances had their advocates, the weight of opinion was in favour of the urea concentration test, the estimation of blood urea, and, for the comparison of one kidney with another, the intravenous injection of indigo-carmine. We understand that a special sub-committee of the Section of Urology has been appointed to examine and report on the material brought forward by those taking part in the discussion. We look forward with interest to the publication of its conclusions.

NOXIOUS DRUGS AND THE LEAGUE OF NATIONS.

WE trust that the proceedings of the Committee of the League of Nations appointed to advise on the execution of the Opium Convention, reported elsewhere in this issue (p. 724), may serve to press forward that control of the traffic in drugs of addiction which we have consistently advocated for many years past in these columns. The Committee is not invested with any executive powers, and can only advise the Council and Assembly of the League as to the extent to which the International Opium Convention, signed at the Hague ten years ago, has up to the present time been carried out, and as to the steps which should be taken to secure its universal adoption and its effective application. Our own Dangerous Drugs Act, the final form of the Regulations made thereunder, and the licensing and supervision of premises where these drugs are manufactured (only recently inaugurated), may well serve as legislative

[1] BRITISH MEDICAL JOURNAL, September 17th, 1921, p. 425. Professor Maclean's book on *Modern Methods in the Diagnosis and Treatment of Renal Disease*, reviewed in our columns of January 28th last (p. 146), may also be consulted.

and administrative models which other nationalities would do well to follow.

We have previously expressed our regret that neither among the British representatives on the Advisory Committee nor among the three technical assessors of the Committee any medical man is included. Important questions, not only of a political but also of an essentially medical nature, are, we learn from our correspondent in Geneva, confronting, and indeed perplexing, the Advisory Committee. It is no doubt disappointing and vexatious that China, which agreed to arrangements with the British Government in 1908 and 1911 for the progressive suppression of the cultivation of the opium poppy *pari passu* with the abolition of the Indo-Chinese trade, should have repudiated its obligations. At one time it was credibly reported that in nearly all the provinces of China opium production had been substantially reduced or entirely prohibited, and no Indian opium has been directly imported into China for several years past. Following the revolution in China, and especially since the weakening of the Central Government, there has been from 1918 onwards a great recrudescence of opium cultivation under the provincial governors, who have found in the revenue derived from opium sales the means to pay their troops. China, it is alleged, has now become one of the greatest, if not the greatest, of the opium-producing countries of the world. It is nevertheless not a little disquieting to learn that the reduction of the import of Indian opium into China was accompanied by a remarkable increase in the export of British-made morphine to the Far East. We are not surprised to hear that the Japanese representative at Geneva was concerned at "the extensive importation of drugs into his country beyond all legitimate requirements," and there is little doubt that large quantities of morphine find their way through Japan into China; the latter country is, we believe, still innocent so far as the production of morphine is concerned. It was not a little embarrassing that at a recent meeting of the Anti-Opium Society in London a Chinese diplomat ingenuously remarked that he had observed that the anti-opium agitation was strongest in countries in which the largest amount of morphine was produced for export.

A laudable attempt is being made, in strict accordance with the provisions of the Opium Convention, to limit the export of dangerous drugs to the amount certified by the Government of the importing country to be required for medical and legitimate purposes. The Provisional Health Committee of the League has been called to the aid of the Opium Advisory Committee with a view to determine, if possible for each country, what may be regarded as the amount of legitimate consumption of the drugs in question. The problem is one of considerable difficulty, and our correspondent shows that the figures already vouchsafed from Switzerland, Sweden, and Denmark exhibit some strange anomalies. Moreover, in the case of countries like India, it has been repeatedly pointed out that where the recognized medical men are few and far between opium does not lose its efficacy when administered by irregular practitioners to whom the peasantry resort. There may be difficulties in the way of affirming that their use of the drug is illegitimate. Moreover, it was stated that the amount of the drugs in question actually consumed per head was very much greater in India than in a country like Denmark. The India Office has recently published a pamphlet entitled *The Truth about Indian Opium*, which provides much food for thought. It shows that the area under opium cultivation in British India is still about 150,000 acres, while in the Indian States there has been some increase in the area under the poppy in recent years, the acreage in them in 1919–20 being 56,934. Opium smoking is officially condemned as "essentially a social vice," and it is asserted that morphine, if used "for other than medical purposes, invariably takes the form of dangerous vice." The India Office nevertheless has a tender regard even for the non-medical use of raw opium as a "domestic medicine," as "the commonest and most treasured of the household remedies accessible to the people," as a panacea to "avert or lessen fatigue," as a "prophylactic against malaria," and so on. It would perhaps be unkind to inquire whether any of the 10,000 chests of raw opium annually exported by the Government of India chiefly to the Straits Settlements, French and Dutch East Indies, Hong-Kong, and Macao, are there utilized for the "social vice" of opium smoking. The Indian Government stands by the report of the Royal Commission on Opium of 1893–94, which it says "remains unchallenged," although Lord Morley when Secretary of State for India declared that it had "somehow or other failed to satisfy public opinion in this country or to ease the consciences of those who had taken the matter up." Lord Morley contrasted the views of the "official-minded" with the "philanthropists" on this much-debated question. There is also the view of the scientists to be heard, who may be disposed to inquire whether the active principle of opium differs in its pharmacological effects, physical and mental, according to whether it is inhaled, ingested, or injected. Whether the world's production of opium, morphine, heroin, and cocaine, does or does not exceed the legitimate requirements of mankind may be a matter of argument, but one can hardly open a newspaper without finding that a not inconsiderable quantity of these drugs gets into unlawful hands and is put to vile and illegitimate purposes. The early and effective enforcement of the International Opium Convention was never more needed than it is to-day.

THE LISTER INSTITUTE.

THE twenty-eighth annual report of the governing body of the Lister Institute of Preventive Medicine, presented to the annual general meeting held on Wednesday, May 3rd, affords evidence of great and continuous activity in all the departments. Dr. J. A. Arkwright, who in November, 1920, took charge of an investigation into foot and mouth disease under the auspices of a committee appointed by the Ministry of Agriculture, returned to duty as assistant bacteriologist in the Department of Bacteriology in October, 1921, and resumed his investigations on the virus of typhus fever, in conjunction with Mr. Bacot. At the request of the Director-General, Egyptian Medical Service, the services of Dr. Arkwright and Mr. Bacot were placed at the disposal of the Egyptian Government, and they went to Cairo in January. The report contains an expression of the grief of the governing body that after the investigations had been in progress only two months both Mr. Bacot and Dr. Arkwright contracted the disease. Mr. Bacot, on April 22nd, as we had regretfully to announce, succumbed to the disease, but Dr. Arkwright, though at one time gravely ill, is now, we are glad to learn, making a good recovery. Mr. Bacot had been working at the morphology of the whole group of *Rickettsia* organisms and the relation of the pathogenic to the non-pathogenic species. Before his departure for Egypt he had been investigating the entomological side of the epidemiology of typhus fever in collaboration with Dr. Atkins. It is now generally accepted that the louse is the infecting agent, and previous workers have been able to infect monkeys by crushed lice, previously fed on a typhus patient during the acute stages, and rubbing this into the infected skin, but the exact mode of infection under natural conditions has not yet been ascertained. So far as the experiments of Mr. Bacot and Dr. Atkins had gone, no evidence was obtained that the infection was produced during the act of sucking, though it was found possible to pass the virus of typhus from one monkey to another by the injection of

monkey-lice infected by feeding upon an animal known to have the disease. A great deal of the time of other workers attached to the institute has been given to the problem of accessory food factors (vitamins). Professor Korenchevsky, whose attention has been particularly directed to the part played by deficient diet in the production of rickets, has also investigated the possibility of the disease being infectious; an occasion for testing the opinion was provided by the discovery of a community of rats in which an outbreak of rickets had spontaneously occurred. In view of the fact that Morpurgo has reported the isolation of a specific micrococcus from animals, subject to such a spontaneous outbreak, the inoculation of which was followed after some weeks by typical rickets, Korenchevsky searched the tissues and organisms of the rats in the outbreak mentioned above for evidence of infection, but found none. Dr. Goldblatt (Beit Fellow) is engaged, with the assistance of Miss K. M. Soames, in studying the quantitative relation of fat-soluble A to experimental rickets. The influence of sunlight upon the development of rickets in animals upon a deficient diet is also being investigated. Inquiries made for the Committee on Accessory Food Factors appointed jointly by the Lister Institute and the Medical Research Council have been continued in Vienna, and there also the influence of light and fresh air upon the incidence and cure of rickets has been studied. As rickets displays a definite seasonal incidence, the observations have been divided into a summer–autumn period and a winter–spring period. The investigation is complicated by the fact that the amount of vitamin A present in the milk of cows varies with the season, the cow apparently merely transmitting the vitamins it obtains from fresh food. In Vienna two parallel series of observations on children are being carried out simultaneously, under precisely similar conditions, except that the diet of the cows furnishing the milk to each series varies; in the one the animals are being fed upon the ration usually given to cows confined in stables in winter; in the other as much green fodder as can be procured is added to the cow's ration, and approximate adjustment of the other constituents made. In the department for the preparation and study of antitoxic serum work on the concentration of serums has been continued, and it appears probable that concentration of the original plasma to a third or a fourth of its bulk will be the most feasible method, although higher concentrations have been obtained. The new method of preparing and tubing antivariolous vaccine carried out in the Department for the Preparation and Study of Antivariolous Vaccine has given good results. A considerable proportion of this vaccine is destined for use in tropical countries, and the new preparation is being tested by medical officers at two or three stations in the tropics. There is, the report states, an increasing volume of evidence that strains of variola vary in different parts of the world and at different times. Some degree of immunity to all is produced by vaccination, but it is thought not improbable that the best immunity is one aroused by a vaccine possessed of not too distant relationship to the strain of variola locally endemic. Special strains of antivariolous vaccines have been raised from variolous material obtained by medical officers of colonial governments, and these are being studied with the object of obtaining the best immunization of the populations.

SMALL-POX IN SINGAPORE.

AT a meeting of the Malaya Branch of the British Medical Association on March 16th Dr. G. A. C. Gordon, D.P.H., submitted a memorandum on a small-pox epidemic in Singapore, which came under notice in May, 1921, and was continuing to spread. Only two cases were notified monthly in June, July, and August, but in September the notifications mounted to 18, in January this year to 39, and in February to 80. The remarkable difficulty of controlling an outbreak of variola in the circumstances which exist at Singapore is well shown in Dr. Gordon's memorandum. The population is made up of Europeans, Eurasians, Chinese, Malays, Indians, Japanese, and Siamese. In races so varied there is no common concept of communal duty in the stamping out of infectious disease. Concealment is so general that more than 50 per cent. of known cases have been discovered not by notification but through house-to-house search by sanitary inspectors, who may discover the infected hidden under beds, or rolled in bedding, or in latrines, and so forth. When death occurs the body is usually dumped on the nearest piece of waste ground, or even on the street. Under conditions like these some of this country's routine preventive measures, such as search for and surveillance of contacts, are out of the question. Even hospital isolation can be of very limited value where so many sources of infection remain scattered throughout the population. The reader, indeed, is, by a process of exclusion, forced to the view that preventive policy should be primarily directed to rendering immune by means of vaccination every member of the population who can be persuaded to accept protection; at the same time, of course, other measures must be adopted to whatever extent is found practicable. But even as to vaccination there must be problems in Singapore of which we know nothing in England. The capital of the Malay peninsula is situated almost on the line of the Equator, and the establishment and maintenance of a stock of reliable vaccine lymph under tropical conditions is a matter of very special difficulty. References to this trouble are not wanting in Dr. Gordon's memorandum, especially to what seems locally known as "Java lymph," concerning which it is asked whether a person successfully vaccinated with Java lymph would "be susceptible to an attack of Hong-Kong small-pox." In this connexion we may refer readers to the concluding sentences of the note on the Lister Institute published above. In addition to the possibility of various strains it should be remembered, in judging the protective value of a vaccine lymph, that a local reaction to revaccination a few years subsequent to primary vaccination is not necessarily equivalent to disappearance of protection against attack or death from small-pox. The drift away from complete immunity is gradual, and the first stage is renewal of some degree of local susceptibility to vaccination. The deaths from small-pox among 269 cases were 65, or 24 per cent., and of the 65, "21 were found dead." The Chinese, who form the largest section of the population, had had much less proportionally of the epidemic than the other races, but Singapore's Chinatown is in the southern part of the city, which had not apparently been as yet seriously invaded. The fatality rate among the Chinese was, however, 38 per cent. of the cases, whilst among Malays it was 11 per cent., and amongst Indians 19 per cent. The data, however, are as yet insufficient to allow conclusions to be based on them. We take it that Dr. Gordon is a young medical administrator who has been called on to tackle a hard problem almost at the beginning of his career. He has done wisely to discuss the matter frankly with his brethren of the British Medical Association in his part of the world, and we are sure that, as regards supply of vaccine lymph and other such requirements, all the help of the Colonial Office and of the Ministry of Health will be freely available to the Singapore Health Department. He is probably right in his expectation that a speedy termination of the Singapore epidemic is not to be expected, and the Department should, if necessary, be able to get into touch with the central authorities in time to reap the benefit of their experiences of epidemic disease in our far-flung empire.

GENERAL MEDICAL COUNCIL.

THE next session of the General Medical Council will commence at 2 p.m. on Tuesday, May 23rd, when the President, Sir Donald MacAlister, K.C.B., M.D., will take the chair and give an address. The Council will continue to sit from day to day until the termination of its business. Among the subjects to be discussed the two most important deal with medical education and examination. The first has reference to the Diploma in Public Health. The discussion of the new regulations for the Diploma in Public Health has

now reached an advanced stage, and it seems probable that the recommendations of the Public Health Committee will be adopted at this meeting and come into force at an early date. The Council is directly responsible for these regulations. Those now in force were originally adopted on June 1st, 1889; they have since been amended and amplified from time to time, particularly on December 1st, 1911, with a view to bringing the special course of instruction required of candidates for the Diploma in Public Health into harmony with the duties of the modern medical officer of health, which have changed considerably since the resolutions were originally adopted. As was pointed out in a leading article published on December 10th last (1921, vol. ii, p. 1000) it is clear that a very decided advance along the whole line of instruction and examination for the diploma in public health is contemplated. At present a candidate can obtain a diploma in public health within nine months or a year after his name first appears on the *Medical Register*; it is now proposed that at least two years must elapse. A candidate will be able to take the laboratory work required immediately after registration and present himself for the first of the two examinations for the D.P.H as soon as he pleases thereafter; but if the new scheme is adopted he will in future not be admitted to the second examination until the end of the second year from registration. It is believed that a new graduate in medicine will be the better qualified to take up the special duties of public health administration if he has become somewhat more mature in thought and in general outlook than is usually possible for a medical student immediately after obtaining a registrable medical qualification. How such part of the two years as is not devoted to study for the diploma in public health should be spent is not specified, but no doubt it is hoped that either through hospital or private practice the young man may in most cases learn something of the proper relations of the public health official to the public and to the general practitioner. A candidate will, however, be required to spend six months in practical training under a medical officer of health, and this training will include instruction in the administration of the newer activities of public health departments—maternity and child welfare, and the school medical, venereal disease, and tuberculosis services. It is desirable to emphasize that this training is not to be clinical in nature, but administrative. Clearly the Council has not forgotten that the position and experience of the general medical practitioner as family doctor should be recognized, and that he must not be ousted from his own sphere of work. The other matter affects the general medical curriculum: it was discussed at length in our columns in January, 1921, in a series of articles on "Reform in Medical Education." The proposals arose out of an instruction given by the Council to its Education Committee in May, 1918, to make a report on the question whether any action should be taken to promote and systematize the teaching of preventive medicine in the medical schools and in clinical hospitals throughout the country. The committee consulted the schools, and reported in May, 1920, that the questions raised by them would involve the revision of the whole curriculum in medicine; thereupon the committee was instructed to report fully. The report it produced was discussed by the Council in November, 1921, and certain recommendations were adopted which have since been under the consideration of the medical schools and licensing bodies. The relation of the Council to the universities and colleges is not such as to give it direct control over the medical curriculum. The licensing bodies have practical autonomy, so that the Council can only make recommendations, which may or may not be accepted. The action of the Royal Colleges in England, however, seems to foreshadow the adoption of the recommendations very much as they stand, for the Conjoint Board in England has issued new draft regulations in anticipation of the final discussion by the Council this month. Their effect can be gathered from the leading article on the medical curriculum published in this issue (p. 727).

DIAGNOSIS OF OBSTRUCTIVE JAUNDICE.

THE differentiation of obstructive from other forms of jaundice is often difficult, and yet vitally important because the former varieties of icterus may demand surgical treatment which would be of no value in jaundice of haemolytic origin or due to functional disturbance of the hepatic cells. The paper by Dr. McNee, which is published in this issue, gives an account of the test devised by van den Bergh for the purpose of distinguishing between these two groups of widely different origin. In principle it depends on the application to the examination of bilirubin in the serum of Ehrlich's "diazo reaction," which was introduced for another purpose and generally discarded as useless for that purpose. Van den Bergh found that the bilirubin circulating in the blood of patients suffering from obstructive jaundice reacts with the diazo reagent in a manner which differs from the reaction of bilirubin found in haemolytic jaundice or functional disease; the explanation suggested is that the pigment is bound to albuminoid substances in functional and haemolytic jaundice, and the union can only be broken down by time and alcoholic precipitation. The test can be performed very simply by mixing equal quantities of the patient's serum and the reagents, when if the case be one of obstructive jaundice a bluish-violet colour appears immediately, whereas in other forms of jaundice this colour does not appear at once; only after precipitation with alcohol is a violet-red colour obtained. The alcohol precipitation method may be used for quantitative estimation of bile in serum by a simple colorimetric method, a procedure obviously of great value for observing on the one hand progressively increasing obstruction as in malignant disease, or on the other the cessation of obstruction following the escape of a gall stone from the common bile duct, since the skin pigmentation in jaundice changes comparatively slowly. There are, however, bi-phasic reactions in which no clearly marked distinction between the direct and indirect test is obtained, but the information they supply is of value to the clinician in that they suggest that the jaundice is due to both obstructive and haemolytic or functional factors. The brief reports which Dr. McNee gives of cases demonstrate clearly the value of the test. Thus in the first two cases cited no operation need have been performed had reliance been placed upon the bilirubin test, whereas in Cases 3 and 4 it could have been foretold that the jaundice was obstructive in origin. Dr. McNee's paper is only a preliminary communication on the subject, and his further conclusions will be awaited with interest; but in the meantime this simple test seems to be of sufficiently established value for it to be more widely used.

SCIENTIFIC SECTIONS AT THE GLASGOW ANNUAL MEETING.

THE officers of the Section of Industrial Disease and Forensic Medicine at the forthcoming Annual Meeting of the British Medical Association in Glasgow have arranged the following provisional programme: An opening address by Professor Glaister, followed by papers by Sir Thomas Oliver, Sir W. H. Willcox, Dr. John Glaister, jun., and Dr. R. A. Lyster. For the discussion on "Stillbirth and neo-natal death," in the Section of Obstetrics and Gynaecology, on Wednesday, July 26th, the following arrangement has now been made: Dr. J. W. Ballantyne will speak on "Ante-natal, intra-natal, and neo-natal death: causes, pathology, and prevention, with special reference to ante-natal death"; Mr. Eardley Holland, on "Intra-natal death"; Professor A. M. Kennedy and Dr. F. G. Browne, on "Neo-natal death"; Professor Louise McIlroy, on "Ante-natal death due to toxaemia of pregnancy"; and Dr. J. N. Cruickshank and Dr. Gilbert Strachan will open the discussion. Two more items are now to be included in the programme of the Section of Anatomy: Professor T. H. Bryce will demonstrate a series of embryological models, and Dr. W. K. Connell (University of Glasgow) will read a paper on the form of the palate in children. The names of the officers of the nineteen Scientific Sections were published in the

SUPPLEMENT of February 18th, at p. 39. The Sections will meet on Wednesday, Thursday, and Friday, July 26th, 27th, and 28th, the mornings being devoted to discussions and papers, the afternoons to clinical and laboratory demonstrations. The five following two-day Sections will meet on the Wednesday and Thursday: Dermatology, Diseases of Children, Physiology, Industrial Disease and Forensic Medicine, Radiology and Electrology. Of the single-day Sections those of Anaesthetics and of Otology will hold their sessions on Wednesday; the Sections of Laryngology and of Tuberculosis will meet on Thursday; the Section of Anatomy on Friday; and the Section of Medical Sociology on Friday morning and afternoon.

MEDICAL PORTRAITS AT THE ROYAL ACADEMY.

THE one hundred and fifty-fourth exhibition of the Royal Academy of Arts, which opened to the public on Monday, is generally regarded by the critics as giving a very fair representation of British pictorial art at the present day, and in particular of the art of the portrait painter. Following the custom of recent years the exhibits are comparatively few in number and judiciously arranged; instead of a fatiguing mass of distant pictures far above the eye level, there are now restful grey walls. The many portraits in this year's exhibition include several of medical men and women. In Gallery IV there is a large portrait in oils by Walter W. Russell of Sir Norman Moore in the presidential gown of the Royal College of Physicians of London. The likeness is unmistakable, yet the portrait is a little disappointing, for the painter seems to have given almost overwhelming attention to the black and gold-laced robe. In Gallery III Frederic Whiting has been happier in his portraiture of Sir James Crichton-Browne, whose doctor's scarlet gown shows well against a black background, but is not unduly emphasized. On the opposite wall there is a portrait, by Solomon J. Solomon, of the Treasurer of St. Thomas's Hospital, a short distance away from the most remarkable of Orpen's six portraits. In Gallery VII will be found a quiet and pleasing portrait in oils of Dr. Jane Walker, by W. G. de Glehn; the effect would scarcely have been so good had the sitter worn vivid academic costume. The sculpture rooms contain a fine marble bust of Sir John Bland-Sutton, the work of Sir George Frampton; the profile is particularly effective. There is also, in this gallery, a charming bust of Miss M. Bostock, M.D., F.R.C.S., by Miss Isobel Donaldson. The works we have enumerated comprise all the medical portraits in the present exhibition, except a miniature, by Miss C. E. Wise, of Dr. V. H. Rutherford, formerly M.P. for Brentford, and a mezzotint by H. Macbeth-Raeburn, after Raeburn's famous portrait in the Archers' Hall, Edinburgh, of Dr. Nathaniel Spens, who was surgeon to the Royal Company of Archers. Mention may also be made of Anning Bell's portrait of Professor Lloyd Morgan, for many years a prominent teacher in the Bristol Medical School. In the black and white room there is a small etching of out-patients waiting in the dispensary of St. Thomas's Hospital. The architectural room contains designs for a number of medical institutions, including the Singapore Medical School, and the Institute of Medical Science at University College; also a very attractive sketch entitled "A Doctor's House, Westerham." The exhibition as a whole, if not of exceptional merit, is unusually interesting from many points of view.

IDENTIFICATION AND THE "VIEW" AT CORONERS' INQUESTS.

WE have received a communication from Dr. Waldo, coroner for the City of London, calling attention to the way in which the device for preserving bodies in the City mortuary has proved its usefulness. The apparatus, a French invention, by which the bodies are subjected to the action of formalin, was first provided some fourteen years ago, and more recently the local health authority has installed a similar apparatus in Dr. Waldo's court at Southwark. These are the only two mortuaries so equipped in the United Kingdom. On several occasions bodies have been identified after periods during which, in ordinary circumstances, they would have become unrecognizable. In the same communication Dr. Waldo gives his reasons for advocating the retention of the "view" at coroners' inquests. Briefly, these are that the view affords the best evidence of the fact of death, that it prevents the hushing up of suspicious deaths by influential relatives and officials, that it has a deterrent effect upon evil-doers, and that it ensures the inquest being held in the vicinity of the place where the body is lying. He considers that but for the view a country coroner would be able, if he wished, to hold his inquiry in his own office, and summon the witnesses possibly from long distances away from the place where the body was lying. We agree with Dr. Waldo to the extent of retaining the "view" by the coroner, but we do not consider that any useful purpose is served by requiring the jury to view. In most courts this is now a purely perfunctory process, the jury merely glancing through a window into the mortuary at a body completely covered except for the face—a procedure which can in no way help the jury either to appreciate the medical evidence or to understand the cause of death. We are unable to follow Dr. Waldo's argument that the view acts as a deterrent to crime; nor do we understand how the view can prevent the hushing up of cases, since a decision to hold an inquest will already have been made before the view is required. It is understood that a bill is shortly to be introduced in Parliament for the purpose of amending coroners' law, and we hope its general trend will be to increase the sphere of usefulness of the inquest as a medical inquiry, since the purely legal points are already to such a large extent dealt with by other tribunals. Should this expectation be realized, we think it desirable for the coroner to view the body in every case, and his view might well include an observation of the part or organ which is concerned in the cause of death. This procedure would enable the coroner better to deal with the medical evidence, and would also have the advantage of strengthening the argument for appointing medical men to this office.

PROCEDURE IN THE DEFENCE OF INSANITY IN CRIMINAL CASES.

AN interesting case which calls attention to the position of undefended prisoners in criminal trials was heard at the Old Bailey last week. On April 26th a gardener was found guilty of attempted murder, the jury adding their opinion that the prisoner's mind was unbalanced at the time he committed the offence. The judge, Mr. Justice McCardie, then received a report from the medical officer of the prison to the effect that the man was suffering from melancholia when admitted to the gaol a month after the crime; that he subsequently developed suicidal tendencies, but was now sane. On April 27th the judge directed that the case should be reopened in order that the jury might have an opportunity of expressing formally their view as to whether or not the prisoner was of sound mind. The jury, without leaving the box, then returned a verdict of guilty but insane, and the prisoner was ordered to be detained during His Majesty's pleasure. On the first day the prisoner was undefended by counsel, but on the second day, at the request of the judge, he was so defended. The case led Mr. Justice McCardie to question the justice of the court practice which throws on the defence the onus of proving a prisoner's insanity, particularly when the prisoner is undefended by counsel. The rule was stated to be based upon the decision in the case of the King *v.* Oliver Smith in the Court of Criminal Appeal, but he was not in agreement with that rule and with the interpretations which had been placed upon it. It was not his practice on circuit to observe it rigidly, and he hoped it was not that of other judges. At the close of the case the judge asked Mr. Travers Humphreys, who had represented the prosecution on the first day, to express his views upon the matter. Mr. Humphreys said that the practice at that court varied as to whether the prisoner was or was not defended by counsel. In defended cases it had been consistently laid down from Macnaughten's case that insanity was an issue which could

only be raised by the defence, because every prisoner was presumed to be sane until the contrary was proved. It was the invariable practice to give the defendant's solicitor or counsel any evidence the prosecution possessed as to the state of the defendant's mind. The prosecution had also to see that the judge was in possession of all the material to enable him to make up his mind as to whether the issue of insanity should be raised even if the defence had not raised it. So far as he knew that was done in the present case. The report of one medical man (Dr. Young) was not in possession of the prosecution. It was merely an intimation for the guidance of the clerk of the court. The report of another medical man (Dr. East, medical officer of Brixton Prison) was before the judge and the defence. A difficult question arose when a prisoner was undefended, because a person who was insane in the view of the prosecution might believe himself to be sane and decline to raise the issue of insanity. In these circumstances the practice of Treasury counsel was to tell the jury that the issue might be raised, and at the close of the case to ask the judge whether he desired the prosecution to call any medical evidence which they had. The judge could always raise the issue, but the prosecution had not the right to do so if defendant did not wish it raised. Mr. Justice McCardie considered that that practice to a large extent safeguarded the position of the prisoner, but he was not at all sure that counsel for the prosecution in undefended cases were at the present day free from the responsibility of raising the defence of insanity. He would not lay down any definite rule—this case did not call for any—but he ventured to say that the decision in the case of the King *v.* Oliver Smith did not lay down any rigid or rigorous rule. The duty of counsel varied with the circumstances, and he was not satisfied that the decision in the King *v.* Oliver Smith represented sound practice or the existing practice of the majority of the judges. We agree that the procedure adopted in the Old Bailey reduces to a minimum the risk of injustice being done, and we hope that in courts where this procedure is not followed Mr. Justice McCardie's observations will be noted. The position of an undefended insane prisoner is one that calls for much sympathy, and legal technicalities should not be allowed to stand in the way of giving him every assistance in his defence.

MANY INVENTIONS.

AN article with the heading "Albert Abrams, A.M., M.D., LL.D., F.R.M.S., 'Spondylotherapy,' 'Electronic Reactions,' the 'Oscilloclast,' the 'Electrobioscope,' etc.," appears in the *Journal of the American Medical Association* of March 25th, 1922, in the section entitled "The Propaganda for Reform." Our contemporary states that Dr. Abrams is a native of San Francisco who graduated in medicine at the University of Heidelberg, Germany, in 1882; he "is a member of his local medical society, and through that holds fellowship in the American Medical Association." He has written voluminously, and in 1910 published a book on *Spondylotherapy*, which apparently deals with the same subject as that upon which osteopaths and chiropractors lay so much stress—the so-called "physiotherapy of the spine." In addition to this, Dr. Abrams has devised what he terms the "electronic reactions of Abrams." Remarkable claims have been advanced for these reactions. They are said to make long-distance diagnosis possible, for it is necessary only to send a few drops of blood taken from a patient and allowed to dry on a slide, when with the aid of certain instruments and devices a diagnosis may be made. According to the article in our contemporary it is asserted that from a fresh sample of blood spread over four square inches of blotting paper the sex, race, and disease of the patient can by Dr. Abrams's method be distinguished. Certain precautions must, however, be taken. The patient should face west, the blood should be taken in a subdued light, and there should be no strong red or yellow colouring material in the room. The most astonishing piece of apparatus seems to be the "oscilloclast." This device, we read, is not for sale. It can be had only on lease, and the first payment is 200 or 250 dollars, according to whether it is wired for alternating or direct current; subsequently there is a monthly payment of 5 dollars. According to Dr. Abrams, all that is needed is to ascertain the "vibration rate of a drug," and then to substitute the same vibration as produced by the oscilloclast. Thus, if the "vibratory rate of atropine" be substituted for the drug itself, "the mouth dries or the subject feels as if it were puckered." Conversely, if the oscilloclast is switched to the pilocarpine vibratory rate, there is a copious flow of saliva. Dr. Abrams has extended his observations and experiments to a further device, the "electrobioscope," with which he has demonstrated the "sexuality of numbers and sounds." In this instrument if a pith ball is charged negatively and the numbers one to nine are marked on a narrow board and the vowels and consonants on another board, it will be found—according to Dr. Abrams—that even numbers repel the pith ball, while odd numbers attract it. Vowels likewise repel and consonants attract; a female hair repels and a male hair attracts. From these data Dr. Abrams draws the curious deduction that vowels and even numbers are female, consonants and odd numbers male. We may end by quoting the words of the *Journal of the American Medical Association*: "If there is any scientific foundation for the marvels that Dr. Abrams so picturesquely features, the scientific world has not yet found it out!"

SICKNESS AND INSURANCE.

MEDICAL men, we believe, are now more generally disposed than in the past to insure against the expenses and losses of sickness. This is a very commendable practice, more especially as the doctor has to face, not only the actual extra expenditure on himself when ill, but also, commonly, the payment of the fees of a locumtenent. The premium charged by insurance companies is governed by the extent of the expected liability, and should a medical man be so unfortunate as to have to make a large claim one year he does not wish to be told at the end of it that the insurance will not be renewed. Herein lies the value of a policy that covers all illness, including permanent disability, and one that cannot be ended by the company until the policy holder attains a certain age. The Medical Sickness Society, which was founded by doctors for doctors in 1884, has by the valuable work it has done helped to bring home to the profession the great importance of this class of insurance. The Society now has some thousands of doctors and dentists as members, but their number might advantageously be increased. The fact that the Society is purely mutual, has no shareholders, and pays no commission, enables it to offer a very comprehensive sickness and accident policy at the lowest rates obtainable, and permanent until the limit of age is reached. It undertakes also all classes of life assurance at low rates. Members of the profession can obtain all particulars from the Secretary, the Medical Sickness Annuity and Life Assurance Society, Ltd., 300, High Holborn, London, W.C.1.

PROFESSIONAL CLASSES AID COUNCIL.

THE Professional Classes Aid Council is in need of money. Mrs. Scharlieb, C.B.E., M.D., who was chairman of the Maternity Committee of the Professional Classes War Relief Council during the war, asks us to bring the need before readers of the BRITISH MEDICAL JOURNAL. "I know," she says, "how many doctors received help for themselves or for their families from the very judicious and helpful manner in which the council dispensed the funds entrusted to them." The council, owing to lack of funds, is now compelled to refuse applications for assistance in the education of children, grants in illness and convalescence, and other forms of help. Subscriptions may be sent to the Secretary, Professional Classes Aid Council, at 251, Brompton Road, S.W.3. The British Medical Association is represented on the council by its Treasurer, Dr. Haslip.

THE annual oration before the Medical Society of London will be given in the rooms of the society (11, Chandos Street, Cavendish Square, W.1) on Monday next, May 8th, by Mr.

H. J. Waring on "Hospitals: some suggestions as regards their future." The President will receive Fellows and guests at 8.30 o'clock, and the oration will be delivered at 9 p.m.; it will be followed by a conversazione.

THE Croonian lecture will be delivered before the Royal Society on Thursday, June 1st, by Dr. T. H. Morgan, professor of experimental zoology in Columbia University, New York. The subject he has selected is the mechanism of heredity.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

The Budget for 1922–23.

THE essential facts of the Budget, described by Sir Robert Horne on May 1st, fall within narrow compass. Its basis is that on existing taxation the revenue would be £956,625,000 against an expenditure of £910,069,000, giving a surplus of £46,556,000. But this surplus was reached apart from the usual consideration for debt repayment or allowance for the Sinking Fund. After pointing out that the country had provided during the last two years £322,000,000 in cash for the redemption of debt, the Chancellor of the Exchequer presented arguments for a breathing space in the matter of debt repayment. He dwelt upon the unparalleled depression in trade, and upon what it meant in unemployment to an extent unknown before, and in privations for the professional and middle classes such as they had never previously had to face. There were, however, hopeful signs of revival which with a little encouragement might develop into solid progress. He claimed that in the circumstances the Government would be justified in suspending the Sinking Fund, and proceeded to state how they proposed to apply the surplus already indicated. He dealt first with postal rates because the Post Office had provided a profit, and explained that he had agreed with the Postmaster-General that the Sunday collections (but not deliveries) should be restored; that the postcard rates should be reduced to a penny; that the minimum in postal charge for printed papers should, subject to certain conditions, be reduced from one penny to one halfpenny on packages not exceeding one ounce, the rate for two ounces to remain as now—one penny; that the minimum charge for inland letters should be reduced from twopence to threehalfpence for one ounce, and for Empire and U.S.A. letters from twopence to threehalfpence for one ounce; and that certain reductions should be made in telephone charges, at a cost of about a million sterling. The total cost of these concessions for the present financial year would be about £5,650,000. The postal changes would come into effect at the end of May.

The general reductions which Sir Robert Horne announced were: 1s. in the £1 off Income Tax at a cost, in the present year, of £32,500,500, and a reduction of 4d. per pound on the duty on tea (with a reduction of one-third on the linked-up duties on coffee, cocoa, and chicory) at a cost of £5,000,000 in the present year. Earlier the Chancellor had announced a reduction in the basis of assessment of agricultural land to one-third the annual value (which, with certain concessions, for amenity lands would cost £1,100,000 this year) and some alterations in Income Tax law and the incidence of the Excess Profits Duty. The former would cost the country this year £700,000, the latter £2,000,000. Sir Robert Horne did not explain how the reduction in Income Tax will apply to incomes now paying less than 6s. Mr. Hilton Young, Financial Secretary to the Treasury, however, stated later that though the basic rate was reduced by 1s. it did not follow that the income tax of all persons would be reduced by 1s. in the £. The reduction of the basic rate by 1s. resulted in the reduction "of all our income taxes by one-sixth." It appears, therefore, that, while the 6s. charge will be reduced to 5s., the 3s. charge on a lower scale of income will be reduced to 2s. 6d. It was promised that a table showing how the tax worked out would be made available in a few days.

Thus Sir Robert Horne showed a balance sheet which would leave, at the end of the present financial year, an estimated surplus of £706,000. In regard to the Sinking Fund he explained that, as contractual liabilities would have to be met, money would have to be raised for that purpose, but this would not actually increase the debt. It should be added that a number of minor points were dealt with not involving any large financial considerations for the State. The Chancellor said that in face of a House of Lords' decision, which had overthrown the practice of sixty years in regard to the assessment of Income Tax for employees of public companies, he should propose legislation to base the Income Tax assessment of all employees upon their salary or remuneration for the current year. In reference to charity legacies representations had been made to him, particularly by the hospitals, as to the position arising out of the decision of the House of Lords in the case of Dr. Barnardo's Homes. In that case it was held that the charity could not claim exemption from income tax on the income from residuary estate, except as from the time when the residue was actually paid over. This, though not a large matter, had occasioned a considerable amount of hardship, and he proposed to remedy the grievance. He also intended to include in the Finance Bill proposals for increasing the normal flat rate repair allowance in the case of small houses, and for enabling claims to be made for the actual cost of maintenance, and not only in the cases now authorized, but in the case of all lands and houses of whatever value. The Budget contains no relief for the owners of motor vehicles. The motor vehicle duties, which were estimated to yield last year nine millions, actually yielded two millions more. The estimate for 1922–23 is £10,600,000.

In the course of discussion which followed Mr. Asquith was the chief speaker. Mr. Hilton Young, winding up the debate, referred to questions raised as to the hardship inflicted by the Corporation Profit Tax upon various corporations instituted for philanthropic or other beneficial purposes and promised sympathetic consideration to the appeals made.

It should, perhaps, be said for clearness that the reduction in the Income Tax does not affect demands already issued as it applies only to the financial year which began in April, 1922, and in regard to which the first demands are made on January 1st next. The return on which the Budget was based shows that the amount owing to this country by the Dominions and Colonies was one hundred and fifty millions, and by the Allies, excluding Russia, nearly twelve hundred millions. Relief and Reconstruction Loans amounted to thirty millions, of which twelve millions were to Austria. The sums lent to Russia amount to over six hundred and fifty millions.

The Education Vote.

Introducing, on April 27th, a vote of £27,900,000 for education purposes, Mr. H. A. L. Fisher said that the total estimate of £44,900,000 showed a decrease of £6,104,653 as compared with that of last year. Of this economy the sum of £1,205,683 was due to the fact that many students who had been undergoing a course of instruction at the universities and other places with the aid of grants from the Board had now completed these courses.

Touching the magnitude of the work of the Department, the Minister said it had to deal with 20,000 public elementary schools with nearly six million children on the registers; with over 1,200 secondary schools containing more than 360,000 pupils; with technical and evening schools, schools of art, university tutorial classes, continuation schools, etc., over 5,000 in number, with nearly a million students; and with over one hundred training colleges and departments for teachers, with about 14,000 students in training. The Minister referred also to other particular services and claimed that in all the circumstances the staff at headquarters could not be deemed excessive. The expenditure on special services, which would be recognized by a grant to the extent of 50 per cent. of that expenditure, was to be limited to £3,400,000, which was less by £754,000 than the local education authorities' revised estimate, and this reduction would be accounted for chiefly by a diminution of £730,000 in the provision of meals, which in 1921–22 reached the abnormal figure of £1,030,000. It was no part of the Government policy to curtail any expenditure really necessary to preserve our child population in bodily health. That would be the worst and most ruinous form of waste. But so vast an expansion of the eleemosynary treatment of school children as had been witnessed lately was not, correctly speaking, an educational function, the cost of which should fall upon the education rate or upon the vote of the Board, and so they proposed to limit the sum chargeable on the vote in respect of the provision of meals to £150,000, which was more than sufficient to meet the normal claim in a normal year. Abnormal claims arising from great waves of unemployment should be met out of other funds.

The School Medical Service.

Coming to the medical service proper, Mr. Fisher said he should be very sorry to see any damaging economy either in the sphere of medical inspection or in the treatment or management of special schools. The school medical service inspected over two and a half million children every year, while the attendance of the children at the clinics ran to many millions annually. The cost to the Exchequer of all this work amounted to about 2s. 6d. per head of the six million children in average attendance at public elementary schools. On such figures he thought it could not be regarded as extravagant: the cost had increased, but so also had the value. He could not give complete figures for the country, but he had them for twenty-four areas, including the London area. Comparing the attendances at school clinics in these twenty-four areas for the years 1914 and 1920, he found that in the first named the attendance was a little over 700,000, and that in the latter it was a little over three millions. As the result of this work there had been an improvement in the cleanliness of school children amounting almost to a revolution, and a great and progressive improvement in regard

to dental defects and defects of vision while hundreds of thousands of children had had their physique and powers of resisting disease improved, with the result that in the case of some five hundred thousand children vast masses of subsequent disablement, sickness, and mortality had been prevented. He was happy to think that the local education authorities would be able to keep within the expenditure recognized for grants without any real injury to the service. There was, as he had explained, a limitation of £3,400,000, but most of the reduction was on the cost of feeding in schools. He did not say that there was no field for economy in the special schools. He was carefully examining the matter, and the Board would shortly publish revised regulations which would facilitate a reduction in the cost of schools for defectives without lessening the number of children who benefited from this form of care and treatment. He placed in a special category the schools for the blind and the deaf; they were very costly; much diminution could scarcely be expected, having regard to the attention required. Marvellous results were attained. In the other special schools the staff could be arranged on a more economical basis.

Debate.

In the course of the discussion, Mr. Asquith asked for an assurance that the question of a reduction of grants to local universities would be given an opportunity for real discussion on the Treasury vote. Mr. Fisher said that on request through the usual channels time would certainly be afforded.

Touching the means of access from the secondary schools, Mr. Acland said that his experience as Chairman of the London School of Medicine for Women and as a member of the governing bodies of the East London College and the London School of Economics, taught him that there was not yet anything like sufficient public provision to help really necessitous and deserving students. He had come across cases where a widow, say with a fixed income of £200 or £210 a year, had screwed and pinched so as to afford first one daughter and then a second the extraordinary expense of a medical training, and it was heartbreaking that all the State gave to help the training of a particularly promising pupil was an exhibition of £10 or £15 a year.

The debate was adjourned.

Dangerous Drugs Acts.—In reply to Mr. Ramsden, on May 1st, the Home Secretary said he had no power to order that twelve strokes of the cat, in addition to imprisonment for six months or more with hard labour, should be given to vendors caught illegally selling cocaine and similar drugs. The penalties were fixed by Section 13 of the Dangerous Drugs Act, and could not be altered without legislation. The maximum penalty allowed by the Act for a first offence—six months' imprisonment with hard labour, or a fine of £200, or both—ought, in his opinion, to be a sufficient deterrent, and he could not undertake to introduce amending legislation of the nature suggested.

Latest Pensions Statistics.—Mr. Macpherson, on April 26th, informed Mr. Alfred Short that the approximate number of pensions and weekly allowances in payment are as follows: Officers 32,000, nurses 1,400, officers' widows 9,600, officers' dependants 6,600, men 890,000, widows 159,000, dependants 362,000, motherless children 17,000. There are in addition allowances paid in respect of 1,140,000 wives and children of disabled men and 338,000 children of widows.

Disability Pensions.—On question by Mr. Maclean, on April 6th, Mr. Macpherson said the Ministry of Pensions was bound by and accepted without question a decision of the Pensions Appeal Tribunal that an appellant's disability was attributable to or aggravated by service, and therefore awarded compensation on the basis of the degree of disablement then found by a medical board to exist. When the disablement was less than 20 per cent., compensation took the form of a gratuity or a final weekly allowance.

Condensed Milk.—In reply to Mr. Doyle, on May 1st, Sir Alfred Mond said that his predecessor appointed a committee to consider the question of fixing standards for condensed milk, and draft regulations were prepared to give effect to the recommendations of the committee. It appeared, however, that there was no general agreement as to the standards to be fixed, and he therefore decided not to proceed with the regulations. He was not aware of any sufficient reason for fixing a standard for dried milk, as there could not be any misapprehension as to the degree of condensation of the product and any adulteration could be dealt with under the Food and Drugs Act. On the same day Sir A. Griffith Boscawen informed Mr. Doyle that the quantity of condensed, separated, or skimmed milk imported into the United Kingdom in the first three months of 1922 was 278,230 cwt., as compared with 157,112 cwt. in 1921, and 82,901 cwt. in 1920. The proportion of this which was machine-skimmed could not be stated. Mr. Baldwin, in reply to an earlier question by Mr. Doyle, said that the importation of machine-skimmed milk was prohibited in many countries; but he was not prepared to introduce legislation on this subject.

Sewage Purification.—In reply to Lieut.-Colonel Pownall, on May 1st, the Minister of Health stated that his attention had been drawn to the experiments of Dr. Renshaw and Mr. Fairbrother as to the value of dyes in sewage purification. Further research was necessary, and he was making the necessary inquiries.

Answers in Brief.

The approximate amounts of income tax and super-tax due to be paid but remaining unpaid on March 31st, 1921, were: Income tax (excluding the instalment due on July 1st, 1921) £86,000,000; super-tax £15,000,000. The amount of Corporation Profits Tax in assessment but unpaid (less sums due to be remitted) was £2,000,000.

CONDITIONAL NOTIFICATION OF VENEREAL DISEASE.

A CONFERENCE, called by the Mayor of Paddington, was held at Paddington Town Hall on April 28th to consider certain proposals put forward by the Paddington Propaganda Committee of the National Council for Combating Venereal Diseases. This scheme would make venereal disease notifiable in certain circumstances.

Mr. ARTHUR R. MORO, Chairman of the Committee, explained the proposals. He said that an average of from 50 to 60 per cent. of the persons attending the free clinics discharged themselves before their condition had become non-infectious. In view of the terrible harm which might be wrought by such people, he thought the general feeling would be that, even if some of the proposed measures did produce a certain amount of inconvenience or even hardship, the sacrifice would be worth while. In dealing with the difficult problems involved, the aim steadily to be kept in view must be (1) to check the spread of disease and protect the innocent, and (2) to cure the patient with as little inconvenience to him as possible.

The Paddington Scheme.

The scheme put forward by the Paddington Propaganda Committee was as follows:

1. Patients, when consulting a doctor or attending a venereal diseases clinic, should be warned that they must continue treatment until such treatment was completed. If, after the warning, they failed to be treated, their cases should be notified to the medical officer of health, whose duty it would be under the Health Acts to take the necessary proceedings.
2. In-patient accommodation must be provided for patients who, being in an infectious state, and a danger to the community, were not in a position to be treated in their own homes. In certain cases power of detention might be necessary.
3. It was proposed to add these diseases to the list of infectious diseases, which would automatically take them outside the civil law of libel; but it was considered that it would be necessary to safeguard the patient by making medical men liable if they improperly divulged private information obtained in the course of their practice.
4. In framing instructions it would be very useful if, instead of only warning the public of the danger they were in of contracting disease, it were explained to them how infection was *not* carried, and that, so long as a patient was not in an infective state, it was quite safe for him to go about his daily work and mix with others.

It would be seen (Mr. Moro continued) that this scheme for notification differed from ordinary notification of contagious diseases in that notification would here come into force only when a patient refused continuous treatment or was neglectful or recalcitrant, becoming thereby a menace to the safety of those with whom he was associated. Under this scheme doctors would be able to observe professional secrecy so long as secrecy did not imperil the health of others. The need of power to enforce continuous treatment was urgently felt at every clinic, in every infirmary, and by most medical men. Patients were constantly discharging themselves before they were cured, and they often resumed a manner of life which must spread the disease to others. Case after case could be cited in corroboration of this statement, and yet no powers of restraint existed, and no protection by law was given, and thus the disease was carried down to generation after generation of innocent children. How could any practical steps be taken until the doctors were free to act on behalf of the public? Doctors were silenced by the laws of libel and slander, as well as by custom and convention. The voice of public opinion alone could release the profession from these restrictions. He concluded by moving:

> That this Conference is of opinion that some form of modified notification of venereal diseases (which shall be enforced *only* when a patient refuses or neglects to continue treatment) is needed to check the spread of these diseases and to protect the public.

Support for Modified Notification.

Mrs. R. P. WETHERED, honorary secretary of the Associated Societies for the Care and Maintenance of Infants, seconded the motion. She said that until the law of libel was modified doctors would be powerless to protect the public. The existence of a system of notification would set them free. In fact, it would become a statutory obligation upon them to protect the public from a patient who was a source of danger.

Mr. E. B. TURNER, F.R.C.S., who supported the motion, said that it would not be possible to do anything in this matter until public opinion had been educated; but when the people were educated they would quickly come to the conclusion that everything possible must be done to ensure that those who came for treatment for venereal disease carried that treatment to its conclusion.

A letter in favour of the proposals was read from the Bishop of Kensington; and the Rural Dean of Paddington and the chairman of the Public Health Committee of the borough of Hampstead also supported the motion, which was carried unanimously.

Sir HENRY HARRIS, M.P., urged an official inquiry into the question of modified notification, for which, he said, the time was fully ripe. He moved:

> That the Ministry of Health be urged to appoint a committee of inquiry, to consist of medical men and laymen, to consider the question of modified notification and compulsory continuous treatment of venereal diseases and to hear evidence.

With the addition of the words "and women" after "laymen" this motion also was carried unanimously.

England and Wales.

HUGH OWEN THOMAS MEMORIAL LECTURE.

THIS lectureship was founded in 1920 by friends and admirers of the great Liverpool orthopaedic surgeon. The lecture is to be delivered triennially in the Liverpool Medical Institution, and is to deal with a subject bearing directly on orthopaedics; the lecturer is appointed by the Council. Most appropriately the first lecturer was Sir Robert Jones, K.B.E., C.B., who took for his subject, "Hugh Owen Thomas—the man and his work." The lecture was delivered on April 25th before a large audience, many of whom had known Mr. Thomas. Sir Robert, who had been intimately associated with Hugh Owen Thomas for over twenty years, gave an interesting account of his life. He received his early education in Anglesey, where he spent his boyhood for reasons of health. When 17 years old he was apprenticed to his maternal uncle, Dr. Owen Roberts of St. Asaph, a great friend of Sir Benjamin Brodie. Later he pursued his studies at Edinburgh in the days of Goodsir and Syme, with Turner as demonstrator of anatomy. He then proceeded to University College Hospital, London, and in 1857 obtained the diploma M.R.C.S. He returned to Liverpool, where he practised until his death in 1891. He was descended from seven generations of bone-setters who lived in Anglesey, and showed great ingenuity and inventive skill in the treatment of accidents (dislocations and fractures), deformities, and diseases of the joints. He devised and made his own appliances. He laid great stress on the careful fitting of splints and their correction from time to time under his own supervision. A keen observer of Nature, he realized the truth *natura non facit saltus*, and recognized the supreme value of rest in the treatment of diseased joints. The appliances, though simple, were the outcome of much thought, and their final perfection represented many years of careful study and minute observation. By means of his splints patients instead of being bedridden were enabled to enjoy fresh air and exercise—a great improvement, indeed, in the treatment of tuberculosis of the joints. Of the value of the Thomas splint in the treatment of fractures of the femur, the great war has furnished ample evidence. Hugh Owen Thomas revolutionized the treatment of palsied limbs through his observations on paralysed muscles. His treatment of delayed union of fractures by damming of the circulation anticipated Bier's method by many years. He introduced an ingenious plan for wiring fractures of the lower jaw, which was first published in 1871. Although Hugh Owen Thomas never held a hospital appointment, his private clinic—free to the poor on Sundays—was thronged with patients of all classes. It was the resort of distinguished surgeons from all over the world, and his ideas—not infrequently filched and published by others as their observations—were in those days far better known in distant parts than in his own town; but time has amply confirmed his observations, his ideas, and his methods of treatment. Thomas was not a robust man, and his portrait shown on the screen confirmed this; but he was an indefatigable worker, and left nothing to chance in his treatment of his patients—rich and poor alike. Giving the impression of being brusque at times, he was in reality a kind-hearted man. In conversation he brushed aside irrelevancy, and came quickly to the point. He was much interested in all kinds of mechanical invention, and one of the last papers he wrote was on the method of propulsion used in ships by the Romans. He passed away at the comparatively early age of 57.

Sir Robert Jones showed on the screen pictures of Thomas working at his lathe, and reducing an old-standing shoulder dislocation by means of a spinal apparatus and of various instruments he devised.

Mr. Rushton Parker, who was a friend of the great surgeon and did much in introducing the use of the Thomas splint into hospital practice, proposed a vote of thanks to Sir Robert Jones for his lecture. Mr. W. Thelwall Thomas seconded, and incidentally mentioned that the funeral of H. O. Thomas was the largest on record in the annals of the city of Liverpool.

The personal note in the lecture was much appreciated by the members present, and it was felt that the medical profession in Liverpool had just cause for doing honour to the memory of an illustrious member.

SOUTHAMPTON MEDICAL DINNER.

The annual dinner given by the doctors in Southampton and neighbourhood was held at the South-Western Hotel on April 19th. Nearly fifty practitioners were present, the gathering being confined to the profession only, and a very pleasant evening, with speeches and song, was spent. The opportunity was taken to make a presentation to Dr. MacKeith of Southampton, who was the first to organize and start the arrangements for looking after the practices of those medical men who served abroad during the war. It took the form of a piece of plate, and bore the following inscription:

> "Presented to Dr. A. A. MacKeith by the Southampton doctors who served overseas in the great war 1914–1918, as a mark of gratitude for, and appreciation of, all the work done for them during their absence by him and the Southampton medical men."

A large proportion of the doctors in the town and neighbourhood were present, and an equally successful meeting is hoped for next year. The honorary secretary is Dr. Joshua Keyms.

CENTRAL MIDWIVES BOARD.

At the meeting of the Central Midwives Board for England and Wales on April 27th, with Sir Francis Champneys in the chair, two penal cases were heard. One midwife was struck off the Roll, and judgement on the other was postponed. The ordinary monthly meeting was then held, and Sir Francis Champneys was re-elected chairman. Professor Henry Briggs, who occupied the chair temporarily, made a few warmly appreciative remarks regarding the valuable work done by the chairman of the Board for so many years. Sir Francis Champneys, on resuming the chair, feelingly acknowledged the words spoken by Professor Briggs on behalf of himself and the Board. It was resolved that the Board admit to its Roll, subject to compliance with the terms and conditions of Section 10 of the Midwives Act, midwives holding the certificates of the Midwifery Authority in New Zealand, provided that midwives holding the certificate of the Central Midwives Board are afforded reciprocal opportunities of being admitted to the Midwives Roll of New Zealand. The Board decided to inform a commercial firm of its disapproval of midwives acting as advertising agents, and to point out that midwives acting in such a capacity render themselves liable to proceedings before the Board.

With reference to suggestions made by Sir George Newman, regarding the administration of drugs by midwives, it was resolved:

> (*a*) That the reasoned statement in support of the Board's views that midwives should not be debarred from administering drugs, as provided by Rule E 19, which has been prepared by the members of the deputation to the Ministry of Health, be approved, and that copies of the statement be sent to the Local Supervising Authorities and other bodies who have made representations to the Board.
>
> (*b*) That the Board thinks it inadvisable to suggest to teachers and midwives the drugs which it thinks should be used by midwives in various emergencies.

A motion was adopted, suggesting that the power to inspect lying-in institutions, at present possessed by a few local supervising authorities under local Acts, should be extended to all local supervising authorities, and requesting the Ministry of Health to endeavour to arrange for legislation to give effect thereto.

TRAFFIC FATALITIES IN LONDON.

Suggestions for the avoidance of street accidents have been made by the city coroner, Dr. F. J. Waldo, during recent inquests. In the case of a boy who was run over and killed just outside his school it was suggested that the placing of a constable on fixed point duty (in place of patrol constables), and the erection of sign boards at definite points on the tram-lined roads in the London area, as has been already done in

Southwark, would be measures of safety. At another inquest it was brought out that metropolitan constables might be quite ignorant of first aid; since the war a qualification in first aid has been voluntary: the fee must be paid by the constable, and he has to attend the course in his own time. Dr. Waldo expressed the view that qualification in first aid should be compulsory, and the jury recorded its opinion that every metropolitan police constable should be obliged to give proof of efficiency in first-aid treatment, that attendance on the classes should be in service time and paid for by the County Council or out of the police fund. Dr. Waldo has also pointed out that the London County Council ambulance stations—six in number, with eight ambulances—are quite inadequate for the metropolitan area of 117 square miles.

Scotland.

THE PARIS FACULTY OF MEDICINE.

A MEETING of the University Court of the University of Edinburgh was held on April 24th, with Principal Sir Alfred Ewing in the chair. The Court approved very cordially of an invitation which had been conveyed by the Faculty of Medicine to the Dean of the Faculty of Medicine of the University of Paris and certain of his colleagues to visit Edinburgh University as the guests of the Faculty next July. The Principal stated that the University was under great obligation to the Faculty of Medicine of the University of Paris for the facilities which it had given, and the hospitality it had shown, to medical students from Edinburgh.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.

The summer course under the auspices of the above association has now begun. Clinical courses in medicine, surgery, and a variety of special subjects are offered, and a limited number of whole-time and part-time clinical assistantships are available. For the ordinary courses enrolment may be made for periods of a month or more, but in the case of clinical assistantships the period of enrolment must not be less than three months. Full particulars may be obtained from the acting secretary at the university. Under the syllabus arranged post-graduate work is available from May to October.

GLASGOW MEDICAL APPOINTMENTS.

The appointment is announced of Dr. John F. Smith to the post of Physician for Diseases of the Skin at the Glasgow Royal Infirmary in succession to the late Dr. George McIntyre. Dr. Smith also becomes a Lecturer on Diseases of the Skin in Glasgow University. Dr. W. B. Inglis Pollock has been appointed Visiting Surgeon to the Glasgow Eye Infirmary, thus filling the vacancy caused by the death of Dr. W. Cochrane Murray.

Ireland.

WOMEN'S HEALTH ASSOCIATION.

AT the annual general meeting of the Women's National Health Association in Dublin, at which the Marchioness of Aberdeen and Temair presided, Dr. Alice Barry said that the Babies' Clubs had been progressing satisfactorily. Early last year their work was co-ordinated with that of the Infant Aid Society. The total number of deaths during the year was 1,150. Of that number 50 per cent. had been registered under the Public Health Act; efforts to trace the other 50 per cent. had failed. Thirty-seven deaths occurred among the babies attending the eight clubs. There was much unrest during the period under review, but in spite of that and of unemployment mortality among children had declined. The mothers on the books numbered 4,883, and the nurses paid 38,229 visits to members. The number of attendances at clubs was 16,139 mothers and 23,518 children. Mrs. Dwyer said that during the last year lectures and demonstrations on the care of children, and the making and remodelling of garments, were given at the Babies' Clubs affiliated to the association, and also at Rathfarnham and Swords. Lectures on first aid, home nursing, and infant welfare had been given to the patients at Peamount Sanatorium under the auspices of the Department of Agriculture, by which grants in aid were given.

Miss Hackett presented the report of the Central Committee, which gave a detailed account of the patients and their families who had been at one time or another in one of the sanatoriums. The President read the report of the Medical Research Committee, which had investigated some 2,000 cases. Sir W. Thompson reported that the number of patients admitted to Rossclare Sanatorium during 1921 was 91, and that the total number of patients there was 138. The great trouble in all sanatorium treatment was that patients were admitted too late. Only 12 per cent. were received in time; not less than 60 per cent. were found to be in an advanced stage, and the balance were in a very advanced stage, and not proper patients for a sanatorium, but for special institutions for such cases. In 10 per cent. of the cases dealt with the disease was cured, in 20 per cent. there was improvement, and in another 20 per cent. further improvement. A resolution was adopted asking that a home be established in each county for the treatment of advanced cases of tuberculosis.

Sir Andrew Horne, alluding to the work of the Babies' Club Committee, said that not only the value but the extent of the work was increased. There was great mortality among babies in Dublin, and the object of the association was to teach mothers how to cook food and how to feed children. He was glad to be able to say that the people themselves were taking the greatest interest in the work.

Correspondence.

ETIOLOGY AND TREATMENT OF DIABETES.

SIR,—Dr. Renshaw and Mr. Fairbrother are to be congratulated on their attempt to open a new approach to the problem of diabetes and acidosis in their article in the JOURNAL of April 29th (p. 674). Their paper, however, seems a striking example of the divorce between clinical medicine and laboratory work, for no clinical details of the cases are given, nor is there any mention of the diets, although it is a notorious fact that in the past much laborious work upon the faeces has been wasted by the failure to indicate the diet upon which the results were obtained. May I as a clinician much interested in these problems be allowed to use your space for some critical remarks?

The conception of a primary acetone formation with secondary failure of the sugar-burning mechanism seems worthy of very serious consideration for the following reasons: (1) Acetone has some very similar pharmacological reactions to chloroform and the narcotics, which, as we know, are liable to upset the carbohydrate metabolism. (2) Some cases where the ketosis (or acidosis) is apparently primary, or at any rate antecedent, such as toxic vomiting of pregnancy, have a diminished sugar tolerance. (3) In cases of diabetes under dietetic treatment it is very common to see the sugar and the diacetic reaction wane and finally disappear at the same time. (4) In the determination of a suitable "maintenance diet" for a diabetic it is possible to increase the total energy value of the diet by increasing the fat quotient at the expense of the carbohydrate and protein quotients. If this is done to an excessive degree we may get a stormy onset of acidosis (usually associated with sugar), but even if we avoid this it is found that the sugar tolerance sinks gradually in the course of weeks. This necessity for preserving a proper balance between the carbohydrates and fats has been emphasized by Joslin, and an intelligent patient soon recognizes the fact. It seems possible that an acidosis or ketosis may be a factor in this phenomenon. The possibility therefore of a primary acidosis or ketosis is one not lightly to be put aside.

The conception of an enterogenous formation of acetone bodies in acidosis is not new, having been discussed about thirty years ago by Lorenz. References to the early literature may be found in Schmidt and Strasburger's monograph, *Die Faeces des Menschen*, where it is emphasized that even when there is no acetone to be found in the faeces, yet the possibility of its originating in the intestines cannot be lightly dismissed.

The case presented by Dr. Renshaw and Mr. Fairbrother, however, appears entirely to disregard certain well-established clinical facts. If a young diabetic, whose urine contains both sugar and acetone or diacetic acid in large quantities, is placed upon a diet of oatmeal (2 oz.), lean meat or fish (2 oz.), and cabbage or other "5 per cent." vegetables for a few days it will be found that the sugar and diacetic acid diminish or disappear *pari passu*. With this diet the strict fasting is

very rarely necessary, in my experience, yet it would appear to be an ideal culture material for the bacillus under discussion. One of my patients, who was put temporarily upon a maintenance diet containing four pounds of cabbage, did not turn up for a whole year. I suggested that his diet could be much improved, but he preferred to let well alone and stick to the cabbage. He had stuck to the diet and had no return of glycosuria. His old acidosis had entirely disappeared, although he had eaten so much decaying cabbage during last summer's drought that he had been for a time yellow. Here was a man (at one time on the verge of coma) eating the food under suspicion who had not only avoided acidosis but recovered from an existing acidosis. The use of 5 per cent. vegetables has been found so useful on empirical lines that it is hardly justifiable to discard it for theoretical reasons.

It is stated (p. 676): "Occurring as it does on decaying vegetable life it is easy to understand how such a heat-resistant, spore-forming organism should enter the alimentary canal." The diet of the patients is not described, nor are we told that the healthy controls who gave negative results were on the same diet. It is also important that we should know how many experiments were done on each control as compared with the laborious attempts to isolate the organism from the refractory cases of diabetes. The conclusion which appears quite legitimate is that an acetone-forming organism, resistant to heat, lives upon cabbages, which form a large part of the present-day diet of most diabetics; hence it is found in their faeces and not in those of healthy persons living on a normal diet. There may be data available by which this conclusion may be combated. Hence this letter.

One other minor point: Is it wise to let lay newspapers have an advance copy of the JOURNAL? Personally I got one trunk call on Friday night and two more inquiries from patients before I had time to read the article on Saturday night.—I am, etc.,

Sheffield, April 30th. A. E. BARNES.

*** Our correspondent's assumption that advance copies of the JOURNAL of last week were supplied to lay newspapers is natural but erroneous. We must leave Dr. Renshaw and his colleague to explain the occurrence.

SIR,—Numerous attempts have been made to refer diabetes mellitus to a bacterial infection of the alimentary tract, and treatment based upon this supposition has been repeatedly tried, with unsatisfactory results. The communication in the JOURNAL of April 29th (p. 674) by Dr. Renshaw and Mr. Fairbrother once more raises the question, but in a slightly different form, since they claim to have discovered a new and specific organism. If this claim could be substantiated it would no doubt revolutionize our treatment of the condition, but the evidence at present available is not convincing. It is true that they have isolated the organism in question from the faeces of five or six cases of severe diabetes and failed to separate it from the stools of eleven non-diabetic persons; they have also cultivated it outside the body in suitable media, thus fulfilling the first two of Koch's postulates, but they have apparently not attempted to comply with the remaining two, which are the true test of specificity. As matters stand at present, it may well be that the organism they describe is more easily cultivated from the faeces of the diabetic than the non-diabetic individual simply because the conditions in the intestine of the former are more suitable for its growth than in the latter—that is to say, it is an effect rather than a cause of the disease.

In this connexion it is to be noted that even with diabetic stools "heavy inoculation" of the medium appears to be necessary to obtain a satisfactory growth. Further, it is strange that if, as they say, the organism flourishes best in carbohydrate media and is the cause of the acetonuria in diabetes, acetone previously present should usually diminish when carbohydrate foods are administered or increased. If this organism is not present in the intestine of non-diabetics, why should acetonuria appear and increase as a result of starvation?—I am, etc.,

London, W., April 28th. P. J. CAMMIDGE.

BONE GRAFTING IN UNUNITED FRACTURE.

SIR,—In the attempt to deal successfully with ununited fracture by bone grafting it should be worth the while of surgeons to learn, and adopt, a procedure not only most easy to the surgeon but least risky to the patient.

At a meeting of the Surgical Section of the Royal Society of Medicine on April 5th (BRITISH MEDICAL JOURNAL, April 15th, 1922, p. 602) Mr. C. Max Page and Mr. G. Perkins dealt with the technique of bone grafting in a manner both able and practical, as far as the grafting "in mass" is concerned for the repair of ununited fracture. The results seem to have been very successful on the humerus—only one failure out of six. On the radius nine consecutive cases all succeeded. Out of seven grafts on the ulna there were five failures, and among seven grafts on the tibia there had been three failures, so that the sum of success can hardly be said to be striking. But these authors made no reference to the implantation of small fragments between the ununited bones, after clearing away the soft connecting medium, as described and illustrated by me at a meeting of the Surgical Section on June 16th, 1908, and briefly recapitulated at a meeting of the Section in Liverpool in June, 1914.

It is true that the meeting in London was the last of the season, and that my paper was by its late turn relegated to the end, by which time most of the Fellows had left, no doubt tired out, like myself, by the previous proceedings crowded in. But the details were fully related, with clear descriptive photographs well displayed by means of the epidiascope. The cases were only two in number, one having occurred in the last year, and the other in the last month, of my hospital duty (May and September, 1907). The former was in the humerus of a strong working man of 35, the latter in the ulna of a woman aged 48, both on the left side.

In the case of the man the fragments were taken from the callus on the fractured ends; in that of the woman there was no callus, but fragments were clipped from the ununited ends. In both cases the fragments were placed in the blood which had oozed during the operation, after the fibrous medium connecting the bones had been dissected away. The muscles and integuments were stitched over the gap, and splints applied over the surrounding gauze dressing.

In both cases complete success resulted, and I had only to regret that the end of my hospital practice left me no further opportunities. I should have particularly wished to try it in the thigh, in which the difficulty and danger of more formidable procedures are only too well known. The method I refer to is beyond all comparison easier for the surgeon as well as safer for the patient, and the splints required the same as in the case of primary fracture (compound). I could not resist venturing to remark to the secretary at the meeting that the process I was about to relate was, I feared, much too easy to commend itself to other surgeons, who often seem more fond of complications than of simplicity. But I can still assure them that it is worth while, and can only once more refer them to the printed and illustrated report (*Proc. Roy. Soc. Med.*, vol. i, part 3, p. 232, 1908; vol. vii, part 3, p. 275, 1914).—I am, etc.,

RUSHTON PARKER,
Professor of Surgery in the University of Liverpool.
Liverpool, April 24th, 1922.

EXCISION OF HEAD OF FEMUR IN ARTHRITIS DEFORMANS.

SIR,—Mr. Platt's paper entitled "Excision of the head of the femur in arthritis deformans" (BRITISH MEDICAL JOURNAL, April 29th) raises a question which is of more than mere academic interest—namely, when does such an operation cease to be "excision of the head of the femur" and become what is now universally known as "arthroplasty"?

Mr. Platt himself says that the operation which he describes is "somewhat different" from the classical excision of the hip, and that it is "fundamentally reconstructive, and not destructive, in type." Every orthopaedic surgeon will at once recognize it as a fairly typical arthroplasty of the hip. The chief features of the operation are: (1) the free exposure of the hip by an antero-external flap; (2) the separation of the great trochanter, which is turned upwards with the muscles attached to it; (3) the modelling, rather than the cutting off, of the head of the femur; (4) the attempt to prevent the formation of new bone by the use of bone wax—a procedure that has been adopted by many surgeons in place of the flap of soft parts originally employed. Mr. Platt does not say whether he excises the capsule of the joint—a step which J. B. Murphy considered to be of the greatest importance. This operation differs from arthroplasty for bony ankylosis only in that the acetabulum does not need to be reconstructed as well as the head of the femur.

It is true that arthroplasty of the hip may be performed fairly rapidly, but there is no denying that it is a very severe operation, and I would take leave to doubt that it is "specially

suitable for older patients" with osteo-arthritis. One of our chief difficulties in treating osteo-arthritis of the hip is the fact that so many of the patients are just those in whom one would not care to undertake a severe major operation if it could be avoided.

Most surgeons have been disappointed with the functional results of arthroplasty of the hip. A lasting, stable, movable joint is the exception, while an ultimately stiff joint has been the rule. The degree of mobility depends very much on the amount of bone removed, and in many of the recorded successful cases the skiagrams have shown total absence of the head of the femur and sometimes of part of the neck as well—in fact, excision.

Now a straightforward excision of the hip—especially when there is no need to dissect away the synovial membrane, as in tuberculosis—is almost a minor operation as compared with arthroplasty, and if it will serve as well it is surely preferable. In the classical anterior operation an incision is made straight down to the joint in the interval between the sartorius and the tensor fasciae femoris. No muscles are divided. The capsule of the joint is opened and the head of the femur is dislocated and cut off with a chisel. The neck is returned to the joint, some stitches are put in the capsule, and then the skin wound is closed.

As judged by published statistics, the functional results of excision of the hip are bad. But nearly all these statistics have been obtained from the records of children who have been operated on for tuberculous disease of the hip. In many cases much more than the head of the femur has been removed—even the whole neck down to the great trochanter—and they have had no proper after-treatment.

The results of excision of the head of the femur (only) in non-tuberculous affections in adults, when the proper after-treatment is carried out, are in many cases excellent, and will, I believe, challenge comparison with the best results of arthroplasty. I now regard a simple straightforward excision as the operation of choice when one must operate for osteo-arthritis of the hip, and it is indicated also in those cases of chronic painful arthritis believed to be of infective origin.

My routine after-treatment is to put the limb in extreme abduction in plaster-of-Paris for two months. The plaster is then cut up as a splint, and the patient is measured for a walking calliper. During the next four to six weeks the limb is massaged and active and passive movements are practised. The calliper is then worn for six to twelve months. It is possible in this way to obtain a joint that is stable and yet movable and free from pain, with very little shortening of the limb.

I have been moved to write this somewhat lengthy criticism lest some of those who read Mr. Platt's paper should be led to think that excision of the head of the femur is an obsolete operation, and that the expression "excision of the head of the femur" is now synonymous with arthroplasty of the hip.—I am, etc.,

London, W.1, April 30th. A. S. BLUNDELL BANKART.

PROSTATIC ENLARGEMENT.

SIR,—I am obliged to Professor Kenneth Walker for his courteous toleration of my criticism of his opinions. His remarks on the abuse of suprapubic prostatectomy are very opportune, and will surely meet with the approval of those who see many of the end-results of this operation. Most of the poor results are, in my opinion, due to failure to discriminate between the condition for which the operation was originally introduced, the so-called adenoma of the prostate, and those conditions where, in spite of the symptomatology, little or no enlargement of the prostate can be found clinically.

In the adenomatous enlargement the operation is so successful that its too frequent performance must be rare. I do not wish it to be deduced from this that I advocate removal of all such prostates, but the indications for prostatectomy raise a question too big to be dealt with in a letter. The number of cases in which a two-stage operation is necessary, while sometimes a mark of an insidious onset and progress, is more often a reflection upon the prolonged use of palliative measures, under which I include drugs, catheters, and sounds.

In cases of the prostatic bar, the small fibrous or atrophic prostate, the chronic inflammatory prostate, and malignant disease, suprapubic prostatectomy is seldom necessary, as equally beneficial results follow other procedures. Malignant disease is only rarely sufficiently limited to be removed by operation, and radium therapy and diathermy give better results. The chronic inflammatory prostate is more often the consequence rather than the cause of the associated inflammatory changes in the urinary tract, and after its removal there is a tendency to sclerosis and stricture formation. Subsequent treatment by dilatation and local applications is necessary, the effect of which is equally satisfactory when no operation has been performed.

Forage is of value in cases where the obstruction is limited to the bladder neck, as in the prostatic bar, the small fibrous prostate, and the small hypertrophy of only the middle lobe, and is best carried out by diathermy applied by the Buerger or MacCarthy cysto-urethroscope. It is followed by marked improvement in some cases; in others it leaves much to be desired. I think there is still much to be learnt about the pathology of these cases, for some appear to be associated with an idiopathic atony of the bladder, others with over-action of the sphincter. In the adenomatous prostate the urethra is compressed laterally throughout its length, the obstruction is over a wide area, and its removal is difficult; the result of forage here is only temporary and cannot be compared to that of prostatectomy, which is always the operation of choice in the adenomatous prostate.—I am, etc.,

Cardiff, April 15th. T. E. HAMMOND.

BOVINE ACHONDROPLASIA.

SIR,—The monstrous calf of the Dexter breed of cattle exhibits the classical features of achondroplasia as found in the human. Examination of the endocrine glands of these stillborn calves has shown that in all (nine) cases the adrenal is strikingly abnormal, in that areas of cartilage are present scattered irregularly throughout the gland. The thyroid is functional—the extract producing the typical ageing effect on growing tadpoles; the pituitary normal.

This association of abnormal cartilage-bone growth and cartilage in the adrenal is remarkable, and I write to ask if any similar observation has been made in the case of the human.—I am, etc.,

F. A. E. CREW, M.D., D.Sc.,
Director.
Animal Breeding Research Department,
The University, Edinburgh,
April 24th.

EVIDENCE OF PANCREATIC DISORDER IN RICKETS.

SIR,—In his paper, "Evidence of pancreatic disorder in rickets," in the JOURNAL of April 1st, Mr. E. C. Dodds states that in cases of "acute rickets" he invariably finds a greatly increased diastase index of the urine and an average of about 75 per cent. of fat in the faeces. It is, perhaps, not very clear what Mr. Dodds means by "acute" rickets. The disease only commences with the utmost rarity after the eighteenth month, and it is unusual to see active rickets after two and a half years. And yet six out of the seventeen cases reported were between three and five years of age, and only four were under eighteen months.

I estimated the fat in the faeces of three cases of active rickets, aged two years and four months, one year and nine months, and eight months, and found only 11, 27, and 50 per cent. respectively. (The last case was an infant fed on cow's milk.) The diastase index of the case with 27 per cent. of fat in the faeces was 20. These three cases show that Mr. Dodds's deductions cannot be true for every case of rickets.

It would be interesting to know whether the cases reported were having cod-liver oil and malt as part of their treatment.—I am, etc.,

London, April 28th. J. V. C. BRAITHWAITE.

THE COMPLEMENT-FIXATION TEST FOR THE EXCLUSION OF PULMONARY TUBERCULOSIS.

SIR,—In Drs. Punch and Gosse's article on complement fixation in the exclusion of active tuberculosis (April 1st) it would have added to the interest of the article if they had been able to record the results of parallel tests of the dermic reaction to tuberculous inoculation, especially in the cases which reacted negatively to the deviation of complement test. I am aware that little or no value attaches to a positive dermic reaction, but logically the latter reaction ought, I suppose, to prove negative in the cases that replied negatively to the complement test. Possibly these observers had reasons of their own for not invoking the confirmation (or otherwise) to be obtained by the dermic test.—I am, etc.,

Algiers, April 18th. ALFRED S. GUBB, M.D.

REDUCTION OF MEDICAL FEES.

SIR,—With regard to the letters on the reduction of medical fees, I do not see why any single member of the profession should try to influence his brethren to act collectively in reducing fees. If any member feels that his skill in the practice of his profession is not of a high enough standard to retain his patients at the fees he has been charging lately, then it is his own concern alone as to whether he should reduce those fees. The only other reason I know of for a reduction would be that he cannot get his accounts paid owing to the financial standing of his patients; but the question he would have to ask himself then would be, Would the accounts be better paid when the reductions were made? If a suggestion either to raise or reduce fees is made by the British Medical Association it need not be looked on as more than a suggestion.—I am, etc.,

Manchester, April 27th. MARTIN J. CHEVERS.

THE INSURANCE ACT AND THE PUBLIC HEALTH.

SIR,—Twice has my Division sent to the Annual Representative Meeting a motion urging an inquiry as to the effect of the Insurance Act on the standard of living of the poor. It was based immediately on the fluctuations in our tuberculosis mortality—surely a fair test—foreseen in 1911 for 1915, and again in 1916 for 1918 and succeeding years. The major premiss need not be laboured now as it had to be ten and fifteen years back. To one who was the first to point out in the medical (and as I believe in the lay) press the relation between that mortality and the real wage rate, it cannot but be gratifying to see its widening acceptance in and out of Parliament. To establish the truth of the relation a fall was necessary in the last year of the war and the succeeding years. But the period of remission is drawing to a close. Others than I have told me that they have my experience—namely, that there are more cases to-day, certainly new or recrudescent or suspicious, than for many years past.

If the relation be a fact (and it is but common sense to believe so), it remains to ask if the Act lowers real wages. Only a child or an extremist politician will question that. Disguise it in what jargon you may, it is a tax on production. Economically the only *unequivocal* gainers are the "employed" children of the well-to-do, the great firms which used to pay full wages during sickness, or the powerful firms which can recoup themselves by raised prices for increased outlay. For all other classes there must be compensating disadvantages, the greatest for the poorest; the only question is how great.

The theory that by administrative benefits during sickness, involving an increase of poverty both in sickness and in health, a disease which flourishes on poverty can be prevented, is demonstrably false. But it is that which we are bidden to corroborate, it is that which we do corroborate if we tacitly acquiesce. To plead ignorance of economics (and our ignorance, as a profession, is abysmal) so as to shirk inquiry is no answer; nay, confessed ignorance is an added plea for inquiry. The whole question is fundamentally, as well as ostensibly, economic. If we, confessing ignorance, refuse to inquire: if it turns out that the effects of the Act, patent in 1915, have only been overlaid from 1918 to 1922 (about 1918 there can be no question): we are more bloodguilty than the politicians who honestly believe in their own knowledge.

The whole question is really to be reopened at Glasgow; for you cannot dissociate the State or municipal hospital from the Insurance Act. If the Act is right, then the State hospital is even more right; if the State hospital is wrong, then the Act is wrong. Under this bastard system, the result of the illicit intercourse of socialism and capitalism, both must be wrong, because its inevitable result is, *ecce signum*, the accumulation of great wealth in the hands of the few to the impoverishment of the many.

In Scotland manly independence is still a virtue, and sponging on others still is often considered a disgrace, and we may have a chance for discussion there. May I appeal to men who sympathize with these views to urge their Divisions to consider the underlying principle at stake? If you have admitted the obligation on the State to ensure primary treatment you must admit it also for advanced treatment. The *principle* of the State hospital is affirmed in the Insurance Act; if, as so affirmed, it is, in the teeth of the evidence, allowed to be acquitted by default, we are for the future debarred from criticism of any extension of that principle.—I am, etc.,

Rayleigh, Essex, April 23rd. B. G. M. BASKETT.

THE ROUTINE OF OPERATIONS FOR TONSILS AND ADENOIDS.

SIR,—I have been asked to write to you in regard to the operative treatment of adenoids and enlarged tonsils, to which special reference is made in the BRITISH MEDICAL JOURNAL for April 1st (p. 527) and to inform you of the arrangements obtaining under the Education Authority of Glasgow.

Most of the cases recommended for operation are already under observation and treatment for ear disease by one of the authority's part-time aurists; some have been seen once only by the aurist; a few are cases obviously requiring treatment and recommended by one of the full-time school medical officers for operation, and in no such case has the operating surgeon (who is always one "with special experience of diseases of the nose, throat, and ear") considered operation unnecessary. The anaesthetic used is generally ethyl chloride.

All the children are examined at one of the centres as to their general fitness for operation and freedom from infectious disease on the morning before admission to hospital. They are admitted to the authority's hospital (ten beds) that evening, and the operation is performed about 9.30 next morning; all are kept in bed until the day following operation, when they are discharged from hospital if fit. In a few cases it has been necessary to keep the children one or two nights longer in hospital. The children are visited at their homes by one of the nurses until fit to return to school, the parents being instructed as to the after-care of the case; and notice is sent to the school in order that breathing through the nose may be encouraged and the child's progress observed.—I am, etc.,

ERNEST T. ROBERTS,
Glasgow, April 26th. Principal Medical Officer.

Obituary.

EDWARD HENRY TAYLOR, M.D., M.CH., F.R.C.S.I.,

President of the Royal College of Surgeons in Ireland; Regius Professor of Surgery, Trinity College, Dublin.

WE regret to announce the death of Mr. Edward Taylor, President of the Royal College of Surgeons, Ireland, which occurred at his residence, 77, Merrion Square, Dublin. He was one of the most distinguished surgeons in Ireland.

Edward Henry Taylor was the eldest son of Mr. Wentworth Taylor, of Tinahely, co. Wicklow. He was educated at Trinity College, where he won the senior scholarship in anatomy, physiology, and histology, and qualified in 1890. Soon afterwards he won the surgical travelling prize and proceeded to Vienna, where he studied under Professor von Eiselberg, the famous head of the surgical clinic and successor to the great von Billroth. On his return to Dublin Mr. Taylor was appointed assistant surgeon to Sir Patrick Dun's Hospital and lecturer in applied anatomy to Trinity College. Subsequently he acted as anatomical examiner in association with the late Professor D. J. Cunningham. Some few years later he was appointed surgeon to Sir Patrick Dun's Hospital. When the late Professor Edward Bennett was unable, owing to failing health, to discharge his duties as Professor of Surgery in Trinity College, Mr. Taylor was appointed to act as his deputy, and on Professor Bennett's death was selected by the Provost and Senior Fellows as his successor. This post he held for twelve years. Upon the death of Sir Charles Ball in 1916 Mr. Taylor succeeded to the Regius Professorship of Surgery.

He obtained the Fellowship of the Royal College of Surgeons in 1896 and was elected President in 1921. He wrote on many subjects of surgical interest and published well-known textbooks dealing with applied anatomy and operative surgery. He was the author of a treatise, *Applied Anatomy: Medical, Surgical, and Gynaecological.* His surgical writings included: "Some Researches in Cerebro-Cranial Topography by means of Röntgen Photography" (with W. S. Haughton); "Suprapubic Prostatectomy—the Aim and Scope of the Operation"; "Case of Cystic Tumour of the Brain, of doubtful origin, successfully treated by operation"; "New Methods of Herniotomy (Inguinal and Femoral)"; "Treatment of Acute Peritonitis"; "Operative Treatment of Rectal Cancer"; and other papers.

Mr. Edward Taylor, in addition to a very active professional career, found time for many agricultural pursuits, and was a successful breeder of shorthorn cattle, with which class he was a frequent prizewinner in the principal Irish shows.

Sir W. I. DE C. WHEELER, Vice-President, Royal College of Surgeons in Ireland, in adjourning the meeting of the Surgical Section of the Royal Academy of Medicine on April 28th, said:

The Surgical Section of the Royal Academy of Medicine in Ireland meets to-night under the shadow of Mr. Edward Taylor's death. He was President of the Section and President of the College in which we meet. He himself, I am sure, would have wished us to proceed with the business before us, for the progress of surgery was near to his heart, and he knew that the published transactions of this Section did much towards maintaining the reputation of the Dublin school in Great Britain and abroad. None of us, however, will feel disposed to proceed to ordinary business on the eve of his funeral. Our minds are burdened with the loss we have suffered, and we are full of sympathy for the widow and family he has left behind.

The profession is indebted to Edward Taylor for the demonstration of one fundamental truth: he has shown that success and respect, and everything in professional life which can be considered worth while, can be obtained by taking the straight road. Success to him meant hard work and results conscientiously achieved for the good of the school, for the advance of science, and for the benefit of all. Success was his, and his efforts were crowned by recognition from Dublin University, from the College of Surgeons, and from the profession at large. Thus he became president of this college unopposed; he was selected to follow E. H. Bennett as professor of surgery, and later to succeed Sir Charles Ball as Regius Professor in the Medical School of Dublin University. He received the degree of Master of Surgery (*honoris causa*) as a final tribute from the school in which he was reared. His books on operative surgery and applied anatomy breathe infinite accuracy, perseverance, and truth, and deservedly won him a high reputation in foreign lands. By his writings much was done to lift Irish surgery into the first rank. It gave a thrill of pride when travelling to find Edward Taylor's name on the lips of the great contemporary surgeons and his works quoted by the writers of the day.

His long illness prevented his taking part, as President, in College affairs, unless for a few early months of office. It was during this time I became acquainted with the personal charm and indefinable qualities which accounted for his popularity amongst those with whom he freely moved. He was open-minded and just; if he was capable of injustice it was to himself, for he was pre-eminently modest. He stood for loyalty in friendship; in work he ranked co-operation high above checkmate, and vigorously assisted in every forward move. He had a quiet dignity which added weight to his words, and although he may have lacked some of the frills and flashes of genius he was one of those men who got things done. Apart from his large circle of friends, he was able to attract and stimulate the wider circle of those about him, and this was one of his most winning powers. Outstanding ability, real work, and honest effort brought their rewards. In addition to academic honours and general respect his qualities as a surgeon received public favour, and he enjoyed a large share of the practice of southern Ireland. The surgical torch in this academy has been dimmed for the moment, but this Section can do honour to a memory by fanning the flame into brightness and illuminating for others the path by which the late President found his way.

JOHN ADAMS, M.B.E., M.B., C.M.GLASG.,

Formerly Chairman of the Scottish Committee of the British Medical Association.

IT was with much regret that we announced last week the death of Dr. John Adams of Glasgow, which took place at his residence, 1, Queen's Crescent, on April 20th. Dr. Adams spent some years as a chemist before entering upon the study of medicine at Glasgow University, where he had a distinguished career as a student, was Cullen Medallist, and graduated M.B., C.M. with commendation in 1883. He served for a period as house-physician in the Western Infirmary, then entered on general practice in partnership with the late Dr. Suttie, and later developed an extensive practice on his own account. Early in his professional career he became interested in medical politics, in which later he took a prominent part. His work in connexion with the British Medical Association forms one long record of faithful service. He was from the outset a most loyal member, and in 1908 was elected a representative to the central body, where his constant interest and unbiased judgement received due recognition by his election to the Council of the Association, on which he served from 1912 to 1917. During this same period he was a member of the Insurance Acts Committee, while he also was appointed chairman of the Scottish Committee. It would be difficult to overestimate the value of his work for the Association, and for his fellow practitioners in Scotland, at a time when enthusiasm was on the wane. He was called upon to perform these duties at a strenuous period in the history of the Association, and the frequent night journeys to London which these necessitated, combined with the exacting work of his practice, undoubtedly took their toll of his health, which broke down under the strain. He was thus compelled to relinquish this part of his public work. He, however, continued to interest himself in the local Medical and Dental Defence Association, in which he also had been a very active and enthusiastic member; for some years he was chairman of the general council of that body, and on relinquishing this post was appointed one of its vice-presidents.

During the war period Dr. John Adams served as a member of the Medical Service Emergency Committee for Scotland and of its Executive, and his valuable services there and in other departments of war work were recognized in the honour of membership of the Order of the British Empire which was conferred upon him. Perhaps, however, Dr. Adams appreciated more the kindly esteem of his fellow practitioners, who in token of his valuable and unremitting work on their behalf entertained him to a complimentary dinner. He married only about three years ago, and is survived by his widow.

Dr. ALFRED COX writes: There were few better known or better liked men than Dr. John Adams during his many years of activity in Association affairs, and his death is sad news to many of his old colleagues who looked forward to seeing him again at the forthcoming Glasgow meeting. His work on the Council, the Scottish Committee, the Insurance Acts Committee, and the Scottish War Emergency Committee at a time when the work of the two last-named bodies was particularly strenuous will not readily be forgotten; but what will remain longest in the minds of those who worked with him is the memory of a very attractive personality, with a gift for friendship and hospitality. His colleagues and constituents in Glasgow and the West of Scotland will remember with gratitude the work he did for them, not only in the Association but in many other ways, as, for example, on the Glasgow Insurance and Panel Committees. I have little doubt in my own mind that his sudden breakdown in 1917 was very largely attributable to the way in which he sacrificed himself for the men who trusted him. Nobody but one who has had a similar experience of central work for the Association carried on from a long distance can quite understand what Adams's work entailed in the way of sacrifice. But he thoroughly enjoyed it, and I know what a grief it was to him when he was compelled to give it up. In the last letter I had from him, in January, 1922, in reply to a Christmas greeting, he said he was in bed for most hours of the day. He went on to say:

> "I have been living on trinitrine tabloids, digitalis, etc., which have gradually pulled me together, and I am getting to feel decently fit again and hope soon to be up and about. The Glasgow visit of the British Medical Association is evidently being worked well, and a great many people are interested in making it a great success. I am extremely sorry that it is impossible for me to lend a helping hand."

Scotland has given the Association many loyal supporters, but none who better proved his devotion to its interests.

HUGH ERNEST FRASER, M.A., M.D.,

Medical Superintendent, Dundee Royal Infirmary.

WE regret to announce the death, on April 20th, after a long illness, of Dr. Hugh E. Fraser, of Dundee Royal Infirmary. Dr. Fraser was born in Inverness, and received his medical education at the University of Edinburgh; he graduated M.A. in 1887, M.B., C.M. in 1891, and M.D. with commendation in 1897. In 1890 he acted as demonstrator in pathology under Professor Greenfield, and in 1892 became senior house-surgeon at Edinburgh Royal Maternity Hospital. Subsequently he continued his studies in Berlin, where he took special interest in hospital construction and management. After a short period as resident medical officer at the Northern Infirmary, Inverness, he was appointed one of the honorary staff there, but in 1897 he received the appointment of medical superintendent of Dundee Royal Infirmary. During his tenure of office the institution became the clinical school for the University of St. Andrews, and many important additions to the infirmary were carried out, including the Maternity Hospital, which is a branch of the Royal Infirmary

and stands within its grounds, and the six wards (120 beds) which are primarily intended for cancer patients: the cost of these additions was defrayed by Sir J. K. Caird. Dr. Fraser gained a high reputation as medical superintendent, and his services were much esteemed alike by the board of directors, the medical staff, and the patients. Dr. Fraser also held the post of honorary medical electrician to the infirmary, and he was the author of a number of contributions on the subject of medical electricity. Dr. Fraser was one of those who can give more than whole time to their own work and yet maintain an active interest in culture. He was president of the local branch of the Franco-Scottish Society, which he accompanied in its tour to France last year. He had been vice-president of the Dundee Branch of the British Medical Association. He was unmarried.

MAJOR-GENERAL GEORGE DOUGLAS HUNTER, C.B., C.M.G., D.S.O., R.A.M.C. (retired), who died at Cadbury, Yatton, Somerset, on April 18th, aged 61, was the second son of the late Brigade Surgeon George Yeates Hunter, Bombay Medical Service; he was educated at St. George's, and took the M.R.C.S. in 1883, and the L.S.A. in 1884. He entered the R.A.M.C. as surgeon in August, 1884, attained the rank of Colonel in 1913, and was temporary Surgeon-General while acting as Director of Medical Services in East Africa; he retired on December 26th, 1917. He had a very long list of war services, extending off and on over almost his whole career: Sudan, 1884–85, Nile column, medal with clasp, Khedive's bronze star; Sudan, 1885–86, operations of Frontier Field Force; Dongola campaign, 1896, mentioned in dispatches, *London Gazette*, November 3rd, 1896, D.S.O., Egyptian medal with two clasps; Nile, 1898, battle of Khartoum, dispatches, *London Gazette*, December 9th, 1898, medal, and clasps to Egyptian medal; war of 1914–18, dispatches four times, *London Gazette*, January 1st, 1916, June 20th, 1916, June 30th, 1916, and March 7th, 1918, medal and star, C.M.G. and C.B. He was seconded for service with the Egyptian army from June 9th, 1888, to January 7th, 1897, and again from February 2nd, 1905, to July 5th, 1908, as principal medical officer. From 1909 to 1913 he was commandant of the R.A.M.C. school of instruction. In the late war he was Director of Medical Services of the East African Expeditionary Force from December, 1915, to March, 1918. He married in 1895 Elfrida, daughter of the late T. W. U. Robinson, of Houghton-le-Spring, by whom he had one son and one daughter. Lieut.-Colonel G. Y. C. Hunter, Bengal Medical Service (retired), is his younger brother.

DR. MURDOCH MACKENZIE, of Stornoway, died on April 10th at the residence of his sister in Bradford, after several months of indifferent health. He received his medical education at Edinburgh University and medical school, and took the diplomas of L.R.C.P. and S.Ed. in 1883. Soon after graduation he commenced practice in Stornoway, and he held the posts of medical superintendent and honorary surgeon to Lewis Hospital, Admiralty surgeon and agent, medical referee to the Ministry of Pensions, surgeon to H.M. prison, parochial medical officer, medical officer of Lewis Sanatorium, and many other public appointments in Lewis. He was a Justice of the Peace for the counties of Ross and Cromarty. For many years he held a commission in the Territorial Force. At the time of his death he was Lieut.-Colonel, R.A.M.C., T.F., attached to the Ross-shire Mountain Battery, and he had been awarded the Volunteer Decoration. Dr. Mackenzie, who was an old member of the British Medical Association, enjoyed the high esteem of his professional colleagues in the western islands of Scotland. He was often called into consultation by the more isolated practitioners in the neighbouring islands, where a visit might require sometimes several days' absence.

WE regret to record the death of Dr. J. DAWSON CRAWFORD, J.P., which took place at Swanley, Kent, on April 4th, at the age of 54. Dr. Dawson Crawford was born in co. Monaghan, and received his medical education at Trinity College, Dublin; he graduated B.A. in 1891, M.B., B.Ch. in 1893, and M.D. in 1902. He came to reside at Swanley nearly twenty-five years ago, and built up an extensive general practice there; he held several public appointments, and was a Justice of the Peace for the county of Kent. He had been chairman of the Swanley Unionist Association for some years, and supported many projects for the welfare of the district. He was an old member of the British Medical Association.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

THE election of a Professor of Pathology, to fill the vacancy caused by the death of Sir German Sims Woodhead, will take place on June 1st. The income of the professorship will be £1,200 per annum. Candidates are requested to communicate with the Vice-Chancellor by Thursday, May 25th.

The plan of examinations for medical and surgical degrees to be held this term has been issued. Part I (Surgery; Midwifery) of the Third M.B. examination will begin on Tuesday, June 13th; Part II (Principles and Practice of Physic; Pathology and Pharmacology) will begin on June 14th. The M.Ch. examination will begin on June 13th. The certificates of candidates, accompanied by their postal addresses, must be sent to the Registrary for Parts I and II of the Third M.B., and for the M.Ch. examination, by Monday, May 15th.

The following medical degrees were conferred at a congregation held on April 28th:

M.D.—F. N. Sidebotham.
M.B., B.CH.—J. A. B. Snell, W. B. A. Lewis.
M.B.—E. Donaldson.

UNIVERSITY OF LONDON.

THE following candidates have been approved at the examination indicated:

Diploma in Psychological Medicine (with special knowledge of Psychiatry).—Elizabeth Casson, F. J. Fahy, O. P. N. Pearn.

UNIVERSITY OF BRISTOL.

THE following candidates have been awarded honours in the recent Final M.B., Ch.B. examination:

FIRST-CLASS HONOURS.—M. Critchley, P. Phillips.
SECOND-CLASS HONOURS.—Phyllis Beames, Winifred G. Nott.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN ordinary Comitia of the Royal College of Physicians of London was held on Thursday, April 27th, at 5 p.m., the President, Sir Humphry Rolleston, K.C.B., being in the chair.

The following were elected to the Fellowship of the College, on the nomination of the Council:

Edwin Hyla Greves, M.D.Edin., Sir Sydney Russell-Wells, M.D.Lond., Ewen John Maclean, M.D.Edin., Arthur Herbert Hayes, R.A.M.C., Robert Alfred Bolam, O.B.E., M.D.Durh., William Henry Wynn, M.D.Lond., Charles Paget Lapage, M.D.Manch., Edward Fretson Skinner, M.D.Camb., Owen Lambert Vaughan Simpkinson de Wesselow, M.B.Oxf., John George Porter Phillips, M.D.Lond., Harold Wordsworth Barber, M.B.Camb., Arthur Geoffrey Evans, M.D.Camb., Aldo Castellani, C.M.G., M.D.Florence; Henry Hallett Dale, C.B.E., M.D.Camb. (under By-law xli (*b*)).

The following candidates were admitted Members of the College:

John Ferguson Chambers, M.B.Melb., William Feldman, M.D.Lond., Hugh Gainsborough, M.B.Camb., Norman Hammond Hill, M.B.Lond., James Gordon Hislop, M.B.Melb., Hugh MacLean, M.D.Aberd., Charles Titterton Maitland, M.D.Lond., William Gifford Wyllie, M.D.Edin.

Licences to practise physic were granted, jointly with the Royal College of Surgeons, to the following 108 candidates who had passed the required examinations and conformed to the by-laws and regulations:

*Edith I. L. Abbott, S. Ackroyd, M. Ahmad, D. R. Ainsworth, *Janet K. Aitken, *Ruth M. Arkwright, W. F. Attwater, C. W. C. Bain, F. J. Benjamin, L. A. Bennett, H. C. Berlie, H. J. Bhatia, A. M. F. Browne, C. B. Byrd, A. W. Carleton, R. B. Chandrachud, A. J. Chiappa, R. W. Cockshut, *Doris B. Collier, *Gwendolen C. Cotton, W. L. S. Cox, D. I. Currie, J. G. D. Currie, R. L. Dagger, H. S. Davies, C. C. Elliott, W. C. Faull, C. E. Fenton, A. C. Fernando, *Ena D. Foster, Rowden M. Fry, R. M. Galloway, M. Garden, M. Garfield, F. A. Gaydon, J. E. Gaze, A. A. Gemmell, *Nancy K. Gibbs, *Dorothy Gibson, *Irene M. Golding, J. H. H. Gough, E. F. Griffith, F. J. S. Hall, E. Hardy, B. Homa, A. O. Jones, H. B. Jones, T. E. Jones, B. Kessel, H. C. Killingback, J. Kindness, D. Krestin, W. Laing, K. W. Leon, J. N. Loring, E. V. Lupprian, D. C. McIntosh, D. W. McKay, M. Mackenzie, N. S. Macpherson, *Phyllis M. Manson, *Gladys H. Marchant, *Clara E. Mathias, Y. Maximos, F. R. L. Miller, J. K. Milward, A. Mitchell, W. E. M. Mitchell, *Olga M. Naylor, G. J. V. Nelken, R. W. Nichol, M. Nurick, C. P. Oliver, T. C. Oliver, *Hilda W. Page, C. V. Patrick, V. D. Pennefather, *Edith C. Phelps, E. D. Pridie, *Gladys H. Randall, H. Rast, *Sybil M. Rees, B. T. Richards, *Esther Rickards, D. Robertson, A. E. Roche, Abd-El-Hakim Sabry, J. W. Sinclair, E. F. Smith, *Dulcie C. Staveley, G. H. T. Stovin, M. L. Sutcliffe, *Mary I. Symons, J. G. Tait, M. Theiler, D. C. Thomas, *Winifred A. M. Thompson, Nils F. Tilander, L. J. Timings, *Eileen M. Turner, K. L. Ward, *Hilda M. Whitfield, F. W. Widgery, H. N. Williams, *Muriel B. Williams, S. J. Woodall, L. S. Woolf, *Eva Young.

* Under the Medical Act, 1876.

Diplomas in Tropical Medicine and Hygiene were granted, jointly with the Royal College of Surgeons, to the following 24 candidates:

R. W. Cilento, C. Clyne, G. C. Dunham, J. J. B. Edmond, M. A. M. el-Kattan, B. Gale, G. Giglioli, W. H. Grace, Mary L. Griffiths, J. M. R. Hennessy, H. S. Hingston, H. C. V. Joy, J. B. Kirk, R. B. Lal, D. R. Mehta, E. A. Mills, M. S. H. Mody, D. G. F. Moore, G. G. Naoleker, A. Noble, W. H. Peacock, A. R. Razik, C. A. Wood, T. G. Wynne.

The President announced that two gifts have been made to the College: (1) The President's chair, used when the College buildings were in Warwick Lane. This was presented by Dr. F. Gore

Wallace, with a letter stating that it had been given to Mr. John Charles Hunter, who was Bedell of the College from 1823 to 1829. (2) A malacca with two small glass phials in the shaft, presented by Mrs. Fagg. These gifts were accepted, and the thanks of the College were accorded to the donors.

A communication was received from the Secretary of the National Association for the Prevention of Tuberculosis, dated April 11th, 1922, urging that tuberculosis be made the subject of special teaching in Medical Schools. This was referred to the Committee of Management.

Dr. Sidney Phillips moved for the second time: That By-law LVII be altered so as to read—"The accounts of the College shall be audited by the Finance Committee, with the assistance of a professional accountant. A copy of the audited accounts shall be supplied to the Censors Board." This was carried.

Sir Frederick Andrewes was re-elected a Representative of the College upon the Lister Institute of Preventive Medicine.

After some formal College business the President closed the Comitia.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

PROFESSOR HAROLD BURROWS'S two Hunterian lectures on "The results and treatment of gunshot wounds of the blood vessels" will be delivered in the theatre of the College, Lincoln's Inn Fields, at 5 p.m., on Wednesday and Thursday, May 10th and 11th. The first lecture will describe the varieties of injuries and their signs and symptoms; the second lecture will deal with treatment in general and the operative measures available.

The Services.

THE WAZIRISTAN CAMPAIGN.

THE dispatch of General Lord Rawlinson, Commander-in-Chief in India, on the operations of the Waziristan Force from May 8th, 1920, to March 31st, 1921, was issued as a supplement to the *London Gazette* of April 26th, 1922. The following is an extract regarding the medical services:

"Waziristan has an unenviable reputation for climate. The extremes of heat and cold, combined with the virulent malaria indigenous to the country, are conducive to a high sick rate.

"That the sick rate has not been higher is directly attributable to the care and forethought of the medical authorities. The medical units throughout the force are mobilized ones, yet they have been expanded and developed so that the sick and wounded receive treatment much in advance of that ordinarily procurable in field units."

The King of Italy has conferred the honour of Commander of the Order of the Crown of Italy upon Surgeon Rear Admiral A. G. Wildey, C.B., in recognition of services rendered during the war.

Medical News.

THE Court of the University of Leeds has decided to confer the honorary degree of D.Sc. upon Sir C. S. Sherrington, President of the Royal Society and Professor of Physiology at Oxford; Sir Harold Stiles, Professor of Clinical Surgery in the University of Edinburgh; and Sir R. A. Gregory, F.R.A.S., editor of *Nature*.

THE first lecture of the course of eleven post-graduate lectures arranged by the Fellowship of Medicine and Post-Graduate Medical Association was given at the house of the Royal Society of Medicine by Sir Humphry Rolleston, K.C.B., on Monday last, when he dealt with the recent physiology of the liver and its application in practice. The second lecture, to be given on Tuesday next, will be the first of two on fractures, by Sir W. Arbuthnot Lane, Bt. The course will be continued until July 19th. The lectures are given at 5 p.m. The Fellowship has also arranged a course of practical lectures and demonstrations at the Children's Clinic, Western General Dispensary, Marylebone Road, N.W.1 (close to the Edgware Road Station of the Metropolitan Railway). They will be given at 4.45 p.m. on Mondays and Thursdays. The first four meetings of this course will be devoted to a consideration of gastro-intestinal affections in children; the first will be given on May 15th by Dr. Bernard Myers, and the second on May 18th by Dr. T. Joekes; the third and fourth by Dr. Myers on May 22nd and May 25th. On May 29th Dr. H. E. Archer will demonstrate the Wassermann reaction and speak on its importance in general practice, and on June 1st Dr. H. Adamson will give a practical demonstration of skin diseases in children. The fee for the course is one guinea; full particulars can be obtained from the Secretary of the Fellowship of Medicine, 1, Wimpole Street, London, W.1.

A MEETING of the National Baby Week Council will be held at Carnegie House, 117, Piccadilly, W.1, on Tuesday, May 9th, at 3 p.m., with Dr. Eric Pritchard in the chair. An address on "Mortality in the First Month after Birth, and the Possibility of reducing it," will be given by Sir Arthur Newsholme, K.C.B., M.D., and an address on "The Milk Question" by Dr. Janet Lane-Claypon.

THE annual Congress of Ophthalmology of the United Kingdom will be held on May 11th, 12th, and 13th, under the presidency of Mr. J. Herbert Fisher. Papers will be read and discussions held in the house of the Royal Society of Medicine, 1, Wimpole Street, on the morning and the afternoon of May 11th, and the mornings of May 12th and 13th. On the afternoon of May 12th cases will be shown in the ophthalmic out-patient department of St. Bartholomew's Hospital, and pathological demonstrations of tuberculosis of the eye will be given at the house of the Royal Society of Medicine on the evening of May 12th. The business meeting of the society will be held at 5 p.m. on May 11th, and the annual dinner at the Langham Hotel on the same evening at 7.30.

OUR readers are acquainted with the work of the Vocal Therapy Society, which has formed a number of the shell-shock and neurasthenic ex-service patients into choirs known as "The King's Services Choirs." They are giving a massed choral concert to-day (Saturday, May 6th), at 3 p.m., at the Polytechnic Institute, Manresa Road, King's Road, Chelsea. Visitors will be welcomed.

THE North-East London Post-Graduate College, as already announced, will hold a special post-graduate course at the Prince of Wales's General Hospital, Tottenham, N.15, from May 15th to 27th inclusive. The course has been arranged in association with the Fellowship of Medicine and Post-Graduate Medical Association, and a syllabus has now been issued which is obtainable from the Dean. The fee for those who are not members of the Fellowship is £5 5s., or £3 3s. for either week. Those wishing to attend should send their names to the Dean by May 11th. In connexion with the course lectures will be given on several afternoons at 4.30; these are free to medical practitioners.

THE Medical Missions meeting in connexion with the two hundred and twenty-first anniversary of the Society for the Propagation of the Gospel in Foreign Parts was held at the Church House, Westminster, on April 26th, with Dr. J. Auriol Armitage in the chair. Addresses were given on the subject of foreign missions by Dr. A. F. Laws, of Ay-In Hospital, Korea, Dr. H. H. Weir, secretary of the Medical Missions Department of the Society, and Miss M. Taylor, of Tinnevelly and Delhi.

THREE HUNDRED cases of typhus fever have recently occurred at Frankfurt on the Oder. All boats coming from Russia are now subjected to quarantine.

THE Board of Trade has appointed a committee, under the Safeguarding of Industries Act, Part II, to report on the importation of optical and other scientific instruments into this country from Germany. It is alleged by associations of manufacturers interested in optical, photographic, and drawing instruments that, by reason of depreciation of the value of German currency in relation to sterling, the prices charged for German goods are below those at which similar apparatus can profitably be manufactured in the United Kingdom.

A MEETING of the National Health Society, with the Duke of Devonshire in the chair, will be held at the house of the Royal Society of Medicine on Wednesday, May 10th, at 5 p.m., when the Princess Christian will present certificates to the society's successful students. Among the speakers on the occasion will be Sir Arthur Stanley, G.B.E., and Professor Kenwood, C.M.G.

THE annual meeting of the American Medical Association will be held this year at St. Louis from May 22nd to 26th.

DR. JOHN MACMILLAN, J.P., of Newburgh, Fife, has been presented by his friends with a number of valuable gifts in recognition of his twenty-five years' strenuous professional services in the north of Fife.

A DINNER in recognition of her twenty-five years' work in the United States Public Health Service was given, on April 20th, to Dr. Sara Josephine Baker, director of child hygiene in the New York Department of Health.

FORTY free clinics for mental disorders are now conducted throughout New York State. During the past year nearly 5,000 persons attended these clinics, an increase of 34 per cent. over the previous year; more than half of those patients had never been under the care of State hospitals.

DR. MURK JANSEN of Leyden has received the Umberto I prize awarded every five years by the province of Bologna for the best work or discovery in orthopaedics. The previous recipients were Professor O. Vulpius in 1905, Professor W. Schulthess in 1910, and Dr. Vanghetti in 1915.

DURING May the Paris, Lyons, and Mediterranean Railway Co., W.1, will run a special carriage between Paris and Evian-les-Bains, attached to the 8.45 p.m. train from Paris (Gare de Lyon).

IN the week ending April 29th the number of deaths from influenza in the 105 great towns of England and Wales was 75, as compared with 93 in the previous week.

Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.*

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2630, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2630, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin;* telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

SALINE TASTE.

DR. M. P. K. MENON (Bradford) writes: If Dr. Begg's patient will give up tea or coffee completely for a few days and thereafter indulge in these beverages only sparingly—say two small cups of tea or coffee (weak) a day—she would get rid of the saline taste completely. I have experienced this myself. I consider the taste is due to the excretion of some active principle of these beverages on the gums.

TREATMENT OF PARALYSIS AGITANS.

"E." writes, in reply to a recent inquiry: In some cases—perhaps one out of four—the administration of hyoscine hydrobromide will greatly lessen the shaking. A dose of gr.1/100 by mouth three times a day is necessary; gr.1/120 rarely succeeds. The treatment, if successful, can be indefinitely continued. In other cases, parathyroid tablets, gr.1/10 thrice a day, do great good.

INCOME TAX.

"A. W. Q." has been asked by the local inspector of taxes for a statement as to the amount of the professional debts due to him at December 31st, 1921, although he has for some years been assessed on the basis of cash receipts.

*** Unless some special fact (as, for instance, the purchase of an additional practice) enters into the case we see no reason why the cash basis should be abandoned, as would seem to be the intention of the local inspector. This point was discussed with one of the senior officials at Somerset House some short time ago, and a reference to our note in that connexion (December 10th, 1921, p. 1001) may assist our correspondent.

"J. M. M.," as an assistant with a fixed salary beginning his fourth year, wishes to know whether he can adopt a three years' average although the first year's remuneration was only for a period of about six months.

*** The ordinary rule is that the average must begin to operate as from the date when the remuneration begins to accrue. Unless there are some abnormal circumstances "J. M. M." will be liable to assessment for his first "paid" year on the income of that year itself. As regards subscriptions to the BRITISH MEDICAL JOURNAL and the purchase of medical books we are of opinion that these are allowable so far as is necessary to *maintain* the personal standard of professional efficiency.

"R. E. T.'s" private practice expenses exceeded his (first year's) receipts from that work, but he has been separately charged on the amount earned at casual employment at the Ministry of Pensions medical boards under Schedule E.

*** There is, we believe, no justification for putting the assessment under Schedule E instead of Schedule D, in view of the casual nature of the earnings, and for many years the Board of Inland Revenue has acquiesced in the practice of pooling miscellaneous fees from public or semi-public bodies with receipts from private practice. The position would be different if "R. E. T." held a substantial salaried position with a few casual private receipts.

LETTERS, NOTES, ETC.

THE CONFERENCE OF STAFFS OF HOSPITALS.

DR. G. C. GARRATT (Chichester) writes: Mr. Harman (April 22nd, p. 662) fails to meet any one of my objections, and it must by now be obvious, even to him, that they are entertained by a very large number of medical men. His quotation from the SUPPLEMENT is worthless as a reply, because it does not define the term "indigent." The policy of the Association defines an indigent person as one certified as unable to contribute in any way towards his maintenance and treatment. Let Mr. Harman, as a "reasonable man," now approach those "other reasonable men" who manage his hospital, and explain to them that a person who while in hospital can scrape together a penny a week, or who receives eggs, vegetables, or other assistance towards maintenance from home, is "*too rich*" to receive "free treatment" from a staff that insists on retaining the title "honorary" and rejects paupers. Then let him report in the JOURNAL their comments on the "fairness" and "justice" of this proposal "to all parties concerned." I note that the habit I have contracted of always endeavouring to look ahead before adopting a new policy likely to have serious consequences is distasteful to Mr. Harman. May I be permitted to hope that this attitude of mind is not universal among members of the Hospitals Committee, otherwise there will be a dangerous split in the ranks of the profession, followed by another debacle such as occurred in 1912.

TREATMENT OF CRAMP.

"M.D.EDIN.," a retired medical man, writes that he has been ill for nearly two years with rheumatic gout, effusion in the knees and ankles, oedema of the lower legs, and is greatly troubled with attacks of cramp in the legs. He cannot sit or walk without pain, and is relieved only when lying down or asleep. Many drugs and diets have been tried, in addition to electricity, ionization baths at home and at Harrogate, auto-serum, auto-suggestion; massage after baths has always seemed to aggravate the symptoms. His general health is good, the rheumatic symptoms better, but the cramp is worse. He has had much professional advice without relief, and would be grateful for any further suggestions.

"FOLLOWING UP" IN V.D. CLINICS.

MR. C. HEYGATE VERNON, F.R.C.S.E., Clinical Assistant, Bournemouth V.D. Clinic, sends us the following statistics, with the permission of Dr. W. E. Facey, medical officer in charge of the clinic, to publish them. They refer to the period of sixteen months from October 23rd, 1920, to February 21st, 1922:

A printed circular enclosed in a plain envelope *not* marked "confidential" is posted to a patient who has been absent for a period over a month from the date when the next attendance was advised. In only two or three isolated cases apparently have domestic troubles ensued, the cause being that the letter was opened by a relative from motives of curiosity or because the patient was absent from home. In every case a new patient is told, when his name and address are registered, that the information will only be used in the event of it becoming necessary to communicate personally with him.

Altogether 550 letters were written to patients, with a result that 152 have resumed attendance. Of the letters which did not bear fruit, 65 were returned through the Dead Letter Office, or produced the report that the patient had left the district. Three were reported dead, and 19 wrote reporting transfer to another clinic or doctor. Of the 152 who resumed attendance, 57 were ultimately discharged as free from disease and 51 are still attending and within measurable distance of a cure. That a second and even a third letter provides sufficient stimulus to cause resumption of treatment is borne out by the fact that 27 had two letters, 10 of whom have been cured, and 3 have had three letters, 1 being cured. Letters are written even to those whose attendance has ceased before the diagnosis is established, and of these 7 have been discharged as not suffering from venereal disease. Of the remaining 50 who were cured, 32 were men suffering from gonorrhoea.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 33, 36, 37, 38, and 39 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 34 and 35.

THE following appointments of certifying factory surgeons are vacant: Warboys (Huntingdon), Muirkirk (Ayr).

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£ s. d.
Six lines and under	0 9 0
Each additional line	0 1 6
Whole single column (three columns to page) ...	7 10 0
Half single column	3 15 0
Half page	10 0 0
Whole page	20 0 0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

A Post-Graduate Lecture
ON
THE HUMORAL SYNDROME OF GOUT.*

BY
PROFESSOR A. CHAUFFARD,
OF THE FACULTY OF MEDICINE OF PARIS.

IN addressing you to-day I wish, in the first place, to thank you for the honour you do me in inviting me to take part in this conference. I see in it a promise of excellent relations of friendship and scientific intercourse which will unite our two countries more and more. But you must allow me to say also that it is not without hesitation and apprehension that I have made the choice of the subject with which I propose to deal. Am I not a trifle overbold to come and speak on gout here in England, where Sydenham wrote his immortal description of the acute attack of gout—a description always copied or imitated, but never equalled; where Bright taught us to recognize the gouty kidney; where Scudamore and Gairdner wrote their classical dissertations; where Garrod inaugurated the scientific study of gout in demonstrating the pathogenic rôle of uric acid; and where so many eminent clinicians have since proclaimed the results of their investigations of this disease? My excuse is that in science nothing is final or perfected, and I shall have achieved my object if I awaken your interest in the new researches which for nearly two years I have conducted in my clinic at Saint-Antoine with my two co-workers, P. Brodin and A. Grigaut.

It is necessary in every study of gout to return to Garrod; his book has not passed out of date, and is rich in information, in clinical experience, and in personal ideas. It was Garrod who first defined the humoral state in gout and recognized and proved its essential character—excess of uric acid in the serum. I am bound to recall the delicate test of the thread, with its crystalline deposits of uric acid. In spite of the fact that this technique seems not to be exact, since we cannot say that all the uric acid of the serum becomes deposited on the thread, Garrod was able to estimate the quantity found in 65 grams of serum, which in the five cases he quotes, when expressed in terms of 1,000 grams of serum, give the figures 50 mg., 125 mg., 30 mg., 175 mg., and 110 mg. A little farther on, for the blood of patients suffering from albuminuria or gout, he gives an average quantity of uric acid varying between 44 and 173 mg. per 1,000 grams. He is careful, however, to add that in all these analyses the quantity of uric acid obtained is undoubtedly less than the real figure. The limit of sensitiveness of the method is fixed at 24 mg. per 1,000 grams of serum.

It is very curious to note how Garrod's technique gave him results near to the figures which we obtain at present with improved methods. Results of absolutely the same order are obtained in both cases.

These ingenious researches of Garrod's are classical, and all clinicians have made use of the thread test. But this obviously imperfect process did not allow fresh progress, and whilst researches on the uric acid of the urine were multiplying we relied on the initial researches of Garrod for the uric acid of the blood. A new technique was necessary, and it came to us from America with the work of Folin and Denis, and the employment of the reagent phosphotungstic acid, which gives a blue colour with solutions of uric acid. The estimation, which was gravimetric in Garrod's method, has thus become colorimetric, and the researches of Lough, Fine, and Myers have brought new and interesting deductions.

According to the American technique the normal content of the serum in uric acid is estimated at 2 to 3 centigrams per 1,000 grams, rather a low figure on account of the solubility in water of the precipitate of urate of silver and magnesium, which diminishes the real figure of the uric acid of the serum.

In the technique modified by A. Grigaut this cause of error no longer operates, and we believe ourselves to be able to say that the normal figure of uric acid per litre of the serum varies between 4 and 5 centigrams; hyperuricaemia commences above this.

Grigaut's process estimates the uric acid without including the xanthin bases, and only alloxan and alloxanthin, derived from the immediate oxidation of uric acid, are included with this substance in the figures of the estimation. Setting out in this way we were able to begin the study of gouty uricaemia, and the researches we have published[1] were carried out in the first place on thirteen gouty individuals, and we studied for each the level of the blood urea, of the uric acid, of the cholesterinaemia, and determined the urea secretion constant of Ambard, which is the most delicate means we possess for appreciating the degree of renal permeability. Our results are summarized in the following table.

TABLE I.

Diagnosis.	Blood Urea.	Ambard.	Uric Acid.	Cholesterin.
Chronic gout	0.40	0.10	0.127	2.95
Acute gout	0.40	0.80	0.115	2.15
Chronic gout	0.33	0.10	0.122	2.25
,, ,, ...	0.30	0.13	0.118	2.85
,, ,, ...	0.33	0.08	0.118	2.07
,, ,, ...	0.43	0.08	0.11	1.86
Acute gout	0.34	0.09	0.10	2.10
Chronic gout	0.35	0.13	0.10	1.65
,, ,, ...	0.45	0.10	0.10	1.50
,, ,, ...	0.45	8.12	0.09	2.15
,, ,, ...	0.40	0 11	0.087	2.70
,, ,, ...	0.40	0.11	0.078	1.80
,, ,, ...	0.72	0.11	0.072	2.00

To this first series of cases I am able to add fourteen new cases, some observed at Contrexéville by M. Schneider, with estimations performed by Grigaut, the others derived from my hospital or private practice. Here are the results:

TABLE II.

Diagnosis.	Uric Acid.	Cholesterin.
Gout and uric acid lithiasis	0.10	2.07
Chronic gout	0.095	2.25
,, ,, ...	0.085	2.13
,, ,, ...	0.075	3.60
,, ,, ...	0.069	3.25
Mild gout	0 065	1.86
,, ...	0.070	3.50
Biliary lithiasis and mild gout	0.06	2.70
Chronic gout	0.17	2.60
,, ,, ...	0.10	1.89
,, ,, ...	0.73	—
,, ,, ...	0.11	1 80
,, ,, ...	0.06	2.40
,, ,, ...	0.07	1.98

The average for all these figures gives for 27 cases 0.094 of uric acid, and for 26 cases 2.25 of cholesterin in the serum. On the other hand, in a case of juvenile hereditary gout studied during the crisis and immediately afterwards, we have found a lower series of figures—namely, 0.24 for urea, 0.023 for uric acid, and 0.82 for glycaemia. Only the cholesterinaemia was increased to 1.95, and the bilirubin of the serum was in excess. In this case Ambard's constant stood under the normal at 0.06, and perhaps the exaggerated permeability of the renal filter was the cause of the low figure for uric acid. Hyperuricaemia was not present, but the participation of the liver was evidenced by the high level of the cholesterinaemia and by the excess of biliary pigment in the serum.

Thus the hyperuricaemia, discovered by Garrod, is confirmed and made more precise by modern researches. But whence arises this excess of uric acid?—a very complex question, and one still beset with uncertainty. In the first place let us differentiate between endogenous and exogenous uric acid.

For the endogenous uric acid we must distinguish two sources. On the one hand there is a disturbance of nitrogenous metabolism—and this is the factor we know least

* One of a series of exchange lectures between the Faculty of Medicine of Paris and the University of London. Delivered at the Royal Society of Medicine, March 23rd, 1922.

about in spite of the number of researches which have been devoted to it. There seems no doubt that uric acid is derived from nucleo-proteins and purins of the tissues by a series of degradations, due probably to the action of proteolytic ferments, the uric acid, according to Lambling,[2] "representing in man the end-product of the metabolism of purins—that is to say, a waste product which the organism does not further simplify." But the endogenous origin of the purins in the gouty, and their nature and manner of variation, still remains a mystery—as, for example, in cases of early hereditary gout, where the exogenous cause plays no part.

On the other hand, there is a second cause of endogenous hyperuricaemia of which the frequency and significance are easily understood—namely, renal retention. We know by clinical experience how often the kidney is damaged in the gouty, not only as a contracted and sclerotic kidney, but almost from the commencement of the illness there may be a functional defect betrayed by the elevation of Ambard's constant, as in our cases. This is only a secondary effect in the morbid process; but it ought never to be lost sight of without clinical consideration of hyperuricaemia. The retention of uric acid may even precede the retention of urea, and we believe ourselves able to say with P. Brodin and A. Grigaut that the detection of the former constitutes the most delicate test of commencing renal hypo-permeability.

Probably side by side with renal retention we ought to give a place to tissue retention, the gouty depositing uric acid in the tissues in excess, and being able to liberate it and return it to the circulation under the influence, for example, of causes producing acute attacks. This process does not appear to me to participate except in special cases, and its importance is not comparable to the uric acid retention of renal origin.

With regard to exogenous uric acid, for a long time the results of clinical observation have borne witness, and all are aware of what a large share in the causation of gout is attributable to errors of diet, to food in excess, too protein in constitution, too rich in spices, and to alcoholic beverages, notably burgundy and champagne.

The determining factors of the hyperuricaemia of alimentary origin are probably to be attributed directly to the excess, together with the secondary modifications in the nutrition and metabolism of the tissues and hepatic activity dependent thereon.

But here arises a question which cannot be separated from this discussion—namely, the rôle of the liver in gouty hyperuricaemia. The clinicians have for a long time admitted the capital importance of the part played by the liver, and the work of Scudamore and of Garrod on gout, and of Murchison on the functional disturbances of the liver, had led to the supposition that the liver manufactured uric acid when, on account of illness, its urea-forming function failed. On the other hand, the physiologists admit that in mammals uric acid and purin bases are destroyed whilst passing through the liver by uric-acid-splitting ferments. We have turned to experiment, in order to elucidate this point, by taking samples from the portal and hepatic veins of dogs for the estimation of uric acid during digestion and under various dietetic régimes. The following table illustrates our results:

TABLE III.

No. of dogs.	Régime.	Blood.		Coefficient of retention in liver.
		Portal.	Hepatic.	
		gr.	gr.	
1	Fasting	0.0087	0.0087	0
2	"	0.011	0.011	0
3	"	0.015	0.015	0
4	Milk	0.006	0.006	0
5	Varied	0.007	0.003	0
6	Brain	0.010	0.008	20
7	Calf's sweetbread	0.0118	0.009	23
8	Varied	0.034	0.025	27
9	Calf's sweetbread	0.031	0.022	30
10	Varied	0.018	0.011	39
11	"	0.015	0.010	34
12	Liver and spleen	0.014	0.007	47
13	" "	0.013	0.006	53

Studying the details of these experiments we see that five dogs received a varied diet, two were fed on calf's sweetbread, and two with liver and spleen. The results obtained were all similar, and in eight of the nine dogs the quantity of uric acid in the hepatic blood was markedly less than that of the portal vein. Once only was the hepatic content a trifle higher than the portal—9 mg. in place of 7.

The proportion of uric acid retained varied between a minimum limit of 20 per cent. and a maximum of 53 per cent., with an average of 33 per cent.

The variability experienced in the retention coefficient must be attributed to many and special causes for each case: differences in the anatomical and functional condition of the liver in dogs of varying kinds; different stages of digestion; the nature of the food given.

The two highest figures of retention—47 and 53 per cent.—were obtained in animals fed exclusively with liver and spleen, a diet rich in uric acid. On the other hand, in three dogs maintained in the fasting state for three days, with as much water as desired, the content in uric acid was exactly the same in the portal and hepatic blood. The same result was obtained in a dog fed on milk, a diet which contains only traces of uric acid. Thus in the dog during the digestive period a greater or less proportion of the uric acid substances brought by the portal vein is retained by the hepatic cells, the liver playing the part of a regulating organ, designed to prevent the passage of excess of uric acid into the blood during the very frequent variations of the human dietary. We are ignorant of the fate of the uric acid thus retained, and we can only suspect that there occur in the hepatic cells complex chemical transformations of which we know one—the formation of urea. It is very probable that the fabrication of urea, the "protéopexie" of F. Widal, and the uricolysis are only different episodes, fragmentary evidences of the manifold action of the liver on protein material, all the stages of which we are far from knowing completely. This uricolytic function is periodic and only exercised under special circumstances, and it is very striking to observe the failure of this retention action in dogs in the fasting state, when the liver, no longer exerting any digestive control, allows itself to be traversed like an inactive gland. A milk diet which only supplies to the liver minimal traces of uric acid, and which throws least work on the digestive apparatus, acts in the same way as fasting, and fails to produce any difference in the uric acid content of afferent or efferent liver blood.

But it is a rule in general pathology that all physiological function has its counterpart in the pathological, and that the disturbed function can be deduced from the normal. Thus it appears permissible to state, in spite of the fact that direct proof cannot be given, that in the hyperuricaemia of the gouty the arresting function of the liver may prove insufficient, being incapable of retaining uric acid brought from the alimentary canal, and we might find in this the physiological explanation of the capital importance of diet in the gouty. Thus would also be explained the connexion which clinical experience has so long demonstrated between disturbances of the general nutrition, of the nitrogenous and carbohydrate metabolism, and functional disorders or lesions of the hepatic gland.

The uricolytic insufficiency of the liver thus appears to me to be one of the most important factors in the causation of exogenous hyperuricaemia of alimentary origin, and perhaps it may be passed on by inheritance—a possibility which would enable us to understand these cases of early hereditary gout, cases which cannot be explained as due to the life of the individual, and which can only depend on the transmission of an inherited defect.

Doubtless this is only an hypothesis of which one can show no direct proof in gout, but, as we have seen, it finds support in experimental physiology and in the other unmistakable signs of hepatic origin such as the hypercholesterinaemia and the hyperbilirubinaemia. Does not the same apply to other pathogenic theories in which one reasons more by deduction and analogy than by direct experiment, which is so difficult to carry out in clinical practice?

What becomes of the uric acid stored up in the tissues of the gouty, and what is its ultimate fate?

A part is eliminated in the urine according to the general law of the concentrating power of the kidney which Ambard formulated. When once the kidney is injured in structure or function then the elimination of urine is affected and may not suffice for its task. Another part, by a process of vicarious elimination, is deposited in the diseased joints as sodium urate,

in the tophi, in the urate incrustations of slow atrophic nephritis, and these local deposits once formed are not capable of being moved; they remain in ineffaceable witness of gout.

In the blood the circulating uric acid is more accessible to our therapeutic resources, and it is this which we wish to influence by diet or by our remedial agencies. It is difficult to say exactly in what chemical form the circulating uric acid occurs, but it is probable that it is in a state of colloidal solution as sodium urate, and we shall see what is the interest of the question in relation to the pathology of the acute attack of gout.

Finally, it seems that in chronic gout there is a uric acid infiltration of the tissues which is capable of modification, particularly by spa treatment. Schneider, Bricout, and Grigaut[3] thus explain the curious facts they have observed at Contrexéville. The blood uric acid of the cases of gout treated at this station instead of diminishing actually increases, as if the excess of uric acid in the tissues was mobilized, liberated, and returned to the circulation by the lavage, and then gradually eliminated by the kidneys. One or two months later there is found a remarkable reduction in the hyperuricaemia.

In order to complete the study of the serological nitrogenous metabolism of the gouty we must add that the level of the blood urea is generally slightly raised, although not often passing the physiological limits; this is illustrated by the figures in Table I. This is all that can be said at present of the origin and fate of uric acid in the gouty, and if many of the details are still hypothetical or obscure, perhaps the outlines of the main processes can be distinctly discerned. It was interesting to study the uric acid content of the blood cells at the same time as the serum. With the assistance of P. Brodin and A. Grigaut[4] we have attempted to carry out this investigation, although we recognize that many of the associated factors are but ill understood. The same holds for the blood cells as for the serum; we are still unaware in what form the uric acid exists, for the chemical combinations must be very complex and perhaps variable and of colloidal constitution. In the healthy individual and in patients suffering from various diseases the average level of cellular uric acid appears to be 20 to 25 cg. per 1,000, though not indicating any definite connexion with the figures for the uric acid of the serum. The inconstancy and variability of the figures obtained only permit us at present to assign to the cellular uric acid a value doubtful and of secondary importance. It is otherwise in the gouty, and in the five estimations which we have had the opportunity of practising in the course of chronic gout we have found the level of the uric acid markedly raised, giving an average of 36 cg. per 1,000—that is to say, almost double. The proportion is the same for the serum, with an average figure of 9 to 10 cg., as compared with the normal average of 4 to 5.

Patients with gout are thus suffering from a double hyperuricaemia, both in the cells and in the serum, and the two surcharges of uric acid seem to be associated and proportional. The cellular hyperuricaemia is probably only a particular localization of the more or less diffuse impregnation of the tissues in the gouty.

This question of the supposed presence of uric acid in the tissues helps to solve another problem—namely, that of the clinical diffusibility of uric acid. Since uric acid passes into the urine by way of the renal filter it is therefore diffusible; but little was known of the conditions under which this occurred. Our experiments, carried out with P. Brodin and A. Grigaut,[5] have shown us that in ascitic and pleural effusions, uric acid, like urea, is found in the same proportions as in the blood. On the contrary, it only passes in minute traces or minimal quantities into the cerebro-spinal fluid, in marked distinction from urea. Similarly, in experiments conducted with artificial dialysis it is found that uric acid passes much more slowly than urea. The diffusibility of the two substances is not therefore absolutely the same, neither clinically nor experimentally.

It was supposed that the hyperuricaemia was the only modification of the blood serum in gout. In reality the humoral syndrome is more complex, and, working with P. Brodin and A. Grigaut, we have added a new element, hypercholesterinaemia. It will be sufficient to refer to Tables I and II to see that this is the rule, and in fact in 26 cases in which the cholesterin has been estimated the average level of cholesterinaemia is 2.25 grams, a figure considerably higher than the physiological average of about 1.70.

Undoubtedly this hypercholesterinaemia may be due, in part at least, to suprarenal origin, when the kidney is more or less affected in its eliminating function or in its structure. But the hypercholesterinaemia may be an initial fact and precede the renal lesion, since, as is demonstrated in Table I, we have shown it to coincide with a normal or only slightly elevated Ambard's constant, and consequently with physiological kidney function. In view of numerous experiences of this kind there is no necessity to presuppose an increased production of suprarenal cholesterin, and the hypercholesterinaemia seems to be of hepatic origin. This is confirmed by the fact that the albuminous coagulum obtained by the action of trichloracetic acid on the serum often shows after some hours a blue coloration more or less well marked, a reaction which betrays excess of bilirubin in the serum.

This double evidence of hypercholesterinaemia and hyperbilirubinaemia discloses the injury inflicted on the hepatic functions in gout, and only verifies the special state of uricolytic insufficiency which we have described as the result of our comparative estimations of the uric acid in the portal and hepatic veins. And thus the capital rôle which the liver plays in the pathology of gout is confirmed.

On the other hand, in the course of our researches on hypercholesterinaemia, it seemed to us possible to evolve a law—the law of the local deposition of cholesterin when the serum cholesterin is increased in a definite and permanent fashion. In this way we have explained the pathogenesis of xanthelasma, of biliary lithiasis, and of the white plaques of the retina in patients with Bright's disease. Shall we find in the gouty a new confirmation of this law?

Note first of all that biliary lithiasis is far from rare in the course of gout—6 per cent. according to Bouchard—and this clinical affinity, which it is classical to emphasize, has only been explained up to the present by vague theories, such as Bouchard's hypothesis of retarded nutrition. On the other hand, it adapts itself very well to the theory of the origin of cholelithiasis from the hypercholesterinaemia, the theory which I have formulated. Hutchinson observed a case of xanthelasma on the eyelids in a patient suffering from chronic and hereditary gout; Dyce Duckworth reported on palpebral tophi very similar to xanthelasma in a case of gout, and in another case multiple tophi of the scrotum, the chemical and microscopical examination of which showed the presence of sodium urate and crystals of cholesterin. Loeper, in many cases of gouty hygroma, has demonstrated the presence of cholesterin. What is lacking in these early records is the chemical estimation of cholesterin and uric acid in the tissues or tophi examined, and, above all, the determination of cholesterinaemia. One cannot interpret the source and significance of the deposition of cholesterin without ascertaining the quantity of cholesterin in the serum. We have therefore searched for the presence of cholesterin in the unfortunately very rare tophi which it has been possible for us to examine. In three cases of gouty deposits in the helix we have only been able to carry out Liebermann's reaction on account of the small quantity of material we had at our disposal; it was strongly positive, almost of the same order of intensity as that obtained with the xanthomatous nodules. The murexide reaction was also positive in the case in which it could be carried out. In a case of tophus of the finger, removed for diagnostic purposes from a young man of 22 suffering from hereditary gout, and showing typical acute attacks since the age of 13, the cholesterin content of the fresh material expressed per 1,000 grams was 8.30 grams and for uric acid 2.90 grams. This case was also peculiar owing to the fact that the tophi of the finger had really undergone a fibrous change. I have published the clinical history and histology with J. Troisier.[6]

At the autopsy of a patient who died of acute uraemia following renal tuberculosis typical deposits of sodium urate were found at the level of the articular surfaces of the metacarpo-phalangeal joints, but no cholesterin was present. In a case of tophus of the heel estimation gave the enormous figures of 85.80 grams per 1,000 of uric acid and 21.30 grams of cholesterin. Cholesterin therefore appears to be a constituent element of gouty tophi, and this new fact might have been suspected from clinical examination alone. Nothing is more dissimilar in appearance than the pulp of a tophus and the gouty incrustation of a joint. The articular deposit is white as snow, whilst the pulp of a tophus is yellowish, the colour of pale fresh butter. Even viewed through the skin this butter colour of the tophus is easily seen. Chemical analysis accounts for this difference of colour, showing pure sodium urate at the level of the joints and a mixture of sodium urate and cholesterin in the tophi.

Thus in gout the liver contributes largely to the typical double adulteration of the serum, hyperuricaemia and hyper-

cholesterinaemia, and the tophus is only the external reflection of the humoral syndrome. It seems as though the tophus represents an effort of liberation on the part of the organism, a local deposit assisting in the elimination from the circulation of the excess of uric acid and cholesterin.

In all that has preceded we have described gout in the static stage when compensation is complete; but what happens when it passes to the dynamic state as evidenced by an acute crisis? At the moment we can only reason by analogy, and we are reminded of the suddenness of onset of similar acute attacks of asthma, migraine, urticaria—all paroxysmal illnesses and allied to gout by certain clinical affinities.

Since the researches of Widal, Abrami, and Iancovesco we have come to look on these morbid crises as precipitated by a disturbance of the colloidal equilibrium, very similar to anaphylactic reactions, with special modification in the number and percentage of the leucocytes, of the blood pressure, and albuminoid content of the plasma. All these crises can cause local lesions such as the oedema of the skin in urticaria and eosinophilic expectoration in asthma. I think that it is along these lines that we must search for the explanation of the acute crisis of gout. Perhaps in the first place, as suggested by the researches of M. P. Weil and Guillaumin,[7] the uric acid is in the free state in the plasma, for the greater part at least, and in the combined state in the blood cells. Guillaumin's technique seems to permit this differentiation.

In whatever ill-defined and colloidal form it exists the excess of uric acid places the gouty in a state of unstable humoral equilibrium, which may at any time be imperilled or destroyed under the influence of divers disturbing causes—errors of diet, traumatism of joints, in particular of the great toe, by fatigue or an ill-fitting boot, dampness and cold, and the seasonal changes to which the gouty are so sensitive.

Every gouty patient is sensitive to some disturbing agent or other, and there are those who cannot take a glass of champagne or burgundy without their having almost immediately an attack of pain in the toe. To the general sensitiveness must be added a local sensitiveness which causes the inflammatory process to light up always at the same point, creating thus true centres of uric acid crystallization.

If the disturbance of the humoral equilibrium is sufficiently intense the acute attack of gout flares up, and we can look on it as a true local shock, comparable to the shock of a migraine crisis. Latent sensitiveness of the gouty, provocative cause, and sudden shock in the affected area—these are the three periods of the course of gout, and we can compare the third of these to the local serological shocks which reproduce true local anaphylactic reactions, recently studied by G. Bouché and A. Hustin.[8]

In both cases there appears an active local vascular dilatation—vascular or sympathetic phase, "vasotrophic shock" of Bouché and Hustin—to which is added the painful reaction of the sensitive nerves. But in the gouty the process is complicated by a specific local reaction, the deposition, or rather the local flocculation, of sodium urate in the region of the inflamed joint. Does there exist at the commencement of the attack the haemoclastic reaction so well described by Widal and Abrami? We do not yet know, and it would be very interesting, although in practice very difficult, to investigate the point.

However that may be, if this explanation of an attack of gout be accepted we are led to consider the uric acid present in excess in the serum of the gouty as a potential exciting cause, capable under the action of the provocative agent of determining a local and elective shock with urate flocculation; a process of this kind recalls the curious experiments of A. Lumière[9] on barium sulphate, which in the molecular state of dispersion can be injected into the circulation without causing shock, whilst in the flocculated state it invariably gives rise to the symptoms of shock.

If one day the existence of this process could be demonstrated in gout we should have made a great step towards the explanation of the symptoms of an acute attack of gout. This will be the progress of to-morrow, the counterpart of the admirable work of Sydenham and of Garrod, who will always remain our guides in clinical gout, our undoubted masters in the study of this great humoral disease.

REFERENCES.

[1] A. Chauffard, P. Brodin, et A. Grigaut: L'hyperuricémie dans la goutte et dans la gravelle, *La Presse Médicale*, December 15th, 1920. [2] E. Lambling: *Précis de biochimie*, troisième édition, 1921, p. 368. [3] A. Grigaut, C. Briquet, et J. Schneider: Les variations sanguines de la cholestérine, de l'urée et de l'acide urique, sous l'influence de la cure hydrominérale de Contrexéville, *La Press Médicale*, Juin, 1921, p. 434. [4] A. Chauffard, P. Brodin, et A. Grigaut: Teneur en acide urique des hématies, *Bull. de la Soc. de Biol.*, 7 Janvier, 1922. [5] A. Chauffard, P. Brodin, et A. Grigaut: Diffusibilité clinique comparée de l'acide urique et de l'urée, *Bull. de la Soc. de Biol.*, 18 Février, 1922, p. 345. [6] A. Chauffard et J. Troisier: Goutte et Cholestérine, *Ann. de Médecine*, 1921, No. 3, p. 149. [7] M. P. Weil et Ch.-O. Guillaumin: L'acid urique libre et l'acide urique combiné des globules sanguins et du plasma, *Bull. de la Soc. de Biol.*, 4 Février, 1922, p. 242. [8] G. Bouché et A. Hustin: Le choc sérique léger chez l'homme, *La Presse Médicale*, 8 Octobre, 1921, p. 801. [9] A. Lumière: *Rôle des colloïdes chez les êtres vivants*, Paris, 1921.

A British Medical Association Lecture

ON

PYELOGRAPHY.*

BY

FRANK KIDD, M.CH.CANTAB., F.R.C.S.ENG.

[*With Special Plate.*]

LITTLE time was lost after Roentgen had discovered the penetrating power of *x* rays in applying them to the detection of concretions in the urinary tract; but it was not until 1906 that it occurred to Voelcker and Lichtenberg to take advantage of the cystoscope and ureteric catheter so as to fill up the pelvis of the kidney with a fluid opaque to *x* rays and thereby obtain a photographic outline of the shape of the ureter and pelvis of the kidney. The paper published by these workers received scant notice for a considerable time, and it was not until some years later that their idea was taken up seriously by a number of workers in various countries and developed to its full possibilities. From 1910 onwards I worked at this subject extensively at the London Hospital, and in 1913 I published a full account of what I had been able to achieve on the clinical side, accompanying this with an account of experiments on sheep's kidneys, showing what happened to colloid suspensions when injected into the renal pelvis under varying degrees of pressure, and pointing out certain dangers and difficulties and how to avoid them.[1] I also produced evidence that the injection of such fluids under proper safeguards does no serious or permanent damage to the kidney.

During the last decade the method has been employed more and more until it has become recognized universally amongst urologists as an essential factor in their work. Pyelography was one of the chief subjects for discussion at the 1921 Congress of the Société Internationale d'Urologie held in Paris; at that Congress it was agreed that the method had come to stay and was one that had been developed to a high degree of safety in the hands of competent urologists. Dangers which were at first encountered by too strenuous workers have been gradually eliminated, and in the course of time improved injection fluids were discovered that cast deep shadows without irritating the kidney substance. At first various preparations of colloid silver were used, and later such substances as silver iodide, thorium nitrate, and potassium iodide, but none of these proved to be ideal. The silver preparations did not always cast a clear shadow, except in very strong suspensions, and the other substances sometimes gave rise to toxic symptoms. In 1918 Weld introduced sodium bromide, a 20 per cent. sterilized solution for the kidney and a 10 per cent. solution for the bladder. This though not an antiseptic is non-toxic and has the merit of casting a very distinct shadow. Nevertheless, it is sometimes very irritating if injected into a bladder the victim of a chronic cystitis, and in such cases I find it better to use a 10 per cent. suspension of colloid silver.

Pyelography enables us to study exactly the surgical anatomy of the kidneys, ureters, and bladder before proceeding to operation or treatment in a way which has been compared to the giving of opaque meals in the *x*-ray diagnosis of disorders of the alimentary tract. In practice it is found to yield a more accurate account as compared with the opaque meal or enema, which are frequently open to doubtful interpretations, the surgeon often failing to find what he has expected after a study of the opaque meal pictures. In dealing with the urinary tract it is seldom that we fail to find the exact condition revealed by the pyelo-radiogram or cystogram, though considerable experience is needed in interpretation of

* Delivered before a joint meeting of the Nottingham Medical Society and the Nottingham Division of the British Medical Association on March 15th, 1922.

the plates. Before the introduction of pyelography great strides had already been made with the introduction of the cystoscope and the ureteric catheter in the accurate diagnosis of the physiological and pathological state of the kidneys and bladder. Pyelography supplied a means of studying the surgical anatomy and completed the chain of evidence needed to secure a full diagnosis in any particular case. These methods taken together have made urinary surgery one of the most accurate lines of surgery at the present day. It is seldom that a urinary surgeon is obliged to cut down for exploratory purposes. If he has made a complete study of his case he should know exactly what he is cutting down for and know any variation in the anatomy that may be present in any particular case, so that he can go straight to the diseased point and correct it. Recently Carelli[2] and others have introduced a method wherein they pass a hollow needle into the perirenal fat and fill up this fat with carbon dioxide or oxygen. *X*-ray pictures taken under these conditions will often show up with extraordinary clearness, not only the outline of the kidneys but the suprarenal capsules as well. At first sight this might seem to be a very great advance, and as regards the suprarenal capsules it is undoubtedly a great advance, but as regards the kidneys I do not think the method adds very much to what we can already obtain without it. With a good modern *x*-ray outfit it is usually possible to show up a clear shadow of both kidneys if the patient has been properly prepared—not quite as dense, it is true, as by Carelli's method, but quite dense enough for practical purposes. If we wish to make a further study of the anatomy of the kidneys we can get more information by filling up the pelvis with sodium bromide through the ureteric catheter than we can by the method of Carelli. The former method shows up the anatomy of the ureter, pelvis, and calyces, and also the outline of the kidney, whereas the method of Carelli only gives the outline of the kidney. When in addition we consider that the passage of a ureteric catheter is probably less painful and less dangerous than passing a hollow needle and filling up the perirenal fat with gas, then we shall conclude that pyelography will continue to hold the field. Carelli's method will be chiefly reserved for a few exceptional cases where we suspect a tumour of the kidney, and where it is not possible to show this up by means of pyelography.

I will not detain you now with the history of the development of the method, but will content myself with stating clearly the technique which I at present employ as a result of eleven years' experience.

1. *I consider it absolutely necessary to possess an x-ray plant of my own.*

I often have need to apply this method to several patients in the course of a single day, and I soon found that it was quite impossible to arrange to take the patients round to a radiographer's house, get ready for cystoscopy, and clear up everything afterwards. The whole thing was time-consuming and wearing to a degree. I therefore resolved to put in my own *x*-ray apparatus, and I have never regretted it. I planned my *x*-ray room so that I could carry out cystoscopy without any waste of time on the same table on which I take my *x*-ray photographs. Catheterizing cystoscopes and ureteric catheters are ready at hand. In suitable cases, having taken ordinary *x*-ray plates, I proceed to catheterize the ureter, a process which does not take more than a few minutes, and I am then ready, with the patient on the table, to take as many further *x*-ray photographs as I require. I make use of a tungsten target tube, worked by a mercury interrupter and a 16-inch coil. I use an Albers-Schoenberg compressor, diaphragm, and air-pad, with the tube above and the film underneath the patient's back. The patient's legs are flexed so as to abolish the lumbar curve, and I employ on an average an exposure of two to three seconds, using up to 12 milliampères and a 6-inch spark-gap. I use a double intensifying screen and duplitized films. I endeavour to take as short an exposure as possible. The essential point in taking kidney radiograms is to use tubes which are capable of giving a picture with a very short exposure. The patient is then able to hold his breath for the second or two during which exposure lasts, and there is no movement. If there is no movement then a clear shadow is thrown; if there is movement the kidney outline becomes obscured. Needless to say, the patient must have been properly prepared beforehand to ensure that the bowel is clear.

2. *No anaesthetic should ever be used in taking pyelo-radiograms.*

If the patient is under an anaesthetic it is possible to overdistend the pelvis of the kidney and so to damage the kidney. If he is conscious and the matter has been explained to him beforehand he will know at once if there is the slightest overdistension of the pelvis, as he will feel a sudden dull pain in the back of the loin. He is, therefore, asked to state at once if he notices any such pain. If he says he feels this pain, not only is the injection at once stopped but a little of the fluid is at once sucked out through the catheter before a pyelo-radiogram is taken. I cannot too strongly warn you against the use of an anaesthetic. This factor prevents those who are not very expert in the use of the cystoscope from employing the method. You need to have long practice in passing a cystoscope and passing ureteric catheters, especially in the male, if you are to avoid causing pain. It can only bring discredit on medicine when men try to employ methods in which they are not expert, and this is how damage gets done and methods fall into disrepute. The method is essentially one only to be carried out by the professed and trained urologist.

3. *Only one kidney should be done at any one sitting.*

At one time I used to try doing both kidneys, and in America it is, I believe, a common custom to do both kidneys at one sitting; but for a long time I have taught that it is not wise to pass ureteric catheters on both ureters at one sitting except under exceptional circumstances. It is far better, if you wish to get a picture of both kidneys, to bring the patient up again a few days later and do the other ureter and kidney. If you confine yourself to doing one kidney at a time you seldom, if ever, get rigors or any constitutional upset, whereas if you do both kidneys at a time you are liable to get vomiting and fever and the patient may have to go to bed for a day or two. For a long time now I have had no trouble of any serious kind after pyelography, and the patients are able to go home straight away. I always advise them to remain indoors and rest for the remainder of the day, but they are able to return to work the next day without any drawbacks.

4. *I consider it is a mistake to employ too large a ureteric catheter.*

This is sometimes done with the idea of blocking the ureter and preventing reflux, an idea that has been adopted by many authorities. In the average case I make use of a gum-elastic ureteric catheter *with an olive end* of a size No. 5½ Charrière. No. 6 is a little too large, No. 5 is a little too small, so that I select catheters of an intermediate size, picking them out by means of a gauge. Catheters with an olive tip pass more readily than those with a conical end. The catheters are placed in silk petticoats and are sterilized in a hot formalin vapour sterilizer specially made for me by the Genito-Urinary Manufacturing Company of London. By means of this sterilizer hot formalin vapour can be blown through the lumen of the catheters as well as around their surfaces. By sterilizing my catheters in this manner with meticulous care I have been able to avoid implanting infection in the kidney. If I employ a catheter for a tuberculous case I always destroy it afterwards and never use it again. In the case of a male patient I inject 2 drachms of a 5 per cent. solution of stovaine into the urethra with a urethral syringe and hold it in place for ten minutes. I wash out the urethra with a pint of 1 in 4,000 mercury oxycyanide solution, then pass a No. 9 English scale "Marshall" gum-elastic catheter, sterilized by boiling and lubricated with "lubafax," and empty the bladder. I wash the bladder clear and fill it with 8 oz. of a 1 in 4,000 mercury oxycyanide solution. Then I pass the catheterizing cystoscope, sterilized in formalin vapour and armed with a catheter, catheterize the ureter, and leave the catheter *in situ*, removing the cystoscope. The cystoscope I am accustomed to employ is one specially made for me by the Genito-Urinary Manufacturing Company. It is nowhere larger than 24 Charrière, an exception to most catheterizing cystoscopes. It is specially rounded and smoothed off so that the lever when lowered does not project at all, and so that its passage is as easy and painless as that of the ordinary inspecting cystoscope. Very little attention has been paid to this point by most makers of cystoscopes, and this is one of the chief reasons

for difficulties experienced in passing the catheterizing cystoscope on the conscious male. The cystoscope is a single catheterizing cystoscope. I never employ a double catheterizing cystoscope, which is a clumsy and painful instrument and quite an unnecessary adjunct to the armamentarium of the urologist. I warn my younger readers to resist the blandishments of the instrument makers, and when starting to buy an outfit to refuse to purchase a double catheterizing cystoscope and remain content with a single catheterizing cystoscope. If by any chance I need to catheterize both ureters at a sitting, a practice I try to avoid, I remove the cystoscope, rearm it, and pass it afresh, and so catheterize the other ureter. Having passed a catheter up the ureter selected for examination I place its end in a sterile glass test tube and collect a specimen of urine for bacteriological and cytological examination. In some cases little if any urine comes through at all for some minutes, in others a lot of pale urine comes away at once; but whatever happens depends entirely on the reflex effect the catheter has had upon the kidney. Usually it produces no effect, but it may produce a temporary oliguria or a temporary polyuria. *It is quite a useless procedure to measure the amount of urine coming away, with the idea that this will give information as to whether the renal pelvis is a large one or a small one, and as to how much fluid to inject before taking a picture.* Failure to appreciate this fact has led to most of the accidents. If you find a lot of pale clear fluid has come away in a short time and therefore think that you can inject a similar amount, you will make many mistakes and cause your patients severe pain. *This is the bed-rock difficulty in pyelography, in that you do not really know in any particular case how much fluid the pelvis will take.* How this can be got over will appear in the sequel. The patient now lies on his back with the knees and hips bent so as to abolish the lumbar curve. The plate is placed behind the kidney area and the compressor and *x*-ray tube placed in position, the radiographer standing ready to give the exposure at the word of command. I now take my syringe and fill it with warmed sterilized 20 per cent. sodium bromide. I only fill it with 10 c.cm. to start with, and I commence with the idea that I am dealing with a pelvis of normal size—that is, one that can contain on an average 6 c.cm. I instruct the patient to tell me at once if he feels the slightest dull ache or pain in the back of the loin, as this is the best guide to overdistension. Then very slowly and with the utmost gentleness I begin to press the piston of the syringe home, watching the ease with which it goes. It usually goes quite easily up to 6 c.cm. At this point I ask the patient if there is any pain; if not and if the piston is travelling easily, I usually let in one or two cubic centimetres more and then give the word for the exposure. Immediately I suck out the fluid from the kidney by means of the syringe until I have sucked out the exact amount I have put in. This is a most important and helpful point. I then remove the syringe from the catheter and leave the catheter draining for a few minutes while the plate is being developed. When the plate has been developed I examine it, and if it shows that the kidney has been adequately filled I take no more pictures. If, on the other hand, there appears to be merely a faint and irregular shadow, this suggests that there is a hydronephrosis full of fluid which has diluted the sodium bromide solution until it no longer throws a dense shadow. When I know that, I can proceed to take a further picture. This time I fill up the pelvis first with 10 c.cm.; if no pain is felt I go up to 20 c.cm.; if no pain is felt I go up to 30 c.cm. (I seldom go beyond 30 c.cm.), and I then take another plate, and in this way get the pictures I show you to-night of congenital hydronephroses holding a large quantity of fluid. By thus taking the pictures in two stages you are able to avoid overdistending a kidney with a pelvis of normal size, and it is a technique that I have worked out for myself and can recommend to others.

At one time I made use of a burette, letting in the fluid by pressure from a height. But I find that by using a syringe with a perfectly smooth and easy-running piston I get much better results, and the advantage of the syringe is that it also enables one to withdraw the fluid at once. I use a graduated all-quartz syringe made of vitreosil.

If the kidney is already infected I usually finish by washing out the kidney with 4 c.cm. of 5 per cent. collosol silver,* but if not I do not wash the kidney out at all. Sodium bromide is not in itself an antiseptic. I am therefore accustomed to add 1 c.cm. of a 1 in 1,000 mercury oxycyanide solution to every 9 c.cm. of 20 per cent. sodium bromide solution. This makes a weak antiseptic solution and one which in practice in my hands has been found to prevent infection of the kidney. I am indebted to Professor Legueu for the idea of adding the mercury oxycyanide, which acts as an additional safeguard.

Until recently one of the chief difficulties in this work was that when one used a syringe or burette one had to pass the fluid into the ureteric catheter through a very fine nozzle, finer than the internal lumen of the ureteric catheter; but for the last two years I have used a most ingenious piece of apparatus brought to my notice by the Genito-Urinary Manufacturing Company, which originated, I believe, from Paris. It consists of a small tube of rubber about an inch long. This, instead of having a cylindrical lumen, has a lumen consisting of two inverted cones. At each end the lumen is wide, but it narrows rapidly towards the centre of the tube, where it is quite small and less than the size of a No. 5 ureteric catheter. One end of the rubber tube is fitted on to the large nozzle of the syringe, the other end fits over the ureteric catheter, which is pushed up until it is firmly lodged in the narrow end of the cone. In this way fluid passes quite easily from syringe to ureteric catheter and back again. It has made just all the difference to me in ease of manipulation.

A great deal has been made of the dangers of this method of examination. Abroad and in America one or two deaths have been reported, mostly in the early days, when great force was often used, so that kidneys were overdistended, and in one or two cases the pelvis was actually ruptured. One fatal case occurred recently in America, caused by poisoning from stale thorium nitrate. It is to be remembered that when drugs are injected under too great tension into the renal pelvis they may be absorbed into the lymphatics and even into the blood stream. It is, therefore, not wise to inject poisons into the renal pelvis, and it has lately been proved that stale thorium nitrate and potassium iodide are poisonous in large doses, but that sodium bromide and colloid silver are not poisonous. I have never employed any other materials than the two latter, and I have never seen any fatal result, and no result for which I have had to cut down on the kidney, as has been reported in the literature. Once or twice in my early days the patient has experienced considerable pain afterwards for some hours, has vomited, and has even had a little fever, accompanied by a rigor; but for the last two years, since I have used the improved technique described above, I have not seen any of these complications. Occasionally the patient suffers with a mild pain for a few minutes after the examination is finished, but this is quickly recovered from and yields readily to a dose of aspirin and rest in the recumbent position for half an hour. I do not meet even with this in one case in thirty, and it is never more than a mild and quickly passing phenomenon. If the patient does complain of slight renal pain after the injection it is an additional help in the diagnosis. He can then say the pain is exactly similar to the pain from which he has been suffering, or he can say it is quite different; in other words, an artificial renal pain has been created and enables the patient to distinguish between that and the usual pain of which he complains. Nevertheless I always ask the patient to drive home at once and go to bed for the rest of the day; or if he comes from a distance I persuade him to go into a nursing home for the night, though many reject the advice as they say they feel quite normal, and usually they are none the worse for it.

It is necessary to sound a warning. This method should not be used except by men who have trained themselves as experts in the use of the catheterizing cystoscope and in the use of this method. It needs several years of careful practice before one can carry it out without producing pain and discomfort. It is also necessary to exercise wise judgement in selecting cases for this examination. This method is not to be used routinely for all renal cases, as is commonly done abroad; it is only to be used when it is impossible to make a full diagnosis without its use, and when all other methods have been previously tried. There is no doubt it has been used too extensively by certain workers as a routine method. If you can make a full and accurate diagnosis by simple methods, do not strain at a gnat and insist upon carrying out all the full paraphernalia of possible urological research. Thereby you may swallow a camel and your patient be worse rather than better.

* Five per cent. and 10 per cent. suspensions of collosol silver are now prepared for me ready for use by the Crookes Laboratories, 22, Chenies Street, London, W.C.1.



FIG. 1.



FIG. 2.

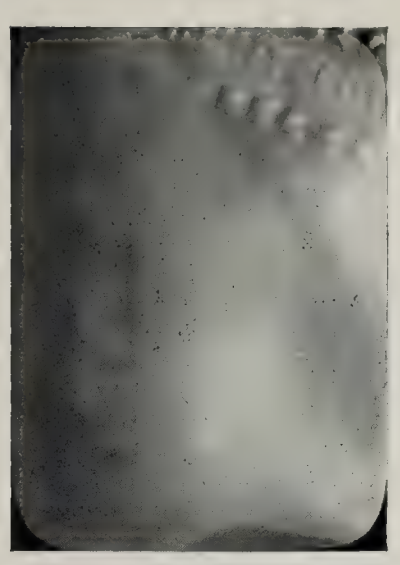


FIG. 3.

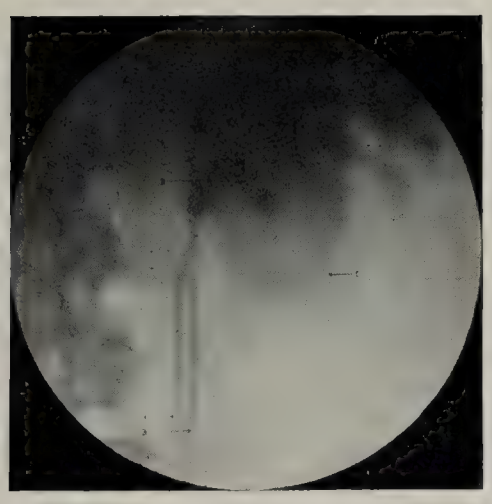


FIG. 4.

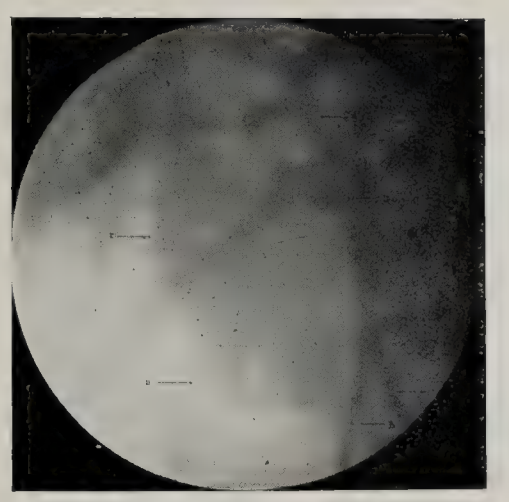


FIG. 5.

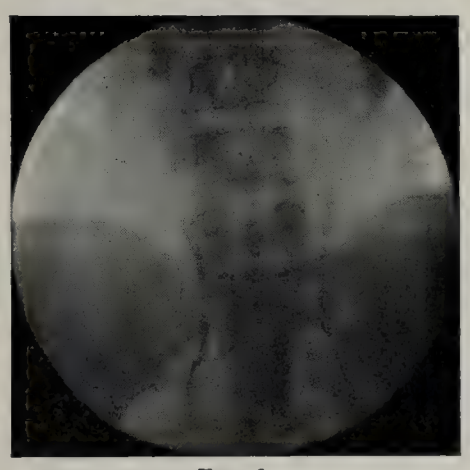


FIG. 6.

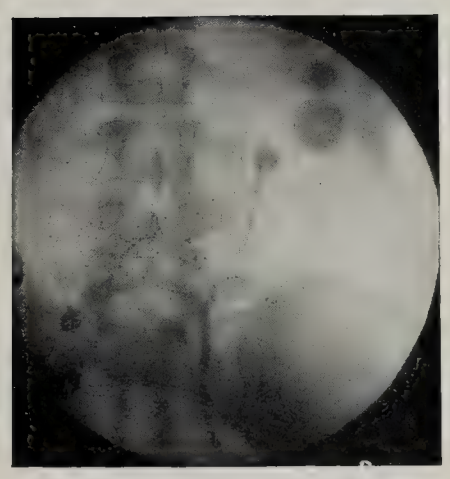


FIG. 7.

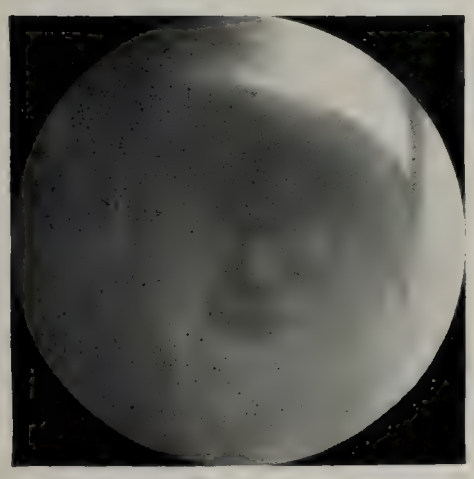


FIG. 8.

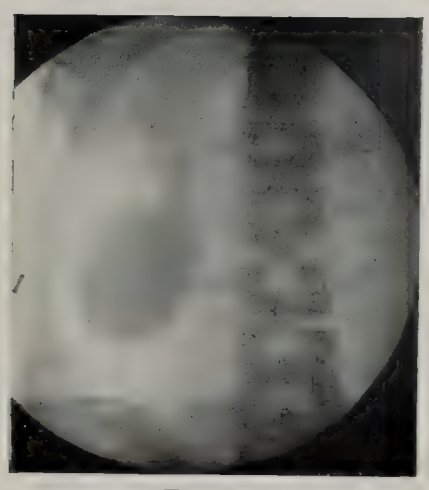


FIG. 9.

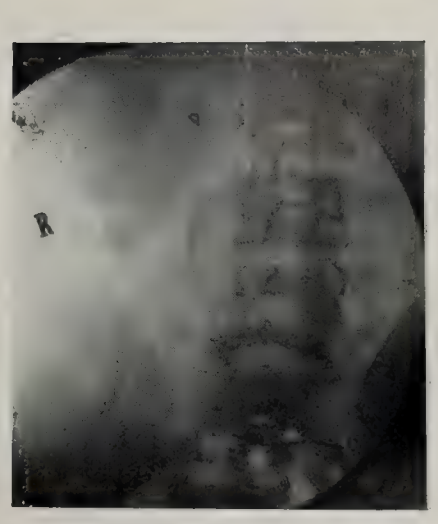


FIG. 10.



FIG. 11.

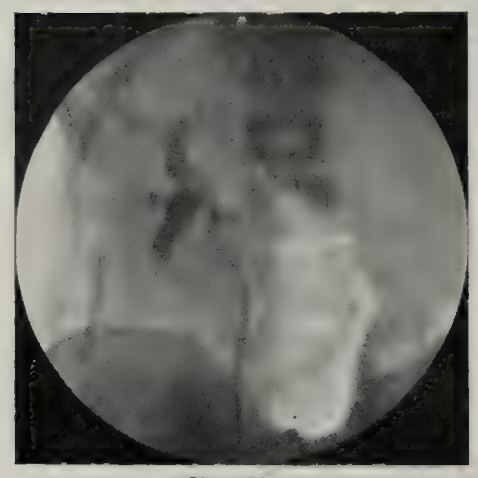


FIG. 12.

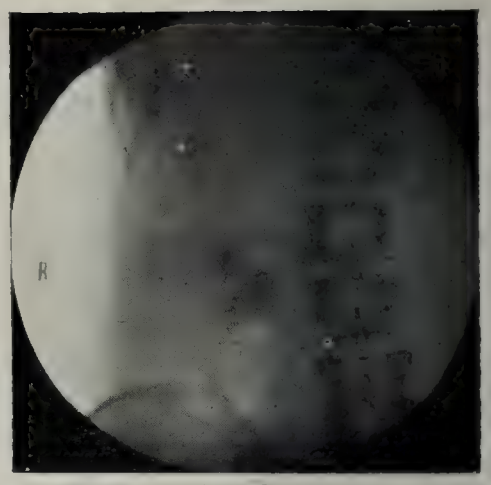


FIG. 13.



FIG. 14.

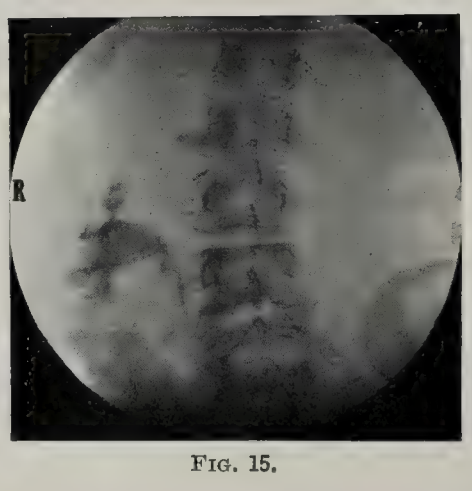


FIG. 15.



FIG. 16.

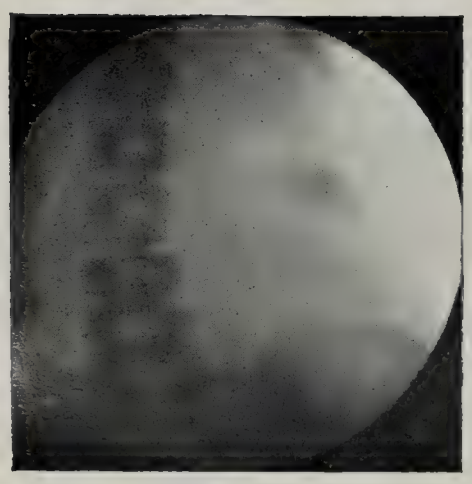


FIG. 17.

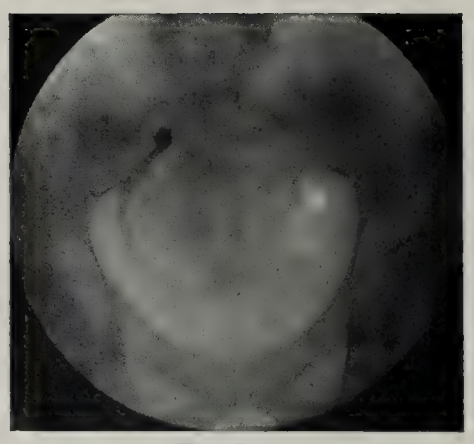


FIG. 18.



FIG. 19.

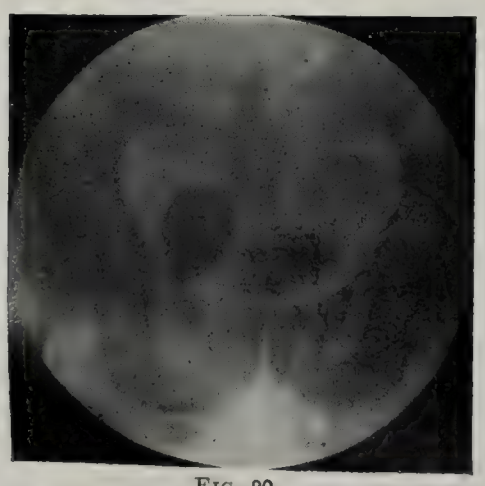


FIG. 20.

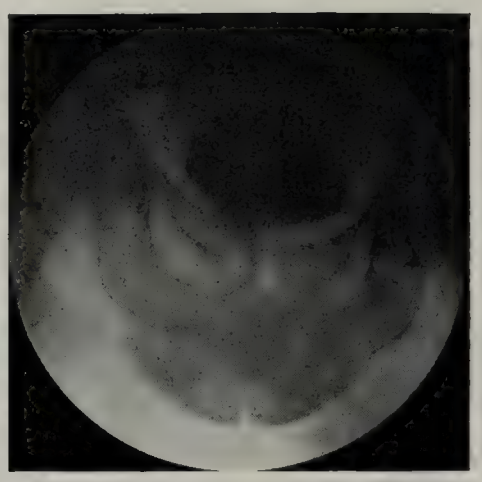


FIG. 21.

The lecturer then exhibited a series of lantern pictures illustrating a large number of pathological conditions. A selection has been made from these for publication as a Special Plate. The following notes are descriptive of the conditions shown.

Normal Kidney.

Fig. 1.—Showing the normal appearances of a normal kidney. Note the axis of the ureter running upwards to the upper portion of the pelvis, the necks of the calyces arranged in an upper, middle, and lower group (anterior and posterior), and the outline of the nipples of the pyramids opening into each calyx.

Congenital Abnormalities.

Figs. 2 and 3.—Showing a large solitary kidney on the left side, with the ureter on the right side ending blindly, or congenital absence of one kidney, by no means an uncommon phenomenon. The patient complained of aching in the left kidney, which was too heavy and had dropped considerably, and asked for its removal. Needless to say the request was refused and a belt brought relief.

Figs. 4 and 5.—Showing a case with four ureters opening into the bladder, all of which were catheterized. There is a double kidney on the left side and a double kidney on the right side with an early tumour of the lower pole. The patient complained of haematuria. The double kidney and tumour on the right side were removed.

Fig. 6.—Showing a horseshoe kidney. The upper part of the kidney is above the limits of the plate.

Fig. 7.—Showing an early hydronephrosis associated with a large aberrant renal artery pressing forwards on to an S-shaped kink of the ureter. The patient complained of renal crises. The artery was divided and a plastic operation performed on the kink. The kidney was saved, with complete relief of the symptoms.

Dilatation of Renal Pelvis associated with "Dietl's Crises."

A. *Congenital Hydronephroses.*—The lecturer said: I am not dealing now with large cystic hydronephroses of the kidney, which are quite obvious on abdominal palpation, and which are usually operated on for pain, bleeding, or infection, without any need for pyelo-radiography. I am dealing now with people who are born with congenital strictures, kinks, or valves in their ureters, or with abnormal renal arteries and bands pressing on their ureters, and who later on in life develop gradually increasing degrees of hydronephrosis. These patients complain of intermittent attacks of renal pain, and though it is sometimes possible during an attack of pain to feel a certain amount of enlargement of the kidney, yet as soon as the pain has passed the kidney returns to its normal size as it empties itself of any excess of fluid. These are the cases where the pyelo-radiogram comes as help to the diagnostician. Ordinary *x*-ray examination reveals no stone; a ureteric catheter is passed, and such pictures are obtained as are shown in the series of pyelo radiograms. In these cases dilatation always falls primarily on the renal pelvis, and to a far greater extent in the early stages than on the substance of the kidney. The kidney substance is also thinned out, it is true, but the kidney lies like a cap on top of the dilated cystic pelvis—exactly the reverse to what usually happens when the pelvis is blocked by a small stone; then the pelvis shrinks on to the stone, and the kidney substance itself becomes a large distended cyst.

Fig. 8.—This shows the earliest degree of ballooning of the pelvis. The necks of the calyces are not yet distended at all. The patient complained of left renal crises.

Fig. 9.—This shows a higher degree of ballooning, and now a distinct dilatation or clubbing of the neck of the upper calyx can be seen. This illustrated another rule which I have observed—namely, that in hydronephrosis the stress always falls on the upper and lower calyces long before it falls upon and dilates the middle group of calyces. Attacks of pain. Kidney removed.

Fig. 10.—This shows a further stage in the development of hydronephrosis. The ureter is strictured at its junction with the pelvis and is inserted in a valve-like manner high up on the wall of the pelvis. There is advanced dilatation or clubbing of all the calyces. Attacks of pain. Kidney removed.

In none of these cases could the kidney be felt to be enlarged.

Fig. 11.—Showing the final stage of hydronephrosis. This was a large cystic kidney that could be felt on abdominal palpation. It took 40 c.cm. of fluid and even then was not nearly fully filled. It shows the extreme dilatation of the necks of the calyces. Attacks of pain. Kidney removed.

B. *Movable Kidney.*—Another form of dilatation of the pelvis of the kidney is seen in cases of movable kidney. A true hydronephrosis of the congenital type is never produced by mere excessive mobility of the kidney. Movable kidney can only produce a certain amount of ballooning and hollowing of the renal pelvis and calyces associated with intermittent kinking of the ureter. The process can be followed in a series of pyelo-radiograms here shown.

Fig. 12.—The earliest degree is a kidney too low and too movable, with slight bending rather than a kink of the ureter, and with only the slightest ballooning. Fig. 13 shows an increase in the ballooning; and finally Figs. 14 and 15 exhibit a corkscrew-like kinking of the ureter.

Personally I always endeavour to avoid operating on movable kidneys. Those that are due to slack abdominal muscles can usually be relieved by abdominal exercises and strapping or a belt. Those that are due to a congenital narrow chest are often simply tender spots, the reflexes of an overwrought nervous system. If the nervous system can be rested and treated the kidney ceases to be tender. Nevertheless in this class of case patients are met with who get occasional attacks of most violent colic associated with anuria and followed by polyuria, "Dietl's crises." In between the crises they are often quite free from pain and do not complain of an aching kidney. It is in these we get pictures such as I show (Figs. 14 and 15) with marked kinking of the ureter and dropping of the kidney. I am willing to operate on such cases, as anchoring the kidney in its proper position does relieve them of these attacks of colic. Nevertheless the operation is a difficult one to perform satisfactorily. Far too often the surgeon cuts down and fixes the kidney either too low or else too high, and the condition is not relieved. In Fig. 16 I show an example of a kidney which has been fixed in too low a position by a surgeon. The colics were not relieved, and were so severe that I had finally to remove the kidney.

C. Sometimes inflammatory strictures of the ureter arise either from long-continued infection of the kidney or from the previous passage of a stone. In these cases there is usually an associated fibrotic thickening of the pelvis of the kidney, or you get a shrunken pelvis with an irregular outline (examples of which were shown).

Renal Tumours and Painless Haematuria.

In a certain number of cases where we can detect bleeding coming from one kidney, we are still in doubt as to whether we are dealing with a renal tumour, because we may not be able to feel a very large kidney on that side. In such doubtful cases pyelography is often of great service, as it may show the tumour projecting into the pelvis and altering the shape of the pelvis. Fig. 17 is an example of this. Here a tumour is growing from the lower pole of the kidney and has obliterated all but the upper portion of the renal pelvis.

From Other Abdominal Tumours.

Cases are often brought to me with a diagnosis of renal tumour and very often one is in doubt as to whether one is dealing with a renal tumour or a tumour of the liver, gall bladder, or other abdominal organ. Pyelography soon settles the question. If it shows up a normal kidney the tumour must be something other than a renal tumour.

Renal Pain.

Other cases are sent up to me with a diagnosis of renal pain or renal colic. *X*-ray examination fails to reveal a stone and the urine is free from pathological elements. In these cases I am accustomed to obtain a pyelo-radiogram. In many cases I can say definitely that the kidney is normal in size and position and cannot be the cause of pain, and such information is of considerable value. In other cases I find some cause for the pain in the kidney, such as a too movable kidney with a kinked ureter.

Stones.

A certain number of stones are of such composition that they fail to show up well on ordinary *x*-ray examination. In these cases it is sometimes possible to show up a stone by injecting colloid silver or sodium bromide into the renal pelvis and taking two plates, one at the time, the other five or ten minutes later. Very often one can see the alteration in a calyx or pelvis caused by the stone, and some of the colloid silver may adhere to the stone and show up in the picture taken five or ten minutes later.

Infections of the Kidney.

In some cases of obstinate chronic pyelitis due to the colon bacillus I find this method of value. In some of these cases the ureter has become narrowed by the disease, in others there is a chronic abscess present in the kidney. If one of

these cases fails to react quickly to renal lavage then I am accustomed to take a pyelo-radiogram to see if I can detect narrowing of the ureter, fibrosis of the renal pelvis, or even an abscess in a portion of the kidney.

Ureterograms.

In most cases it is possible to show up the anatomy of the ureter by this method and exclude phleboliths, glands, etc. In a certain number of cases of ureteric calculus the calculus does not appear on the *x*-ray plate, especially if the stone is lying in front of bone. A catheter is passed and is found to stop four to six inches up the ureter. A film is then placed beneath the pelvic portion of the ureter, sodium bromide injected, and an *x*-ray picture taken. This may then show up a stone impacted in the ureter, the ureter dilated below the stone, the catheter running up to the stone, and very often some of the bromide will run past the stone and show up the dilated ureter above the stone and a stricture at the site of the stone. Fig. 18 illustrates this particularly well.

Fig. 19 provides another interesting example. The patient came to me suffering from pyelitis of pregnancy which persisted after the child was born. I catheterized the right ureter and filled it up with colloid silver. It shows very well the dilated condition of the whole ureter. As I have pointed out before,[3] the ureter in pregnant women undergoes dilatation due to loss of tone in the muscle of the ureter rather than to pressure of the uterus. This tone returns very slowly after pregnancy. This is the first time I have been able to demonstrate this fact by the ureterogram in the living subject.

Cystograms.

From time to time it is of value to take *x*-ray pictures of the bladder when filled with opaque solutions. I find that sodium bromide, even in strengths of 10 or 15 per cent., is apt to be very irritating to the bladder and cause great pain, especially if the bladder is inflamed. I therefore prefer to employ 10 per cent. colloid silver. This does not cause any pain in the bladder, and shows up quite well enough for practical purposes. Pictures should be taken in the antero-posterior and also in the lateral positions. The method is useful chiefly for showing up the extent of bladder pouches. One can see the openings of the mouths of the pouches with the cystoscope, but very often one can have no idea as to how large the pouches are until one takes a cystogram (Fig. 20).

Another use for this method is to study the outline of the bladder and prostatic cavity after prostatectomy, and it is also possible to determine by this method whether the ureters are allowing fluid to run from the bladder into the kidney in cases of back pressure. The bladder is filled with colloid silver, and the patient is placed with the head down. In some cases the colloid silver is found to run back from the bladder into one or both kidneys in cases of back pressure, also in some cases of tuberculosis and other infections of the kidney with dilated ureters.

Finally, Fig. 21 shows a case of recto-vesical fistula in a man following on a fractured pelvis. I was able to cut down, excise the fistula, and cut off the rectum from emptying its contents into the bladder.

Conclusion.

Pyelography has established its position as a valuable method of clinical research in urology. It is indicated particularly in cases of severe abdominal pain of doubtful origin, to determine also the nature of abdominal tumours, and to complete the diagnosis in many cases of haematuria and pyuria.

REFERENCES.

[1] Pyelo-radiography: A Clinical Study. *Proc. Roy. Soc. Med.*, Surgical Section, 1913, vol. vii, pp. 16–40. [2] Carelli: Royal Society of Medicine, December 8th, 1921. [3] *Common Infections of the Kidney*, p. 97.

THE Fifth Congress of French-speaking Paediatrists will be held in Paris on July 10th, under the presidency of Professor Weill of Lyons, when the following subjects will be discussed: (1) The place of pituitary and pineal glands in infantile dystrophy, introduced by Dr. P. Lereboullet. (2) Infantile diabetes mellitus, introduced by Dr. Rohmer of Strasbourg. (3) Congenital scoliosis, introduced by Drs. Mouchet and C. Roederer. (4) The rearing of children outside the family, introduced by Drs. H. Méry and Ribadeau-Dumas. (5) Infantile hygiene in Switzerland from the social standpoint, introduced by Dr. A. D'Espine and Dr. Reh of Geneva. Further information can be obtained from the general secretary, Dr. Péhu, 24, Place Bellecour, Lyons.

The Milroy Lectures

ON THE

INFLUENCE OF INDUSTRIAL EMPLOYMENT UPON GENERAL HEALTH.

DELIVERED BEFORE THE ROYAL COLLEGE OF PHYSICIANS OF LONDON ON MARCH 9TH, 14TH, AND 16TH, 1922,

BY

MAJOR GREENWOOD,

READER IN MEDICAL STATISTICS IN THE UNIVERSITY OF LONDON; FORMERLY STATISTICIAN TO THE LISTER INSTITUTE.

LECTURE III.

So far we have investigated the hygienic importance of industry by the topographical and historical methods; the result has been to show that some conditions of industrial life are correlated with factors of excessive mortality; we have failed to establish a causal nexus—to pass from correlation to causation. We have now to consider whether other methods of study lead to more precise conclusions. We might, in the first place, retain the topographical method and adopt another unit—for instance, the physique of the inhabitants of different towns. But unfortunately such data as exist are quite inadequate, so I pass to another line of inquiry—namely, occupational comparisons, the unit of comparison being a rate of mortality.

Occupational Mortality in General.

In this region Dr. Farr was, as in so many other regions, the pioneer, and decennial evaluations of occupational mortality in England and Wales go back fifty years; in any compilation of industrial rates of mortality the English statistics are predominant, and they have done duty in arguments and influenced legislation in all parts of the world. It was therefore to be expected that their value would be frequently criticized. The criticisms to which such statistics are exposed fall into two classes: (1) It is doubted whether the rate of mortality shown in a particular occupation does in fact represent the "real" mortality of that occupation; (2) it is doubted whether, even if the former question is answered affirmatively, an excess of mortality in a particular occupation is really cogent evidence that such occupation is unhealthy.

The weaknesses which authorize the criticisms under (1) are: (*a*) That the basis of classification has not only been changed from census to census, but is still (I am speaking of the census of 1911) "only truly occupational in parts, being as regards manufacture for the most part frankly industrial. Thus the driver of a motor car is classified as a chauffeur—his occupation; but the workman engaged upon its manufacture is classed either as a motor-car chassis maker or as a motor-car body maker—headings which indicate merely the industry in connexion with which he plies his trade, whether it be that of tinsmith, moulder, fitter, sandblast-man, painter, or what not" (General Report of Census of England and Wales, 1911, Cmd. 8491 of 1917, p. 12). (*b*) That there is no guarantee that the occupational description in virtue of which an individual contributes to the total years of life lived, to the denominator of the fraction measuring the rate of mortality, will be the same as that upon the death certificate which admits him to the numerator.

The occupational complexity of our own profession is not greater than that of most industries, but it sufficiently illustrates the point. The *industrial* description of all persons admitted to the *Medical Register* since 1886 would be, I suppose, physician, or surgeon, or accoucheur, any one of the terms implying both the others. Consider the troubles that would await a statistician who wished to determine whether the rate of mortality of physicians in the *occupational* sense differed from that of physicians in the *industrial* sense. It is quite as much for these reasons as for the desire to base rates upon large numbers that the statistical grouping of occupations is a coarse one.

There is a further point: although the method of inquiry which we are discussing formally renounces geographical or topographical differences, for some of the largest industries of the country the renunciation *is* purely formal. In 1911 83.2 per cent. of the total number of persons engaged in cotton manufacture were enumerated in Lancashire and nearly all the remainder in the adjoining counties of the West Riding of Yorkshire and Cheshire; 88.7 per cent. of those engaged in wool and worsted manufacture were enumerated in the West Riding of Yorkshire. When we compare the rates of mortality of cotton manufacturers with those of, say, printers,

we are comparing the conditions of persons concentrated in one part of the country with those of workers distributed all over it.

One sees, then, that the returns must be used with great care, even when we wish to answer the simple question whether such or such an occupation experiences a high rate of mortality. When we go on to ask the further question, Is the occupation itself responsible for that high rate of mortality? the difficulties are very much greater, because of occupational selection and the movement from one occupation to another, which may be due to a deterioration in health.

To seek fine shades of meaning in the statistics of the many scheduled occupations, to subject them to the meticulous analysis which modern statistical artists have devised, is often to waste time. But there is something of value in the data, and even the severest critics have not spared themselves in the search for gold amongst large quantities of quartz. I shall restrict myself to a very few broad comparisons.

Special Occupations.

I shall speak of twelve industrial groups, including the clergy, commercial clerks, agricultural labourers, printers, cotton manufacturers, wool and worsted manufacturers, tailors, and shoemakers. The selection has not been made at random. In the first place the numbers of lives exposed to risk—that is, thrice the enumerated census populations—are large, more than 100,000 in each instance. In the second place the groups illustrate different phases of industrial life. The clergy, whose mortality I take as a standard, typify a sober, clean-living, educated, but not wealthy, group under highly diversified environmental conditions. Commercial clerks typify the less successful lower-middle-class population of cities; agricultural labourers are, in the main, very poor persons living in the country, whose sons and brothers swell the ranks of the industrial townsmen; cotton and woollen manufacturers are examples of skilled workers localized in a particular area; printers are skilled artisans not concentrated in any one part of the country; tailors are heterogeneous;

TABLE I.—*Occupational Mortality Rates (1910–12) expressed in Terms of Mortality among Clergy. Ages 25–35.*

Group.	All Causes.	Phthisis.	Pneumonia.
Clergy	100	100	100
Agricultural labourers	147	151	181
Cotton manufacturers	177	199	303
All textile workers	195	235	330
Tailors	205	341	227
Wool and worsted workers	209	262	322
Textile dyers and bleachers	218	244	324
Printers	218	402	200
Hand compositors	221	480	100
Commercial clerks	235	387	222
Shoemakers	247	449	251
Shoemakers in Northants and Leicestershire	249	539	138

TABLE II.—*Occupational Mortality Rates (1910-12). Ages 35-45.*

Group.	All Causes.	Phthisis.	Pneumonia.
Clergy	100	100	100
Agricultural labourers	156	165	191
Cotton manufacturers	208	236	247
All textiles	219	259	216
Wool and worsted makers	225	248	202
Textile dyers and bleachers	242	276	382
Tailors	250	428	219
Shoemakers in Northants and Leicestershire	250	566	184
Printers	251	464	239
Hand compositors	259	522	284
Shoemakers	270	486	233
Commercial clerks	281	447	239

TABLE III.—*Occupational Mortality Rates (1910–12). Ages 45–55.*

Group.	All Causes.	Phthisis.	Pneumonia.
Clergy	100	100	100
Agricultural labourers	107	167	114
Shoemakers in Northants and Leicestershire	163	508	121
Wool and worsted makers	188	295	125
Printers	192	571	175
All textiles	194	347	187
Shoemakers	196	594	153
Hand compositors	197	595	139
Cotton manufacturers	199	349	222
Tailors	202	485	192
Textile dyers and bleachers	212	304	206
Commercial clerks	216	453	171

TABLE IV.—*Occupational Mortality Rates (1910–12). Ages 55–65.*

Group.	All Causes.	Phthisis.	Pneumonia.	Bronchitis.
Agricultural labourers	79	148	116	194
Clergy	100	100	100	100
Shoemakers in Northants and Leicestershire	120	384	154	338
Printers	130	496	137	419
Hand compositors	132	593	124	387
Shoemakers	136	484	158	500
Tailors	141	493	160	515
Commercial clerks	146	463	201	349
Wool and worsted makers	156	348	193	513
All textiles	159	396	206	872
Textile dyers and bleachers	160	468	208	598
Cotton manufacturers	169	416	250	809

while shoemakers can be divided, very roughly, by a geographical test into factory and non-factory operatives. In the tables are shown the rates of mortality in four decennial age groups from all causes, from phthisis, from pneumonia, and from bronchitis—all expressed as percentages of the rates upon clergymen. I have also inserted in these tables the combined results for the textile industries, for textile dyers and bleachers, also the rates peculiar to one class of printers, hand compositors, and those appertaining to boot and shoe or slipper makers enumerated in the counties of Northants and Leicester, the most important concentration of factory boot manufacture in England and Wales.

Let us begin with a general survey of mortality in age groups. At 25 to 35 agricultural labourers experience a mortality of some 50 per cent. excess over clergy; the skilled industrials of the north-west show a greater excess, but shoemakers—whether the factory operatives of the Midlands or shoemakers as a whole—are the worst off, having two and a half times the death rate of the clergy. The principal assigned cause is phthisis, which amongst the operatives of Northampton and Leicestershire is five times as fatal as amongst clergy and twice as fatal as amongst textile workers. Is this attributable to (*a*) climatological differences, (*b*) differences of recruitment, or (*c*) differences of factory environment? Answers to these questions cannot be much better than guesses. But if—and the speculation is plausible—the nearest area of recruitment is that most usually drawn upon to feed an industrial centre, one might suppose that the supply of unsalted youth, of genuine rustics, to be found within fifty miles of the great Midland boot factories is very much greater than that available for the cotton mills; but, as said before, this is only a speculation. Such little direct evidence as we have respecting immigration into the boot-manufacturing centres does *not* suggest any large inward movement.

In the decennium 1881-90, indeed, Northampton gained considerably by migration (864 males and 1,030 females in the age group 15 to 35), but in the following decennium both age groups show a small outward balance (Welton, 357). In a paper contributed to

the *Journal of the Royal Statistical Society* in 1912 Mr. Welton summarized the changes (all ages) shown by the census of 1911 both in Leicester and Northampton. Each showed an *outward* balance—Leicester of 7,100 males and 3,680 females, Northampton of 2,476 males and 2,040 females. These results do not of course prove that there has not been a considerable inward movement from the country compensated for by emigration of the town born, but clearly they are not evidence in favour of the hypothesis suggested, and must therefore be specially emphasized.

Another way of testing the hypothesis is to examine whether the ratio of mortality rates, using the clergy as a standard, has increased over the last sixty years, since the transformation of the shoe manufacture from a home to a factory industry has been largely effected in that period, especially during the last twenty years. As a matter of fact, the relative mortality at the earlier ages *has* increased.

Thus, combining Dr. Farr's 1860 and 1870 enumerations, one has for the age group 25 to 35 per mille rates of mortality of 4.7 (clergy) and 9.52 (shoemakers), giving a percentage ratio of 203 for the shoemakers; in the enumeration of 1890-92 the rates are 4.2 and 7.66—ratio 182; in 1900-2, 2.7 and 6.33—ratio 234; while, as we have seen, for 1910-12 the ratio is 249 for the Leicester and Northants shoemakers and 247 for all shoemakers. The ratios in the next age group are 180, 218, 240, and 250; at 45 to 55, 126, 189, 179, 163; at 55 to 65, 135, 139, 128, 120. These figures are consistent with the view that the change from home to factory industry—despite the notorious objections to the former—has not been *relatively* favourable at earlier ages, and are therefore consistent with the hypothesis. But they do not constitute a strong argument.

The rate of mortality of commercial clerks should be a source of painful reflection; in this age group it is exceeded by shoemakers alone; at 35 to 45 it is the highest of any in our table, and holds the same place in the decennium 45 to 55. No doubt this group bears much the same relation to middle-class industries as the group general labourer does to the hand-working classes—it includes, that is to say, a sensible proportion of weaklings in the lower and of failures in the later age groups. But if we admit any other factors of mortality than those assignable to selection we shall not doubt that the hygiene of what used to be called the black-coated labourer needs as much attention as that of the industrial worker. Next to clerks come printers, whose mortality from phthisis is far beyond that of any group save the shoemakers; their mortality from bronchitis and pneumonia is above the average, but less than that of the textile workers, who experienced a much smaller mortality from phthisis. The two great textile groups show some difference one from another: the cotton manufacturers have the lower general mortality, and the lower mortality from each special cause named.

In the age of industrial maturity, 35 to 45, the position relatively and absolutely has changed; all our employed groups except agricultural labourers and the Midland bootmakers stand worse in terms of the mortality of the clergy than they did. The shoemakers still have the highest mortality from phthisis, but their relative mortality is no worse than before; both the textile groups have deteriorated, and the tailors have deteriorated a great deal. If the bad showing of the Midland shoemakers in the earlier ages as compared with the cotton and woollen operatives was due to the larger proportion of unsalted rustics, then a selective mortality has just enabled them to keep station while the textile workers are beginning to falter. Agricultural labourers, despite the winnowing out of the ambitious fit who have passed into the towns, show no appreciable deterioration.

In the next age group all our industrials have improved relatively to the standard, but this fact must not be made the subject of too comfortable reflections. There are weaknesses in every method of statistical comparison, and the weakness of the particular one here used is that arithmetical necessity imposes upon the percentage ratios some degree of convergence.

It were too ambitious to speak of a "law" of mortality as a function of age, but if we suppose that the force of mortality is compounded of an element independent of age and an element increasing in geometrical proportion with age—the hypothesis of Gompertz, or, as it is usually termed, the Makeham-Gompertz hypothesis—it is plain that with advancing age two formulae of mortality having different constants will converge nearer and nearer one to the other. So that if we find the ratios in my tables growing larger we may certainly infer a deterioration, but if they grow smaller we cannot infer an improvement without special examination (which the data do not justify).

The *order* of the groups is now quite different: the Midland bootmakers, although still afflicted with a high rate of phthisis, have the next lowest mortality from all causes to the agricultural labourers; tailors are almost as bad as commercial clerks, but very little worse than cotton manufacturers, who stand higher than printers and appreciably higher than woollen goods makers. In this age group the cotton workers begin to be seriously troubled by pneumonia and bronchitis, responsible for 8.7 and 5.8 per cent. respectively of all deaths, and at rates 77 and 60 per cent. in excess of those upon woollen and worsted workers. You will remember that the mortality from these respiratory diseases is above the average both in Westmorland and Cumberland, so that *part* of this excess may be climatological, not industrial.

In the age period 55 to 65, the textile workers have reached the worst place, while the Midland bootmakers stand best amongst the industrially employed; bronchitis, responsible for 10.7 per cent. of all deaths in the industry, is much more than twice as fatal to the cotton makers as to the shoemakers, and more fatal—in the proportion of 8 to 5—than to woollen and worsted makers. Printers, although still liable to an excessive mortality from phthisis, stand better than the textile operatives.

Let us concentrate our attention still more closely upon these particular groups of contrasting workers—the cotton manufacturers of Lancashire, the woollen workers of the West Riding, the shoemakers of Northants and Leicester, and the printers of all England. In which of these groups of skilled artisans is the largest number of maximally productive years available? Using the life table method, we find that the average number of years lived from 25 to 55 is 27.58 for cotton manufacturers; 27.39 for woollen manufacturers; 27.23 for printers; 27.17 for the boot and shoe makers in Leicestershire and Northamptonshire. No practical importance attaches to the small differences between these figures; we may take it that in each occupation some 91 per cent. of the theoretically possible term of years is enjoyed. It is, however, instructive to see how quite different courses of mortality have led over this period to substantially the same final result. The textile workers with their low adolescent mortality counterbalance, in this comparison, the increasingly unfavourable effects of later adult mortality. Had we carried the calculation over another decade we should have found an advantage amongst the shoemakers, who were left at 55 with substantially the same number of survivors of entrants at 25 as the cotton manufacturers—namely, 7,719 cotton makers and 7,716 bootmakers out of an initial 10,000 in each case.

These results admit of certain deductions and prompt certain speculations. The deductions are these. Although phthisis is by far the most deadly of the causes of mortality in early adult life, it does not follow that an industry of which phthisis takes a heavy toll is an unhealthy industry, if we use as our measure of healthiness the proportion of years lived in maturity. We can hardly even suppose that these are pathologically weighted years, that for instance the 27 odd years lived by printers between 25 and 55 are more smitten by ill health than those of the cotton makers; because after 55 the mortality rates of printers are not worse than, but better than, those of cotton manufacturers. Dr. Tebb and I reached the same conclusion by another path. We found that if a very much larger number of occupational groups were treated by the method of correlation deaths from phthisis as the dependent and deaths from all other causes as the independent variable, both printers and shoemakers (tailors, bookbinders, hosiery makers, and cabinet makers were in the same case) experienced a mortality from phthisis out of proportion to their mortality from other causes. Miss C. M. Thompson (see Greenwood, (1), 336) also found that in the London boroughs there was little correlation between the death rate from tuberculosis and from other diseases independent of that between tuberculosis, overcrowding, and industrial employment. Accordingly we may, I think, conclude that the problem of phthisis-ridden industries is not exclusively a problem of the recruitment of weaklings. Of course this would be a mere truism if my survey included any of the occupations dealt with by Professor Collis in his Milroy lectures, subject to a specific risk, such as that of the Sheffield grinders, but I have entirely excluded these from my consideration. It further appears that the special liability of workers in these occupations is not inherent in the art itself. Thus the whole group of shoemakers, which must include a very large number of non-factory shoemakers, does not at ages under 45 experience so heavy a mortality from phthisis as the Northampton and Leicester group, nor did Dr. Tebb and I find the same excessive mortality from phthisis amongst Dutch shoemakers. Again, the English

cotton manufacturers have relatively little phthisis, but the same class of operatives in Massachusetts (Perry) suffer greatly from the disease.

The Validity of the Statistical Method.

A point has now been reached in our journey at which we may pause and ask ourselves whether any further progress be possible without the aid of other implements than those we have so far employed—namely, general epidemiological and elementary statistical methods. Within the last few months two eminent members of our profession have rated the statistical method low. In a new edition of his *Technique of the Teat and Capillary Glass Tube* Sir Almroth Wright expresses his conviction that in *therapeutic* research clinical experience "unaided by apparatus and technique" is "of infinitely little account," and statistical evaluation (except for propagandist purposes) but "old abusing God's patience."

The name of Sydenham warns us that either "research" or "apparatus and technique" must be understood in what theologians called a non-natural sense before we can accept Sir Almroth's condemnation of clinical experience as an instrument of therapeutic advance. By some such casuistry we might hope to bring the Heberdens, the Jenners, and the Murchisons from under the edge of Sir Almroth's sword. But our charity ought not to reach the "statistical evaluators," since, I gather, their "accepted statistical doctrine teaches that all false judgements are quashed when we collect enough cases." These persons, it seems, have but a single method of procedure—namely, "arbitrarily selecting one particular criterion and counting the exact proportion of cases in each group which satisfy and fail to satisfy it." The doctrine is justly stigmatized by Sir Almroth as false, and the method argues a strange limitation of outlook. Were Sir Almroth able to cite *any* instance of a statistician who accepted this heretical doctrine and exemplified this erroneous practice, the conclusion he invites his readers to draw would attain the quite respectable rank of a fallacy *a dicto secundum quid ad dictum simpliciter*. No such instance being afforded, Sir Almroth merely prompts a reference to Job xxxviii, 2, and provides one more case of the darkening of counsel.

Sir Arthur Newsholme, who, having a wider experience of statistical methods than Sir Almroth Wright, has no doubt a higher opinion of their value as instruments of research, still seems in agreement with Sir Almroth to the extent of assigning to the statistician a place in the propagandist rather than in the research department of the public health service.

If I have correctly followed Sir Arthur's argument developed in his address to the American Statistical Association, he would assent to the following propositions: If in a particular city, or group of cities, the rate of infant mortality began to decline after the establishment of infant welfare centres, and continued to decline *pari passu* with the extension and development of such centres, it would be proper to use the statistics as evidence that the establishment of the centres had a causal relation to the decline of infant mortality. If it were also found that in some other group of cities where no such centres had been established the rate of infant mortality declined synchronously with that of the former cities and to the same extent, this second group of statistical facts should in no way modify the conclusion attempted to be drawn, and impressed upon the general public by statistical charts, in the former case. Sir Arthur Newsholme is anxious to repudiate an intellectual heresy which popular wisdom has stigmatized in the adage that there are more ways of killing a dog than drowning him. Because, let us say, infant mortality declines without welfare centres or care committees, it does *not* follow that welfare centres and care committees are useless. But it *does* follow that infant salvation may be attained in more ways than one, and we may fairly ask whether the appraisement of these various other causes is not a proper object of scientific research, to attain which the statistical method is a valuable instrument. I believe that Sir Arthur, in his zeal for the repudiation of Sabellius, has not sufficiently guarded himself against the wiles of Arius. It is, no doubt, very wrong of non-medical statisticians to confound the persons of the etiological Trinity; but it is quite easy for the administrator whose zeal for laboratory results may not always be tempered by expert knowledge to divide the substance. "Il existe," said a great physiologist, "toute une école médicale dont les sectateurs n'ont, bien entendu, jamais hanté les laboratoires, mais pour qui le mot 'expérience' tient lieu de tout, comme le 'tarte à la crême' de la comédie" (Bert, *Pression barométrique*, p. 516). This sarcasm is not entirely unmerited by some who assure us that the rôle of the statistician is to be the publicity agent of the experimental pathologist. The experimental philosophy of the administrator is not always that of his contemporary in the bacteriological department. I suppose many medical officers of health believe that the reduction of sources of direct infection *in vivo* is the most important means of combating the spread of fatal tuberculosis. The segregation of "open" cases of phthisis has been eagerly recommended, statistics correlating such measures with the declining death rate have been widely circulated, and it has been asserted that such measures are the administrative expression of experimental truths.

But the experimental pathologists of our time are not unanimous. Professor Calmette, indeed, seems to regard exposure to an infection held within not very clearly defined bounds to be a blessing in disguise. He dissents from much which was recently orthodox in respect of paths of infection, reducing the importance of milk contamination to a very modest place, although he is quite willing to "considérer comme dangereuse, surtout pour les jeunes enfants, l'ingestion répétée des laits crus riches en bacilles" (313). Upon the basis of experimental and observational studies of the last twenty years the etiological problem of tuberculosis has been formulated by men who are certainly not "arm-chair statisticians" in terms very different from those which inspired the faith of our sanitarians even ten years ago. Colonel George Bushnell of the United States Army Medical Service has recently published a summary of this evidence. Having epitomized the now substantial literature testifying to the havoc wrought by tuberculosis upon a native race exposed to the influences of civilization suddenly, having made it appear that these ravages are largely independent of the goodness or badness of the conditions of life, and having contrasted the extent and clinical evolution of the tuberculosis of the civilized races with that of the savages, Colonel Bushnell writes:

"Civilized man can never escape the dangers of infection with the tubercle bacillus. But if we did escape the danger of infection, we should also lose the benefits of tuberculization. . . . At the time when control of expectoration first bulked so largely in the eyes of the sanitarian the community was divided in his thought into two classes as respects tuberculosis, the tuberculous and the healthy. Very slowly and reluctantly since that time the knowledge of the true facts has been acquired, and still more slowly and reluctantly has it been disseminated—in fact, it still seems incredible to many that tuberculization should be so wellnigh universal as it undoubtedly is. If it seems likewise a terrible fact that conclusion is erroneous. The error lies in the assumption that tuberculosis is necessarily an evil. We fix our eyes upon the advanced case of tuberculous disease, a pitiable sight indeed, and that for us spells tuberculosis, but we forget that such a case is the comparative exception, the illustration of a failure in immunization; we forget that the majority of the population never know that they are tuberculized!" (182). Dr. K. F. Andvord of Christiania, in a very suggestive paper issued a few months ago, has reached conclusions which differ from those epitomized by Colonel Bushnell in one respect, but in others are similar to his. Dr. Andvord holds that in a tuberculized community the source of nearly all fatal tuberculosis of adult life is infection during the first year, the fatal issue being a consequence of auto-reinfection. To support this thesis he relies upon two lines of argument. In the first place, the direct evidence of Bergman of Upsala, who has investigated the after-history of 1,004 children of tuberculous families. Bergman found (I am epitomizing at secondhand—the original is not accessible to me) that all the persons in his sample who died of tuberculosis in childhood or adult life and 90 per cent. of those still alive but suffering from clinically demonstrable tuberculosis had been exposed to infection within the first years of life, but that not a single death from tuberculosis could be found amongst those whose exposure had been deferred until after the fourth year. In the second place, Andvord shows that the age incidence of fatal tuberculosis, and the statistical observations of Dreijer, Bang, Harbitz, and others on the frequency of a tuberculous or "pre-tuberculous" condition, may be reconciled on his hypothesis. Hence he thinks "the most effective prophylaxis would be the protection, by every possible means, of children, notably those in the first three or four years of life, from the more *severe* infections, either by removing the source of infection from the children's neighbourhood, or, if possible, by the isolation of the children" (115). He also thinks it necessary to obtain more accurate knowledge of the stages which precede pulmonary tuberculosis, particularly in late childhood and adolescence, and "at least as important to attempt to minimize or remove predisposing causes, and thus possibly to prevent re-auto-infection as to protect the individual from the danger of infection by his surroundings" (116). A practical conclusion in harmony with that of my distinguished predecessor in this lectureship, the late Dr. Bulstrode.

I have not cited these results because I hold them to be ascertained truths (the reasoning seems to me loose, and the total neglect of selection strange), still less for the purpose of twitting those who have rebuked the medical shortcomings of the lay biometricians with being themselves somewhat in the rear of the pathological march of mind. But I may fairly claim them as justifications of the standpoints of Professor Karl Pearson, Dr. John Brownlee, Professor Raymond Pearl, and, if I may venture to add my name to this distinguished company, myself. Whether it be true in the more general sense of Colonel Bushnell's argument that the fatal evolution of tuberculosis in members of a tuberculized community is a function of environment in its most general expression; or whether, as Dr. Andvord believes, this pathological accident can only occur to those infected early in life; or, again, whether a change of survival values be not the really significant thing: to discover the intrinsic or extrinsic factors *over and above the bacillary infection* is an object of the greatest importance. We cannot afford to neglect the intrinsic predisposing factors to which Professor Pearson has devoted attention, the contrasting epidemiological types which Dr. Brownlee has displayed, or the general physiological

and economic procatarctic factors which fascinate me. But if this be true we must accept the corollary that now and for many generations the statistical method will be needed; the time is not yet when the harvest can be separated into wheat and tares by some more exact methods of the laboratory; we do not know which is wheat and which tares. For these reasons the statistical method must be ranked *not* as the *only* but as one of the principal instruments of research in preventive medicine and epidemiology, and should be a more serious item in the training of the student. It is discreditable to our intellectual culture that the young sanitarian learns little of statistics and nothing of history.

Etiology.

Let us now return to the etiology of industrial disease and examine particularly the case of phthisis. If my general line of argument be correct, we ought first to examine the broad distinctions between industrial and non-industrial employment. Obviously the first and most general distinction is that those industrially employed are for the most part inhabitants of towns. I have already spoken at some length of internal migration, but there still remains much to be said upon the point. The conditions of life to which the youth in the country is exposed are widely different from those awaiting him as a factory employee. In the professional classes the transition first from the home to the public school, then to the university, and finally to the office or consulting-room, is usually without abruptness. But it needs little imagination to perceive that for the lads and girls who leave our country districts in search of employment the transition may be a very sudden one. More than sixty years ago this subject received incidental notice in a classical report by the late Dr. Edward Smith, F.R.S., on the health of the London printers. Dr. Smith examined a number of young apprentices, and observed that "usually they are pale and thin, with sunken features aad large pupils, but in other cases they are fleshy and have colour, and do not show a low type of health. Very generally they affirm that they are well, take their food heartily and digest it well, and have not degenerated in health." He adds: "It has been stated that country boys sooner lose flesh and colour than town boys, and are among the earliest to fall into serious disease" (Sixth Report of the Medical Officer of the Privy Council, 1863, Appendix, p. 386). When one considers that an indoor trade imposes upon the young peasant a way of life very different from that of the village, and that his earning capacity is small, it would not be surprising if the physiological conditions of his life were extremely unfavourable and the opinion quoted by Dr. Smith well founded.

If one, purely for the sake of argument, assumes that a change from rural conditions to urban life *is* a factor of sickness and mortality, then it follows that the mechanism of the deterioration, its etiology in a narrower sense, should be discussed, if only because in testing the general hypothesis it may be practicable to assemble particulars which would also throw light on the mechanism of any change. Three contributory causes are suggested: (1) Changes of diet; (2) reduction of bodily exercise; (3) the immediate effects of atmospheric change.

The Factor of Nutrition.

In 1862 Dr. Edward Smith carried out the widest survey of the dietetic habits of the poorest working people which has yet been undertaken here, a study which is in urgent need of repetition. Using Dr. Smith's data and much other scattered information, Miss W. A. Mackenzie has recently published an instructive comparison between the budgets of the working classes in 1860, in 1880, and in 1914. From our point of view the estimated consumption per "man" of the poorest 10 per cent. of wage-earners is of particular interest. Miss Mackenzie's statistics lead to the conclusion that in 1860 the daily calorie yield of the purchased diet was about 2,750, in 1880 it was 3,400, and in 1914 3,150. There is a considerable increase of gross energy yield, but a far more striking increase of the consumption of fat. In 1860 the total fat of the diet was about 24 grams per "man" per day, providing rather less than 8 per cent. of the total energy; in 1880 the amount had nearly doubled, being 47 grams per day and furnishing 12 8 per cent. of the total calories; in 1914 the amount was slightly less, 45 grams, furnishing 13.4 per cent. of the calories. The best of these diets provides too little fat.

Professor Starling, in the Oliver Sharpey Lectures of 1919 (p. 72 et seq.), observed that a diet should contain such a proportion of fat that approximately 25 per cent. of the total calories were derived from the metabolism of fat. In commenting upon Smith's work, Simon noted that Irish agricultural labourers were better fed than English farm workers. But, although all the English labourers had some separated fat in the diet, this was only true of 40 per cent. of Smith's Irish sample, and in the latter the average intake was not much more than one-fifth of the English average.

These facts may be no more than a physiological translation of economic changes, since fat is the most costly ingredient of the diet. But perhaps the direct importance of the matter is greater than one usually supposes.

In 1914 Dr. A. E. Carver of Birmingham reported on an investigation of the diets of labouring families in the city. He performed a sampling experiment. A series of families, in each of which one member was tuberculous, was compared with a control series. Pains were taken to secure an equal distribution of incomes in the groups compared, so that there was no economic bias. Family budgets were analysed with great care, and the diets were finally expressed in "man" values on the lines of Atwater's investigation. The result was to show that, both in respect of total energy yield and in consumption of fat, the families containing tuberculous members fell much behind the controls.

The samples were small, but a study of the figures (for which I have to thank my colleague, Miss Newbold) makes it improbable that they are samples of a common "universe"—in other words, the difference is not very likely to be a chance error.* Of course, there are material difficulties of interpretation. Further study of dietetics has made it probable that Atwater's original coefficients, which Dr. Carver used, have not the right weights, and that they appreciably overestimate the "man" value. But, as the proportion of children was rather higher in the tuberculous than in the healthy families, this method of calculation would tend not to exaggerate but to minimize the difference. A much graver difficulty is that of deciding whether the tuberculous families were tuberculous because they were inadequately fed or whether the sequence should be reversed. In Dr. Carver's sample of tuberculous families in receipt of 30s. to 35s., of 30 children in eight families 10 were tuberculous; 6 of the 8 women and 1 man were tuberculous. In his most prosperous group 13 of the 32 children were affected and 3 adult women. When one is sick it is hard to consume rich food, and there is some danger of reasoning on samples of this kind being *ex post facto*. Yet the observations are suggestive. The following is no doubt a still weaker argument. The standardized death rate from tuberculosis of Irish cotton operatives in the Fall River experience was 5.59 per mille for males, 4.97 for females; for non-Irish operatives 2.15 and 2.98. For non-tuberculous diseases the corresponding rates are 4.33 and 6.46, 2.97 and 3.78 (Perry, 198). The mean populations at risk were, however, only 768 Irish males and 1,642 females, the non-Irish amounting to 10,520 males and 11,568 females. The total deaths were 169 Irish and 640 non-Irish.

It is by no means certain that the diet of the Irish peasant is as good now as it was sixty years ago; probably it is less rich in fats. (See Report of Irish Milk Commission, Cd. 6936 of 1913, pp. 11–12.) If the prima facie interpretation of Dr. Carver's statistics be the true interpretation, some light is thrown upon the American industrial mortalities. Whether, as some hold, fat is *not* replaceable in human metabolism by isodynamic quantities of carbohydrate (for a critical discussion see Krogh and Lindhart), or whether the accessory food factors should be invoked, are questions which the data do not warrant me in raising. But I agree with Professor Collis in thinking that diet, quite apart from its energetic sufficiency (that an energetically insufficient diet is one of the great procatarctic factors of tuberculosis the experience of Central Europe since 1916 has made seem probable), must be taken into consideration. That this is a matter which will especially affect the emigrant from the country into the town is likely. A good many townsmen and townswomen, born and bred, get very poor value for their money in food marketing. The inexperienced stranger is in a still worse case.

"Without claiming that nutrition is the only factor at work in determining the result of infection," writes Dr. Carver, "we consider that indirectly its influence is a most responsible one" (p. 7). The claim is, I believe, well founded.

Bodily Exercise.

Passing now to the second category, the lack of bodily exercise, I have little need to do more than refer to the case stated by my predecessor Wing-Commander Flack. It is not a very rash speculation to suppose that, bad as are the consequences of failure to use all parts of the human machine in any of us, a transition from hard manual labour in the open air to the specialized and cramping movements of a machine tender will be particularly resented by the human body. At present we have hardly any data, none relating to the factory class. But the observations of my colleague Dr. Lucy Cripps upon young women of the middle class reveal such an enormous difference between the standards attained by apparently healthy young women and those of the youths who offer themselves for the Royal Air Force, that it is impossible to doubt that Wing-Commander Flack and Professor Dreyer have opened up an important field of research.

* The differences are 16.9 ± 3.3 grams of fat; 392.9 ± 82.0 calories.

Ventilation.

These two categories—that of diet and that of bodily exercise—concern the individual; there remains the third—that of the whole complex of environmental influences which the individual cannot modify, which are functions of collective undertakings. In the first place there are the consequences of the localization of industries, and this in the textile manufactories is probably or certainly one determinant of the death rates from non-tuberculous respiratory diseases. So far as this is climatological, it does not admit of modification. But if the evidence summarized in an earlier lecture has satisfied you that in such towns as Bolton or Warrington the respiratory mortality is in excess of that experienced in contiguous but non-industrial regions, and that it exceeds the mortality of other industrial towns in the southern and central parts of the country, it follows that the measures advocated for the reduction of the smoke nuisance have more than an aesthetic justification.

Next we have the factory atmosphere itself and the new light thrown upon its importance by the researches of Dr. Leonard Hill and his colleagues. Like all absolutely first-rate work, its teaching seems quite obvious *when it has been expounded.* We have all been drilled in the lore of metabolism, the effects upon the respiratory exchange of the environment. Yet it had occurred to very few physiologists to inquire whether within the range of indoor employments variations could be measured and correlated with human efficiency. Dr. Hill has, I think, completely demonstrated the truth of his main propositions. The measurements made under his supervision of the cooling powers of different factories and different departments of the same factory—in addition to his own publications, mention should be made of such reports as that of Messrs. Bedford and Hambly on boot and shoe factories—establish a strong prima facie case in favour of the conclusion that by attending to the indications of the kata-thermometer we shall do much to render the equilibrium of the worker more stable and help him to resist the procatarctic factors of disease which it has been my chief object to emphasize.

Difficulties.

But before concluding I must not omit to exhibit as clearly as I can the points which the teaching I have attempted to expound does *not* satisfactorily explain. The weakest link in my chain is this: One does find certain industries—most strikingly that of printers—wherein a specific liability to a non-occupational disease is observed. The argument that the relative immunity from phthisis and the extreme liability to fatal diseases of the respiratory organs other than phthisis weighing down the later years of textile workers, is a consequence of immunity by selection—whether in the precise sense of the Calmette doctrine of tuberculosis or not—and of subsequently deleterious environmental influences destroying resistance to other pathogenic organisms, this argument is plausible. The explanation of the peculiar position of the Midland shoe operatives in relation to phthisis as a consequence of unfavourable industrial selection and a more favourable subsequent exposure is also a plausible argument and deserving of full verification or rebuttal.

But *neither* argument satisfactorily explains why a skilled trade, carried out under a diversity of climatological and economic conditions and not subject to a high death rate from all other causes, should occupy the place it does with regard to phthisis mortality. It is easy to show that the atmospheric conditions in printing establishments are often unsatisfactory, but the results which I have seen do not suggest that printing shops are worse than other factories. We must, therefore, admit the possibility that some special and hitherto undiscovered influences are at work. To reveal these both laboratory and field investigations are necessary. Of the former, the special technical studies of conditions which may favour the growth and virulence of the infecting organism, I have not to speak. Of the latter I would remark that here, as in so many branches of industrial hygiene, we are hampered by the fact that few trained scientific observers have sufficient familiarity with industrial conditions to be competent to make investigations. Fortunately, the recruitment of such men as Dr. H. M. Vernon into the army of industrial research workers, and the important results already obtained—for instance, in Dr. Vernon's studies of the tinplate industry—hold out great promise for the future. What is needed, and is at length being obtained, is a dispassionate study by scientific men of *all* the circumstances of industrial employment. A great many Balaams have set out to deal with the problem of disease; few of them have been broad-minded enough to take a hint from the ass—a beast quite untrained in scientific method but with a good deal of practical experience. It is a fault not to see the wood for the trees, but one will not be wise to ignore all but a few of the trees.

General Conclusions.

Nineteen years ago the late Dr. Bulstrode ended his course of Milroy lectures with these words:

"If I were told to select three, and three only, of the agencies with which I have in some degree dealt in these lectures as those upon which, assuming always a sufficiency of food, I would place most reliance as regards the control of pulmonary tuberculosis, I should arrange them somewhat in this order. (1) The education of older children in the principles of health, and the periodical physical examination of all school children with a view to improving the health of those prone to tuberculosis, or who may already be suffering from the disease in an unrecognized though not unrecognizable form. The direct and indirect results which would accrue from this would soon make themselves felt in the direction of an unwillingness on the part of the people to occupy slums or to dwell in places where the sun rarely penetrates. It would also result later in a return to local and perhaps central administrative bodies of representatives who were more alive to the importance of the public health aspect of their duties than is always the case at the present time. (2) Some such system of compulsory insurance against sickness and invalidity as obtains in Germany, and which, it is important to note, makes for the provision of sanatoriums, the support of those threatened with illness, and the general well-being of the poorer classes. (3) Better housing and improved conditions of employment of the working classes—that is, more light, more air-space, better ventilation, and greater cleanliness in the home, the workshop, and the factory" (442).

Much has been done in the last twenty years to satisfy these requirements, but there has, perhaps, been overmuch insistence upon particulars, too little regard for general principles. My aim has been to restate some of the broad epidemiological principles which inspired Dr. Bulstrode, to show that their applicability is even wider than to the case of tuberculosis, and to plead for a physiological philosophy of disease.

The ideal physician of Linacre was a man of wide and various learning, and the College has always placed this ideal before its alumni. Translated into practice it means, I suppose, that in our secular warfare against disease we must use *all* the intellectual weapons we have, and not vainly assert that this or that instrument is alone of value. If in these lectures I have dwelt upon the general reactions of the environment in disposing man to fall a victim to this or that antagonist, and upon the aspects which are most easily displayed by statistical inquiry, it is not because I undervalue other elements of the problem or other methods of research.

BIBLIOGRAPHY.

Allbutt, T. Clifford: *Greek Medicine in Rome*, London, 1921.

Andvord, K. F.: *Tubercle*, 1921, iii, 97.

Army, British, *General Annual Reports*, Cmd. 1193, 1920.

Bertillon, J.: *Recueil de Statistique Municipale de la Ville de Paris*, Paris, 1912.

Bowley, A. L.: *Journ. Roy. Stat. Soc.*, 1913, lxxvi. 672.

Bowley, A. L., and Burnett-Hurst, A. R.: *Livelihood and Poverty*, London, 1915, with Supplementary Chapter (Bolton), London, 1920.

Brownlee, J.: Special Report No. 46, Medical Research Committee, S.O., 1920. Id., Special Report, No. 60, Medical Research Council, S.O., 1922.

Bulstrode, H. T.: *Lancet*, 1903, ii, pp. 73–80, 206–210, 297–304, 361–365, 437–443.

Bushnell, G. E.: *A Study in the Epidemiology of Phthisis*, London, 1920.

Calmette, A.: *L'Infection bacillaire et la Tuberculose*, Paris, 1920.

Carver, A. E.: *An Investigation into the Dietary of the Labouring Classes of Birmingham*, Birmingham 1914.

Chadwick, E.: General Report on the Sanitary Condition of the Labouring Population of Great Britain, London, 1842. Also *Journ. Stat. Soc.*, vii, 1844, p. 1.

Collis, E. L.: *Public Health*, xxxv, 1922, 113.

Collis, E. L., and Greenwood, M.: *The Health of the Industrial Worker*, London, 1921.

Creighton, C.: *History of Epidemics in Britain*, Cambridge, 1891.

Dreyer, G., and Hansen, G. F.: *The Assessment of Physical Fitness*, London, 1920.

Fishberg, M.: *The Jews; a Study of Race and Environment*, London, 1911.

Flack, M.: *Lancet*, 1921, ii, pp 593, 637, 693, 641.

Frank, T.: *An Economic History of Rome*, Baltimore, 1920.

Galen: *Opera Omnia*, recog. Kuhn, Leipzig, 1821–33.

Gibbins, H de B.: *Industry in England*, London, 1896.

Greenhow, E. H.: The Results of an Inquiry into the Different Proportions of Deaths produced by Certain Diseases in Different Districts. General Board of Health, 1858. Also Reports of the Medical Officer to the Privy Council, 1860 and 1861–2.

Greenwood, M.: (1) Appendix V, Annual Report of C.M.O. Ministry of Health, 1919–20, Cmd. 978 of 1920, (2) Id., Appendix E, Annual Report, C.M.O., 1920, Cmd. 1397 of 1921. (3) Id., *Proc. Roy. Soc. Med.* (Sect. of History), xiv, 1921, 3.

Greenwood, M., and Thompson, C. M.: BRITISH MEDICAL JOURNAL, 1918, ii, p. 133. Id., *Proc. Roy. Soc. Med.* (Sect. of Epidemiology), xi, 1918, 61.

Greenwood, M., and Tebb, A. E.: Special Report No. 22, Medical Research Committee, S.O., 1918.

Hamer, W. H.: (1) *Proc. Roy. Soc. Med.* (Epidem. Sect.), October, 1912; (2) Report for the year 1920 of the Medical Officer, County of London. London, 1921.
Hambly, W. D., and Bedford, T.: Report No. 11, Industrial Fatigue Research Board, S.O., 1921.
Hendriks, F.: *Journ. Stat. Soc.*, xxv, 1862, 111.
Hill, L. E.: Special Reports Nos. 32 and 52, Medical Research Committee, S.O. 1918-20.
Hurry, J. B.: *Poverty and its Vicious Circles*, London, 1921.
Krogh, A., and Lindhardt, J.: *Biochemical Journal*, xiv, 1920, 290.
Mackenzie, W. A.: *Economica*, October, 1921, p. 211.
Muscio, B., and Eyre, A. B. B.: Report No. 16, Industrial Fatigue Research Board, S.O. 1922.
National Service, Ministry of: Report, Cmd. 504 of 1920.
Neison, F. G. P.: *Journ. Stat. Soc.*, vii, 1844. 40.
Newsholme, A.: *Quart. Pub. American Stat. Assoc.*, September, 1921, xvii, 815.
Niven, J.: *Proc. Roy. Soc. Med.* (Epidem. Sect.), October, 1909.
Perry, A. R.: Preventable Death in Cotton Manufacturing Industry, *Bulletin No. 251, United States Bureau of Labour Statistics*, Washington, 1919.
Ramazzini, B.: *De Morbis Artificum Diatriba*, London, 1717.
Robertson, J.: Annual Report of M.O.H. City of Birmingham for 1918.
Runborg, C., and Sundbärg, G.: *Statistisk Tidskrift*, 1905, p. 197.
Select Documents of English Economic History, ed. Bland, Brown, and Tawney, London, 1915.
Simon, J.: Public Health Reports, two vols., London, 1887.
Smith, E.: Sixth Report, Medical Officer, Privy Council, 1863, p. 216 and p. 383.
Starling, E. H.: *The Feeding of Nations*, London, 1919.
Sundbärg, G.: *Statistisk Tidskrift*, 1909 (Part X of Fortsätta bidrag till en svensk befolkningsstatistik for aren 1750-1900). Id., *Statistisk Tidskrift*, 1905, p. 163.
Sweden, Historical and Statistical Handbook of, English edition, two vols., Stockholm, 1914.
Thackrah, C. T.: *The Effect of Arts, Trades, etc., on Health*, London, 1832.
Trevelyan, G. O.: *Life and Letters of Lord Macaulay*, popular edition.
Wanklyn, W. McC.: *Proc. Roy. Soc. Med.* (Epidem. Sect.), October, 1913.
Welton, T. A.: *England's Recent Progress*, London, 1911. Id., *Journ. Roy. Stat. Soc.*, lxxvi, 1912, 304.
Wright, A. E.: *Technique of Teat and Capillary Glass Tube*, second edition, London, 1921.

ANEURYSMS OF THE THORACIC AORTA INVOLVING THE LUNG.

BY

JAMES FANNING, M.B., B.S.LOND.,

HOUSE-PHYSICIAN, HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL.

THE two cases of aneurysm of the thoracic aorta described below present several features of considerable clinical and pathological interest. Both aneurysms ruptured within a fortnight of each other while under observation in hospital, and in each case the aneurysmal sac produced extensive changes in the lung. The second case was particularly interesting in its close simulation of chronic pulmonary tuberculosis.

CASE I.

W. H., widower, aged 53, a commercial traveller, was admitted to Hampstead General Hospital on January 31st, 1922, with a history of four years' gradually increasing dyspnoea on exertion. There were also attacks of more acute dyspnoea, coming on chiefly at night, and lasting from half an hour to an hour. Pain was felt at the back of the shoulders and down the right arm, with a general feeling of tightness in the chest. This was also worse after exertion. He had a chronic slight cough, and at times suffered from palpitation. There had been no dysphagia, no oedema, and no haemoptysis. He did not think he had been losing weight.

Two days before admission he suddenly collapsed after getting up in the morning, and lost consciousness for three-quarters of an hour. On recovering he felt very weak, and complained of pain all over the chest; later he developed a troublesome cough with haemoptysis. He had always been healthy previously.

Condition on Admission.—The patient was a rather thin and anaemic man in a very weak condition. There was very little dyspnoea while at rest. There was a pulsating swelling immediately to the right of the sternum, having an area of about 2½ square inches, and considerable diminution of movement of the right chest. The percussion note was dull all over, back and front, while the breath sounds were very weak and bronchial. Vocal fremitus and resonance were increased. There were no adventitious sounds. The pulse rate was 70, and the rhythm equal and regular. The volume was moderate and tension poorly sustained. There was no inequality of the radial pulses. The cardiac apex was in the fifth space, 1 inch outside the nipple line, and was heaving in character. The heart sounds were normal, and were heard clearly over the swelling. The systolic pressure was 145 mm. and the diastolic 110. The left pupil was slightly larger than the right.

Progress.—The patient remained fairly comfortable in bed for over a month. The cough and haemoptysis continued. There were occasional slight attacks of dyspnoea. The only fresh sign that developed was a slight oedema of both forearms. The temperature varied from 98° to 101° F. On March 7th, at 5 a.m., free haemorrhage took place suddenly from the mouth, and the patient died in five minutes.

Post-mortem Examination.—A small mass of blood clot about the size of a large walnut was found immediately beneath the chest wall in the region of the swelling noted before death. The left lung was large and emphysematous, and covered the left border of the heart and pericardium. About 12 oz. of dark yellow fluid were present in the right pleural cavity. The right lung appeared shrunken, was dark in colour, and felt solid. It was not possible to distinguish the lobes. The heart was small and appeared normal. The aorta about one and a half inches above its origin opened into an aneurysm about the size of a foetal head. It occupied what appeared to be the right lung, the remnant of which was stretched over the sac as a thin shell. The cavity of the aneurysm was full of laminated clot, which dropped out through the anterior wall of the sac, and was directly continuous with the walnut-like mass above mentioned. The aorta was atheromatous, and showed marked syphilitic arteritis.

CASE II.

Mrs. E. S., a widow, aged 50, employed as a cook, was admitted to hospital on March 12th, 1922, with a history of six months' illness of gradual onset. Her chief complaint was pain round the lower part of the chest, "crushing" in character, coming on directly after food. There was no vomiting, but considerable flatulence. The appetite was poor, and she did not sleep well. She had been getting much thinner recently. There had been no night sweats. There was slight dyspnoea on exertion. For the past month she had been bringing up blood by the mouth; she said she coughed up a little every day mixed with frothy sputum, the blood being sometimes bright in colour and sometimes dark, while at intervals of about a week she brought up larger quantities (about half a pint) in clots. These large quantities she thought she vomited, although solid food was never noted in the vomit.

Condition on Admission.—The patient was a wasted, anaemic woman. There was moderate enlargement of the terminal phalanges of the fingers. The temperature was 100° F., pulse rate 100, and respirations 24. On inspection of the chest there was definite flattening at the left apex with diminished expansion. On palpation there was slight pulsation below the left clavicle. The percussion note over the left apex and subclavicular region in front and over the left apex behind was dull. Towards the outer part of the dull area the breath sounds were diminished, and vocal fremitus and vocal resonance were less than normal, but internal to this loud cavernous breathing was heard. A few fine crepitations were present. The pulse was equal and regular, of small volume and moderate tension. The apex beat was in the fifth space within the nipple line, and there was no enlargement or displacement of the heart. The sounds were normal.

Progress.—For the first two days after admission the patient was continually bringing up clotted blood in small quantities. The blood appeared in the pharynx without effort, and was unmixed with sputum or food. There was a slight cough, but the blood did not seem to appear with the cough. No sputum was obtained. On the second day after admission she had a sudden and severe haemorrhage; she became blanched and almost pulseless at the wrist. However, she made a fair recovery from this attack, but the bleeding continued, and at times the blood was undoubtedly mixed with fluid stomach contents. Melaena was a marked feature in the case during this time. Pain in the upper left chest was also complained of. The temperature varied from 99° to 100° F. The patient gradually became weaker and more anaemic, and died quite suddenly, but without external haemorrhage, on March 19th, seven days after admission.

Post-mortem Examination.—An ulcer about 1½ inches by 1 inch in diameter was found in the oesophagus at the level of the bifurcation of the trachea. Through the base of this ulcer a mass of blood clot presented. The trachea was normal. The upper half of the upper lobe of the left lung was heavy, deep red in colour, felt solid, and was adherent to the thoracic wall. An incision showed a mass of dense laminated blood clot of a pale buff colour, around the periphery of which was stretched a thin layer of lung tissue. The mass was about the size of a large orange, and contained a cavity no larger than a walnut, which communicated with the arch of the aorta. The lumen of the aorta itself was scarcely altered. There was slight atheroma and syphilitic aortitis. The heart was small, and the valves were normal. The right lung was quite healthy. The intestines contained a considerable quantity of altered blood.

The way in which, in the first instance, a whole lung, and in the second instance a localized part of the lung, were converted into aneurysmal sacs is one of the most interesting features of these cases. The strength of the sac in each instance seemed to be in its dense lining of laminated clot. As regards the origin of the bleeding, in the first case it probably came from the remains of the bronchioles in communication with the sac, while in the second case it is possible that there was a double source of haemorrhage—from the lung and from the oesophagus. Another observation which is well exemplified is the remarkable pathological changes that can take place in the thoracic aorta without producing any change in the cardiac musculature. In the first case the heart was certainly displaced, and, clinically, appeared to be hypertrophied; but the *post-mortem* examination showed that in neither case was there any hypertrophy or dilatation.

Clinically, Case II presented an interesting problem in diagnosis. The history of progressive wasting, cough, and haemoptysis, together with the localization of the physical signs to the left apex, pointed to an apparently advanced case of chronic pulmonary tuberculosis with cavitation. The

slight pulsation present suggested the possibility of aneurysm, but this diagnosis appeared so unlikely that it was dismissed; it was supposed that the pulsation was conducted from the base of the heart uncovered by retracted lung. There was also some difficulty in determining the source of the haemorrhage, but this seemed explicable by ascribing the haematemesis and melaena to blood swallowed from the lung. Indeed, the symptoms of pain after food and haematemesis had resulted in the case being sent in as carcinoma of the stomach.

I am indebted to Dr. G. A. Sutherland, under whose care both these cases were, for permission to publish these notes.

THE RADICAL CURE OF HAEMORRHOIDS:

MODIFIED WHITEHEAD OPERATION.

BY

SIR JOHN O'CONOR, K.B.E., M.A., M.D.,

SENIOR MEDICAL OFFICER, BRITISH HOSPITAL, BUENOS AIRES.

I WISH to invite again[1] the attention of surgeons to a very simple method of performing the only operation for the cure of haemorrhoids which, in my opinion, is worthy of the term "radical." And it affords me intense gratification to be able to state that in 1904 the distinguished originator of the procedure honoured me with his approval of my humble modification[2]—namely, that primary dilatation of the external sphincter entailed an unnecessary magnification of perspective which might readily induce anatomical obfuscation with disastrous operative results.

Method.

1. Limit primary dilatation to the insertion of the right index finger in quest of concomitant polypi, ulcer, stricture, etc.

2. Apply a pressure forceps at junction of skin and mucous membrane to each of the four cardinal points of the anal circle.

3. With adjoining pairs of forceps held in opposing traction make a rapid discission with a large straight blunt-pointed scissors from "point" to "point" until the skin is completely detached from mucous layer.

4. Apply another pressure forceps to the cut edge of the latter between each of the four forceps originally placed. This makes the operator master of the situation.

5. Grasp the eight forceps in the palm of the left hand, insert the left index finger into the rectum, and then cut lightly all around with scissors until the external sphincter appears well in view.

It is absolutely essential at this juncture to define this muscle and keep it constantly in sight and pushed upwards, always remembering that all cutting must be done below and external to it.

6. Continue snipping round with scissors until the "Whitehead adit"[1] (submucosa) is exposed; then bear Cunningham's *Anatomy* in mind: "The submucous coat is composed of loose areolar tissue, which allows of free movement of the mucous layer on the muscular coat, and which also admits, under certain abnormal conditions, of a prolapse of the mucous membrane through the anal orifice. . . . The haemorrhoidal plexus of veins is contained in this layer."

7. With the left index finger still retained in the rectum as guide, and the eight forceps in the left palm making traction, continue severance of the attachments to the muscular coat until the haemorrhoidal cylinder can be peeled out of its bed by a few strokes of the back of scissors or other blunt dissector.

8. Then make a vertical slit in the protruded cuff up to the level of the "supra-Morgagnitic"[1] circle; commence a continuous Triollet catgut suture at the apex of the slit, drawing the "red" mucous membrane into accurate apposition with the skin; then proceed, cutting transversely, half-inch by half-inch, at the level just mentioned; carry on, *pari passu*, the continuous suture; stop and forceps every spurting vessel and ligate same at once, so that at the last snip of the scissors nothing remains to be done except to complete the few final loops of the suture.

Abjure the employment of what is fatuously styled by clampers "a continuous haemostatic suture,"[3] and of what is called by tinkers a soldering iron, in any part of the intestinal tract.

9. Having introduced a morphine suppository and a slender roll of dry gauze into the rectum, apply a dry gauze dressing and change same daily.

10. On the fifth morning give the patient one ounce of castor oil, sponge the part after each evacuation with warm permanganate lotion, add a warm permanganate sitz bath daily, and reapply a dry dressing.

11. On the seventh morning instruct the nurse to insert the right index finger (anointed) into the canal, and to educate the patient to do the same daily for two months. Do not forget, before he departs, to prescribe a pot of zinc and boracic ointment for this purpose. If any tags are in evidence on the ninth day apply a little eucaine and snip them off with scissors.

I have nothing further to state beyond the fact that not once in every fifty operations do I hear of any contraction or any other complication following this method. All the patients are discharged cured by the fourteenth day, and the time[4] occupied in the actual operation varies from five to ten minutes.[5]

REFERENCES.

[1] The Radical Cure of Haemorrhoids: Modified Whitehead's Operation, *Lancet*, September 24th, 1910 (author). [2] Treatment of Haemorrhoids, *Boston Medical and Surgical Journal*, February 26th, 1903 (author). [3] Gastro-enterostomy, *Lancet*, March 13th, 1920 (author). [4] Two Years' Operating to the Clock, BRITISH MEDICAL JOURNAL, January 31st, 1914 (author). [5] Operating to the Clock, BRITISH MEDICAL JOURNAL, December 21st, 1918 (author).

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

AN AORTIC MURMUR.

As early as 1910 I noticed an aortic systolic murmur in apparently healthy persons. I observed it first in my own case, and after that in many infirmary patients, and later in many recruits and serving soldiers.

I was encouraged by Dr. James of Edinburgh to investigate the murmur, and, as mentioned by me in a letter to the JOURNAL recently, I had satisfied myself as to its cause and written an account of it before the war. It is heard over the aortic area, is systolic, and has generally the characteristics of an aortic stenotic bruit. The probable explanation was arrived at by a study of the flow of water in a rubber tube with a Higginson's syringe for the propelling force. If the tube be auscultated, the flow of water being kept up by the pressure of the foot on the ball of the syringe, a bruit can be produced by applying pressure to the tube. It is produced either by proximal or distal pressure, but is more audible in the former—that is to say, the sound is propagated against as well as with the flow of the water.

From this experiment I conclude that pressure on an artery such as the carotid produces a bruit which will be propagated both with and against the blood flow.

If the aortic area be auscultated and pressure be made with the finger so as partially to occlude the subclavian artery above the clavicle, a distinct systolic bruit is heard. In the actual patients it was sometimes present and at other times absent. It was found that the drawing aside by the patient of his clothing to permit of auscultation brought the sound into existence, and that with the arms by the side it could not be heard.

The subclavian artery passes over the first rib and under the clavicle, but is separated from the latter by the subclavius muscle, the action of which is to approximate the rib to the clavicle. Other muscles perform the same action—namely, the scalenus anticus, the deltoid, the pectoralis major, and also the pectoralis minor.

It would therefore appear that the artery can be, and is, very easily compressed by muscular action, and that when so compressed a bruit can be heard. Many persons by contracting their muscles can obliterate the radial pulse. The bruit can be obtained in almost any person. I have heard it in children, young adults, and elderly persons, and think it would be obtained in anyone provided the artery wall was compressible and the compressing machine in working order. The bruit would not be heard in a patient who was stripped to the waist and had his arms by his side.

While I do not think the bruit is of clinical importance, as it often occurs in medical examination for life assurance, I think it warrants an explanation.

My conclusions are: (1) That an aortic systolic bruit is very frequently heard over the aortic cartilage in the absence of any diseased condition. (2) That a large proportion of such bruits are due to the position of the arms at the time of examination, or rather the state of contraction of the muscles

of the shoulder girdle. (3) That such bruits will mostly disappear if the patient is stripped to the waist and has his arms hanging loosely by his sides.

Perth. THOMAS LINDSAY.

STREPTOCOCCAL SORE THROAT.

THJÖTTA has reported an epidemic of angina faucium in a Norwegian military camp last July. During the past three months I have had seven cases of what I termed septic sore throats very similar to those described by Thjötta—three in one household and two in two other families. The symptoms were almost identical in all the cases—namely, high fever, general pains, and marked dysphagia; in all the fauces were highly congested; in four the tonsils showed discrete collections of débris which spread and coalesced, covering the entire tonsil but not spreading beyond. In the remaining three cases punctate collections of membrane appeared, and within a few hours covered the surface of the tonsil with a whitish, easily detached membrane. These three cases clinically appeared so much like diphtheria, that in two of them antitoxin was given as a precautionary measure. In five of the cases bacteriological examination during and after the attack gave a pure streptococcal infection. In two there was a diphtheroid bacillus as well.

In the first household the first and second cases each developed quinsy after a week. The third case clinically was so much like true diphtheria that it was kept under observation for three weeks; antitoxin was given as a precautionary measure, although the swabs only showed streptococcal infection. All the cases recovered.

London, S.W. A. MACBETH ELLIOT, M.D.

Reports of Societies.

HOSPITALS OF THE FUTURE.

THE annual oration of the Medical Society of London was delivered on May 8th by Mr. H. J. WARING, C.B.E., F.R.C.S., who put forward some suggestions with regard to the future of hospitals, public and private. The President, Mr. JAMES BERRY, occupied the chair.

Hospital Provision for the Non-Necessitous.

Mr. WARING said that during recent months there had been a good deal of discussion concerning the position of medical men in hospitals, mainly with regard to the allocation of money paid as contributions towards maintenance either by the patients themselves or by some public or other body on their behalf. All this discussion appeared to have centred around the rights of the medical staff, while the rights of patients and of the hospitals themselves had been less debated. He proposed to discuss the hospital question on a broader basis. The so-called voluntary system was well established and would continue in this country. The people would continue to provide funds for the maintenance of the hospitals, to which at all times the necessitous poor would be admitted; and the medical profession also would continue to act as a profession, and would not become a trade, with a trade union to dominate its policy and retard its progress.

Since the establishment of our voluntary hospitals the benefits of those institutions in the investigation of disease and its treatment had been available to the necessitous poor, with the result that the poor had been very much better provided for than the upper and middle classes. The general public had now realized this fact, and within the last decade there had been an increasing demand on the part of the non-necessitous for entrance as in-patients into voluntary hospitals. These people had come to recognize that the diagnosis and treatment of disease with expedition and success could be carried out better in a large and properly equipped public institution than in a nursing home, which was very often an ill-adapted, second-class, mediocre private residence. The prejudice against public medical institutions, which had lingered on from pre-aseptic days, had now disappeared.

The population from the hospital point of view might be grouped into five classes: (1) The necessitous poor who could make no contribution; (2) the necessitous poor who could make a small contribution towards maintenance, but nothing towards medical treatment; (3) the necessitous, but not always poor, who could afford the cost of their hospital accommodation and maintenance, but could not pay for medical treatment; (4) the middle classes, who could pay for ordinary hospital accommodation and maintenance and moderate fees for treatment; and (5) the opulent. The first three of these classes were already provided for, but there was no accommodation in the general hospitals for the other two.

Annexes for Paying Patients.

The solution of the difficulty with regard to the middle classes and the better-to-do, who had hitherto not been able to obtain the standard of institutional attention and treatment open to the necessitous, was to build a separate block distinct from but affiliated with the public hospital. Most hospitals were not built in such a way as to allow of the necessary reconstruction to admit these classes of patients; moreover, in most instances the funds utilized for the building of those hospitals had been given or bequeathed for charitable purposes. On the other hand the special departments, such as the pathological laboratories, the *x*-ray rooms, and so forth, were sufficiently equipped to serve not only for all the charitable purposes, but for paying patients as well. Mr. Waring showed plans which he had prepared for a private block adjacent to a public hospital. On the ground floor there were consultation rooms and offices, recreation rooms for patients, and a convalescent dining-room, as well as laboratories and the like which were subsidiary to the corresponding departments in the main building. On the floor above there were a number of patients' rooms for medical and surgical cases, most of them single, provided with bath and lavatory, and in some cases with sitting-room adjoining; others contained two or four beds. On the floor above this similar provision was made for maternity and gynaecological cases, and on the top floor were operating theatres and sterilizing rooms.

The advantages of this scheme to the patients were that numbers of upper and middle class people would be able to obtain institutional accommodation and treatment of the same high standard as that provided for the necessitous poor. To the hospital itself it would bring the advantage that the special departments could be more fully and continuously used than was the case at the present time, while overhead charges for general administration would not be proportionately increased, and such charges could be shared to a proper extent by the paying department. A hospital he had recently inspected included a separate building in which there was accommodation for a hundred paying patients. This was built and equipped by a generous donor who had himself been a paying patient in the public wards. The new block was managed by the general hospital, and yielded a profit of £10,000 a year, which was available for the charitable operations of the institution. Again, there were advantages to members of the hospital staffs, who would be able to have a certain number of their patients in the paying department, thereby saving themselves time and journeys.

Improvements in Existing Public Hospitals.

Mr. Waring then made some suggestions for the improvement of the ordinary public hospital. He thought, in the first place, that there ought to be more maternity accommodation. He was told by an eminent obstetrician that the mortality in connexion with maternity was now little different from that which obtained in pre aseptic days; no doubt insufficient accommodation contributed to this result. It was desirable also to limit the routine dispensing of medicine and drugs, which was often on too liberal a scale. Another deficiency of the ordinary hospital was lack of accommodation for dental cases. Then the buildings themselves were often unsuitable. There was a widespread notion, not limited to the laity, that any comparatively decent building of suitable size could be converted into a satisfactory hospital. Whenever possible hospital buildings should be specially erected for the purpose, and when they became antiquated they should be scrapped. It was a great mistake to patch up old buildings, and it might be wise to scrap every hospital building which had existed for fifty years. He suggested that the King's Fund, in association with the Royal Colleges, should set up a small consultative body to advise upon the building, reconstruction, and modernization of hospitals. In general hospitals there was not sufficient provision of small rooms for the seriously ill and the moribund. It would be an enormous advantage to members of the staff and also to patients if small rooms were provided. Another need was for some clinical laboratories in connexion with hospital wards or clinical units.

He advocated also the standardization of hospital equipment. There was too much tendency in all hospitals for every medical man to think that he was in a position to order

whatever equipment he required for his own particular fads. The same thing applied to the sterilization arrangements. If the hospitals would work on some simple standard plan they would get their plant at half the cost. The accommodation for the nursing staff was often defective. He did not approve of the nursing staff being housed in the attics or any ill-adapted part of the hospital. The nursing staff should have its own special block. Again, the administration of many hospitals was unsatisfactory, due to the multifarious duties of the administrator; the work of the director of a hospital should be separated from that of the head of the appeal department. Medical men as a rule did not make the best administrators of a hospital.

As for private hospitals, many of these were originally private dwellings in which no reconstruction had been carried out and no provision made for scientific investigation. He showed plans of an ideal private hospital, very much on the lines of the private block already described, with special consulting rooms for physicians and surgeons on the ground floor, accommodation for medical and surgical cases on the first floor, for maternity cases on the second, and for the operating theatres and their accessories on the third. It had always seemed to him very curious that English people when on holiday took a suite of rooms at the best hotel they could find, but when they were ill they were prepared as a rule to go to a third or fourth rate lodging-house in a back street.

Lord Knutsford's Criticisms.

Lord KNUTSFORD, who approved of Mr. Waring's suggestion regarding the additional provision for maternity cases, said it was a scandal that in a hospital with a thousand beds only ten or fifteen should be set apart for "the natural disease of having babies." He believed that the dental department should be in a separate hospital. Standardization of hospital equipment was of all things most abhorrent to him; it always meant the stereotyping of the second-rate. The greatest check upon extravagance would be to require that before a medical man could order anything he had got to get three of his colleagues to agree. This would not be difficult, with amenable juniors. He did not see why a paying hospital should be mixed up with a voluntary hospital at all. His idea of a paying hospital was a really well built hospital, with a resident surgeon, and, conspicuously displayed in the entrance hall, a scale of inclusive charges, so that a patient who had to undergo a particular operation would know exactly what it would cost him. He derided the idea that hospital buildings should be periodically scrapped. If they followed changes in architectural fashions the London Hospital might have been entirely rebuilt three or four times, and structurally be out of date even now.

SURGICAL SHOCK.

AT a meeting of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine, on May 4th, with the President (Professor HENRY BRIGGS) in the chair, a paper was read by Mr. JOHN D. MALCOLM on "Surgical shock." He said that surgical shock was attributed to an irritation of sensory nerves. The expression was not intended to indicate an association with surgery so much as a freedom from haemorrhage, crushing of tissues, septic infections, and other complications which often accompanied accidents. Moreover, an accidental uncomplicated stimulation of sensory nerves frequently caused an instantaneous development of all the symptoms of profound shock, whereas during a surgical operation the changes occurred gradually, and their relationship to each other might be defined. The essential sameness of an immediately and a gradually developed shock was assumed. The condition was now rare in surgical work, but the following facts might still be noted if carefully looked for. During a severe operation the heart's action might hasten early, in which case an important feature of developing shock was not recognizable; but in a fair number of prolonged operations, when the patient's heart muscle was strong, the pulse rate for a time hardly quickened. In these circumstances there was at first a full radial pulse, which gradually diminished and might disappear completely whilst the carotid remained forceful and slow. After a time the cardiac action hastened, the pulse became feeble or disappeared everywhere, and the blood pressure fell. The tissues were now absolutely blanched, and medium-sized vessels did not bleed when divided. The vascular system became as depleted as in a case of severe haemorrhage, although little blood might have been shed. The temperature fell very low, and perspiration was profuse. Recovery used to be slow and to cause much anxiety, but since fluids had been freely administered a return to normal conditions was generally rapid. The improvement thus brought about offered a proof that as shock developed fluid was removed from the body. The clinical evidence was regarded as conclusive that stimulation of sensory nerves caused a persistent vascular contraction in spite of the rise of blood pressure in the large arteries which was created by their contraction and by an augmented cardiac force. But contracted arteries necessarily held less fluid than full-sized vessels, therefore fluid must leave them as they contracted. The escape of fluid was accompanied by a fall of blood pressure, which was compared with the loss of pressure that occurred in any piece of machinery actuated by hydraulic force when a leakage took place.

The effects of haemorrhage during a developing shock were considered. It was shown that in shock as in haemorrhage fluids were transferred within the body so as to correct abnormal relative pressures. This did not necessarily involve a filtration such as occurred through a dead membrane under pressure, and it was not considered inconsistent with Professor Leonard Hill's teaching that imbibition of fluids by living animal cells was a vital process. When the vessels contracted fluid must leave them; it must be taken into the tissues; the necessary imbibition was controlled by the nerves in accordance with the needs of the body. Mention was made of cases in which the sweat glands could not be induced to act, in which, therefore, fluid did not leave the body, and in which the clinical symptoms of surgical shock did not exist. Evidence was quoted that it was difficult to introduce fluids into and retain them in the vessels when shock was severe and profound. This difficulty, and the facility of absorption of fluids during convalescence, were easily understood if the vessels were tensely contracted when shock was fully developed and relaxed as recovery took place. The facts were not readily reconcilable with the teaching that some part of the vascular system dilated during shock, and therefore contracted during recovery. The chief object of the paper was to insist upon the view that a state of shock did arise from an uncomplicated stimulation of sensory nerves. It was considered of supreme importance for the understanding of many surgical developments that shock thus induced should be clearly differentiated from similar conditions which, however exactly they might simulate shock, were produced in other ways. The conditions of spinal anaesthesia were considered an absolute proof that shock was a reaction to nerve stimulation. By anaesthetizing the spinal cord a development of shock from stimulation of nerves arising below the blocked portion of the cord was absolutely prevented.

Dr. LAPTHORN SMITH said that the paper was very valuable because it embodied the experience of one who had had a great many operation cases and in the early days had seen more of shock than was customarily seen now; in his (the speaker's) own early experience cases of shock were very frequent, but by degrees they diminished in number until they became almost unknown. It was the experience of most surgeons, he thought, that cases of shock were remediable and preventable. Many early cases of supposed shock were not shock at all, but simply prolonged anaesthesia. The length of time taken by the operation had a great deal to do with the occurrence of shock. If the operation was finished within an hour cases of shock were unlikely. The amount of blood lost was a very important factor. He was accustomed to tell his students that the likelihood of shock was greatly reduced in cases in which the intestines were not seen at all in the course of the operation. A very important precaution was to maintain the patient's warmth during the operation, and this he had done by using two pans about 3 ft. long, closed in and filled with water at a temperature of 110° or 120°, and covered with a blanket.

Dr. MALCOLM DONALDSON said that in general his experience supported Mr. Malcolm's conclusions, but he was not quite convinced by his argument that a contracted vessel must lose fluid more quickly than a dilated one. (Mr. MALCOLM said that his statement was that a contracted vessel must contain less fluid than an uncontracted one, and therefore fluid must leave it as it contracted.)

Mr. GORDON LUKER, who thought that Mr. Malcolm had proved his hypothesis, mentioned the extreme difficulty of separating shock from shock *plus* haemorrhage. He would be glad of any suggestion for distinguishing between these two conditions, for, of course, a good deal of difference in treatment depended upon such distinction.

Dr. A. E. GILES pointed out that if the arteries were contracted it simply meant that less fluid was passing through them, not that there was less fluid in the system generally. The fluid might have passed into the dilated capillary area, and so be not lost to the body but temporarily lost from the arteries. He spoke with great diffidence on the subject of shock because he had seen so little of it. He came to the conclusion many years ago that deaths ascribed to shock were very often due really to haemorrhage or septic poisoning, and that pure shock after operation was very rare; all that he had seen of surgery since had rather confirmed him in that view. Even in removing a very large ovarian cyst he had never observed anything suggestive of shock, and he believed that any such sequel must be very infrequent if the operation was done with reasonable rapidity.

The PRESIDENT said that the Section was greatly indebted to Mr. Malcolm for the way he had pursued this problem. He emphasized the difficulties of the subject and the need for further scientific work upon it. He believed that the leakage of fluid must pass to the capillaries.

Mr. MALCOLM, in replying, said that he did not think that the largeness of a tumour removed was the cause of shock: he agreed with Dr. Giles that such tumours could be removed without shock. Of course, time was an important factor, and the amount of blood lost was also important. Haemorrhage and shock were two quite different conditions in his mind, although they both created the same condition of starvation of the tissues. It was asked, why not give fluids? But if recent medical research was right, it was out of the question while the vessels were contracted for them to take up fluids. Undoubtedly the procedure was useful when the vessels relaxed. It had been suggested that contraction of the vessels was a means of self-preservation, but the cause of the mischief could not very well be a factor in preservation, and he did not think that in any condition of developing shock the contraction of the vessels indicated this. One absolute distinction between shock and haemorrhage was that in shock there was concentrated blood, and in haemorrhage diluted blood. He believed that this fact of concentration of the blood had been proved by the Special Investigation Committee of the Medical Research Council. As to the escape of the fluid, he believed that this was effected by passing on to the capillaries.

OPHTHALMIC PENSIONERS.

A MEETING of the Sheffield Medico-Chirurgical Society was held in the Medical Library of Sheffield University on April 27th, with Dr. GODFREY CARTER, the President, in the chair, when Mr. HERBERT CAIGER, Chairman of the Sheffield Division of the British Medical Association, read a paper entitled "Ophthalmic pensioners: some points of interest to the general practitioner." Out of 700 cases there were 7 cases of total blindness, about 50 cases of loss of useful vision in one eye, 53 cases of removal of one eye, and only one case of sympathetic inflammation; in this case the injured eye was not removed till twelve weeks after being wounded. Penetrating septic wounds of the eye, with lodgement of a foreign body, had been very numerous in the war; but, thanks to the careful work done in hospitals overseas, sympathetic cases had been very rare. Most cases of loss of vision in one eye had been caused by "concussion changes." These might be compared to the fractures in bones due to indirect violence. Bullets passing through the bones below or at the side of the orbit, without touching the eye, caused haemorrhages or ruptures in the choroid or retina. The macular region was specially affected by these concussion changes. They had been specially studied by Lagrange, who attributed them to violent oscillatory waves transmitted to the fatty contents of the orbit, almost fluid at the body temperature.

It was specially important to examine for errors of refraction in three groups of pensioners: (1) Men who had lost the sight of one eye were, as a rule, obsessed with the idea that any defect of vision that troubled them must be due to "one eye having to do the work of two." In most cases any defect of vision (except the inevitable loss of field on the affected side) was due to error of refraction in the uninjured eye, and could be remedied by glasses. (2) Cases of headache following head injuries; here headaches, very possibly due to eyestrain, were liable to be put down to the head injury, by the doctor as well as by the patient. (3) Neurasthenic cases: such symptoms as depression, or mental confusion, as well as headache, might be due entirely or in part to eyestrain from astigmatism, etc.

One interesting case of functional blindness was described. The patient had been "blown up" by a shell explosion in 1914. He stated that he lost the sense of smell, taste, and sight, but that taste and smell were soon restored "by hypnotic treatment." More or less complete functional blindness, however, lasted for two and a half years, partial recovery being followed by relapse, especially if he was subjected to worry. In 1917 cure followed treatment by isolation in hospital, blistering, and other methods, including the sudden shock of a bucket of cold water thrown over him unexpectedly in a warm bath. He presented other neuropathic symptoms, such as tremor. Complete and lasting recovery followed.

Cases of malingering of every grade had been met with. There were at least 20 cases claiming that the defective sight of an amblyopic squinting eye was due to or aggravated by service. Three cases of conjunctivitis artefacta were described. In one of these deliberately produced abrasions of the cornea were an added feature. In another case the man's documents gave a record of "persistent chronic conjunctivitis liable to acute exacerbations," commencing in 1917 and lasting almost for five years. For three years he had enjoyed a pension of 60 per cent. or more. Minute observation revealed very fine foreign particles in the conjunctival sac; when kept under observation for an hour the acute redness of the eyes diminished greatly; then, after being left alone in a room for a moment, an "acute exacerbation" followed at once, with increased redness and profuse watering of the eyes. The nature of the irritant used was not ascertained.

Only one case had been seen where gassing appeared to have caused serious permanent damage to sight; in this case the whole of the left cornea was opaque, and the lower half of the right cornea; a visual iridectomy had been done above in the right eye, and vision with glasses was 6/24.

Some cases illustrating concussion changes were shown.

In discussing the paper, Mr. P. J. HAY referred to the valuable work done in the war by general practitioners who took up ophthalmic work overseas. Dr. E. F. SKINNER mentioned some cases of conjunctivitis artefacta in schoolboys, induced by blowing slate-pencil dust in one another's eyes. Mr. A. CONNELL described a case of extensive rupture of the choroid due to indirect violence, which had occurred in civil practice. Dr. A. E. NAISH, referring to functional blindness, pointed out that the cerebral cortex possessed the power of focussing conscious attention on any particular area of consciousness—for example, sight or hearing—or, on the other hand, of completely excluding it.

Mr. GEORGE WILKINSON demonstrated on the epidiascope an apparatus illustrating the resonance theory of hearing as applied to the cochlea.

Dr. GODFREY CARTER, the retiring President, congratulated the society on the valuable series of papers presented to it in the session now brought to a close.

PERHALATION METHOD OF ETHER ADMINISTRATION.

A MEETING of the Scottish Society of Anaesthetists was held on April 15th in the rooms of the Medico-Chirurgical Society, Aberdeen, with the President, Dr. JOHNSTON, in the chair, when Dr. OGSTON read a paper entitled "Notes on the administration of ether by the perhalation method." He pointed out that this system now replaced chloroform as the stock method for abdominal surgery, and that the standard which it had to meet was therefore a high one in respect of abdominal relaxation and quiet respiration. If the points referred to later were attended to there was no difficulty in reaching the required standard. To be effective as an inducing agent as much as 18 per cent. or more of ether vapour was necessary, whereas when given on the ordinary mask Hewitt and Syme had shown that not more than 14 per cent. was available. As much, or possibly more, ether was vaporized by expiration as by inspiration. By a simple device Dr. Ogston demonstrated to the audience that ether vapour did not rise in an appreciable quantity more than half an inch above the mask, whereas it was easily detected, by touch, smell, and sight, many inches below it. The apparatus used by him provided for the conservation of this ether vapour of expiration. It consisted of an ordinary Bellamy Gardner mask, upon which was erected a secondary frame composed of six uprights,

joined at their distal extremities by a metal ring; a towel pinned round the uprights furnished a cylinder, at the bottom of which the ether vapour collected. The aperture was as wide at the top as at the bottom, so that all the gauze was available for the reception of drops of ether. Personally, he preferred to keep the head in the mesial position even during deep anaesthesia, so that the apparatus was suitable both for induction and maintenance. Some twelve to sixteen layers of gauze were used on the mask itself and great care exercised as to the fit between face and facepiece. Another point on which he laid great emphasis was the even distribution of the ether. If all drops fell in one spot freezing took place, and the ether percentage was lowered; dropping must, of course, be continuous. In favourable cases induction took six to ten minutes. With the use of the cylinder the temperature in front of the mask did not fall below 50° or 60°. After anaesthesia is established and less ether is being used the temperature within the cylinder rises to 70° or over. The economy of ether was such that overdosage was quite possible. No doubt there was also some concentration of carbon dioxide, but rarely of such a degree as to do any harm. Occasionally one saw shallow breathing and duskiness which might be attributable to this cause. Such symptoms passed away at once if the mask was withdrawn for a few respirations and was turned upside down to empty the gaseous contents of the cylinder. A free airway was essential. He believed greatly in Hewitt's airway; when necessary he even put a gag or prop between the teeth before beginning induction. He believed in going very slowly at first; this really saves time in the end, as it caused less mucous and respiratory embarrassment. In order to secure this result he often started with the apparatus upside down, having the aperture of the cone adapted to the face and dropping the ether upon the inside of the mask. Before the operation was started he abolished the corneal reflex and obtained medium dilatation of the pupils. Later, he allowed the corneal reflex to reappear. He regarded sighing as rather a favourable sign, showing sufficiently deep anaesthesia; moaning indicated too deep a level of anaesthesia.

Dr. J. S. Ross thought the method really provided for induction of even powerful subjects by ether alone. Frankly, he personally used a little chloroform—not more than a drachm—during the induction stage, but the lecturer evidently did not find this necessary.

Dr. LAMB thought induction by ether alone was rather slow, and would like to hear some more details of Dr. Ogston's experiences in this respect. He did not agree with Dr. Ogston as to the meaning of moaning, which he considered indicated a light, not a deep anaesthesia.

Dr. BARRAS doubted whether corneal reflex was very valuable if morphine had been given. Dr. FAIRLIE preferred the lateral posture for the head when deep anaesthesia had been obtained; otherwise he agreed with most of Dr. Ogston's views.

Dr. FREW was interested in the simple design of Dr. Ogston's apparatus. He had tried a towel in front of the mask to condense the vapour, but without much success, and had adopted the apparatus, described some time ago in the BRITISH MEDICAL JOURNAL by Picton, which had the advantage of maintaining a somewhat higher temperature of the inspired air than did the ordinary method.

Mr. G. H. COLT, speaking as a visitor, wished to thank the society for inviting a surgeon to attend, a course which might be to the mutual advantage of anaesthetist and surgeon. He drew attention to the difference between open ether given by the expert to a prepared patient, and by the novice to a patient who had not had morphine and atropine; the latter condition was one of the drawbacks of the method in out-patient practice, notably in the reduction of fractures. The expert anaesthetist rendered the performance of difficult operations comparatively easy. Some form of muscle tonometer might be an advantage during the different stages of an operation, especially for teaching purposes.

The PRESIDENT thanked Dr. Ogston for his valuable contribution and gave personal testimony to the great success of the method. He believed that to those who had not made use of some such assistance to the ordinary open ether method, the facility with which Dr. Ogston induced by the use of his method would be a great surprise.

Dr. OGSTON, in replying to questions, stated that he used 1½ oz. to 2 oz. of ether for the induction and completed the first half-hour, as a rule, by 4 oz., including the induction stage. Those quantities were for average cases. In debilitated cases 1 oz. may suffice for induction, while in robust alcoholics as much as 2 or 3 oz. may be required.

Nitrous Oxide and Oxygen.

Dr. HOLME HENDERSON read a paper entitled "Some considerations on gas and oxygen." He said that this combination had as yet been little used for prolonged anaesthesia on this side of the Atlantic, and few of us had sufficiently long experience to enable us to speak didactically. From America, however, we had such statistics as those of Lakeside Hospital, Cleveland, in which Teter and his assistants had given 34,964 administrations without a fatality. Statistics, as a rule, had value to a coroner only; they left out the personal factor. The general public believed that of all anaesthetics nitrous oxide and oxygen had the smallest mortality, but this belief was not necessarily correct. As regards its administration, there could be no question but that long administration with the older apparatus often led to very alarming symptoms, such as pallor and faint breathing, which might or might not be due to the conditions now recognized as acapnia. The modern apparatus provided for complete control of the flow of gases and of their relative proportions, and also for rebreathing. This had made an immense difference, and by the use of such plant beautiful results could be obtained. There was perhaps in America, however, a tendency to place too much reliance upon mere mechanical perfection. One read accounts of a single lady, not possessed of a medical qualification, looking after six patients to whose faces the mask had been attached, but one must receive such stories with caution. At the same time he did not wish to throw any doubt upon the accuracy of American figures. Evidently their results were obtained with a degree of brilliance which did not appear to be easily attained in this country. One could only suppose that there were some factors different in the two countries. He thought the American subject was more open to the power of suggestion, and possibly less addicted to the use of alcohol, which made him a better subject for anaesthesia. He thought we should be wise not to spoil the case for nitrous oxide and oxygen by overrating its claims or underestimating its possible dangers. The main object of his paper was to urge members of the society to record their own impressions of the method, and in doing so to indicate their views upon the most appropriate drugs and dosage for preliminary medication, and the combination of other adjuvant anaesthetics during the operation. Such aids to nitrous oxide and oxygen were undoubtedly necessary, as the anaesthesia by the gases themselves was of a very light degree. No account of administrations was of any value unless these helps were clearly recorded. So far as the general public was concerned, he thought they should be made to grasp clearly this point, that while nitrous oxide and oxygen was the safest of all anaesthetics in the hands of an expert in the technique of its administration, it was perhaps the most unsafe in the hands of the inexperienced, and it should, therefore, never be administered except by an anaesthetist specially trained in its use. It was interesting to learn that the first gas-oxygen administrator at the Lakeside Hospital had to become proficient in anaesthetizing dogs by the method before being allowed to use it on his fellow men.

Coming to his own personal experience, he found that it was no use working with anything but a first-class machine, which gave real control of the two gases and of any auxiliary anaesthetics. The one that he used was as versatile as any: it was the Gallagher Model, U.S. Army. Previously, he used a small model U.S.A. Gwathmey machine, and though quite pleased with it he saw that the other had some additional advantages. He was sure that the time was not far off when the anaesthetist dare not run the risk of having no means to give gas-oxygen when called on, and he thought, therefore, it was wise to have a spare apparatus in reserve. It was necessary to understand every detail of the mechanism one was using. As to the class of case, he had used it for all branches of surgery, even in eye work—extractions, iridectomies, etc.—and he had found it very satisfactory. In abdominal work, undoubtedly, it was the severely toxic cases in which the advantages of the method were most marked. From experience in such difficult cases as gall-bladder operations and removal of the prostate, he had formed the conclusion that any case might be done under gas oxygen if it were absolutely necessary.

The PRESIDENT thanked Dr. Henderson for a most interesting paper, and said that he considered the time at the disposal of the meeting was too brief for an adequate discussion. It was therefore resolved that a summary of the paper should be circulated to the members and the discussion put upon the agenda for the autumn meeting.

Reviews.

INJURIES OF THE HEAD.

THE death of the author unhappily coincided with the publication of Professor DURET'S life-work on cranio-cerebral injuries. For fifty years Professor Duret had proceeded with his investigations, amassing clinical material, performing experiments, and publishing from time to time papers by his own hand or by those of his assistants. The final reviewing of a life-work of acute observation was greatly embarrassed by the capture of Lille and the cutting off of the author from the civilized world. In spite of this handicap, which the author did not unduly stress, he succeeded in producing one of the most remarkable works of our time. His book, *Traumatismes cranio-cérébraux*,[1] consists of two volumes, the first of which has already been noticed in our columns (June 19th, 1920, p. 830); it was concerned with the mechanism of cranial fractures, with their anatomy, and their gross results.

The second volume is divided into two parts. The first deals with cerebro-spinal fluid in reference to cerebral injury, the second with the pathogenesis, diagnosis, and treatment of cerebral commotion. At first glance it might be thought that the part played by the cerebro-spinal fluid in injuries to the head is a subject briefly to be dismissed. The influence of this fluid on cerebral injuries is, however, one of the late Professor Duret's most notable discoveries. He regards cerebro-spinal shock as the most important factor in cerebral commotion; he believes that it is through the agency of this fluid that the forces of injury applied, say, to the vertex are transported to the vital structures in the posterior cranial fossa. His experiments of 1878 on dogs led him to this conclusion, for he found it possible to produce severe lesions, from punctate haemorrhage to everted bursts of the floor of the fourth ventricle, by injuries to the top of the animal's head. These posterior fossa lesions, which Kocher classified as the "Duret'schen Lasions," he was later able to find in man. Several chromogravure plates illustrate these points. It is easy to recognize here the contrecoup injuries of so many authors. Duret believed that the cerebro-spinal fluid had an important regulating action within the skull, and there is much to be said for this view.

The subject of cerebral compression receives long and skilful attention at his hand. Duret favoured the theory of a vasomotor sympathetic action on the cerebral vessels, but was unable to produce incontrovertible evidence on this point. The work of Kocher, Cushing, and Leonard Hill receives adequate exposition, as, indeed, does that of most authorities. Innumerable histories, not only of the author's own cases, but very largely those gathered from the world's literature, are given, together with a profusion of illustrations of the injuries found at operation, or more often at necropsy.

The diagnosis, prognosis, and treatment of commotion in its various forms is thoroughly discussed. Duret believed in lumbar puncture, not only to assist in diagnosis and to relieve hypertension, but to lower the intracranial toxaemia of haemic origin which he thought played a part. He also believed in the value of ice applied to the head, a custom which was a little time ago considered old-fashioned, but is likely to be revived. His sections on the operative treatment of cranial injuries are very sound indeed, and he did well to call attention to the fact that haemorrhages into the white matter and into the ventricles may be traumatic in origin. Duret was no doubt right in thinking that concussion in men is the resultant of forces acting on many structures, diverse, but infinitely valuable in function. Space and time have had no curtailing influence, and the views of writers are given fully, together with their most important diagrams. This greatly enhances the value of the work for purposes of reference, a value which is greatly diminished by the absence of an index. The analysis given beneath each chapter heading and the "Table des matières" are, of course, totally inadequate advertisements of one's wares. It is a thousand pities that we have nothing more orderly than these, because these volumes are encyclopaedic. To them surgeons are going to turn as to a treasure house for many years to come. The paths to this house are obscured by weeds.

[1] *Traumatismes cranio-cérébraux.* By Professor H. Duret of Lille. Paris: Félix Alcan. Tome II, Parts I and II. (Roy. 8vo, pp. 1357; 272 figures. Fr. 50 the two vols.)

FOTHERGILL'S "MIDWIFERY."

THE appearance of the fifth edition of Professor W. E. FOTHERGILL'S *Manual of Midwifery*[2] carries the reviewer back to the end of last century when, as a student, he studied the first edition with the aid of tobacco and the midnight oil. The book was then regarded as being an epitome of the late Sir A. R. Simpson's teaching, and for that reason, amongst others, was popular in Edinburgh at that date. Its essential excellence has, however, made it popular in other schools as well, and it is gratifying to see that it retains so much vitality. The book is still the same in all essential characters, and the reviewer cannot wish more for it than that the present generation of students may find it as satisfactory as did their predecessors. There are, however, nowadays other and newer books competing for the favour of the student of midwifery, and one cannot but feel that Professor Fothergill's book might have been improved by an attempt to present the subject on rather more modern lines. In his preface Professor Fothergill says that in revising the book he has been "impressed by the trifling nature of the advances made in the ancient art of midwifery." The reviewer confesses to feeling similarly impressed with the trifling nature of the advances and changes made in this book since the appearance of the first edition in 1896. Be it observed that no criticism is offered as to the soundness or modernity of the teaching (except as indicated below), but it smacks a little of the archaic to see the old terms "reflexa" and "serotina" still applied to the decidua; is it not waste of space in a student's textbook to explain the misconception which led to the establishment of that nomenclature by John and William Hunter? This is only one example of what is meant. Another point which the reviewer noticed is that occasionally the writer's meaning is obscured by tautology. What, for example, is to be made of the following: "It is desirable to measure the patient's waist over the skin. This measurement is usually less than the measurement taken over the clothes at the same place. The measurement over the clothes should really be a little larger than that taken over the skin"? Statements like these make one feel that the revision of the book has been somewhat perfunctory.

Professor Fothergill says that "the spread of Caesarean section has been accompanied by some loss of interest in the abnormalities of the bony pelvis, the mechanisms characteristic of them, and the 'obstetric' methods of dealing with them." This, if true—and we fear that to some extent it is true—is deplorable; it is disappointing, therefore, to find Professor Fothergill dismissing the important subjects of the mechanism and treatment of labour in a flat pelvis in rather less than two pages. Furthermore, he recommends the early application of forceps after the dilatation of the cervix is complete, "as this saves exhaustion to the mother and risk to the child, and causes no danger if extraction is not hurried." There is no suggestion in this of the enormous value of giving the head plenty of time to mould. We wonder if this represents the deliberate teaching of the Manchester school of obstetrics. It is true that the recent report of St. Mary's Hospital presented positively startling statistics in regard to the treatment of contracted pelvis, the great majority being treated by Caesarean section, while the forceps operation had been relegated to a position of very diminished importance. Unfortunately, the data in that report were hardly full enough to enable a proper judgement to be formed, and one must recognize the great frequency of bad degrees of rickets in Manchester. But it is just possible that this enthusiasm for Caesarean section may prove to be a passing phase, and, if so, one feels doubtful as to the wisdom of inculcating it as accepted teaching in a book of this sort.

A TEXTBOOK OF PATHOLOGY.

THE seventh edition of the *Textbook of Pathology*,[3] by Drs. ALFRED STENGEL and HERBERT FOX of Philadelphia, has been extensively revised: new sections have been added and some sections have been rewritten. The book, which is of over 1100 pages, endeavours to be comprehensive, and deals not only with the morbid anatomy and histology of disease, but also includes chapters on bacteria, methods of transmission of disease, and animal parasites. It also includes the discussion

[2] *Manual of Midwifery.* By W. E. Fothergill, M.A., B.Sc., M.D., Professor of Obstetrics and Gynaecology, Victoria University of Manchester. Fifth edition. Edinburgh: W. Green and Son, Ltd. 1922. (Cr. 8vo, pp. 488; 103 figures, one double coloured plate. 10s. net.)

[3] *A Textbook of Pathology.* By Alfred Stengel, M.D., Sc.D., and Herbert Fox, M.D. Seventh edition, reset. Philadelphia and London: W. B. Saunders Company, Ltd. 1921. (Roy. 8vo, pp. 1111; 509 figures, 15 plates. 42s. net.)

of the anatomical lesions associated with diseases of the nervous system, the eye, the skin, and the ear. Gout, diabetes, and acidosis are only lightly touched upon in a short chapter headed "Disorders of nutrition and metabolism," in which also "fever," "beri-beri," and "pellagra" are included. The two latter conditions are stated to be due to the absence of substances to which Funk has given the name "vitamins." This, except for one line at the beginning of the chapter, is the only reference made to substances which recent investigations have shown possess considerable importance. They are not even mentioned in discussing the etiology of rickets. The book, however, hardly touches throughout on the chemical side of disease.

One of the sections rewritten is that on nephritis; the classification adopted is, it is stated, based on clinical grounds, but the account leaves the reader with a rather bewildered impression. A short account of modern views on the anatomy and physiology of the organ is given, in which the authors state that the glomerulus secretes a dilute plasma, and that the function of the tubules is reabsorption. The description leaves the question of any secretory activity of the tubular epithelium entirely indefinite; in fact, it is hardly mentioned. Great faith appears to be placed in the phenolsulphonephthalein test to determine whether a renal lesion is present or not. The basis of classification is that tubular changes are characterized by pronounced albuminuria, low blood pressure, and oedema, which may become chronic and form the large white kidney, while glomerular changes are characterized by little albumin, high blood pressure, and uraemia. This position is a difficult one from which to form an understandable classification, for cases of nephritis at times are met with which can be observed to pass from one group to the other.

The section on influenza also has been rewritten. Pfeiffer's bacillus is considered, on present evidence, to be the most likely cause of the infection. The difficulties attending the culture of this micro-organism are rightly insisted on as an important factor in the value of evidence of its prevalence in any particular outbreak. Great stress is laid upon the bacillus as the prevalent organism in a type of chronic bronchitis which tends to form bronchiectatic cavities; this contention is based on work done by the authors. They also maintain that a vaccine of the organism has curative value in chronic cases of this nature. They, however, allow that such lung conditions are almost always accompanied by other infective organisms, so that the specificity of the relation between Pfeiffer's bacillus and the lesions is not proved. They state that influenza is a "toxaemia" in which the "virus" spreads rapidly through the body, and not a simple upper respiratory tract infection; they describe lesions in many other parts of the body, but fail to explain why the usual view that the "toxaemia" or general clinical reaction is due to an infection of the upper respiratory tract as primary cause does not afford a satisfactory explanation of the pathology of the condition. It is also not clear what is implied in the use of the term "virus" in such a condition, whether it refers to the organism itself or its toxic products; a search in Chapter VIII, on "Bacteria, their nature and action," does not remove the difficulty. In this chapter Ehrlich's side-chain theory is described at length; it is held to explain the phenomena of immunity; but this is a position difficult to maintain at the present day.

From the above examples it will be seen that controversial matter is easy to find in the volume, and that the views given are not always easy to follow or necessarily those most widely held by pathologists in general.

The book is profusely illustrated, but many of the illustrations are far from satisfactory; certain of the photographic reproductions are only decipherable with much difficulty, and almost all the illustrations suffer from the absence of any detailed description of what they represent, or any lettering to indicate the important points intended to be shown. One feature of very doubtful value is the modification of illustrations from other textbooks, especially when such illustrations were originally drawn from actual specimens. The absence of any form of authors' index or any system of references diminishes the value of the book as a work of reference. There is, however, a fairly complete subject index which enables the authors' views to be arrived at. Regarded as a student's textbook, the attempt to include an account, often involving much detail, of all sides of pathology in a single volume must lead to the inclusion of a large number of statements open to criticism, and to a volume somewhat indigestible for the average reader.

PUBLIC HEALTH CHEMICAL ANALYSIS.

THERE are already so many standard works on chemical analysis suitable to the needs of public health officers that there hardly seems room for another volume on the subject unless it has an outstanding individuality, and this cannot be said to characterize *Public Health Chemical Analysis*,[4] by FREDERICK and FORSTER. It is not quite clear for whom the work is intended: if for public analysts, it does not contain enough information; and if for medical officers of health, who do not do much actual analysis, though they are expected to be able to interpret results, it is not sufficiently explanatory and presumes more knowledge in the reader than most of them possess. Almost on the first page the authors, when describing the manner of using the chemical balance, say, "the balance must be at rest during the moving of weights or objects on the pans." This would be understood by a trained student, but one who is untrained should be told that "the balance beam must be removed from the agate knife edges during the moving of weights," etc.

The best portion of the book is that which deals with the collection of samples of air and of water, and in this respect medical officers of health may find it of value. Haldane's apparatus for the estimation of carbon dioxide in air is recommended in preference to Pettenkofer's or the Lunge-Zeckendorf method. The description of Haldane's apparatus is clear and concise. The directions for the collection of water samples are those which are usually sent out from public health laboratories, and the particulars it is recommended the collector should be asked to submit are fairly complete. Half a dozen pages are devoted to sewage, trade waste, and effluents, and there are chapters dealing with milk, butter, bread, and other foodstuffs. The illustrations are carefully selected, and help in elucidating the text, while the tables and formulae given in the appendix will no doubt be found useful.

A NEW REACTION FOR SYPHILIS.

SINCE the introduction of the Wassermann reaction for the detection of syphilis many other so-called colloidal reactions have been introduced, with special reference to the examination of the cerebro-spinal fluid in cases in which syphilitic disease is suspected in the central nervous system. Of these the colloidal gold reaction of Lange, the gum-mastic test of Emmanuel, and the Berlin-blue test (Kirchberg) are the best known. These are described with some detail in a book[5] which has newly appeared in Paris. The imperfections of various methods are pointed out in it, but the main purpose of the authors, MM. GUILLAIN, LAROCHE, and LECHELLE, is to urge the importance and infallibility of their own similar test with colloidal benzoin. The details for carrying it out and evidence of its value clinically are set out at length. If it should prove to be what they state, observers will be provided with a simple and trustworthy means of diagnosis. In this country no doubt a bevy of investigators would have been content to publish their results and anticipations in a paper read before some medical society, and would hardly have considered a whole book (albeit not a big one) necessary for the purpose.

NOTES ON BOOKS.

IN *The Clinical Examination of Surgical Cases*[6] Mr. J. RENFREW WHITE, of Dunedin, New Zealand, outlines in tabular form a series of systematic methods for the examination of different types of surgical cases. The book is difficult and depressing, if not impossible, to read—in the study—but it will be of value to the medical student at the bedside by helping him to train himself in habits of careful and systematic examination of cases and case-taking. As hospital records suffer greatly from the lack of uniformity in the methods by which they are kept such a volume as this might also be of considerable value in serving as a basis for the systematization of case records. The author gives sixty-seven different tables of methods of investigation in different types of surgical cases, based upon his simple general method. The volume may be commended to teachers of clinical surgery.

[4] *Public Health Chemical Analysis.* By Robert C. Frederick and Aquila Forster, Ph.D., M.Sc., A.I.C. London: Constable and Co., Ltd. (Demy 8vo, pp. 305; 60 figures. 21s. net.)

[5] *La réaction du benjoin colloïdal et les réactions colloïdales du liquide céphalo-rachidien.* By Georges Guillain, Guy Laroche, and P. Lechelle. Paris: Masson et Cie. 1922. (Med. 8vo, pp. 146; 28 figures, 4 plates. Fr.12 net.)

[6] *The Clinical Examination of Surgical Cases: A Handbook for the Use of Students and Practitioners.* By J. Renfrew White, M.B., F.R.C.S.Eng. Dunedin: J. Wilkie and Co. 1922. (Cr. 8vo, pp. 128.)

NATIONAL COUNCIL FOR MENTAL HYGIENE.

A MEETING was held at the house of the Royal Society of Medicine on May 4th in connexion with the formation of a National Council for Mental Hygiene. Sir COURTAULD THOMSON, K.B.E., C.B., was in the chair, and there was a very large attendance.

The CHAIRMAN said that the platform was fortunate in having upon it so able an exponent of the views of the promoters of the Council as the President of the Royal College of Physicians (Sir Humphry Rolleston). A most sympathetic message had been received from the National Council of Mental Hygiene of America, and he trusted one of the results of that day's proceedings would be that Great Britain for the first time would be able to take her proper place in the international conferences on this subject. The Minister of Health had assured him of his sympathy and support.

Aims of the Movement.

The objects of the National Council, continued Sir Courtauld Thomson, were for the benefit of the whole country; all the skill, devotion, and energy of the medical profession would be of little avail without the whole-hearted support of the general body of the public. Laymen on the Council might relieve their medical and scientific colleagues of much of the work in connexion with organization and propaganda. He made an earnest appeal for the support of laymen, to whom the institution of this Council offered an opportunity for co-operating with the medical profession in helping forward the health and mental soundness of the nation.

Sir HUMPHRY ROLLESTON then explained in more detail the aims of the movement. After a reference to the present-day emphasis upon preventive medicine and to the amount of careful study which was being directed to the detection of the early symptoms of functional disorder, he pointed out the difference between bodily and nervous derangement. The man whose lungs or stomach were not up to the mark was still able to take his part in the work of the world, whereas the man who suffered from mental disorder, however slight, was to a much greater extent incapacitated. It was true that much had already been done in the direction of study of mental hygiene, but as compared with America, where they seemed to have a special genius for combining for action, the workers in this country on the subject had been less successful. The American Council of Mental Hygiene, founded in 1908, had done much good work; in 1918 a similar council was started in Canada, and in December, 1920, the French League of Mental Hygiene was inaugurated. It was important that a National Council on the same lines should be called into being in this country to confer with the National Councils, pool and disseminate the information thus obtained. In the work of preserving healthy minds in healthy bodies there was a crying need for helpers in other branches than those of medicine. The objects of the proposed British National Council would include organized co-operation with societies and associations engaged in promoting the study of mental disorders, the welfare of the insane, the various aspects of mental deficiency, and the problems of industrial psychology. The etiology of minor mental disorders, which were multiple and included heredity, environment, the influence of alcohol, syphilis, and the poisons met with in trades, such as lead, would be studied. The somewhat neglected subject of mental hygiene would be advocated for a more prominent place in the medical curriculum. Assistance would be given towards the establishment of psychological clinics at the general hospitals for the treatment of early cases of mental and nervous disorders. A judicious propaganda would be carried out, putting forward the principles underlying mental health and disease, so that parents and teachers should realize that in their hands lay the making or marring of their children's and pupils' lives; and conferences would be held with the National Councils of other nations engaged on the same kinds of study.

Appointment of Council.

It was then unanimously agreed that a National Council for Mental Hygiene be formed, and on the proposition of Sir FREDERICK MOTT, seconded by Dr. FARQUHAR BUZZARD, Sir Courtauld Thomson was elected President. Lord SOUTHBOROUGH proposed, and Lady DARWIN seconded, that the following should comprise the provisional committee, with authority to act for one year:

Sir Humphry Rolleston, President of the Royal College of Physicians of London; Sir Charles Sherrington, President of the Royal Society; Sir John Goodwin, Director-General, A.M.S.; Sir George Newman, Chief Medical Officer, Ministry of Health; Sir Walter Fletcher, F.R.S., Secretary of the Medical Research Council; Dr. C. Hubert Bond, President of the British Medico-Psychological Association; Dr. Bedford Pierce, President of the Section of Psychiatry of the Royal Society of Medicine; Professor George Robertson, President-elect of the British Medico-Psychological Association; Dr. C. S. Myers, F.R.S., Director of the National Institute of Industrial Psychology; Sir Norman Moore, Dr. G. Ainsworth, Dr. Helen Boyle, Dr. Edwin Bramwell, Dr. Farquhar Buzzard, Sir Maurice Craig, Lord Dawson of Penn, Sir Bryan Donkin, Dr. Elliot Smith, F.R.S., Dr. Edwin Goodall, Dr. Henry Head, F.R.S., Dr. Crichton Miller, Sir Frederick Mott, F.R.S., Dr. W. H. R. Rivers, F.R.S., Dr. T. A. Ross, Dr. Tredgold, Dr. W. Worth.

Dr. H. B. BRACKENBURY doubted whether it was a wise thing to give the Committee power for as long as twelve months. He thought it very important also that the Council should have a representative character and not merely consist of eminent persons: societies which had been doing very good work along similar lines ought to be represented. Another speaker supported Dr. Brackenbury, and stated that too many of those proposed as members of the Committee had been responsible for what he termed "the bad old days." The atmosphere of the asylum was contrary to all their ideas of mental hygiene, and he would not have the Committee include any ex-superintendents of asylums.

The CHAIRMAN said that the names suggested were those mentioned in his recently published letter (BRITISH MEDICAL JOURNAL, April 1st, p. 538). He would be very glad to receive suggested names of persons whom the Committee might co-opt, but that meeting was not the proper place in which to discuss the merits of any particular individual. He hoped that there would be no hostile amendment. Dr. BRACKENBURY said that he had not the slightest intention of being hostile. The name he had in mind was that of Sir Leslie Scott, and he urged that the Solicitor-General should be put on the Committee straight away. This amendment was accepted, and it was also agreed that the Committee should be elected for six months. The CHAIRMAN remarked that the constitution of the Council had not yet been drawn up, but this would be done by an eminent firm of solicitors.

The Study of Mental Hygiene.

Dr. HENRY HEAD then delivered an address, in which he said that mental hygiene was the application to the life of the community of highly specialized scientific work, the results of which belonged to the most diverse categories of knowledge, and were gathered by workers in widely different fields. He pleaded for the co-ordination of the results of these multifarious activities in so far as they had a bearing on the mental health of the community. By mental hygiene was meant the maintenance of that state of health in which the human being could respond normally to the calls made upon him by daily life. It was as important to every man as the sanitation of his home. Every year we were learning more and more how inextricably mind and body were intermingled, even in the simplest mechanical acts. The evil effect of repression was one of the most important therapeutic lessons learned from the war. When he (the speaker) was working for the Royal Air Force, a pilot would be sent for examination because he was making bad landings, and would complain that although he always carried out the manœuvre in the same way, it no longer came off with certainty: something had happened to destroy his skill. On closer investigation the cause of this loss of mechanical aptitude would be found on the physical or on the mental side: either he had some definite bodily ailment or was suffering from one of the many forms of anxiety. Moreover, this want of skill was usually accompanied by disturbed sleep and unpleasant dreams, which revealed the anxieties and fears so commonly accompanying what seemed to be a purely physical disturbance. The hard and fast line so commonly drawn between organic and functional conditions was grossly fallacious. No structural disease was free from its mental concomitants, and every mental state had its bodily equivalent. So-called "nerves" produced more individual and corporate misery than cancer. The condition was an evidence that something was wrong beneath the surface of the mental life, for subconscious processes were the link between the body and the mind. Dr. Head went on to say that had a knowledge of mental hygiene been more prevalent we should have been spared the crazy exhibition of suggestion to which the public had recently been exposed. We were advised, when the drain was obstructed, not to clear the effluent, but to say "Ça passe," in the hope that thereby the noxious effluvia would be dissipated. How widely the study of

mental hygiene entered into the life of the community was shown by recent research on industrial fatigue. Many years ago it was discovered, mainly by work in America, that the output in certain laborious occupations could be increased by eliminating unnecessary movements. This study had already grown enormously, but the aim of the investigator had changed. He was concerned no longer with the commercial aspect, but was now attempting to increase the efficiency of the worker by removing unnecessary causes of fatigue, and some striking results had been obtained, which Dr. Head described in detail. He considered that there was little doubt that much industrial unrest was due to the worry and fatigue induced by unsatisfactory working conditions, and while the State insisted on physical hygiene of the strictest order, they that day were pleading for an equivalent mental hygiene. True education was also, after all, but a branch of mental hygiene. If mental hygiene was of such universal importance in the conduct of daily life, how much more must knowledge of its laws be imperative for all who attempted to give advice in disease. Every medical man should be aware of the morbid mental states which were liable to accompany any organic disease or disturbance of function. He should be able at once to trace to their sources those ideas and feelings which occurred in persons who were not insane. Nurses also should have a knowledge of morbid psychology. Another class for whom knowledge of mental hygiene was profoundly important was ministers of religion, for depression in an early stage not uncommonly assumed a religious form. "The known is no longer terrible," said Dr. Head in conclusion, "but we dread and shudder before what we do not understand, particularly if it is something mental. We accept a physical disability, like a broken arm or an injured knee, and take our measures accordingly, but we are paralysed before things of the mind. Complete understanding abolishes fear and restores freedom of action. In the name of mental freedom I plead with you for the wide distribution of that most potent knowledge we know as mental hygiene."

Sir LESLIE SCOTT, the Solicitor-General, said that bad cases of mental deficiency were very easy to deal with. Institutional accommodation was effective and was the only satisfactory treatment. The difficult cases were those on the border line, such as cases in which conduct bordered on the criminal, and it was most essential here that the different bodies dealing with mental hygiene should be brought into close touch by some unifying organization. Persons who committed crimes because they were wrong mentally should be dealt with medically, and those who had to administer criminal justice should have the assistance of experts in such matters. There was in the public mind a tendency to fear that the medical officers of mental hospitals were overriding the rights of the lay public. That was a bogy; yet the fact that such a tendency existed should make it necessary to strengthen the lay side of such a council as was being brought into existence. If the doctors would welcome the co-operation of laymen and laywomen of sense it would have a great influence in bringing about a reaction of public feeling.

Sir JOHN GOODWIN spoke briefly of the matter from the point of view of the army. He insisted upon two points: the earliest possible detection and treatment of any mental aberration, and the careful and thorough treatment during convalescence of every case that had been through mental illness in order that recovery might be permanent and complete.

Sir MAURICE CRAIG said that for as long as he could remember this branch of medicine had worked under two important disabilities—the legal restrictions surrounding it, and ignorance on the part of the public as to what was meant by "mental disorder." The term "mental" always conveyed something uncanny, unhappy, and formidable to the lay mind. The wrong conceptions which were popular with regard to mental disorder must be eradicated, and the barrier which separated mind from body removed. Instruction would be one of the aims of this new council. It was well known that a very large amount of mental disorder could be prevented. It was bad medicine and poor economy to build vast institutions for the care of the mentally afflicted, when more money, time, and thought might be spent in preventing the bad conditions which caused the trouble. The public had awakened only recently to the fact that there were no real facilities for dealing with functional nervous disorders in this country at all, with the exception of such an institution as the Lady Chichester Hospital, whose promoters deserved all credit. If anyone asked why one more council should be added to the many bodies already in existence, his reply would be that it ought to have made its appearance long since.

The proceedings then terminated. The address of the honorary secretary of the National Council is 51, Green Street, W.1.

NOTIFICATION OF VENEREAL DISEASE.

CONFERENCE AT THE LONDON GUILDHALL.

AT the request of the Corporation of London, a conference was called at the Guildhall on May 3rd by the National Council for Combating Venereal Diseases to consider how infected persons could best be retained under treatment until free from infection. Lord GORELL, and at a later stage Sir MALCOLM MORRIS, presided over the conference, which was attended by a large number of medical officers of clinics and representatives of public health committees from various parts of the country.

The LORD MAYOR OF LONDON, in welcoming the members, said that the idea of a conference arose out of the experience of the Sanitary Committee of the Corporation that the results of the arrangements for dealing with venereal disease left much to be desired. The expenditure was £3,000 a year, and last year, out of 1,391 people under treatment, 831 left off attending the clinic while still in an infective condition.

For and Against Legislative Measures.

The proposal for fresh legislation was put forward by Dr. C. J. MACALISTER, who thought that some public measures must be taken to impress upon the people the fact that the authorities took a really serious view of the effects which might follow promiscuity. Public opinion was prepared for legislation, and much less importance might now be attached to secrecy than at the commencement of the antivenereal campaign. Control, both for the sake of the individual concerned and the community, should be exercised throughout the period of treatment. Legislation would necessarily be on the lines of notification. At present there was no obligation for the infected person either to be treated or to remain under treatment. If these diseases were brought out into the open, classified among the other contagions, and dealt with accordingly, they would be brought into proper perspective in relation to morals. Notification itself would be a great means of public education; it need not involve aggressive action any more than in the case of other notifications.

Lady BARRETT pleaded for education rather than compulsion as a means of attaining continuity of treatment. Apparently the anxiety of those hitherto responsible for educative measures to assure the public of the possibility of cure by early treatment had led to a false sense of security. It was not understood that the quick cessation of symptoms in syphilis did not mean cure; that injections of salvarsan could not be relied upon without prolonged treament by mercury as well; and that when the reaction became negative it did not necessarily mean an absence of sequelae. The serious dangers of gonorrhoea, especially in women, also were not appreciated. Most medical men found less difficulty in ensuring continuity of treatment with private patients than with patients at clinics, probably because the former received a more complete education as to the necessity for continuance, and also because people valued more highly that for which they had to pay. It was impossible to compel people suffering from venereal disease to go to a doctor, for no patient could be expected to diagnose his own case, and presumably no one could be said to have venereal disease until he had been seen by a doctor. Again, any penalty for non-continuance could only follow upon evidence given by a doctor, and this would tend to uproot confidence between doctor and patient. If the threat of force influenced some patients to continue treatment, it would deter others from seeking treatment at all. It would also be extremely difficult to prosecute a person said to be suffering from syphilis for not attending until the completion of treatment if in the meantime he showed a negative reaction. She suggested that a more real conception of the nature of the disease should be placed before those attending the clinics; that treatment should be paid for by patients according to their ability; and that the medical profession should consider whether etiquette could not be relaxed so as to allow the doctor after due warning to take measures to prevent the marriage of an infected person.

Mr. CHARLES GIBBS said that the follow-up system had failed. At the London Lock Hospital 908 follow-up letters were written in 1921, but treatment was resumed in only 53 cases in consequence. If a patient received free treatment for a voluntarily contracted disease he incurred some liability to the State which treated him, and this liability could be crystallized into some measure of notification on cessation of treatment. Such notification would involve a report to the medical officer of health, who would be given powers to warn a patient that if he did not continue treatment he would be ordered by a competent legal authority to do so. The clinics as at present constituted were doing such excellent work that they could withstand the taking of such measures.

Dr. J. H. STOWERS said that the principle of notification as applied to zymotic and other infectious diseases had been too long established for its efficacy to be questioned. The time had arrived for a discussion of modified notification of venereal disease. Every possible assistance should be given by the members of the medical profession, but he did not think that they should be the prime movers in the matter.

Liverpool—West Australia—Ontario.

Dr. WILLIAM HANNA said that at the Liverpool clinics in 1921 the number of new cases was 4,800, and of attendances 73,000, but 50 per cent. of the patients gave up treatment before they were free from infection. The annual cost was approximately £16,000. The Liverpool City Council had approved certain proposals to ensure an adequate return on their money, and the proposals had also received the unanimous approval of the Merseyside boroughs.

These suggested regulations provided that every person suffering from any form of venereal disease, as soon as he was aware or had reason to believe that he was so suffering, should consult a medical adviser, and continue to attend his medical adviser until he was deemed free from infection. The doctor should direct the patient's attention to the infectious character of the disease and to the necessity for continuing treatment; he should also arrange for the transfer of the case to another medical adviser when the patient desired. If the patient discontinued treatment without adequate reason the doctor should report to the medical officer of health, who would make inquiries, and, unless satisfied, would cause information to be laid against the patient in a court of summary jurisdiction.

It was also laid down in these regulations that no person should knowingly or wilfully infect any other person, or do or permit any act likely to lead to such infection, the penalties being those provided in Section 1 (3) of the Public Health Act, 1896.

Dr. L. STEWART SANDEMAN said that the returns made by officers of clinics already amounted to a form of notification (of cases, not of names), and the notification of ophthalmia neonatorum had been compulsory for some time, and no exception had been taken. If the necessary powers to compel persons to continue treatment were granted to local health authorities it would no more lead to a breach of professional secrecy than the present system, except in the case of those who deliberately refused treatment after repeated warnings, and public opinion would agree that such persons had put themselves outside sympathetic consideration. She referred to the legislation in Western Australia, where notification was made compulsory, without publication of name and address, and any proceedings were heard *in camerâ*. She favoured a measure which would compel persons who knew or suspected that they were suffering from venereal disease to place themselves under treatment and to continue it until the infectious stage was passed, and would also call upon every medical practitioner to report cases treated by him. It must be a basic principle of any legislation to make it an offence knowingly to infect another person, or do or suffer any act likely to lead to infection of any other person; and legislation must be under public health, not police, administration.

Lieut.-Colonel T. F. RITCHIE (late director, Venereal Diseases Section, League of Red Cross Societies) gave an account of the system of notification and compulsory treatment adopted by the Provincial Government of Ontario.

This Canadian system provided for notification to the medical officer of health of every case of venereal disease as soon as it came under treatment; the notification was anonymous, serial numbers being used. Every person infected must seek treatment from a practitioner or apply to the medical officer of health, and was bound to continue treatment until pronounced non-infective. Should he fail to do so, he became liable to fine or imprisonment.

The medical officer of health was empowered to require any person who he had been credibly informed was infected with venereal disease, and had infected or was liable to infect other persons, to consult a medical man, and to produce a certificate that he was or was not so suffering. If such a certificate was not forthcoming the officer was empowered to order an examination of the person so reported, and, if considered necessary, the officer could order his detention and isolation.

The Ontario health officers were confident that their administration of the Act had not led to the concealment of the disease, nor to blackmail, nor to sex discrimination. But the adoption of compulsory measures would make it necessary to establish some standard of non-infectivity, particularly in regard to chronic gonorrhoea in women, and some standard minimum course of treatment and standard of cure in syphilis.

Mr. E. B. TURNER said that one of the objections put forward against notification was that it would drive people to have recourse to quacks or to forgo treatment altogether. But in places where a scheme of notification had been adopted this had not been the experience. From the replies to the questions sent out by the National Council it appeared that the very large majority of the persons consulted were in favour of some form of modified notification and continuous treatment. If compulsion was to be brought about it would be far better to do this by amending legislation than by an order of the Minister of Health.

General Discussion.

About twenty other speakers took part in the general discussion. The majority were in favour of some measure of notification. The feeling in favour of notification appeared to be less marked among the laymen who spoke than among the medical men. Dr. MARGARET RORKE (Blackfriars) said that, in spite of every effort at education and persuasion, a large number of patients at her clinic stopped short of treatment long before they were non-infective, and she believed the time had come for notification of such recalcitrants. Dr. LOUIS PARKES (M.O.H. Chelsea) pointed out that it would not be necessary to have fresh legislation, for the Ministry of Health was already empowered under the Public Health Acts to make the necessary regulations. Dr. DAVID NABARRO suggested that when the health authorities got hold of a syphilitic family by detecting a congenitally syphilitic child they should mark that family and endeavour to induce the mother, should she become pregnant again, to submit herself to treatment. Dr. CHARLES FRANKS (Durham) was inclined to think that legislation would not be beneficial; in any case 95 per cent. of the work must still be done by persuasion. Dr. HAMILTON WOOD (M.O.H. Warwickshire) thought that it would not be just to introduce legislation enforcing continuous treatment on those who had already voluntarily submitted to treatment without at the same time insisting upon all infected persons submitting themselves for treatment. Further, until facilities were complete, power should be given to county councils to adopt compulsory measures only in those areas where proper facilities were available.

Dr. MARY STURGE thought that before a definite decision was arrived at all possible evidence relating to the working of compulsory methods in other countries should be studied. There was still room for educational methods before resorting to compulsion. Dr. LYDIA HENRY (Blackburn) also was of opinion that the resources of education were not exhausted. Dr. WANSEY BAYLY (honorary secretary, Society for the Prevention of Venereal Disease), speaking personally, advocated a scheme which insisted on the immediate notification of primary and secondary syphilis to a special medical officer of health, and the infliction of heavy penalties for omission to notify. Dr. LETITIA FAIRFIELD reminded the conference of the greater reponsibility which would be thrown on social workers by the adoption of compulsory methods, for such workers must necessarily play an important part in the machinery necessary for carrying out any system of notification. She suggested that it might be advisable to make syphilis notifiable first, and when that had proved a success to go on to gonorrhoea.

Among the laymen who spoke, the MAYOR OF FULHAM was adverse from compulsory notification, which, he thought, would prevent persons from seeking medical assistance. A representative of the Association for Moral and Social Hygiene was also strongly opposed to legislation; and others spoke in the same sense. On the other hand, the Chairmen of the Paddington and the Battersea Propaganda Committees of the National Council favoured a modified scheme of notification, and the same view was urged by the Chairman of the Scottish Committee. In reply to a Scottish representative, who suggested that the National Council should form a Committee of Inquiry to go publicly into the question and see what measures could be taken to make notification effectual, Sir MALCOLM MORRIS said that this suggestion

would be considered, along with all the other suggestions which had been made at the conference.

No resolutions were submitted (other than votes of thanks), but it was understood that the conference came together for the expression of representative opinions to guide the National Council, and not for the passing of resolutions which might bind it. Certainly the suggestions put forward in a five hours' discussion were varied enough to give the National Council material for consideration. They ranged from proposals for the better education of the public, especially young women and expectant mothers, to a drastic measure, suggested by Dr. JAMES BUSFIELD, for preventing sexual intercourse with a person suffering from venereal disease.

The Lord Mayor and Dr. James Howarth, the medical officer of health for the City, were warmly thanked for the part they had taken in initiating the conference.

THE HUMAN NEO-CEREBELLUM.

PROFESSOR WINKLER'S LECTURE.

AN exchange lecture arranged by the University of London was delivered at the house of the Royal Society of Medicine on May 3rd by Dr. C. WINKLER, professor of clinical psychiatry in the University of Utrecht, who took for his subject the human neo-cerebellum. Sir FREDERICK MOTT, K.B.E., M.D., F.R.S., who took the chair, welcomed the lecturer as one whose neurological work was known all over the world, and who was director of an institution which could be regarded as a model of its kind.

The lecturer, who spoke in English, first paid a tribute to the British school of neurology and physiology for their work on the functions of the cerebellum, and especially to the memory of Hughlings Jackson, whose clear views on cerebellar functions came as a revelation to his contemporaries.

Professor Winkler introduced the subject of his lecture by an account of a case of olivo-ponto-cerebellar atrophy; the account was illustrated by lantern slides showing the condition found *post mortem*. The patient was a man who was under Professor Winkler's observation for five years, and died at the age of 59; one brother was similarly affected and died of the same disease.

When the patient was first seen the regular symptoms of cerebellar ataxy were present. At the age of 50 the patient had complained of dizziness on moving his head up and down, and at the age of 52 he had the staggering gait of a drunken man. In a very short time his speech became affected. At the age of 53 the patient presented the following characteristic signs and symptoms:

1. *Dysmetria* in all his movements was marked. He could not touch a defined spot with his blackened forefinger. He always pointed with his right forefinger above and to the right, and with the left above and to the left. In later years his movements deviated in other directions.
2. *Dyssynergia*.—On moving his trunk backward she fell with extended legs, never making flexion of the knees. Later all his movements became helpless. When put on his legs he moved the trunk to the left, and trampled desperately with his legs in the air.
3. The upper limbs were very atonic, and there was marked dysdiadokokinesis on both sides. It was difficult to estimate the tonus in the lower limbs. The knee and Achilles reflexes were exaggerated. Babinski's sign was never observed.
4. He spoke as if a potato were in his mouth, which made the words unintelligible, and a kind of gibberish.
5. Nystagmus was never observed.
6. He responded well to all tests of touch, pain, and temperature.
7. Vision was bad owing to strong myopia caused by staphyloma posticum without optic atrophy.
8. In the earlier stages hearing was good and the vestibular reflexes were normal. During the last year of his life he became deaf.

He died of pneumonia at the age of 59.

At the autopsy the brain weighed 1,380 grams—a good average weight. There was no affection of the vessels or membranes and nothing abnormal noticeable, except a small pons, a failure of prominence of the olivary bodies, and a smaller cerebellum than normal. Serial sections of the pons and medulla with the cerebellum were made and stained by the usual methods to show the conditions of the cells and fibres. A marked abiotrophy of the pontine, olivary, and arcuate nuclei was demonstrated in Nissl-stained sections; the other nuclei were intact. As a result of this neurone atrophy certain fibre systems were seen to be absent when compared with the normal.

These facts were demonstrated by means of Weigert-stained specimens projected by the lantern. Thus the inner portion of the inferior peduncle, which consists of fibres from the inferior olive and arcuate fibres, was sclerosed, and a very great falling out of fibres from the pons to the middle peduncle was obvious. Consequently, there was compared with the normal a great loss of fibres in the medullary rays of the cerebellum, but around the dentate nucleus the white matter was well stained, showing that the fibres entering this nucleus were not atrophied. The superior peduncle showed no degeneration. Whereas there was great loss of fibres in the plexus of the granule layer of all the lamellae, the fibres around the Purkinje cells showed a well-marked pericellular fibre plexus. The climbing fibres of the spinal tracts of Gowers and Flechsig have their terminal arborizations in this plexus.

Granted, then, that there was a primary systemic abiotrophy of neurones having a definite destination to the whole of the lateral lobes of the cerebellum, it must, the lecturer said, be asked, What was its functional and biological significance? The nature of the problem became more apparent when these facts were correlated with the results of experimental lesions in animals and embryological investigations on the development of the nervous system in the human subject.

Professor Winkler mentioned the effects of experimental removal of the cerebellum in animals, and showed sections in which the flocculus on one side had not been extirpated. He concluded from a study of Marchi preparations that as long as the layer of granules persisted there was no loss of cells in the nuclei connected with it. The argument he adduced was that the loss of cells in the pontine, olivary, and arcuate nuclei was not consecutive to an atrophied cerebellum in which the layer of granules showed only slight alterations, as was found in the case he described. His view was, therefore, that the cerebellar atrophy which he found was due to an atrophy of the medullary rays the result of a primary atrophy of the pontine, olivary, and arcuate nuclei. The lecturer then referred to the researches of Essick upon the human foetus of 2½ cm., in which he showed that two bands of neuroblasts (the bands of Essick) exist—the one, distal, surrounding the bulb laterally, and forming later the olivary and arcuate nuclei; and the other, the proximal band which forms the pontine nuclei.

Professor Winkler expressed the view that these olivo-arcuate-pontine cells, being of later phylogenesis, have not the same vital energy to resist degeneration as is possessed by the evolutionally older cell structures, and are therefore more susceptible to abiotrophy. He considers that these cases of primary olivo-arcuate-pontine degeneration support the embryological observations of Essick, which indicate that these structures are of later evolutional development. Moreover, the olivo-arcuate fibres in the inferior peduncle are myelinated considerably later than the spino-cerebellar fibres. This was demonstrated by specimens stained by Weigert's method.

Upon these grounds Professor Winkler is of opinion that the views of Edinger and Conolly—based upon studies in comparative anatomy—that the flocculus and vermis constituted the (old) palaeo-cerebellum, and the lateral lobes the (new) neo-cerebellum, must be modified. There is not in evolution a superimposition of a new cerebellum upon an old cerebellum, but an interpolation of a new into an old structure. He points out that the preponderant importance of the floccular development is undoubtedly lost in the human subject, but that it still retains a fundamental function connected with static equilibrium. He assumes that the olivo-arcuate-pontine fibres being myelinated at a later date are of later evolutional origin.

Professor Winkler then illustrated by a wax model the evolution of the neo-cerebellum by interpolation instead of by superimposition of a new on an old cerebellum, but, although it was quite possible, he was unable to assert that there was successive myelination of the cortical cerebellar fields which corresponded to the myelination of the spinal, arcuate, olivary, and pontine fibres.

A vote of thanks to the lecturer was proposed by Dr. HOWARD TOOTH and seconded by Dr. HENRY HEAD, who took the occasion to praise the valuable work which was being done by the exchange of lecturers and to point out that Holland was now the only European country which could be said to be really international in its outlook towards scientific work.

THE annual meeting of the French Association for the Advancement of Science will be held from July 24th to 29th at Montpellier.

THE Board of Trade is instituting an inquiry into complaints under the Safeguarding of Industries Act that boric acid and metaldehyde have been improperly included in the list of articles chargeable with duty under Part I of the Act, and that gallic acid and "R" tannic acid have been improperly excluded.

British Medical Journal.

SATURDAY, MAY 13TH, 1922.

EXCHANGE LECTURES.

THE University of London is to be congratulated on the initiative it has shown in arranging the series of exchange lectures with professors in the Faculty of Medicine of the University of Paris and in the Medical Faculties of certain Dutch universities. Nothing is more conducive to the development of the scientific spirit than a wide interchange of ideas. Too often difficulties of situation and of language circumscribe the results of some brilliant investigation, and from an educational point of view nothing equals the directly spoken address by one who is a master of his subject.

In the lecture which Professor A. Chauffard of Paris gave at the Royal Society of Medicine on March 23rd, an authorized translation of which is published at page 745, he discussed a problem which he has lately been investigating with the help of P. Brodin and A. Grigaut; the lecture contained a lucid description of the results they have reached as to the nature of the humoral syndrome of gout. Professor Chauffard paid tribute to the classical work of Sydenham, Bright, Gairdner, and Scudamore; he recounted the experiments by which Garrod demonstrated the excess of uric acid in the blood serum of the gouty individual—the crystalline deposit of uric acid upon delicate threads suspended in the serum. While Garrod's method may have lacked scientific accuracy, it is remarkable how closely the quantitative results which he obtained approximate to the more exact colorimetric methods of Folin and Denis. Professor Chauffard estimates that the normal proportion of uric acid per litre of serum varies between four and five centigrams; above this point hyperuricaemia commences. The researches he described confirm the observations first made by Garrod, that in gout there is a definite hyperuricaemia. It is interesting to note that of the 27 cases analysed the only exception to the rule of hyperuricaemia was an instance of juvenile hereditary gout. In this case, while there was an excess of cholesterin and bilirubin in the serum, there was an actual diminution of uric acid. The lecturer suggested that this is to be attributed to an exaggerated permeability of the kidney, and therefore a free elimination of the acid.

In discussing the question of the source of the excess of uric acid Professor Chauffard drew a distinction between endogenous and exogenous varieties: the former he subdivided into two, according to whether the excess of acid was the result of imperfect nitrogenous metabolism and the uric acid derived from the nucleo-protein and purins of the tissues, or whether the excess was the result of a retention by the kidney—he believes that in the early stages of gout there is a holding up of uric acid by the kidney. He described a group of important experiments designed to ascertain the part the liver plays in the metabolism of uric acid. Samples of blood were withdrawn from the portal and hepatic veins of dogs: in some cases the animals were fasting, in others they were fed on a highly nitrogenous diet of sweetbread, liver, or spleen. By estimation of the uric acid content in portal and hepatic blood it was demonstrated that, when a diet containing a considerable proportion of uric acid was given, the coefficient of retention in the liver was as high as 47 to 53 per cent. It was therefore concluded that during the digestive period a greater or less proportion of the uric acid substance brought by the portal vein is retained by the hepatic cells, the liver playing the part of a regulating organ designed to prevent the passage of the excess of uric acid into the blood. The fate of the uric acid retained in the liver is uncertain, but presumably some at least is utilized in the formation of urea.

Arguing from this experimental basis, Professor Chauffard expressed the belief that the hyperuricaemia of the gouty is an evidence of an insufficiency of the arresting function of the liver, that organ being incapable of retaining uric acid brought from the alimentary canal. The excess of uric acid which thus passes into the system is disposed of in various ways: a certain proportion is eliminated by the kidneys, another part is deposited in joints as sodium urate, in the tophi of the subcutaneous tissues, and in the urate incrustations of the kidney. In addition, there is probably a slight general infiltration of the body tissues with uric acid. Patients with gout are thus suffering from a double hyperuricaemia both in the body cells and in the serum. The syndrome, however, is more complex than a simple hyperuricaemia, and Professor Chauffard and his colleagues have found that there is also an accumulation in the blood of both cholesterin and bilirubin; this they look upon as further evidence of interference with hepatic functions, and the observation may serve to explain the occurrence of gall stones as a concomitant of the gouty state.

An interesting hypothesis was advanced in explanation of the acute crises of gout. Since the researches of Widal, Abrami, and Iancovesco, we have come to look upon these crises as precipitated by a disturbance of the colloidal equilibrium very similar to an anaphylactic reaction. In the gouty individual the uric acid possibly exists in an unstable colloidal form, which at any time may be imperilled by a diversity of disturbing causes—diet, fatigue, cold, etc. If the disturbance is sufficiently intense the acute attack of gout appears, and to the general sensitiveness must be added a local sensitiveness, which causes the inflammatory process to light up always at the same point, creating thus true centres of uric acid crystallization. In fact, the clinical syndrome may be divided into three stages—a latent sensitiveness, a provocative cause, and a local manifestation.

The first of the exchange lectures with the universities in Holland was given by Dr. Winkler, Professor of Clinical Psychiatry in the University of Utrecht, on May 3rd, and a synopsis will be found at page 769. The lecture affords a remarkable example of the application of clinical and pathological observation to a problem of far-reaching scientific importance; though necessarily of a highly technical nature, it was followed with close attention by a large audience. It was a fascinating argument on the structure of the cerebellum from the point of view of comparative anatomy and embryology, and was founded on prolonged observation of a case of primary olivo-arcuate-pontine degeneration. Sections through the cerebellum show a normal amount of the old spino-cerebellar fibres, but all the new fibres, olivo-pontine in origin, entering the cerebellum in the midline have disappeared, leaving the intermingled old cerebellar fibres intact; this serves to show that an interpolation, and not a superimposition of new fibres on old, has taken place in the process of evolution. The anatomical findings support the view that the bands of Essick found in the human foetus of $2\frac{1}{2}$ cm. are of later evolutional origin, and are to be associated with the new cerebellum.

It may be asked what conditions in man can be related with the neo-cerebellum described in the lecture. We are indebted to Sir Frederick Mott, who has had the opportunity of examining Professor

Winkler's preparations at leisure, for the suggestion that it may be correlated with the dissociation of the fore limbs from progression, and the reciprocal simultaneity in the development of the visual directive and the tactile-motor executive faculty of the upper limbs, which has attained an extraordinary development in man. The clinical report shows that the pointing test failed on both sides, and that there was great incoordination and dysdiadokokinesis in both upper limbs. But it may be asked, Why no nystagmus? It may be because there was no evidence of vestibular affection and Deiters's nucleus was not atrophied. Again, bearing in mind the teaching of Hughlings Jackson that one-half of nervous symptoms should be attributed to overaction of unantagonized physiological functionally active structures, it may be assumed that there was no nystagmus because the eyes always act together and not independently; overaction of one neo-cerebellar system as compared with the other did not occur because both systems underwent a simultaneous abiotrophy. Sir Frederick Mott adds that from a biological point of view it would be of interest to know whether there is a progressive increasing development of these olivo-pontine neural structures in the lemurs (half-apes), apes, and anthropoid apes.

MENTAL HYGIENE.

IN the evolution of preventive medicine this country has played a pioneer part, and the names of Simon, Chadwick, Buchanan, Thorne-Thorne, and Power will always be remembered in connexion with sanitary science and the improvement of national health. The scope of preventive medicine has, of course, broadened and undergone the specialization that the progress of science and accumulating administrative experience have rendered necessary. Thus the control of tropical diseases is inseparably associated with the epoch-making work of Manson and Ronald Ross, while of our share in the rise of industrial medicine we can point with satisfaction to the individual efforts of Sir Thomas Oliver on lead poisoning in particular and of dangerous trades in general, to the work done by medical officers attached to the Home Office in the capacity of inspectors of factories, and to the investigations carried on by the Health of Munition Workers Committee during the war, and now the Industrial Fatigue Research Board (Medical Research Council) and its related scientific committees. The subjects of tuberculosis, cancer, alcoholism, and venereal disease have also been specially investigated by associations and other bodies in the hope of devising and enforcing efficient means of prevention. Ordinary medical disease may be compatible with fair efficiency on the part of the sufferer, but even slight mental defect is a most serious handicap to the productive work of the individual; mental hygiene is therefore the necessary supplement to physical hygiene, and the need of steps to prevent and lessen the incidence of mental inefficiency and disease has become glaringly obvious in the light of the experiences of the war. It is an economic problem of grave national importance.

Many years ago the pioneer investigations of the late Sir Francis Galton on heredity laid the foundations of eugenics as a distinct branch of science. It brought together medical, psychiatric, and sociological workers for the study and prevention of mental disorders and deficiency, criminology, and insanity; much valuable work has been done in connexion with mental deficiency, the early detection and education of abnormal children, infant welfare and after-care by various societies and associations, and by individual effort. But the study of mental hygiene has been perhaps less thoroughly organized in this country than in the United States of America, where the capacity of vigorous initiative for combined effort is such a prominent feature and where as long ago as 1908 a National Committee for Mental Hygiene was established in order to investigate the preventable causes of mental disease, the control of feeble-mindedness, and the problems of criminology. Much has been done by this vigorous committee on these lines, and reference may especially be made to the valuable work of the Phipps clinic at the Johns Hopkins Medical School, Baltimore. In our own country this example has been followed by the establishment last year, under excellent auspices, of the Cassel Hospital at Penshurst for the treatment of 60 patients—drawn from the educated classes but unable to pay the fees of ordinary nursing homes—who are suffering from nervous disturbance not due to organic change or necessitating certification. Four years ago (April, 1918) Canada started a National Council for Mental Hygiene, which enforced the principles of the earliest possible detection of mental defects, of special educational facilities in the regular schools for meeting the needs of defective children, and of the establishment of mental clinics. The French Ligue d'Hygiène mentale, founded in December, 1920, has ten committees studying various aspects of the subject—such as the relation of mental disorders to general diseases and intoxication, the struggle against alcoholism, the treatment of abnormal children, psychology of trades, the out-patient treatment of early mental disturbance, reforms in the care of the insane, the organization of psychiatric teaching, and propaganda in mental hygiene. A congress arranged by this body is to be held on June 1st to 4th next; at it the following subjects are down for discussion: the treatment of psychopaths, occupational selection in relation to mental hygiene, educational methods and applied psychology, and mental hygiene in the family. National Councils for mental hygiene not only link up the various bodies working in their own countries but, by combining with similar councils, form an international bureau for the communication of knowledge thus collected for wider distribution and for propaganda.

The proceedings of a provisional committee which held a meeting at the rooms of the Royal Society of Medicine, under the chairmanship of Sir Courtauld Thomson, on May 4th are reported elsewhere in this issue. The object was to establish a National Council for Mental Hygiene on the same lines as the National Councils mentioned above. Since its aims are wide and will extend far beyond those ordinarily regarded as the aims of pure medicine, this Council will, it is to be hoped, receive the support of many whose activities lie in other directions. It will, in the first place, encourage, correlate, and organize means of communication between the existing associations and institutions in this country interested in mental health and disease; it will join with the Councils of other nations in an international league for the spread and utilization of knowledge thus accumulated; it will study the etiology and further the prevention of functional nervous and mental disorders by investigating the problems of heredity, environment, alcohol, syphilis, and industrial and other conditions; it will endeavour to obtain for the somewhat neglected subject of mental hygiene a more prominent place in medical education, so that the newly qualified practitioner, one half of whose patients have some form of minor mental manifestation, will no longer find himself so much handicapped in his equipment; it will further the establishment at general hospitals of psychological clinics, such as Dr. H. Rayner originated many years ago at St. Thomas's Hospital, for the treatment of the early stages of mental disorders; it will investigate the means of organizing the conditions for treatment, especially of the early stages, of mental disorder, of attracting a good class of educated persons as attendants, and of arranging for

workers trained in social service to visit the patients of the psychological clinics in their homes. By judicious propaganda it will seek to spread among the general public sound knowledge of the principles underlying mental health and disease. Parents must be enlightened in the right way of bringing up their children, and schoolmasters and other teachers must be instructed in the importance of the influence that they can exert on the mental health of their pupils. Long as is this list, it does not exhaust the potential activities of the National Council; criminology and penology urgently require consideration, and, as Dr. Henry Head pointed out in his address, recent research shows the importance of mental hygiene in the life and productive power of the industrial worker.

SECOND THOUGHTS ON THE BUDGET.

THERE was a general feeling of relief when it was known that the reduction in the income tax which the daily press had foreshadowed was contained in the Government's proposals for 1922–23. That feeling was due in part to a sort of tacit assumption that the fiscal problem could not be so dangerous as had been suggested if the Chancellor could speak, with all the information obtained through official channels, of hopeful signs of trade revival and then proceed to reduce the load of taxation. A more prolonged consideration of the facts leads to a clearer recognition of the unpleasantness of having to admit that the nation must renounce for the present its programme for paying off debt, and of the lack of any solid ground for supposing that that programme can be resumed next year unless, in the meantime, there can be put into force those further and more drastic economies which are so earnestly desired by everybody and so difficult of achievement by anyone.

A factor which is sometimes lost sight of, but the importance of which it is not easy to exaggerate, lies in the system of "graduation," which applies not only to income tax and super-tax, but also to the death duties. In a period of currency inflation, such as that during which the various war issues were floated, prices and profits are at a high monetary level and the yield of the income tax is more than proportionately high. What we are now experiencing is the converse—a fall in monetary values and a more than proportionately reduced yield of income tax. This is a general tendency, of which the present trade depression is a necessary accompaniment and aggravation. Unfortunately, to whatever level monetary values and the general rate of interest fall, on the long-dated Government loans the "war" rate of interest will have to be paid—assuming as we do that the schemes for *compulsory* reduction advocated in some quarters meet with the fate that such confiscatory schemes deserve. The golden time for repayment of debt was when values stood high and the income tax yielded its maximum return to the Exchequer; but for the present the country has shot its bolt, and most students of industrial problems are agreed that some relief from taxation is almost essential if the hope of renewed trade activity is to be realized. Whether that renewal can be accomplished, and, if so, whether it will produce a sufficiently increased revenue to enable repayment of loan to be resumed, are the questions which lie at the root of the whole problem, and their solution by the facts of this financial year will go far towards determining the fiscal history of the next decade. In the meantime the expenditure side of the national accounts has one or two hopeful features. It is an open secret that the departmental estimates were based on a Board of Trade index figure of 100 per cent. above pre-war levels, and the subsequent fall in prices should result in savings accruing to the Treasury; moreover, in spite of the comparative small margin of £25,000,000 allowed for Supplementary Estimates, an energetic pursuance of a policy of economy throughout the year may yet succeed in showing a balance on the right side of the account at the end of the year. The Budget has been attacked as an income-tax-payers' budget; it is an unfair description, but it has this much of truth in it, that the financial burden of the war was very largely borne by that section of the community, and it is only right that they should be among the first to feel relief. Its extent may be gathered from the table printed at page 777; it will at least be apparent that the burden remaining is sufficiently heavy to entail a real sacrifice on the part of every taxpayer.

It is proposed that several minor alterations in the Income Tax Acts should be made; the only one likely to concern any considerable number of our readers is that for placing all employed persons under Schedule E, in which case tax will be payable on the income of the current year instead of on the three years' average. For this procedure the Chancellor was able to claim the support of the Royal Commission on the Income Tax, though apparently the change will at first involve the Revenue in some loss, seeing that the three years' average for 1922–23 still contains one "good" year—namely, 1919. The success or failure of this change will depend largely on the manner in which it is carried out; if, for instance, employed persons are to be worried for small supplementary payments because their emoluments have risen to some small extent during the year, we think that they will succeed in convincing the authorities that the old definite basis provided by the previous years had much to recommend it. It would be useful if it could be made clear, in Committee or otherwise, that persons whose main income falls for assessment under Schedule D could include therein the income from employments, provided that the services given are of an ordinary professional character; that would regularize, so far as the medical profession is concerned, an existing practice which might otherwise be in jeopardy.

Little comment on the other changes to be effected by the Budget is called for here. The reduction in the postal rates is, perhaps, the most welcome, even though it is accompanied by narrower limits as to weight and unaccompanied by any reduction in the stamp duties levied on receipts or cheques. The country may have more misgivings than the Chancellor shows in his laudatory observations on the past achievements of the British taxpayer, but has none the less good reason to feel thankful that the past financial year has closed without disaster and that the present one begins with some prospect of relief from the almost intolerable burdens of the past few years.

MOTOR TAXATION.

MR. H. MASSAC BUIST writes to express the view that the relief of 1s. in the £ on income tax is more valuable to motorists, particularly to professional men, than any concession in the matter of car licence fees. He points out that no recommendation by the Departmental Committee on Motor Vehicle Taxation, which is now investigating the matter, could be brought into effect for twelve months. In my notes on this subject in the JOURNAL of April 29th (he says) I attempted to compress the history of motor vehicle taxation overmuch, with the result that I wrote that the original horse-power tax was introduced in 1904, whereas it was incorporated in the Budget of 1909, at the same time as a duty of threepence a gallon, subject to certain rebates, was imposed on petrol. This scheme replaced a tax according to vehicle weight, a system which no organization concerned with passenger-cars

advocates to-day. A reduction in the price of petrol may be announced even before these lines appear in print, and that despite the fact that the oil market in America, which controls prices throughout the world, is looking, not for a fall, but for a rise in the price of fuel. Any fall in direct taxation in this country assists the lowering of the cost of fuel, because all these charges are passed on automatically by the fuel-vending organizations, which are established for the purpose of making profit by their enterprise and not to collect revenue for any Government. Therefore the relief to the motorist by the process of reducing income tax results in a still further benefit by assisting to bring about a lowering of fuel costs, which are a more important part of the expense involved by the ownership of a motor vehicle than the cost of a licence fee. Furthermore, as long as the insurance rates on motor vehicles rule on the scale we have experienced in the post-war period, so long will it be practically impossible to make any reasonable case against present taxes as too high. Further, if it could be proved that the sales of the cheapest form of American car, even if assembled or part manufactured in this country, were affected adversely by the present taxes so that fewer of these machines than of other makes were coming into use, there might be some solid ground for recasting the basis of the levy. But the plain fact is that the car which continues to sell in greatest numbers is the Ford. Any other manufacturer, British or foreign, would be glad to sell as many motor cars in this country, or cars to the same value in term of pounds, as the Ford turnover. While that obtains there is no argument that would induce a Chancellor of the Exchequer to recast the whole system of motor taxation. The campaign that aims at getting the horse-power tax removed, and the levy placed on fuel, is based always on seeking the individual motorist's support by pointing out to him that he will be paying less taxes. Yet the organizers of that campaign admit that the net amount of revenue to be raised by such taxation must be the same. One section implies that the solution of the problem lies in causing the commercial motorist to carry part of the burden at present borne by the private passenger-car owner. It is, however, so essential to assist commerce and industry in all their aspects that no such scheme can ever meet with the approval of Government, no matter of what cast of politics. Therefore, another section contents itself with pointing out to each car-owner in turn that he is paying too much tax and that some other passenger-car owner will pay more by the given new scheme. Those who advocate a change in the basis of taxation do not seem to seek out the private car-owner who, under a new scheme, would be paying not less but more in motor taxes than he is doing under the present system. Yet the man it is proposed to charge more has a right to be consulted. For instance, it is obvious that the mileage of medical men would bring them into the category of those who would pay more than the ordinary motorist who keeps a car for odd work or week-end pleasure runs. When the fuel tax was in force this fact was recognized by giving medical men rebates of 50 per cent. off the duty. The objections to reintroducing any scheme of taxation on fuel involving rebates are that the system led to leakages and that the cost of collection was more than the yield was worth. Most motoring bodies agree that any scheme for a return to a fuel tax must be based on the principle of no rebate for any class of user. Yet any scheme for the taxation of fuel must bear hardly on those who use cars for business or professional purposes; among them would be medical men, who would, in the long run, pay more in order that those motorists who do not use their cars so habitually might pay less. The more I ponder the matter (Mr. Buist continues) the more I come back to the point that we had better leave our motor taxes as they are and organize ourselves instead, to insist that the moneys we contribute are applied effectively to the purpose for which they are levied—namely, the provision of better and still better roads; for such provision, incidentally, would save us much in petrol and in tyre costs per annum. As it is, our money is being wasted overmuch. That process will continue so long as we remain disorganized among ourselves, quarrelling because each individual is made to believe that he is paying a few shillings, or perhaps pounds, a year more than otherwise he would.

REGULATIONS TO PREVENT LEAD POISONING.

A PAMPHLET on the regulations regarding the manufacture and use of lead and its compounds in various countries[1] has been issued by the Stationery Office. Its appearance is in one sense opportune, for it was only in October last that at the Labour Conference of the League of Nations in Geneva the question of the employment of lead in painting was raised; it was insufficiently discussed and rather hurriedly voted upon. The object of the pamphlet, prepared for the Governors of the Imperial Mineral Resources Bureau, is to show how, by regulations, work in lead has become less dangerous than it was half a century ago. The author, Mr. Stone, has given more than a mere summary of industrial legislation in various countries. The lead-producing countries of the world are the United States, Germany, Austria, and Mexico. Lead ores are mostly sulphide (galena) and carbonate (cerussite). Experience all the world over, with the one exception of Broken Hill, has shown that the mining of galena is not followed by lead poisoning. The dust given off in the mines has, however, been a frequent cause of pneumonokoniosis. This was the case three or four decades ago in lead miners working in the remote dales of the county of Durham. As regards regulations for lead works there are none in any country superior to those of Great Britain. Several of the other countries have taken their cue from her. In New South Wales, under the Mines Inspection Act, 1901, in the regulations regarding red lead and flue dust, it is required that the dust must be carefully wetted as soon as it is drawn from the flue, also that the furnaces in which lead is undergoing conversion shall be hooded. Baths, provided with hot and cold water, and "changing houses" are arranged for. In Canada, where 1,058 men are employed in lead smelting and 5,795 in industries making use of lead, it has not been found necessary to introduce many special regulations. In the United States regulations provide for the elimination of dust by water sprinkling, the use of automatic machine sampling and of exhaust ventilation. Where dust cannot be prevented respirators must be worn, and in dangerous processes overalls also; shower baths must be provided and convenient luncheon rooms. The regulations regarding red lead works in France are of quite a high order. A medical examination of all applicants for work is compulsory, and a medical certificate must be produced stating that the applicant shows no signs of plumbism or of any illness likely to be aggravated by working in lead. The certificate must be renewed one month after the engagement, and afterwards once a quarter. A register of illnesses is also kept. In Germany attention is particularly directed to the prevention of dust. Floors must be wet cleaned daily. No dust-collecting chamber or flue must be entered by workmen until it has been cooled and ventilated. Impermeable gloves must be worn or the hands well greased, when they are liable to come into contact with lead salts in solution. Food is not allowed to be taken into the workrooms, and smoking is prohibited. A monthly examination of the workers is required. Women and young persons are not allowed into flue dust chambers. The regulations in Austria regarding the escape of dust and fumes are said by Mr. Stone to be fuller than those of any other country. They certainly run Great Britain rather hard. We shall not be far wrong in saying that Professor Teleky has largely contributed to that state of things. Specimens of air in certain parts of the works are taken under a special order of the mining authority and analysed by competent chemists to ascertain the amount of lead it contains, and a record is kept of these analyses. Cleanliness is rigidly insisted upon and ample bathing facilities provided. Medical examination

[1] *Laws and Regulations relating to Lead Poisoning; being an Analysis with Texts of the Laws and Regulations made in the Chief Industrial Countries to Prevent Plumbism.* By Gilbert Stone, Barrister-at-Law, B.A., LL.B. Kingsway, London: His Majesty's Stationery Office. 1922. (Med. 8vo, pp. 250. 5s. net.)

of the workers is imperative. Regulations for white lead works are but an extension of those used in other departments of the lead industry; those in force in Great Britain have been attended by the most satisfactory results from a health point of view. The number of cases of plumbism in the white lead industries has been progressively reduced. In 1900–1904 there were 183 cases; in 1905–1909, 76; in 1910–1914, 31; in 1915–1919, 17. In Great Britain no person can work in a white lead factory for more than a week without a medical certificate. The regulations in France and Germany are on lines similar to those in Great Britain. The regulations in Belgium deal effectively with dust. It was in 1906 that the Workmen's Compensation Act came into operation in Great Britain. Lead poisoning was then scheduled as an industrial disease. One of the immediate results of this was a rise in the number of cases of lead poisoning reported in the manufacture of pottery. It is interesting to note that while in 1906 in this country lead poisoning was made an industrial disease and qualified the sufferer for compensation, in the United States it is not regarded as an industrial disease but as an "injury," the meaning of which word in some of the States is "an injury or disease arising out of employment." The tendency, however, nearly all the world over is to regard lead poisoning as a disease arising out of, or in the course of, occupation, and to be compensated. One of the effects of bringing lead poisoning under the Workmen's Compensation Act has been not only to increase the notification of the minor forms of the malady, but to bring within the meaning of the Act such consequences of working in lead as nephritis and cerebral haemorrhage. Mr. Stone has given to all who are interested in the subject of lead poisoning an extremely useful compilation. It ought to be of use to medical officers of lead works and to certifying factory surgeons.

THE CASSEL HOSPITAL FOR FUNCTIONAL NERVOUS DISEASE.

IN connexion with the establishment of a National Council for Mental Hygiene at the preliminary meeting held on May 4th, the unobtrusive activities of the Cassel Hospital for Functional Nervous Disease, founded and endowed last year by the late Sir Ernest Cassel, naturally occur to mind. Its object, as pointed out in our columns a year ago (1921, i, 680), is to provide for members of the educated classes who cannot afford the expense of professional care in nursing homes, and are not certifiable, the most efficient treatment for the conditions commonly known as neurasthenia, nervous breakdown, and loss of power not associated with definite structural change. The provisions made for the care of such patients at the Cassel Hospital, Swaylands, close to Penshurst, are ideal; the hospital is a fine mansion in quiet and beautiful surroundings with extensive grounds containing a wonderful rock garden, tennis courts, and a golf course. The medical director (Dr. T. A. Ross) and two other medical officers have charge of the sixty patients, whose treatment consists in sympathetic consultations conducted with tact and without any suspicion of hurry. By the appointment of Major H. Hume to manage the business side of the hospital Dr. T. A. Ross has been wisely relieved of responsibilities and distractions which so often prevent medical superintendents from devoting a whole-minded attention to the purely professional supervision of the patients. There is in addition a strong medical committee, the members of which, when occasion arises, willingly provide individual assistance in the exceptional cases requiring special consultation.

THE SCHICK REACTION.

IN the *St. Bartholomew's Hospital Journal* for May, 1922, Sir Frederick Andrewes, F.R.S., publishes an interesting note on the reactions of 157 students to the Schick test for identifying individuals susceptible to diphtheria.[1] It had been inferred from the results of various workers that the proportion of immune persons in any population was a function of the economic status of the population tested—that it would generally be higher in the lower than in the middle or upper classes. Zingher, for instance, found over 80 per cent. immune in the school population of poor districts of New York, but only 33 per cent. in good-class schools. Sir Frederick's results are consistent with the truth of the hypothesis. Of the 157 students tested, 103, or 65.6 per cent., gave a positive result—that is to say, only 34.4 per cent. were immune. Blood was taken from a good number of the volunteers and tested on guinea-pigs. The immunes had from 0.1 to 5 units of antitoxin per cubic centimetre; among the non-immunes 27 out of 30 cases had none, or less than 0.001 unit; the remaining 3 appeared to have small amounts and are being reinvestigated. Of 21 men who said they had had diphtheria, 15 were positive and 6 negative, illustrating the well-known fact that an attack of clinical diphtheria may confer but little protection. Pseudo-reactions were fairly common. The tests themselves were carried out by Dr. O'Brien and his colleagues.

[1] BRITISH MEDICAL JOURNAL, 1921, vol. ii, pp. 994, 1031 (December 10th).

THE WEIGHTS OF INFANTS.

WE print elsewhere a letter from Professor Karl Pearson on the information to be derived from the record of weights of infants. Professor Pearson, on the basis of numerous statistical data accumulated in the Francis Galton Laboratory, has constructed two charts which should supersede those in actual use.[1] Not only can one read off from the chart the relation between an infant's actual weight and that of the general average in working-class families, but one can also make a rough prediction of the infant's fate at the end of the first year of life. This latter possibility has been attained by statistical study of the after-histories of babies of different weights. For instance, suppose a certain female infant aged 16 weeks weighed 14 lb. The chart tells us that less than 15 per cent. of all female babies of that age are heavier. If now, merely using the datum of weight, we ask what are the infant's prospects at the end of fifty-two weeks from birth, the chart informs us that not many more than 35 per cent. of all babies will be found healthier than this one. Of course such a prediction is not very secure. As Professor Pearson points out, weight is by no means the only factor in the health of the baby; the statistical correlation of an index of health and weight is less than 0.5. But the charts will be exceedingly useful for interpreting the significance of plotted weights. It will be easy to learn whether a child is maintaining or improving its grade of weight and health. Those in charge of infant welfare centres and clinics will, we feel sure, welcome this method of investigation.

FAMINE AND DISEASE IN EAST EUROPE.

THE three last reports of the Provisional Health Organization of the League of Nations, issued on March 25th, April 4th, and April 13th, contain general information on the epidemic situation in the famine zone of the Ukraine; an enumeration of the cases of cholera in the Ukraine and in Russia; and statistics of infectious diseases in Poland, Latvia, and Hungary. In the Southern Ukraine the districts of Odessa and Nikolaiev are the most seriously affected, and 25 per cent. of adult mortality and 40 to 50 per cent. of infant mortality is attributed directly or indirectly to famine. Medical reports indicate a lessening physiological resistance in the population due to the famine and the use of food substitutes. Another circumstance which becomes more serious with the approach of summer is the bad condition of the water supply. In Odessa the waterworks are no longer in use; the reservoirs, which are 42 km. from the town, in the middle of the famine zone, have been abandoned by the workers. Water is sold in the streets at 25,000 roubles a jar; hospitals obtain water with great difficulty; the inhabitants have been using snow and rain water, but this source of supply will very soon fail. Cholera reports for April show a more serious spread of the disease than that indicated

[1] The pair of charts separately mounted can be purchased from the Cambridge University Press, Fetter Lane, E.C.4, for 7s. 6d. net.

by the figures for March. From January 1st to March 31st 1,165 cases were reported from the Ukraine. The epidemic originated in the migrations of refugees from famine zones and it spread along the railway lines, as is indicated by the numerous cases of cholera among railwaymen and in the towns situated on important railway lines. Strict sanitary control at railway junctions is urgently necessary. In Russia proper 299 cases of cholera were reported between January 1st and February 18th, occurring in widely different localities. The reappearance of this disease over a wide area from the beginning of the year is a disquieting feature of the reports. The epidemic condition of the countries bordering on Russia remains serious. From February 4th to 19th, according to provisional information, there were in Poland 5,140 cases of relapsing fever with 208 deaths; other figures are as follows: Typhus 3,730, and 275 deaths; enteric fever 1,036, and 68 deaths; dysentery 136, and 10 deaths; smallpox 106, and 24 deaths. The progress of relapsing fever in Poland has been as follows: In 1919, 2,376 cases with 153 deaths; in 1920, 7,079 and 293; in 1921, 14,163 and 414; for the first seven weeks of 1922, 13,415 cases and 582 deaths.

THE OUTLOOK IN TROPICAL MEDICINE.

DR. ANDREW BALFOUR, at the Royal Sanitary Institute, on April 26th, delivered an address on the outlook in tropical medicine. His keynote was the value of research coupled with the importance of education of both the general public at home and the indigenous tropical races in sanitary hygiene and the prevention of disease. Advance in knowledge of the cause and process of disease alike in temperate and tropical climates had long suffered from the bane of empiricism. Conservatism and hide-bound beliefs were hard to die. The fetish of fumigation and disinfection for the elimination of disease was often but a cloak for ignorance of the true causes of infection, which enlightened research had done, but still needed to do, much to remove. Granted a man possessed the qualities which fitted him for research, it was of the utmost importance that his work should not be hampered by the calls of routine examination coming from hospital or private sources. He should be left absolutely free and unhindered to carry out his own line of research in his own way. Yet it was remarkable what had been accomplished in the course of routine work. The late Sir Patrick Manson, when engaged in general practice at Amoy, made his first discoveries in filariasis. Constant revision of accepted beliefs as to the cause and course of infective processes, particularly in tropical disease, was needed to verify the correctness of our conclusions. Dr. Balfour instanced ankylostomiasis and plague. With regard to the former, he said that recent observation by American workers had shown the pig to be a disseminator of hookworm larvae, a fact hitherto not generally recognized, although previously suggested by investigators in South Australia. For the prevention of plague it was doubtful whether efforts to destroy the rat were being pursued on right lines. The fact that their fertility and rate of breeding surpassed the rate at which they could be exterminated suggested that measures should be directed to checking their productivity. Attempts based on a study of the bacteriology of the urogenital tract of the animal had been made with a view to causing infective abortion and sterility, but so far without success. Sanitation in the tropics was a subject which until the war had received but little serious attention. Thanks, however, to the lessons learnt in the past eight years courses of instruction were now open to men and women to qualify as sanitary inspectors in the colonies, and a diploma in sanitary science as applied to the tropics was now available.

BIOLOGICAL STUDIES IN THE MADEIRAS.

DR. MICHAEL GRABHAM, who lectured at the Royal Institution on May 5th on biological studies in the Madeiras, had a fascinating story to tell of the life that is to be found on and about those mountain tops in the Atlantic. Each island of the archipelago appears to have a distinct geological history, and this is borne out by biological evidence—for example, each island or rock has its own peculiar examples of the *Testacea*, and only six or seven of the 170 species are common to all the islands in the group. The Atlantic might be lowered a hundred fathoms without merging the great component rocks of the Madeiras in a common connexion. At the time when Madeira came into human occupation five hundred years ago—for Dr. Grabham rejected the fables of an earlier settlement—the flora and fauna were already specialized and established. Just as the surface of chalk at Eastbourne has undergone no appreciable change since Caesar's camp was pitched upon it, so, to judge from the fossils, the biological conditions in Madeira existed as they do now for long ages before the advent of man. It would be less bewildering to believe, said Dr. Grabham, that all the specialized forms of life to be found in these Atlantic islands were human introductions than to trace their descent in the dim past from ancestral forms which no longer survived. He described some of the plants in detail, especially the *Sechium edule*, which yielded a fruit not unlike a pear, possessing highly nutritious properties, which were appreciated during the war when the U-boats were threatening food supplies. Madeira, however, has suffered greatly from plant pests, for which its winterless climate is supposed to be congenial. He spoke especially of the recent depredations of the Argentine ant (*Iridomermyx humilis*), and said that if it was true that the British Isles were already invaded by this insect it would be advisable for the Ministry of Agriculture to study American experience in countering its ravages and their own experience in Madeira. This ant established itself in Madeira in destructive colonies up to 2,500 feet above sea-level. Coffee cultivation was ruined, and every sort of fruit tree—the citrus especially—which would support coccus or aphis was attacked. By surrounding a lemon tree with a circle of powdered potassium cyanide, so that every ant in passing to or from the tree was killed, he found that more than forty thousand ants had been engaged in draining one tree of its vitality. There was no foundation, however, for the statement that the birds of Madeira had been destroyed by the Argentine ant, for Madeira was as full of bird music as ever. The ant had many enemies, especially spiders, which spread loosely stretched snares in every corner; and there were signs now that the first wild activity of this pest was abating. The turbulent seas around Madeira were extremely interesting from the biological point of view. One ungainly fish which he exhibited was a species of bass, essentially subtropical, but occasionally found in the English Channel, where it was known as the wreckfish. In Madeira its beautiful white flesh was appreciated. Generally it lived well away in the open sea at a depth of from 2,000 to 3,000 feet, and when it was caught and drawn up to the surface from this astonishing depth it came up so distended as to be, not indeed dead, but in a cataleptic condition. In this fish the air bladder was prolonged into a tube which penetrated the brain, and with its attachment by ossicles seemed to serve as a resonator and interpreter of weak vibrations. He had examined the stomachs of fishes drawn up from very great depths, and had generally found them empty; but the fishes were in good condition, as though in these depths they relied upon the absorption of much of their nourishment from the substantial supply which it was believed was held in solution in sea water. Occasionally great commotions occurred in the submarine depths about Madeira. In one instance, while some cable work was taking place, an agitation occurred which lasted with increasing intensity for four days and then suddenly stopped. Many miles of submarine cable disappeared, and the ocean floor had to be explored for fifteen miles before an undisturbed bed was found. Nothing of this catastrophe would have been known but for the cable experiments which were proceeding at the time. In these deep-sea catastrophes there was widespread destruction of marine life, as though the water had been poisoned by the release of noxious volcanic vapours.

IMPORTANCE OF EARLY TREATMENT OF CANCER.

LEICESTER, following the example set some years ago by Portsmouth, has taken steps to call the attention of the public to the danger of failing to recognize the early signs of cancer or of failing to seek medical advice so soon as any suspicion arises. A public notice, signed by the medical officer of health, Dr. C. K. Millard, has been inserted in the newspapers, and a leaflet has been prepared for distribution from the Health Department and by health visitors. The public notice points out that in the early or localized stage it is often quite possible for cancer to be completely removed by a surgical operation, but that very many cases are found to have got beyond the curable stage when the sufferers first apply for treatment. "In this disease immediate action is imperative, and delay is disastrous. Everything depends, therefore, upon early resort to skilled medical advice, recognition of the disease, an early operation, and prompt treatment." It is added that treatment by radium or *x* rays, though hopeful, is still in the experimental stage, and the very necessary statement is made that "although many alleged 'cures' have been announced, there are none which have so far substantiated the claims made for them." The leaflet points out that of the number of persons who die each year from cancer—and that number is increasing—many could have been cured if they had applied earlier for medical advice, and that cancer in its early and curable stage may give rise to no pain or feeling of ill health. Special attention is directed to the early symptoms of cancer of the breast and of the uterus, to the danger of warts on the lower lip, or any sore or swelling on the tongue in men over 45, and to the early symptoms of rectal cancer. In each instance it is emphatically pointed out that a large proportion of such cases are cancer, and in their early stage are curable. On the first page of this leaflet, which is based on that issued at Portsmouth, it is said: "The importance of this subject to the public is shown by the fact that of all deaths of persons over 40 years of age, one in nine is from cancer."

INDUSTRIAL HYGIENE.

ACCORDING to *Industrial and Labour Information*, issued by the International Labour Office of the League of Nations, a Workers' Health Bureau has been founded in the United States by the trade unions as a co-operative undertaking. A pamphlet, which has been published to explain the aims of the bureau, emphasizes the importance of preventive work and health education. It is suggested that each union should organize its own health work and carry it on with the advice and co-operation of the Workers' Health Bureau. The advisory committee of the bureau includes a medical expert, whose advice will be at the disposal of the trade unions in the setting up of their own health departments. The objects of the bureau are: To conduct a scientific industrial study of the health needs of any trade union and recommend a health programme for that trade union based on such study; to recommend an educational programme covering the subject of workers' health; to establish health departments within local trade union branches; to train workers' health committees to carry out the health programme in the workshops; and to select doctors, nurses, and teachers for conducting the union's health work. The Industrial Hygiene Section of the International Labour Office, Geneva, proposes to publish from time to time a series of notes giving information regarding new publications on industrial hygiene. The notes will be universal in scope, and in order that they may be as complete as possible it is desired to include references, not only to books, but also to occasional articles and reprints of lectures published in medical or other periodicals. The International Labour Office therefore asks members of the medical profession and others interested in problems of industrial health to send particulars of any new publications, including articles in periodicals, suitable for inclusion in the lists. Such information should be addressed to the Industrial Hygiene Section, International Labour Office, Geneva, Switzerland; it should comprise the author's name, the title of the book or article, and the publisher's name, or, in the case of an article, the name, date, and number of the periodical in which it appears. In return the International Labour Office will be glad to supply its correspondents with the bibliographical notes as they are issued.

THE ANGLO-BATAVIAN SOCIETY.

THE Anglo-Batavian Society was founded in May, 1920, with the object of promoting good fellowship between the British and Dutch peoples. Among the admirable activities of the society it has taken a share in arranging an exchange of medical and scientific lectures between Holland and England. The scheme was successfully initiated last year, and the first of the series given in England this year was that on the human neo-cerebellum delivered by Professor Winkler, of Utrecht, on May 3rd, as more fully related at page 769. On the evening of the same day the Anglo-Batavian Society gave a dinner in honour of Professor Winkler at the Langham Hotel. Sir Walter Townley, K.C.M.G., formerly British Minister to the Netherlands, was in the chair, and among the guests present were Professor Geyl, Sir D'Arcy and Lady Power, Sir Frederick and Lady Mott, Sir James and Lady Purves Stewart, Sir John MacAlister, Professor and Mrs. Bayliss, and Professor and Mrs. Starling. After the loyal toasts had been honoured, Sir Walter Townley proposed the health of Professor Winkler, who responded in excellent English, expressing his thanks for the reception he had received in London and his hopes for the continuance of cordial relations between the two countries. The toast of "The Anglo-Batavian Society" was proposed by Professor Starling, and, in the unavoidable absence of the Netherlands Minister (Mr. Crommelin), Dr. Bisschop, honorary secretary of the society, responded. The society, he said, included in its scope the encouragement of Anglo-Dutch football matches and regattas, as well as the promotion of scientific lectures. The toast of "The Other Guests" was proposed by Sir D'Arcy Power, and responded to by Sir James Purves Stewart, and the health of the Chairman was given by Dr. Roosmale Nepveu, of the Dutch Legation.

AT the annual meeting of the Medical Society of London Lord Dawson of Penn was elected President for what will be the 150th year of the Society's existence.

THE Cavendish Lecture of the West London Medico-Chirurgical Society will be delivered on June 13th, at 8.15 p.m., at the Kensington Town Hall, by Professor Harvey Cushing, M.D., on "The meningiomas (dural endotheliomas), their source and favoured seats of origin." The lecture will be followed by the annual conversazione of the society.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

Venereal Disease: Disinfection Policy.

SIR J. D. REES asked, on May 4th, how many county councils, county boroughs, and borough councils have adopted the immediate self-disinfection policy of the Society for the Prevention of Venereal Disease. Sir A. Mond said that as grants were not payable in respect of measures in pursuance of the policy mentioned he had no special information as to the extent to which that policy had been adopted, but so far as he was aware it had never even been claimed that more than an extremely small proportion of the local authorities concerned had adopted it.

Grants to Voluntary Hospitals.—Mr. Charles Edwards asked, on May 3rd, whether the Minister of Health had received a protest from the Royal Gwent Hospital, Newport (Mon.), and similar institutions, against the decision of the Voluntary Hospitals Commission that the grants for hospitals should be based on the income for the year ended December 31st, 1920, or the three years 1918, 1919, 1920; whether the Minister was aware that for the year 1921, and the immediate following years, it would be impossible to show a similar income owing to reduced earning of workers and others; and whether, in order that the hospitals should derive some benefit from the half million sterling set aside by the Government, he would amend the terms and conditions. Sir A. Mond replied that representations in this sense had been made to the Voluntary Hospitals Commission by certain hospitals in South Wales. It was laid down by the Government, as one of the

fundamental conditions for grant, that assistance should ordinarily be based on the amount of new money raised or in sight; the Commission had no power to vary this rule, but might make emergency grants in cases where a hospital had exhausted its realizable assets, and without assistance would be compelled to close beds.

Illegal Traffic in Drugs.—Mr. Ramsden, on May 4th, raised the question again whether the powers of punishment for illegal trafficking in drugs were adequate. Mr. Shortt recalled that the regulations only came into force on September 1st last. They were being carefully watched by the Home Office, which was in close touch with the police authorities, and if it appeared that the present powers were insufficient he should not hesitate to come to Parliament for more. It was clear, however, in view of the international character of the traffic, that it could be effectively dealt with only by international co-operation, and the whole question of the measures necessary to cope with this traffic has been engaging the attention of the Advisory Committee appointed by the League of Nations.

Flogging for Drug Traffickers.—On inquiry by Colonel Burn whether the Government would support legislation to authorize flogging and imprisonment without the option of a fine for individuals convicted of carrying on the illicit drug traffic in this country, and deportation in addition, if the offender was an alien, Mr. Shortt said, on May 9th, that the question of taking further powers and extending the law was under consideration. The power to deport already existed, and was used whenever possible.

Women Medical Students.—Mr. T. Griffiths asked, on May 4th, whether in view of the fact that a Government grant of £30,000 a year had been made to five London hospitals where clinical units had been set up, that a Government grant of £16,000 had been promised this year to the London Hospital, in which was included £3,000 from the University Grants Committee, and that the last named hospital now excluded women medical students altogether, and of the remaining four one only admitted them without restrictions, the Government intended to intervene in any way so that those who accepted public money did not discriminate against one section of the public who contributed the money. Sir A. Mond said the question of the admission of students to university institutions was essentially for the discretion of the university authorities, with whose autonomy the Government desired to interfere as little as possible. The Government had no information indicating that the facilities for university education in medicine of qualified women were inadequate. Admission to the London Royal Free Hospital School of Medicine, which was also grant-aided, was wholly confined to women.

The Vaccination of Air Force Recruits.—Captain Guest, in reply to Mr. Blomfield, on May 9th, said that recruits were not admitted to the Royal Air Force if they did not wish to be vaccinated. No man was forced to be vaccinated, but it was not possible to undertake the responsibility of accepting men for service who stated that they were unwilling to be protected against small-pox infection, especially as enlistment in the Royal Air Force involved an obligation to proceed, if required, to eastern countries, where unavoidable exposure to infection was common.

Lunatics in Chancery.—The Lunacy Bill, which was introduced in the House of Lords, and had been read in the Commons for the first time on May 1st, had second reading on May 9th. Its object is to amend the law as to Chancery lunatics. In the first clause provision is made that a Master in Lunacy and an Assistant in Lunacy may act for two Masters in Lunacy. Clause II declares that the provisions of Sections 133 to 143 of the Lunacy Act, 1890, with regard to vesting and other orders, shall apply to criminal lunatics, and enable some small changes in property administration.

The Purity of Milk.—Mr. Doyle asked, on May 3rd, if the Minister of Health was aware that analysis and bacteriological examination of milk samples recently taken in Newcastle-on-Tyne showed that approximately 50 per cent. were seriously polluted. Sir A. Mond said he was aware of the results stated in recent reports of the M.O.H. for Newcastle. He hoped to introduce legislation to effect a substantial improvement in the milk supply of this country. Sir George Renwick asked if the Minister would send a Government analyst to verify or refute the serious statements made. Sir A. Mond said he would be very pleased to do so.

Ex-service Blind Pensioners.—Mr. Macpherson stated, on May 4th, in reply to Mr. Gilbert, that there were approximately 1,550 blinded officers and men receiving pensions from his department. All had been either at St. Dunstan's or at Newington House, Edinburgh, where they had been trained in new occupations suitable to their conditions before returning to their homes. On their return the institutions mentioned continued to keep in touch with them through local representatives. These institutions were maintained out of private funds, and consequently the men had the advantage of receiving allowances at the maximum rate of pensions instead of the smaller allowances which would otherwise be payable.

Miners' Safety Lamps.—The question of the incidence of nystagmus was raised in a discussion on the motion for the second reading of the Coal Mines (Temporary Provisions of Safety Lamps) Bill on May 8th. Mr. Bridgeman, in asking the House to accept the measure, recalled that during the war the supply from Germany and Austria of glass for safety lamps for miners ceased, and the work had to be undertaken by British manufacturers. In the circumstances Mr. McKenna, on behalf of the Government, thought it right to guarantee to them that their trade should be maintained for them, even after the ending of the war. The present bill was to make amply secure the fulfilment of its pledge. Mr. Adamson, for the Labour party, expressed doubt whether the British-made glasses fulfilled requirements, and wanted to know whether the increase in nystagmus could be traced to their use. Mr. Hopkinson suggested that spread of picture palaces had more to do with the disease than any miner's lamp invented. Mr. Bridgeman said he should not have introduced the bill if he had not been satisfied by severe tests that the lamp was effective. Sir Donald Maclean, however, suggested an adjournment in order to allow miners' representatives to consider the matter, and after some more discussion Mr. Bridgeman agreed to an adjournment.

Workmen's Compensation.—The Home Secretary, on May 3rd, accepted a motion by Mr. Walter Smith that in view of the unsatisfactory state of the law relating to workmen's compensation, and of the fact that the War Addition Acts expire at the end of the year, a Government bill to amend the Workmen's Compensation Act, 1916, should be introduced and passed during the course of this session. Mr. Shortt expressed the hope that after a round table conference the Government may be able to introduce a measure which will have the support of the great majority of both Houses. He said that either this must be done or the War Addition Acts must be included in the Expiring Law Continuance Act at the end of the session. Otherwise workmen would be limited under the old statute to £1 a week compensation, and the capital grant in the case of death would be only £300.

Answers in Brief.

Sir M. Barlow stated, on May 3rd, that female professional nurses for the sick were, as from July 1st next, excluded from unemployment insurance by the Act. Full details of the effect of this provision in particular cases should be submitted to the department for consideration.

Sir A. Mond has stated that the numbers of notifications of and deaths from tuberculosis in 1919 and 1920 in England and Wales were considerably less than in any previous year.

In reply to a question on May 3rd as to five deaths from starvation reported to have occurred in the county of Durham in 1920, Sir A. Mond said he was obtaining a special report. In 1920 the number of deaths from starvation or exposure in London was four, and in the provinces as a whole twenty-eight.

Mr. Macpherson states that there will be no alteration in the rates of ex-service pension and allowance specified in the second schedule in the Royal Warrant before April 1st, 1923, and then only in accordance with the cost of living for the year 1922 as compared with the year 1919. He regrets to find that in some forms which have been issued the date April 1st, 1923, has been incorrectly printed as April 1st, 1922. All possible steps have been taken to correct this error.

A sum of £130,000 has been provided in the Estimates for 1922–23 to meet losses which may be incurred by local authorities in carrying out approved schemes for dealing with unhealthy areas. Such schemes have been put forward, or are under consideration, by a number of the larger local authorities, including the London County Council and the town councils of Manchester, Liverpool, Sheffield, Bristol, Leeds, Nottingham, and Exeter.

The Government intends to continue the system of State liquor trading in Carlisle, but not to extend it to other places at present.

INCOME TAX.

EFFECT OF BUDGET PROPOSALS ON INCOME TAX PAYABLE.

THE following table has been calculated from the data contained in the Budget. It covers a range of incomes from £500 to £2,000, and distinguishes between (*a*) incomes wholly earned and incomes derived half from earnings and half from investments; and (*b*) between an unmarried person and a married couple with two children:

Incomes Wholly "Earned."

Income.	Single Persons.			Married Couples with Two Children.		
	1921–22.	1922–23.	Decrease.	1921–22.	1922–23.	Decrease.
£	£	£	£	£	£	£
500	61	51	10	24	20	4
750	128	107	21	82	68	14
1,000	196	163	33	150	125	25
1,250	253	219	44	217	181	36
1,500	331	276	55	285	238	47
2,000	466	338	78	420	350	70
Incomes Half "Earned" and Half from Investments.						
500	68	57	11	28	23	5
750	140	117	23	94	78	16
1,000	211	176	35	165	138	27
1,250	282	235	47	236	197	39
1,500	353	294	59	307	256	51
2,000	496	413	83	450	375	75

Amounts calculated to nearest £.

The tables promised by the Financial Secretary to the Treasury to illustrate the effective rates of income tax (including super-tax) under the proposals of the Chancellor of

the Exchequer for 1922–23 have been issued by the Stationery Office in a White Paper, which can be purchased through any bookseller or direct from the Stationery Office, price 2d. net. (Cmd. 1652.) The White Paper contains three tables, the first applying to single persons, the second to married couples without children, and the third to married couples entitled to the allowance for three children. In each table the amounts and effective rates on earned and investment incomes are given and compared with the amounts and rates for 1921–22.

THE LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY.

THE annual general meeting of the London and Counties Medical Protection Society, Limited, was held at 12, Stratford Place, London, on May 3rd, when Sir JOHN ROSE BRADFORD, the President, occupied the chair. The annual report of the Council showed that the society, now entering on its thirtieth year, has made steady progress in all directions. During 1921 the number of fresh applications from members asking for advice and assistance was 465, and in the great majority of cases satisfactory results were obtained without recourse to litigation; the results in cases which did proceed to litigation were also, in the main, quite satisfactory. The surplus of income over expenditure in 1921 was £3,331, and the total surplus funds of the society amounted to close upon £30,000, while the total financial resources, including the amount reinsured with underwriters and the amount available by call on members, were nearly double this cash surplus. The number of new members elected during the year was 494.

Sir JOHN ROSE BRADFORD, in moving the adoption of the report, said that the amount of legal work during the year had been considerable, especially in respect to the cases which had been privately settled. This private settlement of cases was likely to be developed further. As they all knew, there was another society with similar objects and aims to their own, engaged in the work of medical defence, and as a result of communications between the two bodies it had been agreed that in the cases where one society was representing one individual and the other society another individual there should be a conference between the two societies before any actual legal proceedings were taken. There was something very obnoxious and unpleasant in the idea of one society of this kind representing one side of the case in court and a similar society representing the other side.

Dr. C. M. FEGEN, the Treasurer, seconded the adoption of the report, and said that the total membership of the society was now over 6,000. The financial resources were such that in the very improbable event of the society going into voluntary liquidation there would be a share-out of £5 a head, equal to five years' subscriptions. He remarked upon the excellent way in which the society was served by its permanent officers and staff.

The report was adopted unanimously, and it was also agreed, without dissent, to increase the amount available for the remuneration of members of Council for attendance at the meetings. In view of the appointment of a legal advisory committee which sits twice a month it was felt that attendance at this committee should be subject to the same recompense as attendance at the Council; accordingly the sum of 500 guineas was allocated for the remuneration of the directors.

Sir John Rose Bradford was re-elected President with acclamation, and the Vice-Presidents and members of Council retiring by rotation were re-elected, save that Dr. Owen Fowler, who has been a member of Council, was made a Vice-President, and Dr. Matthew W. B. Oliver elected on to the Council in his stead. Dr. Fegen was re-elected Treasurer, and Dr. Hugh Woods and Mr. A. G. R. Foulerton General and Financial Secretaries respectively, with expressions of appreciation for their past services.

THE seventh centenary of the University of Padua will be celebrated from May 14th to 17th. On May 14th the reception of the Italian and foreign representatives will take place at the University. On May 15th a grand ceremonial will be held in the Hall of Reason, and there will be a musical evening at the Verdi Theatre. On May 16th honorary degrees will be conferred in the hall of the University, and a banquet will be given by the municipality on May 17th. Other ceremonies and fêtes will be held at Venice.

Scotland.

VENEREAL DISEASE IN SCOTLAND.

A CONFERENCE of representatives of social organizations on the subject of venereal disease was held at Dundee on April 26th, with Dr. J. McGregor Robertson, chairman of the Scottish Committee of the National Council for Combating Venereal Diseases, in the chair. Sir Leslie Mackenzie delivered an address on the prevalence of venereal disease in Scotland. The data, he said, were so inadequate that there was no simple statistical way of conveying to the lay worker how much or how little venereal disease existed in any community. With the medical man there was no difficulty, for if he was not always on the look-out for the presence of the effects of syphilis in hospital or in private practice it would not be long before he had cause to regret his want of alertness. The exact number of patients affected mattered less to him than that he should always be on the alert to make a correct diagnosis. From such information as was available the Royal Commission which reported in 1916 came to the conclusion that the number of persons infected with syphilis, acquired or congenital, could not fall below 10 per cent. of the whole population in the large cities, and the percentage infected with gonorrhoea greatly exceeded this number. If the figures of deaths from syphilis in Scotland, for the ten years 1910–19 inclusive, were taken, a total of 1,984 deaths was found, an average of nearly 200 a year; but when the details were examined it was found that the vast majority of those who so died were children under one year suffering from congenital syphilis. Sir Leslie Mackenzie pointed out that general paralysis of the insane caused 2,520 deaths in ten years, an average of 252 per annum, and if it were assumed that in every hundred syphilitic persons three died of general paralysis of the insane, then 252 such deaths in Scotland would represent 8,400 persons affected with syphilis. As a provisional figure he put it that there were 9,000 new cases of syphilis every year in Scotland. He knew of no reliable index to the number of persons suffering from gonorrhoea, and all that could safely be said was that the number of such cases must be much greater than the number of syphilitics. Referring to the clinical reports made to the Scottish Board of Health for 1921, he observed that the new cases of all forms of venereal disease for the whole of Scotland were 13,676 in number, but if private practice were included as well as the official clinics there might be at least double that number. As compared with 1920, the figures for 1921 showed no great increase of cases, but they showed a great increase in the number of attendances, which meant that the work of the clinics was becoming better understood and appreciated.

DIFFICULTIES IN MEDICAL EDUCATION.

At a well-attended meeting of the Glasgow Medical Lunch Club, held on May 4th, and presided over by Dr. Charles F. Robertson, Professor Ralph Stockman was the guest of honour, and gave an address on the medical curriculum of the present day. He pointed out some of the difficulties in the way of an efficient medical education from the point of view of the student, and also those with which the teacher had to contend. He made particular reference, as was natural, to the teaching of clinical medicine and therapeutics. The two greatest difficulties at present were the overcrowding of the curriculum and of the classes, more especially those on the clinical side. The former difficulty was to a large extent the result of the gradual addition of special classes, attendance on which was now compulsory for purposes of qualification. This matter was at present receiving attention and consideration at the hands of the General Medical Council. The overcrowding of classes was a temporary difficulty which, so far as could be seen, would right itself within the next few years. Dr. Stockman's remarks were received with much attention, and the thanks of the members were voiced by Dr. James Hamilton. It was decided to hold the next meeting on June 8th.

EVOLUTION OF THE HUMAN INTELLECT.

The Morison lectures were delivered in the hall of the Royal College of Physicians, Edinburgh, on May 1st, 3rd, and 5th, by Professor G. Elliot Smith, F.R.S., of University College, London, on the subject of "The evolution of the

human intellect." He said that it was now half a century since the serious discussion of man's origin began, but during all that time there had been a strong reluctance on the part of the scientific investigators to attack the essential problem —how the human family came to acquire its chief distinction, the intellectual supremacy that differentiates man from all other living creatures. In 1859 Charles Darwin recognized the crucial importance of this problem; but since then it had been almost wholly ignored. Important discoveries of fossil apes, and equally significant researches in comparative anatomy had within recent years definitely established the main lines of the pedigrees of the human family right back to the dawn of the Tertiary period. This knowledge afforded a sure foundation upon which to base inquiries as to the nature of the factors responsible for each stage of progress from an insignificant and very primitive mammal like a jumping shrew, through the lemurs, lemuroids like the tarsier of Borneo and Java, the monkeys and the tailless apes, up to the ancestors of man himself. The essential factor in initiating this far-reaching process of intellectual development was the special cultivation of vision by a simple generalized arboreal animal. If the fuller cultivation of the sense of sight was the primary factor in differentiating the lemur from other mammals, it was the acquisition of stereoscopic vision that transformed one of the lemuroid group into an ape and determined the course of evolution of brain and mind which eventually brought about emergence of the distinctive characteristics of the human family.

The survival of the diminutive lemuroid Tarsius practically unchanged from the dawn of the Tertiary period was a particularly fortunate circumstance for the student of man's evolution. In the little tarsier itself stereoscopic vision had not been acquired, and special interest attached to this "living fossil" mainly because it just failed to attain the simian status. Its eyes were brought from the sides to the front of the head so that the animal was able to look forward both in the actual and the metaphorical sense of the word. The visual fields overlapped so that the images of the same object were impressed upon both eyes, and the range of co-ordinated movements of the eyes was increased by the dwindling of the nose and the flattening of the face. In Tarsius, for the first time among man's ancestors, sight definitely superseded smell as the dominant sense. In the course of transformation into the ape a complicated mechanism was built up in the brain, and there was a rearrangement of the optic fibres and a development of a particularly sensitive spot in each retina; these changes enabled the animal for the first time to see the world around it in the sense that we attach to the word "seeing," and it was able to appreciate form and size, colour and texture, and position in space in a way not possible before. The focussing of the two eyes for the examination of an object represented the germ of attention and those powers of concentration that were essential for the growth of the mind. The acquisition of stereoscopic vision proved, therefore, a powerful stimulus for every part of the cerebral cortex, and the new meaning which things and events thus acquired enormously enhanced the biological value of the sense of hearing. The brains of the most primitive monkeys revealed a great extension in the area primarily concerned with hearing and a noteworthy increase in the skilled use of the voice to emit sounds. The growth of sensory discrimination and the continued development of skilled movements eventually gave an ape the experimental knowledge and understanding to devise and the muscular skill to use a complex acoustic symbolism as a means of communication with its fellows. Examination of the cranial casts of the Ape Man of Java and the Dawn Man of Piltdown revealed a precocious expansion of the part of the brain concerned with the appreciation of such auditory symbolism. This fact suggested that the acquisition of articulate speech was an essential factor in the transformation of an ape into a human being. The endocranial casts of the extinct types of mankind revealed the fact that this process of development was not completed when the human family came into existence. In the lowlier types of man the parts of the brain that were ill developed were those that were concerned with attention, the finer sensory discrimination, and the more delicate manipulations. In the gradual expansion and filling out of the parietal, pre-frontal, and inferior temporal areas in the cerebrum, there was a hint of how the growth of man's brain and the acquisition of his distinctive intellectual powers had been effected.

England and Wales.

MEETING OF THE ASSOCIATION OF SURGEONS AT LEEDS.

THE third annual meeting of the Association of Surgeons of Great Britain and Ireland was held in Leeds on May 4th, 5th, and 6th, and proved a great success. Out of a membership of 250, the attendance book was signed by no fewer than 181. Immediately before the meetings began on Thursday morning a graduation ceremony was held by the University for the conferring of the honorary degree of D.Sc. on Sir Harold Stiles, the retiring President, and a considerable number of the members of the association were present. The congregation of the University is mentioned elsewhere.

Sir Berkeley Moynihan was installed as President by Sir Harold Stiles, who vacated the chair. The three opening discourses were upon the subject of cholelithiasis. These were given by the President, by Sir Gilbert Barling, and by Mr. James Sherren, and were respectively on "The early symptoms and signs of gall stones," "The association of gall stones and pancreatitis," and "Cholecystotomy or cholecystectomy?" An adjournment of ten minutes took place before the discussion on these three addresses. On Friday morning short addresses were given by Mr. A. J. Coupland, who spoke on the surgery of the parathyroids; by Mr. R. Milne, whose subject was that of operations on the spine for tuberculous disease; and by Mr. Lockhart-Mummery, who dealt with a new method of treating ischio-rectal abscesses. On Thursday and Friday afternoons operations were witnessed in the new theatres of the General Infirmary. On Saturday morning demonstrations were given in one of the wards of the infirmary, at the medical school, and in St. George's House, the annexe to the pathological department. The dinner of the society was held at the Queen's Hotel, and was attended by 131 members and guests. The only speeches besides the two words which were used in proposing the toast of "The King" were that of Sir George Makins, who proposed the health of the President, and Sir Berkeley Moynihan's reply. Both speeches were of the highest standard. Sir George Makins carried his audience with him when, passing lightly over that with which every member of his audience was well acquainted—namely, Sir Berkeley Moynihan's eminence as a surgeon—he referred in felicitous terms to his tact, to his enthusiasm, to that which was his greatest characteristic, his success in bringing men together and promoting good fellowship.

The writer of these lines, himself a mere physician, begs to offer his cordial congratulations to the surgeons on the successful launching of this society. It is the first few years of a new society that leave their mark, and it cannot be said to be fairly launched till some time after its first meeting. Like Kipling's ship, it has to find itself, and this it is clear the Association of Surgeons has done.

LEEDS GENERAL INFIRMARY.

Consequent on the appointment of Mr. S. Daw as surgeon in charge of the orthopaedic department, which has been recently instituted, a vacancy has been created in the ass stant staff. To this position Mr. E. R. Flint, F.R.C.S., has been appointed by the special election committee. Mr. Flint was a Leeds student, and for some years was resident surgical officer at the infirmary.

THE Governor of Illinois, U.S.A., has appointed a committee of medical men to investigate alleged irregularities relative to the issuing of licences and certificates by the State Department of Registration and Education.

THE eighteenth South African Medical Congress will be held this year at Johannesburg, from September 18th to 23rd. The presidents of the different Sections are as follows: Medicine, Dr. Aylmer Dumat; Surgery, Dr. E. C. Long; Obstetrics and Gynaecology, Dr. Bruce Bays; Public Health, Dr. J. J. Boyd; Special Subjects, Dr. H. Symonds. A new departure has been made by arranging that at general meetings a paper shall be read on a special subject, but of a character likely to render it of general interest. These papers will include such subjects as chronic rheumatism, gastric ulcer, malaria, sterility, injuries, and common diseases of the eye. The business meetings of the Congress will be held on the Monday and the Saturday, and the Sections on the Tuesday, Wednesday, Thursday, and Friday.

Correspondence.

BABIES' WEIGHTS.

SIR,—May I ask your courtesy in recording the fact, which may interest those of your readers who are concerned with infant welfare, that this laboratory has just issued two revised charts of babies' weights, one for males and one for females. They may be obtained from the Cambridge University Press, Fetter Lane.

The weights are those of a large number of babies of artisan parents, and were provided for us by the baby clinics of a large manufacturing town. They indicate (1) where the baby of given age and given weight stands among babies of that age, and further (2), on the basis of this weight, a prognosis of what its health will be at the end of its first year of life.

Of course, weight is not the only factor in the health of the baby, the correlation between health and weight being less than 0.5, but the charts will suffice to indicate all that can be learnt from the factor weight alone.

In the case of individual babies, it would be very useful to plot their weights on these charts, and so ascertain whether their grade is improving, and the prognosis bettering. This would be valuable when the baby belongs to a different social class.

Existing baby charts contain, I think, much less information, and that of a somewhat antiquated character.—I am, etc.,

KARL PEARSON.

Galton Laboratory, University of London, May 4th.

"ALASTRIM" OR "PARASMALLPOX."

SIR,—In the BRITISH MEDICAL JOURNAL of April 29th, 1922, Dr. J. Johnstone Jervis, Medical Officer of Health, Leeds, deplores the introduction into medical nomenclature of the word "alastrim," which he says is "supposed to signify small-pox of a mild type." He goes on to say:

> "Already the use of this silly word is beginning to cause confusion in the lay mind, and as it is quite superfluous I would earnestly appeal for its utter banishment."

The point raised by Dr. Jervis is one of considerable practical importance, about which we are likely to hear a good deal more in the near future. Confusion on this matter is unfortunately not confined to the lay mind. Many medical minds have not yet grasped the fact that alastrim is not "small-pox of a mild type," but a separate entity distinguishable clinically from chicken-pox on the one hand and from small-pox on the other.

The present position with regard to small-pox and alastrim presents a striking analogy to the position in the early days of the war with regard to typhoid and paratyphoid fevers, when paratyphoid fever was regarded by some observers as "typhoid fever modified by inoculation." Paratyphoid fever is a distinct disease resembling typhoid fever in its clinical manifestations, but generally milder in its course and having a case mortality of 2 per cent. or less instead of the case mortality of 10 per cent. or more in typhoid fever. So in the case of alastrim we have a disease resembling small-pox in its clinical manifestations but generally milder in its course, with a case mortality of 1 per cent. or less as against 20 per cent. or more in the case of small-pox.

Where the analogy breaks down is in regard to immunology. Inoculation against typhoid fever produces no immunity against paratyphoid fever, but it would appear that vaccination against small-pox produces immunity against alastrim. This can be explained on the hypothesis that the viruses of small-pox and alastrim each contain two antigens, one of which is common and capable of producing immunity to both diseases.

If "alastrim" (synonyms amaas, milk-pox, Kaffir-pox, etc.) is a disease separate and distinct from small-pox, it should have a distinctive name. If "alastrim" or "amaas" are unsuitable names, why not call it "parasmallpox"? No useful purpose can be served by pretending that it is small-pox. It might be suggested that to call it small-pox would induce people in the areas where the disease is epidemic to submit to vaccination. That subterfuge might, however, defeat its own object—for the antivaccinators would naturally retort, "If small-pox has lost its power to kill and disfigure its victims, why trouble about getting vaccinated against it?"—I am, etc.,

R. P. GARROW,
Medical Officer of Health.

Chesterfield, May 6th.

"THE COMPOSITION OF SCIENTIFIC PAPERS."

SIR,—In your issue of April 29th (p. 691) you are good enough to commend a small book of mine on the *Composition of Scientific Papers*. The second edition was exhausted before the war, and since that time delays have been manifold. Inquiries for a new edition have been pouring in from many sides, and I am now engaged on a revision of this handbook, which I hope Messrs. Macmillan will be able to republish in a few weeks.—I am, etc.,

CLIFFORD ALLBUTT.

Cambridge, May 3rd.

THE GENERAL PRACTITIONER AND THE HOSPITALS REPORT.

SIR,—After reading the report on the organization of voluntary hospitals and the correspondence thereon a sincere doubt arises as to whether the general practitioner realizes the effect this policy will have on his practice. The report is on voluntary hospitals, but no definition of the word "voluntary" is attempted; in fact, it is deliberately evaded. It is evident, however, that the hospitals have now ceased to be what they were originally—namely, charitable institutions. In addition to the free (indigent) or charity patient they may now admit two groups—namely, the tariff and the private patient. I hold no brief for nursing homes, but I should think the proprietors of these homes will have some objection to the competition of hospitals in their business. I am more concerned with the group of tariff patients, which includes—

> "All those paid for by Public Authorities, Approved Societies, Employers of Labour, Insurance Companies or other bodies or under any contributory scheme" (para. 19 (*c*)).
>
> "Payments made for Tariff In-patients should be for work done based upon a tariff of fees agreed upon from time to time *by the contracting parties*" (para. 22 (*a*)).

It is quite clear under these provisions (1) that hospitals through their governing boards may now make contracts with any person or body of persons; (2) that this contract includes the provision of treatment; (3) that the contract may be made without consulting the medical staff, or the local profession as represented by the British Medical Association. This is contract practice with a vengeance! A few weeks ago we were trying to impress the Minister of Health that we could not under any circumstance discuss terms of service with approved societies. Now we have gone to the other extreme, and allow lay boards to arrange our fees for us with anyone or everyone. Such contracts being made, it is certain (whatever pious resolutions may be passed to the contrary) that individuals who contribute to the tariff system will now claim hospital benefit as a right, and hospitals will be compelled, and will find it to their interests, to provide accommodation for them.

Apart from an income limit, the efficacy of which is open to grave doubt, the only condition which has to be observed in the admission of patients is that the case "should be a suitable one for hospital treatment." Is it forgotten that very many cases suitable for hospital treatment are equally suitable for home treatment? It may be news to the Hospitals Committee that a fair proportion of the income of a general practitioner is derived from operations and other treatment now provided by hospitals, but in face of hospital competition what chance will he now stand of obtaining this private work? It is beside the question to say that "no tariff patient should be admitted without the recommendation of a private practitioner." If a patient has a title to hospital benefit his private attendant will find some difficulty in persuading him to have the treatment at home.

It is inconceivable that the British Medical Association should formally approve of a scheme of contract practice which will do so much harm to private practice, both general and consultant; but assuming for a moment that it does, it is not too much to expect that it will apply to it the same principles for which we fought so strenuously in 1911. These were mainly three:

1. No negotiation with societies.
2. Adequate remuneration.
3. Free choice of doctor.

With the first point I have already dealt, but in regard to adequate remuneration is it seriously asserted that a man with an income from £250 to £350 a year cannot pay for hospital treatment apart from maintenance? I have said that private practitioners are now getting reasonable fees for home treatment, and I venture to state that under a scheme

of insurance a premium of 1s. to 2s. per annum would provide an ample sum out of which adequate fees for treatment could be paid. The question of free choice of doctor is admittedly difficult in large hospitals, though a panel system is not impossible, but in the smaller towns the hospitals are staffed by general practitioners. What reasonable objection could be advanced in the latter case to allowing outside practitioners to treat their own patients in the local hospital if they so desired? Already they have to submit to their patients being treated by men who are possibly in keen competition with them, but if to this is added the loss of an appreciable source of income they may well condemn the hospitals. Let us hope that the Representative Meeting will come to the rescue of the profession in time.—I am, etc.,

Bury, May 4th. J. C. TURNBULL.

SIGHT-TESTING OPTICIANS AND PRESBYOPIA.

SIR,—In the *Bristol Medico-Chirurgical Journal* for December, 1921, appears an article by Mr. Cyril H. Walker, entitled "Some phases of quackery in relation to diseases of the eye." In alluding to the question of sight-testing by opticians he expresses an opinion which should not be allowed to pass unchallenged. Mr. Walker states:

"Indeed, it seems obvious that a certain amount of testing for spectacles cannot be objected to. Why should not a presbyope of 50 buy a pair of spectacles without consulting a doctor, just as he would buy a pocket magnifying glass, or any of the appliances which mitigate the disabilities of advancing years? Presbyopia is not yet a notifiable disease, in fact it is hardly a disease at all. Neither the public nor the profession is likely to suffer much at the hands of the sight-testing optician, provided he knows his trade and is honest. But the possibility of his overlooking glaucoma, optic neuritis, or other eye diseases is considerable. The public should be warned of this and have the opportunity of getting proper advice at a cost that is within their means."

In fairness to Mr. Walker I have quoted his remarks at some length, and it should be added that he goes on to urge a State medical service ensuring the provision of a sufficient number of well-staffed and properly equipped ophthalmic clinics where the public may have the opportunity, as he has stated, of getting proper advice at a cost that is within their means.

What I take exception to is his query, "Why should not a presbyope of 50 buy a pair of spectacles without consulting a doctor, etc.?" In my opinion the management of presbyopia is a question that in the past has received too little attention, not only on the part of medical practitioners in general, but even of a considerable number of ophthalmic surgeons of standing. It is a common experience to observe ophthalmic surgeons spending much time and trouble in estimating the static refraction of a patient, and then, inquiring his or her age, making an addition of an arbitrary amount for near work. The correction of presbyopia too long has been a matter of mere rule of thumb. The average sight-testing optician, as often as not, does not worry to estimate first of all the static refraction; indeed he has not the time and very often not sufficient skill to do this. Rather does it happen that a selection of reading glasses is offered to the customer, and it is the latter who makes the final choice. In my experience the patient who has bought a pair of spectacles for near work from an optician invariably is using too strong a pair. The result is to cause undue approximation of the artificial near point, thus throwing uncalled-for strain on the muscles of convergence which ultimately leads with advancing years to marked deficiency of convergence power and resultant difficulty in maintaining a reasonable reading distance. A considerable proportion of one's patients above the age of 60 who complain of inability to read for long are found to suffer from convergence deficiency, which in my opinion at least is attributable to the habitual use of too strong reading glasses dating back to the time of onset of presbyopia.

The correction of presbyopia is not to be treated lightly. Time and exactitude in detail are demanded from the ophthalmic surgeon, whose duty it is to examine carefully and treat every case on its merits. The static refraction must be determined, muscle balance investigated, and power of accommodation carefully estimated before any attempt to prescribe glasses is made. With these data before him the surgeon should ascertain at what distance the patient desires to read or work, taking into account his height, length of arms, and habitual posture, and then, and then only, work out the required correction. Apart from the question of overlooking diseased conditions, such as glaucoma, etc., I maintain that far more harm than good is done by the average optician.

Mr. Ernest Clarke, in a recent article, states: "My long experience has taught me that the correct treatment of presbyopia is one of the most important duties of the oculist. We are dealing with patients who are arriving, or who have arrived, at a critical period of life." Bearing this in mind, it behoves every medical man who has the welfare of his patients at heart to advise them, if they possibly can, to consult an ophthalmic surgeon when the stage of presbyopia is reached, and not to look upon the matter in the light of buying a pair of binoculars.—I am, etc.,

Cape Town, March 29th. ALAN W. SICHEL.

MEDICAL OBSERVATIONS IN ALBANIA.

SIR,—During a recent discussion before the Royal Society of Medicine reference was made to the work of Colonel McCarrison in the Himalayas, where he found an absence of several of our most prevalent diseases.

In this connexion it may be worth while to record our experience in Albania. During the past year I examined, operated on, treated, or prescribed for, 20,133 patients who attended the Ambulance of the White Cross at Scutari. The negative findings were no less interesting than the positive. There was one case of carcinoma. Among this large number of patients I found no case of appendicitis, no case of hypertrophied tonsils or turbinates, and no case of adenoids.—I am, etc.,

FRED. E. BURNHAM,
Scutari, Albania, April 16th. Brigadier-General.

VACCINES IN WHOOPING-COUGH.

SIR,—The interesting paper by Drs. Paterson and Smellie (BRITISH MEDICAL JOURNAL, May 6th, p. 713) bears out the experience I have obtained with vaccines, that they are valueless as curative agents in whooping-cough. As prophylactics they are practically infallible; but the larger doses of 2,000 million must be injected at two days' interval, before the seventh day of contact. One can then almost guarantee that the patient (child or adult) will not suffer from the disease.

As a curative agent we have nothing better than intramuscular injections of ether, 2 c.cm. every other day for babies and 3 c.cm. for children 4 years of age and onwards. Three or four injections should suffice. It is wonderful the influence it has over the established disease—spasms, vomiting, etc., ceasing sometimes spontaneously.

The diagnosis of whooping-cough is very simple for those who know how to do a simple white blood count.—I am, etc.,

Bognor, May 8th. JULES F. REY.

SUN OR AIR?

SIR,—Under the above heading Dr. A. C. Devereux, in the BRITISH MEDICAL JOURNAL of March 18th (p. 456), referring to the relative values of sunlight and open air, concludes: "The cooling power stimulates metabolism and cures disease. It doesn't matter a great deal whether the sun is shining or not." May I mention an experience regarding their relative values? During the epidemic of diphtheria in the Orange Free State during 1890–91 I had many cases of the disease under my care, and when possible I had them put in the open air under a white tent, or in the room of the house most exposed to the sun. I found this a great aid to recovery. During damp, cloudy weather improvement was distinctly retarded. So marked was the value of bright, sunny days that I concluded that the sun's rays had the power of aiding in the destruction or elimination of the toxins of the disease. While in Britain in 1892 I tried to get some explanation of this seemingly beneficial action of sunlight in these cases, but failed to do so.

My experience, therefore, was that the sun's rays had in these cases a value additional to that of open air and independent of it.—I am, etc.,

Clocolan, O.F.S., April 13th. B. G. BROCK.

REDUCTION OF MEDICAL FEES.

SIR,—I am sorry to read in his letter of April 9th that Dr. Ellis did not intend his previous letter, published on April 1st, for a joke. Since this is the case I am pleased that he admits I have voiced a grievance, but I do not agree that most of my facts were beside the mark.

I gathered from Dr. Ellis's original letter that when the cost of living was at high-water mark, fees were increased 50 per cent.; and since the cost of living is commencing to

fall he wishes us to reduce our fees. I tried to show reasons why we should not reduce our fees yet—namely:

1. The cost of living is still more than 50 per cent. above the pre-war cost.
2. Pre-war fees in many cases possibly may not have been just recompense, when the conditions which we have to fulfil are considered.
3. There is now a class of men in the profession who deserve a little consideration from their senior colleagues.

The fact which Dr. Ellis seems to fail to grasp is that although the cost of living is well above 50 per cent. more than pre-war cost of living, fees are simply 50 per cent. above pre-war fees.

I know nothing of the type of practice run by those who feel they ought to agitate for smaller fees, but I am writing simply from the point of view of a panel practitioner with his minimum fee of 2s. 6d. a visit and 3s. 6d. a bottle of medicine (℥viii) in his private practice. I have seen non-panel, non-dispensing practices with a minimum of something like 7s. 6d. a visit, but popular practitioners who can hold fashionable practices of that sort can adjust their fees to what they know they can command without writing to the JOURNAL. There are only two or three of these practitioners to scores of the less fortunate, and are not many of their patients drawn from a class who would scorn to have seen calling on them a man who was known to have a panel? Therefore need they fear the competition of their colleagues? I think not. It is time, however, that we members of the poorer paid majority commenced seriously to give our united consideration to the subject of fees. A little more enthusiasm must be shown or misunderstandings will arise and individuals may accept fees incompatible with the dignity of a professional man who has undergone a strenuous and costly training.

Regarding the reasons under heading No. 1—because we failed to raise our fees in proportion to the rise in the cost of living, and were so late in raising them the little we did, surely is no reason why we should be in so great a hurry to reduce them. Look also at the cost of running a practice now. Pre-war petrol 10d. a gallon, now 2s. 5d., lubricating oil similar, motor insurance premiums still rising, and, oh! the tax on a Ford car. These things also reduce our net income.

The reasons under No. 2 I shall pass over as stated in my letter of April 1st; but regarding those under No. 3 I would say: Now is the time a little practical sympathy is needed by those in this class who recently have bought practices at post-war valuation, to have their panel fees decreased, and then to find an agitation being set on foot to reduce their private fees. Should gross incomes be reduced to the pre-war figure, or even below the standard of the present cost of living before there are any reasonable grounds for it, the net incomes are going to be greatly diminished, since living and practice expenses are both at a higher percentage above pre-war figures than are the fees. However, the man who purchased or already possessed a practice in 1917 or early 1918 will not have these worries so acutely.

So far as a comparison with civil servants goes, they are not alone in receiving attention from the Government, for has not the panel fee been reduced? Panel practitioners receive no pension.

I quite agree that it would be dishonest to get a large fee under false pretences, so when the cost of living falls to 50 per cent. above pre-war costs, let us reconsider our fees in relation to the value of our services and our expenses. I suggest a minimum *not* lower than 2s. 6d. a visit and 3s. 6d. an 8-ounce bottle of medicine.—I am, etc.,

Standish, Lancs, April 25th. T. WILSON SHAW.

THE NAVAL MEDICAL SERVICE.

SIR,—Medical officers who joined the navy, as I did, in 1894, did so, according to an official Regulation that fleet surgeons—that is, surgeon commanders—would be compulsorily retired at the age of 55.

According to an Order in Council of July, 1919, I understand some 100 of these officers are being gradually compulsorily retired before this age and without any compensation. If this be so, it seems to me the Admiralty are perpetrating a gross injustice.

The majority of officers of this age may be expected to be married men with families; their pension is naturally much less than their full pay, and it is very difficult for them to get a job in our crowded profession. I understand it was authoritatively stated recently in the House of Commons that to summarily discharge regular officers who joined the service as a life profession would be contrary to all ideas of justice; how can this statement be reconciled with the present action of the Admiralty? I could enter with more detail into the question, but until their lordships show some disposition to consider it, it would be waste of my time and your valuable space.

As in times past, I feel sure the Naval Medical Service can rely on the help and sympathy of the British Medical Association.—I am, etc.,

Sevenoaks, April 16th. GERALD SICHEL.

*** Our correspondent cannot be aware that the British Medical Association, as recorded in our columns, has for some time past been in communication with the Admiralty on behalf of the senior surgeon commanders who were retired before the time anticipated when they joined the service. The Naval and Military Committee has pressed the Admiralty to reconsider this matter, and it is understood that a decision may be expected soon. A further statement will appear in the JOURNAL, when this can be done without prejudicing the position.

A STANDARD ENGLISH CATHETER GAUGE.

SIR,—The necessity for a standard English catheter gauge has been recognized for many years past, but the fact that the English catheter gauge has been so firmly established throughout the English-speaking world has hindered the adoption of any change. The gauge at present in use has generally been known as Weiss's gauge, and it appears to have been gradually built up by that firm from the early days of the last century, starting with one size (No. 8), smaller and larger sizes being added from time to time; but the gradation between the sizes has not been exactly uniform.

The difference between each size is based on sixty-fourths of an inch, but there is a deviation in two or three of the sizes. Other makers in producing gauges have also based them on sixty-fourths of an inch, but the deviations have not been in agreement with these on Weiss's gauge. Further, in the course of time some of the gauges in use have become worn, and there has been no generally adopted standard for remedying the variations.

This association has had the matter under consideration for some time, and has now adopted the new gauge, which shows very little deviation from the original gauge of Messrs. Weiss, but possesses the advantage of having an equal gradation between the sizes and a definite relation to the French gauge.

Dealing with the sizes in common use, No. 1 of the new gauge is equal to 1.5 mm. diameter, each size increasing by 0.5 mm. to No. 12, which equals 7 mm. diameter. There are two sizes smaller than No. 1—namely, No. 00 = 0.5 mm. diameter, and No. 0 = 1 mm. diameter; and with regard to the larger sizes No. 13 = 7.5 mm. diameter, each size above this increasing by 0.5 mm. diameter to No. 30, which equals 16 mm. diameter. The complete range runs from No. 00 to No. 30, with a uniform gradation of 0.5 mm. between each size, thus covering all the usual sizes for urethral instruments, the larger sizes serving also for oesophageal instruments.

Table showing Diameters in Millimetres.

No.	Diameter.	No.	Diameter.	No.	Diameter.
00	0.5 mm.	10	6.0 mm.	21	11.5 mm.
0	1.0 ,,	11	6.5 ,,	22	12.0 ,,
1	1.5 ,,	12	7.0 ,,	23	12.5 ,,
2	2.0 ,,	13	7.5 ,,	24	13.0 ,,
3	2.5 ,,	14	8.0 ,,	25	13.5 ,,
4	3.0 ,,	15	8.5 ,,	26	14.0 ,,
5	3.5 ,,	16	9.0 ,,	27	14.5 ,,
6	4.0 ,,	17	9.5 ,,	28	15.0 ,,
7	4.5 ,,	18	10.0 ,,	29	15.5 ,,
8	5.0 ,,	19	10.5 ,,	30	16.0 ,,
9	5.5 ,,	20	11.0 ,,		

—I am, etc.,

G. R. CHEESMAN,
Honorary Secretary, Surgical Instrument Manufacturers' Association.

London, E.C.1, May 1st.

SLIPPING RIB.

SIR,—In reference to the discussion on "slipping rib," may I point out that the tenth rib is not the only one that slips?

In patients complaining of neuralgic pain in the front of the chest I always examine the back, over the site of the heads of the ribs, and frequently find a tender spot on a rib

head corresponding to the site of the pain in front, and due to pressure from a twisted rib on the intercostal nerve at the back causing referred pain at the end of the nerve in front.

In such cases I get the patient to lie on the chest, and exercise a sudden sharp pressure over the head of the rib with the base of my hand, and often hear a click, meaning the reposition of the rib. Instantaneous disappearance of both pain and tenderness follows on this manœuvre, and the patient is much impressed with the rapid relief.—I am, etc.,

London, W., April 19th. H. FERGIE WOODS.

VAN DEN BERGH TEST IN JAUNDICE.

SIR,—An error has crept into my article on the use of the van den Bergh test in cases of jaundice, which was published in your issue of May 6th. The mistake occurred in the retyping of my own manuscript, and I regret that it escaped my notice. It concerns the making up of the standard solution of iron sulphocyanide for the colorimetric test. Two sentences have been mixed up and shortened into one; the first paragraph of the method of preparation should read:

"Dissolve 0.1508 gram of ammonium iron-alum in 50 c.cm. concentrated HCl, and add water to 100 c.cm. This gives a dilution of 1 in 320 normal, which keeps indefinitely. To 10 c.cm. of this solution add 25 c.cm. concentrated HCl, and water up to 250 c.cm. This gives a dilution of 1 in 8,000 normal, which will keep for about six months."

The account of the colorimetric method was given with great brevity, and those who intend to use it are again recommended to look up the full technical details as given by van den Bergh in the *Presse Médicale*, June 4th, 1921, and in his monograph. The serum tested is diluted both by the addition of alcohol and of the diazo reagent, and this dilution must of course be taken into account in estimating the number of "units" of bilirubin present in the serum.—I am, etc.,

University College Hospital, May 9th. J. W. MCNEE.

Obituary.

JAMES MIDDLEMASS, M.A., B.Sc., M.D., F.R.C.P.EDIN.,

Medical Superintendent, Sunderland Borough Mental Hospital.

THE death, on May 2nd, of Dr. James Middlemass is not only a serious loss to his own special sphere of psychological medicine but to the medical profession in general, for he took much interest in the affairs of the profession, was twice president of the Sunderland Division of the British Medical Association, and during the war was chairman of the Local Medical War Committee. His independent position gave him, perhaps, special advantages in dealing with medical problems, while his tact as a chairman and his ability to direct discussion and obtain a decision frequently proved of great value.

Dr. Middlemass, who was aged 59, was a native of Edinburgh. After taking the degrees of M.A. and B.Sc., he graduated M.B., C.M. (with honours) at Edinburgh University in 1885 and proceeded M.D. in 1898; he became F.R.C.P.Edin. in 1896. He studied also at Strasbourg and elsewhere abroad, and after a period as resident physician at the Edinburgh Royal Infirmary he became resident pathologist, and later assistant physician, to the Royal Edinburgh Asylum, Morningside. In 1898 he was appointed medical superintendent of Sunderland Borough Mental Hospital, Ryhope, and in 1918 he was appointed lecturer in psychological medicine at the College of Medicine, Newcastle. Dr. Middlemass married the sister of Dr. Elkins, his predecessor at the Sunderland Mental Hospital, and he is survived by his widow, a son, and a daughter; his son is a B.Sc. in agriculture of Edinburgh University and holds an appointment in Scotland.

Dr. BEDFORD PIERCE writes: Dr. Middlemass's illness was altogether unexpected; an attack of appendicitis occurred when on holiday, and septic troubles developed, so that several operations were necessary; he succumbed after a wearisome illness of over three months. On May 5th a remarkable memorial service was held at Ryhope parish church, attended by representatives of the Sunderland Corporation, large numbers of the medical profession, the staff of the Mental Hospital, and many others. It was a striking tribute of respect and affection. Dr. Middlemass wrote many articles to the medical journals, chiefly relating to pathology. Latterly he greatly assisted in preparing the *Handbook of Mental Nursing*, published by the Medico-Psychological Association. He was an active member of the committee now engaged in rewriting the *Handbook*, and though the names of the writers of the sections are not published, it may be said that Dr. Middlemass's assistance in this work, which is of such great importance to mental nurses and their patients, is recognized by the committee to be of the utmost value. In this way his personal influence will be felt by many generations of mental nurses yet to come. His lectures on mental disease at the Newcastle medical school were clear and impressive, and were most successful. In regard to his work at Sunderland the chairman of his committee has stated that he has never known an official in whose judgement they had so much confidence. He was beloved by his staff, who recognized his justice and his sympathy. Dr. Middlemass was essentially Scottish; he was quiet, cautious, and reserved, of very decided opinions, and possessed of deep religious convictions. He was a versatile man, proficient in modern languages, and he played the 'cello. Dr. Middlemass spent himself for others in no ordinary way, and "having served his generation faithfully, by the will of God, he fell asleep."

WE regret to record the death of Dr. C. SOMERTON CLARK, which took place in King's College Hospital on April 6th at the age of 46. He was born at Burgess Hill, Sussex, and educated at Dean Close School, Cheltenham. He graduated in Edinburgh as M.B., Ch.B. in 1899, became F.R.C.S. in 1901, and took the course at the London School of Tropical Medicine in the same year. He was house-surgeon to Hove Hospital 1899–1900. In 1902 he sailed for India to work in the Punjab Mission of the Church Missionary Society; he held positions successively at Srinagar, Amritsar, Dera Ismail Khan, and Quetta. He only took one furlough (in 1909), and in 1919 was invalided home with splenic leukaemia. The greater portion of his time had been spent in unhealthy stations on the plain, and one of his last suggestions was that a scheme should be introduced obviating the necessity of keeping men in the unhealthy stations for too long a period by a rotation system of transfers in their location. This was very characteristic of the man, who was always thinking and planning for other people, and the first to sacrifice himself for their benefit. He did much to bring the Dera Ismail Khan Hospital to a high state of efficiency, and the strain in that difficult and trying district may indeed have predisposed to the illness which he subsequently developed. He was always *persona grata* with his patients and beloved by little children. His sympathies were broad and his Christian influence wide-reaching. From time to time he contributed articles to medical and missionary periodicals, and he will long be remembered by a wide circle of friends in India and in England. For the past three years his health had been very seriously impaired, and he knew from the nature of his disease that there was little hope of improvement or recovery. Much sympathetic help and advice were received from the late Sir W. Osler and other eminent members of the profession, and nothing could have exceeded the kindness and skilful care with which he was treated at King's College Hospital. For many months remarkable results followed the use of *x* rays, and recently, when they ceased to be beneficial, radium was employed with advantage, but a febrile attack precipitated the end.

DR. SAMUEL JOHN BROOKS, who died in his 62nd year at Over Haddon, near Bakewell, on April 13th, was until October last in practice at Eyam, where he held the appointments of medical officer to the board of guardians and to the isolation hospital. He was the eldest son of the late Dr. R. W. T. Brooks, of Serjeant's Inn, and was educated at King's College School and King's College Hospital, London, where he studied under Lord Lister. He obtained the diplomas of M.R.C.S. and L.S.A. in 1885. Before he settled in Eyam he had practised for some time at Mossley, near Manchester, where he married the daughter of the late Dr. J. K. Seville. Dr. Brooks was well known as a lover of horses, and always carried on his practice with the assistance of one or two well-chosen animals, often of his own breeding. His death after a short period of retirement is mourned by a large circle of friends and old patients. He was an old member of the British Medical Association.

DR. ARTHUR EDWARD WILSON died suddenly at his residence at Sydenham on April 24th. He was educated at Boston Grammar School, and won an open scholarship in natural science at St. Mary's Hospital, London, where he

won a scholarship and graduated M.B.Lond. with honours in 1893. After practising in Boston for ten years he moved to Sydenham in 1913. While residing at Boston Dr. Wilson was honorary secretary to the Boston and Spalding Division of the British Medical Association, and surgeon to the Boston Hospital; he held a commission as captain in the R.A.M.C. (Territorial Army). He was a member of the Boston Rowing Club, and won the junior sculls in 1887. He is survived by his widow, two daughters, and one son.

DR. ALEC BOSWELL TIMMS, a famous Rugby international football player, died in a nursing home in London on May 5th, aged 50. He was educated at Edinburgh University and the College of Surgeons in that city, and took the Scottish triple qualification in 1903. He played centre three-quarter for Scotland in fourteen international matches—against England in 1901–2–3–4–5, against Wales in 1896 and in 1900–1–2–3, against Ireland in 1900–1–4–5, and was for some time captain of the Scottish fifteen. He also went to Australia in a British fifteen, and played for Cardiff. Before the war he was in practice in Wales, and latterly at Redhill.

Universities and Colleges.

UNIVERSITY OF LEEDS.

Conferment of the Honorary Degree of Doctor of Science on Sir Harold Stiles.

AT a congregation of the University of Leeds the degree of D.Sc. (*honoris causa*) was conferred upon Sir Harold Stiles by the Vice-Chancellor. In presenting Sir Harold for the degree Dr. Jamieson, the Dean of the Faculty of Medicine, said:

Mr. Vice-Chancellor,—In the ancient Greek there is an epitaph on a foreigner written by Simonides: "I, Brotachos of Gortyna, lie here, not having come for this, but on business." As a similar thought may be in the mind of Sir Harold Stiles, who has come here for the business of a meeting of the Association of Surgeons of Great Britain and Ireland, I must explain that we are adhering to a most ancient anthropological custom which requires an exchange of gifts when communities meet in friendship. This university desires to give substance to its welcome of the Association by conferring an honorary degree on the President before he demits office in favour of one of our own senators; the university receives a substantial return on acquiring a distinguished addition to its roll of graduates.

In this ceremony we endeavour also to compliment a great university which has long taken a foremost place in the propagation of the gospel of healing, and to congratulate her not only on the great names on her memorials but on the men who now labour within her walls, notably the Regius Professor of Clinical Surgery.

His chair is a solemn and inspiring seat, bemantled by noble traditions. His predecessors have been in turn—Francis Caird, a most learned and gentle surgeon; Thomas Annandale, a bold and dexterous pioneer; Joseph, Lord Lister, who is canonized in the hearts of all mankind; James Syme, that heroic figure whose proper place was on the field of Troy, where he would have changed the story of the Iliad by competent attention to the wound in the heel of Achilles; and Edward Russell, the first professor who fanned the torch in the darkest hour before the dawn of the bright surgical day which we enjoy.

But in this seat Sir Harold Stiles may sit in modesty but without diffidence by virtue of a capacity manifested in his position as Ettles scholar, the most distinguished graduate of his year—a position never lost; of a stream of contributions to surgical knowledge of a progressive and permanent nature; and of a great breadth of experience derived from service of the most active kind as surgeon to the Royal Hospital for Sick Children, the Chalmers Hospital, and the Royal Infirmary of Edinburgh.

Beginning with his early effort, when he made use of a well-known chemical reaction to make a considerable advance in the efficacy of the surgical treatment of malignant disease, his contributions to surgery have been characterized by faith in the value of the fundamental sciences as the basis of the art; and the energy with which he has pursued his ideals enables us to believe that his good intentions have not the proverbial unhappy fate; we may, on the contrary, imagine that they will pave a balcony from which his spirit—in, we hope, the very distant future—may contemplate with satisfaction the developments of that science and art whose foundations he has strengthened and decorated in his own solid and graceful manner.

None but those who have sat under him can value justly his greatest virtue—an impelling enthusiasm. In the late war he was a colonel, consulting surgeon to the Scottish Command, and is still a member of the Advisory Board, but the position suggests a reflection of a previous existence in which he must have been a great captain of horsemen. His voice is a battle cry, commanding and inspiring endeavour, and that alone fully justifies his present position.

We are happy in being able to greet this estimable man as a member of our university while his eye is undimmed and his natural force unabated, knowing full well that *his* heart will be in *our* body in all sincerity.

Mr. Vice-Chancellor, in the name of this Faculty and with the joy and pride of an old pupil, I present to you Sir Harold Jalland Stiles for the Degree of Doctor of Science (*honoris causa*).

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

A QUARTERLY meeting of the Royal College of Physicians of Edinburgh was held on May 2nd, when Sir Robert Philip, President, was in the chair. Dr. Alexander Gibson Henderson was admitted a Fellow of the College. Drs. George Williamson, Alan Leonard Smith Tuke, M.C., James Bertie Simpson, O.B.E., D.L., David Huskie, John Johnstone Wilson, William Edward Foggie, D.S.O., were admitted Members of the College. The Lister Fellowship of the value of £100 was awarded to Dr. Hedley Duncan Wright.

Sir Joseph Fayrer, Bt., on behalf of the officers of the 2nd Scottish General Hospital, presented to the College a silver bowl in commemoration of the services rendered by its Fellows during the great war. Dr. Thomas W. Dewar presented to the College an apothecary's balance which had been the property of Prince Charlie.

The College unanimously resolved to offer its Honorary Fellowship to Professor Albert Calmette of the Pasteur Institute, Paris, on account of his distinguished services to medical science.

CONJOINT BOARD IN SCOTLAND.

THE following candidates have been approved at the examination indicated:

FINAL EXAMINATION.—*Medicine:* L. Feldman, J. E. Overstead, L. I. Myerson, A. A. Dewar, A. K. Tateson, Agnes T. Martin, H. S. Menko, M. Witkin. *Surgery:* B. M'Laughlin, Lilian M. Williams. *Midwifery:* J. Waiggowsky, T. T. Hoskins, A. K. Tateson, A. A. Dewar, M. Witkin, H. G. Triay, L. Feldman, E. L. Ewan, Lilian M. Williams. *Medical Jurisprudence:* Wilhelmina C. Storrie, G. F. Maher, O. H. D. Oliver, J. M. M'Lintock, J. H. Murrell, R. R. Anderson, A. L. Tinto, S. A. D. Naoroji, R. M. MacKinnon, Annie D. Allan, K. Palit, A. Adefolu.

The following candidates, having passed the Final Examination, have been admitted L.R.C.P.Ed., L.R.C.S.Ed., and L.R.F.P.S.G.:

R. W. P. Hall, O. O. Popper, H. Camrass, A. J. Lubbe, T. K. Maclachlan, G. G. King, Marguerite M. I. Swanson, C. M. Thompson, D. Macdonald, W. M. Reid, W. R. Dupré, A. W. Buchan, W. A. M'K. Gibson, C. E. W. Mendis, Isobel Reid, F. P. Lisboa-Pinto, M. A. M'Vey, S. Ho Asjoe, C. T. Williams.

LONDON INTER-COLLEGIATE ENTRANCE SCHOLARSHIPS AND EXHIBITIONS, 1922.

FIFTEEN medical entrance scholarships and exhibitions of an aggregate total value of about £1,300, tenable in the Faculty of Medical Sciences of University College and King's College, and in the Medical Schools of Westminster Hospital, King's College Hospital, University College Hospital, the London (Royal Free Hospital) School of Medicine for Women, and the London Hospital, will be offered for competition on Tuesday, June 27th, 1922. Full particulars and entry forms may be obtained from the secretary of the board, S. C. Ranner, M.A., The Medical School, King's College Hospital, Denmark Hill, London, S.E. 5.

The Services.

DEATHS IN THE SERVICES.

SURGEON-GENERAL WILLIAM FRANCIS BURNETT, Army Medical Staff (retired), died at Richmond on April 24th, aged 76. He took the L.R.C.S.I. in 1864 and the L.R.C.S.Ed. in 1866, and entered the army as assistant surgeon on March 31st, 1866. As a young man he served in the 77th Foot (2nd Middlesex) and in the 68th Foot (Durham Light Infantry). He attained the rank of colonel in 1896, and that of surgeon-general in 1901; he retired in 1905, but was re-employed during the recent war (1915–16). He served in South Africa in the Zulu war of 1879 (medal with clasp); in the Afghan war of 1879–80 (medal); and in the Nile campaign of 1884–85 (medal with clasp, and Khedive's bronze star). His son, Captain Maurice Burnett, R.A.M.C., was killed in action at Shaiba in Mesopotamia on April 14th, 1915.

Colonel Francis Warburton Begbie, C.B.E., Army Medical Staff (retired), died at Exmouth, after a long illness, on April 25th, aged 57. He was the eldest son of the late Dr. James Warburton Begbie, and was born in Edinburgh on June 13th, 1864. He was educated at St. Bartholomew's Hospital, and took the M.R.C.S. and L.R.C.P.Lond. in 1890. He entered the army as surgeon-captain in July, 1891, became colonel in 1917, and retired on January 1st, 1920. He served on the North-West Frontier of India in the Chitral campaign of 1895 (medal with clasp), and throughout the South African war of 1899–1902, taking part in operations in Natal, the Transvaal, the Orange River Colony, and Cape Colony, including the actions of Colenso, Tugela Heights, Spion Kop, Vaal Krantz, Pieter's Hill, and the relief of Ladysmith; was mentioned in dispatches in the *London Gazette* of April 16th and November 15th, 1901, and received the Queen's medal with six clasps and the King's medal with two clasps. During the early part of the recent great war he was Commandant of the R.A.M.C. training centre at Ripon.

Medical News.

THE fourth lecture of the series on pathological research in its relation to medicine, arranged by the Institute of Pathology and Research, St. Mary's Hospital, Paddington, will be delivered on Thursday, May 18th, by Major-General Sir W. B. Leishman, F.R.S., who will speak on enteric fevers in the war. On May 25th Professor E. H. Starling, F.R.S., will discuss some new experiments on the kidney. Sir A. C. Houston will deal with the purification of water on June 1st, and Professor W. Bulloch, F.R.S., will discuss the historical development of the doctrine of croup and diphtheria on June 8th. The series will be brought to a close by a lecture on diverticula of the alimentary tract by Sir Berkeley Moynihan, to be given on June 15th. The lectures, which are given at 5 p.m., are open to all members of the medical profession, and to all students in medical schools, without fee.

THE next post-graduate lecture in the new series arranged by the Fellowship of Medicine will be given by Sir Thomas Horder at the house of the Royal Society of Medicine on Tuesday next, May 16th, at 5 p.m., on "The clinical significance of haemoptysis." The lecture is open to members of the profession. The course of six practical demonstrations on gastro-intestinal affections in children, skin diseases, the Wassermann reaction and its importance in general practice, will be given at the "Children's Clinic," Western General Dispensary, on Mondays and Thursdays, at 4.45 p.m., commencing on May 15th. The fee for the course is one guinea; application for copies of the syllabus and tickets should be made to the Secretary to the Fellowship of Medicine, 1, Wimpole Street, W.1.

AN interesting ceremony took place at the annual dinner of the Laryngological Section of the Royal Society of Medicine held on May 5th, when the Section was presented with a presidential badge by Sir William Milligan, M.D., President of the Section. The badge, which is the work of the Goldsmiths and Silversmiths Company, is in gold and enamel with a centre medallion representing the profile of Signor Manuel Garcia, the "Father of Laryngoscopy."

THE summer session of the West London Post-Graduate College, Hammersmith, opened on May 8th, and will continue until July 15th. There will be a lecture or demonstration every day except Saturdays at 5 p.m., and demonstrations will be given daily in the medical and surgical out-patient rooms and the specical departments at 2 p.m. Special demonstrations on the cases in the wards will be given by the physicians and surgeons, and a number of lectures and demonstrations on special subjects have been arranged. Particulars of the courses and special classes may be obtained from the dean of the college, Dr. Arthur Saunders. The fee for attendance on the hospital practice, including all ordinary lectures and demonstrations, is 4½ guineas for one month, 6 guineas for six weeks, or 9 guineas for three months.

DR. REDMOND ROCHE has been chosen as President of the Society of Members of the Royal College of Surgeons of England, in succession to Dr. J. Brindley-James, deceased.

A SPECIAL course of six lectures on advanced surgery will be given in the surgical unit of the London Hospital on Fridays at 4.15 p.m. in the clinical theatre. On May 12th and 19th Mr. Russell Howard will discuss acute intestinal obstruction, on May 26th Sir Hugh Digby will speak on carcinoma of the rectum, on June 2nd Mr. Robert Milne will deal with operative treatment of spinal caries, and on June 9th and 16th Mr. Hugh Lett will discuss haematuria and painful micturition respectively. The course is open to graduates and senior students.

AT a meeting of the Association of Economic Biologists to be held at 2.30 p.m. on Friday next, May 19th, at the Imperial College of Science, Professor J. H. Priestley of Leeds will give a demonstration of the toxic action of illuminating gas on plants.

THE annual summer dinner of the Glasgow University Club, London, takes place in the Trocadero on Friday, May 26th, at 7.15 for 7.30 p.m. precisely, Sir Archibald Denny, LL.D., in the chair. All Glasgow University men who wish to attend are requested to apply without delay to the honorary secretaries, 1, Harley Place, N.W.1.

THE next meeting of the Medico-Psychological Association of Great Britain and Ireland will take place on Thursday, May 25th, at 11 a.m., at 11, Chandos Street, Cavendish Square, and at 3 p.m. at the L.C.C. County Hall, Spring Gardens, under the presidency of Dr. C. H. Bond. Sir Frederick Mott will read a paper on the genetic origin of dementia praecox at 11.15 a.m., and Sir Maurice Craig will deliver the third Maudsley lecture at 3 p.m. on some aspects of education in relation to mental disorder.

THE Aberdeen University Club, London, will hold its bi-annual dinner on Thursday, May 18th, at Gatti's Restaurant, Strand. Dr. W. A. Milligan, the honorary secretary, 11, Upper Brook Street, W.1, will be pleased to hear from any members wishing to be present, and also from graduates (men or women) wishing to join the club.

A MEETING of the West Kent Medico-Chirurgical Society will be held at the Miller General Hospital, Greenwich, to-day (Friday, May 12th), at 8.45 p.m., when the President (Dr. Comber) will deliver his address, which will be followed by a smoking concert.

A CLINICAL meeting of the Harveian Society of London will be held on Thursday, May 18th, at 4.30 p.m., at the Paddington Infirmary, Harrow Road.

THE annual meeting of the Medical Mission Auxiliary of the Church Missionary Society was held in Queen's Hall, London, on May 3rd. Sir Leonard Rogers was in the chair, and addresses on the subject of foreign medical missionary work were given by Dr. Duncan Main (China), Dr. Emmeline Stuart (Persia), and Dr. R. B. Coleman (Egypt). The meeting was very well attended in spite of a wet evening.

DR. T. G. STYAN, on leaving Ramsgate, where he practised for 36 years, has been presented by his friends and patients with a silver tray, a cheque for £25, and an illuminated address.

WE are asked to state that an international conference on birth control will be held in London next July—11th to 14th. Friday, July 14th, will be devoted to the medical and contraceptive sections; the latter will be open only to medical practitioners and students. The fee for membership of the conference is 10s., but medical men and women can become honorary members by applying to Dr. B. Dunlop, 71, Harley Street, W.1. The Presidents of the sections are: Professor MacBride (eugenics), Professor J. M. Keynes (economics), Mr. Harold Cox (national and international aspects), the Rev. Gordon Lang (moral and religious aspects), Sir G. Archdall Reid (medical), Mr. Norman Haire (contraceptive).

THE Royal Institute of Public Health will hold its annual congress at Plymouth from May 31st to June 5th inclusive. It will be divided into four sections as follows: (1) State Medicine and Municipal Hygiene; (2) Naval, Military, and Air; (3) Bacteriology and Biochemistry; (4) Women and Public Health. The Harben lectures will be delivered by Professor T. Madsen of Copenhagen on June 1st, 2nd, and 5th, at 4.30 p.m. Lecture I will deal with specific and non-specific antitoxin formation, the second with antitoxic treatment of diphtheria, and the third with phagocytosis and temperature. The Mayor and Corporation will hold a reception at the Guildhall on Thursday, June 1st, at 7.30 p.m., and the National Temperance League are arranging a breakfast conference on Friday, June 2nd, at 8 a.m. The dinner of the congress will be held at the Royal Hotel on June 2nd, at 7 p.m. A series of visits and excursions have been arranged.

THE annual meeting of the American Congress of Internal Medicine and the College of Physicians was held at Rochester, Minn., in April. Changes have been made in the constitution and by-laws of the organization, which, according to the statement of Dr. Frank Smithies, secretary-general of the organization, will place the practice of internal medicine on the same ethical plane that surgery now enjoys in America through the efforts of the American College of Surgeons. A candidate for Fellowship of the American College of Physicians must be a graduate of a medical school of the first rank, a member in good standing of his local, state, or national medical societies, be a licentiate in the state wherein he resides, or engaged in practice or scientific research in a hospital or recognized institution; he must be at least 25 years of age and have received his qualifying diploma at least five years before becoming a Fellow; an applicant for membership must be engaged in teaching or research, in charge of a hospital of a hundred or more beds, or affiliated with medical or laboratory departments of the United States or Canadian army, navy, or public health services; in default of these attainments he must have submitted a clinical report on fifty patients who have been actually under his care.

A CONGRESS of mental hygiene, organized by the French League of Mental Hygiene, will be held in Paris at the Hôtel des Sociétés Savantes, 28, Rue Serpente, from June 1st to 4th. The subscription has been fixed at fr. 25 for members who take part in the discussions, and fr. 10 for associate members who take no active part in the work of the congress. The treasurer is Dr. Dupain, 1, Rue Cabanis, Paris.

WE greatly regret to announce, as we go to press, the death of Sir Henry Davy, K.B.E., C.B., consulting physician to the Royal Devon and Exeter Hospital, who was President of the British Medical Association at the Annual Meeting at Exeter in 1907.

Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.*

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2630, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2630, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin;* telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

INCOME TAX.

"H. M. M." inquires as to his liability as an assistant.

*** (*a*) He is not liable to assessment in respect of the value of board and lodging received in kind. (*b*) "A present of £5 every Christmas" appears to be liable to assessment if it is received in consideration of services rendered—for example, if his principal is entitled to treat it as a professional expense.

"FOGGED" has a pension, and since making his income tax declaration for 1921–22 has taken up a temporary appointment with a county council, being paid according to work done.

*** Our correspondent is liable to payment of income tax on the amount of his additional earnings in the period to April 5th, 1922; it may save him some correspondence in the future if a supplementary statement is made through the Pensions Office or through the office of the local inspector of taxes, though he can probably leave the matter with the authorities on the assumption that it will be dealt with when the county council lodges its salary list with them.

"F. M. S." holds a post as medical officer to a private mental hospital, receiving a fixed salary and board and lodgings for his wife and himself.

*** Only the salary and other cash emoluments, if any, are assessable.

LETTERS, NOTES, ETC.

THE Registrar of the General Medical Council informs us that we were in error in supposing that the vacant site in Oxford Street, referred to in the paragraph headed "From Grave to Gay," on p. 491 of our issue of March 25th, was that formerly occupied by the house of the General Medical Council. The vacant space is No. 311, Oxford Street, whereas the house of the General Medical Council was 299. The correspondent who supplied us with the information was under the impression that the houses in that part of the street had been renumbered.

DR. ARBOUR STEPHENS (Swansea) asks for the opinion of readers as to whether a point half-way between the right acromion process and the left anterior superior iliac spine would be of value in correlation with the heart's impulse or apex beat. The average length in a man is, he says, about one inch longer than in a woman. Any marked deviation from the average is, Dr. Stephens thinks, significant.

VIENNA CLINICS.

DR. E. W. SCRIPTURE writes to supplement the information in his letter published on April 22nd, p. 661. He states that during the summer semester there will be over twenty courses in neurology and psychiatry in Vienna. At the Neurological Institute foreign doctors are charged 1,000 crowns for the course, with an additional laboratory tax of the same amount monthly. At the present rate of exchange this appears to be equivalent to about 6d. The clinic for neurology is conducted by Professor Wagner-Jauregg; among the courses there is one by Dr. Stransky, "Applied Psycho-pathology (Psycho-pathology in Daily Life, in Culture, and in the Life of Peoples)," and Dr. Schilder will give a series of psycho-analytic demonstrations. Our correspondent states that Professor Freud is no longer connected with the university, his entire time being devoted to private practice.

OPERATIONS FOR TONSILS AND ADENOIDS.

THE Secretary of the Belgrave Hospital for Children writes: With reference to the suggestions made by the Council of the Laryngological Section of the Royal Society of Medicine regarding the treatment of children suffering from tonsils and adenoids, a large number of children receive treatment for throat affections at this hospital, and in the past they have been treated in the out-patient department as at other hospitals. Last autumn, however, the committee of management took the first step towards improving the conditions in providing an ambulance to convey the children to their homes instead of allowing them to travel in public vehicles shortly after operation. As a further step, on May 1st a special ward of ten beds will be opened, reserved entirely for the admission of throat cases; the children will be admitted the day before operation, and will stay in hospital three days and three nights, or longer if necessary.

EXPECTANT TREATMENT OF MEASLES AND INFLUENZA.

DR. THOS. CARRUTHERS (Kilbarchan, Renfrewshire) writes: An epidemic of measles has reminded me of a formula I used in former epidemics: "Drinks of water till they ask for something to eat, and don't let them—up?—out till the cough's away." I am also reminded of my formula in the recent influenza epidemics: "Keep your bed till the cough's away and the appetite's back." It is many years ago now since I learned I had earned the title of "the cold water doctor," on account of my treatment of the early stage of any fever, apparently to distinguish me from the "milk and soda" and "plenty of sloppy food" doctors all round about! When will we learn to break away from the tradition of the textbooks and the fever hospitals, just as we are only now breaking away from the tradition of the maternity hospitals of the two-hourly feeding of infants?—a thing I broke away from ten or more years ago upon discovering that the feeds were naturally from five to seven in the twenty-four hours with different babies. There is far too much theory and worship of authority in the practice of medicine and too little observation of fact for oneself.

AESCULAPIUS AND CONSUMPTION.

DR. R. J. S. MCDOWALL (Leeds) writes: One cannot help thinking that the interpretation put by Mr. Morley Roberts on the advice of Aesculapius to consumptives requires further consideration. The date season in Egypt only lasts a few weeks, and the region in which dates grow in greatest profusion is most unsuited for consumptives—namely, the delta where the air is hot, extremely humid, and relaxing in summer, cold and raw in winter. The suitability of the Cairo district for consumptives is open to grave doubt. Assouan, in Upper Egypt, on the other hand, is well suited during the winter months, but, as it is some three hundred miles further south few patients are sent there, and fresh dates are certainly not available at that season. Those who have sojourned in the country will apprceiate these points. Does not the value of the date lie in its having a high vitamin content and a large amount of sugar in a form easily assimilated?

BARLEY WATER.

MR. J. P. O'HEA, F.R.C.S.Eng., M.B.Lond. (Chichester), writes: Barley water is commonly advised as a diluent of cow's milk for infant feeding, and pearl barley is used also in the preparation of food for invalids. Barley as such is a very digestible and nutritious cereal; but I believe that pearl barley is only too often manufactured by the bleaching action of sulphur, and this is a process not calculated to render it more digestible—rather the reverse. The point is of considerable importance considering the feeble digestive powers of the infant, and also the fact that barley water is commonly prescribed when the digestive powers are enfeebled in such conditions as dyspepsia and "summer diarrhoea."

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 28, 29, 32, 33, and 35 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 30, 31, and 32.

THE appointments of certifying factory surgeons at Cerrig-y-Druidion (Denbigh), Cobham (Surrey), Gnosall (Stafford), and Knutsford (Chester), are vacant.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£ s. d.
Six lines and under	0 9 0
Each additional line	0 1 6
Whole single column (three columns to page) ...	7 10 0
Half single column	3 15 0
Half page	10 0 0
Whole page	20 0 0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

A Post-Graduate Clinical Lecture
ON
SYMPTOMLESS HAEMATURIA.

DELIVERED AT THE MANCHESTER ROYAL INFIRMARY,

BY

ARTHUR H. BURGESS, F.R.C.S.ENG., M.B., M.Sc.(VICT.),
PROFESSOR OF CLINICAL SURGERY, UNIVERSITY OF MANCHESTER;
HONORARY SURGEON TO THE MANCHESTER ROYAL INFIRMARY.

[*Abstract.*]

HAEMATURIA as a clinical manifestation is frequently met with, but—fortunately from the point of view of the diagnosis of its cause—is usually accompanied by other symptoms of urinary disorder: pain, frequency of micturition, pyuria, etc. Here I wish to draw attention to a very interesting group of cases in which haematuria is absolutely the only symptom of which the patient complains; apart from this the urinary functions are in every way normal.

The discovery that blood is present in the urine is more or less a matter of chance, the patient happening to notice the colour; many volunteer the statement that had they been blind they would never have known there was anything wrong. In some of these cases, however, if the bleeding is sufficiently profuse for blood clots to form, pain may be caused by their passage along the ureter or urethra; but such pain is a "side-issue," and, not being dependent upon the actual cause of the haematuria, does not remove the case from the class of "symptomless" haematurias. The great interest of these cases lies in the diagnosis of their cause, and this is a matter entirely of physical examination, absolutely unassisted by any description of subjective symptoms by the patient.

I have recently completed the clinical investigation of 100 cases of symptomless haematuria, with the following results:

A. *The haematuria was of vesical origin in 65 cases:*

1. Villous papilloma	41
2. Malignant growth	18
3. Enlargement of prostate	3
4. Ulceration from suture left after colporrhaphy	1
5. Simple "solitary" or "mucous" ulcer ...	1
6. Calculus fixed in post-prostatic pouch ...	1

B. *The haematuria was of renal origin in 35 cases:*

7. Bleeding not seen at the time of examination; cause unknown	14
8. Malignant growths (including hypernephroma)	9
9. Papilloma of the renal pelvis	2
10. Angeioma of a renal papilla	1
11. Renal calculus	3
12. Congenital cystic disease	1
13. Chronic nephritis, with small cysts ...	1
14. Mobile kidney	2
15. "Essential" haematuria	2

Fenwick and others have described cases in which a symptomless haematuria was the first, and for some time the only, manifestation of renal tuberculosis—just as sudden haemoptysis may precede for a long period any other evidence of pulmonary tuberculosis.

1 and 2.—The outstanding feature of a review of these figures is that, while almost every pathological lesion of the kidney and bladder may occasionally manifest itself as a symptomless haematuria, some form of new growth enormously preponderates. Excluding the 14 cases of renal origin which were not bleeding at the time of examination, and in which the kidney affected could not be determined, my series shows 71 new growths out of 86 cases—that is, 82.5 per cent. Of the 71 new growths, 44 were benign and 27 malignant; 12 were situated in the kidney (3 benign and 9 malignant) and 59 in the bladder (41 benign and 18 malignant). Taking all my cases of symptomless haematuria of known etiology, benign new growth was the cause in 51.1 per cent. and malignant new growth in 31.3 per cent. The diagnosis of simple from malignant growths of the bladder is not always possible by cystoscopic examination only, since both may have a villous surface; in the earlier cases of my series all the bladder growths were removed by suprapubic cystotomy and their nature determined by histological examination, but since 1913 the deciding factor in most cases has been the effect upon them of treatment by the diathermic current applied through a cystoscope: its immediately beneficial effect upon benign growths, and its failure to produce more than very temporary, if any, benefit upon malignant growths, form such a striking contrast as to constitute a useful practical clinical test between innocency and malignancy. In view of the great preponderance of new growths, it is only natural that in any given case of symptomless haematuria the surgeon's first thought will turn to that, and especially to villous papilloma, as the most probable cause; the fact that in about one-third of all cases (31.3 per cent.) a malignant growth is present, possibly in an early and operable stage, serves only to enhance the importance of tracing the haematuria to its source at the earliest opportunity.

Among the causes, other than new growths, in my series were the following:

3. *Enlarged Prostate.*—In three cases bleeding was seen cystoscopically to come from an intravesical enlargement of the prostate, although none of the usual early symptoms of prostatic enlargement were present. There has been no recurrence of haemorrhage since prostatectomy.

4. *Ulceration from Suture.*—Here the blood was seen to come from an ulcer on the posterior wall of the bladder just behind the trigone; in the base of the ulcer a foreign body was seen, which proved to be a chromic catgut suture remaining after an operation of colporrhaphy three years previously; after its removal the ulcer healed readily. There was not the slightest encrustation of urinary salts upon the suture.

5. *Simple "Solitary" Ulcer.*—This patient, a male aged 27, was in hospital for varicose veins, when he commenced with haematuria, which rapidly became so profuse that when I first saw him he was passing almost pure blood—in fact, it clotted in the vessel. Cystoscopy was impossible, so I opened the bladder suprapubically, and found an ulcer three-quarters of an inch in diameter, on the posterior wall, slightly to the left of the middle line and just behind the trigone, and which was bleeding profusely. The bleeding was stopped by the cautery, and never recurred. Some six years later this man again came under my observation, with tuberculosis of the left epididymis and vesicula seminalis; cystoscopy showed the bladder free from ulceration, though the scar of the former ulcer was plainly visible. Fenwick describes cases of simple "solitary" ulcer in which there has been no subsequent development of tuberculosis, but I think that, in my case, the original ulcer was probably of tuberculous origin, although no other evidence of tuberculosis in the body was then discovered. He died of generalized tuberculosis within a year of the second examination.

6. *Vesical Calculus.*—This was a male, aged 60, who had had two attacks of symptomless haematuria at an interval of two years. Cystoscopy showed an intravesical enlargement of the prostate with calculi in the post-prostatic pouch. These were removed, along with the prostate. There were one large and seven small calculi; the large one [shown at the lecture] was the most conspicuously stellate and "spiked" calculus I have met with, each primary "spike" ending in three or four secondary ones. That such a calculus should be unassociated with any pain or other symptoms except the two attacks of haematuria seems very remarkable, and is probably to be explained by its fixity in a post-prostatic pouch.

9, 10, 12, 13.—These conditions were discovered only after exploratory nephrotomy of the kidney to which the haemorrhage had been cystoscopically located, and the two former only after almost complete hemisection of the kidney, the renal pedicle having been previously clamped. In both cases of papilloma the growth was small, single, and situated in the lowest calyx, and was treated by local excision only, with subsequent suture of the kidney. The angeioma was situated on one of the renal papillae towards the upper pole, was about the size of a green pea, and was similarly treated. One of the cases of papilloma had recurrent haematuria four years later; cystoscopy showed the bleeding to come from the same kidney (right), the left kidney acting normally. Nephrotomy showed considerable recurrence of the papillomatous condition, and I removed the kidney, since when there has been no further haemorrhage. The case of angeioma and the second case of papilloma were free from recurrence five years later, but have been lost sight of since.

11. *Renal Calculus.*—One of my three cases was of particular interest, the cause of the haematuria not being recognized at the time. A female, middle-aged, was removed to a

fever hospital, with slight haematuria and slight desquamation of the skin, from a house in which some six weeks previously two cases of undoubted scarlet fever had occurred, she being considered to have a slight degree of post-scarlatinal nephritis. As the haematuria became rather bright red the possibility of villous papilloma of the bladder was considered, and I made a cystoscopic examination. I found a perfectly normal bladder and saw the blood coming from both ureteric orifices. The bleeding ceased entirely in a few days, and I heard nothing further of the case until seven years later, when, the haemorrhage recurring, she was admitted to my wards. Cystoscopy then showed the blood to be coming from the right ureteric orifice only. Radiography disclosed a large-branched calculus in each kidney, completely filling up the pelvis and calyces. Nephro-lithotomy was performed on the right side and three weeks later on the left, with complete arrest of the haemorrhage. This is the only occasion on which I have seen with the cystoscope blood issuing from both ureteric orifices simultaneously in a case of bilateral renal calculus, and such occasions must necessarily be exceedingly rare. A point to emphasize is that in bilateral renal calculus painless haematuria from one kidney may accompany typical renal colic, without haematuria, in the opposite kidney, and, unless a cystoscopic examination be made and the source of the bleeding definitely determined it might naturally be concluded that the bleeding was from the side of the renal colic. I have recently had such a case where the bleeding was so profuse as to threaten death from haemorrhage, and only a routine cystoscopy prevented the wrong—that is, the non-bleeding—kidney from being operated upon first.

14. *Mobile Kidney.*—In two cases, both males, the kidney to which the haemorrhage was traced was extremely mobile. Exploratory nephrotomy revealed no other abnormality, and nephropexy arrested the bleeding, which has not since recurred—twelve and eight years respectively having elapsed.

15. "*Essential*" *Haematuria.*—In two cases, the bleeding having been traced to one kidney, exploratory nephrotomy revealed no macroscopic cause, and a portion of renal parenchyma removed for histological examination showed a normal structure. The term "essential" haematuria has been applied to renal haemorrhage, the etiology of which cannot be determined after all the present known methods of urological investigation have been applied with negative result. The most recent writer on this subject, Dr. C. S. Levy,[1] of the Johns Hopkins Hospital, Baltimore, in reviewing thirty cases, evidently does not include exploratory nephrotomy in his methods of urological investigation, and thus instances of 9, 10, and 13 in my series would have been classed as "essential," although nephrotomy revealed a definite cause.

In clinically investigating a case of apparently symptomless haematuria we must first of all make sure, by microscopic detection of blood corpuscles, that it is really haematuria and not the rare condition of haemoglobinuria. Further, we must exclude general diseases that cause haematuria, such as haemophilia, scurvy-rickets, the group of anaemias, and the passive congestion of heart disease. Having decided that the haematuria results from some lesion in the urinary tract, we next require to investigate, in order of urgency, (1) the source of the haemorrhage, whether vesical or renal, and if the latter whether unilateral or bilateral; (2) the nature of the lesion causing it; and (3) the functional condition of the rest of the urinary tract. The physical characters of the blood—whether intimately mixed or not with the urine, whether bright red or dark red, whether associated with clots of any characteristic shape—although serving as a rough and ready guide to the source of the bleeding, are not sufficiently trustworthy to be relied upon in any given case. The brightest haematuria I have ever seen was proved cystoscopically to come from a kidney which subsequent operation showed to be the seat of a sarcoma; while in another case, where the blood was of a dark "porter" colour, intimately mixed with the urine, and associated with attacks of severe left renal colic, cystoscopy showed a large villous papilloma of the bladder almost occluding the left ureteric orifice. By cystoscopy alone can the source of the haemorrhage be determined with certainty, and its application should be regarded as a matter of urgency, particularly if the haemorrhage is actually going on. If the haematuria be of renal origin it is only at this time that the kidney at fault can be discovered; such opportunity, if missed, may not recur for a long period, during which, as we have seen, in about one-third of all cases a malignant growth will be steadily progressing, and the only chance of its extirpation be lost. Too often does it happen that the practitioner's first efforts are directed not to ascertaining the source of the bleeding, but to immediately arresting it by keeping the patient in bed and administering morphine and internal styptics; though this may allay the alarm which many patients feel when they discover that they are passing blood with the urine, yet in the long run it would be of greater service rather to attempt to continue the haemorrhage until arrangements can be made for a cystoscopic examination to trace it to its source. Only in this manner will disease be located in its earlier and operable stages, and the present appalling mortality of malignant growths of the urinary tract be materially lessened.

Cystoscopy while bleeding is actually occurring will, if the haemorrhage be of renal origin, definitely indicate from which ureteric orifice the blood is escaping; if of vesical origin and not too profuse to obscure vision altogether, not only will the source of the haemorrhage be located but the lesion causing it will be seen. Difficulty will arise only where the bleeding is very profuse, but even here repeatedly washing out the bladder, combined with the introduction of a solution of adrenaline, will usually enable a view to be obtained; where this is found impossible this fact alone is strong presumptive evidence of a vesical origin.

Cystoscopy after cessation of the haemorrhage may fail to show its source: should it have been of vesical origin, then some lesion in the bladder sufficient to cause haemorrhage will be noted, and the absence of such indicates a renal source, although it does not show which kidney is at fault. A definitely abnormal appearance of one ureteric orifice suggests, though it does not prove, that the corresponding kidney is the offender; sometimes help is obtained by an assistant lightly compressing each loin, when, if unilateral haemorrhage be started, it suggests the pathological kidney. If bleeding cannot easily be induced, and if no renal tumour or other physical sign be present, then there is nothing for it but to wait until the haematuria recurs and to cystoscope during the attack.

Where the blood has been seen to issue from one ureteric orifice, then a thorough investigation must be instituted by all the usual urological methods to ascertain the pathological lesion in the corresponding kidney: careful palpation of the loin, a chemical, microscopic, and bacteriological examination of the mixed urine and possibly also of the separated urines after ureter catheterization, radiography, and pyelography. By these positive evidence may be obtained of certain conditions, such as calculus, tumour, or tuberculosis; but if they yield negative evidence only, then the remaining procedure is an exploratory nephrotomy. Before undertaking this, inasmuch as it may disclose some pathological condition requiring nephrectomy, it is essential to investigate the functional capacity of the opposite kidney, and for this I rely most upon the "indigo-carmine" test, the efflux from each ureteric orifice being carefully watched through the cystoscope. Being assured of the efficiency of the opposite kidney, the bleeding kidney is then explored from the loin, the upper end of the ureter and the renal pelvis carefully examined from without, the renal pedicle clamped, and the renal parenchyma freely incised so as to expose the whole of the pelvis and calyces. If no macroscopic lesion be found, a slice of the parenchyma is removed for histological examination and the kidney carefully sutured by deep and superficial catgut sutures. The case must now be classed as an "essential" haematuria, and should the haemorrhage subsequently recur it may be treated medically, with the confidence that one has not overlooked a malignant growth; only if the haemorrhage becomes so profuse as to immediately threaten life should further operative treatment be considered, and this would take the form of nephrectomy.

In the paper already referred to, C. S. Levy traces the after-history of 30 cases of "essential" haematuria, at periods of from one month up to twelve years: 12 cases remained free from recurrence and 18 recurred. Of the 30 cases 5 only were operated upon: 1 by nephrectomy with cure, 3 by nephrotomy (1 without recurrence, 1 with recurrence five years later and twice since, and 1 with recurrence two and a half years later and five times since), and 1 by decapsulation, with recurrence after five years and thrice since; none of the patients developed tubercle, growth, or serious disease subsequently. Although one must admit that the results of operative treatment in true "essential" haematuria are not superior to those of medical or expectant treatment, yet personally I hesitate to class a case as "essential" until an

[1] *Surgery, Gynaecology, and Obstetrics*, January, 1922.

exploratory nephrotomy has proved negative—one has the uncomfortable feeling that an early case of malignant growth might be overlooked. The operation in itself is not a serious risk; it may disclose some curable condition which otherwise might have been missed until it had reached an advanced stage, and even should it prove negative it allows one to regard without alarm any future recurrence of the haematuria.

In conclusion let me again emphasize the great importance, when called to a case of symptomless haematuria, of treating the patient rather than the haemorrhage, and of not attempting to arrest the bleeding until, by means of cystoscopy, it has been traced to its source.

An Address
ON THE
PERNICIOUS VOMITING OF PREGNANCY.*

BY
CARLTON OLDFIELD, M.D., F.R.C.S.,
HONORARY OBSTETRIC SURGEON, GENERAL INFIRMARY, LEEDS; LECTURER IN GYNAECOLOGY, LEEDS UNIVERSITY.

FOR more than twenty years I have been of the opinion that all cases of pernicious vomiting of pregnancy are neurotic in origin, and I have treated the condition accordingly. During this period I have met with about 35 cases, but for the purpose of this address I am considering only 29 of them, as the others remained at home for treatment. Of these 29 cases, 5 were in-patients under my care at the Leeds General Infirmary, 17 in the Hospital for Women and Children, Leeds, and the remaining 7 were in nursing homes. All the patients recovered, and in only one case was abortion induced. The advantage of the treatment that I carry out is that the vomiting usually ceases immediately, and induction of abortion is seldom or never necessary. Indeed, I do not know of any grave illness such as this is which responds to treatment so suddenly. By contrast the usual methods of treatment, multitudinous in variety and well known to you all, are prolonged and dissatisfying, and often end in the induction of abortion, which in this disease is attended by a serious risk to the life of the mother.

I will state exactly what I do; nothing could be more simple. The patient is admitted to a hospital or nursing home and put on ordinary diet at once. The nurses are told, if they have not nursed similar cases of mine before, that the vomiting is due to neurosis, that a bowl must not be provided even if the patient should vomit, and that the words "vomit" and "sickness" must not be mentioned in the presence of the patient. They must just expect her to take her food like other patients in the ward, and must not try to persuade her to do so. As a rule the patient will at once take the full ordinary diet and retain it, but sometimes only a small portion is taken for the first day or two, part of which may occasionally be vomited. If any vomiting occurs the patient is assured that it will soon stop and that she will soon be quite well. In most cases a rectal infusion of 4 per cent. glucose is given, and, as a rule, continuously by the drop method. This relieves the thirst and the feeling of exhaustion, and, by diminishing the acidosis, I think it lessens the tendency to vomit. No drugs are used, except a purgative when it seems desirable. There is no necessity for psycho-therapy as ordinarily carried out in medical and surgical cases. Hospital and other cases do much better when they are in a ward than in a separate room.

Simple though this treatment is in principle and in practice, difficulties sometimes occur, and some of these I must mention. It may seem strange to you, but the patients are sometimes reluctant to go to a hospital or nursing home. If induction of abortion, which the doctor often suggests, were advised, there would probably be no difficulty in persuading the patient to leave home; but when an operation is not necessary it is not always easy to convince her of the advantage of institutional treatment. In the severest cases, however, there is seldom any difficulty when the patient and her friends are assured that she will bear the journey satisfactorily.

In August, 1921, I saw a primigravida in consultation with her doctor in a town about thirty miles from Leeds. She was about eight weeks pregnant and had been vomiting for about three weeks. For two weeks she had been under treatment for pernicious vomiting and for several days had not retained any food. Vomiting and retching had been almost incessant for three or four days. Various medicines had been tried and glucose given by the rectum. The urine had given a strong reaction for acetone when tested a week previously. Her face was drawn, her eyes sunken; she was exhausted and distressed. The pulse was 120 a minute. Her doctor had arrived at the conclusion that nothing but induction of abortion would save her. Her friends were very reluctant for a while to allow her to be taken to Leeds, but after being told that the journey would not harm her, that the vomiting would cease when she arrived there, and that she would soon be better, they agreed to take her. She vomited once on arrival and had a meal of tea, bread-and-butter, and stewed apple as soon as she was settled in bed. She kept it, slept all night, and took coffee, bacon and egg, toast and marmalade for breakfast next morning. Ordinary diet was continued during the ten days she was in Leeds and the vomiting did not recur. When she went home the patient looked and felt quite well.

I will now narrate a case which illustrates the advisability of the patient being placed directly under the daily charge and observation of the obstetric surgeon who advises the treatment. With the exception of this all the cases were treated in Leeds, where I can obtain nurses who have entire faith in the treatment.

The patient was a primigravida, aged about 30, who had been ailing and had had albumin in her urine for four or five years. She was eight weeks pregnant. She had vomited severely for two weeks, and had been in a nursing home in a neighbouring town for about a week and fed with small quantities of Benger's and similar food. This was usually returned, and so were water and tea. She looked very ill, and I pressed her husband and her doctor to send her to Leeds. As they refused, a trial was given to ordinary diet, to the obvious amusement of her incredulous nurses, and glucose enemata were ordered. The vomiting persisted, and when I saw her again three days later she was no better. I noticed at once a capacious bowl still remaining at the bedside, which, in my opinion, was a contributory cause of the persistence of the vomiting. I again expressed my conviction that she would soon be well if she came to Leeds, and advised against induction of abortion, but she remained where she was, and was treated by glucose infusion given continuously and by semi-starvation diet. Sugar, diacetic acid, and albumin were present in the urine. Vomiting continued in varying degrees for some weeks, and eventually she recovered, but the sugar in the urine persisted until after the labour at full time, when she was safely delivered of a weakly child weighing 4 lb. It is my belief that if my advice had been accepted this patient would have recovered much sooner and the life and health of herself and child would have escaped the serious dangers through which they passed.

In three or four cases in which the vomiting has persisted after admission to hospital I have suspected that the patient wished to get rid of her pregnancy. One of them acknowledged, after spontaneous abortion at the sixth month of pregnancy, that she was "determined not to go through with it," and that she had produced the vomiting by putting her finger into her pharynx. In some other instances I have spoken seriously to the patient, and have pointed out the danger of the persistent vomiting and of induced abortion, and afterwards, with one exception, the symptoms have soon cleared up. In the exception, however, abortion was induced. She was sent to the Hospital for Women and Children, Leeds, by her doctor, who told me and the patient that induction was necessary to save her life. She improved after admission, but relapsed again after her friends had visited her and told her that their family doctor said she must have induction of abortion or she would die. She was alternately better and worse for two weeks, the bad turns always following visiting days, and in the end I gave up the struggle and evacuated the uterus.

I trust that I have explained clearly and fully enough the treatment carried out and the difficulties met with, but I would like to emphasize the necessity of having nurses who believe in the treatment. I am occasionally asked if my results are good in toxaemic cases. My reply is that most of my cases are toxaemic, but I regard the toxaemia as a result and not as a cause of the vomiting. Many have been seriously ill and emaciated and have had bile-stained conjunctivae and bile in their urine. Such cases recover as quickly as the less severe and their recovery is more dramatic.

Perhaps I ought to say a word or two about the pathology of this condition, although I am mainly concerned with its treatment. Tweedy[1] thinks that the pernicious vomiting of pregnancy is due to food poisoning; Hirst[2] that abnormal secretions of the corpus luteum cause it. These theories are highly speculative and have little evidence to support them. Most authorities appear to favour the view that some toxic substance is absorbed from the developing ovum. This seems a more reasonable hypothesis, because there is no condition, apart from pregnancy, like pernicious vomiting. One of my cases, however, seems to offer evidence against it, for the vomiting continued, although the ovum was almost

* Abridged from the valedictory presidential address at the North of England Obstetrical and Gynaecological Society, January 20th, 1922.

completely decomposed. Pathological investigations, which have been carried out extensively, have been mostly concerned with the character of the metabolic disturbance rather than with its primary cause. Some workers[3] have concluded that the chief disturbance is one of carbohydrate metabolism, others of nitrogenous metabolism. Amongst the latter is Whitridge Williams,[4] who, in 1905 and 1906, expressed the opinion that the ammonia coefficient s valuable in the diagnosis of the severity and the variety of the disease and also as a guide to treatment, more particularly with respect to the question of induction of abortion. In a later paper[5] he admits that he overvalued the significance of the ammonia coefficient. He also says: "In my experience neurotic vomiting is the variety most frequently encountered,"[6] and mentions a case in which the vomiting ceased at once when he decided to induce abortion. He believes, however, that in some cases a primary toxaemia is the cause of the vomiting, but to my mind his arguments in favour of this view are not convincing. Pathological investigations into the changes in the urine have not been made in my cases, chiefly because the work seemed unnecessary for purposes of treatment and prognosis, and also because the vomiting has usually ceased before the investigations could have been carried out.

My clinical experience leaves me in no doubt that all my cases are of neurotic origin, and I believe that all cases of pernicious vomiting of pregnancy are of this variety, and that the more severe cases are later or advanced stages of neurotic vomiting.

Conclusions.

1. Vomiting of pregnancy can be cured quickly as a rule and with a high degree of certainty by the removal of the patient to a hospital or nursing home and by feeding on ordinary diet.
2. Induction of abortion is seldom or never necessary.
3. The so-called toxaemic cases are usually, if not always, a later stage of neurotic vomiting.

References.

[1] Tweedy: *Journ. Obstet. and Gyn. Brit. Empire.* 1914, xxvi, p. 216. [2] Hirst: *Amer. Journ. of Obstet.*, 1919, lxxix, p. 327. [3] Harding: *Lancet*, 1921, ii, p. 327. Titus, Hofmann, and Givens: *Journ. Amer. Med. Assoc.*, 1920, lxxiv p. 777. [4] Whitridge Williams: *Amer. Journ. Med. Sciences*, 1906, cxxxii, pp. 343-354. [5] Whitridge Williams: *Journ. Obstet. and Gyn. Brit. Empire*, 1912, xxii, p. 251. [6] Ibid., p. 250.

SOME COMMON DEFECTS OF DIET AND THEIR PATHOLOGICAL SIGNIFICANCE.

Abstract of the Oliver-Sharpey Lectures delivered before the Royal College of Physicians,

by

E. MELLANBY, M.D.

LECTURE I.

Professor Mellanby began by saying that up to a few years ago the subject of nutrition was completely dominated by German ideas and German work, more particularly the very great work of Ruebner, whose point of view, briefly, was that if a person ate enough to give rise to sufficient energy that was all that was necessary. Ruebner put forward the generalization known as the theory of isodynamic equivalents—that is to say, that most foodstuffs were equally good so long as they provided sufficient energy for a man's body. That, obviously, was to treat a man like an engine, and to some extent it was justifiable. Almost the only qualification in Ruebner's theory of isodynamic equivalents of foodstuffs was that the food must contain a small quantity—about 4 per cent.—of protein. This theory of Ruebner was completely demolished by F. G. Hopkins in his Huxley lecture,[1] in which the subject of nutrition and dietetics was treated from a more or less philosophical standpoint. Hopkins showed that Ruebner in stating that the energy given by food was its only limiting factor was quite wrong. The energy was the limiting factor in a diet only when that diet was complete—that is to say, when it was a perfect diet—but there could be all kinds of imperfection in diets, such as insufficient carbohydrates, ill-balanced protein, and so on. Hopkins put forward the theory known as the theory of the minimum, which simply meant that every food in order to produce perfect health must have at least a minimum amount of certain constituents.

Lesson from the Eskimo.

In his own two lectures Professor Mellanby intended to approach the subject, not from the philosophical point of view of Hopkins, but by way of practical demonstration of certain errors in modern diet and their pathological consequences. Take, in the first place, the primitive Eskimo. This man had perfect teeth, perfectly arranged in very hard, well-formed jaws. His limb bones also were very strong. His diet consisted of muscle tissue and fat. When he killed his animal to eat he saved the blood in order to get sodium chloride in that way. He regarded the glandular structures of the animals he ate as dainties; he ate bone marrow and also the softer parts of the bones, such as the epiphyseal ends and the ribs. But, on the other hand, the modern Alaskan, whose diet depended upon stored goods, such as canned products, both cereals and meats, had teeth which were poorly calcified, and he was just as susceptible to caries as the man in a more highly civilized community. The same thing was found if one took the African or the West Indian negro in his natural habitat, where his diet consisted of fruit and vegetables and fresh natural products, and compared him with the negro in American cities. In the one case he had beautiful teeth and hard bones; in the other he was apt to show bad teeth, rickets, and general physical deterioration. The Icelanders, again, up to the middle of the last century were free from caries; their diet had consisted of milk, mutton, fish and fowl, and eggs of wild fowl. Now they had a modern dietary, with cereals, sugar, and so on, and had got caries and other degenerative conditions.

One other fact might be pointed out, although, perhaps, it was a digression. The Eskimos, living in their natural habitat, before the introduction of modern diets, got no cancer, and the same was true of the Icelanders. It was only with the introduction of these modern diets that cancer was becoming common in Iceland, and was now found actually among the Eskimo. This was an interesting observation, because here they had two diseases which were really diseases of growth—namely, rickets and cancer—and in one case certainly there was a relation to diet, while in the other it was just possible that there might be a similar relation. He did not mean that cancerous growths might not be forthcoming with a perfect diet, but it might be that the malignancy was due to wrong diet. That, however, was purely supposition, and without experimental basis.

The Change in Modern Diet.

It was necessary to ask why modern dietary had changed. Largely it was because people were taking more and more to urban life; fewer were actual food producers. The food had to be brought into cities from considerable distances, and preference was given to those foods which could be easily transported and were not readily destroyed by bacteria. Economic conditions were such that recourse had to be generally made to foods which could be easily and abundantly produced at comparatively small cost. The cheapest foods compatible with life were cereals, pulses, foreign meat, and vegetable margarines. But it was not only those who could not afford richer diets who suffered; people who were able to have a certain choice suffered also. It must be agreed that taste was not a very reliable guide to a proper dietary. Some people had a strong belief in physiological aesthetics, which meant that if a person liked a thing it was good for him. The believer in physiological aesthetics would point to the fact that the average man preferred butter to margarine. But, on the other hand, it could also be pointed out that the average man preferred the fat of bacon and pig fat generally to the fat of beef or mutton, and there was no doubt at all that beef fat and mutton fat were very much better, while probably the best fat of all which the laboratory worker came across was cod-liver oil, which the average man disdained. It might also be argued that the average man liked cereals, and ate large amounts of bread and also of sugar, and the value of these things as foods seemed to justify his taste; but how many people as a matter of choice drank milk as a beverage? Those who drank milk did so more or less as a duty, yet it was difficult to think of a food which had greater value.

Altogether, with regard to taste and appetite, it must be said that something had gone wrong. Nature had overdone things. Nature had seen that there were some things which were essential to life, like carbohydrates in the diet, and had laid so much stress on those constituents as to appear to forget that there might be other things which were equally important. The habit of rather excessive meat-eating was another instance. Most people liked meat to an extent which was hardly justified by the part it played in nutrition. An instance of taste going wholly wrong was the desire of many

people for acid and highly flavoured foods. Another reason why modern dietetic conceptions were often wrong was because, until recently, there had not been a reasonable standard for health. A child was found, for example, not only to like cereals and sugars, but apparently to flourish on them, growing fat and contented and lethargic, and the tendency was to regard weight as the criterion of health. The trouble was that the state of under-nutrition was not commonly appreciated. Malnutrition was understood when the child wasted away or developed tuberculosis, but more ought to be known about the state of under-nutrition before any extreme manifestations made their appearance.

Experimental Work on Foods.

The lecturer went on to detail some experiments on animals in regard to the effect of carbohydrates on growth, and pointed out that more activity was got by increasing the fat in the diet than by increasing the carbohydrates. Foods could be divided into two large groups: the first consisted of products such as milk, butter, cream, cheese, eggs, and green vegetables, like cabbage and lettuce; the other was made up of cereals (wheat, rice, oatmeal, maize, and all the prepared products made up of such things), vegetable margarine, lard, meat (including pork), also sugar, jam, potatoes, and tea, coffee, and cocoa. Of the first group the average man really got very little. An authoritative estimate showed that the amount of milk consumed per diem (including milk products) was equal only to a quarter of a pint a head of the population. Cheese was rather popular, but green vegetables were not commonly favoured, and his experience in hospital was that it was difficult to get patients to eat them at all. The second group of foods he had just catalogued was wrong in several respects; it lacked sodium, chlorine, calcium, anti-scorbutic vitamin, and if the fat of beef and mutton were taken away—and most people did leave such fat on their plates—the diet was also lacking in fat-soluble vitamin. The foods which were rich in calcium and fat-soluble vitamin were egg-yolk, cow's milk, human milk, and green vegetables; foods poor in this respect were white bread, rice (polished), potatoes, margarine, sugar, jam, and lean meat. He mentioned that from 1912 to 1917 the cases of xerophthalmia in Copenhagen increased in number steadily and considerably, but as soon as the Danish Government in 1917 prevented the export of butter, thereby making it available for home consumption, so that there was a sufficient quantity for each person, the whole trouble entirely disappeared. Just as in nature this fat-soluble vitamin was associated with calcium, so in the body there was experimental evidence for believing that calcium and something at any rate closely resembling fat-soluble vitamin worked in harmony—that, in fact, the body could not retain calcium, however much of it there might be in the food, if it did not have at the same time some of this vitamin.

The lecturer next described a basal diet for certain experiments on the production of rickets in dogs. The diet consisted of separated milk, white bread, yeast, orange juice, lean meat, and sodium chloride. If for the fat such a thing as linseed oil were used, rickets was produced; if cod-liver oil were used, there was no rickets. He had not been able definitely to affirm that this antirachitic vitamin was actually the fat-soluble, but it almost certainly was. Fats might be divided from the point of view of antirachitic action as follows:

Good.	*Moderate.*	*Poor.*
Cod-liver oil.	Lard.	Linseed oil.
Beef suet.	Coconut oil.	Olive oil.
Butter.	Rape.	Palm-kernel oil
Egg-yolk.	Cottonseed oil.	Babassu oil.

The hardened fats—hardened to make them tasteless and used for adding to margarine and so forth—were also very poor from the point of view of rickets prevention. Among the useful fats from this point of view was yolk of egg, which contained something absent from the white.

Diets deficient in fat-soluble vitamin had been found—as the result of experiments by Mrs. Mellanby on dogs—to give rise to a poor growth of the jaws and alveolar process, irregular placing of the teeth, delayed eruption and slow eruption, thin and defective enamel, teeth light in weight for their size, poor development of the gingival margin, as well as, generally speaking, a diminished resistance to disease. Dogs fed on cod-liver oil had good teeth, those fed on butter were moderately good from the dental point of view, though in certain respects defective, while those fed on linseed oil showed very bad formation of teeth and the tooth substance as shown by a microscopical examination was defective. It had not been proved that this experimental production of badly formed teeth solved the problem of caries. Mrs. Mellanby had not produced caries in these animals, and the fact remained to be proved. One could only say that it was probable that animals or children with badly formed teeth would be more susceptible to caries. He showed microscopical slides to illustrate the remarkable changes of dentine according to the type of fat used.

REFERENCE.
1 BRITISH MEDICAL JOURNAL, December 4th, 1920, p. 862.

CALCIUM DEFICIENCIES: THEIR TREATMENT BY PARATHYROID.

BY

W. R. GROVE, M.D.,

HONORARY SURGEON, HUNTINGDON COUNTY HOSPITAL;

AND

H. W. C. VINES, M.B.,

BEIT MEMORIAL RESEARCH FELLOW, CAMBRIDGE.

IN a previous paper evidence was brought forward to show that in the circulating blood of the normal individual the calcium is present in two forms, ionized and combined.[1] When coagulation of the blood occurs, the calcium in the exuded serum is found to be all in the ionized form, the normal amount present being about 10.5 mg. of calcium per cent. In certain ulcerative conditions[2] it was found that there occurred a deviation from the normal in the calcium content of the serum, some of the calcium being present in the combined form. In all cases of varicose ulcer when the blood was examined this abnormality was found, and in the belief that this might be concerned in maintaining the chronicity of the ulceration measures were taken to increase the ionic fraction of the calcium in the serum. The intramuscular injection of ionized calcium salts had a definite effect in promoting the commencement of healing in the ulcers; the oral administration of calcium had none. But the injections did not appear to have the power to cause complete healing, and it was not till parathyroid substance was given orally that complete healing was obtained. Further, it was observed that healing of the ulcer and rise in the ionic calcium content of the serum ran approximately parallel. From these observations it was concluded that the toxic substance produced by the varicose condition in some way injured the parathyroid glands, and also combined with some of the ionized calcium of the blood. In this way the calcium balance of the blood became disturbed, and the parathyroids were not able to rectify it. Finally, the decrease in the plasma of one of its normal constituents would tend to lower the resistance of the tissues, so that the ulceration, started by slight local trauma, would tend to occur within the varicose area, where nutrition of the tissues is least effective.

The present paper forms an account of the application of these views to a considerably wider field of disease. The conditions dealt with may be classed generally as chronic states of a toxic or infective origin, and, though they have this common factor, they are classified in medical thought and literature as separate and usually unconnected diseases. It is therefore necessary to lay some stress on the mode of action of parathyroid substance, so that the appearance of a claim to its action as a universal panacea may be avoided.

The mode of action of parathyroid is essentially physiological; it is most probably a double action—a more or less specific action on calcium metabolism combined with, or resulting in, a generalized stimulation of metabolism as a whole. It is an aid in the fight against infection of the chronic type, not by its specific action on the infecting organism, but because it places the tissue cells under the most favourable conditions for an adequate resistance; and among the factors concerned in this process not the least important is the maintenance of a proper calcium balance in the plasma. If the tissue resistance is adequate it is immaterial whether the agent that is actively harmful is of bacterial origin or otherwise. If a deficiency of ionic calcium in the serum is a factor in the decrease of tissue resistance, then parathyroid therapy should be of value in those cases where such deficiency exists; and it is explicitly stated that parathyroid is not a specific method of cure for such conditions, but rather a rational method of assisting the cellular

elements to exercise their proper defensive mechanisms. If, then, it is realized that the majority of chronic diseases in medicine are due to protracted absorption of toxic substances from a septic focus, that such absorption is accompanied by a decrease in the ionic calcium of the blood, and that the parathyroid glands are the regulators of calcium metabolism, the claims which are put forward in the following paragraphs for the value of parathyroid therapy in such states will not seem so unreasonable as they may at first appear.

Over one hundred cases of chronic states have been treated by parathyroid therapy, in all of which variations in serum calcium have been observed during treatment. In all cases the sequence of events is similar: improvement commences when the amount of ionic calcium in the serum begins to approach the normal figure. In addition a considerable number of cases in which the calcium examinations were not made have been treated. The following table may give some indication of the types of disease amenable to this method of treatment, though it is fully realized that it may be applied successfully to many other conditions outside this particular series:

Table of Diseases Amenable to Treatment by Parathyroid.

I. *Chronic Toxaemias.*
- (*a*) *Ulcerative.*—Varicose ulcer; gastric ulcer; duodenal ulcer; erosion of cervix uteri; gumma.
- (*b*) *Suppurative.*—Nasal sinusitis; tonsillitis; pyorrhoea; otitis media; bacilluria.
- (*c*) *Non-suppurative.*—Rheumatic group: Rheumatoid arthritis; osteo-arthritis; chronic rheumatism. Arterio-sclerosis. Eczema; chlorosis; sciatica.

II. *Conditions of Uncertain Cause.*
Menorrhagia; prostatic hypertrophy; urticaria.

While these cases represent conditions where toxic processes have been at work over varying periods, the following observations afford some evidence of the manner in which an acute attack may affect the calcium of the serum. The symptoms ran a natural course without special treatment against the calcium deficiency.

I. On November 26th the patient's temperature was 102°. On the 27th lymphangitis of the leg became apparent; the temperature remained high, but fell to normal on November 29th. On this day the calcium content of the serum was as follows: Combined calcium 1.4 mg. per cent., ionic calcium 8.5—total, 9.9 mg. per cent. On December 2nd the combined calcium was 0.8, ionic 9.6—total, 10.4 mg. per cent. On December 8th all the calcium was ionized (10.4 mg. per cent.). It was not till the next day, however, that the patient felt any pleasure in work.

II. A mild influenzal attack. The patient had sore throat at midday on January 5th; rigor in the evening. Temperature 101°, pulse 80, respirations 18. Calcium content of serum: Combined calcium 1.8, ionic calcium 8.3—total, 10.1 mg. per cent. On January 6th the temperature was 100°. Serum calcium: Combined 1.5, ionic 8.3—total 9.8 mg. per cent. The following day the temperature was normal; combined calcium 1.0, ionic 9.1—total, 10.1 mg. per cent. On January 8th the serum calcium was normal (10.1 mg. per cent.).

The next two instances give the results of vaccine injections in the same individual. The vaccine used was the polyvalent vaccine for prophylaxis against influenza.

III. On January 18th, before injection, the serum calcium was normal (10.7 mg. per cent.); 1 c.cm. vaccine injected. Twelve hours after injection: Combined calcium 2.8, ionic 7.1—total, 9.9 mg. per cent. Thirty-six hours after injection the calcium content was as follows: Combined calcium 1.9, ionic 8.8—total, 10.7 mg. per cent.

Three weeks later a second injection was given and a similar result obtained. Before injection the serum calcium was normal (10.7 mg. per cent.). Twelve hours after injection the calcium content of the serum was: Combined calcium 2.8, ionic calcium 7.9—total, 10.7 mg. per cent. Twenty-four hours after injection: Combined calcium 2.1, ionic 8.6—total, 10.7 mg. per cent. Thirty-six hours after injection the serum calcium was normal.

In both instances the height of the local reaction was about twenty-four hours after injection, but in the second instance this reaction was less and the calcium returned more quickly to normal. Though acute conditions have not yet been studied to any great extent, there seems to be some evidence of an early disturbance of calcium metabolism.

Administration of Parathyroid Substance.

In order to standardize results to some extent, the same preparation of parathyroid (Parke, Davis and Co.) has been used throughout. Usually one-tenth of a grain has been given night and morning for the first four to seven days, and subsequently one-tenth of a grain daily. Such treatment may be continued for a considerable time; in no case has there been any symptom of overdosage. In the early stages of treatment certain conditions may arise which may be alarming. The most usual is an exacerbation of the septic process responsible for the general condition; a purulent discharge may increase in amount or may appear where it was absent before; a chronic appendix may become acute and necessitate operation; very frequently a tooth may start to ache. In three cases it happened that while some other complaint was being treated with parathyroid the patient had an attack of erythema—almost erysipelas of the face—and in all three cases there was marked sepsis of the teeth. A case of this type may be quoted.

A long-standing case with a small tuberculous sinus from the hip was found to have a marked deficiency in ionic calcium. After a week's parathyroid treatment (gr. 1/10 daily) the discharge increased until there was a quite severe local condition and the old healed tracks opened again. It took two months' parathyroid treatment to get the blood normal again, and then healing recommenced. At the present time, four months from the commencement of treatment, the sinus is about the same size as at the beginning, but there is evidence that the healing is progressive and not stationary as it was previously.

The increase of suppuration at the site of the septic focus suggests strongly that the parathyroid given by the mouth is producing a stimulation of the natural defensive mechanisms of the body; that it is, in fact, acting in a physiological manner and not specifically on the invading organism. If such is indeed the case, then its use in all forms of chronic infection can be readily understood.

The groups of cases set out in the table may now be considered and cases quoted from them as typical instances of the effects of parathyroid treatment.

Ulcerative Conditions.

Varicose Ulcers.—All the cases of this condition mentioned in the previous paper have remained healed, and a good many more have been treated with success. In two recent cases the ulcers were less than a quarter of an inch in diameter, very painful, and very resistant to parathyroid treatment. In both cases a septic condition of the gums was found, and after this had been remedied the ulcers healed. A further examination of the cases of varicose ulcer described in the previous paper revealed the presence of a pre-existing septic focus. In phlebitis of varicose veins calcium deficiency has also been found, and the more acute symptoms have subsided rapidly under parathyroid treatment. Here again the removal of septic foci in the teeth has hastened the disappearance of symptoms.

Gastric and Duodenal Ulcer.—Twelve cases of this diagnosis have been examined for calcium deficiency, and in all deficiency was present. It is not easy, however, to found a diagnosis or prognosis on purely clinical evidence or on the results of parathyroid treatment without some confirmation from *x*-ray examination or from some other evidence. Several cases have ultimately proved to be carcinoma in some form, although the early symptoms or results of treatment seemed to point to a simple ulceration. In such cases, although the patient may appear to be much improved physically, abdominal tenderness does not disappear completely. In cases which are not malignant the abdominal tenderness usually vanishes completely, the pallor is lost, the appetite increases, and the patient appears to take a much greater interest in his work and general life. Many of the cases in which there is calcium deficiency are very depressed, but the depression is lost as the calcium deficiency is removed; it is possible that many cases of neurasthenia are in reality due to toxic absorption and deficiency of ionic calcium. The two following cases may be quoted:

J. W., aged 56, had severe haematemesis six years ago. Last year he had a similar attack. He had always been very careful about his diet, but had pain regularly about two hours after meals. When he came under observation there was tenderness over the right rectus about two inches from the costal margin. On October 29th his serum calcium content was as follows: Combined calcium 0.5, ionic 7.29—total, 7.79 mg. per cent. He was given parathyroid gr. 1/10 daily, and on November 15th his serum calcium was normal. On December 5th he had no pain or tenderness; he states that for years he had never been able to eat so well.

Miss K., aged 50. For many years she had had pain two hours after food and at night. She had been seen by many doctors and her condition had always been diagnosed as duodenal ulcer. But so far as she knows she had not had either haematemesis or melaena. On October 28th the serum calcium content showed: Combined calcium 2.6, ionic 7.45—total, 10.05 mg. per cent. She was put on parathyroid daily, and on November 2nd the serum calcium was normal. By December 6th the patient was taking parathyroid gr. 1/10 twice a week, and was eating food without caution as she had not done for years.

On December 29th she said that she had been quite well till Christmas Day, when she ate a mince-pie; the pain returned that night and was still continuing. Tenderness was obvious in the same place as before. Serum calcium: Combined 1.2, ionic 8.5—total, 9.7 mg. per cent. She was put back to parathyroid daily.

On January 12th she had had no pain for three days, but there was still tenderness. A wisdom tooth was suspected of sepsis, and she admitted tenderness there. Serum calcium: Combined 1.2, ionic 7.3—total, 8.5 mg. per cent.

She did not have the tooth removed till February 6th, and there was an abscess at its root. At the time of writing she continues well, without any precautions as to diet, without pain, and the tenderness seems to have disappeared. She now refuses to give up taking parathyroid since she puts down her relapse at Christmas to the dose having been diminished too soon.

Gumma.—Although only one case of gumma has been treated in this way it is of sufficient interest to warrant its special mention.

Miss E., a chronic epileptic, aged 41, had a gumma of the left cheek which had been very resistant to specific treatment for eighteen months. On November 9th she had begun her third series of neo-salvarsan injections, which had been alternated with mercurial injections and mercury and iodide by the mouth. The gumma was about the size of a florin. Serum calcium: Combined calcium 1.7, ionic 7.9—total, 9.6 mg. per cent. The patient was given parathyroid gr. 1/10 night and morning, and the injections stopped. On November 16th the serum calcium was normal; ulcer healing well. Parathyroid reduced to gr. 1/10 daily. On November 21st the ulcer was completely healed, and the patient stated that she felt better than she had done for months.

The parathyroid was gradually dropped to once a week after a month's treatment, and the ulcer remains healed, although she has had no further specific treatment. It is of considerable interest to notice that during parathyroid treatment the epileptic fits decreased to about one in three weeks from two or three daily at a few days' interval. This is in accordance with the results obtained by other investigators.

Suppurative Conditions.

Nasal Infections.—In these conditions there is a focus of toxic absorption situated in the accessory air sinuses of the nose—an infection which is difficult to treat, and which may also be combined with a greater or less degree of ulceration in the affected area. Deficiency of ionic calcium has usually been found in such cases, and the treatment by parathyroid has given encouraging results, as is shown in the following two cases:

Mrs. S., aged 41, had a foul nasal discharge for years, and for some months it had been getting worse, so that she could not breathe through either nostril, and used some ten or twelve handkerchiefs a day. She had been told that it was due to ethmoid disease, and had been promised alleviation by operation, but had had to wait for a bed in hospital. On October 29th the calcium content of the serum showed: Combined calcium 2.3, ionic 6.1—total, 8.4 mg. per cent. She was given parathyroid gr. 1/10 daily. By November 11th she was breathing easily through the nose, used fewer handkerchiefs, and the discharge was whiter and less foul. Serum calcium: Combined 2.2, ionic 7.4—total, 9.6 mg. per cent.

On December 24th she had had practically no discharge for ten days; there was but a little thickness in the throat in the morning; the mouth was shut during sleep, and the patient was generally better than she had been for the last two years. Serum calcium: Combined 0.1, ionic 10.0 mg. per cent.—that is, practically normal.

March 2nd: Patient stated that for years she had not been so comfortable. In January she thought she was quite well and dropped parathyroid, but slight symptoms returned, and she is now taking it daily, and keeping apparently well.

Miss R., aged 62, all her life had had nasal trouble, and as a gir had to use douches; she had always refused operation. Twelve months ago she had a troublesome iritis; six months ago a prolonged and difficult conjunctivitis with dacryocystitis, all traced to nasal infection. On November 12th the conjunctivitis returned. Serum calcium: Combined 0.8, ionic 8.0—total, 8.8 mg. per cent. Parathyroid given. By November 24th the eye was well, the nasal discharge less, and the patient was feeling better than she had done for weeks. Serum calcium: Combined 0.9, ionic 9.5—total, 10.4 mg. per cent. (almost normal).

January 16th: Has had no relapse, though there is still some discharge. Serum calcium: Combined 0.7, ionic 9.4—total 10.1 mg. per cent.

She continues well at the time of writing, and is satisfied that the discharge is steadily improving and that she can do her work better than previously.

In both cases the only form of treatment used has been the oral administration of parathyroid; both of them show that a long time may elapse before the serum calcium returns to normal, although signs of improvement commence when the ionic calcium starts to increase.

One case of nasal infection has not been so successful; he had been operated on, but the result was not satisfactory, and he had been treated with vaccines. In October calcium deficiency was observed and parathyroid was given in addition to the vaccine. After three months there had been no improvement, possibly owing to the previously mentioned action of vaccine injections on the ionic calcium of the blood. For the last month he has had parathyroid alone, and some improvement has occurred, though the outcome is still uncertain. One or two single cases of septic states deserve mention.

Chronic Tonsillitis.—The patient had chronically enlarged and septic tonsils, but refused to have them removed. A year ago he was operated on for appendicitis. Since then he has had an attack of quinsy in both tonsils. On November 7th the serum calcium was: Combined 2.2, ionic 7.7—total, 9.9 mg. per cent. Parathyroid gr. 1/10 given daily. On November 25th the serum calcium was normal. He felt markedly better than he had done for some time, and the tonsils were smaller. He continues in perfect health.

Herpes Zoster and Iritis.—Mr. B., aged 69, on September 9th, while away from home, had an attack of herpes zoster on the left side of the head, involving the eye. The eye caused some anxiety and he was sent to the London Hospital, where he remained six weeks. On January 13th, when he returned home, there was ulceration of the cornea and iritis. Light only could be distinguished with the eye, which was much inflamed. Serum calcium: Combined calcium 2.0, ionic 7.3—total, 9.3 mg. per cent. Parathyroid given.

On January 22nd the ulceration seemed to be healed, but the cornea was steamy and there was much chemosis; he could distinguish objects, and the sight was improving. Serum calcium: Combined 0.6, ionic 8.6—total 9.2 mg. per cent.

He went on improving for a few days more, and then for a fortnight remained at a standstill. He may have been absorbing toxins from the gut, as after a brisk purge improvement recommenced. By the end of February the chemosis had practically disappeared, and there was but a slight ground-glass appearance to his vision. He could read medium large print with the affected eye, and said that it was improving daily.

In another case there was traumatic cataract, iritis, and later a small hypopyon due to piercing the cornea with a thorn. After a month's treatment with parathyroid combined with the removal of some septic teeth the lesion healed. In a case of chronic otitis media parathyroid treatment was followed by a temporary exacerbation of the discharge, but at the time of writing the aural discharge has practically ceased. Two cases of bacilluria (probably *B. coli*) were treated in the same way. Both were of some years' standing, and suffered during the attacks from extreme depression or neurasthenia; in both the ionic calcium was deficient. One was obviously suffering from septic teeth, and in the other, while under parathyroid treatment, one tooth became painful and another became so loose that it could almost be pulled out. The former case had been treated by an autogenous vaccine but had always relapsed, and under parathyroid he is better than he has been before. In both the depression had ceased, and improvement is encouraging.

Non-suppurative Conditions.

Rheumatic Group.—Some twenty cases of rheumatic conditions have been examined and treated, and on the whole with very satisfactory results. In these cases again deficiency of ionic calcium was found and the same sequence of events occurred—namely, that improvement commenced when the ionic calcium began to return to normal. Cases may be quoted as typical of some of the results obtained.

Rheumatoid Arthritis.—Mrs. B., aged 45, for years had suffered from Graves's disease and was still not free from general symptoms. For over a year she had had osteo-arthritis and for some months had only been able to leave the house in a bath-chair. Many joints were affected, but especially the wrists, fingers, and knees. For some time there had been a septic focus in the nasal sinuses, from which there had been a discharge into the throat. A vaccine from this focus had kept her from becoming bedridden, but for weeks she had hardly been able to leave a chair. On October 22nd the serum calcium was: Combined calcium 1.6, ionic 7.4—total, 9.0 mg. per cent. Parathyroid treatment commenced. In one week the calcium of the serum had become normal. By November 12th the nasal discharge had greatly lessened, she had been out of doors, and with the aid of a stick had walked a mile; the joints were smaller and without pain, except for some stiffness in the morning. She has gone on consistently well; at the end of January the parathyroid was decreased to gr. 1/10 twice a week, but both pain and discharge returned. On resuming parathyroid daily these symptoms have abated, so that she can get about comfortably and do her housework.

One case was entirely unsuccessful. It was that of a lady of 77 with a rheumatic history of two years' duration. Three years ago she had had a bad attack of cholecystitis, but had refused operation. Her present condition is almost wholly limited to the right hip. She had had injections of a *B. coli* vaccine without benefit. Calcium deficiency was present, and parathyroid treatment was tried. After six weeks the serum calcium became normal in amount, but the only improvement in the patient was that she slept better.

One case of true osteo-arthritis was treated, but naturally no improvement was expected to occur in the joints affected.

The case was that of a lady aged 61 with a history of several years' duration; she was absolutely bedridden, and the joints affected were ankylosed with considerable distortion. As her blood became normal the pain decreased, she slept better, and felt generally better than she had done since the commencement of her illness.

Sciatica.—Brief mention may be made of two cases of this complaint, as relief of pain seems to be a characteristic of the effect of parathyroid treatment. Mention of it will be made later in connexion with certain cases of inoperable carcinoma. In these two cases the serum calcium was deficient: (1) Combined calcium 1.2, ionic 9.5—total, 10.7; and (2) combined calcium 1.4, ionic 7.7—total, 9.1 mg. per cent. Sepsis of the teeth was present in each case, and both had been in bed for some time under other treatment; but after a short course of parathyroid treatment they were able to get up.

Acute Rheumatism.—So far parathyroid treatment has not been used much in this condition, but the variation of ionic calcium in the serum has been watched. Generally speaking, it can be said that as the patient improves the serum calcium returns to normal; if a relapse occurs, then the calcium becomes more deficient. In a case of this kind, which was being treated with salicylate, the serum calcium values were:

Nov. 12.	Combined calcium	2.2,	ionic	7.4—total	9.6	mg. %
Nov. 17.	,,	,,	1.5	,,	8.5	,,	10.0	,,
Nov. 22.	,,	,,	0.9	,,	9.6	,,	10.5	,,
Dec. 14.	,,	,,	1.6	,,	8.6	,,	10.2	,,

The relapse occurred clinically between the last two dates. In this case the patient was put on parathyroid later, but did not lose all pain in the affected joint till four septic teeth had been removed. In another case parathyroid was given on the first sign of a bruit developing, and although a month elapsed before the serum calcium reached normal, the bruit disappeared, and the patient remains in good health.

Arterio-sclerosis and Raised Blood Pressure.—A small number of cases of this type have been investigated, and encouraging results have been obtained by parathyroid treatment. Deficiency of the ionic calcium of the serum has been generally found.

A clergyman, aged 69, had influenza a year ago accompanied by a foul nasal discharge. Following this he had cardiac dilatation and breathlessness, and in the summer definite anginal attacks developed, which culminated in two bad attacks while he was away for a holiday. He has also had very marked pyorrhoea. He has taken parathyroid since November 11th, and the anginal attacks have never appeared again, though his breathlessness remains unchanged. He finds, however, that his capacity for brain work has improved, so that he can work with more ease than he has done for the last six years.

A lady, aged 50, had a blood pressure of 185 mm. systolic and 125 mm. diastolic, for which obvious cause could not be found. Her serum calcium was deficient, and dental sepsis was suspected. Under parathyroid treatment her gums became definitely sore, but she refused to have any teeth removed. The serum calcium became normal and the pressure fell to 155 mm. systolic and 110 mm. diastolic.

A case of tachycardia in chronic Graves's disease may also be referred to:

Mrs. W., aged 48, has had Graves's disease for many years; tremor is still present, though proptosis and thyroid enlargement are now hardly marked. The pulse is normally 80 to 90, and rather easily upset. Occasionally very frightening attacks of tachycardia occur with a feeling of impending death, though no cause can be ascribed to their occurrence. She had pyorrhoea in four teeth and a deficiency in the ionic calcium of the serum. Three weeks after commencing parathyroid treatment the calcium deficiency was improved, her pulse was much more steady, and in spite of an attack of influenza she has not had an attack of tachycardia for three months, and considers that for years she has not been so well.

Conditions of Uncertain Cause.

In concluding this account of conditions benefited by parathyroid treatment, menorrhagia and prostatic hypertrophy must be mentioned. The former condition is often, but not always, amenable to parathyroid therapy; some six cases have been treated with success.

Prostatic Hypertrophy.—A clergyman, aged 62, in July had acute retention. He had suffered from frequency for some years, so that he had been unable to conduct his services without interruption. His urine was clear on withdrawal until the evening of the second day, when there was some blood present, which increased with each catheterization. He was therefore given a grain of calcium chloride intramuscularly, and within twenty-four hours the sensation of the prostate at the point of the catheter passed had changed from softness to firmness. This suggested a possible calcium deficiency, but at the time it was not possible to examine the blood; he was, however, given parathyroid. The catheter was used for ten days, and after that he steadily improved, so that for some months he has had no undue frequency, his services are not interrupted, and he seldom gets up more than once in the night. His teeth are very septic, and twice since July he has had an attack of facial erythema, spreading like a subacute erysipelas. In these attacks the ionic calcium of the serum was found to be deficient. He has continued to take parathyroid once or twice a week, and as regards the prostate symptoms keeps well.

More than a dozen cases have been treated with complete success; two long-standing cases which are possibly carcinomatous have only been partly successful. The following are two interesting cases:

J. C., aged 81, was first catheterized on August 8th with much haemorrhage. He went into hospital and refused operation. He never regained power, and was sent out with a catheter, never passing anything without it. On October 6th the calcium content of the serum showed: Combined calcium 2.4, ionic 6.6—total, 9.0 mg. per cent. Parathyroid treatment was commenced. On October 18th the serum calcium was normal. One or two days immediately previous to this date he had passed a little urine spontaneously. On November 5th he was passing more and more urine with slight pain; the catheter was being used twice a day. He thought he passed about a pint daily without the catheter. He improved steadily, and on December 15th gave up the catheter for good. He has lost the sallow look he had previously, and has regained a healthy colour. He is disturbed once or twice only in the night, and says he is better than he has been for years. He continues to take parathyroid once or twice a week. Three bad teeth remain.

T. G., aged 68, had retention on September 11th and required catheterization for three days. Serum calcium: Combined calcium 2.5, ionic 6.4—total, 8.9 mg. per cent. Given parathyroid gr. 1/10 daily. On September 30th the serum calcium content was: Combined calcium 2.7, ionic 7.3—total, 10.0 mg. per cent. On October 13th he passed urine more easily than for years; frequency usually not more than twice in the night. Serum calcium about the same. By November 3rd the serum calcium was normal. He was looking well and was satisfied with his progress. Later he complained of some fullness and indigestion after meals. His remaining four teeth were removed and the indigestion disappeared. He keeps well and is sometimes not disturbed at night at all.

Finally, a word may be said about carcinoma and the effect of parathyroid treatment. A certain number of inoperable cases of this condition were treated; deficiency of the ionized calcium of the serum was found in almost all cases. But although the administration of parathyroid produced a relatively rapid return of the serum calcium to normal, it did not have any apparent inhibitive action on the malignant growth. In a case of carcinoma of the stomach there was less vomiting, and also a marked diminution of pain, so that it was possible to reduce very considerably the amount of morphine given. In another case there was an increase in weight for two or three weeks, combined with an abatement of symptoms and a feeling of perfect health.

SUMMARY.

Though the cases described are representative of a variety of conditions, it will be noted that they have two common factors: all are due to some chronic toxic state, and all have a deficiency in the ionic calcium of the serum, due perhaps to a combination of calcium and toxin. In the majority of cases it was possible to find a primary septic focus, and sometimes the administration of parathyroid caused a hidden focus to become apparent by increasing the leucocytic reaction to the attacking organism. An examination of the literature tends to establish the proposition that the parathyroid glands have a double function: First, a regulation of calcium metabolism, and secondly, the power to render certain toxic substances harmless. Further, it may be noted that in animals where the parathyroid function has been interfered with, either by removal or ligation of the glands, if tetany does not supervene shortly and so cause death, there is a very strong tendency for the animals to die from an infective process.

It is possible that a somewhat similar sequence of events may arise in the cases described. The continued absorption of toxic substances from some primary septic focus may eventually lead to partial parathyroid insufficiency and a disturbance of calcium metabolism. These two conditions will cause a decrease in the resistance of the tissues, so that they are rendered more liable to a secondary septic process. The locality of the latter lesion will depend on local conditions of nutrition, blood supply, and so forth.

From the clinical observations described, it may be permissible to draw certain conclusions.

1. The ionic calcium of the blood becomes deficient in cases where a chronic toxaemia is present. Such deficiency may be regarded as one of the manifestations of the presence of a chronic toxic state, and is an indication that the septic focus should be carefully sought for and treated where possible.

2. Where there are lesions due to such states, healing does not commence until the ionic calcium of the blood approximates to the normal figure.

3. By parathyroid therapy it is possible to rectify the calcium balance of the blood much more effectively than by the injection of calcium salts.

4. The therapeutic use of parathyroid substance in the cases described is essentially physiological. It does not appear to act specifically against any one organism, nor any one toxin. Its action is to place the tissues of the patient under conditions more suitable for the performance of their normal functions, and for combating the effects of toxic processes.

NOTE (by W. R. G.).—The septic foci believed to be the primary cause of the calcium deficiency have in various diseases been found in a chronic ear discharge, the tonsils, the accessory sinuses of the nose, a chronic appendix, the gall bladder, probably the colon (as evidenced by colitis), possibly the uterus, but most often in the teeth. In this connexion the ulceration of the gums (pyorrhoea) has often been the cause, since the removal of the tooth has materially altered the condition of the disease for the better. When a red oedematous line leading from the ulcerating margin outlining the tooth is found suspicion should be at once aroused. From personal observation in these cases the apex of the tooth has always shown erosion.

REFERENCES.

[1] Vines: *Journ. Physiol.*, 1921, 55, 86. [2] Grove and Vines: BRITISH MEDICAL JOURNAL, 1921, ii, 687.

CARDIAC DISEASE AND OCCUPATION.

BY

R. O. MOON, M.D.OXON., F.R.C.P.,

SENIOR PHYSICIAN TO THE NATIONAL HOSPITAL FOR DISEASES OF THE HEART, LONDON.

ONE of the most important problems which confront the physician in regard to diseases of the heart is to give sound advice as to occupation. In former days the great importance of rest in heart disease was perhaps somewhat indiscriminately and unconditionally emphasized; nowadays it would seem that more stress is laid upon the advisability of exercise. This does not mean, of course, that medicine has swung violently from one extreme to the other of treatment, but that in days gone by physicians in their writings were more particularly concerned with advanced cases of heart disease, for which rest must always be the prime requisite. The increased facilities for discovering cardiac abnormalities have not unnaturally led medical men to regard such abnormalities as more serious than often they really are, and consequently to apply to them the same line of treatment which would only be suitable in the case of a quite definite disease.

The profession has been gradually learning that cases with cardiac disability are capable of doing much more work than was formerly supposed; true, there have always been wonderful cases of damaged hearts doing extraordinary things, but no prudent physician would base his advice upon abnormal and exceptional cases.

In the case of any cardiac abnormality what one wants to know is whether the abnormal finding indicates any really serious disability at the moment or in the near future. There are quite a number of hearts which it would be well to regard not as diseased but as handicapped, and in much the same condition as a limb impaired by infantile paralysis which limits but does not prevent one's power of walking; no doubt in the case of infantile paralysis it is easier for the patient to discover unaided what he can and what he cannot do than is at first possible for heart cases. Such cardiac conditions would include not only certain valvular lesions and some arrhythmias, but also many hearts with no physical signs which for want of a better term one might describe as "subnormal hearts," where the functional capacity of the myocardium is less than normal, such cases being formerly described perhaps as weak or flabby hearts. Patients with such hearts insensibly drift into sedentary occupations, which suit them fairly well, and it is only when some sudden and unusual output of energy (as occurred so frequently in the army, when cases of this type were enlisted) is called for that the intrinsic cardiac weakness becomes manifest. Many of these cases, however, need not be confined to sedentary work only: they might be much more active, provided they could take their own time over the work. Many of them can earn as good wages as if they had no disease at all.

In a rough sort of way we may think of any given cardiac lesion as of a static or dynamic type, by which, of course, we mean that in the one case the condition seems comparatively stationary, while in the other it is likely to progress. Cases which are likely to be of the static kind are usually those due to rheumatism, chorea, or scarlet fever occurring in early life; while those of the progressive type are in the main the cases which originate from arterio-sclerosis, or in which syphilis is admitted as a cause. Clearly very different occupations will be adopted for these two categories of cases, and it is only for the static ones that much activity can be permitted. Contrary to what is generally supposed, aortic regurgitation, when due to rheumatism, in a young adult has one of the best prognoses of all valvular lesions from the point of view of work; the reason why it has had such a bad prognosis in the past is that such cases have not been sufficiently distinguished from those of arterio-sclerotic and syphilitic origin, which certainly furnish the larger number of aortic lesions, and their prognosis is specially bad.

Are there any general principles which can guide us in the selection of work for cardiac cases? As a rule, all kinds of work which involve sudden spurts, although there may be comparatively long intervals of rest, are bad for most cardiac patients; the life of the docker and of the soldier, just to take two types, is liable to periodical rushes with unduly slack intervals, and such occupations should of course be avoided. In selecting an occupation it is specially important to consider whether the hours are regular and the work more or less the same from day to day and hour to hour, while there need be no undue sense of hurry in the doing of it. This question of regularity in work requires quite as much consideration as the number of foot-pounds of energy which the work may require to be put forth. Work which places a fairly heavy strain upon the lower extremities is much more easily tolerated than that in which the main strain falls upon the arms. Most forms of aortic disease, and undoubtedly those of the degenerative type, seem to be very unfavourably affected by any work which involves even a moderate strain upon the arms, such as carpentering, and this is particularly the case where there is any suspicion of angina. It should also be borne in mind that aortic cases, when otherwise doing fairly well, are often liable to transient attacks of giddiness, which should rule out the numerous occupations which necessitate going up ladders or close contact with machinery. It is unfortunate that there seem to be so many occupations in which "heavy lifting," though by no means the essential part of the work, yet is often required incidentally; thus a man is suddenly asked to move a heavy piece of furniture, and it is this which does the damage and not the regular work itself.

Apart from the actual occupation one should further inquire into how great the distance is at which a man lives from his work, for often it is not so much the occupation *per se* which proves too much for him as the long walk to and from it, with, it may be, a heavy uphill grind at the end of the day, or there may be the added excitement and anxiety about catching trains or omnibuses. Then, too, at the end of the day it makes a good deal of difference if a man lives in a two-storied cottage or has to ascend to the top floor of some model dwelling. In the case of women, the vast majority even nowadays are occupied in some way with a home, the complicated activities of which are not easy to curtail; often, however, the omission of one single item of household labour, such as "washing," may make all the difference to a woman being able to carry on or having to give up her work. Women as a rule are not good organizers of their own work, but the task is difficult, and they might say with Frau von Stein in a letter to Goethe, "It is not perceived that to discharge the thousand little details of life which we have to attend to more ability (for which we get no credit) is required than for the doings of a genius who is at once accorded honour and fame."

As will be gathered from what has been said, it is a great mistake to suppose that cardiac cases can only do sedentary work; many more active forms of work are open to them, but they require selecting and being carefully gone into. Clearly the most important thing to do is to make some attempt to estimate the power of the myocardium. The significance of the myocardium in the estimate of the seriousness of any cardiac lesion was recognized as far back as the time of Stokes of Dublin, who said:

"It is in the vital and anatomical condition of the muscular fibres that we find the way to cardiac pathology; for, no matter what the affection may be, its symptoms mainly depend on the strength or the weakness, the irritability or the paralysis, the anatomical health or disease, of the cardiac muscles."

Such, too, has been the teaching in the medical schools for the last thirty years, but it has certainly been more emphasized during the last few years by Sir James Mackenzie and Sir Thomas Lewis. Yet with the more generally diffused recognition of the importance of the myocardium one cannot say that our ability to appraise the strength of the heart muscle has increased in the same ratio; still, by a careful inquiry into the patient's symptoms and study of the reaction to exercise an approximate estimate of its power can be obtained.

In considering whether a man with a cardiac lesion should remain at his work, one must not take too abstract a view as to how many foot-pounds of energy are required, but how far the work seems to suit the man—how far, if we may so express it, he is psychically attuned to it, for there are many forms of work which might seem intrinsically too heavy, and so they would be for a beginner, yet by long custom and a natural aptitude they have become easy for the particular individual, who has found out how to accomplish a great deal with the minimum amount of exertion; one must, therefore, hesitate long before removing such a case from his work. We must, unfortunately, among other things, distinguish between a man's keenness about his work and his keenness for the wages which his work brings in, for he will continue at work long after he is quite unfitted for it when the wages are particularly good, and it is astonishing how difficult it is to persuade such cases to take on lighter work, with shorter hours, when any sacrifice of wages is involved.

When the question arises as to the future occupation of a boy with valvular disease, which in early life is usually of rheumatic origin, it is always advisable to recommend some sedentary or quasi-sedentary work, for one can never be sure that a second attack of rheumatism may not occur quite soon and damage the heart still further; also boys are only too ready to overstrain themselves if the work they have been started upon is at all heavy.

In advising work for any given case much must depend on the man's education, previous training, general mental equipment, and temperament. It is obviously more difficult to find work for the unskilled than for the skilled, as the former requires more actual physical exertion than such cases should be allowed to give. It is of course most important that a man should work well within the limits of his capacity so that there may be a margin of safety. Nor should it be forgotten that mental and emotional stresses in many occupations may cause a cardiac case to break down nearly as often as physical overexertion.

Men suffering from a cardiac lesion who can be up and about are far too readily sent off to some convalescent home in the country, when what is really most required is some suitable occupation near their own home. It is quite possible for hearts to be underworked as well as overworked. Cardiac convalescent homes should be primarily for women and children, while for men training centres for occupation with an occupational bureau are indicated, such as have been started in the United States by the Association for the Prevention and Relief of Heart Disease.

FURTHER RESEARCHES ON DETOXICATED VACCINES.

BY

DAVID THOMSON, O.B.E., M.B., CH.B.EDIN., D.P.H.CAMB.,

DIRECTOR OF THE "PICKETT-THOMSON" RESEARCH LABORATORY, AND HONORARY PATHOLOGIST, ST. PAUL'S HOSPITAL, LONDON;

AND

ROBERT THOMSON, M.B., CH.B.EDIN.,

CLINICAL PATHOLOGIST, ST. PAUL'S HOSPITAL, LONDON.

Preliminary Note.

IN an article upon the biochemistry of germs and other proteins by one of us (D. T., *Lancet*, i, 1921, p. 849) it was pointed out that all germs could be split up into several non-toxic yet antigenic fractions, and it appeared that a detoxicated vaccine composed of all the non-poisonous fractions was better than one which contained a single fraction only, as was the case with the earliest detoxicated vaccines.

During the past year researches which have been successful have been made with the object of producing more efficient detoxication. Twelve months ago the average dosage of detoxicated vaccines was from 5,000 million to 20,000 million. As a result of more efficient methods of detoxication the average dosage has been increased at least five times—namely, to 25,000 million to 100,000 million. It seems reasonable to hope that in the near future the detoxication process will be so efficient that doses of one billion germs will be attainable—that is, one million million organisms.

Numbers of this nature convey a very vague impression, but if translated into terms of mass of the semi-solid wet germ substance the actual dose is better appreciated. One million million germs represents roughly a mass of one cubic centimetre of the semi-solid wet bacteria. One hundred thousand million represents, therefore, one-tenth of this value—namely, 1/10 c.cm. of the semi-solid wet germs. Ten thousand million is equal to 1/100 c.cm. of the substance, one thousand million equals 1/1,000 c.cm., and one hundred million equals a dose of 1/10,000 c.cm. These figures vary according to the size of the germ and are only approximate. They are, however, sufficiently correct to convey to the mind a fairly clear idea of the actual doses of germ substance which are represented by hundreds and thousands of millions.

The dose of the ordinary toxic vaccines which have been in general use for the past ten to twenty years averages from five million to one thousand million germs—that is, from 1/200,000 to 1/1,000 c.cm. of the wet germ substance. Now 1/200,000 of a cubic centimetre is practically invisible, and 1/1,000 of a cubic centimetre is about the size of the head of a small pin.

It has seemed to us that injections of such small doses into a comparatively large animal like a man could only produce an infinitesimal amount of antisubstance or immunity. The maximum doses of the first detoxicated vaccines—namely, 10,000 to 20,000 million—represent 1/100 to 1/50 c.cm. of the wet germ mass. This is still in reality a very small dose. The dose attained by more efficient detoxication—namely, 100,000 million—represents 1/10 of a cubic centimetre, and the mind begins to appreciate that a dose of this size may conceivably stimulate the formation of a considerable quantity of antisubstance producing immunity, and experiments detailed below prove that this is the case.

It is our ambition, however, to reach such an efficiency of detoxication that doses of one billion germs, or 1 c.cm. of the wet germ mass, may be inoculated at a time. There can be little doubt that when such doses are attained the immunity produced will be so great as to produce very remarkable curative results. In the domain of preventive medicine, by such massive inoculations we may hope to be able to guarantee a complete and certain immunity from a given disease for a very considerable period of time.

The Importance of Dose in the Production of Antisubstances or Immunity.

The following experiments were carried out in order to prove the great importance of dosage in the stimulation of antisubstances to any foreign protein. Germs are composed of protein material, and it should be remembered that it is a well-proved law that when any highly complex foreign protein is injected into a living animal that animal has the power of developing a contrary substance, or, in other words, immunity to that foreign protein material. The animals used in these experiments were rabbits, and the foreign protein employed was sheep red corpuscles. Sheep red cells are non-toxic in nature, and very large doses can be injected without making the animals suffer in any way.

If we take the serum of an ordinary normal rabbit and mix it with sheep red cells the serum as a rule exerts no solvent or haemolytic action on these foreign cells. If, however, we inject that rabbit with large doses of sheep cells—namely, a total of 5 c.cm. of the semi-solid wet sheep cells—then the rabbit forms a large quantity of antibody (haemolysin) towards the foreign corpuscles. Indeed, the inoculated rabbit becomes so surcharged with the haemolysin that its serum becomes in many instances capable of dissolving the sheep cells, even when it (the serum) is diluted 10,000 to 20,000 times with normal saline. The smaller and smaller the doses of sheep cells injected, however, the smaller and smaller is the amount of haemolysin produced. This is well proved in the following experiments:

Rabbit A was injected with doses of sheep cells corresponding in mass to the doses of ordinary toxic vaccines given to a man. The mass of toxic germs given to a man, as already stated, amounts to 1/200,000 c.cm. to 1/1,000 c cm. A rabbit, however, is on the average at least twenty times smaller than a man, so corresponding doses of sheep cells would be 1/4,000,000 to 1/20,000 c.cm. of the semi-solid wet cells. Doses of this size, however, were apparently too minute to stimulate the formation of any appreciable or detectable amount of haemolysin. The haemolytic titre of this rabbit's serum

was tested against sheep cells every few days after each inoculation, but the result was more or less negative.

Rabbit B was injected with doses of sheep cells corresponding in mass to doses of detoxicated vaccine varying from 1,000 to 100 000 million germs—that is, doses of 1/20,000 to 1/200 c.cm. There was no appreciable rise in the haemolytic titre of this rabbit's serum until doses of 1/400 c.cm., corresponding in mass to 50,000 million germs, had been given. With doses comparable in volume to 50,000 million germs and upwards in a man the haemolytic titre, however, rose in a very remarkable degree, so that the serum became potent even in a dilution of 1 in 100.

Rabbit C was inoculated with doses of sheep corpuscles corresponding to doses of 1,000,000 million (one billion) germs, or 1 c.cm. of the semi-solid wet germ substance aimed at in a man. (The rabbit being one-twentieth the weight of a man received actually 1/20 c.cm. doses of the semi-solid moist sheep cells.)

Each dose of this size produced a very marked rise in the haemolytic titre of the rabbit's serum, and after seven such doses the eventual immune power of this rabbit rose to the extent that its serum was capable of dissolving the sheep cells when it was diluted 1 in 480 parts with normal saline. In order to get much higher immunity in rabbits wherein the serum is haemolytic to sheep cells at a dilution of 1 in 10,000 to 1 in 20,000, it is necessary to inject cubic centimetre doses of the sheep corpuscles.

It is logical to assume from these experiments that, in order to obtain a similar highly potent antiserum in man towards bacteria, similar massive doses of germ substance must be injected. Furthermore, for successful immunity it is not necessary to get severe toxic reactions, as many imagine. Sheep corpuscles are very non-toxic. They are hundreds of times less toxic than the most efficient detoxicated vaccines ever produced. The inoculations which were given to the above rabbits produced no toxic reactions whatsoever, yet the graphs of Rabbits B and C showed an enormous immunity response.

With regard to vaccine therapy there is still another fallacy or heresy which is frequently preached—namely, that if one injects too much vaccine the system becomes tired and overworked so that it can produce no more antibody. If a rabbit can keep on producing antibody to doses of sheep cells totalling 5 c.cm. of the solid moist corpucles, surely doses of germ substance amounting to a minute fraction of a cubic centimetre will not exhaust the immunity-producing powers of a man who is enormously greater in weight and size than a rabbit.

It would seem more near the truth to say that it is the toxins of the germs which tire and exhaust the system. These toxins require to be removed, so that enormous doses of the germ substance proper may be given. We wish to develop in our serum a quality which will destroy germs by dissolving or lysing them. Such an immune serum would be a much more valuable possession than a serum which simply neutralized the poison of the germs. In any case it is stated in practically every modern work on immunity that it is very doubtful if antisubstances can be produced against the endotoxins of germs. These endotoxins are allied to the amino-acid derivatives of proteins, and it is known that no antisubstances are formed against such simple derivatives. Again, even if antisubstances can be formed against them, they are too toxic to permit of large enough doses to obtain any appreciable amount of such an antisubstance. Against certain toxins it is true that good immunity is produced—for example, against diphtheria and tetanus toxins. These toxins, however, are highly complex protein substances, allied to snake venoms, and are quite different from the usual simple endotoxins of germs.

It is stated that antimeningococcal serum is an anti-endotoxic serum, but this perhaps is not quite correct. The so-called meningo-endotoxin which is injected into horses to obtain this antiserum is a watery extract of meningococci, and is likely to contain much non-toxic meningococcus protein, such as proteoses, etc., as well as the true endotoxin. In the serum of the injected horses, therefore, there will be developed a considerable amount of antisubstance to the protein material of the meningococcus, and this may account for its successful therapeutic results when injected into human beings suffering from this disease.

Improved Detoxication Process whereby Doses of 100,000 million Germs may be given.

About eight months ago it was discovered that in the first stage of the detoxication process—namely, the solution of the germs in NaOH—some of the germs invariably escaped the solvent action of the alkali, and that when acid was added, a certain number of unautolysed germs were carried down in the precipitate of germ metaprotein. In other words, the non-toxic precipitates of the germ substance contained a small proportion of the unaltered toxic germs themselves. The presence of these unchanged toxic bacteria, though few in number, was nevertheless responsible for a large amount of the toxic action residing in the so-called detoxicated vaccines. In other words, the detoxicated vaccines of a year ago were really a mixture of the non-toxic fractions along with a small proportion of the unchanged toxic germs.

This defect has now been avoided by passing the solutions of each germ fraction through a Chamberland filter before precipitating them. The precipitates obtained in this way after porcelain filtration were found to be about ten times less toxic than before. This filtration process alone, therefore, has brought about a tenfold increase in the dosage of the detoxicated vaccines.

This success, as already stated, leads one to hope that still more efficient detoxication will be attained whereby the ultimate aim of giving 1 c.cm. doses of the semi-solid wet germ protein will be reached. The rabbit experiments described lead one to hope that such massive doses will confer on man an extraordinarily powerful immunity, and that they will exert a very efficient curative action on various diseases.

Machine for Crushing Germs.

In order to remove the poisons which reside within the bodies of germs, the latter must be entirely disintegrated or autolysed. For this disintegration of the bacteria we have up to the present relied entirely upon the dissolving or disintegrating action of chemicals, such as weak alkalis, acids, alcohol, etc. Where weak chemicals are used the protein substances of the germs are not so injured or changed as to effect their specific immunizing properties. For example, it has been demonstrated by Balls and Korns (1918) that if red cells are dissolved in weak NaOH and the protein substance is then precipitated with weak HCl, this protein precipitate when injected into rabbits has still the power of causing the formation of specific haemolysins in the latter. Similarly it has been shown by Kolmer (1917) that specific immunity is produced against certain tissue cells when animals are inoculated with the metaprotein of these cells treated in this manner.

It so happens, however, that certain germs require very strong alkali, and even antiformin, to dissolve or disintegrate them, and such powerful chemicals are likely to have a deleterious effect upon the specific antigenic properties of the germ proteins. For this reason during the past two years strenuous endeavours have been made to find some mechanical means of disintegrating germs, in order, so far as possible, to avoid the use of strong chemicals in the detoxication process. Several machines were devised and constructed for this purpose with varying degrees of success. A machine was devised recently by Plauson which was claimed to have the power of smashing substances into colloidal form. Through the courtesy of Messrs. Plausons, Ltd., the disintegrating effect of this machine on germs has been tested. Emulsions of yeast and staphylococci were subjected to the smashing effect of the machine for thirty minutes, and they came through the test unaffected. It is the insignificance of germs which saves them, since they measure about 1/30,000 to 1/50,000 of an inch in diameter.

With the aid of a designing engineer, Mr. Macfie, one of us has been able to construct a small machine which has a cutting as well as a grinding action. It is capable of giving from 5 to 20 million cuts in the emulsion a minute. This machine, in the first few tests made, appears to be more efficient than the Plauson smasher, and it has enabled the writers to employ much weaker chemicals in dissolving the germs than hitherto used. With the present design, however, it is still incapable of smashing the germs in water—that is, without the aid of some chemical. When very fine carborundum powder, however, is added to the watery germ emulsion and the mixture smashed in the machine the disintegration effect on yeasts or germs was very considerable without the aid of any chemicals at all. There is no doubt that this machine should mark a very considerable advance in the detoxication process, and much better vaccines will be obtained by its use. It has been returned to the maker for some alterations in design which are calculated to make it more efficient, and it is hoped that the end in view—namely, the disintegration of germ emulsions with very weak chemicals or even without them—will very shortly be attained.

The authors wish to express their thanks to Mr. E. S. Dean and Mr. F. T. Downing, who have been associated with them in this research.

LITERATURE.

Balls, A. K., and Korns, J. H.: *Journ. Immunol.*, Balt., 1918, vol. 3, pp. 375–387.

Kolmer, J. A.: *Infection, Immunity, and Specific Therapy*, 1917, p. 74. W. B. Saunders Company, Philadelphia and New York.

Thomson, D.: Detoxicated Vaccines, *Lancet*, June 28th, 1918; Detoxicated Vaccines, *Journ. State Medicine*, 1921, vol. 29, No. 3; Biochemistry of Germs and other Proteins, *Lancet*, April 16th and 23rd, 1921; Detoxicated Tubercle Bacillus Vaccine, *Brit. Journ. of Tuberculosis*, January, 1922.

STRANGULATED DIRECT INGUINAL HERNIA.

BY

E. E. HUGHES, CH.M.MANCH., F.R.C.S.ENG.,

HONORARY SURGEON, ANCOATS HOSPITAL, MANCHESTER; VISITING SURGEON, MANCHESTER CHILDREN'S HOSPITAL.

THE formation of a direct inguinal hernia is due, in the majority of cases, to repeated distension of a weak point in the posterior wall of the inguinal canal. In such cases the abnormal opening in the abdominal wall is usually large, and the edges of the opening offer little resistance to the protrusion of bowel or omentum within the hernial sac. Occasionally, however, when the intra-abdominal pressure is suddenly increased, the weak point in the posterior wall of the inguinal canal undergoes instant rupture, and it is in these cases that strangulation is apt to occur.

In the case to be described the strangulation was probably caused simultaneously with the origin of the hernia—that is to say, a split occurred in the medial portion of the posterior wall of the inguinal canal (conjoined tendon) which allowed of the protusion of a knuckle of gut—covered, of course, by a layer of parietal peritoneum—into the inguinal canal. The tension of the conjoined tendon tended to approximate the edges of the split and thus prevented the reduction of the hernia and also imperilled the blood supply of the herniated gut, producing its strangulation. Strangulation of a direct inguinal hernia is an event of somewhat uncommon occurrence, and the following case, which was recently under my care, may be regarded as a fairly typical example of this condition.

The patient, a carter, aged 62, was admitted as an urgency case under my care at the Ancoats Hospital, complaining of a painful swelling in the right groin. He stated that, about eight hours previously, whilst loading a cart, he felt a sudden pain in the lower part of his abdomen. At first he endeavoured to disregard the pain, but as it did not disappear he left his work and returned home. Here he noticed a swelling in the right groin, and on going to his doctor was advised to seek treatment immediately at Ancoats Hospital. He gave a previous history of a hernia which was easily reducible, on the *left* side, but he was quite sure there had never been one on the right side.

On examination the patient was a fairly muscular man, but looked decidedly ill. Over the inner third of Poupart's ligament on the right side there was a rounded tender swelling, tense, elastic, quite free above and below, and apparently not communicating with the internal abdominal ring. There was no impulse on coughing, and gentle taxis failed to have any effect on its reduction.

On the left side there was an easily reducible direct inguinal hernia. Operation was immediately carried out. The inguinal canal was opened by division of skin and external oblique aponeurosis. The hernial sac at once presented itself, and on isolation was found to be entirely free from, and external to, the spermatic cord. The neck of the sac was traced to the conjoined tendon. The sac, which was extremely thin, was then opened. A quantity of the usual blood-stained peritoneal fluid escaped, and a knuckle of bowel of the Richter type, and plum-coloured, was seen. Digital examination of the neck of the sac from within showed that the constriction was due to tension of the conjoined tendon. A hernia director was passed within the sac, and the tendon was divided in a medial direction. The gut was drawn out of the abdominal cavity, found to be viable, and then reduced. An attempt at a radical cure for the hernia was made by ligaturing the sac, suturing the split in the conjoined tendon, and then suturing the internal oblique muscle to Poupart's ligament.

The patient made an uninterrupted recovery, and was discharged from hospital seventeen days after admission.

THE Fifth Italian Congress for Industrial Diseases will be held at Florence from June 11th to 14th, when the following subjects will be discussed: (1) Rural hygiene since the war, especially in relation to malaria, introduced by Professor A. Monti; (2) new and old views on lead poisoning, introduced by Professor C. Biondi; (3) reform of legislation relating to industrial accidents, introduced by Professor Borri; (4) prevention of disabilities following disease, introduced by Professor L. Devoto. An exhibition will be held illustrating the most recent methods for preventing industrial accidents.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

TUBERCULOUS PERICARDITIS.

MEDICAL literature contains so few references to tuberculous pericarditis that I feel justified in recording the case mentioned below as being of interest.

A student, aged 23, who had arrived in England for the first time eighteen months previously from a colony, was admitted to the hospital of SS. John and Elizabeth on April 13th, 1921, with a history of having taken to bed for a week with marked malaise and rise of temperature. There were no other symptoms whatever. He had always enjoyed excellent health, and had never suffered from any pulmonary complaint. On admission his temperature was 103.6° F., pulse rate 120, and respiration rate 40. He was tall, thin, and of a pallid complexion. His breathing, though rapid, was unembarrassed. The tongue was clean.

On examination the right side of the chest was almost motionless and dull from the fourth rib downwards, where vocal fremitus was almost absent. Breath sounds were prolonged and high-pitched above and practically absent below the fourth rib. The apex beat of the heart was displaced to the left, and an exocardial to-and-fro murmur was heard. Aspiration of the right chest yielded 20 ounces of clear fluid, which on microscopic examination showed neither cells nor bacilli, and on culture this remained sterile. A diagnosis of pleural and pulmonary tuberculosis was made.

The murmur at the cardiac apex became more marked as time progressed, and seemed rougher and louder on expiration, and on May 19th some fine crepitations were heard in the right mid-axillary line, both on inspiration and expiration. These extended anteriorly on the 31st, when a very marked rough creaking pleural rub was also heard over the left base anteriorly. Night sweats at this date became very marked. Repeated examination of the sputum revealed no tubercle bacilli. The cardiac area of dullness appeared to increase gradually to the left and right, and on June 6th the exocardial murmur, which had been getting less audible, disappeared, and at the same time the heart sounds became less distinct. Breath sounds in the left mammary region were now harsh, and in the right scapular region almost tubular in character and accompanied by fine crepitations. Emaciation became more marked. Tuberculous pericarditis was now diagnosed.

X-ray examination on June 16th showed an enormous cardiac shadow, and loss of pulsation; this was suggestive of pericardial effusion. Paracentesis pericardii was performed on three occasions with obvious relief to the patient. The fluid obtained, altogether 8 ounces, was sanious in character, and sterile in direct films and culture. No tubercle bacilli were detected. The right base was also aspirated and a similar fluid obtained, which was shown to be sterile bacteriologically. The patient died on July 1st. During his illness the temperature was continued for the first ten days; subsequently it was intermittent, ranging between 97° and 102° F.; the pulse rate varied between 90 and 140, respirations from 18 to 35.

Post-mortem Examination.—The body showed extreme wasting. On opening the chest the parietal pericardium was found to be very thickened, in parts up to a quarter of an inch, and was fused with the thickened visceral pleura. The visceral pericardium was markedly thickened by a deposit of caseous material to the extent of half an inch. The pericardial cavity was dilated and contained approximately 8 ounces of sanious fluid. The heart muscle was very pale and flabby; the valves were competent. The pleurae were thickened and contained some free fluid; and the lungs, which were adherent to these in parts, especially on the left, showed numerous miliary tubercles, but practically no evidence of old tuberculosis. The mediastinal glands showed moderate enlargement. The liver, spleen, and kidneys showed amyloid degeneration; the latter had a few miliary tubercles, and the peritoneum was studded with these. Free fluid was present.

For kind permission to publish this case I am greatly indebted to Dr. A. Saunders, Physician to the Hospital of SS. John and Elizabeth.

F. JOSELIN JAUCH, M.R.C.S.Eng., L.R.C.P.Lond.,
Resident Medical Officer, Hospital of SS. John and Elizabeth, London.

REFERENCE.

Adrien Forestier: "Études Cliniques de la Péricardite Tuberculeuse avec atteinte des autres Séreuses."

RUPTURED HEART.

THE following case seems to me of sufficient interest to place on record, as it illustrates how a fatal result may follow a very slight effort in a person who was not apparently seriously ill, her chief complaint being of shortness of breath.

On January 10th, 1922, I was called hastily and found a fairly well nourished woman lying on her back on a bed. She was quite dead. The only person in the house besides the dead woman was her husband. He said his wife was about 50 years of age, was almost a teetotaler, and had never been really ill before, but a few months ago had had an upset and had lately complained of shortness of breath. On this particular day, not feeling very well, she stayed in bed; during the morning he heard a noise as of someone falling,

went upstairs and found his wife lying on the floor quite motionless. She never moved again. He lifted her on to the bed and sent for me. So far as one could gather from the husband she just got up out of bed and fell down dead.

Post-mortem Examination.—There were no marks of violence or bruising on any part of the body. On raising the sternum the pericardium was found to be full of blood clot and there was a rent in the anterior wall of the left ventricle about three-quarters of an inch long; the heart was enlarged, and there was marked fatty infiltration of the organ; there was also some thickening of the aortic valves.

Bishopston, Bristol. J. ANGELL JAMES.

Reports of Societies.

WAR WOUNDS IN RELATION TO LIFE ASSURANCE.

AT a meeting of the Assurance Medical Society on May 10th, with the President (Dr. R. A. YOUNG) in the chair, a discussion took place on "War wounds in relation to life assurance." A similar discussion was held in the society three years ago, when a table was presented by Mr. McAdam Eccles (*Transactions* of the Society, 1919) containing certain suggestions for the acceptance, with or without load, or the rejection of lives damaged in the war.

Mr. MCADAM ECCLES said that later experience had proved the necessity of very few corrections in that table. He had urged that all cases of penetrating gunshot wounds of the head which gave rise to mental changes or fits should be rejected, but perhaps this was too sweeping a counsel so far as the fits were concerned. It was possible also that some would take exception to his advice that cases in which there had been fracture of the skull, with operation, loss of bony substance, visible pulsation, but no serious symptoms, might be accepted, with a debt, according to the nature of the case. Quite a number of such cases had now had the gap in the bone filled up by bone taken from elsewhere in the body, and some of the patients had been completely restored to their normal, with no headache, fits, or obsessions of danger, and no want of concentration. He would be inclined to accept such cases at ordinary rates if they had had three years of good health from the time of the operation. In fractures of the base of the skull, the result of aeroplane accidents, there were cases in which the proposer had apparently suffered little permanent damage as a result of the injury, and some of these cases might be accepted at small load, or even at ordinary rates. He adhered to his original recommendations with regard to gunshot wounds of the neck, that when there was no permanent disability the case should be accepted at ordinary rates, when there was need for a tracheotomy tube the case should be rejected, and when there was slight damage to larynx or injury to the large vessels or nerves there should be a load of three to five years; he would add, however, that in this last category care should be taken that there were no resulting symptoms of the injury, such as a traumatic aneurysm, which might give rise to an embolism, causing hemiplegia. In his original suggestions with regard to injuries to the abdomen he had omitted those cases in which the spleen had been removed for injury; many of these recovered entirely, and if there was not a definite history of removal of the spleen it would be difficult to tell that the organ was missing. The proposers might be accepted at ordinary rates three years after complete recovery, but in any case where examination of the blood showed a want of return to the normal a load of five years, or even rejection, must be advised. He also raised the question of cases in which there had been amputation of both upper or both lower extremities—whether these should be accepted, and, if so, at what load. In conclusion, he reminded the society that all the men concerned had served their country well, and should have every consideration when they presented themselves for assurance.

Mr. G. E. GASK dealt with war wounds of the chest and their prognosis in relation to life assurance. He thought that wounds of the parietes without injury to the internal viscera need not be considered as having impaired the life; also that the vast majority of men who had suffered from perforating wounds of the chest unaccompanied by retention of a missile or the formation of an empyema were now completely cured and might be considered as sound lives; but that men who developed an empyema following a wound of the chest ran a grave risk, and he thought the actual damage comparable to that resulting from an empyema which followed an attack of pneumonia. In assessing their life value it must be remembered that they had successfully passed through a severe illness, and that the efficiency of one lung might have been permanently impaired. Perforating wounds associated with a persistent empyema-sinus or retention of pus in the chest constituted a grave risk to life, but the number of men now suffering from this condition must be very small. As for retained missiles, a missile which had remained for four or five years embedded in the muscles was not likely to give rise to trouble. A missile lodged in the lung or mediastinum must be considered an added risk to life, and a piece of metal with jagged edges was more dangerous than a smooth bullet.

Dr. ALDREN TURNER spoke of gunshot injuries to the head in relation to epilepsy. There were two groups of epilepsies to be considered: (1) Genuine traumatic epilepsy with definite brain lesions, and (2) the less common group in which epilepsy occurred without obvious injury of the brain. This second group was the more difficult to consider from the point of view of prognosis and treatment, and in war cases from the point of view of attributability. In the first group most of the cases had hemiplegia or some definite evidence of lesion of the central nervous system, and there was no difficulty at all in adjudicating direct attributability in epilepsy of this type. The fact that a man who had had a gunshot injury to his head with brain lesion developed a traumatic epilepsy a few months later was a reason, he thought, for granting the full disability pension irrespective of whether any member of the man's family had had epilepsy. It had been possible to divide a series of cases presented to a medical board into traumatic epilepsy of an idiopathic character and epilepsy of the Jacksonian type. In nine cases out of eleven Jacksonian epilepsy had been cured by operation, which showed that the condition was not epilepsy in the strict acceptation of the word, but a cortical irritation due to a definite lesion. It was held by Sargent that it was due to a vascular change occurring periodically at the seat of injury. In many cases the brain was anchored to the cicatrix, and a change in the position of the head might lead to an epileptic seizure. Out of 18,000 cases of gunshot injuries to the head under the care of the Ministry of Pensions, only 800 (or 4½ per cent.) had developed traumatic epilepsy, a proportion very similar to that obtaining in the Franco-Prussian war of 1870. The smallness of the relative number suggested that research must be carried farther afield, and an attempt made to discover how this epilepsy occurred, and whether there was any hereditary and constitutional disposition. He could not help coming to the conclusion that in this particular form of traumatic idiopathic epilepsy following upon gunshot injuries with organic lesion of the brain, the epilepsy was really a symptom of an inherited or inborn neuropathic condition. From the point of view of assurance, these cases ought to be regarded as idiopathic epilepsy was regarded in civil life—namely, as not uninsurable, provided other conditions were normal.

Dr. OTTO MAY asked whether Dr. Turner had had any experience of epilepsy arising after, and possibly caused by, injuries to parts of the body other than the head. In a case of fracture of the leg, when there was no obvious head injury nor any loss of consciousness, the person concerned had his first epileptic fit five months after the accident, and had had five or six since; there was no family history, and the only thing to be detected on examination was a certain tremulousness of the face muscles, which made him think of the possibility of a syphilitic condition, precipitated by the shock of the accident.

Dr. OGIER WARD asked what was to be done in cases in which missiles remained in the limbs—embedded in the head of the tibia, for instance, or in the cavity of the long bones. As for the loss of two limbs, it used to be remarked that one never saw a man who had undergone a double amputation survive to old age. That might have been due to the great drain upon his vitality, in pre-aseptic days, from the shock of the operation. There was still shock under anaesthesia, though, of course, the patient did not feel it, and it was a question how far it reacted on the constitution.

Dr. A. CHARLES GRAY asked whether a man who had lost one or both lower extremities should be definitely loaded, and whether there was increased risk of accident or of ill health. Dr. H. W. COLLIER gave an interesting account of two cases in which fits occurred after head injuries sustained in aeroplane crashes. The first fit occurred in one case as long as four years, and in the other as long as six years after the

accident. Dr. G. G. HOWITT contested Mr. Eccles's advice, in wounds of the head and face, to reject a case in which there had been depressed fracture and no operation. He thought that it all depended upon the position of the depressed fracture. Dr. SANDERSON, of the Ministry of Pensions, said that experience in his department bore out the general reliability of Mr. Eccles's table. Certain researches had been carried out on the after-effects of gunshot wounds of the head, chest, and abdomen, but these were not yet published. Not many cases were available, and it was surprising that the resulting injury seemed to be very much less than might have been anticipated; it was difficult even to secure the men's attendance at hospital. He had found no obvious connexion between gunshot wounds in the chest and liability to tuberculosis.

The PRESIDENT spoke with regard to Mr. Gask's five categories of chest wounds. Cases which had had wounds of the parietes without injury to the internal viscera he would accept without any load at all. Perforating wounds of the chest, without retained missile or formation of empyema, would make him look closely to see what degree of adhesions or limitation of lung movements had occurred, and if there were any such he would be inclined to put on a slight load. The same applied to perforating wounds which were complicated by the formation of an empyema, now soundly healed. He would reject cases of perforating wounds associated with a persistent empyema-sinus or retention of pus in the chest; and in cases with retained missile he would be guided by the result of an *x*-ray examination.

Mr. MCADAM ECCLES, in replying on the discussion, agreed with Dr. Aldren Turner that in traumatic (possibly called idiopathic) epilepsy one generally found, on careful investigation, a previous family history, not necessarily of epilepsy, but of some nerve condition, and that the true Jacksonian cases were much better from the point of view of life assurance than the traumatic (idiopathic) ones. In answer to another point, he had not seen a single case of retained foreign body in a lung which had developed tubercle. There were cases of damage to the lung in which tubercle had come on afterwards, but tubercle was such a common disease that it might have developed in any case. He agreed with Dr. Howitt that a case in which there was a depression over the frontal region, particularly the frontal sinus, which led to no symptoms at all, might be taken at ordinary rates; but he was always chary of a depressed fracture. As for the amputation of the lower extremities, any increased risk of accident was counterbalanced by the likelihood that a man who had thus suffered would take extra care; but the important factor was the narrower opportunity of healthy exercise in such cases. The great danger of missiles retained in the limbs arose from sepsis, sometimes arising on the occasion of a trivial operation after everything had been apparently quiescent for years.

"APPENDIX DYSPEPSIA."

AT a meeting of the Liverpool Medical Institution held on April 27th, with the President (Dr. J. HILL ABRAM) in the chair, Dr. R. J. M. BUCHANAN read a paper on appendix dyspepsia. In a brief historical sketch of the development of the diagnosis and the surgery of the appendix Dr. Buchanan referred to the so-called pelvic abscess in women, which was formerly opened by gynaecologists, and was in his opinion appendicular in origin. He referred to the appendix as the mimetic organ of the abdomen, and in this connexion reviewed the literature of early appendicitis and its gradual recognition and separation from the other better known acute conditions such as perforated peptic ulcer, cholecystitis, volvulus of small intestine, ruptured ovarian cyst, pleurisy, and pneumonia. Proceeding to chronic conditions he showed that the appendix was even more mimetic. Chronic appendicitis and peptic ulcer were closely allied in symptomatology, and operations for peptic ulcer frequently revealed a chronic appendicitis as the cause of the symptoms. Important points in diagnosis he indicated as follows. Remission of symptoms in duodenal ulcer. Radiation of epigastric pain to the lower abdomen suggested appendicitis, as did tenderness over the appendix area. Relief of pain in peptic ulcer by taking food did not hold for cases of appendicitis, and over long periods alteration in free HCl obtained in appendicitis. The dorsal pain of ulcer was rare in appendicitis; alkalis and bismuth rarely gave relief in that condition. There was not the same constancy in appendicitis of pain referred to meals and not the same intensity of pain—merely discomfort. Appendix pain was increased by exertion, and there was no complete remission of pain or dyspepsia. He referred to a case of chronic appendicitis simulating hour-glass stomach by *x*-ray examination, but manifesting tenderness over the appendix area. Laparotomy demonstrated an inflamed appendix showing that the *x*-ray hour-glass appearance was due to reflex spasms. Appendicectomy relieved all symptoms. He suggested that many cases of "ovaritis" in women on the right side were really chronic appendicitis, and he referred to the frequent association of the two conditions and advocated surgically a median incision. In the association of chronic appendicitis with colitis the appendix was often the harbour of infective noxae.

He instanced one case of diarrhoea persisting for many years where Dr. Cronin Lowe obtained an almost pure culture of *Bacillus enteritidis* in the stools. The appendix on removal was found to contain a pure culture of the organism. The operation combined with an autogenous vaccine led to complete recovery and the disappearance of the organism from the stools.

He mentioned the association of chronic appendicitis with distended caecum and a vascular Jackson's membrane and emphasized the importance of combining an appendicectomy with plication of the caecum in these cases. Emphasis was laid upon the importance of realizing that appendix pain was referred to all regions of the abdomen and even down the right thigh, and that retrocaecal inflamed appendices simulated lumbago and cholecystitis.

Dr. Buchanan referred to the *x*-ray appearance in appendix disease and insisted on the importance of a "watch through" examination, and he was of opinion that sufficient attention was not paid by radiographers in recording the filling, emptying, beading, etc., of the appendix. He advocated a more complete examination at shorter intervals. He thought that an appendix which filled and retained barium or bismuth after the caecum had emptied should be removed. He held that chronic appendicitis should be suspected in any case complaining of chronic and obscure dyspepsia symptoms—for example, pain after food erratic in time, character, intensity, and situation, often referred finally to the right iliac fossa, with nausea, occasional vomiting, fullness and feeling of flatulent distension, acidity and water brash, symptoms of general malaise (with or without a history of previous acute abdominal pain), pain and discomfort remittent rather than intermittent, aggravated by exercise and relieved by rest, elicited by rotatory manipulation of the right thigh—in which diet and the usual therapeutic measures did not relieve completely pain which might be elicited by palpation of the appendix and referred to one or other of the regions already mentioned. Such a condition was often associated with irregularity of the bowel, general digestive discomfort and malaise, the *x* rays revealing an appendix retaining food (or even failing to show this, for the constriction might be at the opening). A condition of clinical obscurity, not fitting in with any classic syndrome of other abdominal lesions, should always lead one to suspect chronic appendicitis and act accordingly.

Mr. W. THELWALL THOMAS alluded to the frequency of cases of vague abdominal symptoms, described as indigestion, which often could not be definitely referred to the contents of the upper abdomen. *X*-ray examination in recent years had greatly assisted in clearing up the difficulties as between gall stones, gastric or duodenal ulcer. There remained many cases which could be referred to the appendix, and here radiology in expert and shrewd hands materially helped with the diagnosis. The association of alternate constipation and diarrhoea, accompanied by pains in the right iliac fossa, and referred on pressure to the remote parts of the abdomen, was strong evidence of chronic appendix trouble. He was not prepared to admit haematemesis as a sign, having seen some cases where, after removal of the appendix, the bleeding reappeared. Operative interference was necessary in these cases, and he was gratified to find that physicians were becoming actually enthusiastic in this direction. Where the caecum was dilated and proptosed into the pelvis with a well-marked Jackson's membrane, he removed this tissue, infolded the caecum, and fixed in the iliac fossa, with satisfactory results.

Mr. THURSTAN HOLLAND showed a number of lantern slides illustrating the various points of importance in the *x*-ray examination of the appendix. He emphasized the fact that there was as a rule no difficulty in visualizing the appendix; there was no special hour after taking the meal at which it was most likely to be full of the barium food, but that it might be on view at any time after the food had reached the caecum

and ascending colon. He also stated that in his experience no special preparation of the barium meal was either necessary or advantageous; he had found that with the ordinary mixture of bread-and-milk and barium, so often used for stomach examination, the appendix was seen just as often as after the much-vaunted buttermilk meal. Of the value of an *x*-ray examination of the appendix in cases with vague gastric symptoms there could not be any doubt.

Syphilis of the Nervous System.

Dr. BAKER YOUNG read a short paper on syphilis of the nervous system, with special reference to intrathecal therapy, based on the treatment of 109 cases of late syphilis and parasyphilitic conditions of the cerebro-spinal system. The results of the treatment of these cases by intrathecal injection of reinforced salvarsanized serum was demonstrated. The findings of the cerebro-spinal fluid were correlated with the change in clinical symptoms. Dr. Baker Young held that this method of treatment was effective in cases which were not influenced by any other therapy, and emphasized the importance of adopting this treatment in progressive cerebro-spinal syphilis.

Professor W. H. ROBERTS recounted the results of his work on the estimation of the arsenical content of the cerebro-spinal fluid. He had found no trace of arsenic in the fluid after intensive intravenous treatment, but had shown the presence of arsenic in 19 cases out of 29 one week after intrathecal injection. The proportion of arsenic varied from 0.5 to 2 parts per million.

Dr. L. S. ASHCROFT discussed the paper from the pathological side, and supported Dr. Baker Young's views. Dr. A. DOUGLAS BIGLAND criticized the procedure, preferring the older methods of treatment, which were effective and less troublesome. Dr STOPFORD TAYLOR also favoured the older methods of treatment.

AN ALTERNATIVE METHOD OF ADMINISTERING VACCINES.

AT a meeting of the Edinburgh Medico-Chirurgical Society held on May 3rd, Sir ROBERT PHILIP presiding, Mr. DAVID LEES, F.R.C.S., spoke of various methods devised to overcome the toxicity of vaccines in the production of active immunization, and gave an account of his use of Besredka's method in over a hundred cases. These were chiefly cases of infection of the lower genito-urinary tract, gonorrhoeal in nature, including acute conditions as well as subacute and chronic, but comprising also other kinds of general and local infections. The method, as practised by him, was to give a very small preliminary desensitizing dose, about 1/1000 to 1/100 of the ordinary dose of the specific organism; this was followed by the immunizing dose, if intramuscular, three to four hours later; if intravenous, ten to twenty minutes later. In most of his cases the immunizing dose was given intravenously, and in the case of gonococci the dose was often 10,000 to 20,000 million. In the gonorrhoeal cases, local treatment of the urethra by weak permanganate solutions was also given, and the usual dietetic and general treatment carried out. The results in a series of cases were detailed, excluding early cases of acute gonorrhoea a few hours after the onset of symptoms, established acute cases, acute complications such as epididymitis and salpingitis, acute *B. coli* infections of the bladder. The standards of cure were absence of clinical symptoms for a long period and negative bacteriological and serological tests. In a certain number of cases this standard was attained, and the immediate effect of relief of symptoms was striking and rapid; in others the result was not so good. He had found the cases most suitable for this treatment were those of early gonorrhoea, within twenty-four hours of the onset of symptoms, and the acute exacerbations of chronic cases; in established cases it certainly lessened the gross signs and symptoms. By this method it was claimed that much more potent doses of vaccine could be given, not only in subacute and chronic infections of the lower genito-urinary tract, but also in acute infections, and this with only minimal reactions, local, focal, and general. As a method of treatment it was still in the experimental stage, and he had not reached a final opinion as to its value.

Plastic Surgery of the Nose.

Dr. DOUGLAS GUTHRIE gave a lantern demonstration on this subject, showing also three patients who had undergone operation for nasal disfigurement from lupus, congenital syphilis, and injury. The reconstruction of the nose was no modern invention of surgery, for Tagliacozzi, as early as 1570, had perfected the method of transferring a flap from the arm to form a new nose—the so-called Italian method—and this operation was still in vogue. The sacrifice of a finger to gain a nose was also sometimes practised, but was hardly justifiable. These operations had now been largely superseded by the use of local flaps from the forehead, the Indian method of Keegan and other I.M.S. surgeons, and improved by the recent work of Major Gillies. The various stages in a case of nasal reconstruction in a man whose nose had been destroyed in an electrical accident were then shown. It was essential to provide a lining for all flaps to avoid subsequent shrinkage, and support was secured by embedding strips of cartilage in the tissues destined to form the flap. Considerable time should be allowed between the stages of the operation. At times it was advantageous to employ the long tube flap from forehead or neck. Gross defects requiring complete rhinoplasty were less frequent than minor deformities of a part of the nose. Cases belonging to this latter group of lupus, of syphilitic deformity, of a horse-bite of the tip of the nose, and of harelip deformity were shown, and the details of reconstruction described and the results demonstrated by lantern slides.

Therapeutic Value of Quinidine Sulphate in Auricular Fibrillation.

Dr. W. T. RITCHIE briefly alluded to the literature of the subject since the publication of papers by Frey in 1913. In over 200 reported cases of auricular fibrillation restoration of the normal rhythm after use of quinidine sulphate had been claimed in 57 per cent. High claims had been made for the drug, and it was alleged to obviate the necessity of continuing digitalis. He presented a personal study of 12 cases in which quinidine had been tried and its effects observed. Of the 12, eight were men and four women; they included 8 cases of mitral valvular disease (a majority rheumatic), 1 exophthalmic goitre, 1 melancholia, 1 syphilitic myocarditis. The results had been permanent restoration of the normal rhythm in one case; for a considerable period in one; a transient restoration in one. Fibrillation had been replaced by flutter in one case, while the drug had failed to affect the rhythm in eight of the twelve cases. From the point of view of symptoms and general condition only two cases experienced benefit. The usual dosage had been employed, 0.4 gram thrice daily, with an initial smaller dosage. The number of cases was small, but the results were not encouraging and did not support the high claims advanced for the drug. He had failed to get indications as to types of case more suitable than others for quinidine sulphate. But if the drug succeeded in a particular case it would again be successful if auricular fibrillation were resumed. He had met with unpleasant results in its use: it might increase the ventricular rate, and, if so, should be combined with digitalis; it also might set up multiple ventricular extra-systoles; and there was also some danger of embolism from dislodged clot in the auricles. He considered that quinidine should not be used in cases where there were such signs of cardiac failure as dilatation of the heart, dropsy, or cyanosis. The action of quinidine on the heart might be considered, in relation to Lewis's theory of circus action of the auricles in fibrillation, as a lengthening of the refractory period of the auricle; but there was no evidence that it could modify or remove the inflammatory or degenerative changes in the ventricular walls that were present in those cases. The disappointing results of the drug were probably due to the confinement of its influence to the abnormal auricular function.

Dr. D. MURRAY LYON confirmed these observations from his experience of quinidine sulphate in seven cases. When given without digitalis it seemed to have a toxic action on the ventricle, and it was advisable to employ digitalis before it or along with it. It was not a safe drug to use unless its effects were carefully controlled by the electro-cardiograph or the polygraph.

A CONGRESS for the sanitary reorganization of Spain will be held at Madrid in June, 1923. The president of the executive committee is Dr. Verdes Montenegro.

A CONGRESS of French-speaking dermatologists and syphilologists will be held in Paris from June 6th to 8th, at the St. Louis Hospital, under the auspices of the French Dermatological Society. Arrangements are being made by Dr. Hudelo, 8, Rue d'Alger, Paris.

Reviews.

BLOOD TRANSFUSION.

THE book by Dr. GEOFFREY KEYNES on *Blood Transfusion*[1] will be welcomed by many. Before the war the transfusion of blood was rarely practised in this country, partly because there was no simple and reliable technique, and partly because serious consequences had been known to follow the operation. During the war the advantages of blood transfusion became so apparent that many new methods were introduced, but none of the earlier methods came into general use because they were too elaborate. Far more work had been done in America than in this country on this subject, so that when the American doctors arrived in the Expeditionary Force they brought information and experience of the utmost value. It was seen that the harmful results of some of the earlier transfusions were attributable to the neglect to ensure the compatibility of the blood of the donor with that of the recipient, and the dissemination of information on this point led to the systematic testing of the donor's blood on the basis of the work carried out by Jansky in 1907 and Moss in 1910. The simplified technique for this investigation which the Americans brought with them rendered it possible for it to be done as a matter of routine. But of greater importance still was the painstaking work of Oswald Robertson, to whom Geoffrey Keynes pays a fitting tribute when he writes, "to him a very large number of men indirectly owe their lives." Robertson's citrate method of indirect transfusion so simplified the whole procedure that blood transfusion was adopted almost universally in the army as the natural treatment for haemorrhage and shock, and during the last year of the war blood was even given under the primitive conditions existing in field ambulances and first-aid posts. Since the war the operation has been applied in the treatment of many of the haemorrhagic diseases with strikingly good results, whilst it is, of course, the recognized procedure of choice in cases of haemorrhage and shock met with in civilian surgical practice. The general public has become familiar with the idea, thanks to the sensational headlines frequently appearing in the press and the records of the "heroic sacrifices" of that seemingly ever-ready donor, the policeman!

There are two classes of medical men who will find the present book extremely useful. As is apt to happen with all new methods of treatment, blood transfusion has been credited with revitalizing power in all the diseases to which flesh is heir, but in this book the medical practitioner will find an account of the various conditions in which blood transfusion will do good and the indications for its administration. Those also who wish to learn a good way of giving blood will find here a satisfactory method of performing the transfusion, together with information as to the attendant dangers and instruction in the testing of the blood group of the donor.

The book commences with an historical review of the subject, in which are recorded many interesting experiments carried out in the seventeenth and eighteenth centuries, in some of which man was transfused with the blood of animals such as lambs. The various medical and surgical indications for transfusion are then presented, and in the following chapter the dangers of blood transfusion are related. A chapter is devoted to the physiology and pathology of the blood groups, and finally the different methods of direct and indirect transfusion are described. No account is given of the method of preserving blood and injecting the washed preserved red cells, a plan that was often of value in the war and which might sometimes find application under peace-time conditions.

The subject of blood transfusion has hitherto only been dealt with in the medical literature of this country by isolated communications concerning special points. The present book gives a clear account of the whole subject; it is well written and enlivened with many happy quotations, and by accounts of not a few entertaining incidents.

THE FUNCTION OF THE FRONTAL LOBES.

IN this book, the English version of which has recently appeared with the title, *The Mechanism of the Brain and the Function of the Frontal Lobes*,[2] Professor BIANCHI has produced a volume which cannot fail to interest neurologists and psychologists alike. From such a high authority much may be expected, and the reader will not be disappointed, for he will find here not only a full account of the author's own experimental and clinical work on the functions of the frontal lobes, with his conclusions, but in addition a detailed review of the whole subject from both the historical and evolutionary aspects.

Beginning with comparative anatomy and a general survey of the evolution of the nervous system from the lowest to the highest forms, the author leads us on to the more modern discoveries of the localization of function in the cerebral hemispheres, which are considered from the experimental, pathological, and clinical aspects. Flechsig's theories of "associative zones" are strongly criticized, and it is interesting further to note that the author evidently does not agree with Marie's views on the subject of aphasia, but adheres to the more classical opinions.

The second chapter is chiefly concerned with an historical survey of the different theories formulated as to the functions of the frontal lobes. The two next chapters are devoted to the anatomy and physiology of the frontal lobes in different species, and to a defence of the experimental method of investigation. Then follows a detailed account of the author's own experimental work, extending over many years. In the next chapter the effects of electrical stimulation of the frontal lobes are considered, especially in relation to movements of the head, eyes, and ears, and the author advances the hypothesis that such movements of the eyes and pupils are connected with the mechanism of attention. An important anatomical chapter on the associative paths between the frontal lobes and the sensory areas of the cerebral cortex follows; here the author's investigations with regard to paths between the cortex and the optic thalamus and corpus striatum will be followed with interest.

The last three chapters, dealing respectively with intelligence and language, the emotions and sentiments, and consciousness, are perhaps the most important and interesting in the whole book. Bianchi does not attempt to argue in detail the whole subject of aphasia, but contents himself with contrasting the aphasic patient with the patient suffering from disturbances of the functions of the frontal lobes. His opinions on the emotions and sentiments will be read with great interest, for they are not perhaps quite in harmony with the majority of current opinion. The book contains an immense mass of information; it is an admirable summary of the work of many years as well as an excellent presentation of the author's own views. A short explanatory foreword is provided by Professor Lloyd Morgan. In conclusion we must offer our warmest congratulations to the translator, Dr. J. H. Macdonald.

LETHARGIC ENCEPHALITIS.

FEW medical subjects in recent times have excited such widespread interest or produced such a flood of literature as lethargic or epidemic encephalitis; and it is fitting and opportune that our knowledge of it should be crystallized in the form of an extensive monograph by an acknowledged authority like Professor ACHARD of the Academy of Medicine of Paris.[3] The bibliography supplied at the end of this volume, extending as it does to fifty-five pages, is sufficient evidence of the immense number of contributions, both clinical and pathological, which this disease has provoked during the last four and a half years. We are presented in this volume with an admirable picture of this protean disease, especially rich in the descriptions of its many clinical shapes and symptoms. What we miss most is any considered report on its sequelae, though it must be admitted that this is naturally the most difficult aspect of the subject and one which later years may more easily produce. The careful following up of cases is at the present time the most fruitful field for clinical investigations.

After a short historical introduction there follows a long and interesting chapter on the symptomatology; in this the various disturbances of function which may occur are all separately described in considerable detail. We may perhaps be allowed to object to the statement that "the myoclonic forms are characterized by choreic movements," but apart from a few minor criticisms this chapter forms a most valuable feature of the book. It includes a full description of the various modifications which are found in the cerebrospinal fluid and their diagnostic significance. In the next

[1] *Blood Transfusion.* By Geoffrey Keynes, M.A., M.D.Cantab. Oxford Medical Publications. London: H. Frowde, and Hodder and Stoughton. (Demy 8vo, pp. 166; 13 figures. 8s. 6d. net.)

[2] *The Mechanism of the Brain and the Function of the Frontal Lobes.* By Professor Leonardo Bianchi. Authorized translation from the Italian by James H. Macdonald, M.B., Ch.B., F.R.F.P.S.Glasg. Foreword by Professor C. Lloyd Morgan, LL.D., D.Sc., F.R.S. Edinburgh: E. and S. Livingstone. 1922. (Roy. 8vo, pp. 348; 62 figures. 21s. net.)

[3] *L'Encéphalite Léthargique.* Par le Professeur Achard. Paris: J. B. Baillière et Fils. 1921. (Demy 8vo, pp. 324; 15 figures. Fr. 16.)

chapter the general clinical aspects and course of the disease are well illustrated by careful descriptions of actual cases. The fourth chapter is devoted to the morbid anatomy and histology, its value being enhanced by a section correlating the situation of the pathological changes with the clinical disturbances of function which are produced. Here perhaps more ground for criticisms will be found; thus, can we accept as proved the statement that "myoclonus appears to be explained by changes in the optic thalamus and cerebral peduncles," even when it is qualified by the admission that certain forms of myoclonus must be attributed to a spinal lesion?

The epidemiology and the numerous experimental researches on the nature and propagation of the virus receive somewhat scant consideration in view of the importance of this part of the subject. There is a long and interesting chapter devoted to an elaborate comparison of the symptoms with those of other diseases with which it may be confused, such as influenza, poliomyelitis, sleeping sickness, and many others, but since a separate chapter on diagnosis follows, some repetition is inevitably caused. The section on prognosis is disappointing, for it is especially in regard to the sequelae that more information is most urgently needed. In a short final chapter the various forms of treatment, including that by fixation abscess, are briefly discussed.

The value of this monograph lies chiefly in the careful and indeed admirable clinical pictures of the disease which it provides. It would have gained in interest by the provision of more and better illustrations.

THE VIENNA MEDICAL SCHOOL.

PROFESSOR MAX NEUBURGER in a pleasant monograph[4] has given what one may term an anecdotal history of the Vienna Medical School. There is a short introduction by the Professor, in which he very briefly outlines the history of the school. He alludes especially to the two periods in which Austrian medical science attained its chief distinction—the second half of the eighteenth century and the decades which more immediately followed 1850. With characteristic frankness he describes the intervening period as one of complete stagnation.

The main text of the book is composed of extracts derived from monographs previously published; for example, excellent pen pictures derived from Osiander's reminiscences are given of Johann Boer, Raphael Steidele, and Johann Peter Frank. Students of the history of Continental medicine will find much of interest and of humour in the accounts given. Boer, one of the most famous obstetricians of his time (1800), is painted as a cynic. He ate his food lying on his side because he claimed that so doing helped his digestion, and he showed an even greater appreciation of his own comfort when he gave up teaching because his students were so ungrateful. It is interesting to notice that nearly fifty years before Semmelweis's experiments Boer recommended the use of lime water and naphtha water as a vaginal douche and as a toilet for the examiner's hand.

One of the most interesting chapters deals with Austrian medicine and surgery in 1826, as recorded in Stromeyer's collection of stories of German doctors. There is a full account of the evolution of the teaching of pathological anatomy—a clinic which was founded under Skoda's supervision, and developed to the excellence it afterwards attained by the genius of Skoda's assistant, Rokitansky. The reader will naturally look for details of Semmelweis's life and work, but he will be disappointed; it would seem that even to-day the achievements of that great man have not received the credit which is their due.

The volume is interesting; it is written in an attractive style, and there are excellent portraits of the more famous leaders of Austrian medical science.

GADFLIES.

DR. WERNER MARCHAND[5] has performed a service to science by collecting all available information about the Tabanidae (gadflies, clegs, etc.) and publishing a very full summary of it, illustrated by reproductions of the figures from the works of all previous authors.

The Tabanidae are rather of veterinary than medical importance, though many species occasionally bite man, and two species of *Chrysops* are known to be carriers of the filarial worm *Loa loa* in West Africa. A number of diseases of animals, due to protozoa or worms, are carried by these insects, but do not now concern us. Our knowledge of the early stages and habits of the gadflies is relatively slight. It is also fragmentary and scattered over a large number of periodicals; it is therefore entirely inaccessible to the worker in the tropics who is seldom or never able to consult long series of the less important journals. Nevertheless, it may be noticed with surprise that the early stages of the Tabanidae of Central Africa and the Sudan and of the Philippines are better known, owing to the work of Neave and King and Mitzmain, than those of any part of Europe.

The Tabanidae are all of them large flies, and about two thousand species of the family are known; their distribution is very nearly worldwide. The females in the majority of the genera suck the blood of vertebrata, and are wide-ranging insects of powerful flight. It has even been recorded that certain species fly out to sea to suck the blood of turtles asleep on the surface of the Indian Ocean. The males haunt flowers, and are relatively rare in collections. The egg is laid on leaves of plants overhanging water. The young larva, when it emerges, drops to the surface of the water and swims ashore, to bury itself in mud. Most species spend their entire larval life in wet mud or wet sand at the margin of a pond or stream. Others are found in much drier situations, under turf. The larvae are carnivorous, and in captivity will eat earthworms and the maggots of smaller flies; if food is lacking they become cannibal. They are, for that reason, difficult to breed.

So far as we have been able to judge Dr. Marchand's work has been well done. It appears to be well arranged and to include all, or nearly all, available information. It has a fault common to all collations and summaries—that it does not contain enough of the opinions and personality of its writer.

NOTES ON BOOKS.

THE forty-first volume of the *Transactions of the Edinburgh Obstetrical Society*[6] comprises the proceedings of the society during the session 1920–21. The contents of the volume include Dr. William Fordyce's presidential address, in which he gives a review of the advances in gynaecology since the beginning of the nineteenth century, and an article by the late Dr. F. W. N. Haultain on his further experiences of "twilight sleep." Dr. Horace R. A. Philp writes on "Obstetric experiences amongst a primitive tribe"; Dr. David Shannon on "Pelvimetry as an index of treatment in contracted pelves"; Dr. W. Fordyce and Dr. R. W. Johnstone on "Concealed accidental haemorrhage associated with eclampsia"; Dr. F. J. Browne on "Stillbirth"; and Dr. Samuel J. Cameron on the "Surgical treatment of uterine prolapse." Dr. James Young describes an organism obtained from carcinomatous growths. The volume is well printed and illustrated.

The sixth edition of Mr. C. J. S. THOMPSON'S *Compendium of the Pharmacopoeias and Formularies*[7] brings up to date a little book which, within the limits set for it, is very useful indeed. It gives synopses of the pharmacopoeias of Britain (including the Indian and colonial addendum), the United States, Japan, France, Italy, Russia, and nearly all the other European countries, together with unofficial and useful formulae and practical aids to prescribing and dispensing. Notes are included on such subjects as medicated baths, the period of quarantine in infectious diseases, colour tests for alkaloids, bacteriological memoranda, and foreign terms and phrases used in prescriptions. An appendix, in addition to such subjects as modern antiseptic dressings for wounds and National Insurance stock mixtures, includes an epitome of the Dangerous Drugs Act, 1920, and a summary of its regulations applying to medical practitioners.

Mr. REGINALD BENNETT'S volume of *Medical and Pharmaceutical Latin*[8] is now in its third edition. It is intended to facilitate the acquirement of medical Latin by students

[4] *Die Wiener Medizinische Schule im Vormärz.* By Dr. M. Neuburger. Vienna and Berlin: Rikolay. (Demy 8vo, pp. 312; illustrated.)

[5] *The Early Stages of Tabanidae (Horse-Flies).* By Werner Marchand, Ph.D. New York: Published by the Rockefeller Institute for Medical Research. (Double roy. 16mo, pp. 203; 16 plates.)

[6] *The Transactions of the Edinburgh Obstetrical Society.* Vol. xli. Edinburgh: Oliver and Boyd. 1922. (Demy 8vo, pp. xxxvii + 148; illustrated.)

[7] *A Compendium of the Pharmacopoeias and Formularies.* By C. J. S. Thompson, M.B.E. Sixth edition. London: J. Bale, Sons, and Danielsson Ltd. 1922. (3½×6, pp. 398+24. 10s. net.)

[8] *Medical and Pharmaceutical Latin for Students of Medicine and Pharmacy.* By R. R. Bennett, B.Sc.Lond., F.I.C. With an introduction by H. G. Greenish, F.I.C., F.L.S. Third edition. London: J. and A. Churchill. 1922. (Cr. 8vo, pp. xlv+374. 10s. 6d. net.)

of medicine and pharmacy, and begins with a series of exercises in Latin grammar which, as the examples of the syntax are drawn from phrases commonly used in prescriptions, should be of service to those whose Latin is rusty. Latin-English and English-Latin medical vocabularies and examples of foreign prescriptions are provided, and the author gives a number of typical prescriptions, first in the ordinary abbreviated form, and then in the full Latin and English. The volume should familiarize the student with the correct reading and writing of prescriptions in Latin, which is eminently desirable in these days of well-advertised nostrums with names designed to catch the eye and be retained in the memory of the doctor equally with the man in the street. In the new edition the vocabularies have been revised and some of the sections rearranged in order to make the book more useful to the student.

A HALF-CENTURY OF PUBLIC HEALTH IN NORTH AMERICA.

BY

JOHN C. McVAIL, M.D., LL.D.

I.

THE fiftieth anniversary of the American Public Health Association has been made the occasion of issuing a Jubilee Historical Volume,[1] which opens up the whole subject of public health in America and will be of much value to sanitarians everywhere. The volume contains nineteen contributions, each by an author specially qualified for his task, and it is proposed in this series of articles to notice all the contributions.

ON LONGEVITY.

The founder and first President of the Association was Dr. Stephen Smith, and the first of the nineteen contributions to the Jubilee volume is also by a Dr. Stephen Smith. The question naturally occurs, Was this coincidence of names a mere matter of chance, or was the Stephen Smith, M.D., LL.D., of 1921 any relation—say, son or grandson or nephew—of the Stephen Smith who was president fifty years before? The reply is in the negative. The two men are not related—they are identical, one and the same individual. Next year, 1923, will be the centenary of Dr. Smith, the pioneer of American sanitation, and the warmest congratulations of his brethren in the old country go out to the Nestor of American public health and to the Association of which he is the honoured founder. It must have been very gratifying to the Association that Dr. Smith was able to be present at the Jubilee meeting. Fifty years ago the science of public health was in its infancy in America, and there was no selection of hoary-headed pundits to preside over the new body, so they made choice of an enthusiast in his prime, and time has proved their wisdom.

In his opening article Dr. Stephen Smith very naturally refers to longevity, but while resisting the temptation to profess that there is a secret, he confesses that he has a theory—that, indeed, he adopted the profession of medicine as a preventive of recurrent indigestion, with which he had been troubled; to this he attributes the activities of his middle life and the "comparatively comfortable age" to which he has attained. He also quotes Horace's reply to the same question—*Moderatus in rebus*—but he tells how a recent American authority explained his longevity by saying, "I keep my stomach and brain busy." This last rather agrees with the apocryphal story of the centenarian who, being pestered by the questionings of a food crank as to whether he had not exercised specialism in his diet, replied, "I consult my stomach no more about what I put into it than I consult my portmanteau; and if my insides get into trouble I just stick to my own business and leave them to fight it out among themselves." So much for the secret of longevity. As regards the science, Dr. Smith observes that Owen fixed the normal length of the life of an animal at five times the number of years required to perfect the bones; as in man twenty years are required to complete the process, his normal or potential life should be 100. Dr. Smith holds that this is the birthright of every child born fully developed—a most inspiring doctrine.

It is notably curious that the group of pioneers of the public health movement in England in the first half of the nineteenth century also, nearly all of them, lived to be old men. The age at death of Sir Edwin Chadwick was 90, of Sir Robert Rawlinson, the engineer, 88, of Dr. Neil Arnott 86, and of Sir John Simon 78. The least long-lived of the group were Dr. Farr, the father of the modern science of vital statistics, who died at the age of 76, and Dr. Southwood Smith, who died at 73. It is said that Farr was disappointed at not having been made Registrar-General when that office fell vacant before he gave up official work. Chadwick, however, lived so long that the Government conferred on him the honour of K.C.B. in 1889, when he was 89 or 90 years of age, and some five and thirty years after his public work had ceased.

EARLY HISTORY OF PUBLIC HEALTH IN NEW YORK.

Some account is next given by Dr. Smith of the sanitary conditions in New York City in 1860–70, in the days when "Boss Tweed" was in full control of the city government; it was to defeat his schemes that a Citizens' Association was formed. The first step was a sanitary inspection of the city, paid for by private contributions. Theoretically, one of the functions of the aldermen of New York at that time was to act as a Board of Health, but when a medical delegation waited on the then mayor with a view to getting the Board called together to take measures against approaching cholera, the mayor replied, "I shall not call the Board, for I consider it more dangerous to the city than cholera." At the same time there was a Health Commission for New York, but its duties were not well defined and its chief official, who was at the head of the street-cleaning department, "had an annual appropriation of nearly one million dollars to expend upon his political followers;" he did appoint some scores of Health Wardens, "who were generally saloon keepers." One of these, being asked how he acted when called to a case of contagious disease, replied that he went to the house and called the people into the street, where he gave his orders, which were to burn sulphur, but that he never himself went into the house.

Under these conditions the Citizens' Association in 1864 asked Dr. Smith and another member to prepare a Public Health bill; in so doing they were guided chiefly by the English sanitary laws, then the most complete in operation. Dr. Smith here strikes a note which is heard in various articles by various authors in the memorial volume—a willing tribute to English precedents and pioneers. That earlier action for the prevention of epidemic disease was taken in England was due to the fact that it was much more thickly populated than America, and its population much more crowded into urban areas, so that the conditions which made sanitation a public necessity prevailed in Britain before they had arisen in the New World. All the same, the frank and repeated acknowledgement of the debt which America owes Britain in this respect is very agreeable, though only what the generosity of American sanitarians had prepared us to expect.

The bill which the Citizens' Association promoted contained an unprecedented proposal—namely, that a health authority, having discovered a nuisance, should have power to secure its abatement without resort to the courts, which were completely under the control of Tweed, of whom at that time there was no hope of getting rid. The bill was defeated, but a campaign of education of the medical profession was begun, and, helped by the fear created in the public mind by threatened cholera, the bill was passed in 1866. In our own country, risk of epidemics has often been a valuable incentive to sanitary legislation, but the Americans were also wise in bringing the whole medical profession into the fighting line. This, it may be remarked, makes an excellent precedent for our own Government, which, before promulgating great health schemes, should always consult the organized representatives of medicine. Under the new law a Health Board was set up in New York; its active work for the prevention of cholera had excellent results, and during the past half-century the Health Department, though under the administration of officials of widely different political faiths, has steadily increased in popularity. "The great achievements of the Board," Dr. Smith says, "were the under-drainage of the soil, which prevented stagnant water and relieved the city of malaria; the removal of the cellar population to homes in the open air and sunlight; the removal of offensive industries from residential districts to the rivers; and the enforcement of rigid sanitary regulations." In the last section of his address Dr. Smith advocates the formation of an inter-

[1] *A Half-Century of Public Health.* Jubilee Historical Volume of the American Public Health Association. Edited by M. P. Ravenel, M.D. New York: American Public Health Association. (Sup. roy. 8vo, pp. 461. Cloth, 5.25 dols.; stiff paper covers, 3.75 dols.)

national public health league and concludes a charming article in the following words :

"May I be permitted reverently to suggest that our purpose is the same as was heard by the shepherds on the plains of Judea at the Nativity? Then the quotation 'Goodwill to men' was announced to be the salvation of the soul from sin by Divine appointment; while now we learn that salvation from the sins of the body must be effected by man himself, who created them. Let us apply ourselves to the task with renewed vigour, and thus enable those who will greet the centennial anniversary of this Association to hear from sanitary officials the good news that the death rate of the year 1971 is limited to those afflicted with old age, or to disease or accidents unpreventable and incurable by any agencies known to science."

THE STORY OF THE PUBLIC HEALTH ASSOCIATION.

The second article is the address delivered at the fiftieth anniversary celebration meeting by the president, Dr. Mazÿck P. Ravenel, Professor of Preventive Medicine in the University of Missouri, who has edited the volume. The subject is "The American Public Health Association—Past, Present, and Future"; and what may be called its text is a quotation from Osler:

"Of the altruistic instincts veneration is not the most highly developed at the present day; but I hold strongly with the statement that it is a sign of a dry age when the great men of the past are held in light esteem."

Emphasis is laid by Dr. Ravenel on the fortunate coincidence of the early days of the Association with the work of Pasteur and his followers—Lister, Koch, Loeffler, Sternberg, and others.

Before 1872 only three of the States of the Union had established a Board of Health, though many of the cities seem to have been more advanced, 134 of them having some health organization by the following year. It is rather surprising to read that down to 1872 only two States could claim to have approximately accurate records of births, deaths, and marriages. About American pioneers and progress much of historical value is recorded. In 1879 Congress created a National as distinguished from a State Board of Health, but four years later it was allowed to pass out of existence. The sphere of the Association's work was extended to Canada in 1884, to Mexico in 1889, and to the Republic of Cuba in 1902, so that practically the whole of North America is included, and the members now number 5,000. It is pointed out, however, that (just as in this country) specialization in particular directions is apt to result in the formation of new groups, to the loss of the parent body, though "the platform of the Association is, in length, breadth, and thickness, sufficient to accommodate all who are interested in human conservation." The Association's ambitions include the affiliation of State and county societies with the National parent organization, and that all should be kept in touch with each other through the medium of a great public health magazine.

The Association publishes a monthly journal (*The American Journal of Public Health*), and also a Monthly News Letter. It has for many years striven for the adoption of uniform practices and standard methods for the examination of milk, of air, and the pasteurization of milk, and for a Model Health Code for cities. The address, which concludes with biographical sketches of some twenty of the Presidents of the Association, affords convincing evidence that it has been and is doing admirable public health work in many directions.

CANADA.

The third contribution to the Jubilee volume—the story of public health in Canada—is by Dr. Peter H. Bryce of Ottawa, who has had a large official share in the public health government of the great Dominion. He tells how in the days of French colonization the sale of spirits to the Indians was prohibited, and how, after Britain took possession, a quarantine Act against plague and other such diseases was passed for Lower Canada in 1795; the penalty on the captain of a ship for neglect of quarantine was death, without the benefit of clergy. This was almost as Draconian as the ancient method in Aberdeen, where, as recorded by Dr. Charles Creighton, the magistrates in 1585 erected three gibbets, "ane at the mercat cross, ane other at the brig of Dee, and the third at the haven mouth, that in case ony infectit person arrive or repair by sea or land to this burgh, or in case ony indweller of this burgh receive, house, or harbour, or give meat or drink to the infectit person or persons, the man be hangit and the woman drownit." After recording the introduction of vaccination, Dr. Bryce goes on to say that so early as 1816 a board was formed for the examination and licensing of persons qualified for the practice of medicine. The year 1832 was notable for the establishment in Quebec of the first sanitary commission; a cholera ship arrived that year from Limerick and an extensive epidemic occurred both in Quebec and Montreal. So the story goes on, the dread of cholera being the main stimulus to sanitation; when the disease disappeared, action was diminished or discontinued, to be resumed when public alarm again called for special measures. The years 1832, 1849, 1854, and 1865 appear to have witnessed successive creations of boards for control of cholera. In 1867, when the various parts of Canada were combined into a single Dominion, the Canadian Medical Association was formed. As in the States, the comparative recency of official attention to vital statistics in Canada is striking. In the Province of Ontario it was only in 1869 that an Act "for the registration of births, marriages, and deaths" was passed, and it was not until 1882 that a Provincial Board of Health was established by the Ontario Government. About 7,000 deaths from small-pox occurred in the Province of Quebec in 1885, and naturally the epidemic stirred up appropriate preventive action.

Dr. Bryce is of opinion that on the whole the progress of public health in Canada has seemed slow, but the remarkable expansion of population since the beginning of the present century—the addition being 34 per cent. during the first ten years—has caused various new duties to be undertaken in relation to sanatoriums and other matters. So recently as 1919 a bill for establishing a Federal Department of Health was passed, providing that a physician shall be the deputy Minister of Health, and various existing services have been placed under the Department. Dr. Bryce concludes by referring to the effects of increasing urbanization of the population. He holds that "the complexity of modern life, and the great demands upon the emotional functions, have tended to produce a neurotic population. If, then, devotees of Hygeia are to find adequate responses to their prayers, their approach to her shrine must be through the temple sacred to Minerva."

BACTERIOLOGY.

Bacteriology inevitably occupies much space in the Jubilee volume. A long and valuable article is devoted to its history by Professor F. B. Gorham of Brown University, and it crops up in articles on State and municipal control of disease, water purification, milk, and medical entomology. The editor has wisely allowed each writer to tell his story in his own way, notwithstanding that it results in some overlapping and repetition.

Public Health Practice, Past and Present.

It is not proposed to follow Professor Gorham in his historical epitome from Athanasius Kircher to Leeuwenhoek and Ehrenberg, or from spontaneous generation to the germ theory and Pasteur and Lister and all the workers inspired by them. Faith in bacteriology is, indeed, amply justified. Its value is unquestioned and unquestionable; but it may occur to a reader, especially to the reader of the contribution by Professor Gorham and that of Professor C. V. Chapin on State and municipal control of disease, that there is risk of the enthusiasm of the laboratories and of appreciation of modern achievements in disease prevention leading to some narrowness of view as to the scope and value of the methods followed before the world had the benefit of present knowledge. In referring to the creation of boards of health in certain States in 1869–70 Professor Gorham says that "scavenging, sewers, and ventilation were the weapons depended upon to destroy the sources of contagion, then supposed to be filth, foul odours, and the decomposition and fermentation of animal and vegetable matter." Dr. Chapin tells, too, how Benjamin Rush believed that yellow fever and, indeed, most fevers were due to emanations from decomposing organic matter, and even imagined that a heap of decaying vegetables might cause an outbreak of malignant fever. The importance of contagion was forgotten, and the attention of sanitarians was almost entirely devoted to improving environment, these views being fostered by the theory and policy of English reformers.

There is no doubt that in the times of the English Board of Health—of Chadwick and Southwood Smith—and even later when Murchison wrote on continued fevers, the *de novo* origin of typhoid was accepted by some distinguished men, Murchison's conclusion being that though the disease once originated was communicable, it might be traced to "the emanations from decaying organic matter, or organic impurities in drinking water." This, however, was denied by Christison and John Hughes Bennett. Yet such beliefs,

though mistaken, tended to encourage cleanliness, and sanitary authorities were wisely inspired in making this their first line of defence, especially at a time when the public conscience had not awakened to the communal duty of providing hospitals sufficient for the segregation of ordinary infectious diseases—a provision which, in respect of scarlet fever and diphtheria, has after all not been as successful as was anticipated before the part played by "carriers" came to be realized. In course of time other discoveries will be made, and some parts of present procedure will no doubt be discarded for better measures. But if a new infectious disease were to become epidemic to-day, then, whilst bacteriologists were striving to unravel its mysteries in the laboratory, action by the health authorities would be for cleanliness and isolation. Speaking of the position half a century ago, Professor Gorham says: "This was the era of the filth theory of disease production, which continued for some thirty or forty years, and which is to-day just giving up its hold upon the health authorities of our cities and states." In the reviewer's opinion it will be unfortunate if, notwithstanding all the splendid discoveries of bacteriology, the filth theory is given up by health authorities. Outside the laboratories it is still the broad basis of health administration. Cleanliness of air, soil, and food constitutes the tripod on which sanitation should rest, and if that stool were kicked over there would be nothing so good to take its place. Dr. Chapin says that the physician and the nurse "have taken the place of the sanitary inspector and the police," but there is and will be abundant room for both classes of work, and the officers were not wasting time when they removed "dead cats and ashpiles." He is right regarding milk that "cleanly handling and prompt cooling mean few bacteria," also that cleanliness in the handling of food "is undoubtedly of real sanitary significance." For each infectious disease as it becomes understood special preventive measures are devised, and here bacteriology is invaluable; but behind and supporting it there remains cleanliness—personal, domestic, municipal, and national—making for the maintenance of general health, and good in its measure against every disease to which flesh is heir.

Science performed a great service in discovering that the infection of typhus, though the specific organism be unknown, is carried by lice. But bodily and domestic filth—dirt and foul air and darkness—are the conditions in which lice flourish, and if the insects are experimentally placed so that they can travel, on the one hand, towards clean air and light, and, on the other hand, towards foul air and darkness, the latter is the road they choose. Against typhoid fever cleanliness of milk and water remains a first line of defence, though the bacillus of the disease be recognizable by every medical student. Before the relation of rats to plague became known a great port in this country was invaded by that disease. Forthwith, in addition to hospital isolation of discovered cases, an anti-filth campaign was instituted and rigidly carried into effect. Besides house inspection, scavenging of streets and courts and premises of every kind, and removal of filth, whether vegetable or animal, wherever found, were included in the crusade. The disease did not spread, and we know now that these measures of filth removal and house purification, by operating against rodents and fleas, were of value against the spread of plague. Similarly house flies and other insects, which play so large a part in infection, are kept down by removal of the filth in which they breed, and, as agreed by Dr. Chapin, contamination of milk and other food is correspondingly lessened. Even the excessive attention paid to drain joints and traps, on the supposition that sewer gas conveyed infection, was not wholly lost. It is better that people indoors should breathe pure air than air polluted by drain emanations.

Not for a moment, however, is it suggested that the bacteriologists of the Jubilee volume give no credit to the work of the older generations of sanitarians. Indeed, they pointedly acknowledge it. As quoted with approval by Professor Gorham, Dr. Chapin says of the early promoters of public health that "their projects for civic betterment saved many lives and did much for human comfort and convenience," and Professor Gorham adds that "their mistakes were perfectly natural." But while it is right for the shoemaker to hold that there is nothing like leather, and for every worker to attach importance to his own speciality, a due sense of proportion is apt to be lost, and the administrative or executive sanitarian may express the hope that advances in bacteriology may never by their brilliant light so dazzle the eyes of public health authorities as to blind them to the importance of dirt in relation to disease.

In writing on immunity Professor Gorham notes the long gap between Jenner's discovery of vaccination in the latter part of the eighteenth century and Pasteur's work in the nineteenth. A discussion of Metchnikoff's theory of phagocytic immunity is followed by an account of the work on diphtheria and antitoxin by Loeffler, Roux, Yersin, Behring, and Kitasato. At the same time Nuttall, Büchner, Pfeiffer, and others entered on the study of blood serum in relation to immunity. Venereal diseases were being studied early in the present century. The agglutination studies by Widal and others were even earlier, and their application to the diagnosis of typhoid fever belongs to 1896. Serum sickness and anaphylaxis, opsonins and the opsonic index, are also briefly mentioned. In an eloquent passage, with which this notice of his essay on bacteriology may close, Professor Gorham says:

"Contagion is no longer feared as some intangible, unknown effluvium permeating the atmosphere against which we have no protection. Bacteriology has taught us that the communicable diseases are caused by specific micro-organisms which live and grow in the bodies of men and animals and plants; that when these disease-producing micro-organisms escape from their natural habitat they die more or less quickly; that the secretions and excretions coming rather directly from the bodies of the sick, and sometimes the well, are the real carriers of contagion. Bacteriology has taught us the parts played by the air, water, sewage, milk, and insects in the spread of disease, and has developed for us special methods of protection. Not only this, but bacteriology has taught us accurate methods of diagnosing disease, methods of specific immunization against disease, and, last but not least, methods of curing disease and saving lives by the use of vaccines, sera, and antitoxins. Could we but number the cases of disease prevented, the lives saved, by the adoption of these ideas in public health work we would know something of the debt which we owe to these indefatigable workers following in the footsteps of the illustrious Pasteur."

(To be continued.)

ROYAL MEDICAL BENEVOLENT FUND.

AT the meeting of the Committee held on April 11th, 28 cases were considered and £323 voted to 23 applicants. The following is a summary of some of the cases relieved:

Daughter, aged 47, of M.R.C.S.Eng. who died in February. Applicant is left quite unprovided for, as her late father was in receipt of a pension which died with him. She requires temporary assistance while looking round for something to do to earn a living; she hopes to retain the furniture in the hope of procuring a small house in order to let apartments. Voted £15.

Widow, aged 43, of M.D.Aberd. who died in March. Widow and four children at present unable to obtain any income owing to legal delays in realizing estate. The eldest son is dying of tuberculosis. Some three years ago the Fund gave £5 to the father owing to ill health. Voted £10.

Daughter, aged 70, of M.R.C.S.Eng. who died in 1862. Applicant has an annuity of £31 and receives help from friends, but has several bills to meet amounting to £32. She has previously received help from the Fund amounting to £48. Rent and rates amount to £18 per annum. Voted £25 towards paying off debts.

Surgeon, aged 77, who cannot secure an appointment, and has had to sell his belongings so that he and his wife could subsist. Only income, old-age pension, 10s. per week. The son is an invalid and unable to help. Rent amounts to 11s. per week. Voted £26.

Widow, aged 65, of M.R.C.S.Eng. who died in 1908. Applicant was left unprovided for, and earns a living as an office cleaner at £1 2s. 6d. a week, and works from 8 a.m. to 6 p.m.; her rent and insurance cost 4s. 4d. a week. Applicant is now suffering from "housemaid's knee" (septic). Voted £12 in twelve instalments.

Subscriptions may be sent to the Honorary Treasurer, Sir Charters J. Symonds, K.B.E., C.B., F.R.C.S., at 11, Chandos Street, Cavendish Square, London, W.1. The Royal Medical Benevolent Fund Guild is overwhelmed, in these days of exorbitant prices for clothing and household necessaries, with applications for coats and skirts for ladies and girls holding secretarial posts, and suits for working boys. The Guild appeals for second-hand clothes and household articles for the benefit of the widows and children who in happier times would not have needed assistance. The gifts should be sent to the Secretary of the Guild, 43, Bolsover Street, W.1.

THE thirty-first Congress of the French Association of Surgery will be held in Paris at the Faculty of Medicine on Monday, October 2nd, under the presidency of Professor Henri Hartmann, when the following subjects will be discussed: (1) Results of bone grafting, introduced by Cunéo of Paris, and Rouvillois of the army medical staff. (2) Remote results of operation on the large vessels, introduced by Leriche of Lyons and Paul Moore of Paris. (3) Technique and results of extirpation of tumours of the large intestine (excluding rectum), introduced by Abadie of Oran and Ockinczyc of Paris. Further information can be obtained from the General Secretary, Dr. J. L. Faure, 10, Rue de Seine, Paris.

British Medical Journal.

SATURDAY, MAY 20TH, 1922.

THE SEARCH FOR SPECIFIC REMEDIES.

IN the lay mind there dwells an instinctive belief in specific "cures" for disease, and, as Dr. H. H. Dale observed in his Friday evening discourse at the Royal Institution last week, the idea of finding for each disease a remedy specially adapted to its direct cure cannot be claimed as a development of the scientific era of medicine. On the contrary, the more primitive and unscientific the state of medicine in the past the more readily did its practitioners and their patients believe in such a possibility. One of the first results of the progress of medicine towards a place among the exact sciences was an attitude of general scepticism—often, indeed, well deserved—towards all the claims made for those drugs which earlier generations had, in simple faith, accepted as specifics. Nevertheless, the old empiricism stumbled upon some remedies which were definitely specific for certain forms of infection, and many will agree that modern science, with all its resources, has found no better remedies than some of these, nor perhaps even any quite as good. In the present century, however, a pronounced change has come over the picture, and we cannot do better than follow the broad strokes of the brush with which Dr. Dale laid in its chief features.

The first thing to note is that during the past twenty years or so the services of the synthetic chemist have been called in by the physician, and a serious attempt has been made to produce new substances having a direct curative effect in certain definite forms of infectious disease. The new impulse did not come directly from the study of those few traditional drugs which had succeeded in keeping their reputation as specific remedies; it came from an intensive study of the phenomena of immunity to infection. It was realized more fully and more clearly than ever before that Nature produced her own remedies for certain infections. Experiment and study showed that in the blood of the infected man or animal substances appeared which were adapted specifically to combine with and neutralize the poisons formed by the infecting organism, or to combine with constituents of the living protoplasm of the infecting organism, and so produce its disintegration, or impair its vitality, or render it susceptible to digestion by the wandering cells of the blood; it was in one of these ways that the progress of the disease was arrested, recovery from the immediate attack brought about, and resistance to further similar infection established. These "antibodies" (as they were uncouthly called) were found to be highly specific in two senses: they were indifferent to other kinds of infecting organisms or bacterial toxins, and, more important, they were harmless to the body itself. They were ideal therapeutic substances in the sense that they were intensely inimical to the infection and at the same time harmless for the infected person. The question then arose whether it would be possible to employ the growing resources of organic synthesis to construct artificial substances of known chemical composition which, like the natural antibody, would combine with the protoplasm of the infecting parasite in preference to the body cells of the host. Such remedies, it was hoped, would make effective intervention possible in those many forms of infection against which no curative antibody seems to be formed naturally. The quest might have seemed wellnigh hopeless, for almost nothing was known of the parasites concerned in these diseases; often they were only to be distinguished by their property of uniting with their particular antibody, about the chemistry of which we are still largely in the dark. Thus the problem was to prepare by chemical synthesis a compound which should have a specific affinity for one unknown substance rather than for another unknown substance, the only thing clear about both substances being their close similarity. This was an enterprise needing a courageous spirit as well as a fertile imagination, and we must recognize, with Dr. Dale, that both qualities were possessed by Paul Ehrlich. There are signs already that his very clear-cut chemical conceptions will not, in the form in which he put them forward, prove finally adequate; but his is the credit of a bold attack on the problem. The task Ehrlich set himself was to find for each type of infection a substance with a powerful chemical affinity (and therefore a strongly poisonous action) for a particular parasite, and at the same time with a relatively small chemical affinity (and therefore very little poisonous action) upon the organs and tissues of the patient.

Among the most recent curative substances obtained by this line of investigation is the new remedy produced by the German chemical firm of Bayer, and known as yet simply as "205." It would seem, as Dr. Dale pointed out, to be a remarkably curative agent in trypanosome infections. An advanced case of sleeping sickness in a man was sent from the Liverpool School of Tropical Medicine to be treated in Hamburg (because the drug was not allowed to be exported from Germany), and after two injections the patient was, within a few weeks, spending his convalescence in a walking tour in the Black Forest, and by all accounts has gone back to Africa a new man. A commission of German doctors, with the permission of the Colonial Office, has gone to Rhodesia to put the new remedy to a thorough test; the preparation has now been made available in this country, and is being tried at the London School of Tropical Medicine. The drawback to this promising remedy for human trypanosomiasis is that it has an energetic effect on the kidneys; it is too soon yet to say whether the damage is permanent, but there cannot be much doubt as to the choice between death from sleeping sickness and life with some renal impairment. The substance, it seems, is not a dye, like trypan-red and trypan-blue; when applied to the trypanosomes outside the body it does not appear to check their vitality, though the evidence on that point is incomplete. Dr. Dale suggested that when the constitution of this substance is revealed by the manufacturers it may provide the basis for a new conception of therapeutic processes, and perhaps the point of departure for progress towards yet greater success.

Dr. Dale dealt also with the organic compounds containing arsenic. It is, he thinks, clear that salvarsan does not by itself directly kill the spirochaete; the body of the patient must in some way co-operate. The success of arsenical compounds naturally suggested the trial of substances containing the closely related antimony, and the old familiar tartar emetic (tartrate of antimony and potassium) has proved to be a remedy in its province quite as specific as salvarsan. Dr. Christopherson in Egypt conceived the idea that if tartar emetic was of use in kala-azar (as it certainly is), there was no reason why it should not be tried in bilharziasis. He found that its introduction caused not only the death of the trematode worms in the veins of the bladder and bowel which caused the infection, but also the destruction of the eggs and their irritating and penetrating properties. With Dr. Leiper's work in the field of prevention and this method of cure, the complete extinction of this serious and disabling disease may, Dr. Dale thinks, be predicted.

Another method of treatment to be mentioned in illustration of the subject is the use of emetine. When amoebic dysentery became rife in the army during the war the knowledge then available suggested that the action of emetine as a cure for dysentery was the one clear example, among many to the contrary, of the direct killing of the parasite which caused the disease. When, however, Dr. Dale came to study the matter with Mr. Clifford Dobell, and particularly when amoebae were taken perfectly fresh and vigorous directly from dysenteric ulcers in the bowel, it was found that the chief alkaloids of ipecacuanha (of which emetine is one and cephaeline another) had a surprisingly weak action on the amoebae. Really vigorous amoebae could be kept crawling about for two hours in a solution of emetine hydrochloride as strong as 1 per cent. Certain artificial derivatives were then made, including methyl-emetine, dimethoxy-emetine, and iso-emetine; the second of these was found to be ten times as poisonous for the amoebae and not nearly as poisonous for the animal as the natural product, but it had no therapeutic effect whatever. This, therefore, was the surprising result: that the curative action of these alkaloids was proportional, not to their poisonous action directly on the amoebae, but to their poisonous action on the patient: the body of the patient must play an essential and perhaps a primary part in the killing of the parasite.

Such facts as these afford some idea of the complexities with which the investigation of remedies is beset. In the production of a curative effect the body of the patient in all these cases plays a part which is not yet fully apprehended. The nature of the co-operation between the remedial agent and the living tissues is hard to unravel. But work in this direction is an essential step towards a further theoretical basis for rational, orderly, and steady progress in therapeutic investigation. The importance of such advance for the future of mankind is incalculable.

THE HIPPOCRATIC OATH.

THE formula which goes by the name of the Hippocratic Oath has come down from the fourth century B.C., and appears to have been the promise given by those who were accepted as students of the medical art by the Asclepiad Guilds of Ancient Greece. Its authorship is generally attributed to the physician Hippocrates, who, to distinguish him from others of the same name, is often called "Hippocrates the Great," and who lived approximately from 460 to 380 B.C. Sprengel and others have, however, contended that it emanated from the medical school of Alexandria. Whether Hippocrates actually composed it or not, the oath was at all events associated with the venerable traditions of his name through the classic and mediaeval periods of medical history. Even the medical writers of the first century—for instance, Erotian, who lived at Rome in the reign of Nero, and Scribonius Largus, who accompanied the expedition of the Emperor Claudius to Britain in 43 A.D.—refer to it in terms of the highest respect, and attribute it to Hippocrates. Since their time it has formed the general guide in ethical matters for practitioners; and numerous variations, which plainly show their derivation, have been used by the older medical schools as the *sponsio academica* exacted from graduands at the time they received the right to practise medicine.

The oath, as translated by Francis Adams (1849), runs as follows: "I swear by Apollo the physician and Aesculapius, and Health, and All-heal, and all the gods and goddesses, that, according to my ability and judgement, I will keep this Oath and this stipulation—to reckon him who taught me this Art equally dear to me as my parents, to share my substance with him, and relieve his necessities if required; to look upon his offspring in the same footing as my own brothers, and to teach them this art, if they shall wish to learn it, without fee or stipulation; and that by precept, lecture, and every other mode of instruction, I will impart a knowledge of the Art to my own sons, and those of my teachers, and to disciples bound by a stipulation and oath according to the law of medicine, but to none others. I will follow that system of regimen which, according to my ability and judgement, I consider for the benefit of my patients, and abstain from whatever is deleterious and mischievous. I will give no deadly medicine to any one if asked, nor suggest any such counsel; and in like manner I will not give to a woman a pessary to produce abortion. With purity and with holiness I will pass my life and practise my Art. I will not cut persons labouring under the stone, but will leave this to be done by men who are practitioners of this work. Into whatever houses I enter, I will go into them for the benefit of the sick, and will abstain from every voluntary act of mischief and corruption; and further, from the seduction of females or males, of freemen and slaves. Whatever, in connexion with my professional practice or not in connexion with it, I see or hear, in the life of men, which ought not to be spoken of abroad, I will not divulge, as reckoning that all such should be kept secret. While I continue to keep this Oath unviolated, may it be granted to me to enjoy life and the practice of the art, respected by all men in all times! But should I trespass and violate this Oath, may the reverse be my lot!"

Some of its provisions have, with the changing outlook and habits of modern times, become as obsolete as the invocation of Apollo and Asclepios with which it opens. Others, which inculcate generous and honourable conduct, remain as applicable to-day as they were in the age of Pericles. Among the latter, the provision regarding professional secrecy has been sometimes quoted recently, and is worthy of examination. It is evident that the deviser of this oath did not intend to lay upon his disciples an absolute prohibition against revealing things that they might see or hear in the course of practice. The words, which are translated "things which ought not to be spoken of abroad I will not divulge," clearly indicate a prohibition to the practitioner against making the affairs of his patients matters for idle gossip in the streets and market-place. There could have been no intention in the mind of Hippocrates to debar his followers from bringing professional matters into the law courts or otherwise revealing them for the public welfare. The meaning of this passage becomes even clearer in view of the fact that in several of the ancient MSS. of the Oath the word *ἐκκαλέεσθαι* (divulge) is replaced by the reading *ἐκλαλέεσθαι* (babble about).

It is interesting to consider to what extent the old tradition of a Hippocratic oath is preserved by the great medical schools of England, Scotland, and Ireland. The Universities of Oxford, Cambridge, London, Leeds, Belfast, and Dublin exact no declaration of this nature from those on whom they confer degrees. At Durham, Manchester, and Liverpool there is no declaration by medical graduands, but dental students give a promise not to advertise. At Birmingham the graduate undertakes to uphold the honour of the University; and those who obtain the Conjoint or Triple Qualification from the various Royal Colleges give a similar undertaking to their respective Colleges along with a general promise of honourable professional conduct.

In the four Scottish Universities only is the Hippocratic traditional formula preserved. At Aberdeen it is very briefly summarized by an Obligation, taken at

graduation, from which, however, the question of professional secrecy is omitted. At St. Andrews the formula closely follows the original Hippocratic oath, but, in the clause regarding secrecy, the wording runs: "Whatever during my attendance I may have seen or heard, *which it would be inexpedient to divulge*, I will keep silence regarding it." At Glasgow there is a declaration summarizing the oath, and the clause on secrecy runs: "I will keep silence as to anything I have seen or heard while visiting the sick *which it would be improper to divulge*." Edinburgh alone preserves still an old-time Latin formula by which the graduate promises that he will *not make public without due cause* matters that he may have seen or heard in practice.

It appears, therefore, that most of the universities and other licensing bodies of Great Britain and Ireland have long regarded the question of professional secrecy as a matter outside their concern, while in the few which still exact from the graduand a promise in regard to it the duty of secrecy may in any case be abrogated by expediency, propriety, or sufficient reason.

"JOURNAL OF SCIENTIFIC INSTRUMENTS."

THE methods which must nowadays be used by the scientific investigator are many and often very complicated. Even if his inquiries are limited to medicine and physiology he has very frequently to obtain the help of the chemist, the physicist, and the instrument maker. The designing of scientific instruments is both a science and a trade, and though wonderful things have been done in the past with very simple appliances, yet the need for an instrument of absolute precision is very often felt. It can only be met by the co-operation of the experimenter and the instrument maker, and both need trustworthy information as to what has been done by others. The field of research is so wide that few can keep up with the possibilities of new methods and instruments, and it is often difficult to obtain definite information as to their construction, capabilities and limitations. Sir Richard Glazebrook, when Director of the National Physical Laboratory, realized the growing importance of the subject to the well-being of science and industry, and issued a circular letter to many men of science, Government departments, societies, trade associations and firms, asking for opinions as to the desirability of founding a journal to deal with methods of measurement and with instruments. The answers were encouraging, and the subject was taken up by the Board of the Institute of Physics. As a result of a conference between the Advisory Council for Scientific and Industrial Research, the Institute of Physics, and the present Director of the National Physical Laboratory, it was resolved to prepare a preliminary number of a *Journal of Scientific Instruments*, and this is now before us. It opens with a note by Sir J. J. Thomson, President of the Institute of Physics and late President of the Royal Society. He observes that descriptions of instruments and methods of measurement are commonly given in journals devoted to particular branches of science, and that in such publications results are of primary importance, so that little space can be afforded to descriptions and detailed drawings of instruments. He goes on to point out that instrumental methods frequently proved to be valuable for research of quite a different character from that for which they were designed, and that therefore there is a need for a journal dealing with methods of measurement, and the theory, construction, and use of instruments. Among the papers contained in the preliminary number is one by Dr. A. V. Hill, professor of physiology in the University of Manchester, dealing with instruments and apparatus in relation to progress in physiology. In it he enumerates some of the physiological inquiries for which instruments of precision are necessary. The fineness to which measurements must be carried in some of the instances he gives is almost bewildering; for instance, he observes: "The nervous impulse in man travels some 100 metres per second, and the electric change (which is its only known physical accompaniment) occupies at any moment only some 5 cm. of the nerve. This electric wave, of an amplitude 0.01 to 0.02 volt, lasts therefore only some 0.0005 second at any point." His article is, indeed, largely concerned with electrical apparatus, but he also considers microscopical methods and speaks of the microscope as at present "a very imperfect tool in view of what physiology really requires of it." Nevertheless, he points out that Bayliss has been able to show, with the aid of intense dark-ground illumination, that the apparently clear pseudopodia of Amoeba are filled with numerous minute particles in Brownian movement, which movement can suddenly be stopped by electric stimulation. A further advance may, he hopes, follow the application to microscopical technique of such physical methods as the use of short ultra-violet light and higher magnification, the further development of instantaneous photography, or a more accurate knowledge of how far stains and fixatives produce artificial effects. Other articles, some of them from laboratories of manufacturing firms, are concerned with instruments used in astronomy, surveying, and flight. If this preliminary number elicits sufficient promises of support the new journal will be produced monthly by the Institute of Physics. The editorial staff will be provided by the National Physical Laboratory, and the editor will be assisted by a scientific advisory committee appointed by the Institute of Physics. It is recognized, however, that the help of biologists, engineers, chemists, and instrument makers, as well as physicists, will be necessary on this committee to ensure the proper consideration of apparatus used in the different branches of science. It is estimated that with a circulation of about 1,000 there will be a deficit of some £2,000 per annum, while a circulation of about 3,000 will render the journal self-supporting. If established, each issue will probably consist of 32 pages, and the price of each number will be 2s. 6d. Anyone desirous of obtaining a copy of the preliminary issue, which it has been possible to issue owing to a grant from the Advisory Council for Scientific and Industrial Research, may apply to the Secretary of the Institute of Physics, 10, Essex Street, London, W.C.2, enclosing 6d. to cover postage.

MEDICAL WOMEN'S FEDERATION.

AT the half-yearly meeting of the council of the Medical Women's Federation, held in London on May 8th and 9th, when Lady Barrett, the newly elected president, was in the chair, a long discussion took place on a report from a subcommittee on venereal diseases. A report was received also from a subcommittee on international relations, which had been appointed about a year ago in consequence of the great development of international health bodies in connexion with the League of Nations and otherwise. The subcommittee brought forward a scheme for an international organization of medical women on representative lines; this was approved by the council and will be brought before a conference of delegates from various countries, to be held next September at Geneva under the auspices of the American International Association of Medical Women. Reports from representatives of the Federation on outside bodies, including those relating to six committees of the British Medical Association, to the National Council for Combating Venereal Diseases, and to the College of Preceptors' Subcommittee on Physical Education of Girls, were received. In connexion with the report from the representative on the Insurance Acts Committee of the British Medical Association the following motion was passed: "The Council of the Medical Women's Federation is of opinion that the National Insurance Acts Committee should be strongly supported in their efforts to prevent the approved societies gaining control of the medical officers of the Insurance Acts." The Council also had under consideration several fresh instances of inequality of pay, or of status, between men and women doing the same work. This inequality still persists in the Post Office, in spite of repeated representations both from the Federation and the British Medical Association. Though the Postmaster-General has refused to receive a

deputation on the subject, the Council decided to make further effort to redress these inequalities and to uphold vigorously the principle of "equal pay for equal work"; it was resolved also to continue energetically the campaign carried on by a standing committee of the Council against the policy which would render married medical women ineligible for public appointments or lead to their dismissal merely on the ground that they were married. An official request from the League of Nations for the nomination by the Federation of a medical woman to be elected a member of the Health Committee of the League of Nations was complied with.

FOOT AND MOUTH DISEASE.

THE Ministry of Health has addressed a circular letter to local sanitary authorities with regard to a recent amendment of the Foot and Mouth Disease Order of the Ministry of Agriculture, which modifies the hitherto invariable practice of dealing with local outbreaks by the slaughter of all animals found to be suffering from the disease or to have been in contact with diseased animals. In future each case will be considered on its merits, and where local circumstances are specially favourable for securing isolation, or when pedigree herds of great value are concerned, the policy of keeping affected animals and contacts in strict isolation until their recovery may be considered. Where this new procedure is adopted the responsibility of ensuring that the milk from the diseased animals is not sold for human consumption will fall upon the sanitary authority. The amended order provides for notifying the medical officer of health of all outbreaks of foot and mouth disease amongst animals in his district and for informing him whenever it is proposed to deal with the diseased animals and contacts by isolation under the Dairies, Cowsheds, and Milkshops Order (1885). It will therefore be a practical point for him to determine at what stage of convalescence the milk can be regarded as innocuous. Many cases have been reported in which illness in man has followed direct or indirect infection from animals suffering from the disease; most of the cases have occurred in outbreaks following the consumption of milk from affected cows. Some of these outbreaks lack evidence of specificity, but in a certain number of them the symptoms described by different observers have presented a remarkably uniform clinical picture closely resembling the disease in animals. They include aphthae on the mouth, fingers, and toes, accompanied by pyrexia. The disease in man is usually described as running a mild course followed by recovery in a week or ten days. Three of the epidemics described by Siegel[1] in Germany and Austria, however, had a high fatality. In this country only a few outbreaks and isolated cases of a suspicious nature have been reported; none have been encountered in recent years, nor has any suspicious illness been reported in connexion with the present outbreak. The crucial experiment of successfully transmitting the disease from man to calf by inoculation has been reported on two occasions, by Schantyr[2] and by Bertarelli.[3] There can be little doubt, therefore, that foot and mouth disease can be transmitted to man. In view of these facts the question arises why the disease is not more commonly found in human beings, especially in connexion with such an extensive outbreak as that which has prevailed recently in this country. Innumerable opportunities for the infection of man must have occurred during this period, for, although the protection afforded by the Ministry of Agriculture's policy of slaughter must be considerable, there is evidence that the milk is infectious in the very early stages of the disease, and probably for some days before the appearance of the typical lesions. The complete immunity which our population seems to have experienced from any infection of the sort during this epidemic suggests very forcibly that the infectivity to man of the type of disease prevailing in Britain must be very low. In other parts of Europe also cases of supposed foot and mouth disease in man were very rarely reported down to 1872, but in that year the disease in cattle assumed a malignant form, and human cases came to be reported much more frequently about this time. On account of the marked variation in the virulence and certain other features of foot and mouth disease some authorities are inclined to regard it as comprising two separate entities. The form which has been observed of late years in this country, including the recent considerable outbreak, has been of the mild type, and this may account for the absence of human cases. Opportunities for estimating the mortality among cattle from this type of disease in England have not been afforded owing to the policy of slaughter hitherto enforced. In South America, however, where the disease is allowed to run its natural course, the mortality is much greater during those seasons of the year when fresh grass and green fodder are not available, and when the animal's food is restricted to hard and dry herbage, which leads to wasting and death from starvation owing to the lesions produced by the disease in the animal's mouth. In favourable seasons, on the other hand, comparatively few animals are lost as a result of foot and mouth disease. Reports of Continental outbreaks show a mortality varying from 2 to 50 per cent.

[1] *Zeit. f. klin. Med.*, 1897, p. 147.
[2] *Archiv. Veterinarinch Naouk.*, 1893, p. 87.
[3] *Centralbl. f. Bakt.*, 1908, p. 628.

COLOUR VISION TESTS.

A MEDICAL man has written to us about the case of an officer in the mercantile marine who failed to pass the lantern test for a master's certificate, but who (our correspondent believes) is not colour blind. There is no doubt that in the past many candidates with normal vision have failed to pass the Board of Trade tests for colour perception, and also that others with dangerous errors of colour perception have qualified. It is important to remember that there are grades of colour perception, which vary from mere colour weakness to complete lack of colour appreciation. Some of these errors are of academic interest only. For example, a man who confuses green and blue may be quite safe both at sea and on the footplate, whereas one who has the slightest doubt between red, green, and white must be at once rejected. Again, a person with perfect colour perception may have shortening of the red end of the spectrum; such a man is unable to see a red light in circumstances when the red light is obvious to the normal-sighted. The theories of colour vision are many; they are confused, and it may be that all are wrong; but the practice is quite clear. If a man is shown a small red or green or white light and betrays the slightest difficulty in naming it he must be rejected; it does not matter what label is given to his error, he is dangerous. The exact type of colour blindness he is suffering from may be determined by other tests—by the flicker test, the Rayleigh equation test, or by one of the numerous pigment tests, such as Nagel's or Stilling's, but these are all subsidiary. The man has to distinguish between red, green, and white lights, and to do so under very adverse conditions. If in the quiet of the examiner's room he is shown a bright red light and calls it "white," or if he calls an adequate green light "red" or "white," he must be rejected. Again, if he names them all correctly and yet fails to perceive red covered with a neutral glass—a dim red light clearly visible to the examiner—then again he will be rejected. We can imagine nothing more logical or rational than a test of this type. By it the candidate is examined upon what he has to do in his daily work.

SCIENTIFIC SECTIONS AT THE GLASGOW ANNUAL MEETING.

THE officers of the Section of Dermatology at the forthcoming Annual Meeting of the British Medical Association in Glasgow have arranged the following provisional programme: On Wednesday, July 26th, there will be a discussion on "The etiology of seborrhoea and seborrhoeic dermatitis"; the opening paper will be given by Dr. Cranston Low, and the discussion will be introduced by Dr. Harold W. Barber. On July 27th Dr. W. J. O'Donovan will open a discussion on "Occupational dermatitis"; shorter papers will be read by

Dr. G. H. Lancashire on "Dermatitis artefacta," and by Professor J. Goodwin Tomkinson on "Alopecia areata and strabismus, a family group of cases." Clinical demonstrations will also be arranged for both days, probably at 9 a.m. The Section of Laryngology meets on Thursday, July 27th, and the officers have arranged as the subject for discussion, "Diseases of the oesophagus, their symptomatology and differential diagnosis"; the openers will be Dr. D. R. Paterson of Cardiff and Mr. W. G. Howarth of London. The officers of the Section of Diseases of Children have made the following preliminary arrangements: On July 26th there will be a joint discussion with the Section of Physiology on the "Etiology of rickets," opened by Dr. Leonard Findlay and Professor Mellanby. On July 27th a discussion on the "Treatment of tuberculous cervical glands" will be introduced by Mr. John Fraser. Clinical demonstrations will be held in the afternoons of both days at the Royal Hospital for Sick Children: on July 26th Mr. Alex. McLennan will give a demonstration there on scoliosis, and on the 27th Mr. Alexander Mitchell will show skiagrams of regeneration of bone in osteomyelitis. The Section of Radiology and Electrology will meet on two days, and the officers of the Section have arranged the following provisional programme: On July 26th, a discussion on "The *x*-ray treatment of deep-seated cancers, with special reference to Erlangen methods," to be opened by Dr. J. R. Riddell; a paper by Dr. J. A. Longley on "Comparison of coil and high-tension transformer in *x*-ray therapy," and a discussion on "The value of gas inflation in *x*-ray diagnosis," to be opened by Dr. F. Hernaman-Johnson. On July 27th, papers by Dr. H. E. Gamlen, Dr. C. W. S. Saberton, Dr. James Crocket, Dr. E. W. Reed, and Dr. J. Gibson Graham. These papers will be followed by a discussion on "The therapeutic value of high-frequency currents and static electricity," to be opened by Dr. E. P. Cumberbatch, Dr. F. Howard Humphris, and Dr. W. F. Somerville. In the Section of Ophthalmology Dr. L. Webster Fox of Philadelphia will read a paper on "The clinical significance and treatment of heterophoria." The officers of the Section of Surgery announce that the full titles of all papers which it is proposed to read at the Annual Meeting should be intimated to the honorary secretaries of the Section before June 15th, when the full programme will be definitely arranged. The names of the officers of the nineteen Sections, with the programmes so far as these had been arranged, were published in the SUPPLEMENT of May 13th, at p. 173. The Sections will meet on Wednesday, Thursday, and Friday, July 26th, 27th, and 28th.

INTERNATIONAL CONGRESS OF THE HISTORY OF MEDICINE.

As already announced in these columns, the Third International Congress of the History of Medicine will be held in London this summer from July 17th to 22nd. The programme of the week's proceedings has now been drawn up and printed. The Congress will be opened by the Minister of Health at the house of the Royal Society of Medicine, 1, Wimpole Street, W.1, on Monday, July 17th, at 10.30 a.m., after which the delegates from foreign countries will be received, and the president, Dr. Singer, will give his address. In the afternoon the President of Honour, Sir Norman Moore, Bt., will give a reception and address at the Royal College of Physicians; in the evening there will be a reception and conversazione by Dr. and Mrs. Singer at the Royal Society of Medicine, and an address by Professor Elliot Smith. Morning sessions for papers and discussions will be held at 1, Wimpole Street—the headquarters of the Congress—on Tuesday, Wednesday, Thursday, and Friday, and afternoon sessions on Tuesday, Thursday, and Friday. Receptions will be given on Tuesday afternoon by the Lord Mayor and Lady Mayoress, at the Mansion House; on Tuesday evening by Sir James Purves Stewart and Lady Stewart, at 94, Harley Street; on Wednesday afternoon by the President of the Royal College of Surgeons of England, at the College; and on Thursday evening by Mr. and Mrs. H. J. Waring, at 37, Wimpole Street. On Wednesday afternoon visits to Barbers' Hall and Apothecaries' Hall have been arranged, and in the evening there will be a conversazione at the Wellcome Historical Medical Museum, where a special loan exhibition will be on view. On Friday afternoon Sir D'Arcy Power will give an historical address at St. Bartholomew's Hospital, and in the evening a banquet will be held at the Hotel Cecil. On Saturday Hampton Court Palace will be visited. Those wishing to become members of the Congress are asked to communicate as early as possible with the General Secretary, Dr. J. D. Rolleston (21, Alexandra Mansions, King's Road, S.W.3) or the Treasurer, Mr. W. G. Spencer, O.B.E., M.S. (2, Portland Place, W.1). Members desiring to read communications at the Congress should write to Dr. Rolleston before May 31st. The printed programme gives a list of hotels, with their tariffs, at which accommodation can be reserved if booked before July 1st.

TELEPHONES.

AMONG the changes in telephone charges and arrangements which are to come into force on July 1st are certain alterations described as "considerable concessions" which have been made with regard to the terms on which new exchanges will be opened in rural areas. The alterations, though not very generous, possess a certain interest for members of the medical profession practising in the country, and may eventually prove to be the most important of all the changes to be made if they can be taken as an indication that the Post Office is beginning to realize that its policy with regard to telephones in rural areas has been mistaken. Hitherto the difficulties put in the way of establishing new exchanges have been great and the cost excessive; the service, therefore, has not been good. A too costly system can, in fact, hardly be made a good one, since the more installations in any area the greater the effective value of the telephone system in that area. There should be at least one or two installations in every village. In respect to rural telephones this country is much behind some others, especially perhaps Switzerland Canada, and the United States; there installations in villages and country houses are the rule and not the exception. When the use of telephone installations is general the time of country doctors is saved and their efficiency thereby increased. The Postmaster-General admitted in the House of Commons that the present charges are prohibitive, amounting in a great number of cases to a rental of as much as £20 a year. That the rural public feel the need for telephones is shown by the fact that even under the old conditions 530 call offices were opened last year at provincial post offices, chiefly in rural districts, and 3,290 stations on rural lines. Under the new scheme it is announced that an exchange will in future be opened provided eight subscribers renting direct lines can be found, and providing the cost of the necessary junction circuit is not excessive; the installation rental will be £8 a year in addition to extra mileage. There will be a charge of £1 a furlong for any distance in excess of one mile from the new exchange. Where as many as fifteen subscribers can be found the installation rental is to be £7 10s. for business connexions and £6 for connexions to residences. Subscribers will be required to enter into an agreement for three or five years, according to the amount of the capital the Post Office finds it necessary to lay out in making the extension. As a rule service will be provided at these rural exchanges between 8 a.m. and 8 p.m. on week-days, and for a shorter period on Sundays. A continuous service is, however, contemplated when the necessary arrangements can be made, though at present an addition will be made to the installation rental to cover the cost. The Postmaster-General expressed the hope that the reductions now announced would result in a rapid extension of the rural telephone system; but if this expectation is to be realized facilities must be increased and rates diminished. Of the other alterations one of the chief is that the installation rental for a connexion to a residence where no business of any kind is carried on will be reduced by 30s. a year—to £7 in London, £6 10s. in Birmingham, Liverpool, Manchester,

and Glasgow, and £6 elsewhere. The charge for a local call will be reduced from 1½d. to 1¼d.; the charge for a call over a distance between five and seven and a half miles will remain as at present; but for calls over longer distances 2d. instead of 3d. will be added to the trunk charge. The charges for short-distance trunk calls have been reduced, and in future the local fee will not be charged on any trunk calls. The result will be that the charge for a three-minute call over distances up to thirty-five miles will be ½d. less than at present, and for calls over greater distances 1½d. less. At present calls between 7 p.m. and 7 a.m. are in most cases charged at half the full rates; in future the charges between 2 p.m. and 7 p.m. will also be reduced, the new charges being approximately 25 per cent. less than at present. Finally, the extra mileage charge will be reduced from £1 5s. to £1 a furlong, and a similar reduction will apply to external extensions and to private telephone wires.

VENEREAL DISEASE INQUIRY.

IN our issue of April 22nd (p. 655) we published correspondence between Lord Dawson and the Minister of Health regarding the appointment of a committee to inquire into certain aspects of the problem of venereal disease with a view to an authoritative pronouncement on its medical and medico-administrative aspects. The committee was constituted as follows: Lord Trevethin, late Lord Chief Justice of England (Chairman), Mr. T. J. Tomlin, K.C. (Vice-Chairman), Mr. C. J. Bond, F.R.C.S., Surgeon Commander Reginald Bond, R.N., Dr. John Brownlee, Professor W. Bulloch, M.D., F.R.S., Dr. D. S. Davies, Professor G. Dreyer, M.D., F.R.S., Dr. F. E. Fremantle, M.P., Dr. Dorothy Hare, Professor H. R. Kenwood, M.D., Sir William Leishman, F.R.S., Dr. F. N. K. Menzies, Sir Frederick Mott, M.D., F.R.S., Dr. J. H. Sequeira, Dr. B. H. Spilsbury, and Mr. Kenneth Walker, F.R.C.S. The terms of reference are: "To consider and report upon the best medical measures for preventing venereal disease in the civil community having regard to administrative practicability, including cost." Lord Dawson in his letter to Sir Alfred Mond stated that he and the other members of the Committee of Selection, which had been formed to select the members of the Committee of Inquiry, were in complete agreement that after the latter committee has reported the community as a whole must decide how far its recommendations can be made the basis of policy and action. The first meeting of the Committee of Inquiry is being held at the close of this week at the Ministry of Health, and it is announced that Dr. Morna Rawlins and Wing-Commander Martin W. Flack, Director of Medical Research, R.A.F., have been added to its number.

THE ASSOCIATION OF CERTIFICATED BLIND MASSEURS.

WE are informed that there are members of the Association of Certificated Blind Masseurs resident at the present time in Australia, New Zealand, Canada, and South Africa, and it may be of interest to readers there to be reminded of some facts with regard to the association. It is registered under the Board of Trade, its president is Sir Robert Jones, K.B.E., F.R.C.S., and its vice-presidents include many other distinguished members of the medical profession. Its members, who are for the most part soldiers blinded in the war, have been trained in massage, remedial gymnastics, and medical electricity at St. Dunstan's Hostel for Blinded Soldiers and at the National Institute for the Blind, London. The training extends over a period of two years, during which they receive both theoretical and practical instruction, the latter in the massage departments of various London hospitals. The school at which the students are trained possesses a series of models from the study of which the student can get an idea of the structure and position of the various organs, and special attention is given to surface anatomy. Further, a series of raised diagrams are available, illustrating such points as cerebral localization, and the various tracts of the spinal cord. There is also a library of massage literature in embossed type directed by a blind medical man who has been trained in massage. All the members of the association have passed the massage examination of the Chartered Society of Massage and Medical Gymnasts under exactly the same conditions as sighted candidates. We believe that the medical profession may thoroughly rely upon the competence of blind masseurs belonging to the association.

PROFESSOR OF PSYCHIATRY, SYDNEY.

DR. JOHN MACPHERSON, C.B., who has lately retired from the post of Commissioner of the Board of Control for Scotland, has been offered through the Agent-General of New South Wales, and has accepted for a period of three years, the post of Professor of Psychiatry in the University of Sydney. This chair is the first of its kind in any university in Australia. The university authorities were particularly anxious to appoint to this post a physician of authority and of experience, and it is a compliment to the Edinburgh school that they have selected one who is so closely connected with it. Dr. Macpherson for some years lectured on the subject of mental diseases at the Royal Colleges' School of Medicine. His clinical knowledge was acquired at the Royal Hospital at Morningside and at the Stirling District Asylum. Few have had such experience as he in administration. There is already a clinic on mental diseases in connexion with the hospital at Sydney, and it is anticipated that Professor Macpherson will bring the teaching and other arrangements abreast of the latest advances that have been made in the science and practice of psychiatry.

SIR STCLAIR THOMSON will give, on Wednesday, May 24th, at 5 p.m., the next lecture in the new series of post-graduate lectures arranged by the Fellowship of Medicine at the house of the Royal Society of Medicine, 1, Wimpole Street, W. The subject selected is, "The surgical anatomy of the nose and accessory sinuses." The lecture, which will be illustrated by a lantern demonstration, is open to members of the medical profession.

SIR ALFRED KEOGH, G.C.B., is retiring from the office of Rector of the Imperial College of Science and Technology, South Kensington, under the age rule, at the end of the summer term. He will be succeeded by Sir Thomas Holland, K.C.S.I., F.R.S., an old student of the College, who saw much service in India, and was Professor of Geology and Mineralogy at Manchester University from 1909 to 1918. Sir Alfred Keogh, although he has held the office for a good many years, was not able to discharge its duties with the completeness he and all friends of scientific education had hoped. As is well known, he was called back to act as Director-General of the Army Medical Service soon after the war began and was not relieved from his military duties until 1918.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

Reduction of Service Establishments.

THE Army Orders issued by the War Office on May 11th as to disposal of officers on reduction of the army establishment have interest for the Royal Army Medical Corps, because in so far as any reductions in medical personnel may be made the schedule will have application to the medical officers, if and when reductions are made, as well as to others. The list gives scales of compensation allowance and of gratuities for combatant officers.

Experiments on Animals.

Commander Kenworthy sought leave, on May 10th, "to introduce a bill to prevent the application of public money to vivisection experiments." He claimed that this was a practical attempt at economy. There was nothing in the measure to prevent vivisection experiments being continued at the hand of any learned societies or others who provided the money. His contention was that in these times it was not right that public money should be granted for this purpose, especially as part of it must come from persons who had scruples about vivisection. The sum was, he believed, substantial. Before the war the amount spent on medical research was approximately £60,000. It was now over £120,000, of which a considerable sum was spent on these experiments. He believed the figures to be round about £30,000 or £40,000.

Dr. Murray said this was really a flank attack upon experimental research. Commander Kenworthy would have been more frank if he had introduced the bill to abolish all experimental research. The principal argument he had used was that there were conscientious objectors and therefore they should not be taxed for work of this sort. But he had never brought in a bill to prevent money being wasted upon the navy or army because there were conscientious objectors who would be taxed, as they said, for the purposes of killing human beings. There were many reasons why public money should be provided for experimental research. Vivisection, as it was called, had been the means of advancing medical research within the last thirty or forty years to an extraordinary degree. Experiments upon animals had brought increased knowledge, and that had been of great use in the war, thousands of lives having been saved. In dealing with diphtheria, also, many lives had been saved by knowledge gained by experiments in connexion with antitoxin. Another of the more recent advances in medical science had been due to experimental research in connexion with the pituitary gland. In the department of obstetrics, moreover, they had been able, by knowledge gained from experiments, to save the lives of vast numbers of women and children. He could conceive of no object on which public money could be better spent.

On a division leave to introduce the bill was refused by 170 votes to 102.

School of Hygiene: Rockefeller Gift.

In answer to Mr. Myers and Mr. Naylor, on May 10th, Sir A. Mond said that the gift from the Rockefeller Foundation of two million dollars would be applied to the express purpose for which it was named in providing and equipping a school of hygiene. The Government grant would be applied to staffing and maintenance, as required by the Rockefeller Foundation as condition of their gift. The Foundation had recently acquired an admirable site for the purpose in Bloomsbury. The whole object of the scheme was to promote the hygiene and health of the people by providing facilities for the education of the medical practitioner and for research in preventive medicine. It would be an essential point in settling the organization of the school to secure that its work was made to fit in with the admirable work in this sphere now being done by existing institutions.

Import Duty on Drugs and Appliances.—On May 15th Mr. Baldwin said that the Board of Trade received, as far back as December 28th, notice of objection to the imposition of an import duty on synthetic camphor. The hearing opened on April 1st, but proceedings were delayed by the illness of the referee. He had no doubt that the decision would be given as soon as possible.—Lieut.-Colonel Guinness asked whether radium bromide was now subject to an importation duty under the Safeguarding of Industries Act; and, if so, whether the President of the Board of Trade would take steps to remit this duty in the case of all radium for therapeutic purposes. Mr. Baldwin said it was subject to such duty. He had no power to take the action suggested.—In an account of duties levied on a variety of articles under the Safeguarding of Industries Act, Mr. Hilton Young gave, on May 16th, the following amongst other figures to Dr. Murray: Scientific instruments and appliances (except electrical), dental, surgical, medical, and veterinary instruments, and appliances (except optical), £111; electro-medical, medical apparatus, *x*-ray tubes, *x*-ray apparatus, etc., £5,555.

Dentists under the Juries Bill.—On consideration of the Juries Bill as amended in Grand Committee, Captain Elliot, on May 9th, endeavoured to secure insertion of a subsection to require the registration officer to send a notice to any person whose name appeared in the current *Dentists' Register* if it was proposed to mark that person as a juror or special juror in any electors' list. Mr. Shortt resisted the proposal as unnecessary, holding that the present bill did not make the position of dentists worse than it was before. A dentist could, if he chose, be exempted from jury service. What he would have to do would be to look at the first list, and then if he was put down as a juror or special juror he could raise an objection, and from the time of such intimation by him onwards he would be exempted. Mr. Shortt admitted that dentists did not receive notice of being placed on lists, and Mr. Acland thought the position unsatisfactory. But the amendment was negatived.

Medical Boards in West Scotland.—Major Tryon, questioned by Mr. Duncan Graham on May 16th, said that the personnel of the Medical Boards in the West of Scotland was drawn from a panel of some 200 local practitioners who were employed on a sessional basis and were paid at the rate of £1 11s. 6d. for chairmen and £1 6s. 3d. for other members for each session of two hours. The boards were responsible to a small whole-time medical staff in charge of the arrangements for boarding and the provision of treatment in this area, and their duties were to assess the degree of disablement and to report generally on the medical aspect of the case.

Women Health Visitors: Salaries.—Sir A. Mond informed Mr. Galbraith, on May 10th, that he had made no general recommendation as to the salaries to be paid to health visitors, but in various particular cases he had taken action to secure such remuneration as would provide an efficient service.

Statistics of Pensions Hospitals.

In reply to a question on May 11th Mr. Macpherson stated that there are 52 hospitals wholly maintained by the Pensions Department, and that at these approximately 10,000 officers, nurses, and men are at present receiving in-patient treatment. The particulars are as follows:

Region.	Name of Hospital.	Pensioners under Treatment.	Where Situated.
Scotland ...	Bellahouston	643	Glasgow
	Belmont Castle ...	31	Forfar
	Craigend Park	48	Edinburgh
	Craigleigh	467	,,
	Dalhousie	15	Carnoustie
	Edenhall	97	Musselburgh
	Kilgraston	34	Perth
	Kings Croft	10	Barnton
Northern ...	Innes Hopkins	22	Ryton-on-Tyne
	Castle Leazes	455	Sunderland
	Shortley Bridge ...	202	Gateshead
	Gretna	98	Cumberland
	Sunderland	350	Sunderland
North-Western.	Allerton Towers (Officers)	26	Liverpool
	Grangethorpe	174	Manchester
	Knotty Ash	480	Liverpool
	Mossley Hill	354	,,
	Maghull	279	,,
Yorkshire ...	Becketts Park	457	Leeds
	The Hydro	88	Bridlington
	Oulton Hall	113	Leeds
	Radlyn College ...	67	Harrogate
	Wharncliffe	156	Sheffield
Wales	Bangor	75	Bangor
	Mount Pleasant ...	191	Chepstow
	Neath	174	Neath
	Rookwood	52	Llandaff
West Midland...	Highbury and Uffculme	245	Birmingham
	Cannock Chase... ...	429	Hednesford, Staffs
	Oaklands	30	Droitwich
	Sorrento	38	Birmingham
	Watsons Home... ...	25	Wylde Green, Birmingham
East Midland ...	Frith Home	59	Leicester
	Harrowby Camp ...	212	Grantham
	Victoria Park	190	Leicester
South-Western	Ashton Court	113	Bristol
	Bath	449	Bath
London	Holborn Red Cross ...	16	Roehampton
	Headington	151	Oxford
	Latchmere House (Officers)	52	Ham Common
	Lonsdale House ...	70	Clapham
	Ewell	337	Epsom
	Orpington	833	Kent
	Ruskin Park	303	Camberwell
	Rotherfield Court ...	38	Henley-on-Thames
	Shepherd's Bush ...	595	Shepherd's Bush
	The Spring, Hanwell (Nurses)	14	Hanwell
	Tooting	283	Tooting
	Welsh Hospital ...	161	Netley
Ulster	Portrush	42	Co. Antrim
South Ireland...	Leopardstown Park ...	61	Dublin
	Blackrock	467	,,
	Total	10,329	

Hospital Nurses' Training.—Captain Ainsworth asked, on May 11th, whether the Minister of Health, in considering the recent decision of the General Nursing Council for England and Wales, which recommended that no hospital be recognized as a training school for nurses unless possessing one hundred beds, would take into account the particular circumstance of each hospital before agreeing to any such rule. Mr. Parker (for Sir A. Mond) said that no rule had yet been submitted to the Minister, and until he had had an opportunity of considering its precise terms any statement would be premature.

Railway Vouchers for Medical Examinations.—Lord Eustace Percy asked, on May 16th, whether the Minister of Pensions was aware that dependants of soldiers who lost their lives in the war were often summoned to towns at a distance from their homes for medical examinations in connexion with their pensions; and whether, in view of the hardship upon many who could not afford the travelling expense, the Minister would issue free return railway vouchers to these dependants, as in the case of ex-service men attending medical boards, or allow examinations to be carried out by the Ministry's local medical referees. Major Tryon said that Mr. Macpherson was sympathetically considering this matter.

Small-pox in the Philippines.—Mr. Waterson asked, on May 15th, whether, in view of doubts as to the efficiency of vaccination raised by the outbreak of small-pox which occurred in the Philippine Islands in 1918-19, the Minister of Health would cause special inquiries to be made as to the circumstances attending the outbreak; and the reason why vaccination failed to protect the population. Sir A. Mond replied he had given Mr. Waterson all available data. He recognized they were not complete, but before considering the desirability of making further inquiry he proposed to await the official report for 1921.

Merchant Shipping (Venereal Disease) Bill.—This measure to amend the Merchant Shipping Acts 1894–1906, so far as they relate to venereal disease, was presented on May 15th by Major Colfax. It was backed by Dr. Raw, Dr. Elliot, Mr. N. Chamberlain, Mr Havelock Wilson, and Mr. Tillett. The bill was read a first time.

MEDICAL TERMS IN THE VERNACULAR AND IN DIALECTS.

II.

ANDICOMB, ANCOME, UNCOME, OR INCOME.

ADAM LITTLETON, in his *Latin Dictionary* (1678), gave andicomb as one of the meanings of the word *clavus*: "a corn in the finger or toe, or sole of the foot; a little swelling of hard flesh in the corner of the eye; also a whitlow or andicomb." Now since the angnail or agnail of a former article was found sometimes to be used as synonymous with whitlow one might at first sight regard andicomb as yet another vernacular term signifying an agnail. It is so, but only to the extent of being an additional name for whitlow. Andicomb itself, however, is quite an interesting medical term as used by the common people, and is worthy of separate consideration.

Sir James Murray, in the *New English Dictionary*, did not place andicomb among the A rubrics, and neither did Wright in the *English Dialect Dictionary;* but under *ancome* the former lexicographer gave "andicomb" as an eighteenth-century form of that word, and he said that the spellings *ancomb* and *andicomb* showed that the term was no longer understood. Even the word "ancome" he classified as obsolete or dialectal. So one is left with the unexplained emergence of "andicomb" in English in the later centuries and its rapid disappearance again, and one is tempted to conclude that it came from the dialects and returned to the dialects. It would be easy to find a plausible enough etymology for it; one might see in it a reminiscence of the ordinary meaning of hangnail and regard it as made up of hand and comb, with the suggestion of comb-like teeth or fleshy projections attached to the fingers of the hand. There is, however, nothing more dangerous than attractive pseudo-etymology; it will be in every way wiser to follow Sir James Murray in his conclusion that *andicomb* is simply another form of *ancome*.

Ancome, with its sixteenth and seventeenth century form "uncome," and its seventeenth-century "ancombe," is traced by Murray to the Northern English "on-come" (fourteenth century), meaning "visitation, access of disease." He admits that this is only a probability, and suggests as an alternative that it is a partially translated adaptation of the Norse word *ákoma*, which signifies "arrival, visitation, eruption of the skin." From this "on-come," with such a meaning, could be traced the sixteenth-century "uncome," and it would also be capable of being refashioned into the Scottish and North of England "income." This identification of "-come" with the idea of arrival, introduction from the outside, and so forth, is borne out by several of the quotations.

For instance, Sir Thomas Elyot, writing in 1538 (and it must be remembered that he had read medical works with "a worshipful physician," and that he wrote on medical subjects, thereby arousing some wrath on the part of the profession of his day), defined the word we are studying as "*adventitius morbus*, sycknes that cometh without our defaute, . . . of some men called an uncome." John Baret, too, the Cambridge lexicographer, who about 1574 published "An Alvearie" (a beehive!), "or Triple Dictionary in English, Latin, and French," gave the following definition: "a fellon, uncomme, or cattes haire; a bile or sore that riseth in mans bodie, *furunculus;*" and again, in another place, "an ancome, *adventitius morbus.*" Murray quotes also from an Act of Henry VIII (1544) the phrase "uncomes of hands, scaldings, burnings." One begins to see how the ideas of something coming in and a furunculus, felon, whitlow, boil, or the like are not irreconcilable; a sliver of wood or something else runs into the finger and so an ancome arrives, if one may speak so tautologically.

Philemon Holland—who, it will be remembered, was a "doctor of physicke" as well as a schoolmaster in Coventry—in his translation of Pliny's *Natural History* (1601) used the word "uncome" several times and always to render the Latin *furunculus* (boil), and he sometimes added "fellon" as a synonym. Thus in one passage he wrote, "also when we perceive a fellon or such like uncom sore a breeding, the first thing that we doe is to marke it three times with our fasting spittle"; and in another he stated about a certain ointment, "it is singular good for any uncome or fellon." Gerarde, also, in his *Herball* (1636), used uncome in meanings such as these given; thus, in writing of the arsmart or water pepper, he stated, "the same bruised and bound upon an impostume in the joints of the fingers (called among the vulgar sort a fellon or uncome) for the space of an houre, taketh away the paine." Gerarde was "Master in Chirurgerie" and so may be held qualified to speak on these matters.

Thus one reaches some of the modern definitions—for example, that of Wright (in the *English Dialect Dictionary*), "an ulcerous swelling," or that of Murray, "a boil; an imposthume; by some later writers applied to a whitlow." These agree, too, with the definition of the eighteenth-century lexicographer, John Kersey the younger, who gave "ancome, a kind of boil, sore, or foul swelling in the fleshy parts." Marston, in his comedy, *Eastward Ho*, published in 1605, actually gives the clinical history of the thing: "I have seen a little prick, no bigger than a pin's head, swell bigger and bigger till it has come to an ancome." How close one has come to agnail is shown by the fact that Hexham in his *Dictionary* defines the Dutch word *vijt* as "an Ancombe, or Sore upon one's finger"; and Köhler, in his *German Dictionary*, gives three English equivalents for *Nagelgeschwür*—namely, whitlow, agnail, felon. Bailey (1778) adds two characters to the ancome, "a swelling or bump, that is hard and hot"; but they were already implicit in the earlier definitions.

Jamieson, in his *Scottish Dictionary*, deals with the Northern corresponding term "income"; but his definition does not at first glance agree with the conclusions reached above, for he has "any bodily infirmity not apparently proceeding from an external cause," and he gives an illustrative quotation from Galt's *Sir A. Wylie:* "her wheel was nae langer of ony use to her, for she had got an income of her left arm, and couldna spin." There may be real agreement, however, for he explains that "the affection, as it were, came in, as not being caused by a sprain, a contusion, a fall, or anything of this nature." The cause was originally introduced from without—for example, from a splinter of wood—but the results were developed within; but it must be confessed Jamieson is not clear on this matter. Quotations from Scottish writers later than Jamieson suggest some disease of the knee or at least of a joint, and Wright states that in Caithness it is used with the meaning of "disease in a joint, usually knee or elbow, which causes it to be permanently bent"; but if this be the Caithness use then the Northumberland one is different, for there it signifies "an ulcer, something that has come in from an outside cause as distinguished from 'a gathering' caused by internal bad blood, which is called 'bred-venom.'" Yet, notwithstanding these uses, Wright has followed Jamieson in his definition, which is, "an internal disease, a bodily infirmity not due to accident or contagion, an ailment without apparent external cause, frequently an abscess, boil, or running sore." It is evident that "income," whilst it may sometimes correspond exactly with the Southern ancome and uncome, does not do so constantly. Possibly the new shade of meaning is due to the thoughts suggested by "in."

The relations of andicomb, ancome, uncome, and income having been traced both in the vernacular and in the dialects, it will be worth while to return to the Northern English word "on-come," with which Sir James Murray has connected them all. It does not appear to have been used in any of the specific senses that ancome, uncome, and income have acquired, but always with the general meaning of a calamity or a visitation or (in Scotland) an attack of disease. Thus, in the *Cursor Mundi*, that extraordinarily interesting rhyming Bible interspersed with legends of the saints and stories from the apocryphal gospels, which was written in Northumbria about the time when Bannockburn was being fought, the visitation of Pharaoh is predicted in these words: "And for that he wil noght me here, Hard oncome sal i send him sere." In one of the MSS. "hardenesses" appears instead of "on-come." In another place the author, in speaking of the plague of frogs, said: "the tother oncome atte him felle was froskis atte na tunge mote tel," and one of the MSS. reads "vengeaunce." In another passage "on-fall" is the word, and that is reminiscent of the Scottish "on-ding" (for example, of snow). It is evident, however, that "on-come" in these early days (fourteenth century) had the most general meaning, and it was only as time went on and the vowel changed into an-, un-, or in- that the special significations of boil, whitlow, fellon, disease introduced from without, and the like, came to be associated with it. This still leaves the mystery of *andicomb* unsolved, and, indeed, one suspects that forgotten dialectal uses would clear up more than one obscure point in the word's history. Meanwhile a rather curious fact emerges: in so recent a medical work as Allbutt's *System of Medicine* "oncome" appears with something very like its old meaning in such

a phrase as "the gradual oncome of chronic renal disease"; but it will not do for the doctor to pretend to know too much about "oncomes," for Sir Walter Scott (in *The Bride of Lammermoor*) assigned this wisdom to Ailsie Gourlay when he wrote, "This woman had acquired a considerable reputation . . . by the pretended cures which she performed, especially in *oncomes*, as the Scotch call them, or mysterious diseases which baffle the regular physician." J. W. B.

England and Wales.

CAMBRIDGE UNIVERSITY MEDICAL SOCIETY.

THE inaugural meeting of the Cambridge University Medical Society was held in the Anatomy School, Cambridge, on May 10th, the lecturer being Dr. W. Langdon Brown, physician to St. Bartholomew's Hospital, who took as his subject "The endocrine glands and their relationship to the sympathetic nervous system." The chair was taken by the president of the society, Mr. E. S. Fellowes-Farrow (Downing), who was supported by the vice-president, Mr. Norman F. C. Burgess (Caius), the honorary secretary, Mr. C. L. Owen (Trinity), and the honorary treasurer, Mr. T. F. McNair Scott (Caius). Introducing the lecturer, the president referred to the great work done by him in helping to bridge the gap between physiology and clinical medicine, and pointed out that it is one of the objects of the society (which is essentially for students) to correlate the work in the physiology and anatomy schools with the work at the bedside. He also took the opportunity of expressing the thanks of the society to the Right Hon. Sir Clifford Allbutt, K.C.B., F.R.S., Professor J. B. Bradbury, Professor F. G. Hopkins, F.R.S., Professor J. N. Langley, F.R.S., and Professor J. T. Wilson, F.R.S., for consenting to become honorary vice-presidents, and for giving the society so much encouragement and support. At the conclusion of Dr. Langdon Brown's lecture, which was greatly appreciated, Dr. W. L. H. Duckworth gave a short lecture on the operation of thyroidectomy.

Sir Clifford Allbutt, Regius Professor of Physic, moved a very cordial vote of thanks to the lecturers. The meeting, at which there was a crowded audience, should be an indication that the new society has before it a future full of success and usefulness.

UNIVERSITY OF LONDON REPORT.

The report of the work of the University of London during the year 1921–22 was presented by the Principal Officer, Sir E. Cooper Perry, M.D., at the graduation ceremonial of the University on May 4th. The total admissions by all channels during the year under review was 7,092, as compared with 3,852 in 1913–14, and 6,723 in 1920–21. The total number of candidates for all examinations was 27,237, as against 11,920 in 1913–14, and 23,563 in 1920–21. While the number of persons who sat for the matriculation and registration examinations was 6,638 in 1913–14, 15,539 in 1920–21, and 17,919 in 1921–22, and the number who sat for the preliminary and intermediate examinations was 3,327 in 1913–14, 6,039 in 1920–21, and 6,522 in 1921–22, yet the number of candidates for first degrees was only 1,636 in 1913–14, 1,522 in 1920–21, and 2,153 in 1921–22 respectively, and those for higher degrees only 171 in 1913–14, 224 in 1920–21, and 302 in 1921–22. The total number of successful candidates at all examinations last year was 9,481, and the number of those who attained degrees and diplomas 2,093, as compared with 8,094 and 1,440 respectively, in 1920–21. The standard of the examinations of London University is indicated by the fact that out of 27,237 candidates, 9,481 passed. It is curious to observe how many persons are apparently content to pass the matriculation and preliminary examinations without proceeding to graduation in either "first" or higher degrees. The roll of internal students now bears 8,758 names, as compared with 4,888 on the corresponding date in 1914, and 7,870 in 1921. The Treasury grant for the year to the University was £16,000, an increase of £8,000 on the figure for 1920–21. From correspondence that has passed between the Senate and the post-graduate medical committee appointed by the Ministry of Health, there appears (says Sir Cooper Perry) to be some prospect of the establishment in the near future, in close association with the University, of a medical school attached to a centrally situated hospital, and devoted solely to post-graduate medical education; and, further, of an Institute of State Medicine for instruction in public health, forensic medicine, industrial medicine, and medical ethics and economics. The Rockefeller Foundation has now offered to provide the sum of two million dollars for a school of hygiene, and has acquired a site for the school adjoining that presented by the Government for the new buildings of the University in Bloomsbury.

QUEEN CHARLOTTE'S HOSPITAL.

Lord Howard de Walden presided at the annual meeting of Queen Charlotte's Hospital held on May 9th. It was stated in the report that during the past year 1,729 patients had been treated in the hospital, 2,087 had been attended in their own homes, and there had been 4,603 patients at the ante-natal and child welfare departments. The financial position of the hospital was serious, and an earnest appeal was made for additional support. The report referred to the very large number of entries in the Midwifery Training School. During the year 58 medical students and 47 qualified practitioners attended a course of practical midwifery, and 164 women were trained in midwifery and maternity nursing. Students were received from nearly all the London medical schools and from most of the provincial and Scottish schools.

THE LIVERPOOL MATERNITY HOSPITAL.

At the annual meeting of the Liverpool Maternity Hospital on May 9th the same story of lack of funds interfering gravely with the usefulness of this charity was heard as had been heard at the corresponding meetings of other hospitals in Liverpool. The hospital, it was reported, had been continuously full during the past year, and no fewer than 179 women had been refused admission owing to lack of accommodation. A new hospital had been projected shortly before the war, and there was urgent need of a modern and fully equipped institution capable of meeting the demands of the city. The continued high cost of building had alone prevented execution of the project. The need for better training of medical students and midwives was emphasized by Dr. Musson, who referred to the high death rate in women in childbirth, and said that venereal disease and unskilful midwifery were responsible to a large extent. The financial situation was grave. There was a deficiency of £2,052 during the past year, and the debit balance was now £5,355. Unless new sources of revenue were found the work of the hospital would have to be curtailed. It was suggested that if nevertheless the new hospital were begun, an awakened sense of the obligations of the citizens of Liverpool would become at once apparent in a large accession of new subscribers. Reference was made to the success that had crowned the efforts of those responsible for the hospitals in Glasgow and Leicester; small subscriptions were made weekly by all employees, and it was pointed out that one penny out of every pound earned would bring in a splendid income for the hospitals, and thus relieve the committees of the various institutions so essential to the health of the city from their present clamant financial distress.

A SCHOOL MEDICAL OFFICER'S SALARY.

At a meeting of the Worcester Education Committee last week a letter was received from Dr. Marion Andrews, school medical officer, stating that as the city council had made a deduction from her salary of £500 per annum, which was the minimum sum she could accept under the rules of the British Medical Association, she had regretfully to resign. It was stated that a subcommittee had passed a resolution regretting the necessity for the resignation and expressing a hope that the council would not persist in the reduction. This reduction was made in pursuance of a general reduction in officials' salaries of 10 per cent., and the council gave instructions that any official who did not accept the reduction should be asked to resign. Dr. Andrews pointed out in her letter that the position was now worth £750 if she had not refrained from asking for advances because of the general financial stringency. Dr. E. H. Corder, a member of the committee, said that the rule as to the £500 minimum was made during the war. General practitioners were now being asked to reduce their fees, both panel and private, and he suggested that perhaps the minimum would now be modified. Mr. W. Sharpe said that the matter had been before the finance committee and they had had their attention called to the facts which Dr. Corder had mentioned, and the committee had decided to write to the British Medical Association asking if some reduction of the minimum was acceptable.

New South Wales.

TUBERCULOSIS.

THE ninth annual report of the National Association for the Prevention and Cure of Tuberculosis states that there has been a considerable increase in the number of patients attending the dispensary, and that there is urgent need for the establishment of branch dispensaries in some of the more densely populated suburbs. In Balmain, an important industrial centre, the local hospital has handed over to the association a cottage suitable for the purpose of a branch dispensary. The number of new patients admitted to the dispensary from January 6th to December 31st, 1921, was 337; the number of males and females was about equal. Fifty-seven old patients had attended during the year, and the total number of patients now under treatment was 130. The number under 14 years of age was large (130). Patients visited in their own homes numbered 430. In moving the adoption of the report the Lord Mayor stated that though tuberculosis was sixth on the list of all causes of death in Australia, its incidence was sufficiently serious to make its prevention and cure one of the most important problems awaiting solution by medical science. In Australia the death rate was 0.68 per 1,000, less than half that of the United Kingdom and the United States, where nearly half the deaths between 25 and 35 are caused by phthisis. He advocated the establishment of a tuberculosis bureau in Sydney presided over by a special officer, with one channel of admission to all institutions; this procedure, he believed, would make for efficiency in administrative control.

THE SYDNEY TECHNICAL COLLEGE.

A valuable addition to the facilities for technical education in Sydney has recently been made in the conversion of the old gaol at Darlinghurst into a technical college for the eastern suburbs of Sydney. The Minister of Education has now decided to add a course of lectures on industrial hygiene, welfare work, and health visiting to the courses of lectures on health already given at the college. A number of factories and larger retail establishments in Sydney already have on their staffs officers who are concerned with the health of the employees, and it is believed that an extension of similar provision to other places of business will soon be effected. The new course of lectures will be given by Dr. J. S. Purdy, metropolitan medical officer of health, and will be designed specially for the training of welfare officers.

THE MILK SUPPLY.

Dr. Purdy, in giving evidence during an inquiry into the milk industry instituted recently by the Board of Trade, suggested that those engaged in the trade should seize the opportunity of getting together to wipe out the present unnecessary competition and to solve the problem of giving the public reasonably pure milk at a reasonable price. If this were not done soon the public would probably insist on either the Government or the municipalities stepping in and forcing the position, as improvement was essential. Dr. Harrison, of the Renwick Hospital for Infants, said that the present milk supply of Sydney, if some obvious improvements were made, would be good enough for general household purposes, but the price was too high; the cost of distribution involved an increase in price of 150 per cent. The retail price should be brought down to 6d. a quart. Special certified pure milk for those whose lives to a great extent depended upon it would necessarily be more costly. He suggested, further, that the Government might establish a model dairy in a suitable district to supply the baby clinics at first only as a demonstration. When a practical working basis had been found other dairymen of moderate views and efficient training would probably join and make it pay by co-operative effort; competition might be fostered by score cards and prizes for best results as in poultry raising. Dr. Dick, the senior medical officer of the Department of Public Health, expressed the opinion that the present system of price fixing did away with competition, and in the case of milk was likely to lead to a tendency on the part of dairymen to slacken their efforts to produce a better quality of milk. Under the present system the public had to pay the same price for what might be poor or dirty milk as for the first-class article produced under hygienic conditions. If price fixing must be continued then a high standard should be insisted upon. Further evidence has been taken, but the inquiry is not yet concluded.

BUBONIC PLAGUE IN SYDNEY.

The present outbreak of plague in Sydney has so far been confined to a few sporadic cases. Recently, however, two new cases have been notified from a new district, and in both the infection was traced to the same source. Both were severe cases, and one of the patients has died. Dr. W. G. Armstrong has been most insistent in impressing on the public the urgent necessity for putting forth every possible effort for the destruction of rats and fleas. The unseasonably warm weather of the last few weeks has tended to increase the danger of an extension of the outbreak.

THE EDITH CAVELL MEMORIAL FUND.

A rest home for nurses has been established in one of the suburbs of Sydney as a memorial to the late Nurse Edith Cavell. At the annual meeting of the fund it was stated that the past year had seen the objective of the fund realized—the raising of an endowment fund of £20,000 and the establishment of Cavell House. The honorary treasurer stated that the accumulated fund now amounted to £20,183, the expenditure during the year amounted to £1,219, and the income to £1,276. As the expenditure included a sum of £536 for furnishing and repairs of the building which had been given, the institution would be able to carry on without making any appeal to the public for financial assistance. The report concluded by an expression of the gratification felt by everyone connected with this movement that the long-worked-for goal has been reached at last, that Cavell House is now placed on a firm financial footing, and that it will continue to serve its double purpose of perpetuating the memory of Edith Cavell and of benefiting members of her noble calling.

India.

MEDICAL EDUCATION IN INDIA.

DR. NORMAN WALKER, during his tour in India at the instance of the Secretary of State for India for the purpose of examining the state of midwifery training in that country, was entertained to dinner at the Orient Club, Bombay, on March 10th, on the invitation of Sir Temulji Nariman and Dr. M. V. Mehta, who were appointed by the Government to assist Dr. Walker in his visit of inspection in Bombay. Sir Temulji Nariman, in proposing the health of the guest, said that they had invited him that evening to hear some of his experience in India of the state of medical education in general and of midwifery practice in particular. As one who had already reached his jubilee in the medical profession and had attended more than 25,000 maternity cases, he could say that midwifery practice was as skilled and efficient in Bombay as in any other city of the world. He appealed to his Indian friends not to complain and bring in the plea of the prejudices and customs and habits of the Indian people, but to fight hard against those prejudices and break them. Dr. Norman Walker, in responding to the toast, said that when he landed in Bombay five weeks previously the situation bristled with misunderstandings, and it was his first duty to clear them away. In a series of meetings throughout India he had explained the position, and he was happy to think that most people now regarded him as a candid friend. He had seen much to admire in India, and a good deal that could be improved regarding medical education. India had something to learn from the remarkable development of medical education in the United States. About thirty-two years ago, when he visited that country, American medical education was regarded with something like contempt in Europe, but now there was a great change; there were ninety medical schools, and of these seventy were classed "A," and sixty or so thoroughly deserved it. There were several factors which had caused this, and one was the prevailing desire to improve everything, while another potent influence was the founding of the Johns Hopkins medical school, which demanded quality, not quantity, in its students. Nearly all universities to-day had too many students, the Bombay University among them; to put it otherwise, there was either not large enough accommodation, or else too few teachers. On the question of supply some solution must be found. India, like many other countries, was poor, but every country had many enormously rich men who could not find a better investment than in the founding of medical colleges and laboratories. It was useless to appeal to the State in any country. A medical register was a necessity in

every civilized country; the door of admission must be narrow, and those only should be admitted who in the opinion of the Council in charge of registration were up to the standard. The larger the area the Council covered the easier it was for it to set up a high standard. He suggested that the question of an All-India Medical Council should be considered, composed of representatives of the provincial Councils, to discuss all problems of medical education. He further suggested an interchange of examiners between the different universities for the purpose of raising and standardizing the qualifications of all.

EMANCIPATION OF INDIAN WOMEN.

The Indian woman is coming out from behind the *purdah* and engaging in philanthropic enterprises of various kinds. Recently at Nagpur one Indian lady provided a house rent free and two other Indian ladies made house-to-house visitations with a collecting list and raised enough money to equip a maternity home and the promise of subscriptions sufficient to keep it up. One lady acted as housekeeper, an Indian woman doctor gave her services free, so that a very simple but efficient little nursing home was started, which already is being taken advantage of by the poor, and, except for menial servants, is entirely managed by voluntary effort. This is an example of what Indian ladies can do and the public spirit they are now showing.

ST. JOHN AMBULANCE AND CHILD WELFARE.

Lady Reading, speaking recently at Delhi, paid a glowing tribute to the work of the centres in reference to maternity and child welfare which she had seen in Calcutta under the auspices of the St. John Ambulance Association. Centres exist in different parts of the city for Indian and Anglo-Indian women and children. Many mothers attend daily; they are instructed in the simple rules of mothercraft, their babies are weighed weekly, and any deviation from health is at once noticed. A medical woman attends twice a week for giving advice, and many cases are followed up by a visit to the home, so enabling the visitor and doctor to keep more in touch with the actual conditions under which the mother and child are living.

Correspondence.

BOVINE ACHONDROPLASIA.

SIR,—In a note on "Bovine achondroplasia" in the BRITISH MEDICAL JOURNAL of May 6th, 1922, Dr. F. A. E. Crew asks if scattered areas of cartilage have been found in the adrenals of human achondroplasts such as he has met with in the monstrous calves born of Dexter cows.

The adrenals in a full-term human achondroplastic foetus examined by us were normal in shape and weight, and serial sections of both glands revealed no histological abnormality. In a survey of the rather considerable and scattered literature of this condition as it occurs in man we have found, so far, no record of abnormal changes in the adrenals, though it seems that these organs have rarely been examined histologically. MacCallum (*Johns Hopkins Hosp. Bull.*, 1915, xxvi, 182) says that the adrenals were normal in a female achondroplast 75 years old, and also in a 7 months' foetus. G. Marum (*Frankfurt. Zeit. f. Path.*, 1921, xxiv, 663) likewise could find no changes in an adult female achondroplast.

The impression is that the adrenals are intact in human achondroplasia.—We are, etc.,

A. F. BERNARD SHAW,
W. E. M. WARDILL.

Pathological Department, College of Medicine, Newcastle-upon-Tyne, May 15th.

EXCISION OF THE HEAD OF THE FEMUR IN ARTHRITIS DEFORMANS.

SIR,—I do not find it easy to reply briefly to Mr. Blundell Bankart, chiefly because there is little to disagree with in his criticisms. There are, however, several points of difference between us which demand a fuller explanation on my part of the rationale of the criticized operation.

The operation as described in my paper has been evolved with simple excision of the femoral head as its basis. I prefer therefore to retain this title, which to my mind is not illogical. It is true that certain of the technical procedures included are employed in full arthroplasty; these are the remodelling of the stump of the neck and the application of bone wax. I do not agree with Mr. Bankart that (*a*) the free exposure of the hip by an antero-external flap and (*b*) the separation of the great trochanter are features peculiar to arthroplasty of the hip. They are simply steps in the adequate exposure of the hip-joint for any purpose, whether this be simple excision of the hip—as advocated by Mr. Bankart—or the more elaborated excision which is dealt with in my communication. With regard to the question of excision of the capsule, I consider it is essential to cut away a considerable amount, not with the idea of determining the future function, but again to facilitate complete exposure of the deformed head previous to its removal. I think my paper made clear that a severe operation can be used only in carefully selected patients, and from practical experience I do not consider the elaborated excision operation to be unreasonably severe.

Simple "straightforward excision" of the femoral head—in the restricted sense of the term—is not an obsolete operation, provided the after-treatment is correct. I have done it in a number of cases of osteo-arthritis, but I do not consider the classical anterior route is efficient; the exposure is too limited unless the head of the femur is disarticulated, a manœuvre which I feel should be avoided in these patients. Using the postero-lateral route, the operation can be carried out with a full view, and the head removed quickly and with ease. There is one type of case in which it is especially important to do a "radical" excision of the head, and that is when the opposite hip-joint shows early hypertrophic changes with slight limitation of mobility. Again, in unilateral cases, when the changes are very advanced, the large mushroomed head, when removed as conservatively as possible, leaves a neck which is exceedingly short. It will thus be seen that the expression "excision of the femoral head" is capable of varying degrees of interpretation.

The term "arthroplasty" should be limited to an operation performed in the presence of complete ankylosis of a joint and for nothing else. I have no intention of allowing myself to be responsible for the suggestion that, as applied to the hip-joint, "arthroplasty" and "excision of the head of the femur" are synonymous terms.—I am, etc.,

Manchester, May 9th. HARRY PLATT.

BONE GRAFTING FOR UNUNITED FRACTURES.

SIR,—Professor Rushton Parker draws attention in your correspondence columns of May 6th to a method of treating ununited fractures by bone grafting which he first described in 1907.

The omission of any reference to this method in the paper read by Mr. Perkins and myself is perhaps excused by the full title of our contribution—namely, "Some observations on bone grafting with special reference to bridge grafts."[1] I think that it is now common ground among those who have had recent experience of this subject, that a definite gap in a long bone cannot be successfully bridged except by the insertion of a graft which makes firm contact with both fragments.

The fifty cases upon which we based our observations were nearly all the result of missile injuries which had caused considerable loss of bone substance; scarring both of the bone-end and surrounding tissues as the result of prolonged suppuration was also present in the majority. Such a condition of affairs involves a complete loss of bone-forming tissue in the gap, and it is only by careful attention to the technique of the grafting operation that success can be obtained with any regularity. In my experience the loose interposition of bone fragments or bone dust in this class of case is practically useless.

The cases quoted by Professor Parker and illustrated in the *Proceedings of the Royal Society of Medicine* are of simple fractures, one of six months' and the other of nine months' duration; the *x* rays show no bone gap and do not even suggest the presence of a pseudarthrosis. I think it is clear that examples of this nature form no basis upon which to determine the proper method for replacing bone when there has been a definite loss of all bone-forming elements at the seat of injury.

I no not question the efficiency of Professor Parker's method in simple cases, but I feel that it is important to emphasize the necessity, brought home by recent intensive experience, of the firm fixation of the bone implant in the case of bridge grafts.—I am, etc.,

London, W., May 12th. C. MAX PAGE.

[1] *Brit. Journ. of Surgery*, vol. ix, No. 36, 1922.

ETIOLOGY AND TREATMENT OF DIABETES.

SIR,—In reply to the points raised by Dr. Barnes and Dr. Cammidge in your issue of May 6th, 1922, relating to our article on the etiology of diabetes, it will be necessary to deal with these points seriatim.

Dr. Barnes's charge relating to any suggested divorce between clinical medicine and laboratory work is erroneous, since all the patients were under careful clinical observation by responsible physicians, at least three of the patients mentioned being under the sole supervision of one of us (A. R.).

Such a charge is entirely unwarranted and Dr. Barnes ought to have realized that although the details omitted were necessary for clinical observation the complete narration of all clinical details was quite unnecessary from the standpoint of the paper, and that such complete exposition of these details would have obscured the presentation of the more scientific details and would have produced an unwieldy and unreadable article. We can state categorically that the finding of the organism was not due to the patient being on any particularly selected diet at the time of the examination, since in several patients the organism was found in the stools at the first examination before dieting had been commenced, in some instances whilst attending as out-patients.

With Dr. Barnes's comments regarding a primary ketosis we are in entire agreement, but we would emphasize the defective storage of glucose as being responsible for the glycosuria rather than the secondary failure of the glucose-burning mechanism. In addition to the acetone effects, however, the action of butyl alcohol must be considered, and in our opinion even more important than either of these is the further fate of the extraordinary diastatic ferment produced by this organism. We could dwell at considerable length upon this, but as our article confined itself to facts, so now do we prefer to postpone the theoretical considerations as to the further rôle of this exogenous ferment pending the completion of further work now in hand. We believe, however, that the due consideration of the action of this ferment extended to the tissues would explain the greater part of those clinical details which Dr. Barnes has charged us with neglecting. Meanwhile we commend to Dr. Barnes's consideration the necessity for a quiet and careful survey of the potentialities of such a ferment. When he has ruminated upon this—as, indeed, we have for an extended period—he will then be in a better position to discuss those clinical details from a standpoint which will make him much better understand facts at present perplexing to him.

Dr. Barnes quotes a diet containing oatmeal, cabbage, and lean meat. This diet is much too rich in protein for the free growth of *B. amyloclasticus*. We have tried to grow it on a medium composed largely of cabbage, and find that growth therein is extremely poor: the organism becomes thin, loses its Gram stain, and becomes practically unrecognizable. A striking parallel to this poor fermentation in protein-rich media is found in the acetone organism fully described by Gill and in other references quoted in our paper.

Dr. Cammidge refers to Koch's postulates. It is quite true we have not as yet attempted to fulfil Koch's postulates; nor have they been satisfactorily fulfilled in every other disease in which the etiological agent is known. To endeavour to complete the animal experiments will be costly and laborious, and this has been left over temporarily pending a suitable research grant being obtained to cover these expenses, since so far the work has been carried out at our own expense. Although these postulates had not been completely established it was obvious that the fermentative activity of this organism produced substances *in vitro* presenting such a striking similarity to the abnormal products present in diabetes as to warrant attention being drawn to it.

We do not agree with Dr. Cammidge's suggestion that this organism is present in the intestines as an effect rather than as a cause of diabetes. An effect of what, may we ask Dr. Cammidge? Can Dr. Cammidge, for instance, state how the reaction of the intestinal contents differs in the diabetic and the normal? Apart from complicating pancreatic disease, in what way do the intestinal contents differ?

In regard to Dr. Cammidge's remarks about "heavy inoculations of the stools," similar inoculations of a pure culture also are necessary to secure a good fermentation, and, as we have indicated, it is probably of great importance to the patient that complete vigorous fermentation is probably rarely complete in the intestine. If Dr. Cammidge could see the results of the fermentation *in vitro* of pure cultures of *B. amyloclasticus* he would recognize the beneficial restraining influences which certain intestinal organisms exercise over the vigorous action of this bacillus.

We have, however, had least difficulty in isolating this organism from those cases which are most rapidly progressive, and in two of the cases which died somewhat rapidly the organism was found at the first attempt.

Regarding the final part of Dr. Cammidge's letter, so many statements concerning diabetes have been made that almost any deduction can be drawn from them. We have not discussed these in our paper, although we have carefully considered them, since we felt that the only way of cutting the Gordian knot of diabetes was by the incisive action of facts driven hard home. Such a fact the *B. amyloclasticus* will, we believe, prove to be.

Finally, we wish to state, in reply to Dr. Barnes and the Editor, that we were not responsible for the supply of details of the paper for advance publication.—We are, etc.,

ARNOLD RENSHAW, M.D.,
THOMAS H. FAIRBROTHER, M.Sc.

Manchester, May 15th.

*** We are satisfied on further inquiry that Dr. Renshaw and Mr. Fairbrother are not responsible for the advance publication of summaries of their article in the lay press.

ASTHMA AND THE MENOPAUSE.

SIR,—Dr. Coke's argument (March 18th, p. 455) that there must be a shortage of pituitrin in pregnancy because of "its common favour in the midwifery bag" proves rather the contrary, seeing that pituitrin is occasionally required to be supplied artificially in exceptional cases. Dr. Coke surely does not mean that the administration of pituitrin is necessary or even justified as a routine—normal cases must needs have a sufficient supply of this hormone naturally. Moreover, since Compte in 1899 first stated that the hypophysis cerebri hypertrophies during pregnancy this has been accepted by all authorities.

As regards Dr. Coke's experience of the extreme rarity of asthma commencing *de novo* in pregnancy, my experience has been the opposite. I had several patients, especially primiparae, whose first attack of asthma started in early pregnancy, and I have no lesser authority than Professor De Lee[1] to corroborate my experience. That the thickening of the mucous membranes of the respiratory passages (nose, larynx, and pharynx), which is of very frequent[2] occurrence in pregnancy, is the probable contributory factor in precipitating those attacks of asthma seems only reasonable.

Further, the reason that Dr. Coke has not noticed "any difference for better or worse as regards asthma during the menopause" is simply that the onset of the menopause is usually gradual and there is ample time for the adjustment of the interaction between the endocrine organs, while in pregnancy the cessation of the ovarian and uterine mucosa activities is sudden, and in this respect an artificially produced menopause is analogous to pregnancy.—I am, etc.,

S. E. KARK, M.B., Ch.B.,
L.M.R.C.P.I.

Cape Town, April 14th.

MEASLES AND FRESH AIR.

SIR,—Not the least of the noteworthy advances of medical science during the past thirty years has been the hygienic treatment of measles. The fallacy that cold air and water were the chief enemies has departed, and open windows and cleanliness have become the rule, with the result that, although the disease remains as prevalent as ever, its mortality has very greatly diminished (in Woolwich over 50 per cent.). In view of these incontrovertible facts, it is much to be deplored that a great newspaper like the *Times* should advise mothers that "open windows are a mistake," that warm and moist air is a preventive of the bronchopneumonic complication, and that it is therefore of prime importance to "keep the air of the room moist." Warm, moist air may be useful for alleviating the symptoms of bronchitis in cold and dry weather, but as a routine measure it has a most seriously depressing and injurious effect.

My attention was once called to the occurrence of several deaths from measles in a public institution. On investigation I found that some twenty cases were being treated on the lines recommended by the *Times* medical correspondent; windows were shut and all the cases had steam kettles and tents, with the most disastrous results. The warm, moist climate of the Fiji and Faroe islands did not prevent most

[1] De Lee, *Principles and Pract. of Obst.*, p. 355.
[2] Ibid., p. 110.

of the population dying of measles. How any responsible medical writer—relying on the opinion of "an old doctor of the writer's acquaintance, who in a long medical life never 'lost' a case"—can venture to scatter broadcast such reactionary and dangerous advice passes my comprehension. Is it simply because the Ministry of Health and most of the Public Health Departments of the country are recommending a quite different method of treating this widespread disease?—I am, etc.,

SIDNEY DAVIES,
Late M.O.H. Woolwich.

Buckhurst Hill, May 9th.

MANY INVENTIONS.

SIR,—I have been much amused at your futile criticism of my friend Dr. Albert Abrams in your issue of the 6th inst. You very seldom quote from the *Journal of the American Medical Association*, and one might have expected that when you did so you would have chosen a more serious subject than an ignorant tirade against an eminent medical man—against, in my opinion, the greatest genius in the medical profession. Why you should have thus acted I cannot surmise, unless it be to justify yourself in refusing an original and very valuable article by Dr. Abrams. The American critic confessedly knows nothing of Abrams's work, though he acknowledges that he has written voluminously. What has Abrams's birth in San Francisco and his degree from Heidelberg to do with his discoveries? Can no good thing come out of Nazareth?

Dr. Abrams has frequently exposed the methods of the American osteopaths and chiropractors with whom this writer links him, but Abrams has been honest enough to acknowledge the good work which they have done, just as many eminent London surgeons have been honest enough to speak in high terms of Mr. Barker, notwithstanding the fact that a man was struck off the *Medical Register* for administering anaesthetics for him.

Dr. Abrams's blood examinations have long been established facts, and if this writer had been imbued with the spirit of science of which he speaks so glibly, instead of ridiculing methods which he was incapable of understanding, he would have tested Abrams by sending a sample of blood from a patient whose disease he did understand. It would only have cost him 10 dollars, a very modest fee which he could have abstracted from the patient, and I have no doubt if Dr. Abrams were satisfied that he was an honest seeker after truth he would have let him off the fee. Dr. Abrams says: "No diagnostic method is infallible," yet Dr. H. A. Hess, a distinguished surgeon, says: "Dr. Abrams has made fifty examinations of blood for me, and all correct, as far as I can judge." How many of the surgeons in this country could make a similar assertion? Dr. J. Madison Taylor, a man well known in this country as well as in America, says: "The light which Dr. Abrams's researches afford is the largest source of illumination, and I, for one, welcome it with thankfulness."

There is no secrecy about Dr. Abrams's methods. All his works are well known, and whether his theories be accepted or not, there is no honest individual who can refuse to accept his facts. There are hundreds of medical men from all parts of the world who visit his clinic, and they are not all fools or knaves as your colleague would seem to infer. I have never known a pupil of Abrams to speak of him except in the highest admiration. Your American friend tries to be very facetious over the sexuality of numbers, vowels, and consonants, and avers that "if there be any scientific foundation for the marvels that Dr. Abrams so picturesquely features, the scientific world has not yet found it out." When did the scientific world ever find out a new fact until it was discovered? Ignorant ridicule may delay the general acceptance, but it can never kill a new discovery. It always seems to me very deplorable that medical men, in place of leading the van in preventive medicine and in the treatment of disease, have frequently to be forced into new positions.

A good many of Dr. Abrams's instruments can be seen in London and have been seen by many medical men; therefore, there is no excuse for bolstering up an ignorant American fusillade. Dr. Abrams wisely refuses to part with his instruments until he knows that they will be properly used, and that the user is competent to carry out his methods. Imagine a delicate instrument in the hands of your American colleague; Dr. Abrams and his methods would be discredited at once. When at the Hotel Cecil on Wednesday night I said, *Damnant quod non intelligunt*, I was thinking of you and your American friend.

Dr. Abrams's most recent discovery is the analysis of handwriting, whereby he tells the sex, race, and disease of the writer. When I first heard of this work I did not think it possible or credible, and I told Abrams so. He replied, "Your very kind letter received, and I note what you say about handwriting. I wish you would make the reactions, which are definite and absolute." In the meantime I had made the reactions, and was soon able to corroborate his findings in every particular. At present I am merely amusing myself with these anlayses, but I can readily perceive that they may have very wide applicability, and may eventually be of great importance in forensic medicine. It is not necessary to see the writing which you are analysing, as an assistant can carry out the preliminary details. As far as I am concerned I prefer not to see the writing, as thus the personal equation is entirely eliminated. The other day a medical man, to whom I gave a demonstration, asked me when I was going to publish my results. I told him that at present it was quite sufficient for me to educate myself. When every important member of the community has a wireless telephone in his house and on his person, then medical editors and medical men will begin to perceive that there was more in Abrams's vibrations than was dreamt of in their philosophy. Abrams's discoveries have come to stay, whether you like them or not. —I am, etc.,

JAMES BARR.

Liverpool, May 11th.

*** We are at a loss to know which should be the more admired, Sir James Barr's epistolary style or Dr. Albert Abrams's facts. Those who wish to pursue the matter will find in the *Journal of the American Medical Association* for April 29th, 1922 (p. 1334) a long letter by Mr. Upton Sinclair in praise of Dr. Abrams, together with some additional information supplied by the Editor.

THE GENERAL PRACTITIONER AND THE HOSPITALS REPORT.

SIR,—Dr. J. C. Turnbull, in his letter of May 4th (BRITISH MEDICAL JOURNAL, May 13th, p. 780), on the Report on the Organization of Voluntary Hospitals, states: (1) That the report contains no definition of "voluntary" as applied to hospitals; (2) that the scheme of the "tariff patients" allows of contract practice by the hospitals.

On the first point, if he reads paragraphs 6 and 7 he will find a couple of related definitions of voluntary hospitals. If he does not consider these to be definitions, what is to be said to those who assert that they are too definite?

On the second point, if he reads paragraph 14 he will find that contract practice by a hospital is distinctly provided against.

> 14. *New Para.:* In any schemes for providing hospital benefit by voluntary hospitals, it is undesirable that the hospitals concerned should undertake any insurance risk, *i.e.*, undertake to provide hospital benefit, when required, in return for a periodic payment by an individual or a group of individuals; so that where schemes are set up to provide payment for hospital benefit for specified individuals or groups of individuals, such schemes should be organized not by the hospital, but by some independent body.

No one can prevent a person entering into an arrangement with some person or persons to underwrite the risks attendant upon a failure of health. A father of a family may and does enter into a contract with those who are willing to take such insurance risks. But we can and do object to a hospital constituting itself such an underwriter: it is not the business of the hospital. On the other hand, for a hospital to state the terms on which it will accept patients for definite purposes and to receive the payment arranged for work done is legitimate. That is what paragraph 22 (*a*) provides. His fear that a hospital management could accept patients under a contributory scheme without the agreement of the profession is surely met by paragraph 39, which provides for the representation of the profession in the management of the hospital. —I am, etc.,

N. BISHOP HARMAN.

London, W., May 15th.

THE OUTLOOK IN TROPICAL HYGIENE.

SIR,—With reference to the notice accorded my address on "The outlook in tropical hygiene" (not medicine) in the BRITISH MEDICAL JOURNAL of May 13th, may I be permitted to point out that the last paragraph of that notice unfortunately conveys an erroneous idea of what I really said. It runs as follows:

> "Thanks, however, to the lessons learnt in the past eight years courses of instruction were now open to men and women to qualify as sanitary inspectors in the colonies, and a diploma in sanitary science as applied to the tropics was now available."

What I did say was that there was a great need of establishing a special course of instruction in this country for sanitary inspectors destined for the colonies. So far as I am aware, no diploma in sanitary science as applied to the tropics yet exists for sanitary inspectors. All that has been done in this direction is represented by the certificate granted by the Royal Sanitary Institute to sanitary inspectors who have qualified in the examination on tropical sanitation, which has been recently instituted.

I would also like to point out that the investigations on ankylostomiasis of pigs were carried out in Queensland, not in South Australia, and that, as I stated, work has also been done on this subject by O'Connor in the Ellice Islands.—I am, etc.,

ANDREW BALFOUR.

Wellcome Bureau of Scientific Research,
London, N.W., May 12th.

MARRIED MEDICAL WOMEN WHOSE HUSBANDS ARE ABLE TO SUPPORT THEM.

SIR,—As a married woman whose husband is able to support her I protest most strongly against your Association accepting such an advertisement as the one in to-day's JOURNAL, saying such women are ineligible at St. Pancras as assistant medical officers for maternity and child welfare. It is contrary to law (the Sex Disqualification Act), and it is against the best interests of the profession, which no sex jealousy should be allowed to interfere with. In my opinion, with conceit if you like, women with experience of their own children are infinitely better fitted for this work than single women; however much better individual men or women without that experience may be, the former can speak with authority.

We hear a deal about waste these days; surely it is a waste for women to spend so much on qualifying and then (as in my own case, when her children are of school age) stay at home and do another woman out of a job, which she is probably much better at than oneself, and which personally I loathe with a deadly hatred. Looking after one's children when young is a different matter.

But there is another point of view. Many husbands are *able* to support their wives and fail to give them anything but a housekeeping allowance, which is often meagre enough for housekeeping alone, and until wives have a recognized status as wage-earning members of the community it is cruel to prevent them *not* earning a living (they do that), but receiving pay for their work. Even in the lowest class husbands have to have their "bit of spending money." I have known of at least half a dozen cases of wives whose husbands are serving or have served terms of imprisonment rather than support them. It is not likely that medical women would be reduced to such straits, but is any woman going to admit that her husband is not getting on sufficiently well to support her in anything like comfort? Mrs. Patrick Campbell says she had to begin work to get her husband away from city life, for which he was not strong enough. The world could ill afford to lose her in a household drudge. I admit many men would have thought it better that she stayed at home and went out charing! Anything to keep us in the home, gentlemen. But this inquisition about our affairs is intolerable. Next you will be asking us if we are in love, as if so we are ineligible, as love, it is well known, distracts one from work. I hope when the woman appointed to St. Pancras with a dependent husband has got her job he will enjoy his much advertised position. Ye gods! no wonder the independent girl of to-day is so chary of marriage.—I am, etc.,

Leeds, May 6th. MARION E. MACKENZIE.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

AT a congregation held on May 6th the following medical degrees were conferred:

M.B., B.CH.—G. S. Trower, H. W. Leatham.

UNIVERSITY OF LONDON.

AT the Royal Society of Medicine (1, Wimpole Street, W.) three advanced lectures in medicine, as already announced, will be given by professors in the Faculty of Medicine of the University of Paris. Monday, May 22nd, Professor F. Widal: Subject, Anti-anaphylaxie, Chairman, Lord Dawson of Penn. Thursday, May 25th, Professor H. Vaquez: Subject, De l'Erythrémie (Maladie de Vaquez-Osler), Chairman, Sir Wilmot Herringham. Wednesday, May 31st, Professor J. Babinski: Subject, Des Reflexes de défense, Chairman, Sir James Purves Stewart. The lectures will be delivered in French, and have been arranged under a scheme for the exchange of lectures in medicine between France and England. Admission is free without ticket.

UNIVERSITY OF ST. ANDREWS.

THE Senatus Academicus of the Univerity of St. Andrews has resolved to confer the honorary degree of LL.D. upon Sir Harold J. Stiles, Regius Professor of Clinical Surgery in the University of Edinburgh, and Dr. C. R. Marshall, Professor of Materia Medica in the University of Aberdeen.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN extraordinary Comitia of the Royal College of Physicians of London was held on May 11th at 5 p.m., the President, Sir Humphry Rolleston, occupying the chair.

The following fourteen members elected to the Fellowship at the previous Comitia were admitted and gave their faith to the College: Dr. Edwin Hyla Greves, Sir Sydney Russell-Wells, Dr. Ewen John Maclean, Dr. Arthur Herbert Hayes, Dr. Robert Alfred Bolam, Dr. William Henry Wynn, Dr. Charles Paget Lapage, Dr. Edward Fretson Skinner, Dr. Owen Lambert Vaughan Simpkinson de Wesselow, Dr. John George Porter Phillips, Dr. Harold Wordsworth Barber, Dr. Arthur Geoffrey Evans, Dr. Aldo Castellani, Dr. Henry Hallett Dale.

Dr. Raymond Crawfurd was elected Senior Censor.

A licence to practise physic was granted to Yassa Sudki Soliman, Cairo, and St. Thomas's Hospital. Diplomas in Public Health were granted jointly with the Royal College of Surgeons to the successful candidates.

Communications were received relating to the attendance of Fellows and Members of the College in connexion with the processions in the appeal for the hospitals on Empire Day, and permission was accorded.

The College seal was affixed to a Latin address to the University of Padua on the occasion of its seventh centenary.

A report was received from the Censors Board concerning the alterations of a resolution of the College and certain by-laws. After some discussion it was referred back for further consideration by the Censors Board.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary Council was held on May 11th, when Sir Anthony Bowlby, President, was in the chair.

Issue of Diplomas.—Diplomas of Membership were granted to 108 candidates found qualified at the recent examinations. (The names were printed in the report of the Comitia of the Royal College of Physicians published on May 6th, p. 742.) The Diploma of Public Health was granted, jointly with the Royal College of Physicians, to 20 candidates found qualified. The Diploma in Tropical Medicine was granted, jointly with the Royal College of Physicians, to 24 candidates found qualified. (The names were printed in the report of the Comitia of the Royal College of Physicians, published on May 6th, p. 742.)

International Congress of the History of Medicine.—The President reported that he had arranged to receive the members of the Third Congress on Wednesday, July 19th next, from 3 to 5.30 p.m.

The Services.

SURGEON COMMANDER B. H. MORRIS, of the Royal Australian Naval Reserve, has been awarded the Volunteer Officers' Decoration.

CAMPAIGNS IN PERSIA.

THE following are among the awards announced in connexion with minor military operations in North and North-East Persia during the period 1917–21:

O.B.E. (Military): Major (acting Lieut.-Colonel) Michael Keane, R.A.M.C.

M.B.E. (Military): Captain Jelal Moochool Shah, I.M.S., 1st Class Senior Subassistant Surgeon Mirza Muhamed Beg, Khan Bahadur, I.M.D.

To be Brevet Major: Captain (temporary Major) C. H. H. Harold, R.A.M.C.

The names of the following officers have been brought to the notice of the Secretary of State for War for distinguished services rendered in connexion with the operations: Captain (temporary Major) C. H. H. Harold, R.A.M.C., Major (acting Lieut.-Colonel) M. Keane, R.A.M.C.

DEATHS IN THE SERVICES.

COLONEL MICHAEL JOHN SEXTON, C.B., LL.D., Army Medical Staff (retired), died at Herne Bay on April 29th, aged 61. He graduated as M.D. and M.Ch. in the Royal University of Ireland in 1883, and entered the army as surgeon in August, 1885. He became full colonel in 1915, and retired in December, 1917. He served in the Burmese war in 1886 (medal with clasp); in the Chin Lushai campaign on the North-East Frontier of India in 1889–90 (clasp); in the South African war in 1901–02, in operations in the Transvaal, the Orange River Colony, and Cape Colony (Queen's medal with three clasps); and in the war of 1914–18 as an A.D.M.S. of the Mediterranean Expeditionary Force, and afterwards as D.D.M.S. of the lines of communication of the Egyptain Expeditionary Force, when he was mentioned in dispatches in the *London Gazette* of January 23rd, 1916, and July 6th, 1917, and received the C.B. on January 1st, 1916.

Obituary.

SIR HENRY DAVY, K.B.E., C.B., M.D., F.R.C.P.,

Consulting Physician to the Royal Devon and Exeter Hospital; Ex-President of the British Medical Association.

WE had to announce last week with great regret the death, on May 10th, of Sir Henry Davy, who was President of the British Medical Association when it held its annual meeting in Exeter in 1907. It occurred at his house in Exeter after a short illness, due to cerebral haemorrhage.

Henry Davy was born in 1855, and was the youngest son of Mr. Henry Davy, solicitor at Ottery St. Mary. From Honiton Grammar School he proceeded to Guy's Hospital, where he became an earnest disciple of Wilks and Moxon, whose teaching had an abiding influence on his outlook of medicine and its practice. He neglected no opportunity afforded by the great school of which he was a pupil; he took the first prize for first-year students, and while dresser to Mr. Howse he won the Gurney-Hoare prize for an essay on the value of the newly introduced antiseptic, carbolic acid, for the treatment of wounds. This essay was afterwards published in *Guy's Hospital Reports* (1878) under the title "Antiseptic surgery and pyaemia." At Guy's Hospital he held the posts of house-physician and resident obstetric assistant, and was also house-surgeon to the Evelina Hospital for Children and resident clinical assistant at St. Luke's Hospital for the Insane. He was a president of the Students' Physical Society, and frequently spoke in debates on both medical and surgical subjects. He was at one time joint editor of the *Guy's Hospital Gazette*, and, with Dr. G. Mackern, published in the *Lancet* in 1877 a paper on the blood in pernicious anaemia, based on observations of a patient under the care of Dr. Moxon. He took the diploma of M.R.C.S.Eng. in 1877 and graduated M.B.Lond., with honours in medicine, obstetric medicine, and forensic medicine, in 1878. He proceeded to the degree of M.D. in 1882, became a Member of the Royal College of Physicians in 1880 and a Fellow in 1894. On leaving Guy's Hospital he settled in practice as a physician in Exeter and was soon appointed physician to the Exeter Dispensary, of which institution he was made consulting physician in 1907 and president in 1912. In 1881, on the retirement of Dr. Samuel Budd, he was elected one of the two physicians of the Royal Devon and Exeter Hospital at Exeter, and was assiduous in the discharge of the duties of that office. The rules of the hospital would have required his retirement in 1920, on attaining the age of 65, but when the committee understood that he was willing to serve a little longer his appointment was, with the cordial approval of his colleagues on the medical staff, extended for two years. He, however, preferred to retire in 1921, when he was appointed consulting physician.



Photograph by] SIR HENRY DAVY. *[Elliott and Fry, London.*

For many years he held a leading position in the profession in the West of England. He was of a very practical turn of mind, a shrewd judge of men and theories, who kept himself well informed of the progress of medicine, and took pains, by visits to the hospital at which he had been a student and in other ways, to make himself acquainted with new methods of diagnosis and treatment. It is no wonder, therefore, that his opinion was often sought in difficult cases, and that he was implicitly trusted by his medical colleagues in all parts of Devonshire; his work was much increased by the self-forgetting readiness with which he responded to any call to attend them, their wives or children, in sickness; he never failed to go to the help of any who needed him. He was staunch and loyal, and his cheery word and pleasant smile gained him many a friend, who did not forget the man when the need for the physician had passed. He was outspoken but of genial disposition, and much given to the virtue of hospitality. His election as sheriff of Exeter in 1887 afforded him special opportunities of displaying it to his numerous personal friends and to the legal and other notabilities of the county; it continued with him to the end.

He had been President of the South-Western Branch of the British Medical Association, and when that Branch invited the Association to hold its annual meeting at Exeter in 1907 Davy was, on its nomination, elected president. In the following year, in connexion with the annual meeting at Sheffield, he received the honorary degree of D.Sc. of the University of that city, and was subsequently appointed one of the vice-presidents of the Association. During his term of office on the Council he took a great interest in its proceedings, and served as a member of the Finance Committee.

The even tenor of Davy's life was interrupted by the war. Under the scheme of territorial hospitals elaborated by Sir Alfred Keogh in 1908 Davy was appointed Lieutenant-Colonel *à la suite* of the 4th Southern Territorial General Hospital, which had its headquarters at Plymouth. Soon after the war broke out, however, he was appointed consulting physician to the Southern Command. He took his duties very seriously and did most valuable and conscientious work. He never spared himself, and for several years almost lived in trains and motor-cars; his services were in constant request in all parts of the command, which included Netley and other large and important hospitals. In spite of the fatigue involved in this constant travelling Davy thoroughly enjoyed his contact with the young and energetic members of the profession serving in the R.A.M.C.; from them he used to say he learned as much and more than he imparted. He was specially interested in the modern methods of studying the manifold forms of cerebral and nerve disturbance, with regard to which his advice was frequently asked. His early interest in antiseptic surgery gave him an added motive for careful observation and comment on modern aseptic methods. He was a member of one of the special commissions that visited the war area in France, and fully appreciated the good work there done, especially all that concerned camp sanitation. His ability and earnestness alike commanded respect, and he received the honours of C.B. in 1917 and that of K.B.E. in 1919.

Sir Henry Davy was twice married; his first wife was the grand-daughter of a well-known Exeter surgeon, Mr. P. C. Delagarde. He had two children, one a son, who was killed

early in the war, the other a daughter, who did most strenuous work with Dame Georgina Buller in organizing and equipping the Devon group of war hospitals. She survives, and has recently taken the LL.B. of the University of London, with a view of being called to the Bar. He married a second time, in 1920, the widow of his old friend Dr. John Mortimer, of Exeter, by whom he is survived.

The funeral took place on May 14th. The service was conducted by the Bishop of Crediton, and in the first part, at the Cathedral, he was assisted by the Archdeacons of Exeter and Totnes. Among the large congregation in the Cathedral were many representative people of the county of Devon and city of Exeter, including the mayor and sheriff of Exeter, the present M.P., Sir Robert Newman, and the past M.P., Sir Henry Duke, and a very large number of members of the medical profession. The British Medical Association was represented by the president of the South-Western Branch and chairman of the Exeter Division, Dr. W. Gordon, who, with Mr. E. J. Domville, consulting surgeon, represented the staff of the Devon and Exeter Hospital. The Association was further represented by Mr. Russell Coombe on behalf of the Council, by the Branch Secretary, Dr. F. A. Roper, and by the Division Secretary, Mr. Norman F. Lock. There were representatives of many public bodies with which Sir Henry Davy had been connected; also a very large number of personal friends were present.

Sir WILLIAM HALE-WHITE has sent us the following appreciation: Davy was my senior as a student at Guy's Hospital, but I saw much of him then and since. Even thus early his industry was manifest. Fortunately he combined with it a great aptitude and affection for his profession. These characteristics never left him. Shortly before his fatal illness I chanced to ask him what he would do when he retired; he replied that he never would retire, for he cared for nothing so much as the practice of medicine. His power of application was immense—holidays were only a dose of tonic to enable him to work harder. The Command in which he served in the war extended from Southampton to Land's End. The energy with which he threw himself into the duties of President of the British Medical Association when it met at Exeter will be remembered gratefully by all who were present, and this occasion brought out his keen enjoyment of being hospitable. Never was he so happy as when entertaining his friends, particularly if they were members of his own profession. He had the well-balanced mind that is appropriate to a physician; if there were insufficient data he was not ashamed to refrain from giving an opinion, but if he committed himself to a diagnosis it was pretty sure to be as good as could be made. He always surveyed the whole surroundings and circumstances of each individual patient, and therefore the advice given was sound and sensible. More than his share of troubles came his way: a severe bicycle accident led to a long illness, another time he damaged himself by a fall on a railway platform, his first wife's health was very bad for many years, he lost his only son in the war; but each trouble was borne bravely and silently without a word of complaint. He had a fellow feeling for others in distress; often has he helped them handsomely, unostentatiously, and secretly. Many were quite unaware when they met him that they were talking to a brave and generous man. As might be expected, with such a character, he was intensely loyal to his profession and his friends. For either he would, without stint, do all that lay in his power, and he will always be to patients, doctors, and friends a memory of ungrudging kindness and help.

Mr. RUSSELL COOMBE writes: When I came to Exeter as house-surgeon Henry Davy, although slightly younger than I, had been some time full physician to the hospital with some thirty beds at his disposal. It did not take me long to realize that I had met one of marked ability and possessed of an unusual familiarity with practical medicine. He indeed already held an outstanding position, and it was to him even then that his colleagues turned for advice and counsel in difficult cases. Not long after the termination of my house-surgeoncy I became one of his colleagues on the staff of the Exeter Dispensary, and discovered with astonishment the size of the out-patient clinic he conducted there. Three to four hours twice a week were given to this service.

This combination of simultaneous in-patient and out-patient experience gave him opportunities which, surely, come but to few physicians, and he made the most of them. I found in later years that when a difficult case arose he could almost invariably produce notes of a similar case—seen either whilst he was a resident at Guy's or the Evelina, or in the Exeter Hospital or at the Dispensary. It was this systematic note-taking which early gave him the collated experience that men in Exeter and for fifty miles round learned to prize so highly. He seemed often to diagnose intuitively, and yet as soon as discussion arose one found his opinion based on solid experience.

But to his medical brethren Davy was not only the skilled physician. To numbers of them he has been a refuge in times of trouble—repeated long journeys on winter evenings to see the dangerously ill wife of a medical man fifty miles away in North Devon; gifts of things wanting to the wife of another practitioner are instances of goodness of heart that could not be exceeded—yet these acts have only come accidentally to my knowledge. At his funeral I saw a practitioner from thirty miles away who owes his wife's life to an accurate diagnosis of Davy's—overriding that made by a great authority. Thus we all, his medical brethren, had got to love him. He mixed with others and entered into their feelings. Thus he developed a knowledge of life and sympathy with all. It was this sympathy that gave the laity such confidence in him as a medical adviser. Moreover, a Devonian by birth and ancestry, with a deep love of his county and knowledge of it from boyhood up, there must have been quite a large number of patients of whom he knew something as soon as he heard their names. He eminently fitted the position he filled.

His war work was excellent, and we were all proud of it. I chanced to be at Netley when the news of his appointment as consulting physician to the Command appeared. The appointment of a provincial physician was, perhaps, not received, shall I say, with enthusiasm, but it was not long before his professional knowledge was fully recognized, and before his geniality and *savoir-faire* rendered him a most popular and trusted officer.

His life evoked much sympathy from us all; the sad and tedious illness of his first wife and his only son's death in the war left him, it seemed to us, a sad and sorrowful man. Thus all who knew him rejoiced in the happiness his second marriage brought him. The tragedy is that two short years have brought this happiness to an end; again our deepest feelings of sympathy are aroused for his widow. The end was, yet, what he would have wished. He often told me he wished to die in harness, and dreaded the time when he could no longer work. The sadness is that it has come so much too soon—too soon for him, since it has cut short what was obviously a period of happy and contented life; too soon for us, since it has taken from us a *confrère* who could only be lost with deep sorrow. He was a great physician, a worthy and loving son of Devon, and we are all the poorer for his loss.

ROBERT BRUCE LOW, C.B., M.D.EDIN., D.P.H.CAMB.,

Late Assistant Medical Officer, Local Government Board.

IT is with feelings of the deepest regret that we record the death, on May 12th, after a short illness, of the distinguished epidemiologist and sanitarian, Dr. R. Bruce Low. He was in his 77th year, and up to within a week of his death was engaged in literary work of much importance to the public health service.

Robert Bruce Low was born in Edinburgh in 1846 and educated at the Royal High School and University of his native city. After graduation in 1867, he became house-surgeon at the Royal Infirmary, Edinburgh, and then devoted a year to post-graduate study at St. Thomas's Hospital, London, and at the Universities of Würzburg and Berlin. He next practised as a rural general practitioner for nineteen years; the first four were spent in Lincolnshire and the remaining fifteen at Helmsley, in the North Riding of Yorkshire. During the latter period he became medical officer of health for Helmsley Rural District and district medical officer, public vaccinator, and workhouse medical officer to the Board of Guardians of the Helmsley Union, besides being deputy coroner for the North Riding of Yorkshire.

The life of a general medical practitioner in a sparsely populated area was far different in those days from what it is at present. There were then few really good roads in the district, and Bruce Low, when visiting his patients, had to undertake long journeys over the moors on horseback, and during periods of stress he spent much time in the saddle, and often went very short of sleep for several days and nights.

His horsemanship called forth the admiration of his farmer patients quite as much as his medical proficiency. Short in stature, a light weight, distinguished in appearance, always immaculately dressed, Bruce Low was one of the best examples of the practitioner of the old school. The accent he brought from over the border he never lost, and not only those who came into conflict with him but his own personal friends realized that he had only one opinion on any subject, and that was an honest one, and one from which he never wavered. He possessed indomitable pluck and perseverance and a wide sympathy with his fellow man. He had not long been in the district before he won the hearts of rich and poor alike by his skill, his steadfast devotion to duty, his kindly personality, the catholic charity which characterized all his actions, and the fact that he was always ready to turn out at any time of the day or night, whatever the weather conditions might be, to alleviate the sufferings of the poorest member of the community. When he entered a house he was greeted not merely as "the doctor" but as a friend of the family who knew and could be trusted with all the secrets jealously guarded from everyone else. So great was their faith in his wisdom and judgement that in all matters of difficulty they appealed to him for help. If, for example, a husband and wife commenced squabbling and would not be reconciled, the remedy at once suggested by friends and neighbours was, "Send for Mr. Low."

Despite the cares and responsibilities of general practice, Bruce Low found time to take a prominent part in the Volunteer movement and subsequently became Surgeon-Major to the 2nd Volunteer Battalion, Yorkshire Regiment. Gradually the importance of preventive medicine, then in its infancy, became impressed upon his mind as a result of his observation of the part played by environmental conditions on the health of the people. His interest in this aspect of medicine was stimulated by occasional conversations with his friend, William Henry Power, at that time a Medical Inspector and later the Medical Officer of the Local Government Board, who used to visit Bruce Low from time to time for the purpose of inspecting his work as Public Vaccinator. In the evening the two of them would sit and smoke and discuss problems relating to epidemiology until the early hours of the following morning.

In 1879 Bruce Low took the D.P.H. of Cambridge University, and during his tenure of office as M.O.H. of Helmsley Rural District did much to promote the public health of the area, not merely by effecting improvement in the sanitary circumstances of the district, but also by impressing upon the people the necessity of observing the laws of healthy living. These efforts to introduce sanitary reforms were at first bitterly opposed by certain local persons of influence, but his earnestness of purpose and determination prevailed, and those who had at first done everything to obstruct became in the end his staunchest supporters. His experience caused him to publish in 1886 an article on the tenure of office and appointment of medical officers of health, in which he showed the necessity to secure for these officers better terms of appointment and protection against arbitrary treatment by sanitary authorities. In after-life it was the memory of his early struggles in the cause of hygienic efficiency that made Bruce Low the sympathetic and understanding friend of all part-time medical officers of health.

As a result of the favourable impression which the Central Health Authority had formed of Bruce Low's public work in Helmsley, and of his recognized ability as a medical practitioner of high standing, he was invited, in 1887, to become a medical inspector of the Local Government Board; he readily accepted, despite the fact that he incurred thereby substantial pecuniary loss in exchanging a remunerative practice for the paltry salary offered by a Government department. Before leaving Helmsley he was entertained to a farewell dinner, presided over by the Earl of Feversham, at which all the leading men of the district were present. At this dinner many speakers testified to the usefulness of the work he had performed, and to the esteem and affection in which he was held by all. Bruce Low commenced his new duties with characteristic enthusiasm and energy. He had the advantage of being brought into intimate association with the three great exponents of the science of hygiene in its broadest aspects—namely, Buchanan, Thorne Thorne, and Power—who as successors to John Simon, the founder, were engaged in building up the fabric of the English public health service. Under their direction he had daily opportunity of studying the many and ever-varying problems relating to epidemiology and public health administration. The personal influence of his early colleagues was reflected in all his subsequent work, and he was ever anxious to acknowledge his indebtedness to them. His published reports to the Local Government Board cover a wide range of subjects and relate to the sanitary circumstances and administration of many districts, and to outbreaks of small-pox, diphtheria, diarrhoea, enteric fever, influenza, pneumonia, cerebro-spinal fever, cholera and plague, and suspected plague, in England and Wales. Probably the best known of his reports relating to water supplies are those on the river Trent area of Lincolnshire and Nottinghamshire (1893), and the pollution by sewage of the river Dee (1896). In 1904 he wrote on the arrangements in Germany for the isolation of small-pox, and in 1905 on the state vaccine establishments of that country.

It was, however, through his writings on epidemiology that his name became known throughout the world, and that he was brought into close association with members of the medical profession in many countries. He wrote a series of reports, carried on over a succession of years, on the progress and diffusion throughout the world of plague, cholera, yellow fever, and the epidemiology in recent years of typhus fever (1915), acute anterior poliomyelitis (1916), and small-pox (1918). The study of disease distribution throughout the world led Bruce Low to acquire a comprehensive knowledge of port sanitary administration, and in reply to an inquiry he furnished the Rockefeller Institute with a short historical statement showing the steps which led up to the abandonment of quarantine in the United Kingdom. This was published later in the annual report of the medical officer of the Local Government Board, 1917–18.

Bruce Low was Examiner in Sanitary Science, State Medicine, and Public Health at the Universities of Edinburgh, Glasgow, Leeds, and Cambridge. The confidence placed in his judgement and fairness was illustrated by his being, for practical purposes, the sole examiner in Part II of the D.P.H. examination at the last-named University during several years of the war period. After he had ceased to be an examiner in 1919, he was appointed by the General Medical Council as Inspector of Examinations to visit the examinations of the twenty-two examining bodies that grant degrees and diplomas in public health and sanitary science in the United Kingdom and Ireland, with the object of ascertaining whether need of improvement existed in the course of study and standard of knowledge required of candidates, and to formulate a comprehensive scheme to secure for each of the various examinations a common standard of proficiency. This duty occupied the best part of the last two years, and his comprehensive and valuable report is now under the consideration of the General Medical Council.

Bruce Low served on the War Office Antityphoid Inoculation Committee from 1904 to 1912. He was a member of the Council of the Epidemiological Section of the Royal Society of Medicine and a Fellow of the Society of Tropical Medicine. He was promoted to be an Assistant Medical Officer of the Local Government Board in 1900, and in 1911 he was retired from the public service, having reached the age limit. His retirement was of short duration, for, owing to the death of one and the serious illness of another of his colleagues, he was recalled to duty for a short period in the same year and again in the following year, while in September, 1914, he rejoined the staff for war work, and was only finally retired in May 1921.

He was willing at all times to assist and advise members of the profession and other interested persons in matters relating to public health, and this earned for him the respect and esteem of many. To his colleagues of all grades he was a constant and true friend; it is probable that he was never happier than when assisting, instructing, and advising them in their work and when placing his wide knowledge and experience at their disposal; in their turn they valued and appreciated his kindly teaching and counsel, and all cherished towards him a deep and affectionate regard. He was proud of being a civil servant, and in his life and by his work he personified the highest ideal of the old Civil Service. His long and distinguished career in the service of his country and to public health medicine was recognized in 1919 by his appointment to be C.B.

AN OLD FRIEND writes: Of Dr. Bruce Low it might on two grounds be said, *Felix opportunitate mortis*. The time for his retirement from the Civil Service came before the war, but war exigencies led to his being asked to continue

his work at Whitehall. He complied, greatly to the public benefit, and only quite lately did it become practicable to relieve him. Also it happened that only a year or so ago the General Medical Council required as inspector of the D.P.H. examinations throughout the United Kingdom a public health expert whose authority and impartiality would be universally admitted. This man they found in Dr. Bruce Low. His courtesy and tact in reporting on the various examinations left the bodies with hardly a remark to make in reply, but when it came to the issue of his general report, and to his proposals for revision of the whole D.P.H. curriculum, it at once appeared that with all his suavity he had been wide awake throughout. The report will have a far-reaching influence on the future teaching of preventive medicine. It was his last bit of public work, and having completed it he departed, at a ripe old age, without any prolonged suffering or illness.

HENRY GEORGE FELKIN, M.D.Lond., D.P.H.

DR. H. G. FELKIN, so well known as one of the heads of Linford Sanatorium in the New Forest, died after a few days' illness on May 8th, just before reaching his 54th birthday.

Henry George Felkin was educated in Germany, where his father resided, and at the Wolverhampton Grammar School. After a year at St. Bartholomew's spent in the study of the preliminary scientific subjects he migrated to the London Hospital, where he completed his medical education and served as house-surgeon. At the M.B. (Lond. Univ.) of 1893 he gained honours in medicine; he took the M.D. in 1896 and the D.P.H. (R.C.P.S.) in 1899.

Dr. Felkin's long connexion with the treatment of tuberculosis began with his appointment as house-physician at the Brompton Hospital; afterwards he became resident medical officer, and it was in those years he laid the foundation of the profound clinical knowledge of pulmonary tuberculosis and its treatment which characterized his after-career. In 1901 he joined Dr. R. Mander Smyth in partnership at the Linford Sanatorium, and for the rest of his life his best was given to the welfare of the place and its patients. He was rewarded by the confidence, gratitude, and affection of generations of patients to a degree which few men have ever won. The secret of his success in the career he chose lay, in the opinion of the writer, who knew him well, partly in his great natural clinical ability, partly in a remarkable patience and persistence which never lost heart, and was slow to acknowledge defeat, even in unpromising cases, and largely in the fact that beneath a blunt exterior lay a most sympathetic nature which his patients all came to recognize. Dr. Felkin knew pulmonary tuberculosis "from A to Z," and his patience never wearied in studying the special symptoms of those under his care. A rare combination of qualities is needed for success in sanatorium treatment, where the physician lives in such close daily contact with his patients, and this Dr. Felkin possessed in full degree. He was able to treat, to inspire, to control, and so to cure.

Dr. Felkin's interests in life were not bounded by his professional work. He was always a lover of literature, and after he settled in the New Forest he developed a love of nature and of sport which had previously been hidden even from his friends. He was cut off in the midst of the development of plans for the extension of the scientific side of his work, and leaves a gap which it will be very hard to fill. In 1905 he married Miss Elizabeth Ann Mahon, who survives him.

WE regret to record the death on May 1st, at the age of 64, after a long and painful illness, of Dr. GEORGE DUNN WILSON, of Clapham. Dr. Wilson was born in Cork and received his medical education at Queen's College, Cork, at Edinburgh, and at the London Hospital. He had been in practice in Clapham for upwards of thirty years, and was held in high esteem by his patients and his colleagues. He was surgeon to Clapham Benevolent Dispensary, and was a Justice of the Peace for the County of London. He was a former Chairman of the Wandsworth Division of the British Medical Association, and he was also a strong supporter of the National Medical Union, of which he was vice-president. Dr. Wilson was keenly interested in politics and was chairman of the Clapham Constitutional Club, a post which he filled for many years, and vice-chairman of the Clapham Conservative Association.

DR. JOHN HOWELL KNIGHT GRIFFITHS died on April 25th of pneumonia, at the age of 52, at his residence in Fulham Road, S.W. He was a native of Kidwelly, South Wales, and was educated at Carmarthen Grammar School and the University College of Wales, Aberystwith. He proceeded for his medical studies to the University of Edinburgh, where he graduated M.B., C.M. in 1895, taking the M.D. degree in 1897. He was appointed house-surgeon to the Carmarthenshire Infirmary in 1896, and in the following year he settled down in practice in Fulham. He built up a large and successful general practice in the neighbourhood, where he remained to the day of his death. During his twenty-five years in Fulham he was remarkable for his devotion to his patients, his very genial and sympathetic manner, and his optimistic view of life. He was popular not only among his patients but also with his fellow practitioners. He leaves a widow, two sons, and two daughters. He was an old member of the British Medical Association.

THE death took place at Culross, Fife, on May 11th, of Dr. ROBERT MACLAREN WISHART, of Edinburgh, in his 40th year. Dr. Wishart was educated at Edinburgh University and School of Medicine, and qualified in 1903 with the diplomas of L.R.C.P. and L.R.C.S.Edin.; subsequently he obtained the D.P.H.Dubl. in 1912, and graduated M.B., Ch.B.Edin. in 1916. In 1914–15 he served as a civil surgeon in the Edinburgh and Border Hospital at Dunkirk, and later he joined the R.A.M.C., holding the rank of temporary captain. He was a Fellow of the Edinburgh Obstetrical Society and of the Zoological Society of Scotland, and he was physician to the Boys' Industrial Brigade Home.

Medical News.

SIR RICHARD GREGORY, F.R.A.S., the editor of *Nature*, has been elected President of the Decimal Association in succession to the late Lord Belhaven and Stenton.

A CHADWICK public lecture will be given in the Chelsea Physic Garden on Thursday, May 25th, at 5 p.m., on "Superstitions of early herbalists," by Mr. Augustus Bowles, M.A., F.L.S. The chairman will be Sir William Collins, K.C.V.O., M.D. Admission is free.

DR. DAVID J. SCOTT, O.B.E., M.C., of Gray's Inn, has been called to the Bar.

THE annual dinner of the West London Medico-Chirurgical Society will be held at Princes' Restaurant, Piccadilly, on Wednesday, June 7th, at 7 for 7.30 p.m.

THE War Office announces that the War Office Committee of Inquiry into Shell Shock held its fortieth meeting on May 10th, Lord Southborough presiding. The Committee has finished taking evidence and has had the benefit of the experience of a large number of experts, both military and medical. It is now considering its report. The report will deal in detail with the origin and nature of shell shock, and will suggest measures which may be expected to mitigate the incidence of this group of nervous and mental disorders in future wars, and also measures for the treatment of patients suffering from such disabilities.

A MEETING of the Tuberculosis Society will be held at the Margaret Street Hospital, W.1, on Monday, May 22nd, at 7.30 p.m., to discuss the therapeutics of tuberculosis as carried out in a tuberculosis dispensary.

MR. J. S. MCARDLE, F.R.C.S.I., of Dublin, was recently entertained to dinner by his professional colleagues and others, who presented to him a number of valuable gifts. Dr. M. F. Cox, who presided, in proposing the toast of the guest of the evening, said that Mr. McArdle had by his genius and his capacity for work made for himself a position unparalleled in surgery in Ireland. He had given loyal service to St. Vincent's Hospital, to his country, to his patients, and to the National University. The presentations included a portrait of Mr. McArdle by Dr. Boyd Barrett, himself a former student of St. Vincent's Hospital; a motor car to Mrs. McArdle; a surgical prize in perpetuity of £20 to the best surgical student of each year in St. Vincent's Hospital, to be known as the "Surgeon McArdle Prize"; and a gold medal in surgery, to be known as the "Surgeon McArdle Gold Medal" in University College, Dublin.

PLAGUE appears to be prevalent in Java to a serious extent. We have seen no record of the number of cases, but there were 1,595 deaths from the disease in February, and 1,546 in March.

THE Lord Mayor of London will preside at the Annual Meeting of the People's League of Health at the Mansion House on Thursday, May 25th, at 3.30 p.m. The speakers will include Sir Bruce Bruce-Porter, Dr. Farquhar Buzzard, Miss Olga Nethersole, and Dr. Saleeby.

THE summer meeting of the Medical Golf Society will be held on Thursday, June 8th, at Stoke Poges Golf Club. Any gentleman on the *Medical Register* wishing to play can become a member of the society, without election, by forwarding the annual subscription of 10s. to the honorary secretary; there will be no further entrance fee for the meeting. The *Lancet* Challenge Cup will be presented for the best scratch return *v.* Bogey; and the "Henry Morris" Challenge Cup and the Society's gold medal will be presented for the best return under handicap, in either class. Class I includes members with handicaps of nine and under, and Class II those with over nine, the handicap being eighteen. Intending competitors may obtain particulars from Dr. Rolf Creasy, junr., 36, Weymouth Street, W.1.

THE Chelsea Hospital for Women has received from its chairman, Sir Frederick Eley, Bt., a donation of £1,000.

A COMPLIMENTARY dinner was given and valuable presentations made on May 1st to Dr. J. A. Ward on his retirement and departure from Grays, Essex. Dr. Ward had been in practice at Grays for twenty-seven years, and was medical officer of health for over twenty-two years. Reference was made by several speakers to his high reputation in the district and to his popularity among his medical colleagues and patients.

THE annual meeting of the Canadian Medical Association will be held at Winnipeg from June 20th to 23rd inclusive. Dr. L. F. Barker of Baltimore is to give the address in medicine, and Dr. J. M. T. Finney, also of Baltimore, has been asked to give the address in surgery. The scientific work of the meeting will be carried on in a surgical section, a medical section, an eye, ear, nose, and throat section, and a general section; and, instead of a formal pathological section, a series of pathological demonstrations will be given. The Canadian Society of Anaesthetists and the Canadian Radiological Society will also hold their annual meetings in Winnipeg at the same time.

IN Berlin there were, in 1920, 164 antivenereal disease dispensaries; 86,456 persons applied for treatment and 184,511 consultations were given, an increase of 80 per cent. on the previous year.

PROFESSOR MAYER, who has recently held the chair of physiology in the Strasbourg Faculty of Medicine, has been appointed successor to the late François Franck at the Collège de France.

THE Royal Society gave the first of its two annual conversaziones on the evening of May 17th at Burlington House. The President, Sir Charles Sherrington, G.B.E., M.D., received the guests, who were then free to study the exhibits displayed in the library and other rooms of the society. On the physical side these included models of crystal structure as determined by *x*-ray analysis, shown by Sir William Bragg and Professor W. L. Bragg; an instrument for measuring the percentage of carbon dioxide in alveolar air, made by the Cambridge and Paul Instrument Company, Ltd., at the suggestion of Professor A. V. Hill; and specimens of smoke, fog, and volcanic dust particles from the air, together with the instrument for making the records, shown by the Advisory Committee on Atmospheric Pollution. Among the biological exhibits was a collection of models and drawings to demonstrate the brain and brain-case and the poise of the head in primitive members of the human family, shown by Professors Elliot Smith and John I. Hunter. One series of these models showed the occipital regions of eight endocranial casts (from that of a gorilla to that of Dean Swift), illustrating the progressive expansion of the brain; another series showed the straightening of the axis of the brain in the course of evolution; a reconstruction of the Piltdown skull indicated its original owner as a very lowly member of the human family. Dr. L. Hogben and Mr. F. R. Winton showed slides illustrating the specific effect of injecting pituitary extract (posterior lobe) upon frog melanophores; under its action the pigment cells expand; the method should be of value in the standardization of pituitary extract. Interesting and suggestive methods of measuring the bactericidal potency of the blood fluids and leucocytes were exhibited by Sir Almroth Wright; and Dr. Alexander Fleming demonstrated the lysozymic action of tissues and secretions, perhaps the most remarkable being that of tears in large dilution. Major F. W. Cragg, I.M.S., showed preparations illustrating the course of the spermatozoon in the female bed-bug. An unusual exhibit was the original portrait of Galileo by Justus Sustermans, which has special interest in this the 700th anniversary year of the University of Padua, at which Galileo was Professor of Mathematics for sixteen years.

A GENERAL meeting of the National Health Society, which is now in its fiftieth year, was held at the house of the Royal Society of Medicine on May 10th, when H.R.H. Princess Christian, the President, presented certificates to successful candidates in the examination for health workers which the society has instituted. The Duke of Devonshire, President of the society's council, took the chair, and in the absence of Sir James Crichton-Browne an address was delivered to the candidates and students by Professor H. R. Kenwood, who explained the value of the health visitor and the character of her work in this country and abroad. Dr. Shadick Higgins, M.O.H. St. Pancras, emphasized the importance of women's work in public health, and attributed the great reduction in infant mortality observed in recent years largely to the activities of the health visitor. Sir Adrian Pollock, Chamberlain of the City of London, spoke of the Nurses' Loan Fund organized by the society, and expressed the society's thanks for grants made from the Central Committee on Women's Training and Employment and from the Red Cross and the Royal Medical Benevolent Fund in some special cases; also for the assistance given by various benevolent institutions to educated women anxious to qualify as health visitors under the Board of Education and the Ministry of Health. He mentioned the hostels organized and started by Her Royal Highness for the benefit of working women in London, which had been very helpful to the lady students whilst training. Votes of thanks to the Princess, the Duke of Devonshire, and the Royal Society of Medicine were passed at the instance of Dr. Charles Porter, M.O.H. Marylebone, Bishop Ridgeway, and Sir E. Ray Lankester respectively.

Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.*

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the BRITISH MEDICAL JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2630, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2630, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin;* telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

TREATMENT OF CRAMP.

DR. E. HUGHES (Liverpool) writes: In reply to "M.D.Edin.," very small doses of sulphate or acetate of copper will probably be efficacious, gr. 1/50 to 1/25 ter die.

DR. DOUGLAS L. THOMSON (Newbury) writes: If "M.D.Edin." will try 10 grains antipyrin at night I think he will find that it will cure the cramp in the legs. I had a patient who suffered similarly, but after the first dose of antipyrin there was no recurrence of cramp.

"A RETIRED M.D.CANTAB." writes: I have been for many years a sufferer from cramp, chiefly in the night, and sometimes so intense as to cause syncope. It is associated with a tendency to mild arthritic and neuritic troubles, and with intestinal sepsis; yet in spite of these I retain the sense of health of body and mind. The cause of the cramp seems to be a toxin generated in the intestine—possibly lactic acid, for the cramp is enormously intensified by the ingestion of cheese made with the lactic acid bacillus; it is also intensified to a less degree by milk and by excess of starch or *an insufficient ratio of protein to starch*. Phenacetin acts as a prophylactic, and sodium carbonate in large doses (3j or 3ij) gives temporary relief. But these drugs cannot be taken regularly without injury to health; so the best treatment is to restrict the amount of starch and of milk as far as possible, to take plenty of animal food, and of uncooked fruit and green food for the sake of salts and accessory foodstuffs. Sugar in moderation seemed less injurious than starch, probably because it is more quickly absorbed, and therefore not so liable

to fermentation. If the colon cannot be kept clean otherwise, enemata may be used; but aperients favour fermentation by keeping the intestinal contents too watery.

BOTTLES ON MOTOR CYCLES.

DR. MICHAEL W. KELLY (Killanne, Enniscorthy, co. Wexford) writes: I should be much obliged to any motor-cycling members for hints as to carrying bottles and other breakable articles in a midwifery bag on a motor cycle.

TINNITUS AURIUM.

"T." asks for advice in the treatment of a patient who for three years has suffered from persistent tinnitus in the left ear; six months ago it commenced in the right ear. He has been in the tropics for the past twenty years and takes quinine regularly; when quinine was stopped for six months at home the condition did not improve. His hearing is good. All the usual remedies have been tried without avail.

STAINS FOR BLOOD FILMS.

DR. J. SHULMAN (House-Physician, Coventry and Warwickshire Hospital, Coventry) writes: Of late I have been making a number of blood examinations, and the Jenner and Leishman stains which I have had at hand have given very disappointing results, especially with the white cells. I have found that staining with haemalum and eosin in the ordinary way gives excellent results, and as I have not seen it mentioned in any text-book I have referred to, I should like to hear of any objections to this method of staining blood films.

INCOME TAX.

"ARDUUS" has for twenty years paid income tax on the basis of his receipts for the previous calendar year. He has received an additional demand for 1918 which, as he is informed, arises through an increase of £500 in his income from investments.

*** We do not see why an increase in investment income should be taken to require an increase in the assessment on earnings, which rests on entirely different facts. In 1918 an increase of £500 in taxed income would involve payment of tax on earnings at a higher *rate*. As the law stands, professional profits are assessable on the three years' average, and income taxed at the source forms part of the total income of the recipient, according to the basis of the current year. The society to which "Arduus" refers in the course of his letter is probably the Income Tax Payers Protection Association, 69, Fleet Street, E.C.4.

"D. J. D." qualified in January, 1920, and became an assistant in April, 1920; he asks as to the basis for computing his income tax returns.

*** The three years' average cannot be applied to include years when a person is not carrying on the business or vocation. For the year to April, 1921, he is chargeable on the amount of his earnings for that year; for 1921–22 on the same amount; for 1922–23 on the average of the earnings of the first two years, and thenceforward on the average of three years' earnings—that is, assuming that "D. J. D." remains an assistant. The expense of hospital and examination fees necessary to take higher qualifications cannot be deducted for tax purposes.

"A.M.B." relinquished an appointment as assistant M.O.H. to take an appointment as M.O.H. in another locality. He asks if he can claim an allowance for removal and temporary accommodation expenses.

*** No; such expenses cannot be regarded as incurred wholly, exclusively, and necessarily *in* the performance of his new duties.

"E.Y." purchased a car in 1914 for £145 and sold it in 1918 for £80. In 1922 he purchased a car for £400. He asks what he can claim.

*** The amount allowable to "E.Y." is the 1922 cost of a car of similar power, condition, etc., to the one purchased in 1914, less the £80 obtained by the sale of his old car; the amount expended over and above that excess represents capital outlay on improvements.

"T. A. B." has retired from colonial practice and resides in this country about four months a year. His income is derived entirely from Colonial Government securities.

*** He is liable to income tax on income derived from this country from literary or other work, and in our opinion service on a ship working from an English port would not count as residence in this country provided that no residence was retained here to which he could return, in which case such income would count as foreign income.

"H." asks: Should remuneration under the Insurance Act be declared as part of the income from private practice?

*** It is clear that in the great majority of cases it is much more convenient to include all the professional earnings in one general amount. The authorities concur in the practice, which, in our opinion, has sufficient legal justification.

"G. H. J." inquires as to the allowance to be made for the replacement of a Hupmobile car *plus* Douglas motor cycle by a Riley car *plus* an Overland car.

*** It is assumed that the Hupmobile and Douglas were purchased new and not in second-hand condition. The allowance due is the cost of a Hupmobile car *plus* Douglas motor cycle at the date the replacement was effected, less £185, which our correspondent states was the sum obtained for the old car and cycle.

LETTERS, NOTES, ETC.

MOROCCO BOUND.

DR. LEONARD WILLIAMS writes: May I crave a space in your columns for an announcement which reaches me from my friend Dr. Gardette, editor of *La Presse Thermale et Climatique*, concerning two voyages for medical men which he is organizing to the Moroccan coasts for the late autumn? The first starts from Bordeaux on September 20th, and returns to Marseilles on October 22nd. The second starts from Marseilles on October 19th, and returns to Bordeaux on November 23rd. The accommodation both in transport and sojourn will be what is known as first class, and there will be no tips. The price for a medical man is 4,750 francs (about £95), and for an accompanying wife or daughter 4,950 francs (about £100). Any further details may be obtained from Dr. Gardette, 3, Rue Humboldt, Paris—not from me, please.

THE TREATMENT OF PNEUMONIA.

MR. VALLABHDAS N. MEHTA (Viramgam, Bombay Presidency) writes with reference to an article in the BRITISH MEDICAL JOURNAL of March 11th (p. 420) on the treatment of pneumonia: During the last influenza epidemic, and subsequently in numerous cases of lobar pneumonia, I have used Dr. Arthur J. Mathison's specific treatment of pneumonia, and have met with very excellent results therefrom. This combined treatment with creosote and iodide, if commenced from the very beginning, acts as a reliable specific for this dreadful disease, and proves entirely successful. In cases which are lobular, or complicated with meningitis or typhoid, its action is doubtful. This treatment is further diagnostic of some other complication if the symptoms and pneumonic process do not show any signs of abatement after three days. In such cases some other treatment appropriate to the mixed infection, side by side with the specific treatment, as long as the process continues, helps a great deal in shortening the course of the disease.

MOTOR TAXATION.

"F.R.C.S." writes: I read the paragraph on motor-car taxation in last week's JOURNAL (p. 772) with mixed, but mainly depressed, feelings. An equitable arrangement of motor-car taxation seems very difficult to achieve, but I wish to suggest that the fairest method would be one based on the value of the car. In my own case I am the owner (and incidentally the driver) of a Ford—the list price of the new model, complete, is £185, and the tax payable annually is £23. Three neighbouring practitioners have new models of Rovers and Humbers—list price £650 (incidentally they have chauffeurs); their motor taxes are about £12 annually and their incomes well into four figures. Without wishing to break any of the Ten Commandments, I feel that either I am being taxed too highly or that they are escaping too lightly. A fuel tax would be relatively hard on us all, but even then I should come off rather badly. I am afraid owners of Fords or Chevrolets will not be content to adopt the *laissez-faire* attitude suggested by Mr. Massac Buist in the concluding part of the article.

INTESTINAL DISINFECTION.

IN the note published in the JOURNAL, No. 3194, p. 462, for "tabloids" read "tablets."

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 29, 32, 33, and 34 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 30, 31, and 32.

THE appointment of certifying factory surgeon at Kilbirnie (Ayr) is vacant.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Six lines and under	0	9	0
Each additional line	0	1	6
Whole single column (three columns to page) ...	7	10	0
Half single column	3	15	0
Half page	10	0	0
Whole page	20	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

An Address
ON
THE DIAGNOSIS OF HYSTERIA.*

BY
HENRY HEAD, M.D., F.R.S.,
CONSULTING PHYSICIAN, LONDON HOSPITAL.

OUR knowledge of the nature and causes of functional nervous disorders has been revolutionized during the last fifteen years, and more recently the prevalence of the war neuroses has aroused a widespread interest in morbid psychology. Rival theorists contend for the truth of dogmas they have elevated to the solemn position of a religious cult. Moreover, the treatment of the functional neuroses has become a special branch of medical practice carried out by men who see comparatively little of organic disease. At the same time the general physician is scarcely familiar with the psychical aspect of medicine; he and his colleague, the surgeon, rarely consider how large a part the mind plays even in the symptoms of gross structural disease.

But there is one series of phenomena where a knowledge of morbid psychology is of profound importance to every medical practitioner; for no branch of medicine is free from the puzzling manifestations of hysteria. Moreover, during the intensive study of the ultimate causes underlying the functional neuroses, in which group hysteria plays so important a part, many points of diagnostic importance are liable to be forgotten. Much of this knowledge is traditional and cannot be found in textbooks; and yet it may become at any moment of fundamental importance to every medical practitioner, however small his interest in the neuropsychoses. For hysteria is mainly associated with abnormal physical conditions. In fact, it might be defined as a morbid mental state, accompanied by physical manifestations and certain forms of aberrant conduct.

These physical signs are as definite and specific as those of any other disease. Hysteria is sometimes said to "imitate" organic affections; but this is a highly misleading statement. The mimicry can only deceive an observer ignorant of the signs of hysteria or content with perfunctory examination.

For the diagnosis of hysteria it is necessary, not only that there should be no demonstrable organic cause for the symptoms, but that the positive signs of hysteria should be present. It is to these positive signs I am anxious to call your attention; but nothing could be duller than a category of the protean conditions which may accompany this disorder. I shall therefore enumerate and describe them solely in order to lay bare to you the means by which they can be detected and the state of mind which underlies their appearance.

Freud described hysteria as a "conversion neurosis." This term has been widely adopted, and signifies that the conflict in the patient's mind is solved by some aberrant reaction, which removes him from the situation of doubt and anxiety. If a soldier, unable any longer to face the horrors of the front, became paralysed in both legs, he was automatically relieved from the necessity of facing danger without the obloquy of running away.

Physical Signs of Hysteria.

Disorders of speech were amongst the commonest hysterical affections due to the strain of war. Sometimes the patient became completely mute, although he wrote voluble accounts of his condition and understood perfectly what was said to him. This is an example of that peculiar disintegration of some highly developed function so characteristic of hysteria. It is not the physiological mechanics of language that are affected, but the patient is imbued firmly with the idea that he cannot speak; this is no reason, however, from a conceptual point of view, why he should not be able to comprehend what is said to him, to read, or to write—a condition impossible from organic disease. Although his voice might be reduced to a whisper, he could cough loudly; for from a psychological point of view the resonant sound of a cough has nothing to do with articulated speech. Moreover, on examining the larynx the cords are seen to remain widely apart on phonation, although with a cough they close normally.

The so-called "hysterical stammer," more accurately termed a "stutter," exemplifies another aspect of this disorder. Unnecessary syllables are interjected into the stream of speech; the patient is not held up like a true stammerer by difficulty in reproducing some word beginning with a consonant or labial, but his speech is interrupted by a series of perfectly articulated sounds.

This illustrates the tendency of hysterical phenomena to consist of a positive disorder of movement, which is so clearly demonstrable in the various forms of tremor. Rhythmic unsteadiness, due to structural disease or want of neural control, is shown by defective power to maintain a certain posture steadily. An hysterical tremor, on the other hand, is a positive repeated movement of a high voluntary type, varying in rapidity. It ceases if the patient can be persuaded unwittingly to perform some other movement with the same limb. Thus, a soldier with a severe tremor of the right hand and arm was able to play the banjo perfectly, and I used this musical aptitude for effecting his cure.

Many are the forms of spasm which are liable to appear in hysteria, but they all depend essentially on the assumption of a certain posture. Most of them are local, and affect one limb or even a single joint. Occasionally, both arm and leg may be contracted on the same side of the body, and if the patient does not move them to command, the condition may be mistaken for a hemiplegia. Any attempt to break down a spasm of this kind, to open the closed hand, or to straighten the flexed knee, meets with intense resistance; but in many instances it is equally difficult to alter the position even in the direction imposed by the spasm. If the shoulder and neck are contracted, resistance may be experienced not only in pushing the head towards the normal shoulder, but also in moving it farther in the direction of the affected side.

The so-called paralysis of the tongue is another good example of this rule. On protrusion it deviates, say, to the right; with organic disease this would signify loss of power in the muscles of the right half, and the tongue would in consequence be withdrawn to the left. If the deviation is due to hysteria and the tongue is thrust out to the right, this position is maintained, even when it is returned to the mouth.

Sometimes movement is positively inhibited; the patient says, "I cannot move my leg," and it hangs inert, or is dragged behind him like a log. If, however, he is laid upon the bed and asked to kick his leg into the air, you will be able to determine, by placing your hand under his heel, that it is pressed strongly into the bed. Turn him over on to his face and ask him to bend his leg so as to raise it in the air; you will now find that the toe is strongly thrust downwards. On each occasion he responded to your command by an exactly opposite movement. In the milder examples of loss of power or inability to stand on one leg, the nature of the affection is revealed by the following trick. If it has been determined to the satisfaction of the patient that he cannot support his weight on the right foot, tell him you are quite satisfied that the right is affected, but that the left is his "good leg." When he is standing steadily, give a sudden command, "Kick out your good leg"; this he will do, although it necessitates balancing himself upon the affected foot. On the other hand, follow this quickly with the order, "Kick out your bad leg," and he will fall, although he is supported on the normal limb. Sometimes the patient is completely unable to stand or to walk, but judicious examination demonstrates that he can make all the necessary movements when lying on his back.

Inco-ordination of movement, apparently due to lack of recognition of the posture of the affected limb, is a not uncommon manifestation in hysteria; but it usually differs fundamentally from ataxy of organic origin. Suppose a cerebral lesion has made it impossible to touch the nose with the forefinger of the right hand, when the eyes are closed, you will find that the normal (left) hand has, as a rule, greater difficulty in finding the tip of the affected forefinger than vice versa; for it is the position of the right hand which is unknown, and it is this which leads to the difficulty. The defect is the opposite in hysteria; for since no good action can be carried out by the affected part, the right (affected) forefinger makes wild attempts to find the left hand, whereas the normal hand is rapidly brought correctly into contact with the part whose position is nominally unknown.

Again, when the patient attempts to touch his nose with the forefinger, it may deviate widely from the mark and always pass to the same side of the head; but if the head is pushed over in that direction, the finger will now deviate still further, as the goal is brought closer to the position usually reached by the hand.

* Delivered before the London Hospital Medical Society, March 2nd, 1922.

Not infrequently, if he is allowed to stand comfortably and the eyes are closed to command, the patient tends to fall; but if he is placed in exactly the same position and is told you are about to test his pupils, you can place your hands over both his eyes without the least sign of instability. He knows he cannot stand with his eyes closed, but this has nothing to do intellectually with testing his pupils.

No phenomena of hysteria are more instructive and at the same time more misleading than its sensory manifestations; pain, or rather oversensitiveness to manipulation, is extremely common. A weight falls upon the foot of a workman, and from that time he complains of pain and tenderness. The distribution is not that of any peripheral nerve or posterior root, and can only be explained by mental considerations. A similar law governs the form assumed by hysterical anaesthesias. It is undoubtedly true that loss of sensation of this character is mainly due to suggestion on the part of the medical man; but once this has occurred the form it assumes is significant. It occupies the foot below the ankle, the hand bounded by the wrist, or it may be limited by a line round the elbow, the shoulder, or the knee. The belly may be affected without the back; the face exclusive of the cornea and the lips. Moreover, the outside of the cheek may be analgesic, whereas the sensation of the buccal mucous membrane is intact. It is possible for a physician by examination to produce other forms of sensory loss; but it seems to me that the usual distribution is due to the following reasons. When I say to you, "hand," those of you who visualize strongly will see a picture corresponding to all the parts below the wrist; in the same way, if I say "foot," there is a tendency to call up a picture of all below the ankle. If I say "belly," you see the abdomen between the pubes and the ensiform with the navel in the centre; but, anatomically and physiologically, the belly is nothing but the anterior half of a column of which the back and loins form the posterior portion. When therefore sensation is disturbed from structural or physiological causes the distribution of the abnormal areas extends both in front and behind. On the contrary all forms of disordered sensation of mental origin tend to affect the front without the back, or the spine without the chest and lateral parts of the trunk; for this is the way we normally think of the surface of the body, and in hysteria we are dealing with paralysis by idea.

For this reason the tender spots, which may be present on the surface of the body, tend to react in a peculiar manner. Let us imagine that the patient has a tender area in the right iliac fossa, simulating that caused by the appendix: he will complain that the point of a pin dragged gently across the skin causes exquisite pain. So far there is nothing to show that the condition is not due to an organic cause. Having once established the extent of the area within which the patient complains of tenderness stimulate him over this part with cotton-wool and he will not uncommonly react excessively, although a touch with cotton-wool is not potentially painful. It is the position of the tender spot, and not the physiological nature of the stimulus, which dominates his consciousness.

Sometimes the distribution of the sensory disturbance may be determined originally by an organic lesion. I saw a sergeant in whom a bullet had passed through the front of the ulnar aspect of the forearm. An hysterical analgesia extended from the site of this wound, and occupied one half of the palm and the little and ring fingers. Behind, it not only affected the ulnar half of the hand and forearm, but ran up to the elbow-joint; for here there was no transverse wound, as on the anterior surface, to limit its extent.

The use of a large tuning-fork will not infrequently dispel the idea that a loss of sensation, apparently following an ulnar distribution, is due to the destruction of the nerve. Place the strongly vibrating fork on the anaesthetic area of the palm and the patient will deny that he can appreciate it until it passes on to normal parts; and yet the vibration, widely conducted on the palm, is evident to the hand of the observer far outside the boundaries of the loss of sensation.

Limitation of the field of vision at one time occupied an important place amongst the signs of hysteria. But, since Babinski's statement that it is due to suggestion on the part of the examining physician, it has fallen into undeserved disrepute. For the very fact that a condition of this kind can be manufactured in a patient is striking evidence of the nature of the disorder from which he suffers. The normal field of vision consists of a central portion where colours can be accurately distinguished; outside this lies a zone of considerable extent which is colour blind, although all shades from white to black are clearly visible. Here coloured objects are appreciated according to their luminosity and not their chromatic value. Green is said to be "light" or "whitish," red "dark" or "greyish"; this response is heightened by mounting the green object on a black background and the red on a white square twice its size.

During the earliest stages of optic atrophy, for instance in disseminated sclerosis, vision for red and green is frequently diminished and the colour field may be reduced to minute proportions. But outside it still lies a large area of retina, over which these colours are appreciated as "light" or "dark" and the form of the test objects is clearly recognized. In hysteria, on the other hand, they are said to be coloured or are not seen at all, whatever may be the limits of the visual field. This is ample proof that the defect is of mental origin, and experience shows that it is usually suggested by the observer or by his methods of examination. For separate appreciation of luminosity and colour is a physiological phenomenon of which, like the blind spot, we are normally unconscious. But, over a field restricted in consequence of psychical causes, we either recognize or do not recognize an object; vision is not broken up in terms of physiological function, but follows strictly mental lines.

Diagnostically, the visceral manifestations are by far the most misleading. Occasionally the intestines become inflated with gas and simulate a tumour of the abdomen; but such a swelling is resonant to percussion, it does not shift from side to side according to the position of the patient, and the physical signs alter if the head is lifted from the pillow so as to tighten the rectus. If you are in doubt a whiff of chloroform will settle the matter.

Retention of urine sometimes forms a troublesome complication, for it is not wise for you to pass a catheter. Let this operation be performed by a careful and judicious nurse. It is well to remember that incontinence of urine never occurs in uncomplicated hysteria.

Seizures and Fugues.

I have left till the last consideration of the seizures and convulsions which may occur in hysteria, because, to an observer on the spot, they offer fewer difficulties in diagnosis. They are essentially emotional outbursts; the patient makes violent movements, arches her body, and may even simulate tetanus, but the muscles of the abdomen and back are never contracted at the same moment as in this disease. I once was called to a servant maid who had scratched the base of her thumb. Her jaws were tightly clenched, and every few minutes she was thrown into violent convulsions, in which her back was strongly arched. She had already received a dose of antitetanus serum, but observation showed that the movements in no way resembled those of tetanus. Moreover, subsequent investigation elicited that she had been seduced under promise of marriage by a chauffeur, who had embezzled money and fled the country. In her state of anxiety a word by a fellow servant as to the probability that a scratch between the thumb and index finger would produce lockjaw was sufficient to precipitate the attack.

Not uncommonly the patient falls into a dissociated mental state; memory of the occurrences during the seizure may be absent during the waking condition, and consciousness is therefore supposed to have been lost. Such attacks of alternate consciousness are frequently associated with otherwise inexplicable conduct and during the war were sometimes accompanied by extreme violence. This brings us to those remarkable seizures known as "fugues."

A lieutenant in the R.F.A. was wounded in France, but the injury was not severe. Whilst in hospital in England he obtained leave to spend a week-end with his parents. On Sunday afternoon he started on his motor bicycle, intending to return to hospital, and disappeared, but was found several weeks later on a farm where he had worked as a pupil before joining the army. He arrived there on Monday morning, occupied his old quarters, and set to work at once. When the surprised farmer asked him how long he intended to stop he said he had been discharged from the army. He subsequently confessed to me that during the ride he began to think with pleasure of his life on the farm; from that time he had only a hazy recollection of what happened, until he was discovered by his brother three weeks later.

These "fugues" are commonly attributed to amnesia, and the patient is said to remember nothing that happened. This is true in certain instances; but I am convinced that, during some of these inexplicable disappearances, memory is not completely lost, and sometimes a fairly coherent account can be obtained from the patient of how he spent his time. He loses all appreciation of the cogency of the reasons against the line of conduct he adopts, and his personality may have

undergone a subtle transformation. But he can often remember the desires which lay behind his mental conflict, and give some account of his disappearance. Such fantasy-building was responsible for many aberrations of conduct in young officers during the war, and lies at the bottom of those curious cases, met with in civilian life, where a woman for a time leads a purely fantastic existence.

Mental Causes of these Physical Manifestations.

When we attempt to express these morbid phenomena in general terms we are struck by their positive nature. There is nothing negative about the manifestations of hysteria; even the anaesthesia is due to refusal to accept impressions, which otherwise run their normal physiological course. Amongst the disorders of motion, the tremor is due to actively repeated movements, rather than to failure of static tone; spasm is the assumption of a definite posture and not the reflex over-activity of some lower function; the so-called hysterical paralysis is the effect of direct inhibition, an active expression of the conviction in the patient's mind—"I cannot move."

Closer analysis of these positive phenomena shows that they depend on three mental factors—proneness to auto-suggestion, a negative attitude to orders from without, and a tendency to the state known as "dissociation." There has been much dispute concerning the extent to which these patients are suggestible; hypnosis frequently fails lamentably to remove their disabilities, in spite of the ease with which a suggestion is accepted that falls in with their morbid state of mind. Many hysterical joint affections start in some remark by the medical attendant, and the nature of the anaesthesia, or the form assumed by the fields of vision, are all examples of antitherapeutic suggestion. Associated with a ready acceptance of some morbid idea by the hysteric is an instinctive opposition to external commands. Place your hand lightly around the arm, so that the fingers cover the biceps and the thumb is in contact with the triceps; tell the patient to bend his arm, and the first muscles to contract are the extensors. Give the opposite order, and instantly the biceps can be felt to tighten. This "negativistic" attitude, as it is called, permeates the whole mental activity of the hysteric. Thirdly, there is a profound tendency to what is called "dissociation." This expression was employed by Pierre Janet to indicate a state in which some aspect of mental activity had become split off from the conscious functions of the mind and lived, as it were, an isolated life. He used the conception to explain not only the lapses of memory, fugues, and dual personality, but also the anaesthesias and hysterical paralyses. Now, there is no doubt that we possess the power of refusing to accept impressions, even under normal conditions. Experts at the direct method of ophthalmoscopic examination keep both eyes open; but the one which is not applied to the back of the mirror is, for the time being, psychically blind. In the same way, when shooting, both eyes remain open, but alignment on the bird is made with the right alone. The hysteric, like the hypnotized person, has this power in a still higher degree. He can shut off all impressions arising from one limb so that they do not disturb consciousness; and yet his reflexes are normal and, with hysterical blindness, he can avoid obstacles in the room. Automatic acts are performed with ease, though voluntary responses are inhibited or obstructed.

If these are the factors in hysteria, how is this remarkable state of mind induced? It is essentially an irrational answer to a conflict. A young woman, who is a candidate for an examination which she feels is too difficult for her powers, can solve the problem illegitimately by spasm of the right hand. A soldier suffering from fear, knowing he cannot run away, finds a perfect and honourable solution in hysterical paraplegia.

But in many cases the underlying cause is far more subtle. Many of you know the evil effects of not answering promptly a disagreeable letter. Perhaps it remains unopened in your pocket, and all day you feel that some unknown misfortune is about to befall you—you are "off your game," you are certain that you are in for influenza, or at least for a bad cold. All these ills are an expression of the unresolved emotion evoked by that unanswered letter.

This is an example of the evil effects of repression, or an attempt to shirk some unpleasant experience by expelling it from consciousness. But fortunately we can sometimes forget even disagreeable facts without harm. In order that repression may produce evil consequences the idea, charged with emotion, must have been thrust out of consciousness; the patient dislikes it with such intensity that he refuses to face it squarely. The emotion accompanying such an idea may then appear in some substituted form, such as vomiting, headache, or paralysis. If, for example, a patient expresses to you a moral repugnance to taking food, it is well to consider whether her statement does not hide some real cause for moral doubt and anxiety.

Fear is the most potent reason for repression. All children and animals experience fear; this is suppressed in the adult, who, under normal conditions of civilized life, experiences anxiety only. But deep down lies fear, ready to spring into being when inhibition is removed—as, for example, during sleep. Now in civil life fear of disease is extremely frequent. Some are so subject to this form that they dread each disease in turn, as it becomes the fashionable centre of discussion in the popular press. Such fears, dismissed from consciousness without reasonable consideration, are liable to work havoc in the underworld of our minds.

Some relationships are by their very nature liable to be highly charged with emotion. "No man," Bacon said, "can speak to his child but as a father"; and parental fear is the basis of many anxieties. Conversely, however, adoration of a son for his mother, or a daughter for her father, underlies many of the difficulties which may arise subsequently in marriage.

Marriage without physical affection is an impossible human relation; one of the simplest methods of escaping from such difficulties is the development of a physical illness. In the present day many women embark heedlessly on associations that are bound to lead to emotional trouble; the so-called "friendship" with a married man, whose wife "does not understand him," is a state of unstable equilibrium. Fears in women of marital relations, or of pregnancy, can usually be traced back to some terrifying experience in childhood or adolescence.

A very important element in the production of a conversion hysteria is a want of capacity to face failure. The schoolboy cribs to save himself from disgrace; the hysteric loads the dice to produce an effect that would have been impossible by honest toil. Hence the frequency of direct malingering—as, for example, the production of factitious sores. To be interesting is to be endowed with power; a paralysed girl with a charming and modest manner can attract universal attention from the simpler sex.

Treatment.

I cannot close this discourse without saying a few words about treatment. If possible, the patient should be removed from the usual surroundings and new influences brought to bear. An attempt should be made to switch the dissociated part into the continuity of the patient's mental life. Every form of persuasion should be exercised to convince the patient that he is able to carry out the action he is convinced to be impossible. Never bully him or accuse him of dishonesty. No one is a greater failure than the medical officer who wishes all hysterics could be shot at dawn. On the other hand, the firm diplomatist with subtle and demonstrable reasons why the patient can stand, walk, or feel, often produces miraculous cures. But it must never be forgotten that in a large number of cases, especially in civil life, removal of hysterical symptoms is only a prelude to the discovery of an anxiety neurosis. The causes for the suppressed emotion must be investigated, or the patient may be left in an even worse condition than that in which you found him.

To the medical man I would say, see that you do your patient no harm by antitherapeutic suggestion; carefully prune your conversation, and do not think out your diagnosis aloud. Purge your mind of vague phrases, and avoid such words as "neuritis." Some diagnoses, such as "floating kidney," are more deadly than the disease. Avoid thinking in terms of surgery when dealing with functional neuroses. When you find that a patient is vomiting, do not let your mind at once leap to gastro-enterostomy. Be natural, but on guard; you will then be ready to deliver your blow at the moment required. At the same time, remember that your most brilliant conversation is useless with an hysteric; she is interested in herself, not in you.

Nature's moral code, under which we work, is cruel and unrelenting. There is no forgiveness of sins; but, in the medical man, this knowledge should be tempered towards the patient by clinical curiosity and human sympathy. In conclusion, I would say to all who have to deal with these morbid conditions, be as honest in thought as you would be naturally in deed. Act without fear and never lose courage; finally, call nothing common or unclean.

A Lecture to Graduates

ON

THREE YEARS OF PELVIC SURGERY.

DELIVERED AT THE MANCHESTER ROYAL INFIRMARY,

BY

W. E. FOTHERGILL, M.A., M.D., C.M.,

PROFESSOR OF OBSTETRICS AND GYNAECOLOGY, VICTORIA UNIVERSITY OF MANCHESTER.

DR. C. P. BRENTNALL, Resident Surgical Officer to the St. Mary's Hospitals, Manchester, and Dr. W. E. Powell, Senior House-Surgeon, Special Departments, Manchester Royal Infirmary, have been kind enough to enumerate and analyse the cases on which I have operated personally at the St. Mary's Hospitals and at the Manchester Royal Infirmary during the last three years. Their figures deal with 1,354 consecutive operations, and show the relative frequency with which common pelvic lesions occur, and indicate the measure of success which may be expected when these lesions are dealt with by surgical methods. The figures also bring out certain debatable opinions and illustrate certain points of view which form interesting subjects for discussion. I thank my two colleagues for the time and care they have bestowed on this analysis, which I propose to bring before you with brief comments on the methods used and the results secured.

Pelvic Infections.

During the three years there were 82 cases of pelvic infection. Of these, 5 were operated upon during the acute phase by the vaginal route, drainage being secured through the floor of the pouch of Douglas. In the other 77 cases the abdomen was opened after waiting until the pulse and temperature had been normal for some time. In 35 of these 77 cases the body of the uterus was removed together with both appendages, while in the remaining 42 cases the injured organs alone were removed, the uterus, one ovary, and one tube being conserved. Drainage by the lower angle of the abdominal incision was used in 13 of the 77 cases. There were no deaths amongst these 82 cases of severe pelvic infection, nor were there any unpleasant sequelae, such as the formation of faecal fistulae. This success I attribute to two factors. First, the results of infection have a natural tendency to recovery. They are not progressive diseases like new growths. Inflammation is not a disease, but a curative process. If judiciously helped by the surgeon it will generally save the patient, though it may be at the cost of her reproductive function. Secondly, in these cases the abdomen was only opened after the acute inflammation was over, the vaginal route being chosen whenever it was really necessary to let out pus during the continuance of constitutional disturbance. Some of you may be horrified to hear that the uterus and both appendages were removed in 35 out of 77 cases. But a uterus without ovaries is no use, and, if left isolated in the middle of the pelvis, with its blood supply impaired, it often becomes a source of trouble. It is best to remove everything except the cervix unless it is possible to leave a fairly sound uterus, one fairly sound ovary, and one fairly sound tube—in short, a working set of reproductive organs. The 35 patients that have suffered the radical operation have their menopause behind them, and will be healthy and comfortable as to the pelvis for the rest of their lives. As to the 42 other patients, some of them may certainly have children; but, on the other hand, some of them are sure to have recurrences of infective trouble with disability, discomfort, and further surgical intervention.

Pelvic Growths.

In 200 cases "fibroids" were the leading feature. One tumour proved to be a sarcoma and one an adenomyoma. Cancer of the cervix complicated one case and cancer of the body another; while small ovarian cysts were present in 13 cases. Nine of the myomata were cervical in position, many of them were degenerated, and several were infected, one patient having general peritonitis on admission. One sloughing myoma was removed in small pieces by the vaginal route, the abdomen being opened in the other 199 cases. Panhysterectomy was done 10 times, supravaginal hysterectomy 180 times, myomectomy 7 times; while in two cases the growths could not be removed. In these 200 cases there were six deaths:

1. General peritonitis on admission; drainage only.
2. Ill after five years' bleeding; abdomen reopened for partial obstruction; no cause found.
3. Fibroid in broad ligament; shock; died the same day.
4. Extreme anaemia; recovered from operation; died some weeks later from anaemia.
5. Embolism tenth day.
6. Uterus contained a dead ovum; pelvic sinuses thrombosed; embolism third day.

Panhysterectomy was done only when the myoma was cervical and in the case complicated by cancer of the cervix. I regard the occurrence of cervical cancer after supravaginal hysterectomy as a mere coincidence. If the cervix should be removed because a woman has a myoma, surely several other parts of her body which are prone to cancerous change should also be taken for the same reason. In operating for myoma I generally follow the guiding principle of leaving nothing but the cervix, unless it is possible to leave a working set of reproductive organs. It is difficult to leave ovaries with their blood supply unimpaired. There is evidence that ovaries left *in situ* do not persist more than a couple of years, and that they often become the site of pathological changes.[1] A woman can only have one menopause, and I prefer that she should get it over just after her operation rather than two years or so later. The surgical menopause is regarded with undue apprehension, and J. W. Bride's[2] investigations show that there is nothing solid to be gained by leaving ovaries when the uterus is removed.

The present series contains only 25 cases of cancer of the cervix, as during the last three years I have been referring a great many of these cases to Dr. A. Burrows of the Manchester Radium Institute. Of the 25 cases 12 were inoperable and received palliative treatment by curette and cautery. The other 13 cases were dealt with by abdominal total hysterectomy. There were no deaths and no unpleasant sequelae. The cases were carefully selected, and we hope that some of them will pass the test of freedom from recurrence for five years. There were 23 cases of cancer of the body. All of them were attacked by the abdominal route, and satisfactory total hysterectomy was completed in 21 cases. The prognosis is five times as good as in cancer of the cervix. There were three deaths:

1. From exhaustion, fourth day.
2. From paralytic ileus, third day.
3. Radium put in parametria at time of incomplete operation; healing, but died from exhaustion on the eighteenth day.

There were 14 patients who were found on abdominal section to be the subjects of ovarian cancer, primary so far as could be ascertained. Most of these patients had a quantity of free fluid in the abdominal cavity (hydroperitoneum). Removal of the growths was attempted in each case, but was found to be impossible in five instances. Of these 14 patients, 5 died of exhaustion before leaving hospital. It may be asked if operation in these cases is justified. There are three reasons for it. First, the removal of a malignant ovary often gives considerable relief during the remainder of the patient's life. Second, in certain cases, in spite of a laboratory diagnosis of malignancy, there is no recurrence at all. Third, without opening the abdomen it is often impossible to make a complete diagnosis. For a uterine myoma, a fibroma of the ovary, or an ovarian cyst, if its blood supply is impaired, may bring about the appearance of free fluid in the peritoneal cavity. Cases with hydroperitoneum, therefore, should not be tapped, but should be submitted to exploratory incision. If this is always done a considerable percentage of the patients can be saved.

Simple cystic and solid growths of the ovary and broad ligament amounted to 114 cases. One of these had general peritonitis on admission and was treated by drainage only. The growths alone were removed in 97 cases, both appendages together with the body of the uterus being removed in 16 cases. Here, as in other conditions, the rule was followed of leaving nothing but the cervix, unless a working set of reproductive organs could be retained. There were four deaths after the 114 operations:

1. Dermoid cyst and fibroid; adhesions; abdomen reopened fourth day for signs of obstruction; no cause found; died the same day.
2. Patient aged 80; admitted for intestinal obstruction; healed well after removal of large cyst; died twenty-third day, intestinal paresis.
3. Two solid ovarians; bronchopneumonia.
4. Suppurating ovarian with peritonitis on admission; drainage only.

Other Pelvic Disorders.

There were 59 cases of retroversion considered to require operative treatment, and dealt with by means of Webster's sling. I find this to be the most satisfactory of the 87 operations which have been devised in recent years for the correction of retroversion. Many of the cases were complicated by the results of old pelvic infection, and in several dyspareunia due to prolapsed ovaries was the leading indication for treatment.

Uncontrollable bleeding at the menopause was treated by supravaginal hysterectomy in 10 cases, which, I am given to understand, could have been dealt with successfully by means of radium. There were also 13 cases of ectopic gestation requiring salpingectomy, and remarkable only because they included no example of rupture with haemorrhage demanding "urgency" operation.

Further, there were 23 unclassified abdominal sections whose consideration is outside our present purpose, interesting as many of them were. They included an inverted uterus, a double uterus, a sequestrated ovarian adenoma implanted on the rectum, diverticulitis, a renal sarcoma adherent to an inflammatory mass in the pelvis, a cyst of the common bile duct, desmoid growths of the abdominal wall, various cases of hydroperitoneum of obscure origin, and various cases of tuberculous peritonitis involving the genital organs. There was no case of primary genital tuberculosis.

Review of Abdominal Operations.

Thus there were 545 abdominal sections in all, and the deaths were 18 in all—that is, 3.3 per cent. It is clear that the mortality could be kept lower than this by selecting the cases; but if operation is undertaken whenever it is thought that life may be prolonged or that suffering may be relieved, a number of post-operative deaths must occur. A careful study of the notes of the 18 patients who died brings out a striking fact which is not always kept in mind. Only three of the eighteen were in ordinary good health when they came for treatment. The other fifteen had been injured by prolonged bleeding, by infections and degenerations, or were the subjects of malignant disease. The three healthy persons died from shock, embolism, and pneumonia respectively. In the other fifteen, pathological factors had been at work before treatment was sought. The lesson is that the removal of lumps from the pelvis and abdomen is like making a will—it should be done in time of health. Three deaths in 545 is 5½ in 1,000, and we know that four deaths occur in 1,000 cases of labour. Thus, when a woman is in good health, she can have a simple uterine or ovarian tumour removed with little more risk and with much less discomfort than that involved in having a baby. But with delay up go the risks. No pelvic lump can be guaranteed to remain in a healthy condition; and if the patient declines to part with one in time of health the responsibility should rest on her and not on her medical adviser.

Vaginal Operations.

Passing on to the cases in which vaginal operations were done, there were 406 cases of genital prolapse. These were treated by methods which I have sufficiently described elsewhere, and all left hospital soundly healed. F. H. Lacey's recent investigation[3] of my 1914–15–16 cases of prolapse shows that permanent cure was obtained in 97 per cent. of them. There were also 112 cases of rupture of the perineum and recto-vaginal fistula, who were all discharged cured. The urinary fistulae numbered 16 and were cured with one exception, which requires further treatment. The whole vulva was excised seven times for cancer and once for leucoplakia, and these operations, with those previously mentioned, make up 560 classified vaginal operations.

There were also 249 smaller vaginal interventions, including cases of haematocolpos, septate vagina, unruptured hymen, senile endometritis, pyometra, cysts of the vulva, Bartholinitis, caruncles, polypi, sterility, spasmodic dysmenorrhoea, cervical lacerations, hypertrophied clitoris, retained products of conception, and various diagnostic explorations of the uterine cavity. There was no death after any of the 809 vaginal operations; which, added to the 545 abdominal sections, give the total of 1,354 consecutive operations in 1919, 1920, and 1921.

REFERENCES.

[1] Polak: *Amer. Journ. Obstet.*, 1918, pp. 199 and 349. [2] Bride: *Journ. Obstet. and Gyn. British Empire*, 1922, vol. xxix, No. 1. [3] Lacey, ibid., 1921, vol. xxviii, No. 2, p. 251.

SOME COMMON DEFECTS OF DIET AND THEIR PATHOLOGICAL SIGNIFICANCE.

ABSTRACT OF THE OLIVER-SHARPEY LECTURES DELIVERED BEFORE THE ROYAL COLLEGE OF PHYSICIANS,

BY

E. MELLANBY, M.D.,

PROFESSOR OF PHARMACOLOGY, UNIVERSITY OF SHEFFIELD.

LECTURE II.

IN his second Oliver-Sharpey lecture, delivered on May 4th, Professor E. Mellanby began by reminding his audience of the conclusions to which his first lecture had pointed. He had stated that foodstuffs could be divided into two groups. The larger group, which included the major part of the average diet, was practically devoid of sodium, calcium, chlorine, and two vitamins—namely, the fat-soluble A and the antiscorbutic factor. The reason why this was the general diet was because modern urban communities lived at a distance from the areas where food was produced, and therefore preference had to be given to foods for popular consumption which were easily transportable and which had good keeping properties. The economic situation made it necessary also that foods should be cheap and abundantly produced. He had also pointed out that taste was an uncertain factor in deciding the relative value of foods, and did not prevent people from eating the wrong thing. Certain foods which seemed to be good, such as cereals, upon which children flourished and grew fat, might, under certain conditions of ill balance in other respects, give a deceptive impression of being more nutritious and satisfying than they really were. He had then proceeded to consider, what would be the main theme of this second lecture, the factors in diet which were responsible for the calcification of teeth and bones.

Professor Mellanby went on to say that in all his investigations upon deficiency diseases he had been impressed by the fact that as soon as there was any interference with a natural food product it became less suitable for food and lost some of its best properties. He took as an example the case of milk: if milk was allowed to go sour and acid caseinogen to be precipitated the calcium was lost, so that acid caseinogen used in a diet already deficient in fat-soluble vitamin made the resulting rickets much worse.

Calcium and Fats.

Even if butter were added to a diet a certain additional quantity of calcium must be added to obtain the maximum physiological value. Butter was less satisfactory from the point of view of rickets prevention than the milk from which the butter was made, probably because, in the course of separation, the substance lost some of its calcium. Butter therefore was not as good a food as one would expect, and the results could not be improved in the case of an ill-balanced diet by giving larger and larger quantities of butter. The more butter that was given the worse under these circumstances did the animal become, and the animal might be made very ill by being given much butter without a certain amount of calcium to balance the diet.

This fact had been worked out by McCollum, of Johns Hopkins University, who had tested on rats the value of a diet as affecting growth, fertility, and the power of the mother to rear her offspring. McCollum had shown that the conditions could not be made better merely by increasing the fat. He had added first of all a mere trace (0.1 per cent.) of calcium carbonate, and the rats did better in growth, though the second generation of young rats did not thrive at all. But on doubling the percentage of calcium carbonate, not only was the growth of the adult rats much improved, but the second generation also began to flourish. Cod-liver oil had the power of utilizing to the full every bit of calcium present in the diet, and with 2 per cent. of cod-liver oil added to a diet in which there was 0.1 per cent. of calcium carbonate the condition of the animal was much better than with 8, 10, or even 20 per cent. of butter, with the same minimum of calcium, and no cod-liver oil. If, however, the amount of calcium was raised to 0.5 per cent. butter under those conditions became as good as cod-liver oil. The cod-liver oil could use the minutest quantities of calcium, which the butter could not. McCollum's explanation of these facts was rather hesitating, but the simplest view to take was that cod-liver oil contained a large amount of the fat-soluble vitamin and butter only a small amount.

The lecturer then passed on to speak of the work of Zilva and Miura in the biochemical department of the Lister

Institute. Their growth experiments depended on a piece of technique which seemed to him to be extremely able. They fed young rats on a diet which was so devoid of fat-soluble vitamin that the animals ceased to grow, and their weight remained stationary. Then to this diet were added the substances whose action was to be tested. If the interpretation of these experiments was correct, it looked as if there was a great deal more of this vitamin in cod-liver oil than in butter. In any case, taking these facts together, it was evident that butter was inferior to milk, and one explanation at least was that in milk there was a larger quantity of calcium, which was lost on the separation into butter. One result of feeding animals on butter was to give a beautiful glossy skin; but, although there was no eye disease—keratomalacia or xerophthalmia—which occurred with other diets, there was still rickets with a butter diet if calcium was not ensured in sufficient quantity.

Iodine Deficiency.

There was one point to be made in connexion with the constitution of cod-liver oil. Cod-liver oil did contain, at any rate, one substance which was not possessed by the other fats. In the animals on which the experiments had been made it had always been possible to detect which animals had had cod-liver oil by examining their thyroids. The cod-liver oil always ensured thyroids normal in size, whereas the thyroids of animals on other fats in these deficiency experiments tended to enlarge. In twelve puppies in whose diet cod-liver oil was used as the fat the average weight of the thyroids was 0.58 gram, while in twelve puppies fed on butter instead of cod-liver oil the average weight was 2.77 grams. Not only was there this difference in the weight of the thyroid, but the epithelium became more of a columnar nature and there were irregularities and invaginations of the epithelium and general abnormality in the thyroids of the butter-fed puppies. The hyperplasia produced in the gland by these means was almost indistinguishable from that associated with exophthalmic goitre, although there were none of the symptoms of this condition. The simplest explanation of the difference between the glands in these two types of animals was that cod-liver oil contained a certain amount of iodine, and the other fats did not contain iodine. It was instantly appreciable from a study of these dietaries how many substances in the ordinary range of foodstuffs did not contain iodine, for these animals were fed on quite a variety of food.

It was probable that a deficiency of iodine in human diet caused abnormalities, though he did not think such iodine deficiency very common in this country. In any event the ordinary case of goitre could hardly be said to be due entirely to deficiency of iodine in the diet; it was no doubt partly due to this cause, but it was due to some other lack of balance as well, making the story altogether a complicated one. In America the prophylactic treatment of enlarged glands was pursued by giving school children small doses of iodine twice a year, and it was said that where this procedure was adopted there was no subsequent enlargement of the gland. In any case in these animal experiments cod-liver oil prevented any of this kind of hyperplasia. However the animals were fed, and whatever the other conditions, if they had got cod-liver oil in the diet they always retained a normal gland. The action of cod-liver oil could not be explained merely on the ground of the iodine content; there must be other things in addition. If small quantities of iodine were given to patients suffering from exophthalmic goitre—say one or two grains three times a day—the effect was quite dramatic. Usually this treatment for a time altered completely the metabolism of the patient. The patient put on weight, the tremors disappeared, sweating gave place to coolness, excitability to quietness, and with all this the tumour at the neck became larger. These were the first effects of the administration. If cod-liver oil were given to people with exophthalmic goitre the effect was to increase the symptoms; there was more tremor, more sweating, increased loss of weight, and the size of the gland usually went down. The whole effect was different from the iodine effect. He made it plain that he was discussing this matter from the experimental, not from the curative point of view.

A Seeming Contradiction.

Returning to the question of calcification, Professor Mellanby reminded his audience that in his first lecture he had pointed out that in the repair of structures affected by rickets the vitamin did the calcification, while growth depended largely on how much cereal was used. The more cereals eaten, everything else being constant, the greater the rickets produced in the absence of the vitamin. When these results were first published he thought that the cause of this was the amount of carbohydrates which the animals had eaten, but lately he had taken up the subject again to see whether there was any difference between the cereals, independently of their carbohydrate content, and he found that there was such a difference. A dog was placed on a standard diet, with olive oil as a fat, and white flour. He had been inclined to predict that oatmeal and wholemeal flour would be the best cereals because these contained calcium, and that white flour, having lost its calcium, would be the worst. But the dog which had had white flour as its cereal appeared to be fairly normal, whereas the dog which had had oatmeal got rickets. Therefore from this point of view oatmeal was worse than white flour. The *x*-ray photographs showed that the animal fed on white flour had a certain slight amount of rickets, whereas an animal fed on wholemeal flour had more pronounced rickets, everything else in the diet being equal; with rice, again, there was less rickets, and with oatmeal more. These results were entirely opposed to all that one would imagine. A dog brought up on polished rice *plus* wheat germ showed worse rickets than a dog brought up on rice alone without the wheat germ. He could not see the explanation at present. It did not mean, of course, that oatmeal and wholemeal flour were worse than rice and white bread, but what could be said was that when a diet was deficient in fat-soluble vitamin, oatmeal and wholemeal flour seemed to be the worst cereals from the point of view of continuing rickets.

Diet in Human Rickets.

Turning to human rickets and the applications of these results to the treatment of children, the lecturer said that obviously the matter was most important from the point of view of infant health. If the process of calcification of teeth and bones were well started at an early age, it was difficult to upset the process later on. In Sheffield, where he had been working lately, there was a great deal of child rickets of a much worse type than anything seen in London, and there was much adult rickets also. In the treatment of these children the diet on which they were put did not differ greatly from normal. It contained milk, bread, and beef dripping. The children were given about one ounce of minced raw meat, with potatoes and greens, and milk pudding; and in addition to these ordinary things he gave them cod-liver oil three times a day, and always included an orange in the diet. Cod-liver oil, however, had its dangers—for instance, it sometimes led to dyspepsia—and if there was any difficulty about giving it, the best plan was to cut down the other fats. On these diets the rickets was cured. He showed some striking comparative photographs of children who came in with bad deformity and gradually improved under this diet. Some of the children with rickets were quite unable to stand when they came in, and often appeared quite imbecile. The diet not only cured the rickets and strengthened the bones, but absolutely transformed the child's attitude towards life. He did not understand the talk about the necessity for exercise and massage and electricity in rickets; it was the deficient diet which prevented exercise, and until that was rectified the rickets would go on.

In conclusion Professor Mellanby said that he had used this question of rickets and the calcification of bones, not in order to show the etiology of the disease or even the treatment—he had used these facts to illustrate the differences that could be brought about in the anatomy and physiology of ordinary human tissue by changes in diet. It was possible now to take a point of view which would have been quite out of the question a few years ago. This work on foodstuffs was only at its beginning, and it would take many years before all the variables could be worked out. These diets did not only produce bone changes; paralytic effects and other nerve symptoms were produced, and often in these animals changes were brought about in the heart which made them extremely susceptible to anaesthetics. Under the influence of diet they became also very susceptible to catarrhal infections of the alimentary canal and the respiratory tract, and to skin affections; but these conditions had not been worked out because it was not known in detail what were the actual factors involved. Although it was impossible to demonstrate at present the basis of the susceptibility to these infections, he had no doubt in his own mind that deficiency of diet played a large part in them. In any case in this kind of work the laboratory justified itself in a manner in which perhaps it had never done previously.

THE INTERSTITIAL GLAND.*

BY

LEONARD WILLIAMS, M.D.,

LONDON.

IT has long been known that the reproductive glands both in man and woman preside over the determination of what are called the secondary sexual characteristics. The primary sexual characteristics are, of course, penis and scrotum in the male, and vagina and uterus in the female. Among the secondary sex characteristics are the beard and the bass voice in the male, and in the female the smooth skin, the treble voice, and the development of the mammary glands. There are other physical differences between the two, such as stature and breadth of pelvis, and these are accompanied by certain mental and temperamental differences upon which I need not insist. Ever since castration was first performed—and castration is probably the oldest of all surgical operations—it has been evident even to superficial observers that castrates differed in several very important particulars from those who had not been subjected to this mutilation. It has thus become a matter of common knowledge that the testes in the male and the ovaries in the female supplied some element to the economy which not only determined, but served to maintain, what we call maleness in the one and femaleness in the other. In the case of man it was believed until comparatively recently that this element or essence was derived from the tubuli seminiferi, and to some extent perhaps from the prostate gland. This, though a very natural inference, has proved to be erroneous. It has now been shown beyond any manner of doubt that this essence or hormone is secreted by what is known as the interstitial gland.

The interstitial gland was first described by Leydig of Frankfort in 1850, who wrote as follows:

> "Comparative histology has shown that in addition to the seminal tubules, blood vessels, and nerves, the mammalian testicle contains another constant structure, which appears as a group of cells which, when small in number, seem to follow the course of the blood vessels, but when plentiful seem completely to surround the seminal vesicles as though to embed the latter."

This observation of Leydig's, if at the time of its publication it was noticed at all, was regarded merely as an histological curiosity entirely devoid of physiological significance, and no reference appears to have been made to it until 1903, when Ancel and Bouin published the first of their series of papers which have since become classical. It is interesting to note that about the time of Leydig's observation, Claude Bernard was delivering at the College of France a series of lectures on experimental physiology in which he coined the term "internal secretion." It was many years later that his co-worker Brown-Séquard, after experiments on himself, scandalized London and even Paris by proclaiming that he could cure sexual senility by injections of fresh testicular extract. As we shall see presently, he was much nearer the truth than his contemporaries imagined.

Such, then, is the now famous interstitial gland—a mass of minute structures not unlike fatty globules situated in the connective tissue of the testicle, separate from and unconnected with the vesiculae seminales and vas deferens, and endowed with the function of supplying an internal secretion to the economy which determines and maintains not only the secondary sexual characteristics, but also the copulative capacity of the individual. So far, I have dealt only with the testicle. The ovary also contains an interstitial gland, but as the presence in the adolescent and adult ovary of the corpus luteum produces a complication which renders the train of events rather difficult of clear comprehension, I shall not attempt to deal with it here. In elucidation, however, of some points of considerable importance I must briefly consider the question of the development of the interstitial glands in the two sexes. At the moment of conception two elements, a male and a female, combine to form an entity. These elements are warring elements, each of them potentially charged with their characteristic interstitial glands, which develop very early in embryonic life. For several weeks this embryo is neuter, and we are to suppose that the male element and the female contained therein are striving for mastery the one over the other. Then comes the time when one, say the male, has definitely gained the victory, so that penis and scrotum instead of vagina and uterus result. But the victory is never complete. The embryonic interstitial glands on both sides have been mobilized, the armies have been engaged, and albeit the one may win, the other, though defeated, is by no means annihilated. Thus it comes about that in every child born there remain a certain number of these antagonistic interstitial gland cells which, entrenched opposite their victors, continue to glower at them, spoiling for the next encounter. The two armies now cease firing and go into winter quarters. Then at the age of puberty there ensues a second battle royal. The fact that the external evidences of maleness are firmly entrenched does not prevent the female interstitial cells from making one last desperate attempt to gain the mastery; so that side by side with the secondary male characteristics which should accompany the penis and scrotum there may appear some secondary female characteristics, such as a broad pelvis, high-pitched voice, together with female mentality and feminine tastes. There is no man but has some taint of the woman in him, and no woman without some smatch of the male. When the victory in favour of maleness is complete the result is a Caesar, a Napoleon, a Bismarck—active, resolute, and ruthless. When less complete you have the ordinary man, respectable, hard-working, but with engaging weaknesses. With yet another dose of the female interstitial gland in his composition you come upon the effeminate artistic male, who, whatever his practices, is usually homosexual at heart. Reverse the medal, and you are in the presence of such an eternal femininity as Josephine or Mary Queen of Scots. With added male elements, in different degrees, you see Queen Elizabeth, Catherine of Russia, Madame de Staël, or the latter-day suffragette. It is more than probable that among the ranks of the last were a large proportion of women in whom the male and female elements were so nicely balanced as to render them frankly homosexual, and that their activities were directed, subconsciously perhaps, to obtain, not so much a vote, as the right to dispute on equal terms with their male adversaries in the gate of the forum and the market place. "Infirm of purpose," you can hear them shout with Lady Macbeth, "infirm of purpose, give me the daggers." The lineal representatives of these portents of a generation ago are now engaged, some of them, in the exercise of what they are pleased to call "self-expression" in journals and novelettes. And someone recently compared their methods to those of the little boy, newly awakened to the stirring of sex within him, who writes obscene words on the vicar's garden gate.

From these considerations two points of social importance emerge. One is the question of the determination of sex in a young embryo; the other is the attitude which a civilized community should adopt towards homosexuality. Taking the latter point first and briefly, I am entirely of the opinion, suggested rather than expressed in a recent lecture by my friend Julian Huxley—namely, that the present law on the subject requires revision. Regarded in the light of pure physiology, it is no more reasonable to punish a man for being homosexual than it would be to punish him for having red hair. Both of these things are burdens cast upon him by forces over which he has no sort of control, nor can he alter or even modify them by any effort of the will. It is high time that the members of our profession expressed strong and clear views on this question. Let us remember that it is not so very long ago that people were tortured for being insane, and that it was a great-hearted French physician, Philippe Pinel, who died in 1826, who, at the risk of his own life and liberty, insisted upon the humane reforms which were afterwards generally adopted.

On the second point, the question of the artificial determination of sex soon after conception, though the present state of our knowledge does not permit of dogmatism, I should like to say that if the train of events which I have sketched above is even approximately correct it is reasonable to suppose that by reinforcing the male element in the embryo by male interstitial gland, administered to the mother, we ought to be able to determine the victory in favour of definite maleness in the full-time child, and that by exhibiting the same extract when puberty threatens we could ensure against anything in the nature of homosexuality in the adult.

But things are not always what they seem, and this is even more abundantly true in the domain of the ductless glands than elsewhere. These glands constitute a hierarchy of interdependent entities. I am fond of comparing them to the eight rowers in an outrigged boat. All are pulling in the same direction, and yet some of them antagonize certain others. If you reinforce one his antagonist will immediately be stimulated to retort, so that unless you have experience to guide you, especially in the dose of the original reinforcement,

* A paper read before the annual meeting of the Westminster Division of the British Medical Association.

you may bring about a result which is the exact reverse of what you desire. I am nevertheless of opinion that in a proper dosage of the appropriate interstitial gland we hold the key to the solution of the vexed and much-debated question of the artificial determination of sex.

Let us now return for a moment to the mammalian testicle. We have seen that it has two sets of glands—the tubuli seminiferi and the interstitial glands. The former of these supplies an external secretion which is conducted by the vas deferens to the vesiculae seminales, where it is stored for emergencies. The second, the interstitial gland, is a ductless gland which pours its secretion directly into the blood vessels to act as a hormone—that is, as a specific stimulant to certain parts of the economy. Now, the interesting point about these two activities is that they are in some senses antagonistic. Let me say, parenthetically, that the more you study the endocrine glands, the more deeply do you become impressed by this element of strife within the body. There is war between the male elements and the female in the product of conception; there is war between the thyroid and the pancreas; there is an armed neutrality between the thyroid and suprarenal; it is pull devil, pull baker, between the pituitary and the gonads; and here in a single structure, the testicle, we find, where we should least expect it, a never-ending combat between its internal secretion on the one hand, and its external on the other. The bone of contention seems to be the lion's share of the blood supply. Both the external and the internal appear to demand more than the other, for it has been shown that when one is down and out the other multiplies abundantly.

In 1903 Ancel and Bouin described some of the effects of ligaturing the vas deferens on one side in dogs. This experiment has been frequently repeated, and the result has always been a gradual atrophy of the seminal vesicles on the side of the ligature. Recently, however, another result has been observed—namely, that *pari passu* with the atrophy of the seminal vesicles there has appeared a definite hypertrophy of the interstitial element. The knowledge thus obtained has been applied clinically to prevent or counteract the degenerative effects of senility. In America very largely, to some extent both in France and Austria, though, so far as I know, not yet in this country, the operation of ligaturing the vas deferens on one side has been performed in elderly men, and has been followed by a remarkable access of mental and physical vigour. As to how long the rejuvenescence thus produced may be expected to last there do not seem at present to be any data upon which to form an opinion. Brown Séquard's successful experiments on himself were similar to, though by no means identical with, those which are now being performed; but if his case is to be accepted as any guide we must not place too much reliance upon these methods of defying time, for he was no more than 77 when he died.

Soon after the *x* rays were introduced it was found that many very serious penalties attached to the pioneers in this fascinating means of diagnosis and treatment. Among the less serious drawbacks to constant exposure to these rays it was found that the operators became sterile. They did not lose their sexual capacity or their sexual appetite, but they became incapable of begetting children. In 1905 Bergonié and Tribondeau showed that the effect of the rays was to cause atrophy of the seminal vesicles and concomitant hypertrophy of the interstitial glands—the same result, in fact, as is now known to be produced by ligature of the vas deferens. It therefore comes to this: an elderly man who wishes to renew his youth need not subject himself to the operation of ligature of one vas deferens so long as he can find a radiologist who can expose one testicle, and one only, to the activities of the *x* rays for a period sufficiently long and in a dose sufficiently powerful to ensure the atrophy of the seminal vesicles on that side. The interstitial glands will then hypertrophy and fructify, with results which may or may not be altogether desirable even to the individual. On that point there is only Faust to interrogate, and he is silent.

There are some other influences of what may be called a more normal kind than the foregoing, which seem to give rise to results somewhat analogous. Chief among these are the poisons of alcohol and tuberculosis. It is a common observation that alcoholic drinks produce an aphrodisiac effect upon some people. The porter in *Macbeth* informs us that "drink is a prevaricator with lechery; it creates the desire and takes away the performance"; the physiological meaning of which is that while stimulating the interstitial gland, it paralyses the sphincters of the veins in the corpora cavernosa. That chronic alcoholism leads to an hypertrophy of the interstitial element in the human testicle is now a recognized fact; that it leads to a concomitant inactivity of the seminal vesicles is a reasonable deduction from many of the confidences, some of them embarrassing, which we receive in the consulting room. In the matter of tubercle, it has long been recognized in France that a very early manifestation of the disease is a heightening of the sexual appetite. In this country the matter is, of course, regarded from the opposite point of view, the pulmonary phthisis, when it appears, being confidently ascribed to the direct intervention of the Almighty for the punishment of the premonitory sexual excess. Wherever the truth may lie, all the authorities who have written on the subject agree that after death from pulmonary tuberculosis the interstitial glands are found to be much hypertrophied.

I have already said that the interstitial gland is a member of the hierarchy of glands of internal secretion known as the endocrine system. To endeavour to think in terms of this system is to understand the fascination of the will-o'-the wisp and its elusiveness. I try, as I have said, to think of it as a trim and true outrigged boat, manned by trained men and wisely guided by a cox, but ever and anon in sheer desperation I cry aloud that it is naught but a cage full of wild and ineffectual monkeys. To try and establish any constant rule or relationship between the component glands is deeply to sympathize with Sisyphus, or rather Balbus, for just when you think to have built your wall the whole bag of tricks comes tumbling about your toes. It is therefore in a chastened mood that I venture to suggest—I would not dare to dogmatize—some of the relationships which the interstitial gland appears to have with some other members of the hierarchy. First, then, there is the suprarenal, which appears to be a predominantly male gland. Its cortex seems to supply a combative element to the character, and when the whole gland is well developed and active, the stature is medium or short, the trunk is hirsute, and the individual is normally or even abnormally sexually inclined. There is here some very obvious association between the interstitial gland and the adrenal, but the exact nature of that association remains to be explained. Then there is the thyroid, a predominantly female gland, which is nevertheless not only the great stimulator of metabolism in general, but seems to exercise a particular effect upon the sex glands in the male, inasmuch as when orally administered, the extract will cause the descent of a hidden testicle in young adults. And again there is the pituitary, which presides over the type of the bony skeleton, and is therefore presumably under the direction of the appropriate interstitial gland, male or female, as the case may be. And yet it seems to have a peculiarly intimate connexion with the ovary, for ordinary amenorrhoea is more surely and more swiftly cured by oral exhibition of its extract than by all the curative and curettive ministrations of the operating gynaecologist. Nor need I remind you that Fröhlich's syndrome as it is called, dystrophia adipose genitalis—or, as Jonathan Hutchinson, who was the first to describe it, originally christened it, lipomatosis universalis asexualis—proclaims a direct and intimate relation between the pituitary and the interstitial glands in the male, for the dystrophy is simply, surely, and swiftly cured by administration of extract of the whole gland by the mouth. Then there are the glands, notably the thymus and the pineal, which seem in some measure to act as a drag or check upon the activities of the gonads, while there are facts concerning them which point in a direction precisely opposite.

It would be easy to continue thus to pose problems concerning the interdependence of individual glands to which neither I nor anyone else can at present supply satisfactory answers, but to do so would probably serve only to spread my own bewilderment; so I will ask you, for the present at any rate, to join with me in an endeavour to regard these glands, not so much in their individual capacities as in their collective, to look at the boat as a whole, and not at the individual oarsmen.

In the existing state of our knowledge we must be content to treat the endocrine system as a system, and not as an agglomeration of individual glands, so that where there seems to be deficient or superabundant activity in any one gland we must make our therapeutic appeal for regularization to the system at large. That such is the proper course is obvious when we consider that our main enemies are toxins, and that our defences are the ductless glands. If a time should ever

be when we shall be able to allocate to each gland its responsibility for a particular toxin that time is not yet, so that our only rational course is so to husband the resources of the endocrines by protecting them from unnecessary poisons as to keep them fresh and alert to deal with such as are inevitable in our present artificial communal life. If we fail thus to protect them they become prematurely worn out by the ceaseless conflict with poisons which come from without. That is why a gradual decline in vitality so often begins at about 50 years of age, why cancer comes, and arteriosclerosis and other degenerative conditions. The endocrines thus gradually retreating before the advancing toxins are at last driven to capitulate, and the end comes. Now, looking at the matter from the point of view of comparative biology, there is no reason why man should be senile and effete at 70. If we argue from analogy we must admit that in relation to the time which it takes him to arrive at maturity man ought to live to the age of 100 or 120 years. That he does not do so indicates quite clearly that the kind of life he is now leading is not in accordance with physiological laws; that the poisons which he introduces into his system are either too concentrated or too persistently applied for the endocrines to withstand for more than a relatively short period.

It is an interesting fact that the glands in both sexes which show the first signs of fatigue are those which seem to have the closest connexion with the gonads—namely, the suprarenal in man and the thyroid in woman. In woman the reproductive capacity is definitely brought to a close at the menopause, and it does not surprise us that the necessity for redressing the endocrine balance consequent upon the withdrawal of the ovary from practical politics should give rise to considerable constitutional disturbance. It is nevertheless, to me at any rate, rather surprising to find that the gland to which we appeal most effectually in such cases is the thyroid. And here let me say, with all the emphasis at my command, that the appeal to thyroid extract should always be made cautiously at first—that is, with very small doses, never more than 1 grain per diem. I have been preaching this gospel for many years, and, although I am pleased to say I have made many converts, even now scarcely a week passes without my being profoundly shocked by the seemingly light-hearted manner in which members of the profession throw 5-grain tablets at their patients as though they were dealing with confetti at a carnival. That the combative gland, the suprarenal, shows declining vigour as the years advance is a matter of common observation. Bacon tells us that "men of age object too much, consult too long, adventure too little, repent too soon, and seldom drive business home to the full period, but content themselves with a mediocrity of success," which is only another way of saying that the gland of fright and fight has lost its recoil.

It is often said that a train of phenomena takes place in men between 60 and 70 in many ways comparable with the menopause in women. I have never been able to support this view. It is undoubtedly true that in most men the copulative and reproductive capacity begins in that decade sensibly to decline and ultimately to peter out. But by no means in all men. We could all of us cite outstanding instances of men who have retained a large measure of sexual power well into the following decade, but no one except the biographer of Sarah has ever recorded a case of a woman who has reproduced her kind at such an advanced age. There is obviously no reason why a man should lose his copulative and reproductive power so long as his gonads retain their efficiency, and this efficiency usually becomes impaired about the sixties because of the accumulation of poisons in the system. We have already seen that certain poisons (and I have instanced two only among many) cause an atrophy of the seminal tubules and an hypertrophy of the interstitial glands. Now it is more than likely that the interstitial hypertrophy represents an endeavour on the part of these glands to repel a chronic toxaemia. The hypertrophy succeeds for a time in supplying the extra quantity of necessary antidote, but at last, overwhelmed by the strength of the invader, the gland succumbs. We see this train of events so often in the case of the thyroid—the goitrous cretin, for example—that it seems reasonable to offer the same explanation in the case of the interstitial gland. Then there is the senile hypertrophy of the closely associated prostate to account for. Is it possible to doubt that this too is an antitoxic gland, or that its gradual enlargement with advancing years is due to the constant endeavour to prevail in the unequal combat against lethal poisons introduced from without? The removal of the gland—which is, after all, a simple surgical procedure—has been shown to be followed at no very long intervals by symptoms which go far to support this view.

And so we come to the question as to what are these toxins which the endocrine system is at such pains to neutralize and nullify. The answer is altogether outside the terms of my present reference, but to indicate the sanction for the views which I hold very strongly let me remind you that man is the only animal who has lost the instinct of physiologically selecting his food; that man is the only animal who cooks his food; and that the Almighty no more invented the kitchen than He ordained the gin palace or the opium den. Cooking destroys vitamins, and vitamins are to endocrines what endocrines are to the economy. The kindly fruits of the earth to which we do lip service in the Litany are ruthlessly relegated to a back seat in our everyday lives, and until we see reason in this respect while it is yet day we shall continue to poison our endocrines and to pass ignobly into nothingness with our allotted tasks but partially accomplished.

NOTE ON THE PEPTONE TREATMENT.

BY

A. G. AULD, M.D., D.P.H.OXON.

(From University College, London.)

IN the use of peptone for certain cases of asthma and other conditions of sensitization we have, as a rule, to rely on commercial products. These differ widely in composition, and consequently in their pharmacological actions. The latter are at present undergoing investigation, and some very divergent preliminary results have been obtained by Professor A. J. Clark with some samples submitted to him. What is really needed are preparations physiologically standardized. The proteoses are by far the most important constituents. A peptone solution fit for clinical use may be roughly tested by adding to a few cubic centimetres in a test tube two or three drops of strong nitric acid. A copious white precipitate is immediately produced, consisting of primary proteoses. On heating, the precipitate entirely dissolves, and reappears on cooling.

In a former paper[1] it was stated that Witte's peptone, even in the small doses of the 2 per cent. solution, may produce an immediate sharp reaction in certain subjects. Flushing, salivation, headache, palpitation, cyanosis, and dyspnoea are the usual symptoms. The dyspnoea is asthmatical in character, and may last a considerable time. Faintness, sickness or vomiting, purgation, and localized oedema or urticaria may supervene in very sensitive subjects. In the mildest cases flushing, alone or with a sense of constriction in the chest, occurs. Any combination, however, may be encountered. There seems to be no doubt that this almost instantaneous and sometimes alarming syndrome is caused by histamine in the peptone. The above symptoms can be faithfully reproduced when histamine is administered intravenously, and are due to a sudden injurious dilatation of the capillaries and venules, peripherally induced, together with stimulation of smooth muscle. Hanke and Koessler,[2] by an ingenious and exhaustive process, though finding no histamine in blood, fresh tissues, casein, etc., as originally affirmed by Abel and Kubota, nevertheless recovered it from Witte's peptone in the proportion of 0.00335 gram to 100 grams peptone. It might be urged that this represents too small a quantity in the intravenous injections to be effective, and that the symptoms must be referable to the peptone itself. Now these figures give 1/1,500 mg. histamine (the equivalent of 0.3 c.cm. of a 1 in 500,000 aqueous dilution) in about 1 c.cm. of a 2 per cent. solution of Witte's peptone (an average dose). This dilution, I found, gave a positive dermal reaction (0.5 cm. and over) in many subjects, but the intravenous injection of 0.3 c.cm. in the subjects tested was either very slight in effect or negative. However, when this amount was mixed with the usual doses of a histamine-free peptone, the injections, previously negative, gave the histamine effect in numerous instances. Apparently, therefore, the peptone reinforces in some manner the action of the histamine. The intensity of the effect depends on the amount of histamine-peptone present in the blood per unit of time—in other words, on the rapidity of the injection. The reaction to the peptone (proteose) itself, should it occur, requires some time and is pyrexial in character.

It is necessary to recognize that histamine is a degradation product (by decarboxylation) of the amino-acid histidine, and acts after the manner of a powerful drug. Its presence in a peptone is a drawback, as it not only may entail a limitation of the dosage, but is itself quite useless in the immunizing process, if not actually harmful. It was found by Hanke and Koessler that peptone which was perfectly histamine-free produced the typical peptone shock. Histamine shock has indeed the more obvious features of peptone shock, but is shorn of certain essential attributes of the latter—namely, extensive katabolism of body tissues and incoagulability of the blood (supposed due to antithrombin formation from the interaction of peptone and hepatic cells).* Ringer and Underhill[3] were unable to produce any increase in tissue katabolism by shock doses of histamine enormously greater than those contained in a toxic dose of Witte's peptone. Further, histamine is unable to produce swelling of the liver in dogs, or to produce pyrexia, or to desensitize. Histamine has been occasionally detected in the intestines, but whether it escapes the action of the liver and produces the symptoms of disease is an open question. It certainly can be swallowed in considerable amount, comparatively speaking, without the production of any symptoms. But in the katabolism of tissue associated with anaphylactic or anaphylactoid shock it is quite possible that histamine may be produced where cell-oxidation ceases, just as it is supposed to be formed in the tissue destruction leading to wound shock.

The dermal (scratch) test may give evidence as to the presence of histamine in a peptone (conc. solution), as all individuals give a marked though varied response to extremely dilute solutions of histamine. For testing purposes one of Burroughs, Wellcome and Co.'s ergamine tabloids may be dissolved in water or saline in various dilutions and used as a control. A peptone giving a wheal of 0.4 cm. and upwards in diameter in a series of cases may be suspected, the size of the wheal depending on the sensitiveness of the patient to histamine, though it must be remembered that sensitiveness to the peptone itself may also be present. Of the peptones I have tested in this way, the largest wheal (up to 1 cm.) has been constantly given by Parke, Davis's peptone (which contains no primary proteose). Confirmatory evidence is afforded in the immediate histamine effect produced by the intravenous injection of very small doses of this preparation.

A patient may be hypersensitive to both peptone and histamine, but the same patient may react differently to histamine on separate occasions, owing to unknown causes; also, the dermal and constitutional reactions do not always correspond. Sometimes intradermal tests are made, but they are usually unnecessary and may be dangerous, unless a very dilute (2 per cent.) solution of the peptone or suspected peptone be used, and then only 0.1 c.cm. should be injected. The injection of a strong solution may cause histamine shock. Also, if after a negative intradermal injection the ordinary intravenous injection be soon made, the two may summate and cause shock. According to Dr. Chandler Walker,[4] intradermal injections are very erratic, far too sensitive, and practically non-specific.

Ordinarily, therefore, and especially for those requiring a higher dose of proteose—sufficient, that is, to produce a slight constitutional reaction—the Armour No. 2 peptone† should be employed, which, in my experience, never gives the histamine effect. It will be found that the maximum dosage will approximate 2 to 2.5 c.cm. of the 5 per cent. solution. Witte's peptone is of particular value in certain cases owing to the nature of its proteoses, but it is best given diluted with a weaker peptone, as recommended in my last paper.[5] But the Armour peptone (intramuscular or intravenous) gives the best results in the majority of cases, and may be safely administered to the youngest child. Should toxic symptoms unexpectedly supervene, suspect contamination of the solution—a not infrequent occurrence. It may be added that a satisfactory immunizing process is characterized by a slight leucocytosis, particularly as regards the large mononuclears, and by increase in the haemoglobin and red cells.

REFERENCES.

[1] BRITISH MEDICAL JOURNAL, vol. i, 1920, p. 563. [2] *Journ. Biol. Chem.*, vol. 43, 1920, p. 567. [3] *Journ. Biol. Chem.*, vol. 48, 1921, p. 510. [4] *Journ. Med. Research*, vol. 37, 1917, p. 287. [5] BRITISH MEDICAL JOURNAL, vol. i, 1921, p. 698.

* Evidence of a new kind, contrary to this view, has lately been advanced (*Proc. Roy. Soc.*, Series B, vol. 93, p. 367).

† The Armour Company have given an assurance that this peptone will be maintained of a uniform composition.

A CASE OF NON-RHEUMATIC AORTIC STENOSIS IN A YOUNG SUBJECT.*

BY

W. GORDON, M.A., M.D., F.R.C.P.,

SENIOR PHYSICIAN TO THE ROYAL DEVON AND EXETER HOSPITAL; PHYSICIAN TO THE WEST OF ENGLAND EYE INFIRMARY.

DR. L. GALLIVARDIN has recently described in an interesting paper a group of cases of aortic stenosis in young persons which he believes to be non-rheumatic in origin.[1] The case I bring before you seems to belong to this group.

The special features of the group are:

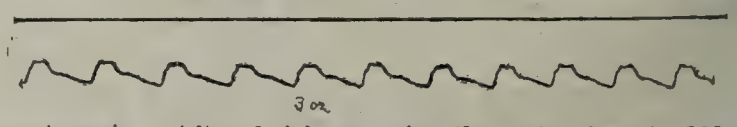
1. Aortic stenosis with loud murmur and marked thrill in young persons.
2. The stenosis generally "pure"—that is, unaccompanied by regurgitation, or, if aortic regurgitation coexists, its murmur much less marked than the murmur of the stenosis.
3. A long period without symptoms.

The causation Dr. Gallivardin considered doubtful: some cases he thought might be of congenital origin; most, he suggested, might be due to a post-natal valvulitis of unknown nature. Eight male cases were described in his paper, aged respectively 21, 25, 19, 20, 17, 19, 21, and 23. Of these the first only had been also observed at an earlier age—namely, at 7 or 8.

H. C. P., aged 17½, a bricklayer's apprentice, a florid, well-nourished, healthy-looking, intelligent lad, was sent to me by Dr. Whaite of Heavitree, complaining of shortness of breath on exertion. This had been noticeable for six months, but only troublesome for three months, during which he had been put on a man's job, carrying hods and working eight hours a day. He had had no pain, faintness, giddiness, cough, or blueness on exertion. At 11 years old a school doctor had forbidden him to play football on account of "incurable" heart trouble, but he had continued to play because he felt no ill effects from doing so. The boy has never had rheumatism, chorea, or scarlet fever. No doctor attended his birth. At nearly a year old he was in this hospital for large glands in his neck which subsided without operation; no mention is made in the surgical notes of any tonsillitis, nor, unfortunately, of the state of the heart. As a child he had whooping-cough and chicken-pox. On leaving school he worked first as a compositor, then as an Army Pay Corps messenger, then for sixteen months as a tailor's porter, with much bicycling and some lifting of heavy weights, finally at his present job, which has proved too much for him. He has never had any serious accident or sudden overstrain; influenza in 1918 was the only illness since childhood in which he needed a doctor.

There is no family history of acute rheumatism or chorea. His father is a strong-looking man of 55 who has had some "rheumatic gout" for ten years, never syphilis. His mother died of phthisis at 46; she was subject to "fainting attacks," but was not said to have heart disease; she had no miscarriages. A brother of the patient in the army died of phthisis at 26. Two sisters and another brother are alive and well; the surviving brother has had his tonsils removed, but is stated never to have had acute tonsillitis.

The circulatory condition is as follows: Pulse regular (84), not "water-hammer," giving the anacrotic, flat-topped tracing of



aortic stenosis. After brisk exercise the rate rises to 108, but drops back to 84 in two and a half minutes. There is visible pulsation above the manubrium and clavicles, but little further up the neck. In the erect position the heart's apex beat is in the fifth space, half an inch inside the left mammary line, and the dullness reaches transversely from that point to three-quarters of

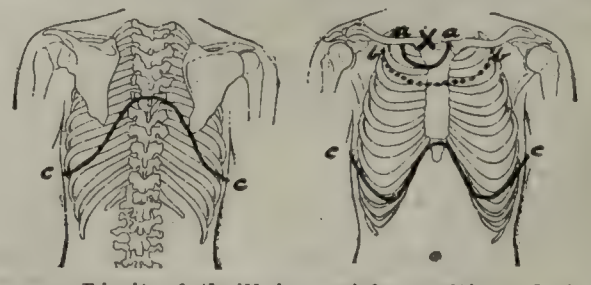


FIG. 1.—*a*, *a*, Limit of thrill in upright position. *b*, *b*, Ditto in recumbent position. *c*, *c*, Limit of systolic murmur, upright position. ×, Maximum point of murmur and thrill.

an inch to the right of the mid-sternal line—practically a normal width. Over the upper part of the chest there is a marked systolic thrill and a loud, rasping systolic murmur; both have their maximum close to the right sterno-clavicular joint and just over the manubrium in the neck; the murmur is heard in the carotids up to the ear, and almost all over the chest. Fig. 1 shows the area

* Read at a meeting of the Exeter Division of the British Medical Association, February 17th, 1922.

of the thrill and the lower limits of the murmur. There is also a much softer, fainter diastolic murmur, whose area is shown in Fig. 2. When I first saw the patient this diastolic murmur was heard with difficulty with the double stethoscope, a little better with the straight stethoscope, and surprisingly easily by the ear laid directly on the chest. It is interesting to note that Dr. Gallivardin made the same observation on one of his cases. When a deep breath was taken and held the diastolic murmur disappeared, which I think indicates a very slight degree of regurgitation. The femoral pulses are normal and Duroziez's sign is absent. A skiagram shows a fairly normal-sized heart, but with a rather dilated aorta, and with the screen this aorta is seen to pulsate actively—a condition which, Vaquez and Bordet consider, suggests congenital aortic stenosis.[2] The second sound is audible over the right clavicle.

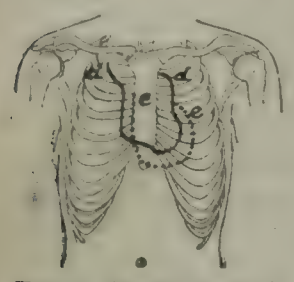


FIG. 2.—Area of diastolic murmur. *d*, *d*, In upright position; *e*, *e*, in recumbent position.

There is no clubbing of fingers or toes. The right tonsil is chronically enlarged, a fact of which the patient was unaware. The other organs, including the ocular fundi, are normal.

The diagnosis of an aortic stenosis with regurgitation is here so plain that no discussion is needed. The actual degree of stenosis cannot be great, judging by the pulse, the size of the heart, and the symptoms, although the murmur is what might be suitably called "extravagant." The regurgitation must be very slight, judging by the pulse, the presence of the aortic second sound in the neck over the right clavicle, the size of the heart, the characters of the murmur, and the symptoms. No other cardiac lesion has been detected.

I do not think we can reasonably consider that the valve defect is in this case post-rheumatic. It clearly is not traumatic or syphilitic. So the question to decide becomes, Is the condition of congenital origin, or has it arisen between birth and 11 years of age from some unknown form of valvulitis? I would venture to suggest that it is of congenital origin, and that the whole group, to which it seems to belong, has a similar etiology.

First, clinically when one finds what I have called an "extravagant" murmur with little cardiac enlargement or disturbance, one thinks of congenital heart disease. And this is reasonable, for in such cases an undamaged muscle is driving the blood through sharply defined orifices or against clean-cut obstacles. The stenotic murmur in this group is, in Dr. Gallivardin's words, "intense, rude, râpeux," even "énorme," and is much louder and more widely audible in this boy than in the cases of acquired aortic stenosis of later life to which one is accustomed. The only comparable aortic stenotic murmur I have met with was in another young male of 19 who had recently been passed as a first-class life on account of his healthy appearance and freedom from symptoms.

Secondly, there seems to be a series of similar cases reported in children, and these have been generally diagnosed as congenital. My patient's lesion was detected at 11. One of Dr. Gallivardin's cases was declared to have heart trouble at 7 or 8. MM. Queyrat and Mouquin describe an apparently identical condition in a boy 5 years and 8 months old which they call congenital, and in the discussion upon it M. Barié recalled a case observed in a child by himself, and quoted another which had been reported on at 4 years of age.[3]

Thirdly, lesions capable of causing such signs, though rare, are known to morbid anatomists. Apart from coarctation of the aorta and aortic hyperplasia, which do not concern us here, there are three forms of congenital aortic narrowing—namely, (1) subvalvular aortic stenosis, a few millimetres below the valves, which, unless endocarditis supervenes, allows of survival to adult life with few or no symptoms, but with the physical signs of aortic stenosis; (2) stenosis due to prenatal valvulitis, seldom surviving birth, although, as Hirschfelder suggests, "probably many of the milder cases escape detection";[4] and (3) stenosis due to valvular malformation, which, if valvulitis does not follow, is compatible with many years of life. Peacock says: "I have seen only two valves at the aortic orifice occasionally in persons who have died in advanced life, and frequently in middle age, without the segments having presented any appearances of more recent disease; and similar facts have been noted by others."[5] Such a condition (two valves only) would seem capable of accounting for a loud systolic murmur, a retained second sound, and a much slighter diastolic murmur, as in the case before us. It is less easy to imagine the same picture being presented by the result of post-natal valvulitis.

Lastly, although in my case I cannot prove that the lesion is congenital, I can find no history of any condition known to produce valvulitis. The enlarged tonsil might be held to indicate some chronic infection, but we have no evidence that it antedated the murmur. The glands in the neck were probably tuberculous, seeing that his mother and brother died of phthisis. In Dr. Gallivardin's cases I can find no proof that the murmurs described had not dated from birth, and it seems safer to assign a known origin than to invoke an unknown one.

The question is by no means merely academic. If chronic valvulitis is responsible for the condition we must fear its continuance. If a malformation is the cause, provided valvulitis does not supervene, we may hope for many years of life. Although at the moment we cannot come to any final conclusion, it seems worth while raising the point, in order that our congenital aortic stenoses may perhaps be more persistently followed, and that, in the rare opportunities of autopsy, attention may be more closely directed to the possibility of congenital defect.

REFERENCES.

1 "Rétrécissement aortique non-rhumatismal des jeunes sujets," par L. Gallivardin, Médecin des Hôpitaux de Lyon, *Presse Médicale*, 19 Mars, 1921.

2 Vaquez and Bordet: The Heart and the Aorta, Translation, Yale University Press, 1920, p. 131.

3 *Bulletins et Mémoires de la Société Médicale des Hôpitaux de Paris*, 21 Juillet, 1921, p. 1152 et seq.

4 *Diseases of the Heart and Aorta*, Philadelphia and London, 1918, p. 556.

5 Peacock: *Malformations of the Heart*, London, 1866, p. 187.

OBSERVATIONS ON TWO AND A HALF YEARS' ANTENATAL WORK.

BY

MARY E. WESTON, M.B., B.S. LOND.,

ASSISTANT MATERNITY AND CHILD WELFARE MEDICAL OFFICER, COUNTY OF LEICESTER.

My object in recording these observations is to show the great value of the antenatal clinic as an educational factor and its possibilities from the point of view of preventive medicine. My remarks are directed to such cases of pregnancy as are commonly classed as normal, for the value of the antenatal clinic in the early diagnosis of gross abnormality has already been sufficiently emphasized in current medical literature. It has been estimated that 40 per cent. of women out-patients suffer from some form of ill health directly or indirectly due to child-bearing. My experience has convinced me that a large part of this ill health is due to neglect of the so-called minor maladies of pregnancy, and that its prevention is largely a matter of patient individual teaching such as can be carried out at antenatal clinics. Of 138 cases 42.8 per cent. suffered from constipation, 36.5 per cent. from flatulence and heartburn, 31.7 per cent. from varicose veins (severe), and 52.38 per cent. from vomiting. The milder degrees of vomiting were not always entered. Out of 300 mothers whom I personally interrogated, 67, or 22.3 per cent., had never once vomited during pregnancy.

All these women received detailed teaching on hygiene—principally on clothing, diet, and exercise; no medicines were advised except such as can fairly be called "domestic remedies," in order that the antenatal clinic might retain its character as a teaching centre and not encroach in the slightest degree on the province of the general practitioner. Had any case not responded to these simple measures she would have been referred to her own doctor; but out of over 200 cases seen during two and a half years this necessity did not arise, though in some the vomiting was severe enough to interfere with sleep and materially to affect nutrition. In marked numerical contrast to the above figures are the more serious disorders which were treated apart from the clinic and exclusive of venereal disease—namely, there were four cases of contracted pelvis and one of albuminuria.

But apart from improving the health of individual mothers and babies, we are all keenly aware of the need for research in antenatal physiology and pathology. We need statistics on conceptional rate, on intrauterine death rate (both foetal and full-term), and on still-birth rate, as well as what has been called intranatal and neonatal death rates. We need, too, both analytical and experimental statistics on the effect of different toxins, *x* rays, etc., on the germ cell or on the foetus at all stages of its development. Clinics efficiently equipped

and staffed for such work can be founded and carried on only at great financial cost. Moreover, were such an institution built and endowed in every large town in the country it is only a very small percentage of pregnant women who would see any advantage to themselves in attending, and they very naturally would decline to submit themselves for examination or leave their homes to enter the wards for prolonged observation from altruistic motives. In short, women will never regard themselves or their unborn children as material for scientific research, and the large number of those who attended would be the grossly abnormal.

But an educational centre run on some such lines as I have described can be organized and maintained almost as easily as an infant welfare centre, and if there were enough of them they would serve a useful purpose in providing opportunity for collecting valuable figures on many points besides the few I have referred to—such, for instance, as the effect of different occupations and of the number and frequency of pregnancies on labour and on lactation, and the relation between various menstrual disorders and fertility. Finally, they would form invaluable collecting centres from whence special cases could be sent to the larger and more fully equipped clinics.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

THE AXIS OF ASTIGMATISM AND ITS LOCATION.

SOME time ago, in the BRITISH MEDICAL JOURNAL, there was a discussion on the difficulty of finding the axis of astigmatism and on the trouble required to locate it exactly in children and in those on whose answers one could not rely. The simple apparatus here described works well, looks neat, and adds very little to the weight of the trial frames. It will turn the cylinder while the operater is some distance from the patient, and the adjustment is so fine that this can be done five times for each division on the scale. It can be fitted to any trial frame which has a vertical bar for the nose-piece, and can be attached or removed instantly.

The attachment is on the Bowden wire principle, and consists essentially of a flexible wire moving through the centre of a flexible tube formed of a long coil of fine wire. The latter is shorter than the flex, and this difference regulates the amount of movement which can be obtained afterwards. The tube is fastened to the screw of the nose-piece, from which it takes its fixed point, and its end, near the operator, terminates in a collar which is gripped between his first and second fingers. The near end of the flex is kept projecting from the coil by a weak spring, and terminates in a flat piece to take the pressure of the thumb. The distant end of the flex is joined to a clip, which grips the rim of the cylinder firmly, and this joint is really an axle, as the clip must turn over to deal with the other eye.

In subjective testing I use it to rotate the final cylinder, when the axis has been approximately found, and the rotation obtained with my present attachment—which has a movement of three-quarters of an inch—is 30 degrees. This is ample, as it allows for 15 degrees on either side of the approximate axis, while at the same time the patient is not disturbed nor his judgement biased by any manipulation of the trial frame. The movement is smooth, and can be reversed at any time, simply by releasing the pressure of the thumb, when the reversing takes place immediately, there being no back-lash, such as occurs in rotation produced by means of a milled wheel.

It is in retinoscopy, however, that its greatest advantages appear. Here one corrects the meridian of least refraction, and, noting the band of light which shows the axis approximately, cylinders are placed with their axes over that until correction is attained. This last cylinder is removed, and a weaker one substituted. If now this cylinder has been placed with its axis over the original bright band, the latter will appear to be in exactly the same place as before, and the mark on the glass will indicate the axis exactly. If the axis has not been placed exactly over the bright band the latter will appear to be considerably displaced to one side or the other, and a small error in placing the axis produces a much greater displacement of the bright band. For instance, an error of, say, 5 degrees in the axis of this cylinder will change the band from, say, 90 to 75 or 105. This setting of the axis is the tedious part, and has to be done by trial and error; it often requires three or four attempts before satisfaction is attained, the chief cause of trouble being the loss of the bright band as one stoops forward to rotate the cylinder, and the fact that it is no longer sharp and well defined. It is here that the mechanical rotator is so useful, as one clips the cylinder, and, sitting back at the full distance, rotates it first one way, then the other; and, as one never loses sight of the band, one can follow its displacement very rapidly, and quickly find the right position. It is best to clip the cylinder with the spring half compressed, as release will then rotate the glass in one direction, while further compression will do so in the opposite.

JOSHUA KEYMS, M.D.,
Late Ophthalmic Surgeon, Expeditionary Force, Aden.

Southampton.

FRACTURE IN OSTEITIS DEFORMANS.

THE case of osteitis deformans reported by Drs. Lindsay and Gordon in the JOURNAL of April 29th (p. 678) reminds me of a patient seen by me about four years ago. A man aged 51, with well-marked osteitis deformans of the right tibia, slipped whilst walking on a greasy road. At the time he had a stout stick between his legs, which probably acted as a lever, for when picked up he was found to have fractured his right leg. The line of fracture was through the thickness of the head of the tibia just below the tuberosity, and was as horizontal as if it had been done by an osteotome. There was little or no displacement. The leg was put up in a back splint, and after six or seven weeks showed no signs of uniting. It was then put in a Croft plaster splint and massaged, and at the end of six weeks union seemed firm enough to suggest careful trial of the leg. About three weeks later he was showing me what he could do in the way of standing when I heard a loud snap, and it was clear that the union had given way. The leg was again immobilized for several weeks, and as the union still seemed doubtful I asked the late Sir Alfred Pearce Gould to see the patient; he thought that unless union could be induced amputation might be necessary. Meanwhile the leg was put in a calliper splint on the advice of Mr. Gordon Taylor, who said that union in this class of case might take a year and still be possible, and we hoped for the best. Fortunately union did eventually occur, and the man is now going about without apparatus, but with a stiff knee.

The left leg and both forearms were slightly affected by osteitis deformans, but there was no sign of that condition in the skull. There was no history of syphilis. For some years he had suffered from night blindness and retinitis pigmentosa, and most of his life he had had extensive psoriasis, which at one time took on an acute pityriasis form (he had not a square inch of normal skin) and kept him bedridden for about ten weeks. Otherwise he had had no serious illness. Not many cases of osteitis deformans are met with in general practice, but the few I have seen all seemed to have uncommonly hard stout bones—bones which one would never expect to break, and least of all through the thickest part. I suppose the pathological condition of the bone explains the delayed union in my case, but for the comfort of anyone else who happens to have to deal with such a case and gets despondent over the long delay, it seems worth while to report mine.

Brondesbury, N.W. J. ANDERSON SMITH, M.D.

FRACTURE OF TERMINAL PHALANX OF FINGER.

IN the BRITISH MEDICAL JOURNAL of January 21st, 1922, which has just reached me, I notice a memorandum (p. 101) by Dr. J. N. Laird on the subject of fracture of the terminal phalanx of a finger. As he states that he is unable to find any previous description of such a condition, I feel constrained to place on record my own case.

In 1915, while effecting a tackle at Rugby football, I sustained a sudden injury to my left middle finger, which became swollen and painful in the region of the distal interphalangeal joint. As I thought that only the soft tissues had sustained trauma, I took little notice of it, and, in fact, played golf the next day. Finding there was little improvement at the end of a week I had a skiagram taken and the condition shown was almost precisely similar to that described by Dr. Laird, the only difference being that in my case the fragment of bone was slightly larger.

Treatment, as advised by Mr. Harold Wilson, consisted in wearing for three weeks a glove on the palmar aspect of which was sewn a narrow piece of cane running from the tip of the middle finger to near the wrist, an effective splint being thus formed. Save for a slight overgrowth of callus and a very little loss of flexion at the joint concerned the result was perfect.

Kakamega, Kenya Colony. C. VINEY BRAIMBRIDGE.

HAEMORRHAGIC COLITIS.

HAVING read with interest the recent communications on the subject of haemorrhagic colitis I should like to emphasize the importance of sigmoidoscopy in the diagnosis of such conditions. In true haemorrhagic colitis lesions in the pelvic colon can be demonstrated by means of the sigmoidoscope, and the rectum itself may or may not be affected. On the other hand, the patient may have the symptoms of haemorrhagic colitis and yet the sigmoidoscope may reveal a lesion confined to the rectal mucous membrane, that of the pelvic colon being unaffected, the condition being essentially "haemorrhagic proctitis." The treatment of these two conditions differs in some respects: haemorrhagic colitis usually requires appendicostomy with irrigation of the colon, whereas haemorrhagic proctitis may be successfully treated by local irrigation of the rectum. In both varieties I have found a course of zinc oxide given internally useful as an intestinal astringent. To illustrate these two varieties I may mention the following cases, which came under my care in the outpatients' department at St. Mark's Hospital.

CASE I.—*Haemorrhagic Colitis.*

Female, aged 26. History of passing large quantities of blood with mucus and pus from the rectum for two months. The patient was anaemic. Tenderness was present along the line of the colon, especially in the left iliac and pelvic regions.

Sigmoidoscopy showed oedema of the mucous membrane of the pelvic colon, which was very vascular and bled profusely. Sloughs were present on the mucous membrane. The rectal mucous membrane was only affected to a very slight degree. Numerous cocci, chiefly streptococci, were present in the faeces.

The patient was admitted to hospital, and appendicostomy was performed. There was severe haemorrhage from the bowel both before and for a few days after the operation. The bowel was irrigated daily with a solution of hazeline (2 drachms to the pint). A course of autogenous vaccine, prepared from the faeces, was given, and later on a course of zinc oxide when the acute symptoms had subsided, but small quantities of blood and mucus were still being passed. The patient has been under observation since leaving hospital, and at the present time (some twelve months after operation) she is in good health and only passes a small amount of mucus occasionally.

CASE II.—*Haemorrhagic Proctitis.*

Female, aged 31. History of passing blood and mucus sixteen months previously. This attack subsided, but severe symptoms recurred after an attack of influenza.

Sigmoidoscopy revealed a swollen, very vascular and granular condition of the rectal mucous membrane. The lesion was entirely confined to the rectum, the mucous membrane of the pelvic colon being normal in appearance. The case responded to treatment by daily rectal irrigation with flavine (1 in 1,000), and a course of zinc oxide given internally.

LIONEL E. C. NORBURY, F.R.C.S.,
Assistant Surgeon, St. Mark's Hospital for Diseases of the Rectum, etc.

ELEPHANTIASIS OF THE LABIUM.

THE following case is reported for the reason that elephantiasis of the labium is rare in Siam, a country where filarial infection is common and elephantoid complications not infrequent. It is the first case I have observed during several years' tropical experience. Another interesting feature in connexion with this case was the presence at all times of microfilaria in the peripheral circulation. This observation is not in accord with that of other tropical workers (Manson, Stitt, Bahr), who state that sufferers from elephantiasis fail to show larvae in the peripheral circulation.

The patient, a Eurasian woman about 20 years old, had first noticed six months previously a small swelling on the left labium majora that gradually increased in size. She came under observation for the first time early in July, complaining of great discomfort in walking, but had had no pain and absolutely refused operation. She at that time registered a daily temperature ranging from 99° to 101° F. Careful blood examination failed to reveal a malarial infection and a diagnosis of filarial fever was made.

The patient refused all treatment until about a month later she again came under observation complaining of acute pain in the affected part. The tumour mass was found to have greatly increased in size, and was beginning to ulcerate at the base. This time the patient consented to operation, the result being quite satisfactory, even to the complete disappearance of the abnormal temperature, although microfilaria can at this time still be demonstrated in the general blood stream.

The tumour weighed 7 lb., and on section consisted of a thick mass of yellow fatty substance that poured forth large amounts of lymph. Thick fibrous strands divided the mass into many sections that contained dilated and greatly thickened blood vessels.

RALPH W. MENDELSON, M.D.,
Principal Medical Officer of Health, Royal Siamese Government.

Bangkok, Siam.

Reports of Societies.

RECTO-VAGINAL ADENOMYOMA.

A MEETING of the North of England Obstetrical and Gynaecological Society was held in Manchester on May 5th, with the President, Mr. H. CLIFFORD, in the chair.

Dr. A. DONALD (Manchester) read a short paper on adenomyoma of the recto-vaginal space associated with cystic ovarian tumours with tarry or chocolate contents. He reported five cases of recto-vaginal adenomyoma on which he had operated within a period of twelve weeks. In three cases panhysterectomy had been performed, in one double salpingo-oöphorectomy with removal of a nodule from the posterior aspect of the cervix, and in the remaining case removal of a hard growth from the anterior wall of the rectum after separation of adhesions. In three of the five cases the ovaries contained cysts with tarry or chocolate-coloured fluid. For some years he had been puzzled by these cysts and had gradually formed the opinion on clinical grounds that they were not due merely to an accidental effusion of blood into a cyst, but were really adenomyomata of the ovary. His reasons for this opinion were as follows: the cysts were generally adherent and in many cases had to be dug out of the back of the broad ligament or the side and back of the pelvic cavity; they had the faculty of burrowing into tissues and of contracting very firm adhesions; the contents resembled exactly the thick tenacious brown fluid that was found in haematocolpos and haematometra and in smaller quantities in the gland spaces of adenomyomata; and there was always acute dysmenorrhoea during the first two days of menstruation. He was anxious to have this theory confirmed by the pathologists, but so far from the specimens he had obtained he had not succeeded in finding a slide showing a glandular lining of endometrial type. Pathological support was now coming quickly. He quoted cases mentioned by Lockyer and Cullen of ovaries which contained islands of uterine tissue, six in all, and finally referred to an abstract published in the BRITISH MEDICAL JOURNAL of February 4th, 1922 (Epitome, No. 117), of a paper contributed by Sampson to the *American Journal of Obstetrics* on "Perforating haemorrhagic cysts of the ovary." Sampson believed that these cysts were haematomata of endometrial type and gave reasons for this opinion; he believed also that the material escaping from the cysts might give rise to widespread adenomyomata. Dr. Donald thought it was interesting that on purely clinical grounds he should have formed an hypothesis similar to that reached by pathological research.

Chronic Endocervicitis.

Dr. J. W. BURNS (Liverpool) read a paper on chronic endocervicitis and its treatment. He had made a close study of the bacteriology, pathology, and treatment of this condition in eighty-four cases, and had reached the following conclusions: (1) Chronic endocervicitis should be recognized as a distinct pathological entity apart from endometritis. (2) Any discharge from the vagina which induced discomfort in the patient was pathological and usually due to chronic infection of the cervical canal. (3) That the condition was an infective one was proved by the fact that a positive culture could be obtained in 92 per cent. of cases. In 50 per cent. the staphylococcus, either alone or in association with some other organism, was present. (4) Applications of various drugs, douching, tamponnage, etc., only gave temporary relief because the antiseptics did not reach the infecting agent in the lumen of the glands. (5) Ionization brought about a marked improvement in those cases where no erosion was present. (6) For those cases associated with erosion the only successful method of treatment was the removal of the lower two-thirds of the cervical canal including the erosion.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

A CLINICAL meeting of the West London Medico-Chirurgical Society was held at the West London Hospital on May 5th, with Sir G. LENTHAL CHEATLE, the President, in the chair.

Mr. O. L. ADDISON showed a case of chronic empyema in a young girl. Repeated operations had been performed with a view to closing the sinus, including the removal of the ribs overlying the cavity drained by the sinus. These had all proved useless. He had therefore freely opened the chest

and decorticated the lung over an extensive area. The result had been a complete success.

Mr. D. DENHAM PINNOCK showed a well-marked case of osteochondritis coxae in a boy. He thought that trauma was probably responsible for the condition. In a discussion on the case, Mr. O. L. ADDISON said that in his experience the treatment of the condition did not cause any anxiety, as he had seen cases in which radiography had shown marked changes in the head of the femur recover completely by simple splinting of the hip-joint. Mr. PINNOCK also showed a boy with pronounced coxa vara on both sides, probably due to late rickets. Walking had been difficult owing to "scissor leg" deformity. He had performed subtrochanteric osteotomy on one side, and the child now walked well with only a slight limp. Skiagrams were shown illustrating the condition both before and after operation.

Mr. NEIL SINCLAIR showed a case of actinomycosis of the mandible and cheek in a woman; the condition was responding well to large doses of potassium iodide after removal of several carious teeth.

Mr. RODNEY MAINGOT showed a case in which diaphysectomy of the lower third of the femur had been performed for acute osteomyelitis. Complete regeneration of the bone had taken place, and no shortening of the limb had resulted.

Other cases of interest were shown by Dr. L. C. BURRELL, Dr. J. BURNFORD, and Mr. B. SANGSTER SIMMONDS.

MEDICAL ASPECTS OF PENOLOGY.

AT a meeting of the London Association of the Medical Women's Federation held on May 16th at the Elizabeth Garrett Anderson Hospital, London, when the President, Dr. L. M. MARTINDALE, was in the chair, Miss MARGERY FRY, J.P., honorary secretary of the Penal Reform League, spoke on the medical aspects of penology. There was, she said, a need for women with special training in psychology to act as prison medical officers, and also for more skilled nursing in many prison hospitals. She emphasized, however, that there was a much wider field for trained medical minds in the whole treatment of criminals than that afforded by the old conception of the prison medical officer as the man or woman who looked after the physical health of prisoners undergoing punishment. Whilst the lawyer was called upon to say, "What has this man done?" the doctor ought to be called upon to say, "What is to be done with this man?" Only when the causes of crime were studied in a really scientific spirit was there any hope that true remedies for crime would be discovered and applied. Already under the Birmingham scheme certain classes of criminals—for example, those repeating the same offence again and again without apparent motive—were being individually examined with a view to appropriate treatment. Miss Fry pleaded for a wider study from the medical point of view of the problems of criminology, urging that the present treatment in prisons was unscientific and therefore wasteful. A short paper by Dr. MARY GORDON on the same subject was read in her absence by Dr. CONSTANCE LONG, and a discussion followed in which Mrs. SCHARLIEB, Dr. MARY BELL, Dr. MINA DOBBIE, Dr. CHRISTINE MURRELL, and others took part.

LIFE TABLES.

AT a meeting of the Royal Statistical Society in the hall of the Royal Society of Arts, on May 16th, with the President, Sir R. HENRY REW, in the chair, Dr. MAJOR GREENWOOD opened a discussion on the scientific value of life tables. Dr. Greenwood submitted that the value of a life table as an instrument of research had been somewhat overestimated, and that the opinion that important deductions could be drawn from local life tables which were not deducible from the death rates at ages was mistaken. A life table was an artificial product; its population was a fiction. It was not correct, for instance, to say that the average length of life of an English male was given by the "expectation of life" of any national table. An "expectation of life" was deduced from the rates of mortality of contemporaneously observed lives and the comparison of such constants for different life tables was open to numerous criticisms. In Dr. Greenwood's opinion, a medical officer of health would learn little more from a life table than from death rates at ages.

DR. CARTEADO MENA has been elected president of the Portuguese Medical Association.

THE annual meeting of the German Ophthalmological Society will be held at Jena from June 8th to 10th. Further information can be obtained from the secretary, Professor Henker, Bismarckstrasse 17, Jena.

Reviews.

VITAMINS.

The Vitamins,[1] by Professor H. C. SHERMAN and Dr. S. L. SMITH, is one of an excellent series of monographs on scientific and technological subjects published by the American Chemical Society. They have two purposes: first, to present the knowledge available upon a chosen topic in a readable form intelligible to those whose activities may be along a wholly different line; and secondly, to furnish a well-digested survey of the progress already made in a particular field, and to indicate directions in which investigation needs to be extended.

The volume under review fulfils both of these purposes. It is divided into five chapters—namely, an historical introduction, three chapters devoted to the three different vitamins, and a final chapter dealing with the vitamin supply in normal diets; there is also a bibliography containing about a thousand carefully selected references.

The general reader will probably be most interested in the final chapter, for in this the authors discuss the question how an adequate supply of vitamins in the human diet can be ensured. The discussion is of necessity rather vague, for we have very little information as to the quantities of the various vitamins which are necessary to maintain health in man, and we have no accurate quantitative knowledge of the vitamin content of foods. Many interesting observations are made, however, as to the relative value of foods as sources of vitamins. The superiority of milk over meat in this respect is emphasized and the importance of vegetables and fruits is also very clearly shown. The practical suggestion is hazarded that in a normal family in order to ensure a dietary fairly balanced as regards mineral elements and vitamins at least as much should be spent on vegetables and fruit as upon meat and fish, and at least as much upon milk in its various forms as on all forms of flesh food. Calculations of this nature must of necessity be very vague, but these provisional attempts to estimate what diets are likely to provide an adequate vitamin supply are of very great general interest.

Those who are engaged upon research work on vitamins will find that the three chapters devoted to the three vitamins contain a clear and concise account of all the more important work which has been done, and that a particularly full account is given of the knowledge available concerning the chemical and physical properties of vitamins. Such workers will perhaps welcome most of all the excellent bibliography provided: more than one-half of the thousand references refer to work published in the last four years, and 190 to work which appeared in 1921. This means that the present output in vitamin literature is a paper every other day. These figures indicate better than anything else the great value of monographs such as that before us. It is impossible for anyone to keep in touch with modern scientific literature except along one particular line. Hence the only way in which the evils of narrow specialization can be avoided is by the study of monographs of the type of this.

FUNCTIONAL NERVOUS DISORDERS.

OF books dealing with the various different aspects of functional nervous disease the number is legion, and it is not easy either to express any original opinions or to compress the current views of theory and practice into a concise form. Dr. CORE[2] may, at any rate, be congratulated on the production of a volume much of which is original, though we fear that its size and the somewhat verbose nature of its method may militate considerably against any wide diffusion of his opinions. Much of his nomenclature, again, is unfamiliar, and his classification also. Hence the reader who desires really to profit by this book would do well to study the preface carefully.

In a short review it is impossible to enter fully into all the opinions expressed in the book. The functional nervous disorders are classified broadly into two main groups: (1) Regressive—that is, hysteria, which is again subdivided into

[1] *The Vitamins*. By H. C. Sherman, Professor of Food Chemistry, Columbia University, and S. L. Smith, Specialist in Biological and Food Chemistry, U.S. Department of Agriculture. The American Chemical Society Monograph Series. New York: The Chemical Catalog Company, Inc. 1922. (Med. 8vo, pp. 265; 20 figures. 4 dollars net.)

[2] *Functional Nervous Disorders: Their Classification and Treatment*. By Donald E. Core, M.D.Manch., M.R.C.P. Bristol: John Wright and Sons, Ltd. London: Simpkin, Marshall, Hamilton, Kent and Co., Ltd. 1922. (Med. 8vo, pp. xii+371; 21 figures. 25s. net.)

primary, secondary, and tertiary; and (2) progressive or sympathetic functional nervous disorders; these are subdivided into two groups, the instinct distortion neuroses and the memory or mnemo-neuroses. Those who follow the author carefully in his reasoning will find much that is valuable and attractive in this classification.

The first three chapters are devoted to some general considerations, where the psychology of animals and that of man is compared in their evolutionary and environmental aspects. The regressive group of disorders, hysteria in its different clinical forms, are considered in detail in the second part of the book. The second great group, the progressive or sympathetic nervous disorders, are then fully described. The reader will perhaps be surprised to learn of the characteristic association of a mnemoneurosis with a raised blood pressure and to find the view expressed that a mnemoneurosis is a prodromal phase of arterial degeneration. The subject of dreams and the much-vexed question of the sex instinct as an etiological factor are discussed in a separate chapter. Chapters on diagnosis, prognosis, and treatment complete the book.

The author has wisely included a summary of contents at the end of each chapter, for his style is not easy and his nomenclature will add to the difficulties of any reader not familiar with psychological literature. As a whole the book is altogether too prolix, while the form of its expression is unnecessarily verbose. These are unfortunate faults, for there is much that is very valuable in the author's conclusions, which have obviously been reached as the results of careful and painstaking study.

GLAUCOMA.

THE fact that a second edition of ELLIOT'S *Treatise on Glaucoma*[3] has been called for within four years of the publication of the first proves that the book has been appreciated. Its general characters are well known to all who have perused the earlier edition; the author adopts the attitude of a student who seeks by a survey of the literature, and from his clinical and pathological knowledge of the disease, to bring some sort of order out of the chaos which even now surrounds his subject.

We think Colonel Elliot is right in regarding his book not quite as a textbook, in which, more often than not, a dogmatic attitude is adopted intentionally by the author, but rather as a treatise in which everyone is given a fair hearing, and the reader is left to draw his own conclusions.

The new edition has been brought up to date; some parts of it have been rewritten and additions have been made, fresh papers on the subject up to January, 1922, having been laid under contribution. The result is a bulky volume which will be of great value to ophthalmic surgeons throughout the English-speaking world, and also to those students who are studying for the higher degrees and diplomas in ophthalmology.

A feature of the book is the valuable bibliography provided at the end of each section or chapter; the full index of authors and subjects completes a work which is a noteworthy contribution to the literature of its subject. The publishers have done their share in its production excellently.

RADIOGRAPHY.

IN *The Principles of Radiography*,[4] Dr. J. A. CROWTHER, the lecturer in physics applied to medical radiology in the University of Cambridge, has endeavoured to give an intelligible but non-mathematical account of the physical principles involved in the production of a radiogram, and in the construction and use of the apparatus employed for the purpose. It is based on the lectures given to students for the D.M.R.E. Cambridge, and fills what has been a distinct want, inasmuch as the ordinary textbooks of physics are not primarily concerned with the needs of medical men who specialize in radiography. In general construction the book is divided into ten chapters, which deal successively with electrical phenomena, the electric current, the induction of currents, electricity in gases, *x* rays, the *x*-ray tube, the production of high-tension currents, the *x*-ray installation, the making of a radiogram, and the localization of foreign bodies. It is all written in very simple language, and the diagrams are adequate to illustrate various points which otherwise might not be easy to understand. There are also a few radiographic reproductions, but it is unfortunate that one of these is described as showing a fracture of the humerus, whereas in reality it seems to be a fracture of the lower end of the femur. We note that in two places it is stated that the discovery of *x* rays was made by Röntgen in 1894, but it should be remembered that the paper announcing the discovery appeared in December, 1895. The chapter on the localization of foreign bodies is somewhat inadequate, and the simplest of all methods, by a single shift of the tube after first of all centring on the foreign body, is not explained. In any future edition this chapter should certainly be revised. As a whole the book fulfils its purpose, and should be useful to those commencing the study of radiology.

L'Emploi des Rayons X en Médecine,[5] by Dr. PAUL DUHEM, is a book which in a short and concise manner covers the whole ground of *x*-ray work from the points of view of instrumentation, diagnosis, and treatment. In effect it is a general statement as to the position of *x* rays in medical work, and is obviously intended rather for the student and general practitioner than the specialist. The illustrations are almost entirely diagrammatic. It is one of a series—"Bibliothèque des Connaissances Médicales"—appearing under the editorship of Dr. Apert.

The *First Aid X-ray Atlas of the Arteries*,[6] by Mr. H. C. ORRIN, consists of nine plates, reproductions of radiographs of the various arteries injected with an opaque material, and a short account of each plate. It is intended for lecturers on first aid, and will be of value to them in teaching the arterial system to their students.

THE DEVON AND EXETER HOSPITAL.

DR. HARRIS'S *History of the Royal Devon and Exeter Hospital*[7] is a valuable work. It records minutely, from year to year, the growth and development of an important medical charity in all its departments, from its foundation in 1741 to the year 1905. The book is full of interesting information on administration and finance, on the honorary staff and their work, on the paid staff, the nursing, and the story of the medical school. It is replete with biographies of benefactors, medical officers, and others, and contains many anecdotes and valuable pictures of the times.

The record presented is a notable one. The institution was the second provincial hospital established in England, owing its foundation to the same man who founded the first. Dean Clarke, when Prebendary of Winchester, had established in 1736 the present Royal Hants County Hospital, and, although he was a sick man when appointed Dean of Exeter, he lost no time in setting on foot a scheme for a large hospital there also. The present Royal Devon and Exeter Hospital was founded by him in 1741, but unhappily before its opening two years later the Dean was dead. The impetus he gave outlived him, as we see from the foundation in Exeter in 1808 of the first eye hospital in England outside London, and that only four years later than the foundation of Moorfields itself.

The Dean's generous co-founder, Mr. John Tuckfield (who by the way was thrice Member of Parliament for Exeter) the donor of the land on which the hospital is built, also left an enduring example. For, as this book shows, the charity has been singularly fortunate in the loyalty and generosity of the support accorded to it both by county and city. Some years ago, when the question arose of economy by closing some wards, one of the staff was able to show that it was the most richly endowed hospital of its size and sort in England, and the wards remained open.

A benefactor of its early days, whose portrait hangs in the boardroom, near those of Dean Clarke and Mr. Tuckfield, was Mr. Ralph Allen, the friend of Fielding, believed to be the original of Squire Allworthy in *Tom Jones*. In connexion with this may be mentioned the fact, which Dr. Harris

[3] *A Treatise on Glaucoma*. By R. H. Elliot, M.D., B.S.Lond., Sc.D.Edin., F.R.C.S.Eng., Lieutenant-Colonel I.M.S. (retired). Oxford Medical Publications. London: H. Frowde, and Hodder and Stoughton. 1922. (Demy 8vo, pp. xxii + 656; 213 figures and frontispiece. 30s. net.)

[4] *The Principles of Radiography*. By J. A. Crowther, M.A., Sc.D., F. Inst. P. London: J. and A. Churchill. 1922. (Demy 8vo, pp. vi + 138; 55 figures. 7s. 6d. net.)

[5] *L'Emploi des Rayons X en Médecine*. By Paul Duhem. Paris: Ernest Flammarion. 1922. (Cr. 8vo, pp. 302; 67 figures. Paper covers, 10 francs.)

[6] *First Aid X-ray Atlas of the Arteries*. By H. C. Orrin, O.B.E., F.R.C.S.Edin. London: Baillière, Tindall, and Cox. 1922. (Pott 8vo, pp. viii × 47; 9 plates, 11 figures. 2s. 6d. net.)

[7] *The Royal Devon and Exeter Hospital*. By J. Delpratt Harris, M.D. Exeter: Eland Brothers. 1922. (Demy 8vo, pp. 203; illustrated. 5s.)

relates, that one of the staff, a Dr. Rhodes, was the son of the lady supposed to have been the original of Sophia in the same famous novel. There seems no doubt that Fielding fell deeply in love with her, but the lady he ultimately married is said by some to have been the real Sophia.

Dr. Harris's interesting speculations on the origin of the great philanthropic movement of the eighteenth century in England omits one powerful factor emphasized by John Richard Green—namely, the wonderful and widely carried mission of the Oxford men who clustered round John and Charles Wesley. Dean Clarke, however, though he must have been influenced by this Oxford movement, was himself a Cambridge man, a Fellow of Corpus.

The staff of the hospital, whose careers, where possible, are carefully sketched, have been a distinguished body of men. Two have been Fellows of the Royal Society—namely, Dr. Bartholomew Parr, physician 1775 to 1809, who published a bulky *London Medical Dictionary;* and Mr. John Sheldon, surgeon 1797 to 1808, whose book on the *History of the Absorbent System* was considered an excellent piece of work. Two of the physicians also made notable original advances in medical knowledge whose value persists—namely, Dr. John Blackall, physician 1807 to 1847, the forerunner of Bright, who in his work, *Observations on the Nature and Cure of Dropsies*, pointed out the relation between albuminuria and dropsy; and Dr. Thomas Shapter, physician 1847 to 1876, whose volume on the *Climate of South Devon* was a valuable contribution to climatology. One of the surgeons, Mr. John Haddy James (1816 to 1858), was the second to tie the abdominal aorta for aneurysm. It was this surgeon who, with his colleague Mr. Samuel Barnes, established the medical school in Exeter. The staff had always had pupils, but in 1819 more systematic teaching was introduced and a "larger number" of pupils attended. This continued till about 1863, when new regulations for medical education had caused the numbers to decline.

It is interesting to notice how many of the earlier staff had studied abroad—Mr. John Patch in Paris, Dr. Dicker, Dr. Glass, and Dr. Hallett under Boerhaave at Leyden. One of the staff, Dr. Kempe, was an important benefactor of the hospital, building its chapel at his own expense. The library and museum, Dr. Harris tells us, were established in 1813, the nursing training school in 1890.

Two omissions—which, in the huge mass of detail with which he had to deal, have escaped Dr. Harris's attention—must be noted. The one is the inauguration of systematic note-taking of the cases by Mr. Russell Coombe about 1889 when he was senior house-surgeon, and the other the admission of the staff to ample official representation on the Hospital Committee about 1897 — a change which has admittedly been of the greatest benefit to the institution.

Dr. Harris has naturally refrained from reference to living officials, but it would be unfair to close this brief notice of the valuable service rendered to the hospital by him as its historian, without mentioning its further debt to him in the organization of the present fine electrical department.

NOTES ON BOOKS.

UNDER the title of *Post-Graduate Lectures*[8] ten lectures to graduates delivered before the Fellowship of Medicine at the house of the Royal Society of Medicine in 1919 and 1920 have just been published. In a preface which he has written for the volume Sir Clifford Allbutt says that the perusal of the lectures will go far to convince the most self-contained practitioner that in our time without periodical class teaching and co-operative practice he cannot efficiently equip himself, nor do full justice to his patients. The subjects of the lectures include: "Syphilis and insanity" and "Morbid mental growths," by the late Sir George Savage; "The prognosis of exophthalmic goitre," by Sir W. Hale-White; "Grave familial jaundice of the newly born," by Sir Humphry Rolleston; "The value of combined treatment, with special reference to surgery, electricity, and *x* rays," by Dr. F. Hernaman-Johnson; "On the after-effects and so-called after-effects of anaesthetics," by Mr. J. D. Mortimer; "Chronic paroxysmal trigeminal neuralgia and its treatment," by Dr. W. Harris; "Pyorrhoea alveolaris and its relationship to disease," by Dr. N. Mutch; "Disabilities of the feet due to static or mechanical causes" and "Deformities and disabilities of the feet due to paralysis," by Mr. W. H. Trethowan. The publication of these lectures is an extension of the work of the Fellowship of Medicine upon which it is to be congratulated. The standard of the lectures is high, and all are well worthy of being given permanence in this form, so that a wider public may now appreciate them. The volume is well printed and produced.

[8] *Post-Graduate Lectures.* With a preface by Sir Clifford Allbutt, P.C., K.C.B., M.D., F.R.S. London: J. Bale, Sons, and Danielsson, Ltd. 1922. (Demy 8vo, pp. xiv + 216. 10s. 6d. net.)

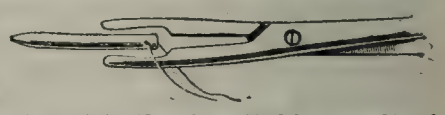
Mr. Hugh Macnaghten, Vice-Provost of Eton College, has written a pamphlet[9] in appreciation of M. Emile Coué and his work. In this he tells how he came to visit the auto-suggestion centre at Nancy in search of relief from insomnia, and describes in some detail the *conférences* held lately by M. Coué in this country. With regard to the formula which has become a household word in almost every stratum of society, the author observes: "We shall therefore, as good children, continue saying 'Every day in every respect I am getting better and better,' though we shall not fail to realize as sane men and women that it is the condition of mind and not the repetition of formulae which is responsible for the daily improvement." The sincerity and literary charm of this pamphlet will be apparent to every reader. Mr. Macnaghten writes with an obvious desire to help others, but in his closing paragraph he seems to admit that after seven weeks' discipleship he is hardly yet in a position to speak with an air of finality about any benefit he himself has received. It is, however, common knowledge that self-confidence is half the battle in overcoming sleeplessness.

[9] *Emile Coué: the Man and His Work.* By Hugh Macnaghten. London: Methuen and Co., Ltd. 1922. (Fcap. 8vo, pp. 52. 2s. net.)

MEDICAL AND SURGICAL APPLIANCES.

Radium Applicator Forceps.

MR. C. P. G. WAKELEY, F.R.C.S.Eng. (Assistant Surgeon, King's College Hospital), writes: The insertion of tubes containing radium is not always quite so simple a matter as may appear at first sight, especially when there is any resistance to be overcome as in the case of fibroid tumours or other firm growths. In such cases it only too frequently happens that the radium applicator is seized with a pair of Spencer Wells forceps or any other tightly gripping instrument that happens to be available, with the inevitable result of damaging the tube. The applicator forceps indicated in the accompanying sketch has been made to my design by Mr. J. H. Montague of 69, New Bond Street, W.1. It holds the radium tube firmly, and, not allowing of lateral movement, does not scratch or otherwise damage the tube.



VENEREAL DISEASE AND SEX EDUCATION.

REPORT BY A SWEDISH GOVERNMENT COMMITTEE.

ACCORDING to the temperament and education of the individual, venereal disease is regarded in widely different lights. It may seem an isolated phenomenon to be prevented by mechanical and chemical means and to be treated by chemical means alone. Or it may be regarded as the culmination of a long series of events to which an almost infinite variety of forces have contributed. Of both views there are eloquent exponents in this country. It is, however, conceivable that more knowledge may be gained by observing how the problem is dealt with abroad than by concentrating attention on its controversial discussion at home. The problem is, indeed, the same at home and abroad, but the solutions proposed are not always identical. The framers of the Swedish venereal disease law of 1918 had a lively sense of the importance of general enlightenment with regard to venereal disease and germane subjects, such as sex hygiene, and they explicitly stated that provision must be made for such enlightenment. In accordance with this injunction a Committee was appointed, in October, 1918, consisting of experts in medicine and pedagogy, to investigate the ways and means by which popular enlightenment might best be provided. Their Report,[1] recently issued, is a document of considerable value, promising to become the charter of a new and complete system of sex education and hygiene in schools throughout Sweden.

The Education of the Child.

In their introductory remarks the signatories point out that the recent venereal disease law recognized and specifically referred to the need for education of the public with regard to venereal disease and its consequences, but no definite lines

[1] Betänkande Angående Åtgärder för Spridande av Kunskap om Könssjukdomarnas Natur och Smittfarlighet M. M. Stockholm. 1921; pp. 232.

were laid down as to the detailed course to be pursued. To sound school teachers on this point the Committee addressed a set of questions to various teaching institutions throughout Sweden, and the answers they obtained are analysed in a supplement of the Report. Much of the Report is concerned with a detailed and comprehensive scheme of sex education, extending from the pre-school age to adult life. It is illustrative of the broad view taken by the Committee of their task that they deal with the education of the child from the time it learns to speak and address inquiries as to how it came into the world. The Committee look forward to the time when parents will be so enlightened that they will not tell their children silly stories about babies being brought into the home by storks, but will give a simple account which the child in later years will not discover to be mendacious. The Committee hope that the child, who is gradually taught more and more about sex hygiene as it passes from one school grade to another, will eventually become a parent wise enough to instil in the next generation a frank and healthy attitude towards sex problems. Parents, it is hoped, will learn to protect their infants from the undesirable caresses and kisses of strangers, and to discourage a child from sharing a bed with other children or adults. As for sex teaching in school, this should be associated with the teaching of biology, Christianity, sociology, and psychology. The question of venereal disease should not come into the curriculum until comparatively late, and until the physiology of fertilization and reproduction has been fully taught. Advanced sex teaching should preferably be in the hands of doctors, but they are not always available, in which case other teachers should give instruction on this subject, male teachers dealing with boys and female teachers with girls. Teaching of sex hygiene in high schools for girls should include the subject of venereal disease, and special emphasis should be laid on the protection of infants from infection. A further recommendation is that a carefully supervised library of works on sex hygiene and venereal disease should be compiled at the cost of the State for the use of teachers and classes.

Personal Prophylaxis: Minority Report.

The law of 1918 indicated the need for teaching the public how to prevent spread of infection, and in attempting to follow this injunction the Committee have encountered the same difficulties experienced in every other country in which personal prophylaxis has been discussed. One of the members of the Committee, C. K. S. Sprinchorn, Rector and Doctor of Philosophy, who has contributed a comprehensive survey of the campaign against venereal disease in many different countries, and has published this survey in the form of a supplement to the Report, has not been able to agree with his colleagues over the matter of personal prophylaxis, and he has accordingly published a short Minority Report on this point. In this he argues that at one and the same time to teach the rising generation a high standard of ethical and moral responsibility and to give instruction how to evade the consequences of immorality is to land the teacher on the horns of a dilemma. He notes that recruits in the Swedish army are given compulsory training in prophylaxis, and that by this means knowledge of such prophylaxis will gradually be acquired by the whole male population. There are also several other means already available by which such knowledge can be gained, and he is disinclined to push the teaching of prophylaxis in further detail till the effects of measures already in force can be gauged.

Personal Prophylaxis: Majority Report.

Like Dr. Sprinchorn, the other members of the Committee regard the question of personal prophylaxis as a most delicate subject, concerning which it is not possible to walk too warily. They deputed one of their members, Dr. Karl Marcus, medical superintendent of St. Göran's Hospital, and lecturer on venereal disease, to prepare a separate report dealing with the purely medical aspect. Commenting on this supplement the sponsors of the Majority Report seem to agree as to the desirability of issuing pamphlets and other publications, detailing the merits and technique of personal prophylaxis, but they insist that in their scheme of sex education the teaching of personal prophylaxis should not be compulsory, the matter being left to the discretion of the teacher. They also recommend that doctors alone should venture on this subject, and they suggest other restrictions which reflect the hesitation in the minds of the Committee on this point.

The Value of Personal Prophylaxis.

The review by Dr. Marcus of this subject consists largely of abstracts from Neisser's work *Die Geschlechtskrankheiten und ihre Bekämpfung* (Berlin, 1916). He adds some observations recently made in Sweden which, in his opinion, afford further proof of the efficacy of personal prophylaxis. For some years this has been obligatory in the Swedish navy, and it has been most strictly enforced when foreign ports have been visited. During the overseas expedition of the *Fylgia* in 1913–14 only two men became infected, and one of them was found not to have carried out prophylactic treatment. In the period 1919–20, of 557 men given prophylactic treatment only 13 developed venereal disease, and in no case was syphilis contracted. Reporting on this matter the chief medical officer of the Swedish navy has declared this result to be excellent, considering that the incidence of venereal disease among prostitutes in the West Indies is said to be about 95 per cent. In 1912 Dr. Müllern-Aspegren calculated that in men the primary syphilitic lesion was situated in structures unprotected by the condom only in 2.4 per cent. of all cases. In the case of gonorrhoea it is, according to Dr. Marcus, still more effective than in syphilis.

Mechanical or Chemical Prophylaxis?

Dr. Marcus notes that most of the statistics hitherto published refer to chemical prophylaxis, but he appears to agree with Professor Blaschko in regarding the condom as the device which confers most complete protection against venereal disease. The contraceptive properties of the condom have biased the opinions of certain authorities in its disfavour, but Dr. Marcus remarks that where prostitution is concerned these properties can hardly be regarded as a disqualification. As for the part played by the condom in wedlock, he considers it secondary to other contraceptive practices. In favour of this appliance it has been argued that sterility induced by gonorrhoea robs Germany alone of 200,000 new citizens every year, and that the annual cost to Prussia alone of venereal disease is 92 million marks. The use of the condom is urged as being justified if it reduces, as Dr. Marcus clearly thinks it does, the number of infections in wedlock, of criminal abortions, of illegitimate children, of women who take to prostitution on account of pregnancy or venereal disease, and of men who remain unmarried because they have contracted venereal disease.

Contraceptives and the Birth Rate.

Dr. Marcus is profoundly sceptical as to the wisdom and effectiveness of legislative measures penalizing contraceptives. He asks, and answers in the negative, the question—Have ten years of anticontraceptive legislation checked the decline in the birth rate? Between 1911 and 1919 there has been a uniform decline in the birth rate in Sweden, the figures for 1911 being 23.99 per 1,000, while for 1919 they were 19.64. On the other hand, the incidence of venereal disease has increased greatly in this period; in 1913 there were 14,036 new cases of venereal disease, in 1918 this number had risen to 24,088, and in 1919 to 30,429. In these last two years the importation of contraceptives was greatly restricted by the commercial blockade. Dr. Marcus concludes from these figures that the condom plays a part of secondary importance as a contraceptive in wedlock, other measures such as coitus interruptus and criminal abortions playing a far more important part. He quotes Professor Forssner as stating in 1920 that in Stockholm the birth rate had fallen between 1900 and 1919 from 26 to 13 per 1,000. Within the same period the number of abortions has increased enormously, 21 per cent. of all pregnancies being now terminated by abortion, the criminal induction of which has become a most serious factor in the birth rate.

Dr. Marcus traces the evolution of the education and opinions of the medical profession in Sweden on this point. He shows that as recently as ten years ago there were practically no statistics illustrating the value of personal prophylaxis, and declares that the attitude of the doctors in Stockholm towards this matter was nebulous and prejudiced. In 1911 and 1912 a series of hot debates were held in the Swedish Medical Society, and Dr. Müllern-Aspegren's advocacy of personal prophylaxis was supported only by 12 out of 64 votes. When, in 1916, Strandberg addressed the same Medical Society on the value of personal prophylaxis as demonstrated by the war, no opposition was raised.

The Committee calculate that their scheme of popular education will involve an annual expenditure of kr. 31,200,

in addition to an initial outlay of kr. 2,000 on drafting standard pamphlets and other literature. The chief item in this budget is the sum of kr. 14,500 for lectures. Other items are: kr. 5,000 for lecturers' travelling and kr. 5,000 for printing and other expenses.

The Future.

There are indications in this Report that ultimately the present difficulties with regard to personal prophylaxis may be more or less automatically solved in Sweden. For there is every prospect of coming generations acquiring knowledge as they grow up, which will shift the responsibility for contracting venereal disease directly on to the persons most concerned. Practically every adolescent will know the rudiments of venereal disease, the means whereby the risk of infection can be somewhat reduced, and how to obtain and use such means. This knowledge will have been gained gradually, systematically, and under the supervision of responsible teachers, who will have taught physiology and pathology with a goodly leaven of ethics. Thus a state of affairs will, it is hoped, exist quite unlike that now obtaining.

THE TEACHING OF MEDICINE AND SURGERY.

NEW PLANS OF THE LEEDS MEDICAL SCHOOL.

(From Our Correspondent.)

IT will be remembered that some weeks ago—on January 7th of this year—an account was given at page 21 of certain arrangements which were being put in operation to improve the teaching of medicine and surgery at Leeds. It was pointed out that the "unit" system was not deemed suitable for Leeds, but that it had been decided to appoint three whole-time men, one on the medical and two on the surgical side, to take a very active part in the teaching of the students, not only of course by didactic instruction, but by assisting them in investigating the cases entrusted to them and by the conducting of tutorial classes and in other ways.

In our previous article an account was given of the plans which had been outlined for the teaching on the medical side of the house, and it is proposed now to give in outline some indication of the arrangements for the teaching of surgery.

The teaching of surgery at the university and at the infirmary has up till now consisted of—

1. Lectures in systematic surgery by the professor of surgery on Tuesdays and Saturdays from 9 to 10 a.m. during the second and third terms. The number of lectures has been approximately fifty.
2. Lectures on practical surgery on Mondays and Thursdays at 12 noon to 1 p.m. during the second and third terms. Approximate number, forty.
3. Classes on operative surgery. No fixed number of lectures was given. Special arrangements were made for each course.
4. Ten lectures by the professor of clinical surgery during the first term.
5. Clinical lectures every fortnight during all the three terms by the full staff and the assistant staff.
6. Ward teaching from 10 a.m. to 12 noon during all terms.
7. Teaching in the out-patient rooms four afternoons a week.
8. Preliminary instruction by the surgical registrar (*a*) to students just entering on hospital practice; (*b*) to in-patient dressers.

The most radical change is the abolition of the course of systematic surgery, and the reduction of the course of lectures on practical surgery to five or ten demonstrations of operations upon the cadaver.

The instruction in future will therefore consist of the following:

1. An inaugural lecture to all students by the professor of surgery.
2. Preliminary instruction and recapitulation classes by the new officers, who will be termed surgical clinical assistants.
3. Instruction by the assistant staff—namely, (*a*) practical demonstrations in conjunction with the staff of the medical department of the university and the radiographer, and (*b*) clinical demonstrations on Saturday mornings on cases in the casualty and isolation departments.
4. Instruction by the full staff surgeons—namely, (*a*) ward teaching, (*b*) clinical lectures, single or in series, and (*c*) lecture demonstrations as detailed later on.

As regards the second of these methods of instruction it is intended that all students who, having passed the second M.B. or corresponding examination, enter upon their period of clinical work shall receive instruction from the clinical assistants.

The syllabus will be on the following lines:

A. *Sepsis, Asepsis, Antisepsis.*
   1. General principles.
   2. Bacteriology of wound infections (by the professor of pathology or his representative).
   3. Technique of aseptic and antiseptic methods: (*a*) Results of good technique; mode of healing; mortality and morbidity of operations. (*b*) Results of bad technique; suppuration, etc., secondary haemorrhage, phlebitis, etc.
   4. The general conduct of operations: (*a*) Preparation of patient, preliminary and immediate; narcosis. (*b*) Details of operation, "team" principles, haemostasis, drainage, etc. (*c*) Post-operation treatment.
   5. The technique of dressings, catheterization, hypodermic injection, etc.

B. *Surgical Anatomy* (in conjunction with the professor of anatomy), including surface markings, landmarks, etc.

C. *Examination of Patient:*
   1. Recording clinical history.
   2. Method of examination—physical signs, condition of chest, urine, etc., from standpoint of surgeon.
   3. Method of diagnosis—general, special, rectal, catheters, specula, etc.

D. *Method of Treatment:*
   1. General principles—temperature charts, splints.
   2. Special appliances (with representatives of other departments if necessary), instruments, infusion and transfusion, vaccine therapy.

All this teaching will be, as far as possible, practical, and carried out in conjunction with the departments of anatomy, physiology, and pathology. The out-patient and in-patient material of the hospital should be at the disposal of the teacher, not for discussing the details of individual cases, but for a general comparison of the physical signs in a series of similar cases—for example, tumours of the breast, thyroid, abdomen, and so forth.

The instruction by the assistant staff will take the place of that formerly covered by the course of lectures in systematic surgery. It should be mentioned that that part of the old syllabus which concerns bacteriology, inflammation, gangrene, parasitic and infectious diseases, including syphilis and gonorrhoea, growths, the constitutional effect of injuries and other matters, have been cut out on the ground that they are dealt with by others. Thus the constitutional effects of injuries will be dealt with by the full staff; gangrenes, etc., by the assistant surgeon in charge of the isolation department.

A detailed and comprehensive syllabus is framed for four assistant surgeons over a period of two years—ten lectures in each of the two terms (January to March and April to June). All lectures and demonstrations in the syllabus will be illustrated by cases, specimens, diagrams, radiograms, etc., whenever possible. The co-operation of the scientific departments of the university will be requested as often as is needed for the full and adequate teaching of the several subjects. The following note appended to the syllabus indicates the spirit in which the courses have been designed:

"At these demonstrations the general method of teaching shall be as follows: General introduction of the subject; demonstrations in the anatomy or pathology, or physiology, of the part, with exhibition of specimens or dissections (in conjunction with the staff of the departments concerned); demonstrations of cases with such clinical discussion as may be necessary, methods of examination, diagnosis and treatment, with demonstrations of any special appliances, trusses, splints, etc. When necessary a series of cases of the condition under consideration shall be collected, and a day arranged for operation upon them, before the class. All material of the hospital shall, as far as practicable, and by arrangement with other members of the staff, be at the disposal of the assistant surgeon for teaching purposes. The assistant surgeon will probably arrange to give special attention to the subject on which he is demonstrating when he is seeing his out-patients in the ordinary way at the infirmary. The out-patient teaching shall be continued on the same general conditions as at present. It is hoped that arrangements can be made by the infirmary authorities for each assistant surgeon to see out-patients. It was decided that the fourth assistant surgeon should supervise the theatre technique, sterilizing, etc., and furnish a report to the committee from time to time. On Saturday mornings clinical demonstrations on cases in the casualty and isolation departments shall be given by the assistant surgeons. The detailed arrangements for this course will be published from time to time."

In regard to instruction by the full staff, it is proposed that the in-patient teaching shall be arranged as follows: (*a*) Mondays, Tuesdays, Wednesdays, and Thursdays, 10 to 12, to be allotted, one day each, to the four surgeons for

ward teaching; (*b*) Fridays, 10 to 12, to be allotted in October, January, and May (the first months of each term) to the professor of surgery; and (*c*) that the remaining two months in each term should be given to the three other surgeons in rotation (for example, November and December to Surgeon A, February and March to Surgeon B, June and July to Surgeon C). On Fridays it is suggested that the teaching should be decided by the surgeon himself; ward teaching, lectures, or clinical lectures, singly or in series, or lecture demonstrations, being given as the surgeon wishes to arrange. To these proposals the following note is added:

"Lecture demonstrations shall be given in conjunction with the professors of anatomy, physiology, and pathology, one of the physicians or assistant physicians, and the radiographer, upon a subject selected beforehand and arranged in consultation with the other surgeons, which shall be fully described and discussed and demonstrated upon patients collected from in-patient and out-patient departments as may be necessary. Material for the occasion shall be offered to the surgeon by all his surgical colleagues as generously as possible. The selection of members of the university or infirmary staff invited by the surgeon to take part in the lecture demonstrations will depend upon the subject chosen. On these occasions cases should be collected for a few weeks beforehand by clinical assistants, etc., and shown at the lecture demonstrations in various stages before and after operation; and a day in the following week could be set aside for operating before the class upon any of the cases examined at the demonstration. The preparation of material for these lectures will require special assistance. It will be impracticable for the Surgeon himself to collect clinical records, specimens, drawings, etc., for the lecture. He will need a clinical assistant."

In order that these alterations and improvements may be carried out under conditions conducive to their full success it must again be mentioned how very desirable is the provision of an instructional block. Accommodation can happily be secured at the infirmary which would fulfil the purpose admirably, but a considerable outlay will be necessary for structural alterations and for equipment. It is earnestly hoped that this may come to fruition in the near future, and if so some account may be given here of what will constitute a great improvement to the infirmary and to the school.

A HALF-CENTURY OF PUBLIC HEALTH IN NORTH AMERICA.

BY

JOHN C. McVAIL, M.D., LL.D.

(*Continued from page 806.*)

II.

STATE AND MUNICIPAL CONTROL OF DISEASE.

THE Jubilee volume of the American Public Health Association contains a number of articles dealing with the control of disease by States and municipalities. The article by Dr. Charles V. Chapin, lecturer in the School of Public Health, Harvard, to which reference has already been made, serves as a sort of general introduction to the subject. We gather that in the majority of small towns and rural districts there is no board of health, nor any health officer, or that if a board exists it is very inefficient. In a few instances the State has taken over local health work, but the practice of the States varies very much and probably also their legal powers.

Against small-pox, notification, isolation, disinfection, and immunization were employed from early times; so long ago as 1701 Massachusetts required places for the isolation of the disease to be provided. Little importance, it is stated, is now attached in America to terminal disinfection in the management of infectious diseases, continuous disinfection throughout sickness being deemed of more value.

Notification of venereal disease has been, in theory, compulsory in California since the beginning of 1911, and by 1915 a dozen States had followed its example. Little, however, seems to have been done to enforce the law. The chief additional features of the campaign against venereal disease are "the establishment of clinics, the education of the public, and the enforcement of all police regulations which tend to make prostitution less easy." Nothing is said on the questions so much agitated in this country as to "packets" and the rival policies of preventive and curative treatment.

The antituberculosis movement is on the same lines as in this country. The first State sanatorium was built by Massachusetts in 1898, and ten years later there were 250 sanatoriums and special hospitals throughout the United States. The tuberculosis dispensary is, however, looked on as the most important feature of the campaign; prevention of human infection and the raising of bodily resistance are always kept in mind. Much work is done as to preventoriums, open-air schools, better housing, milk and food control, and the like.

Dr. Chapin thinks rather exaggerated importance has been attached to milk for reduction of infant mortality; he says milk stations are still chiefly maintained by private effort, though the municipalities are doing more and more. A change of system, however, is, he says, taking place; the consultation for well babies, at which milk is not sold, has largely taken the place of the milk station as first established. In 1916 there were in 142 cities 95 organizations maintaining such consultations, as compared with 110 maintaining milk stations. Mention is not made here of free supply of milk. In New York City infant mortality fell from 273 per 1,000 births in 1885 to 94 in 1915. Medical inspection of schools began in 1894, and nurses were first employed in 1902.

Serum distribution seems to have been begun by newspaper enterprise in New York, but was taken over by the Health Department in 1894. State health departments are now engaged in the work. It is held that "the experience of some cities has shown that it is not enough to distribute these serums freely, but that many more lives can be saved if the Health Department stands ready to administer them."

On the relation of curative to preventive medicine Dr. Chapin says:

"For a long time it was believed by everybody that preventive medicine should keep its hands off curative medicine, and many health officers, most of the general public, and nearly every practising physician, still think so. On the other hand, there are many experienced and sagacious health officials and publicists who believe cure and prevention ought to be combined to a considerable extent in the same administrative unit."

It appears that many clinics have in fact been established by health officers.

Investigation and advice were the first conception of the health work States could do, and the valuable inquiries by Massachusetts into purification of water and sewage are specially mentioned. Health education of the public has been developed by means of lectures, automobile clinics, health trains, and other such means, but Dr. Chapin remarks that health propagandism too easily falls from the ways of the scientific teacher into those of the commercial advertiser. In the Southern States the safe disposal of human excretion has been the subject of a revolutionary campaign, especially as regards hookworm disease, and splendid aid has been given by the Rockefeller Sanitary Commission. Dr. Chapin expresses the opinion that every city of 50,000 inhabitants should have its own diagnostic laboratory, and that smaller places should be provided for by the State. Vital statistics are still defective, though now death registration exists for more than three-quarters of the population of the United States, and the area for birth registration is rapidly increasing. The New York death rate has fallen from 28 in 1869 to 12.93 in 1910. Within twenty-three years there has been a fall in the death rate of the rapidly expanding registration area equivalent to a saving of 400,000 lives yearly.

It would have been interesting had the article set forth in some detail the organization of a health department, and stated whether there is for properly qualified officers reasonable security of tenure in State appointments, or whether the spoils still go to the victors. But the article otherwise is a mine of condensed information for all interested in the subject, and the above brief notes are only samples of its contents.

A CENTURY'S MORTALITY.

Complete vital statistics for the United States as a whole do not exist, but Dr. Frederick L. Hoffman, LL.D., of the American Prudential Insurance Company, has written an article founded on material which he has collected relative to certain populations, especially New York, Philadelphia, Boston, and New Orleans, for which there exist data concerning the century 1815–1914. Taking the figures for the four cities jointly, it is shown that the death rate, which was 28.1 in the first twenty-five years and 30.2 in the second, fell to 25.7 in the third and to 18.9 in the fourth. In the five years 1916–20 the rates were 15.4, 15.6, 19.8, 14.0, and 13.7. Dr. Hoffman gives an interesting sketch of the history of mortality table construction, and submits observations on the value of such tables. On that point he writes:

"It must be readily granted that all life tables for the general population suffer from the inherent uncertainty as regards the exposed to risk. It is of necessity assumed that the age, sex, and

race distribution of the population remains the same, or is modified according to known principles during the period intervening between two census enumerations. It is further assumed that the enumeration as to age, race, and sex composition of the population has the same intrinsic accuracy as the mortality records derived from registration sources. But both of these assumptions may lead seriously astray. There is the further inherent uncertainty due to a mathematical compromise to give to life-table calculations an appearance of smoothness which may not represent the true facts in the case."

Dr. Hoffman also refers to the question of the real mortality rate in late adolescence, which, he says, is possibly lower than in early adolescence, the mortality between 18 and 21 being perhaps higher than, say, between 21 and 25. He urges that for public health purposes precise death rates by single years of life are absolutely essential, and that the application of mathematical graduation processes may give wrong impressions. In a brief history of the subject he refers to Price's Northampton life tables of 1771 and 1783, to the Carlisle table of 1815, and to the first American life table, by Edward Wigglesworth, D.D., in 1789, which he deals with in some detail, because the original is practically inaccessible. Even where the population is unknown Dr. Hoffman holds that mortality records, "when utilized with extreme care," are "of the greatest value in arriving at definite conclusions regarding the effect of the environment on the death rate." In support of this view he submits for the island of Nantucket a table and chart which indicate a material increase in the average age at death, as an approximately trustworthy indication of sanitary progress.

CHILD WELFARE.

The article on child welfare by Professor Van Ingen, of Columbia University, New York, affords evidence that a great deal is being done, but, as elsewhere in the volume, the value of the conclusions to be drawn is diminished by the fact that the vital statistics available are both recent and incomplete. Statistics for the quinquennium 1900–1904 revealed an appalling loss of life during infancy and childhood and led to the establishment in 1915 of a birth registration area and the issue of birth statistics which then for the first time, it is rather surprising to learn, "were made available for a considerable area and were compiled in a uniform manner." After dealing with such matters as child labour, the medical inspection of school children, and the efforts to secure infant and child welfare made by the Federal (National) Government, States and municipalities, and by private enterprise, Professor Van Ingen specifies four principles which he considers to be of primary importance: (1) Personal—that is, individual—contact; (2) education in simple and attractive form; (3) concentration on the mother and future mother; and (4) the availability and success of non-medical persons in carrying out plans founded on a sound medical basis.

The Child Health Organization, begun in 1918, plays a great part in America. It has interested the children themselves in many ingenious ways and has instituted Health Crusaders, Camp Fire girls, and Little Mothers' Leagues. Infant welfare work has greatly developed in respect of medical attendance for the poor, but as regards the provision of pasteurized milk and other such measures it was found that artificial feeding was thereby stimulated, and "with experience the tendency increases everywhere to place more emphasis on trained supervision and educational work."

Pre-natal work is receiving attention, but is somewhat limited "owing to an effort to make the work as nearly self-supporting as possible." The first school in America for the training of midwives was established at Bellevue Hospital in the face of considerable opposition, the nature of which is not explained. Many States now require registration of midwives, but few supervise them, and until recently hardly any provided for their education. Yet it is said that comparison of results as between midwives and doctors has not always been to the advantage of the latter, and "Ballantyne's remark in 1902 that ante-natal pathology is an almost untilled field is unfortunately almost as true to-day." As regards infant welfare work generally, it is said that such mortality statistics as are available show for the age between 1 month and 1 year a pretty steady diminution from 80.1 in 1910 to 46.7 in 1919.

The Federal Government established a children's Bureau of Investigation in 1912. Its purposes have been widened so that in 1916 it organized a national baby week campaign, and in 1918 a children's year, the aims of the "drive" being public protection of maternity and infancy, mother's care for older children, enforcement of child labour laws and free schooling for all children of school age, and recreation for children and youth, "abundant, decent, and protected from any form of exploitation." The bureau appears to be a great success.

The United States Public Health Service is also a Federal institution, and has extended its work in recent years. Its traditional practice is to try "to fill gaps"; an example of what this means is found in its action "when the Missouri Legislature created a division or department of child hygiene and failed to appropriate any money to carry it on, or even organize it," a situation which seems to be brought about not very infrequently in the United States. The Public Health Service came to the aid of the State Department of Health with both staff and plans. Various voluntary associations were brought in, all except the largest cities were surveyed as to their child welfare work, including school medical inspection and treatment, nutrition clinics, and the like, so that "to-day practically 100,000 school children are under health supervision in the State of Missouri."

Want of funds, however, does not in some cases appear to be a bar to official action. The Louisiana Legislature refused a request of its Board of Health in 1911 to form a division of child hygiene. In the following year the Board itself took action, and though it had no funds for the purpose it "at once proceeded to publish bulletins of instruction on the hygiene of children and the care of infants," and "in 1913 a health train was utilized for spreading broadcast information and advice regarding the health of the school child." The essential fact is that the work goes on, though it is reluctantly admitted that "of course" activities are greatly hampered by insufficiency or complete lack of funds. Private organizations for child welfare have largely developed, and no fewer than sixty national bodies claim to do such work. The National Tuberculosis Association has also turned its attention to children, and co-operation between the various agencies is being fostered.

Nutrition work for underfed children was begun in New York in 1908, but there and elsewhere has now been extended to the improperly fed. In New York City, where hot school lunches are provided for 3,000 children daily, receipts, it is stated, cover the actual cost of the food; administration and equipment cost 49,000 dollars in addition. In Milwaukee schools milk and crackers are given, and in Seattle any child may receive a bottle of milk a day, but it is not stated whether any charge is made where parents are above the poverty line. In San Francisco certified milk was provided for foundlings to foster mothers and the cost in excess over ordinary milk was defrayed by a local association.

To English sociologists a consecutive exposition of the position in America would be valuable. How far is the system maintained by Federal or State subvention, by local assessment, by voluntary contributions, and by direct payment on behalf of the beneficiaries by their parents or guardians? Details must vary according to circumstances, but a general statement of the lines followed would be very well worth having. Presumably school education and training are freely available for every child, in whatever way the cost is met. But where nutrition is concerned—where there is expenditure on school meals—are parents required to meet the cost in whole or part where they can afford it? Whatever the provision made does it apply only to school attendance days, or also to week-ends and holidays? If a labour strike is declared, do the strikers call on the education authority, as representing the public, to take over the feeding of school children? Generally is it thought in America that parental responsibility is in any degree sapped or undermined by too easy bestowal of material benefits, or is the system so administered that any such danger is avoided or minimized? No doubt such questions have been discussed and each country might be the better of knowing the facts and the opinions in the other. The children must not suffer—that is axiomatic: but how are the burden and responsibility distributed?

(To be continued.)

THE *Journal of the American Medical Association* for April 22nd contains a special supplement devoted to the amenities of the city of St. Louis, where the annual meeting of the American Medical Association is being held this week, from May 22nd to 26th, and to the preliminary programme of the scientific assembly of the meeting. There are fifteen sections dealing with different branches of medical science, and one section on miscellaneous topics. Each of the sections (with the exception of the last) apparently meets on three days, and each day has a very full programme of papers, discussions, and demonstrations, numbering about a score in each section.

British Medical Journal.

SATURDAY, MAY 27TH, 1922.

PREPARATION OF VACCINE LYMPH.

IN the April number of the *Journal of Pathology* Dr. Myer Coplans adds yet one more to the continually swelling number of methods suggested for the purification of vaccine lymph by the aid of various chemicals. His choice is certain triphenycarbinol dyes and their leuco-compounds; in other words, malachite green or brilliant green as such, or deoxidized and thus rendered colourless. It is well known that the specific virus of vaccine is more resistant to the action of disinfectants than the concomitant organisms usually associated with it, but experience shows that those chemicals are very few which, while effecting the elimination desired, can with certainty be relied upon not to impair the specific activity.

Coal-tar derivatives have naturally furnished many reagents which from time to time have been suggested for this selective purpose, and it will be recalled that the disinfectant and selective properties of malachite green and brilliant green, as embodied in Loeffler's and Conradi's media, had considerable vogue in the isolation and differentiation of *B. coli*. In this connexion it is interesting to note that the proportion of dye employed by Dr. Coplans—1 in 10,000—for the elimination of all the concomitant organisms is, if we remember rightly, slightly less than the proportion advocated by Loeffler in his medium for the express purpose of enabling *B. coli* to live and flourish.

But Dr. Coplans has other shots in his gun. He brings to his aid glycerin and 0.5 per cent. phenol, and from a table which he gives it would appear that the brunt of the offensive in eliminating the extraneous organisms is borne largely by phenol in conjunction with glycerin. His method is to emulsify lymph pulp with 50 per cent. glycerin in salt solution with the addition of 0.5 per cent. phenol. To this mixture is added malachite green or brilliant green 1 in 10,000. The mixture acquires a high colour, presumably green or blue-green, and, the author states, is rendered bacteria-free in fourteen days, or longer, according to circumstances. But no evidence is given of this. We should have liked to see tables of the bacterial content before, during, and after treatment, indicating the fall of the organisms from time to time; and in passing we may remark that the bacteriological methods employed by the author to ascertain the bacterial condition of the mixture appear inadequate for either quantitative or qualitative estimation.

At this stage a reducing agent in the form of sodium hydrosulphite is added to the mixture. This has the effect of decolorizing the dye-stuff by converting it into its leuco-compound, which the author states has a greatly diminished bactericidal and vaccinicidal action compared with the dye itself. But we note that this decomposition gives rise to products which, according to the author, may in certain conditions act as powerful vaccinicides, "so destroying the potency of the virus."

The condition determining this, he suggests, is excess of sodium hydrosulphite. This state of affairs would seem not unlikely to occur at various points in the emulsion, since the requisite quantity of the reducing agent is added as a powder in one charge directly to the mixture, which the author likens in consistence to condensed milk. Obviously, in these circumstances, the even distribution so as to avoid excess at any point may be attended with considerable difficulty, and if this is so we must assume that material harm may be done to the potency of the lymph.

After this treatment the compound is stored at a temperature of 45° F. to 55° F., which is generally the range of an ordinary ice-chest. The author cites three lymphs treated and stored in this way, and states that they were found to have retained full activity for fifteen months. But, unfortunately again, he gives no evidence of this. We confess that we feel the need of further and definite details—such as, for instance, the number of cases for which the lymphs in question were used, and the results showing personal and insertion success; especially we should wish to see comparative results of lymphs treated by Dr. Coplans's special method and of those (such as issued by the Government) in general use. Very full information is required before exchanging old lamps for new. He states that he has prepared a large quantity of lymph by this method, but he tells us nothing of its use when issued for vaccination purposes, and contents himself with the above meagre statement (confined to three lymphs) of its value. Further, he suggests that his method, owing to its rapidity, will obviate the necessity of storing lymph, and will of itself be sufficient to meet epidemic requirements. We are not clear whether he proposes to do this by a day-to-day output of lymph or by storage of a considerable quantity at the ice-chest temperature he mentions. If the former, it occurs to us that there might be serious difficulty if synchronously with an epidemic there occurred a dearth of animals suitable for vaccination, as happened in the late war, or if the country were swept by foot and mouth disease; if the latter, Dr. Coplans is making a decided regression, and is reverting to the very unsatisfactory conditions of twenty years ago before Blaxall and Fremlin introduced cold storage. In that reversion we do not think he will find lymph experts agree with him. It is well known that it was owing to the system of cold storage that the Government was able to meet the huge and unprecedented demands for lymph made by the rapidly growing armies—their own and others—and these demands were always met promptly and adequately, and, as far as we know, without inconvenience.

We cannot follow Dr. Coplans in his animadversions (and they are not few) on lymph as others make it, but we believe him to be in error if he thinks that storage at suitable temperature involves waste through loss of potency. We understand that no waste whatever is involved and no loss of potency—a marked contrast to former times when lymph was stored, or essayed to be stored, in ice-chests. We gather that Dr. Coplans has had some unpleasant experiences of lymph, for he refers several times to sudden and inexplicable loss of potency in lymphs, and appears to regard this as of common and inevitable occurrence. But we learn that this is not so, that such failures are unknown where lymphs are carefully prepared and stored, and that what seems inexplicable is of simple solution to the lymph expert.

Dr. Coplans invokes State control, and we may recall that the British Medical Association has already made representations to the Minister of Health, pointing out to him that in this country no legal authority exists to enforce the testing of potent and dangerous chemical or biological products. The Minister has appointed a committee to advise him as to the legislative and administrative measures to be taken for the control of the quality and authenticity of such therapeutic substances as cannot be tested adequately by direct chemical means. It might be well to extend the terms of reference of this committee so as specifically to include vaccine lymph, in the hope that eventually some properly defined body may be set up to scrutinize rigorously all curative or prophylactic remedies intended for public use before their introduction to the public, in order to ensure that the claims made on their behalf are just and fully substantiated.

THE PROFESSION AND APPROVED SOCIETIES.

THE Conference of Representatives of Local Medical and Panel Committees, a full report of which appears in the SUPPLEMENT this week, was called specially to deal with a few matters of immediate urgency; one of them is of great importance. The character of the work done by the Conference on May 18th differed from that of most of its predecessors inasmuch as the representatives were concerned, not with changes which they wished to bring about in the arrangements for medical service under the National Insurance Acts, but with an endeavour to maintain those arrangements broadly as they are at present. This would seem to show that the prolonged efforts of the Insurance Acts Committee of the British Medical Association to improve the conditions of medical service under these Acts have achieved a notable measure of success. There are, of course, important points still to be settled, some of which are now in course of adjustment; but there are indications that the stage has been reached when it may be more urgent to resist attack upon the position gained than to seek for an alteration of that position in any fundamental particular.

The main subject of discussion at the Conference deserves the consideration of every member of the medical profession, for it raises matters of far-reaching consequence which may affect both the general question of professional status and the actual conditions under which practice of many types, not merely insurance practice as now conducted, may have to be carried on in the not distant future.

There were grave reasons, based both on experience and on principle, why, in 1911, the profession insisted that "medical benefit" and other benefits of a like nature established under the insurance scheme should be administered not by the approved societies but by Insurance Committees under the direction of a Government department. This point was won; and, unsatisfactory as the composition and position of those committees are in several respects, the committees are at least bodies of a representative character amenable to public opinion and containing, as of right, some medical members. The State has determined that it is part of its business to see that certain classes of workers shall have full opportunity to receive, apart from the Poor Law, such medical advice and treatment as can properly be given by a general practitioner, and has arranged for this by an insurance system which happily at present preserves many of the features of private practice. The Council of the Association and the Conference of Panel Committees have both declared that the measure of success which has attended this system has been sufficient to justify the profession in uniting to secure its continuance and improvement. The terms, financial and other, on which practitioners consent to provide the necessary advice and treatment are settled by negotiation between the Ministry of Health and recognized representatives of the profession, or, in some minor matters, between the local Insurance Committee and the local Panel Committee. The approved societies are now claiming a voice in the negotiations as to the conditions of insurance practice after 1923, and appear to base their claim, curiously enough, on contributions from certain contingency funds towards the cost of medical benefit from April, 1922, to December, 1923—contributions which, after that date, they do not guarantee to continue. These funds do not appear to have been accumulated by any exertions on the part of the societies nor to be their uncontrolled property; nor can the officials of the societies be considered as representing their members on such matters as relate to medical treatment. Even were the reasons for these claims less weak than they actually are, it would be imperative for the medical profession to maintain the position that the conditions under which it provides treatment for insured persons shall be free from the control of approved societies, and not subject to any negotiations with them.

The exact connotation of the phrase "a voice in the negotiations" is not certain, nor does it seem clear to what extent the Government has conceded any claim; but it is well for the profession to make it evident, as the Conference has done, that though it may be prepared to provide medical services under a State system the general nature of which it approves, and under conditions agreed with the Government as representing the whole community, it will not willingly consent to provide them under arrangements with any unrepresentative or sectional organizations, or under arrangements in which such organizations have any official part. It is to be hoped that it will not be asked to do this.

The essential freedom from even the suspicion of approved society control which was won by the profession on the initiation of the insurance scheme must be maintained in its integrity, not merely for the satisfactory working of the scheme as it stands, but because there is real danger of any extensions of the medical treatment provided (either by legislation enlarging the scope of medical benefit or by the development of "additional benefits" already sanctioned) passing directly or indirectly under the control of approved society officials. This is important to consultants as well as to general practitioners, and in this connexion the constitution and working of the National Insurance Beneficent Association, which certain approved societies have joined to establish, deserves careful attention both by the profession and by the Ministry of Health.

The complications of the National Insurance machinery are known only to those intimately engaged in its working. They are far too great with regard to contributions, benefits, and administration alike. All those who are anxious to reduce those complications, to decrease the waste of energy and money involved in many of them, to help insured persons to obtain easily the full advantages to which they are entitled, and to make the whole social organization work more smoothly, may well hold periodic conferences. We believe that the profession will, like the Conference of Local Medical and Panel Committees, welcome such mutual consultation with a view to these ends. But any development of the present situation going beyond this must give rise to grave misgivings and necessitate united professional action.

SEVENTH CENTENARY OF THE UNIVERSITY OF PADUA.

THE seventh centenary of the University of Padua was celebrated on May 14th to 17th in fortunate circumstances. The weather was fine, but not too hot, and over two hundred foreign delegates attended, about fifty coming from the United States of America, about thirty from Great Britain, Ireland, and the Dominions, and a large number from the universities of Italy. On Sunday, May 14th, the delegates met in the grand hall of the University at 2 p.m., under the presidency of the Rettore Magnifico, Professor Luigi Lucatello; this preliminary ceremony was followed by a discussion on "Scientific synthesis and speculative science, the methods and aims of these researches, and their relation to philosophy." During the day the students organized a picturesque carnival and paraded the streets, as they did on the following Tuesday; in the evening there was a reception at the Casino Pedrocchi. Monday, May 15th, was the chief day of the centenary, as the King of Italy arrived and presided at the solemn ceremony in the Sala Ragione, where, before an audience of five thousand people, addresses were delivered by the Rettore Magnifico, the Sindaco, and Professor Nino Tamassia, and the students sang verses by Giovanni

Bektacchi, set to music by Riccardo Zandonai. The foreign delegates and those from other universities and bodies in Italy handed in their congratulatory addresses, and short speeches were delivered by one representative of each of the nations. The British representative was Sir Archibald Garrod, an appropriate choice, for not only is he Regius Professor of Medicine in Oxford—the oldest British university—but in that capacity a prominent figure in the subject matter of one of the chief faculties of the University of Padua, with which the honoured names of Linacre, Caius, and Harvey are so closely connected. In the evening there was a gala performance of Arrigo Boito's *Mefistofele*, which was attended by the King of Italy. On Tuesday morning Professor Augusto Bonome delivered an oration on Morgagni, and a large number of honorary degrees were conferred on the representatives of foreign universities, including those of this country, who were well represented in the list and most cordially received. This was followed by a visit to the Collegio Sacra, where more addresses were delivered; the company then made a special train journey to an open-air lunch in the beautiful grounds of the Istituto Idrotechnico (Villa Reale); in the evening a banquet was given to the delegates by the municipality of Padua. Wednesday, May 17th, the last day of the celebration, was occupied by an excursion to Venice. The town of Padua was *en fête* and provided much of interest for the visitors, who were able to study the stemma of William Harvey in the court of the University.

LEPROSY RESEARCH IN BENGAL.

WE have from time to time recorded the progress of the researches on the treatment of leprosy by injections of soluble products of chaulmoogra and other oils, introduced by Sir Leonard Rogers, and carried on since his retirement from the Indian Medical Service by Dr. E. Muir in the laboratory of the Calcutta School of Tropical Medicine. It has been decided that the balance of the King Edward Memorial Fund remaining after the cost of the erection of a statue has been defrayed shall be earmarked for medical research, and we are glad to learn that a grant of one and a half lakhs (£10,000) has now been made for research into the treatment of leprosy. This will render possible the erection, on a site opposite the school, of a separate leprosy research laboratory and dispensary where the work may be conducted more conveniently and on a larger scale than hitherto. Dr. Muir is making steady progress with the investigation, and it is already abundantly clear that a number of different oils furnish products which are active in destroying the bacillus of leprosy in the tissues; this opens up the field for research on similar lines on the closely allied bacillus of tubercle. Another very satisfactory piece of news is that the gift of half a lakh of rupees by an Indian gentleman has made it possible to acquire two hundred and forty acres of ground for a leper colony for Bengal in a healthy country area; the Bengal Legislative Council have voted a grant of a similar sum—double the amount the Indian Minister recommended in the present financial stringency—to enable the buildings to be commenced; it is hoped in time to accommodate one thousand lepers, with ample land for cultivation, a cottage system for early cases, a hospital in which maimed patients in an advanced stage may reside, and a distinct part for healthy children. The new treatment has now given such satisfactory results, both in India and in Hawaii, that, for the first time in the history of leprosy, patients suffering from the disease in its early stages are coming forward in numbers and asking for the treatment, instead of hiding their affliction as long as possible to avoid life-long imprisonment without any hope of amelioration of their sad condition. Anyone who is acquainted with the literature of the subject, and the frequent failure of segregation methods on account of the impossibility of finding and isolating cases in the early stages, which are infective through discharge of lepra bacilli from the nose, will realize the immense practical importance in the prophylaxis of leprosy of a treatment which will attract such early cases. It places in the hands of medical men and administrators acting under their advice a great opportunity of carrying out practical measures to reduce, and it may perhaps be hoped eventually to stamp out, this loathsome disease, which in its lingering course spares the vital organs. Bengal may be congratulated on the lead it continues to give to the world in research on leprosy.

THE ETIOLOGY OF TYPHUS FEVER.

WE are indebted to the London office of the American Relief Administration for a copy of a report it has received from Dr. Walter G. Davenport, of its medical department in Russia, giving an account of a communication made to the Moscow Medical Society on April 24th, 1922, by Dr. N. Kritch. Since the autumn of 1916 she has been working with Professor Barikan in the laboratory of the Microbiological Institute, Moscow, on the etiology of typhus fever. They have isolated an organism from the brain and spleen of 150 cases of clinical typhus fever one hour after death; they have inoculated 200 guinea-pigs with this organism and have recovered it from every animal. The organism, to which it is proposed to give the name *Microbion typhi exanthematici*, has been found in cultures obtained from over 2,000 infected body lice. It is comparatively scarce in the blood of patients suffering from typhus fever, but exists in great numbers in the internal organs, particularly the brain and spleen, of man and guinea-pig, and in the intestinal epithelium of the infected body louse. It is described as presenting in young cultures the appearance of a disc or biscuit-shaped coccus, varying from 0.4 to 1 micron in length, the breadth being one to two-thirds of the length. It is Gram-negative and is a facultative anaerobe. It does not grow on the usual laboratory culture media, but can be cultivated and kept alive in media composed of a sterilized emulsion of the pancreatized spleen, liver, or intestine of an individual recently dead from typhus; air is excluded by a film of paraffin. Dr. Kritch has also obtained from the brain a luxuriant growth on agar in twenty-four hours; it resembled a culture of the yellow staphylococcus, but died in fourteen to twenty days unless transferred to the spleen medium. Inoculation of guinea-pigs with cultures is followed almost constantly, after a varying incubation period of four to fourteen days, by a rise of temperature lasting six to twelve days. The curve of temperature is said to be characteristic. *Post-mortem* examination of the animals showed passive congestion of liver, spleen, and kidney, and oedema of the brain, with marked proliferation of the lymphoid elements surrounding the small vessels in these organs and some destruction of the intima. The organism was constantly recovered from the brain and spleen of the infected animals. Work on the immunity reactions of this organism has been begun and it is hoped that it may prove possible to prepare a protective vaccine. The American Relief Administration in this country disclaims any responsibility in connexion with the discovery, and we agree that the statements must be received with all reserve. The trend of recent investigations has been to regard a rickettsia (*Rickettsia prowazeki*) as the infective agent.

COCAINE.

NUMEROUS police prosecutions reported recently in this country and in France prove that the illicit trade in cocaine continues on a considerable scale. The chief inducement to resort to the drug seems to be the pleasurable effect immediately produced. The symptoms of mild cocaine poisoning are a feeling of general well-being (euphoria) associated with excitement; the individual feels happy and desires to tell the rest of the world about it, whereas morphine produces a condition of dreamy introspection. The fact that the drug, even in therapeutic doses, may produce sexual excitement has long been known and has been recognized as one of the

disadvantages attending the use of cocaine injections for producing local anaesthesia in dentistry. The effect is not constant, and so far as reported cases go appears to have been observed chiefly in women, from which fact arises the danger for dentists. These two effects—the production of a feeling of well-being, and the occasional aphrodisiac action—may account for the popularity of the drug among the underworld of large towns; by such persons it seems to be taken usually by snuffing into the nose, but self-administration by hypodermic injection is not uncommon. The outstanding features of the cocaine habit are that the majority of the victims are persons under 30 years of age; that a habit is established for cocaine more rapidly than for any other known drug—pronounced tolerance has been produced in eight days; and that cocaine leads to more rapid degeneration, morally, mentally, and physically, than any other drug. The withdrawal of cocaine does not produce any violent physical reaction such as abstention from morphine causes in a morphinomaniac. Some of the charges against seamen heard at various ports suggest that cocaine is smuggled into this country chiefly from Holland, although probably not manufactured in that country. In noticing some months ago a report on the subject to the Académie de Médecine evidence was quoted tending to show that most of the cocaine sold clandestinely in France is smuggled from Germany. In at least one instance it seems to have been proved that the parcel seized was the manufacture of Merck of Darmstadt. The Bombay correspondent of the *Times*, in a recent telegram, after stating that the cocaine traffic was quiescent during the war, when German supplies were not available, says that extensive smuggling is now again rife. The principal source of supply, he adds, is a German factory at Darmstadt and a secondary factory at Grodno, and it is believed that further supplies emanate from other German laboratories. In such facts as these we have additional evidence that police control of the illicit traffic in cocaine, if it is to be effective, must be international.

ANNUAL MEETING, GLASGOW, 1922.

PREPARATIONS for the ninetieth Annual Meeting of the British Medical Association, to be held in Glasgow at the close of July, are now approaching completion, and we hope to publish in next week's SUPPLEMENT the revised programme of the Sections and a general account of the arrangements made for social functions and other entertainments. The medico-political work of the Annual Meeting opens on Friday morning, July 21st, when the Representative Body of the Association begins its session. The statutory Annual General Meeting takes place on Tuesday afternoon, July 25th. In the evening of that day the President, Sir William Macewen, will receive oversea delegates and foreign guests, and will present the gold medal of the Association to Sir Clifford Allbutt and to Major Martin Leake, V.C., and the Stewart Prize to Dr. J. C. McVail. He will then deliver his address. The Annual Dinner has been fixed for Thursday, July 27th, and the Popular Lecture, on "The Physician—Naturalist, Teacher, Benefactor," will be given by Professor Graham Kerr, F.R.S., on the following evening. The scientific Sections meet on Wednesday, Thursday, and Friday, July 26th, 27th, and 28th. The Section of Medico-Sociology has now announced that it will devote the day of its meeting, July 28th, to a comprehensive debate on "Alcohol as a beverage, and its relation to certain social problems." At the morning session discussions on "The action of alcohol on the human economy" will be introduced by Professor Mellanby, and on "Alcohol and mental disorders" by Sir F. W. Mott. In the afternoon Professor Edgar L. Collis will introduce the subject of "Alcohol and industrial economy," and Dr. J. W. Ballantyne that of "Alcohol and infantile mortality." The officers of the Section of Tuberculosis announce that at its meeting on July 27th Professor Rist of Paris will open a discussion on the "Clinical differentiation of pulmonary tuberculosis from other respiratory affections," and Dr. James Taylor one on "Some aspects of surgical tuberculosis." In the afternoon Dr. Rollier of Leysin will give a cinematograph demonstration of heliotherapy. Full details of the programme of these and the other seventeen Sections will be printed next week, when we hope also to publish a descriptive article, with illustrations, on the Medical Institutions of Glasgow.

PHYSIOLOGICAL PROBLEMS IN OBSTETRICS.

THE *Edinburgh Medical Journal* for May, 1922, contains an address by Dr. R. W. Johnstone to the Edinburgh University Physiological Society on "Some unsolved problems in gynaecology and obstetrics." In it he spoke of the dependence of clinicians upon laboratory workers, and indicated some of the many gaps in our knowledge of the physiology of the reproductive organs in women. We were, for example, still in the dark as to the actual cause and precise significance of menstruation, a phenomenon which had attracted much attention from time immemorial. During the last twenty years, however, some real progress had been made; it was founded on the idea that the source of the stimulus which kept the menstrual cycle in motion was the ovary, acting probably along with other endocrine glands. The fundamental fact (demonstrated by, among others, Marshall and Jolly in the Edinburgh Physiological Department) was that the stimulus was blood-borne, not nervous, and the periodicity of menstruation had suggested an analogy with the phenomenon of oestrus or "heat" observed in most mammals. The ovary was even more complicated in the periodicity of its functions than the uterus; the Graafian follicles in its cortex were in various stages of development; each follicle when fully matured ruptured on the surface of the ovary, and the ovum found its way into the Fallopian tube. It seemed not improbable that some internal secretion was formed by the lining cells of the Graafian follicle during the periodic process of maturation and ovulation. An even more curious periodic series of changes followed ovulation; the now empty follicle became a corpus luteum, and much work had been done to test the theory that the corpus luteum was a ductless gland constantly renewed every four weeks. Its retrogression was followed by the rupture of another follicle, which in its turn became a corpus luteum, and so on. There were thus two regular periodic cycles of changes going on in the pelvis of a woman—the first the cycle of ovulation, followed by the development of a corpus luteum in the ovary; the second the cycle of changes in the uterus in association with menstruation. The question arose whether there was a clear parallelism between the menstrual cycle in the uterus and the corpus luteum in the ovary. If there were it would go far to establish the view that an internal secretion from the corpus luteum was directly associated with the cause of menstruation. This, however, was by no means the only interesting problem regarding menstruation which awaited solution. Menstrual blood differed from ordinary blood in certain respects. Blair Bell had shown that it contained a great excess of calcium, and other observers that no fibrin ferment was present. The calcium metabolism in woman was much more unstable than in man; there was evidence that in the female it was governed by the ovary in conjunction with the other ductless glands, and that this control was primarily directed to the needs of reproduction. From the clinical point of view it was of the first importance to get down to the truth in regard to the phenomenon of haemorrhage from the uterus, for menstrual irregularities causing excessive blood loss were amongst the commonest of gynaecological symptoms, and up to the present many of them were treated in a way that was frankly empirical. Another unanswered question was why parturition ensued after a lapse of forty weeks. Experiments had shown that in a uterus severed from all connexion with the central nervous system labour began at the usual time and progressed normally in its motor aspects. The onset of labour must therefore be due to stimulation of the essential ganglia in the uterus by blood-borne substances coming from the ovum itself. There was evidence for the view that the stimulus was either an ovarian hormone or some substance formed

during the altered metabolism of the mother in the later weeks of pregnancy. Remembering the very potent effect which the internal secretion of the posterior lobe of the pituitary had upon the uterus (along with other unstriped muscles), it was impossible to rule that gland out of account. Another promising field for research was the placenta. There were two main views as to the metabolic changes that went on between mother and foetus through the medium of the placenta. So far as the passage of diffusible crystalloid substances like sugar and salts was concerned no great difficulty arose, for this could be explained by a process of osmosis, diffusion, or filtration through the placenta. Much greater difficulty was encountered in connexion with non-diffusible colloidal substances such as fats and proteins; according to one theory the trophoderm had selective powers enabling it to pick out requisite substances from the blood and pass them to the foetus or vice versa. Herein, Dr. Johnstone concluded, was material for research with a very important bearing on the welfare both of the mother and of the child.

"GASSED" PLANTS.

THE toxic action of illuminating gas, even in very small quantities, was illustrated by Professor J. H. Priestley, who occupies the Chair of Botany at Leeds, at a meeting of the Association of Economic Biologists on May 19th. Professor Priestley has experimented on the effect of small quantities of coal gas on the growing parts of plants, such as the hyacinth and onion, the pea and bean, and a number of others. If 1 or 2 c.cm. of coal gas are bubbled into a vessel containing the young plant, marked degenerations occur within forty-eight hours. The root and stem structures become swollen and bent, the young leaves curl over, and the flower petals wither. With ethylene, one of the constituents of illuminating gas, the toxic effect has been obtained at a concentration of one in a million in air. Gas in the soil in so small an amount that its presence could not be detected by the smell has proved toxic for roots. Professor Priestley believes that the poisonous action of these small quantities of gas is due to the unsaturated hydrocarbons, which attack the endodermis of the plant. If the "gassing" is carried too far the plants will not recover, but it is possible, by admitting and withdrawing the admixture of gas in the air during the period of plant growth, to get a knotted structure, marked by alternate sections with a normal and abnormal appearance. The investigation has a certain economic interest, in view of possible gas leakages in greenhouses. One curious point is that the gas affects some varieties of the same plant and not others. A speaker in the discussion following Professor Priestley's demonstration mentioned that he had found one variety of chrysanthemum entirely unaffected by a full fumigation with tetrachlormethane, while another variety was quickly destroyed; the same is true of different varieties of pelargoniums. Evidently botanists are as yet only on the threshold of the study of reaction and immunity in plants.

RICKETS IN THE BRONZE AGE.

A SKULL showing evidence of rickets and believed to be of the bronze age was demonstrated recently to the Cardiff Medical Society by Dr. R. E. Mortimer Wheeler, Keeper of Archaeology in the National Museum of Wales. Only fragments of the skull were recovered, and the evidence of its age is that it was found in a bronze age burial grave some twelve miles north of Cardiff. The date generally accepted for the type of pottery accompanying the skull is between 2000 and 1500 B.C. The remains belonged to a child, probably a boy, about 3 years old, and the cranial measurements were typically brachicephalic. The evidence of rickets seems conclusive. Both Sir Arthur Keith and Professor S. G. Shattock have examined the fragments and have expressed the opinion that the bosses seen on the forehead and on the hinder part of the skull were the result of two attacks of rickets, one occurring when the child was about 6 months of age, and a second about six months later; this was evidenced by the condition seen in the unerupted lateral incisor, which showed two sets of grooves or constrictions corresponding to the periods of the attacks. Dr. Wheeler concluded by stating that the skull afforded the earliest evidence of rickets yet found. In discussing the paper Professor Emrys-Roberts referred to the recent evidence from India pointing to the importance in the etiology of rickets of the deprivation of sunlight and fresh air resulting from the purdah system. In reply Dr. Wheeler gave some account of the mode of life of the bronze age inhabitants of Britain; their huts, he said, were no doubt dark and insanitary, and at the site of the find the climatic conditions had probably been such as to necessitate the inhabitants spending much time under shelter.

KING EDWARD VII SANATORIUM, MIDHURST.

THE fifteenth annual report of the King Edward VII Sanatorium, Midhurst, covering the period from July, 1920, to July, 1921, has just been issued.[1] A postscript printed on the back of the title-page records with deep regret the death of Sir Ernest Cassel, to whose generosity, guided by the wisdom and foresight of King Edward, the institution owes its existence. It was founded in 1903 for educated persons of limited means suffering from pulmonary tuberculosis in an early stage; the buildings were opened in 1906. The council, however, has reason to believe that many patients of this class do not avail themselves of the benefits of the institution, because their medical advisers are unaware of its advantages. It therefore wishes to enlist the co-operation of such practitioners, whose knowledge of their patients will enable them to select persons suitable socially as well as physically for admission. A report of each patient's condition on admission and discharge is sent by the medical superintendent to the practitioner concerned in the case. At present the inclusive charge for maintenance and treatment is 4½ guineas weekly. The buildings stand on high ground on sandy soil at an altitude of 494 feet in one of the most beautiful parts of Sussex; they have a sunny exposure, and are protected from winds. The number of beds is 104, and during the period under review 331 patients were admitted and 269 discharged. Of the 196 patients examined before admission 17.3 per cent. were rejected as unsuitable. The system of treatment adopted is that now common to most modern sanatoriums—namely, an open-air life, regular and ordered routine, a dietary sufficient and nourishing but not excessive, and a system of graduated rest and exercise. In order to secure the intelligent co-operation and confidence of the patients frequent explanatory lectures are given, and, as might be supposed, educated persons make an excellent response. In regard to graduated exercise, a timely note of caution is sounded in the report. Such work when carried out in a sanatorium is not to be looked upon in any sense as a course of education in gardening, poultry-farming, or other open-air work, with a view to employment on discharge. The function of the sanatorium is to treat and arrest the disease, not to teach a profitable employment; to confuse the two objects is to invite disappointment; the proper place for technical training is a farm-colony, to which the individual should go after the disease has been arrested at a sanatorium. The laboratory report states that more than 1,000 examinations of sputum were made. Of the 331 patients admitted, the sputum was found positive in 207, and negative in 79; 45 had no sputum. Apart from routine laboratory work, the chief matter investigated was the complement-fixation test for tuberculosis. The technique corresponded closely to that employed by McIntosh and Fildes for the Wassermann reaction. The aim of the investigation was twofold: (1) to ascertain the practical value of the test in the diagnosis and treatment of pulmonary tuberculosis, and (2) to effect technical improvements in order to increase the delicacy and

[1] Copies may be obtained, price one shilling post free, from the Medical Superintendent, the King Edward VII Sanatorium, Midhurst, Sussex.

specificity of the test. In the result 90 per cent. of all cases having at some time had tubercle bacilli in the sputum showed a positive complement-fixation test for tuberculosis, and the provisional conclusion was reached that, on the whole (with the possible exception of certain cases with a positive Wassermann reaction), the test is probably specific, a positive result indicating tuberculosis. A positive reaction, once developed, seemed to persist for some time, and there was not usually any change in its intensity during the patient's stay in the sanatorium. No evidence was found to indicate that an obsolete and healed lesion would give a positive reaction, but a positive result was often found in arrested cases. No definite conclusion was reached as to the diagnostic significance to be attached to a negative result with this test.[2] The annual report contains also summaries of the work of the *x*-ray and throat departments, together with statistics in tabular form showing the ultimate results of treatment at Midhurst. Much work has been done in the dental department, reflecting the importance attached by the medical staff to the removal of septic teeth and the maintenance of oral hygiene in improving the general condition and resistance of patients with phthisis. Lastly, a brief note states that artificial pneumothorax continues to be employed in a few selected cases with success; the patients come back to the sanatorium to be "refilled," stay the night there, and leave the next day.

"ARCHIVES OF MEDICAL HYDROLOGY."

THE first number of *Archives of Medical Hydrology* gives promise of a successful career. It is the journal of the International Society of Medical Hydrology, which was constituted at a meeting held in London at the house of the Royal Society of Medicine in December, 1921, when it was agreed that it was desirable to gather together the scientific resources of this branch of medicine and make them available to the general medical reader. This first number of the *Archives* has a preface by Sir Clifford Allbutt, in which, after an historical summary of the subject, he points out the need in England for carrying higher and higher the new methods in medical hydrology that have been recreated during the last half-century. Establishments, says Sir Clifford Allbutt, which a few years ago were little more than hotels with hydropathic advertisements, are now growing into laboratories of a much higher craft, and it is for science to extract the living kernel of truth from the perishing fruit of experience. Professor Paul Carnot also contributes a short foreword on the scientific aims of hydrology. The *Archives* begins its career, therefore, with high ideals. It may be hoped that the publication of this journal under the editorial direction of Dr. Fortescue Fox will encourage spa physicians to undertake scientific investigations into the action of the remedies with which they deal. To the first number Professor Leonard Hill contributes an article on the effects of heat and cold on the body; Professor Alois Strasser writes on the scientific foundations of hydrotherapeutics; Dr. Wybauw discusses treatment by natural effervescent baths; Professor Chassevant and Dr. Paul Ferreyrolles, Dr. S. Judd Lewis, and Dr. William Bain contribute articles on the scientific study of mineral waters; Dr. Gustave Monod writes on the spa treatment of diabetes; and the editor contributes notes on three pioneers of hydrology—Winternitz, Garrigou, Baruch—who all lived to be octogenarians. Articles written in English are usually followed by abstracts in French, and those written in French by abstracts in English. The new journal is well printed, and the cover design is decidedly interesting; we cannot, however, pretend to like the free use in one of the articles of clarendon type to emphasize phrases and sentences. The annual subscription for the *Archives* is 10s. 6d., post free, and communications should be addressed to the honorary secretary of the society at 36, Devonshire Place, W.1.

[2] Cf. article by A. L. Punch and A. H. Gosse, BRITISH MEDICAL JOURNAL, April 1st, 1922, p. 509.

SIR ALFRED KEOGH.

WE mentioned briefly last week that Sir Alfred Keogh was retiring, under the age rule, from the office of Rector of the Imperial College of Science and Technology at the end of the summer term, and observed that his work there had been sadly interrupted by his recall to act as Director-General of the Army Medical Service soon after the war began. In spite of the interruption, however, the College has under his direction prospered exceedingly, and his enforced retirement is a source of unqualified regret. In 1910 the College was attended by less than 700 students, and there were only 10 post-graduates; the last sessional report shows 1,300 students and 303 post-graduates. During Sir Alfred Keogh's rectorship the college buildings have been greatly extended, and only to-day a new building for the study of biochemistry is being completed and equipped. The teaching posts have been increased in number to an equivalent degree, and talent of the first order has been secured to occupy them. Yet the increased accommodation and provision of teachers has not sufficed to keep pace with the number of students seeking admission, and every year applicants are sent away, even although they reach the prescribed standard of preliminary scientific and literary education. That a member of our profession, after an unparalleled success in his own service, should have again demonstrated his great powers as an administrator in a different and still wider reaching field of national education must be a legitimate source of pride to us all; and while we can but bow to the inexorable rule of superannuation, yet we must deplore that his great work for the College is being brought prematurely to an end. Sir Alfred Keogh has already had a career of extraordinary distinction, of which we gave details in our issues of January 19th, 1918 (p. 101), and March 2nd, 1918 (p. 265). His services in the office of Director-General of the Army Medical Service for two periods were recognized by the Crown when he was created Grand Cross of the Bath in 1917, a distinction reserved for the greatest servants of the Crown, and one which has very rarely been received by a member of our profession. That profession has taken many opportunities of honouring him, and hopefully anticipates that it will in the future have other occasions of expressing to him its indebtedness, not only for what he has done, but for what he will do. Sir Alfred Keogh is in the full vigour of life and capable of rendering many more services to the profession he loves. Its members will not readily forgo their right to make further calls on a leader inspired by its highest ideals, endowed with indefatigable energy, and possessing well-proved powers of organization.

THE Croonian lectures before the Royal College of Physicians of London will be delivered by Dr. Gordon Holmes, C.M.G., C.B.E., on June 8th, 13th, 15th, and 20th, at 5 p.m., the subject being the symptoms of cerebellar disease and their interpretation.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

Insurance Practitioners' Remuneration.

MR. ALFRED T. DAVIES, on May 22nd, asked the Minister of Health whether, seeing that the Government entered into an agreement with doctors serving in connexion with national health insurance in 1921, that their remuneration should be fixed, for a period of two years ending December, 1923, at 9s. per insured person per annum, making the total cost of medical benefits 12s. per insured person per annum, that the Minister undertook then that the difference of 2s. 6d. between the sum provided by approved societies and the total cost of medical benefits would be met as theretofore by Exchequer grant, and that it was now proposed to transfer that liability of the Exchequer to the approved societies, he would state the reasons for taking this course.

Sir A. Mond said the undertaking to which reference was made was that no reduction in the remuneration of insurance practitioners should be made during the period in question. No undertaking was either given or asked for as to the source

from which the additional 2s. 6d. would be provided. The Committee on National Expenditure recommended that the Exchequer should be relieved of any charge on this account beyond the statutory two-ninths, the liability being transferred to national insurance funds. The method of securing this result embodied in the bill before Parliament was suggested by the Ministry of Health Approved Societies Consultative Council.

Health Precautions for Miners.

In the course of his speech, on May 18th, on a vote for the Mines Department, Mr. Bridgeman (Secretary for Mines) made some interesting statements as to what is being done for the safety and health of workers in the mining industry.

He said that various committees had considered a good many questions connected with the health of persons engaged in metalliferous mines, and these were being remitted to a small medical committee which had consented to work on matters affecting health in mines, whether coal mines or metalliferous. Another function being carried out by an independent committee under the chairmanship of Lord Chelmsford was the allocation of the Welfare Fund set up under the Mines Industry Act by a levy of 1d. per ton on coal produce. The sum available was about a million sterling, four-fifths of which had to be spent in the localities in which it was raised. Perhaps the most attractive scheme of all was that of the district committee in Ayrshire, which had recommended the allocation of the money, not only this year, but for the whole period of the grant, for the acquisition of a sanatorium for the mining community. They had a fine mansion and one hundred acres of land, and there would be accommodation for one hundred patients in this convalescent home. In regard to the one-fifth of the fund—to be spent centrally—the committee had decided to use it as far as possible for large national work, such as research work or larger questions of education, which went beyond the limits of any particular district. It was proposed to erect a new station for carrying out experiments in coal dust, as well as in testing miners' lamps and in other work which had hitherto been undertaken at Eskmeals in Cumberland. Coming to the services for health and safety, which had been transferred to the Mines Department from the Home Office, Mr. Bridgeman said it was gratifying to find that there were fewer fatal accidents per thousand miners in this country than in any other country except Belgium, and Belgium being so small did not afford a very fair comparison. Even so, he was not satisfied that the accidents could not be reduced very considerably. He did not think it could be done by piling regulations upon regulations; indeed, he believed that an excess of regulations often had the opposite effect, but he was trying to get statistics more easy of comparison. He was thankful to say the department was able to consult a very able small medical committee, consisting of Sir Walter Fletcher, Professor Haldane, Sir Kenneth Goadby, and Dr. Collis. There was also the Mining Dangers Research Board, which was doing valuable work dealing with such questions as nystagmus, miners' lamps, and spontaneous combustion. Under the Privy Council, and not under the Mines Department, there was also a Medical Research Council with which the department was in close touch. This body had consented to consider two or three very important questions. One was stone-dusting. That was as to what kind of stone should, or should not, be used in stone-dusted mines. An investigation was also going on in regard to beat-hand and beat-knee, and several other cognate matters. They had assistance in these research directions from the universities, and also from the organizations for which the owners paid. Mr. Bridgeman went on to say that he was convinced that an immense number of accidents were due to easily avoidable carelessness, and others were due to not having first aid. If it became a habit always to seek first-aid treatment for any scratch or injury many lives would be saved. He was trying to initiate and push a "safety first campaign."

In the course of the debate Mr. Armitage urged that it would be very desirable that the winding engine men in charge of cages should be medically examined at certain periods, and should also have an age limit. On the question of miner's nystagmus he said that in a pit with which he was concerned there were in 1912 about 2,400 men employed, and the nystagmus cases numbered 11. The oil lamps were taken out after that year, and, while the number of men employed had gone up to 3,000, the nystagmus cases had gone down to 3. They attributed the disease to the introduction of electric lamps.

Mr. R. McLaren said that in Scotland there were few cases of nystagmus. He had examined many men for it, and found only one or two cases there. In their opinion the reason was that they used open lamps. In regard to the electric lamp he thought that Mr. Bridgeman should seek some means whereby the miner might know the condition of the atmosphere in which he worked. There was said to be an invention whereby, through the ringing of a bell in connexion with an instrument, one could tell the amount of fire-damp present. Many years ago he helped to get an instrument which gave the same results, but it was too delicate.

Mr. Casey protested against the suggestion for medical examination and for an age limit for winders. Speaking as a winder of more than twenty years' experience, he said that the best and safest were not the young men, but men of middle age or whom some would say were of advanced age. He challenged evidence of a single case of serious accident resulting from disability on the part of an engine-winder. He made suggestions for the testing of appliances against over-winding.

The vote was given after two divisions.

Milk Supply, Newcastle-on-Tyne.—Mr. Doyle asked, on May 17th, if the medical officer sent by the Ministry of Health to investigate the serious cases of milk pollution in Newcastle had concluded his task. Sir A. Mond replied that he had received the report of his officer, and was satisfied that the results stated by the medical officer of health of Newcastle-on-Tyne were correct. Mr. Doyle inquired whether the representative was a qualified analyst. Sir A. Mond said he was a qualified man. It was not a question of analysis but of bacteriology. He sent down a medical man, who examined into the bacteriological measures taken. The report confirmed the methods adopted by the M.O.H. as having been satisfactory. On further question by Mr. Doyle, the Minister said he was not aware that since the matter was first raised a fortnight ago additional samples had been taken, and that 10 per cent. additional pollution had been found in these samples.

Accidental Poisoning by Strychnine.—Major Barnett asked, on May 23rd, whether the attention of the Home Secretary had been drawn to a case of strychnine poisoning by misadventure, in which one of His Majesty's judges suggested that mistakes of this kind could be obviated if it was enacted that all poisons should be of definite and distinctive colours; and if so whether he would consider the desirability of issuing regulations under the Poisons Act. Mr. Shortt said he was advised that the regulations for the keeping of poisons direct them to be kept in a room or cupboard "set apart" for the purpose, and that the observance of this rule should in ordinary circumstances render such occurrence impossible. Inquiries were being made of the Pharmaceutical Society as to the practicability of employing definite and distinctive colours for poisons, and if a favourable report was received the possibility of making new regulations under the Poisons and Pharmacy Act would be considered.

Small-pox in the British Army.—Lieut.-Colonel Stanley, on May 17th, replying to Mr. Mills, said he was not yet in a position to publish the statistics of small-pox cases and deaths recorded in the British army in various parts of the world during the years of the war. He could not forecast the date of the completion of the statistics.

Disabled Ex-service Men.—The following have been constituted the Select Committee on Government training of disabled ex-service men: Captain Bowyer, Sir Thomas Bramsdon, Major Cohen, Mr. Colin Coote, Sir John Davidson, Lieut. Commander Dean, Major John Edwards, Major Entwistle, Dr. A. C. Farquharson, Captain Gee, Lieut.-Colonel Vivian Henderson, Mr. Lawson, Lieut.-Colonel Watts Morgan, Dr. Nathan Raw, and Mr. Frederick Roberts.

Supply of Calf Lymph.—Dr. McDonald asked, on May 17th, if the Minister of Health would consider the advisability of preventing the sale of calf lymph vaccine by any person unless in possession of a Government licence. Sir A. Mond said that the general question of the control of certain therapeutic substances, including the vaccine referred to, was considered by a departmental committee appointed by his predecessor, but the carrying out of its recommendations would involve additional expenditure which the Department was not prepared to undertake at the present time. Dr. McDonald asked if, in view of the alleged increasing inefficiency of vaccination owing to many medical practitioners certifying one vesicle as successful, the Minister would consider the advisability of supplying general medical practitioners with Government lymph at a reasonable charge on the condition that the area produced conformed to that laid down. Sir A. Mond said the matter had been considered from time to time, but as at present advised he did not think it practicable to take action in the direction indicated.

State Management of Liquor Trade.—Colonel Sir Arthur Holbrook, on May 17th, introduced as a private bill a measure to abolish State management of the liquor trade.

Rabies near Southampton.—Sir A. Boscawen informed Colonel Burn, on May 17th, it had been necessary to reimpose the muzzling order in an area round Southampton. The origin of the case of rabies near Southampton had not been traced. No other dogs had been infected since the muzzling order was imposed, The dog which was the subject of inquiry was probably bitten some time between early January and May by a rabid dog now dead. Inquiries were being made as to any dog lost or destroyed during that period, and whether any had been smuggled into the Southampton area from abroad.

Criminal Law Amendment.—Mr. Chamberlain stated, on May 18th, in answer to Mr. Thomson, that the Government maintained its intention to pass within the present session a bill amending the Criminal Law Acts.

Illicit Drug Traffic.—Mr. Ramsden asked, on May 18th, whether the Advisory Committee on traffic in opium had reported to the Council of the League of Nations that in spite of the activity of the police and the heavy penalties imposed upon us the traffic in drugs to Western Europe was extremely difficult to check, while it had so far proved impossible to discover the means by which the drugs were obtained or to learn by whom the traffic was organized; and whether, in these circumstances, the Home Secretary would consider increasing the penalties of all convicted traffickers and, if necessary, introduce legislation for the purpose of instituting the punishment of flogging for this offence. Mr. Shortt said that, as he had already stated, the question of strengthening the present Act was under consideration. He added that convictions had been obtained in respect of raw opium, prepared opium, morphine, heroin, and cocaine.

Shepherd's Bush Hospital.—In reply to Mr. M. Wilson, on May 22nd, Mr. Macpherson said that the number of officials and clerks employed at the Ministry Surgical Hospital, Shepherd's Bush, were as follows: 10 medical officers, a controller of stores, an accountant, and 14 clerks. There were also 11 part-time medical officers.

Dangerous Drugs: Farmers and Stock Owners.—In reply to Mr. Hinds, on May 22nd, Sir J. Baird said that licences under the Dangerous Drugs Act had not been issued to agriculturists, but under the order of last August farmers and stock owners in certain circumstances could obtain a certificate from the chief officer of police which enabled them to secure tincture of opium for use in the treatment of animals. No fee was chargeable for the certificate.

ANTI-ANAPHYLAXIS.

LECTURE BY PROFESSOR WIDAL.

ANOTHER lecture of the series by distinguished French medical men, arranged by the University of London, was delivered on May 22nd, when Professor Fernand Widal, Grand Officer of the Legion of Honour, and Professor of Clinical Medicine in the Faculty of Medicine, Paris, lectured on the subject of "Anti-anaphylaxis." The hall of the Royal Society of Medicine was well filled. In introducing the lecturer, LORD DAWSON OF PENN said that for his researches his name was well known in the medical communities of all nations. On the subject which he had taken for the lecture Professor Widal and his collaborators had been working assiduously for many years with brilliant success, and many of those present had had the advantage already of reading the results of those researches given in Professor Widal's lucid style.

Professor WIDAL then lectured for ninety minutes in French in the most vivacious and interesting manner, even investing his abstruse subject with occasional humour. He began by referring to the work of Besredka, who, fifteen years ago, first made known the existence of anti-anaphylaxis by demonstrating that to prevent the anaphylactic shock occurring in a sensitized animal it was only necessary, a very short time before injecting the anaphylactic substance, to give the animal a minute quantity or fractional dose of the same substance. This phenomenon proved that the shock was the result of an overthrow of the colloidal equilibrium of the plasma cells—a condition which he called "colloidoclasis"—and did not belong to the intoxications, and was not subject to chemical laws. From an observation of many clinical and experimental results, it appeared that the principle underlying anti-anaphylactic vaccination was not special to the state of anaphylactic shock, but appertained to shock of every kind, whatever its origin; nor need the preventive injection be carried out with a substance similar to the one responsible for the shock—other substances very different chemically would answer the same purpose; and the method of administration might be by the digestive tract as well as by hypodermic injection.

For a long time the clinicians had to deal only with accidents following the injection of serum, but serum anaphylaxis was only an example of artificial anaphylaxis, not the spontaneous anaphylaxis of nature. It was not by anything so unrefined as an hypodermic process that the spontaneous anaphylaxis came about. Through the mucous membrane of the digestive or the respiratory tract infinitesimal doses of innumerable substances were daily introduced into the body, and this action, often repeated, might end, in some cases after years, in sensitization to a particular substance. An instance in point was the alimentary anaphylaxis often brought about in infants towards milk or egg, and, again, anaphylaxis by inhalation, which caused asthma. Just as anti-anaphylactic vaccination could be used to prevent accidents occurring on the injection of therapeutic serum, the method being the previous injection of very small doses of the same serum, so the shock in anaphylaxis due to a particular food or drug could be averted in the same way. An attack of urticaria, for example, might be prevented by giving a minute dose beforehand of the alimentary substance concerned in the production of the condition. In cases of alimentary infections where the specific cause could not be recognized, shock might be prevented by the use of ordinary albuminoid substances such as peptone. Even crystalloid substances could be used, an injection of sodium chloride averting the shock consequent upon the injection of serum, and a similar injection or one of sodium carbonate acting in the same way against the shock following the injection of arsenobenzol in certain subjects.

The lecturer then turned to the question of desensitization. Instead of preventing the anaphylactic shock each time it might appear, all future occurrence of the shock might be prevented in some cases by desensitization. The first experiments along these lines were made in the case of anaphylaxis arising from substances which were digested, and here it was generally easy to discover the responsible antigen. To individuals who had been sensitized by egg, milk, or other such substances, it was easy to give infinitesimal doses of the same substance, increasing the dose progressively each day, and this method had been used in the case of infants. Only in certain cases, however, was specific desensitization capable of bringing about the cure of the anaphylactic condition. Non-specific desensitization also had its part to play; here substances were used quite different from those which brought about the anaphylaxis. In certain cases the ingestion of a very small quantity of peptone an hour before a meal would not only prevent the immediate digestive symptoms of anaphylaxis, but after a certain period would bring about the disappearance of the anaphylactic state of the subject altogether. Desensitization against respiratory anaphylaxis, such as asthma and hay fever, might be obtained by subcutaneous injection of progressive and frequently repeated doses of the specific substance which was the cause of the anaphylaxis. Anaphylactic asthma was often due to proteins derived from food or animal products, and vaccination with the specific protein might make the asthma disappear, at least for a time.

Finally the lecturer touched upon symptomatic treatment of the shock, instancing the results obtained with adrenaline, atropine sulphate, and other substances. He spoke also of disturbances of the endocrine glands from this point of view, mentioning that asthma could be favoured in its development and regulated in its cycle by functional study of the ovary or thyroid, and with the conditions created by endocrine disturbances one could watch the development of anaphylactic hypersensibility to certain imponderable things which brought about the attack of asthma. Altogether the physician had a variety of means of dealing with anaphylactic manifestations. All these on occasion had had remarkable success, but there had been also conspicuous failures, and in the presence of the anaphylactic condition the physician never knew in advance which therapeutic measure would succeed. It was necessary to be very patient and to try successively the different procedures, not forgetting the unexpected success which some of them had given in cases which up till then had defied all treatment.

Sir ALMROTH WRIGHT expressed in French the thanks of the audience to Professor Widal, and went on to say that Professor Widal had confessed that he was *passionné* with this subject. For his own part, whenever he went to Paris and wanted to get "impassioned" with some intellectual interest, he betook himself to Professor Widal's laboratory and always found something new. Professor Widal, although a great clinician, did not content himself with clinical methods. He did not say that what he could see with his eyes and hear with his ears was all that there was to be known. He had introduced into medicine a new physical method of experiment, and if medicine was to advance it must be by the use of such laboratory methods. Although Professor Widal was in the first place a clinician, he was not content to use other laboratories and other men, but worked assiduously in his own laboratory. The adoption of the experimental method did not mean that the experimenter was going to try anything upon anybody; it postulated a scientific training, and one saw that certain things which had been tried in the laboratory might with advantage be carried out in practice. The experiments were not made at random. Professor Widal was also great in his power of generalization; the test of a great man was to make proper classifications of things. For his insistence upon laboratory experiment and for his power of generalization his British colleagues held him in all honour.

Dr. GRAHAM LITTLE rather contested Sir Almroth Wright's inclination to group Professor Widal among the men of the laboratory; to him he was the supreme physician. The University of London had done a very great service in introducing these distinguished French professors to the British medical world. This country had been too long under the influence of the Central European system of medicine, and one result of the war had been to make its medical men better acquainted with the Latin system, to their great advantage.

England and Wales.

A Red Cross Civilian Clinic.

Last year the work of the clinic founded by the Kensington Division of the British Red Cross Society for the treatment of ex-service men began to diminish, and it was recognized that within a short time there would not be enough patients to justify its maintenance. The functions of the clinic included treatment, with massage, electricity, radiant heat, and remedial exercises. After consultation with representative local medical practitioners, including the Mayor of Kensington (Dr. A. J. Rice-Oxley), it was decided to institute a clinic for the general public. This new clinic was opened in Kensington last February, and now between thirty-five and forty patients are attending it weekly. Its object is to put physical treatment within reach of those members of the civilian population whose financial position is such that they cannot afford the ordinary fees charged. A patient is requested to bring a letter of recommendation from his own doctor, and before any treatment is given he is examined by a specialist in physico-therapeutics, who attends the clinic on Mondays and Fridays at 6 o'clock. Medical practitioners are requested not to send patients able to afford higher fees than the maximum charge at the clinic, which is 5s. for each treatment and 5s. for the consultation; an almoner is in attendance on the evenings of Mondays and Fridays, and individual charges are decided by the almoner, and referred to the committee for revision if necessary. The clinic is administered by the Kensington Division of the British Red Cross Society, which bears any financial responsibility and works in conjunction with an advisory committee of medical practitioners. The scope of the work is very varied. It comprises the treatment by physical methods of all forms of injury or disease of the limbs; of sprains, fractures, dislocations, stiff and painful joints, and of cases in which muscle power has been for any reason reduced or lost. Post-operative treatment is also undertaken, as are appropriate cases of neuritis, and patients suffering from postural deformities, deficient chest expansion, and under-nutrition. The re-education is undertaken of patients suffering from various disorders of the central nervous system, from neuralgia to tabes dorsalis; instruction is given also in the use of an artificial leg, and patients are provided at the clinic with the more simple orthopaedic appliances, such as special boots and splints. Patients living in Kensington have a prior claim on the clinic, but should there be vacancies applicants living outside the area are accepted. The Kensington Division of the British Red Cross Society deserves credit for its endeavour to provide, in conjunction with the medical profession, this physical treatment centre. Such clinics are needed, and the lines upon which the centre at Kensington has been established and developed may serve as an example to others.

Tuberculosis Care Committees.

The Ministry of Health has circularized the metropolitan borough councils with regard to the organization of voluntary care committees in connexion with tuberculosis dispensary schemes. Since 1915 this work has been carried out on a provisional basis, but the present time is believed to be opportune for the establishment of permanent committees. The circular offers suggestions for the guidance of borough councils in this respect. As many members of the committee as possible should be experienced in social welfare work, and a representative of the local war pensions committee should be included. A responsible secretary should be appointed whose work should include the preparation of information for the use of the committee. The unit with which the committee should concern itself is the family, not the individual patient, and the economic position of the family is to be considered as an important factor in the problem. It is not the function of the committee directly to provide financial assistance except as a temporary expedient in special cases, but the family should be brought to the notice of the appropriate charitable or public organization. Close co operation must be preserved between the committee and the staff of the dispensary. The tuberculosis officer should regularly attend the meetings of the committee to advise on the medical needs of cases and to inform himself of the measures taken by the committee in the economic interest of the patients. Other functions of the committee are to undertake the assessment of charges made in respect of residential treatment where the income of the family exceeds a certain amount, and to investigate cases in which the provision of extra nourishment or dental treatment is recommended by the tuberculosis officer on medical grounds. It is urged that the meetings of the committee or of a responsible subcommittee should be held weekly.

Royal Bath Hospital, Harrogate.

The Royal Bath Hospital and Rawson Convalescent Home, Harrogate, was reopened on April 20th, considerable improvements having been carried out in its equipment. The bath-house has been reconstructed and a new cooling room formed, and the interior of the hospital has been reorganized so as to provide additional rooms for the nursing staff. The alterations to the bath-house include a granolithic floor, a new douche room, as well as a room for Berthollet and paraffin wax baths. The white porcelain slipper baths have been screened according to a new scheme and are slightly sunk in the granolithic floor to facilitate cleaning. The douche room is fitted up so that treatment may be given either by the Aix or Vichy method, and in addition to the needle bath a "Scotch douche" has been installed. The bath-house has now three local steam or Berthollet baths, and also paraffin wax baths for the knee, hand, and foot. What remains to be done before the completion of the proposed scheme is to build a small Plombières department, an efficient clinical laboratory, new massage and electrical rooms *en suite* with the bath-house and cooling room, and an *x*-ray operating theatre and examination rooms. These additions are required to make the hospital a complete modern centre for the treatment of the rheumatic and arthritic groups of diseases, and some £7,000 are necessary to carry them out.

Liverpool Ladies' Sanitary Association.

This association, now of some years' standing, continues to do excellent work in promoting infant welfare by affording ladies of leisure the opportunity of undergoing a training enabling them to perform useful work for the public advantage. The Ministry of Health approved of the object and has given financial assistance. Recently a new departure has been made, for it was felt that an observation nursery for delicate children would meet a great need in those cases where the mothers were incapacitated from giving the necessary attention to such children. Further, the children's hostels provided opportunity for training elementary school girls who desired to become competent nursery maids. The medical officer of health, Dr. E. W. Hope—who has been connected with the association from its beginning—has borne testimony to the good work that has been so quietly and so perseveringly performed; the municipal health and education authorities are, he says, fully alive to its efforts for the health of the young life of the city. The financial statement shows a deficiency of £1,100, and the Lord Mayor has made an earnest appeal for subscriptions to an association whose good practical work is apparent to all.

Scotland.

Edinburgh Post-graduate Courses.

Courses for medical graduates will be held this year in connexion with the University and Royal Colleges of Edinburgh from July 31st to September 9th inclusive. They will comprise: (1) A course in diseases of children, from July 31st to August 12th, the fee for which is six guineas, or five guineas for those attending either of the general courses; (2) a general medical course; and (3) a general surgical course. Courses 2 and 3 will each last four weeks, from August 14th to September 9th; the composite fee for each is ten guineas for the four weeks, or six guineas for either the first or the second fortnight. A series of special lectures open to all graduates will be delivered three times a week during the month on subjects of general medical and surgical interest, including recent advances in treatment. A number of special courses have also been arranged for the summer term (May to July) and the autumn term (October to December). Particulars may be had on application to the Honorary Secretary, Post-graduate Courses in Medicine, University New Buildings, Edinburgh.

Medical Societies of Glasgow.

The annual business meeting of the Glasgow Royal Medico-Chirurgical Society was held on May 5th, when office-bearers for session 1922–23 were appointed as follows: President,

Dr. A. Maitland Ramsay; Vice-Presidents, Dr. R. O. Adamson and Dr. G. Morris Crawford; Secretary, Dr. Adam Patrick; Editorial Secretary, Dr. G. Herbert Clark; Treasurer, Dr. James H. Martin. New councillors were appointed in the various sections: Medicine, Dr. John F. Fergus; Surgery, Mr. James Russell; Pathology, Dr. J. Norman Cruickshank; Obstetrics, Dr. Donald McIntyre.—The Glasgow Northern Medical Society has appointed the following office-bearers for the ensuing session: President, Dr. Robert Grieve; Vice-Presidents, Dr. P. McKellar Dewar and Dr. A. M. Crawford; Secretary, Dr. A. Stanley Richmond; Treasurer, Dr. James H. Martin.

EDINBURGH ROYAL MATERNITY HOSPITAL.

The annual meeting of the Edinburgh Royal Maternity Hospital was held on May 19th; Lord Provost Hutchison presided, and among those present were Dr. T. G. Nasmyth, the newly elected Chairman of the Board of Directors, Emeritus Professor Sir Halliday Croom, Sir Ludovic J. Grant, Bt., and Sir Robert Maule. The report showed that the number of women delivered in the hospital, at their own homes, and at the Leith branch during 1921 was 2,770; this was 176 fewer than in 1920, but it was far above the total for any other year, and further the number of cases confined in the hospital itself showed an increase of about 100. The number (2,770) was about 30 per cent. of all the births in Edinburgh and Leith during 1921. The number of beds for mothers in the institution was now 93. The report further indicated increased attendances both at the antenatal clinics and in the venereal diseases department. The new cases at the antenatal clinics numbered 816 and the revisits 1,582; at the V.D. clinics the number of new cases was 138 and of revisits 1,053; and 150 deliveries had taken place in the V.D. department. The Lord Provost, in his speech, referred to these numbers and reminded the audience that the hospital rendered valuable service in connexion with the maternity and child welfare services conducted by the Public Health Committee of the Town Council and also in the treatment of venereal diseases, which was another development of municipal public health activity.

CHILD WELFARE INSTITUTE FOR SCOTLAND.

Reference was made in the JOURNAL of April 22nd (p. 658) to a conference held in Edinburgh in regard to the establishment of a child welfare institute for Scotland, for the establishment of which the trustees of the Carnegie United Kingdom Trust had offered £40,000. A draft constitution and scheme of organization presented at that conference provoked considerable discussion and criticism. Professor Munro Kerr of Glasgow said that he believed that it was not possible to conduct an institute of the kind on £1,500 a year, as had been said, and contribute anything to science. The other medical representatives who were present took no part in the discussion, which was mainly financial, but there was a free expression of opinion among them that the objects sought for in the institute might be obtained by a strengthening of existing resources. On May 17th a subcommittee of the Edinburgh Town Council considered a letter from the secretary of the Carnegie United Kingdom Trust stating that the trustees had come to the conclusion that the proposals submitted were not upon the lines which they contemplated when the offer of £40,000 was made; they were of opinion further that the financial prospects of the scheme submitted were far from satisfactory, and intimated that the original offer of £40,000 was now withdrawn.

ROYAL ALEXANDRA INFIRMARY, PAISLEY.

Large extensions are to be made to the Royal Alexandra Infirmary, Paisley, by the trustees of the late Mr. Peter Coats of Paisley, and it was stated at the recent annual meeting of the infirmary that the expenditure would amount to "several tens of thousands of pounds." The proposed extensions comprise six blocks of buildings, including three two-story blocks consisting of ward sisters' rooms, a block containing an electro-cardiograph department, another devoted to doctors' and nurses' dining-rooms, etc., and an important block containing two large electrical rooms, waiting-rooms, new operating theatre, and other accommodation; two new massage rooms are also to be arranged for separately.

CENTRAL MIDWIVES BOARD.

At the recent examination of the Central Midwives Board for Scotland, held simultaneously in Edinburgh, Glasgow, Dundee, and Aberdeen, there were 103 successful candidates out of 112 who submitted themselves for examination. At a special meeting of the Board for the hearing of penal cases three midwives were cited for various breaches of the rules, and were found to be generally incapable of carrying them out; their certificates were directed to be cancelled and their names removed from the roll. In the case of another midwife found guilty of breaches of the rules sentence was postponed for reports from the local supervising authority, at the end of three and six months respectively, regarding her conduct and methods of practice in the meantime. Failing satisfactory reports being received, her name was instructed *ipso facto* to be removed from the roll.

Correspondence.

STATISTICS OF PUBLIC HEALTH.

SIR,—In his interesting third Milroy lecture, published in your columns on May 13th, Dr. Greenwood attributes to me the opinion that the statistician's "place is in the propagandist rather than in the research department of the public health service."

It is always difficult to summarize another's opinion or argument without quotation, and on this occasion Dr. Greenwood has failed to express accurately my stated views, thus making it desirable to ask you to insert the following quotations from the American address to which he refers:

> "In their present stage of development in most communities vital statistics form an excellent servant but a bad master for the health officer. They have been invaluable in stimulating" [this may be by propaganda] "and in guiding public health effort, and especially in directing attention to the areas of excessive . . . mortality" [this is research followed by attempts at administrative control].

It is true that I then proceeded to warn against conclusions based on statistics of general and constitutional diseases in view of the imperfections and changes of medical certification, and added, "we need to bear in mind the necessary limitations of statistical inferences." I cannot, I assume, ask you to insert my entire paragraph on infant mortality from the *Journal of the American Statistical Association*, which Dr. Greenwood has not succeeded in summarizing accurately, but it appears necessary to quote the following extract from that paragraph:

> "Did we possess quantitative knowledge of the value of each factor influencing infantile health and disease, and were we able to measure the extent of action of each factor, it would be possible to assess the relative importance of each factor concerned in producing or preventing infantile sickness and mortality. But we usually cannot do this."

Apart from the last short sentence of this quotation, it appears to coincide with Dr. Greenwood's own views.

I welcome the opportunity to make this statement, as it gives me the occasion to emphasize the real burden of the remarks to which Dr. Greenwood alluded. Statistics can have no greater value than that of the data on which they are based, however skilfully they are used, and if statistics of dubious quality point in one direction and physiological and pathological knowledge in another, the health officer will have no doubt as to his right road. No one reading carefully my address will fail to appreciate the great importance attached in it to the intensive study of vital statistics for research in the hope of improving administration, and not primarily for publicity purposes.—I am, etc.,

Shalford, Surrey, May 15th. ARTHUR NEWSHOLME.

"ALASTRIM" OR "PARASMALLPOX."

SIR,—I thank Dr. Garrow for the courtesy of his letter which appeared in your issue of May 13th (p. 780). I am not sure, from a perusal of it, whether he considers "alastrim" a separate disease or merely a variant of small-pox. In the second paragraph of his letter he distinctly states that it is a separate entity, but in the last paragraph he seems to refute this, and suggests that the real nature of the disease is still in doubt.

An article by W. C. Rucker, M.D., of the United States Public Health Service, which appeared in the *Medical Officer* of January 28th, 1922, gives a lucid and succinct description of "alastrim." In that article the writer defines the disease as "an acute febrile, easily communicable disease, closely resembling small-pox, as a mitigated aberrant form of which, from a public health standpoint, it must be regarded." Again and again throughout the article the author reiterates his

conviction that the disease is merely a variant of small-pox; and when he comes to diagnosis he makes the significant statement: "From the viewpoint of public health, 'alastrim' should always be diagnosed as small-pox." Judging from the description given in the article, "alastrim" so closely resembles small-pox in all its clinical characteristics that to make a differential diagnosis between the two would be a matter of extreme difficulty.

In addition to this clinical similarity, the diseases are said to resemble each other in their reactions to vaccination. A note appended to Dr. Rucker's article gives the results of certain inoculation tests undertaken in the United States by Leake and Force, which seem to prove that the two diseases affect monkeys and rabbits in a manner entirely similar. The last paragraph of the note gives the conclusions of the two workers and reads as follows: "The fact that definite immunity to vaccinia is produced by previous inoculations with 'alastrim' is additional evidence of the essential identity of 'alastrim' with small-pox."

I cannot see that Dr. Garrow is entitled to draw an analogy between "alastrim" and paratyphoid fever, because whilst a definite etiology has been worked out for the latter, that of the former, as of small-pox, is still obscure.

With such conclusive evidence of the identity of the two diseases, there seems to be no good reason why we should continue to recognize "alastrim" as a separate disease and accord it a distinctive designation. The dictionary of medicine is sufficiently confounded already with names without adding others which are entirely superfluous. This is not a time for confusing issues; rather is it a time for clear thought and direct action, because knocking at the nation's door at this very moment is what may prove to be one of the most serious epidemics of small-pox which has ever assailed the population of these isles.—I am, etc.,

Leeds, May 17th. J. JOHNSTONE JERVIS.

ETIOLOGY AND TREATMENT OF DIABETES.

SIR,—Dr. Renshaw and Mr. Fairbrother appear to have missed the point of my criticism. In any investigation into intestinal fermentation it surely is of prime importance to take into consideration the dietetic history of patients and controls. These essential clinical facts are neglected by them. It is easy to show by an example how erroneous may be any conclusions formed by examination of the faeces alone. For example, if we feed tuberculous patients on raw meat we find that tapeworm infection is very common amongst them and tapeworms are recognized in the faeces. If now an observer discovered tapeworms in 60 per cent. of tuberculous patients and in no controls, would he be justified in suggesting to a learned profession that tapeworms were the cause of tuberculosis? Yet he would have just as good reason as your contributors have for assuming the etiological rôle of *B. amyloclasticus*. The necessity for detailed dietetic histories is emphasized by this example, because the tapeworms would persist, if untreated, long after the patient had resumed normal diet. Categorical statements without such details are of no value, and I suggest that it is very unscientific to omit them from the article in order not to obscure the "presentation of the more scientific details." The whole essence of scientific experiment is that the conditions are controlled. In this case it is evident that the conditions were not controlled as regards that most important item in intestinal fermentation—namely, diet.

This is an unfortunate divorce of clinical medicine from the laboratory. It only tends to increase the "big, booming, buzzing confusion" which surrounds the subject of diabetes, and which Allen claims, with justice, to have helped to dissipate. The other points raised are of minimal importance in view of the lack of control.—I am, etc.,

Sheffield, May 21st. A. E. BARNES.

SIR,—I have certainly not had the opportunity of seeing the results of fermentation *in vitro* of pure cultures of *B. amyloclasticus*, but I am quite ready to accept the statement made by Dr. Renshaw and Mr. Fairbrother, that certain intestinal organisms exercise beneficial restraining influences over the vigorous action of that bacillus. It is, I believe, owing to a deficiency of such organisms in the intestinal contents that they have been able to isolate *B. amyloclasticus* with comparative ease from the faeces of patients suffering from diabetes. This deficiency probably arises from the alterations in the digestive processes which occur in diabetes. It has long been an established fact that the character of the intestinal flora is largely dependent upon the nature of the food in health, and that in disease it is also modified by variations in the secretions of the alimentary tract and by the extent to which the digestion of various food materials is interfered with. The examinations I have made during the past fifteen years of hundreds of specimens of faeces from all types of glycosuria and diabetes have shown that definite chemical alterations in the intestinal contents occur which would account for the presence of an abnormal flora. Certain of these alterations are found in all cases of typical diabetes, and probably explain why a particular type of organism should be a constant feature; others occur only in certain types of glycosuria, but are characteristic of that type. At one time I carried out extensive bacteriological investigations on the faeces in diabetes and only abandoned the work when I satisfied myself that the variations from the normal that were found could be explained in the manner indicated.

Although it is true that Koch's postulates have not been satisfactorily complied with in every disease in which the etiological agent is known, failure has always been due to special conditions, and it has usually been only after repeated unsuccessful attempts that the agent in question has been accepted as the causative factor on overwhelming clinical and experimental evidence of other kinds. The mere fact that scientific proof is costly or laborious is hardly a valid excuse for no attempt being made to fulfil established conditions of research, and for the premature publication of incomplete observations. Had Dr. Renshaw and Mr. Fairbrother confined their paper to a statement of the facts they have observed, and been content to draw attention to the striking similarity of the substances produced by the fermentative activity of *B. amyloclasticus* to the abnormal products occurring in diabetes, no exception could have been taken to it; but when they proceeded to "cut the Gordian knot of diabetes" with an imperfectly tempered knife forged from a diminutive amount of material, and claimed to have solved at one blow a problem which has occupied the attention of numerous experienced observers and experimenters during the past half-century, it became necessary to ask for rigid proof of such a claim.

It is an easy way out of a difficulty to avoid the facts that do not fit in with one's preconceived views; but I think that if Dr. Renshaw and Mr. Fairbrother will "ruminate" upon the questions, which they have not attempted to answer, raised in my previous letter, and will also consider the evidence that diabetes is not a disease, but a symptom complex which can be produced in a variety of ways, they will realize that the problems of its etiology and treatment are not as simple as they appear to imagine.—I am, etc.,

London, W., May 20th. P. J. CAMMIDGE.

"SYMPTOMLESS HAEMATURIA."

SIR,—In Mr. Burgess's excellent lecture on symptomless haematuria, published in the JOURNAL of May 20th, there is one point upon which he touches about which it would be interesting to get further information. I refer to positive evidence on microscopic examination of the urine in cases of renal tumour. In what percentage may such evidence be expected?

In two cases recently under my care—one of a malignant papilloma of the renal pelvis, with a small secondary deposit in the cortex of the kidney, and the other of a carcinoma of the upper half of the kidney involving the pelvis—microscopic examination of the urine revealed the presence of groups of epithelial cells, presumably of neoplastic origin. In both these cases haematuria was the only symptom, and cystoscopic examination was the only means of determining the site of the lesion, no enlargement of the kidney being discernible even under an anaesthetic.

Can reliance be reasonably placed on the presence and character of such epithelial cells in the urine sufficient to justify (1) a positive diagnosis of tumour; (2) a diagnosis between a malignant tumour and a simple papilloma? If so, then in such a case when a diagnosis of malignant renal tumour has been made, although the kidney on inspection may reveal no confirmatory evidence, it is surely better to do a primary nephrectomy rather than a preliminary exploratory nephrotomy, with its attendant risk, slight though that may be, of implanting malignant cells in the tissues of the wound. —I am, etc.,

Norwich, May 22nd. A. J. BLAXLAND.

DETOXICATED VACCINES.

SIR,—I observe that Dr. David Thomson (p. 796) attributes the toxicity of "detoxicated" or residual vaccines to the presence of a small amount of "unaltered toxic germs."

A few months ago a certain commercial concern issued broadcast a pamphlet dealing with these vaccines in which they were pleased to notice my work and to seal it with their approval. The anonymous author then proceeded to state that it was easy to see why I had reported that toxic effects could be produced by these vaccines—the imperfection of my method of preparation allowed a small number of unaltered germs to escape detoxication. This admirable clarity of vision is not vouchsafed to us all.

Twelve months ago I published in this journal an account of the vaccines, and pointed out that many of the organisms do not dissolve but swell in an alkaline solution and contract in an acid, from which one may infer that water can pass through the cell membrane. Such being the case, it is absolutely certain that nascent oxygen can do so. The action of this last substance was described.

I also showed that a residual vaccine heated in the autoclave was every whit as potent as one which had not been heated—a fact which disposes of the contention that thermolabile substances such as toxins are present in an autoclaved vaccine, and necessitates a search in some other direction to find the cause of the toxicity. My method of sterilization is based upon this resistance to heat, and enables one to use the safe and certain method of steam under pressure—namely, fifteen minutes' exposure to a temperature of 120° C. If the "unaltered germ" theory of toxicity is correct it follows that many of the common non-sporing bacteria are unaffected by this degree of heat. The patent absurdity of this needs no elaboration.

There is ample evidence that many bacterial substances, other than exotoxins and endotoxins, are toxic, but there is none to show that the products of bacteria can produce immunity against the whole organism and be at the same time absolutely non-toxic. The fact that they may act as efficient antigens proves nothing. I never heard that cholesterolized heart muscle was either phophylactic or curative in syphilis.—I am, etc.,

Manchester, May 20th. C. E. JENKINS, M.R.C.S., L.R.C.P.

NITROUS OXIDE AND OXYGEN.

SIR,—Dr. Holme Henderson's paper on this subject read before the Scottish Society of Anaesthetists and reported in the JOURNAL of May 13th (p. 763) will, I trust, revive the enthusiasm which the success of this method of anaesthesia in France and at military hospitals at home provoked in 1917 and 1918.

The current misconceptions about nitrous oxide and oxygen as a general anaesthetic are mainly of two types. According to some surgeons it gives unconsciousness, but not the relaxation needed for most abdominal work; other operators say the same, but add that when it does it is merely when employed as a camouflage for ether or chloroform.

As an anaesthetist and a patient I venture to agree fully with Dr. Holme Henderson's conclusions—namely, that any case, even a gall bladder case, can be successfully anaesthetized with it, though, of course, occasional blowing over or through ethanesal may be needed. I can with emphasis bear testimony to the unpleasant after-effects of ether and the difference when I had nitrous oxide and oxygen with a little ether. My experiences are still vivid, so sympathy for all fellow creatures who may have to take an anaesthetic makes me urge its extended employment.

Figuratively, nitrous oxide and oxygen may be said to have got over the footlights, in spite of the spectre of want of relaxation, notwithstanding even, perhaps, the lack of skill of some of its early administrators. There is no doubt that even the wisdom of Solomon can be made to look like folly by the accident of failure.

As the writer of the paper says, a proper apparatus is needed, with sight feed and fine adjustment valves, so that there is absolute control of the amount of oxygen and gas and a means of at will blowing over or through jacketed ethanesal. Geoffrey Marshall's apparatus has the advantage of portability. I usually employ one I made in 1917; it was described in the *Lancet* of July 13th, 1918, and shown previous to that at the Royal Society of Medicine.

A preliminary narcotic of morphine and atropine, warming the gases, and bubbling over or through ethanesal adds greatly to the success; a very little of the latter is, as a rule, required. Of course the last word has not by any means been spoken: if the *plus* pressure theatre advocated by Dr. Leyton is provided, the good nature with which this method is now received will be absolutely without the slice of lemon that is noticeable among some of its unamiable critics.—I am, etc.,

CHARLES T. W. HIRSCH, M.R.C.S.,
Anaesthetist, Samaritan and other Hospitals.

London, S.W., May 15th.

THE GENERAL PRACTITIONER AND THE HOSPITALS REPORT.

SIR,—I am still unable to discover in the Hospitals Report a definition of the word "voluntary." In fairness to the Chairman of the Hospitals Committee I shall quote paras. 6 and 7.

"6. The Association records its belief that the voluntary method of administration of the voluntary hospitals of the country is to the advantage of the public, medical science, and the medical profession, and that it should be maintained."

"7. The Association maintains that the essence of the voluntary hospital system is the independent and voluntary management and that this is not necessarily related to the conditions of service of the medical staff."

Mr. Harman asks what is to be said to those who assert that these paragraphs are too definite, and I quite sympathize with him in his difficulty in answering these objectors.

It may be that more hangs or will hang on the interpretation of the word "voluntary" than is contemplated at the moment. For instance, what is to prevent an approved society or association of societies from opening a voluntary hospital for its members? After all, we are much more concerned with the conditions of service of the medical staffs, to which "it is not necessarily related."

With regard to contract practice Mr. Harman has entirely missed the point. It is not that hospitals will undertake the insurance risk of hospital benefit, but that the staffs will. Para. 22a states that—

"payments for tariff patients should be for work done based on a tariff of fees, making full allowance for . . . payment of medical staff."

May I ask what a typical tariff would be like? Would it, for instance, give varying fees for different operations or the fee per visit of the "honorary" physician? If it is a "work-done" tariff it certainly ought to, but I can hardly imagine that this will be the case. It does not matter, however, because para. 33 nullifies the tariff by stating that—

". . . a *percentage* of all such payments should be passed into a fund which is at the disposal of the honorary medical staff."

If this is not contract practice it is something worse. Mr. Harman meets my contention that contracts and tariffs are to be made by hospitals without consulting the staffs by saying that para. 39 provides for representation of the profession on the management. It does not. It merely says that it is desirable, and even if there were representation that is not enough. The British Medical Association exercises the right to approve or disapprove of remuneration in every other department of public practice and it most certainly should retain that right in this department.

Mr. Harman will forgive me for complaining that the bulk of my criticism is still unanswered, and for his and others' benefit I shall repeat it categorically.

1. The hospitals are to be no longer voluntary in the sense that they are entirely supported by voluntary contributions.
2. They will open their doors to persons with incomes up to £350 per annum, persons who can, either directly or by insurance, pay an adequate fee for treatment.
3. They may make financial arrangements with public bodies of all kinds for the services of the medical staff.
4. There is no provision for adequate remuneration for such services.
5. Patients may be admitted under financial arrangements who might as well be treated at home or in an institution which has not made a financial arrangement.
6. Free choice of doctor for tariff patients is not even considered.

I maintain that this scheme constitutes unfair competition with private practice, both general and specialist, and its adoption by the British Medical Association would be a grave blunder.—I am, etc.,

Bury, Lancs., May 21st. J. C. TURNBULL.

ASYLUM METHODS.

SIR,—In a recent article you published the recommendations made to the Board of Control by a subcommittee chosen from the members of the Quaker Medical Society. May I go a step farther back and recall the remarks recorded in the annual report of the said Board for the year 1920,

on an inquiry by three of the Commissioners in respect of allegations made concerning certain asylums by four attendants, and made public in the journal *The Friend* of May 28th, 1920? The inquiry took place on September 13th, 1920.

This investigation was perhaps unique as regards such inquiries in that the witnesses were not patients whose evidence could be brushed aside as "delusionary," but free and independent men who had had exceptional opportunities of becoming acquainted with the interior of asylums.

The allegations, as set out in the Board of Control report, were as follows:

1. That the medical attendance, supervision, and treatment were most inadequate; that the classification of patients was imperfect; that there was no segregation of tuberculous cases.
2. That the patients were not fed well.
3. That they were not clothed well; that there was a deficiency of overcoats; that the patients had to use for drying their faces and hands towels which had been used already by other patients; and that, on the Commissioner's visits, the best of everything in the way of towels and brushes were brought out.
4. That due respect and care were not bestowed on the bodies of patients dying in the institution.
5. That cold baths were given as punishment by the attendants without the knowledge of a doctor.
6. That on numerous occasions one of the witnesses had seen patients struck on the abdomen and kidneys.
7. That patients were unnecessarily placed in seclusion rooms and made to wear strong canvas suits.

The findings of the Commissioners were: That "the allegations were in part justified." The report of this interview concludes:

"The allegations and our inquiry served a useful purpose, for they brought to light certain deficiencies and undesirable practices."

In view of the seven allegations given in the Board's report as "in part justified," let us hope that the real facts of the position will be shortly elucidated in the only manner which can convey the full truth to the public—namely, by the appointment of a Royal Commission.—I am, etc.,

London, E., May 22nd. S. E. WHITE, M.B.

MEDICAL SOCIETY FOR THE STUDY OF VENEREAL DISEASES.

SIR,—We would draw the attention of the profession to a meeting to be held at 1, Wimpole Street, London, W.1, on Friday, June 9th, 1922, at 2.30 p.m., when it will be proposed that a "Medical Society for the Study of Venereal Diseases" be formed.

The number of those specially engaged on work in connexion with venereal diseases is ever increasing, and it is believed that the institution of a medical society for the study of venereal diseases would supply a widely felt need. Local divisions of the society will be formed and meetings will be held at which subjects of clinical, pathological, and administrative interest will be discussed. It is proposed to publish a journal if and when this is found to be practicable.

The society will doubtless attract medical practitioners engaged particularly in venereal diseases work, laboratory workers, and medical officers of health, but membership will be open to any medical practitioner who may be interested. While it is hoped that as many as possible of those interested will attend the meeting on the above date, it will be of assistance if those who contemplate becoming members of the society will communicate their intention now to the interim secretary.

The aim of the society—the uniting for the advancement of knowledge and the promotion of the common interests of those engaged in the study of venereal diseases—is one which we would cordially commend to the profession, and we would ask for it the wide measure of support which, in our opinion, it deserves.—We are, etc.,

HAROLD W. BARBER, C. H. BROWNING, J. C. BUCKLEY, E. T. BURKE, A. CAMBELL, E. R. T. CLARKSON, WILFRID FOX, A. MEARNS FRASER, L. W. HARRISON, MATTHEW HAY, FRANCIS S. KIDD, DAVID LEES, MARY LISTON, C. H. MILLS, A. LOUISE MCILROY, W. WYNDHAM POWELL, HENRY SEMON, ALEXR. MALCOLM SIMPSON, KENNETH WALKER, DAVID WATSON, ALEXANDER WILSON, FREDERICK P. WILSON, ROBERT FORGAN (interim secretary).

Middle Ward District Offices, 30, Renfield Street, Glasgow May 17th.

Obituary.

W. D. SPANTON, F.R.C.S.,

Consulting Surgeon, North Staffordshire Infirmary.

WE regret to announce the death, in his 82nd year, of Mr. William Dunnett Spanton, F.R.C.S., which took place on May 13th at Ripon Lodge, Hastings, where he had lived in retirement during the last few years. Mr. Spanton had had a busy and successful career as a surgeon in the Midlands, and he was an outstanding personality in the life of North Staffordshire for over half a century.

Mr. Spanton was born in September, 1840; he was the son of a schoolmaster, and was educated at Loughborough Grammar School and the Middlesex Hospital. In his autobiography, which, under the title of *The Story of My Life*, was published in 1920 (reviewed in our columns on July 16th, 1921, p. 78), Mr. Spanton gave some interesting reminiscences of his apprenticeship to a Loughborough surgeon in the late fifties, and of his life as a medical student in London in the early sixties. At the Middlesex Hospital, in his time, Alexander Shaw, Campbell de Morgan, Charles H. Moore, and Mitchell Henry were the surgeons, Alex. P. Stewart, S. J. Goodfellow, and H. Thompson the physicians, and Dr. Frere was physician-accoucheur; the latter, however, soon resigned, and Dr. Priestley (afterwards Sir William Priestley) took his place. Mr. Spanton lived for a time as assistant to a Dr. Brown of Clerkenwell, and there met Douglas Jerrold, G. A. Sala, and other men of note.

Mr. Spanton took the diploma of M.R.C.S.Eng. and the L.S.A. in 1862; he became F.R.C.S.Edin. in 1881, and F.R.C.S.Eng. in 1898. After serving as a house surgeon at Sheffield (where one of his experiences was the bursting of the Bradford reservoir) his long connexion with the Potteries began by his appointment in 1864 to be house-surgeon at the North Staffordshire Infirmary, Etruria. He was afterwards on the active honorary staff for thirty-four years; he resigned the post of surgeon and was appointed consulting surgeon in 1903. For many years he was the leading surgeon in North Staffordshire, where he was regarded as the doyen of his profession. Through his efforts many improvements were made in the buildings and in the organization of the North Staffordshire Infirmary, which brought it into a leading place among modern provincial hospitals.

He was a very old member and office-bearer of the British Medical Association, and for many years regularly attended its annual meetings. He was an energetic member of the Parliamentary Bills Committee of the Association, to which he was appointed in 1900, and was a member of Council from 1901 to 1908. For some years he was a member of the executive committee of the North Staffordshire Division; he was chairman of that Division in 1904 and president of the Staffordshire Branch in 1912. In 1908 he was vice-president of the Section of Obstetrics and Gynaecology at the annual meeting at Sheffield, and in 1911 he was vice-president of the Section of Surgery at Birmingham. As he showed in his autobiography, he had many pleasant memories of the annual meetings, and "often learned a good deal, met many friends, visited many delightful places under the pleasantest auspices; in short, always seemed to come back invigorated." Mr. Spanton enjoyed attending international medical congresses at home and abroad, and he made many holiday voyages to different parts of the world. He was the last president of the old British Gynaecological Society before it was amalgamated with the Royal Society of Medicine, and he contributed many articles, chiefly on gynaecological and surgical subjects, to this and other medical and scientific journals. Since 1892 he had been a justice of the peace for the county of Stafford, and he was president of the Staffordshire Nurses Institution, president of the North Staffordshire Field Club (which he founded), and consulting surgeon to Longton Hospital.

Mr. Spanton was an accomplished and distinguished surgeon, a man of many-sided culture, of impetuous disposition, but of a very kind and generous heart. He was married in 1867, but his wife and his three sons died some time ago; he is survived by his three daughters.

DUGALD CHARLES BREMNER, M.B., C.M.

DR. DUGALD CHARLES BREMNER, the surgeon of the *Egypt*, was the son of Dr. Bruce Allan Bremner of Edinburgh, and was born in 1869. He was educated at Craigmount School and Edinburgh University, graduating M.B., C.M. in 1892; he had been president of the Royal Medical Society, Edinburgh, and had held resident posts at Edinburgh Royal

Infirmary and the East Riding Asylum, Beverley. He was formerly in practice at Peebles, and was visiting physician to Peeblesshire Fever Hospital.

Dr. ARNOLD CHAPLIN, Medical Inspector to the P. and O. Company, writes: On behalf of the P. and O. Company I am requested to express their deep regret at the death of Dr. Bremner, the surgeon to the ss. *Egypt*, who lost his life in the disaster to that vessel on May 19th. Dr. Bremner joined the medical service of the company three years ago, after a distinguished career in the army during the war, where he held the rank of major. He soon proved himself to be exceptionally endowed with the qualities necessary for the successful performance of the duties of a medical officer on board ship. His promotion was rapid and in a very short time he was appointed to the *Egypt*, remaining there in medical charge until the ship was lost. His medical ability was considerable, and his high character as a man rendered him popular with all with whom he came into contact. He was one of the best medical officers the company has ever had, and the P. and O. Company desire to place on record their appreciation of his work while engaged in their service.

THERE has recently passed away in Lisburn, co. Antrim, Dr. GEORGE ST. GEORGE, a man with many outstanding characteristics and of great ability. For over fifty years he was surgeon to the County Antrim Infirmary, having served his apprenticeship there under the renowned surgeon Dr. Thompson, who was known to express very high commendation on the deftness and ability with which Dr. St. George performed his duties. His work at the infirmary during all these years was the chief interest and delight of his life. He achieved very remarkable surgical successes, and his powers of diagnosis were of a high order. His knowledge of prescribing and pharmacology was wide, and his quick resource in emergencies was often a means of saving life. His sense of duty was intense, and any cause to which he put his hand never failed to get his best. He held many other appointments, one of which was physician to the Thompson Memorial Home for Incurables, the inmates of which loved to see his cheery face and hear his laugh. He was recently mayor of the town of Lisburn, and was a member of its council nearly all his working life. He was much sought after in connexion with the social life of the town and neighbourhood, and was a faithful member of the local Branch of the British Medical Association and of the Ulster Medical Society, taking an active part in their management. Dr. St. George possessed deep religious principles, worshipping in the Protestant Cathedral, and was an ardent temperance advocate. In short, he was one of the old school of Christian gentlemen, an able physician and surgeon, and we leave him to the rest which he so nobly and faithfully earned.

THE death took place, on May 13th, of Dr. JOHN ROBERT JONES of Penrhyn Deudraeth, Merionethshire; he had recently undergone a serious operation. Dr. Jones received his medical education at Anderson College, Glasgow, and qualified with the diplomas of L.R.C.P., L.R.C.S.Edin., and L.R.F.P.S.Glas. in 1889. He was a justice of the peace for the county of Merionethshire, medical officer to the local infant welfare centre, and for thirty years had been medical officer to the Deudraeth district of the Festiniog Union. He was an old member of the British Medical Association. He is survived by his widow and two daughters.

WE regret to record the sudden death, on May 13th, of Dr. JOHN ALFRED LAYCOCK, of Sabden, near Blackburn, at the age of 61. Dr. Laycock received his medical education at Manchester, and qualified with the diploma of L.R.C.P.I. in 1885. He had been in practice at Sabden for some thirty-seven years, and had gained a high place in the esteem of the inhabitants by his genial personality and his generous patronage of all good causes in the district. He was a member of the parish council, a manager of the local council school, a great lover of music, and an antiquary of more than local reputation. He had long been a member of the British Medical Association.

WE regret to announce the death of Dr. BENJAMIN STRACHAN, which took place suddenly at his residence in Morningside, Edinburgh, on May 8th. Dr. Strachan was born in Fyvie, Aberdeenshire, in 1842, and in 1856 entered Marischal College, Aberdeen, where he graduated M.A. at the early age of 17. He then studied theology at St. Andrews and Glasgow, with the intention of becoming a missionary, but he altered his plans and began the study of medicine in Glasgow, where in 1877 he graduated M.B., C.M. In the following year he married the daughter of the late Dr. James Smith of Sunderland, and settled there in practice. Owing to the strain of heavy work he was obliged to retire from practice in 1898. His kindness, gentleness, and professional ability made him beloved and respected by all who came in contact with him. Dr. Strachan was a man of uncommon intellectual gifts and deep religious convictions. A profound Hebrew and Greek scholar, he remained a keen student to the end. He is survived by his widow, three sons, and three daughters.

IN giving an account of the funeral of Sir HENRY DAVY last week it ought to have been said that among the very large number of medical men present were all the members of the staff of the Devon and Exeter Hospital.

The Services.

ROYAL NAVAL MEDICAL SERVICE.

Gilbert Blane Medals.

THE Gold Medal founded by the late Sir Gilbert Blane, Bt., to be given biennially, is awarded by the Director-General of the Medical Department of the Navy and the Presidents of the Royal College of Physicians and the Royal College of Surgeons. The medal for this year has been awarded to Surgeon Commander Sidney W. Grimwade, O.B.E., M.B., he having obtained a first-class certificate at the examination held in February last for promotion to the rank of Surgeon Commander.

Three Blane medals which remained unadjudged owing to the absence of promotion examinations during the war have been awarded to Surgeon Commander Reginald St. G. S. Bond, M.B., F.R.C.S., M.R.C.P., D.P.H., Surgeon Commander Robert W. B. Hall, Surgeon Commander Sheldon F. Dudley, O.B.E., M.D., D.P.H., for the distinguished professional zeal and ability displayed by these officers throughout their service career.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

AT a congregation held on May 19th the Public Orator read an address which it is proposed to present to the Earl of Balfour, Chancellor of the University, conveying the Senate's appreciation of his work as British representative at the Washington Conference, and their congratulations on his appointment as a Knight of the Order of the Garter and on his elevation to the peerage.

The honorary degree of D.Sc. was conferred on Baron Anatole von Hugel, late Curator of the Museum of Archaeology and of Ethnology.

The following medical degrees were conferred:

M.D.—W. Thomas.
M.B., B.CH.—E. S. Orme, N. S. Hewitt.
M.B.—A. O. Courtis.

UNIVERSITY OF LONDON.

THE Bucknill Scholarship of the value of 135 guineas, and two Entrance Exhibitions of the value of 55 guineas each, tenable in the Faculty of Medical Sciences at University College, London, will be awarded on the results of an examination beginning on Tuesday, June 27th. Entry forms, which can be obtained from the Secretary of University College, Gower Street, W.C.1, must be sent in not later than June 6th.

ST. THOMAS'S HOSPITAL.

The following scholarships and prizes have been awarded for 1922: Peacock Scholarship, M. W. P. Hudson; Grainger Testimonial Prize, D. A. Davies; Hadden Prize, C. V. Patrick and C. P. R. Gibson (equal); Mead Medal, J. F. Hackwood; Toller Prize, J. F. Hackwood; Cheselden Medal, C. V. Patrick.

UNIVERSITY OF MANCHESTER.

THE University Court on May 17th resolved to confer the D.Sc. degree upon Professor H. B. Dixon. The Vice-Chancellor announced the approaching resignation of Professor H. R. Dean from the chair of Physiology and Professor Dixon from the chair of Chemistry.

In October next the fiftieth anniversary of the amalgamation of Owens College with the Manchester School of Medicine will be celebrated.

UNIVERSITY OF LIVERPOOL.

AT a congregation of the University of Liverpool held on May 19th the degree of D.Sc. (*honoris causa*) was conferred upon Sir Charles Sherrington, G.B.E., M.D., Waynflete Professor of Physiology in the University of Oxford and President of the Royal Society.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

AT the meeting of the College held on May 19th Lieutenant-Colonel Sir Joseph Fayrer, Bt., on behalf of the officers of the 2nd Scottish General Hospital, presented to the College a silver bowl as a memento and a permanent record of the services rendered by its Fellows during the great war.

The following having passed the requisite examinations were admitted Fellows:

H. N. Bethune, R. B. Boston, E. D. D. Dickson, May E. Glancey, L. W. Innes, D. A. Laird, S. F. Lee, D. A. Miller, K. P. R. Pillai, S. H. Pugh, T. H. Richmond, B. Thangamma, E. Watson-Williams, L. A. Wilson, Captain O. Wilson, I.M.S., J. M. Wishart.

The Bathgate Memorial Prize, consisting of bronze medal and microscope, has, after a competitive examination in Materia Medica, been awarded to Mrs. Grace Laubscher, and the Ivison Macadam Memorial Prize in Chemistry, consisting of bronze medal and set of books, has been awarded to Mr. D. B. Cruickshank.

Medical News.

SIR CLIFFORD ALLBUTT, Regius Professor of Physic, Cambridge, has been elected a Foreign Honorary Member of the American Academy of the Arts and Sciences (Boston, Mass.).

DR. GEORGE REID, O.B.E., who retired recently from the post of medical officer of health for Staffordshire (and who has been appointed consulting medical officer of health for that county), was the recipient on May 21st of a handsome presentation from the district medical officers of health in Staffordshire. Dr. Reid, who is a former President of the Staffordshire Branch of the British Medical Association and of the Society of Medical Officers of Health, was not only the first medical officer of health of Staffordshire, but the first county medical officer of health to be appointed in the kingdom. He is the author of the well-known textbook *Practical Sanitation*, now in its twentieth edition. During the war he served as a divisional sanitary officer, with the rank of Major R.A.M.C.(T.).

THE 196th dinner of the Edinburgh University Club of London was held at the Connaught Rooms on May 17th, with Lord Dunedin of Stenton in the chair, when among the members and guests present were the Spanish Ambassador, the Lord Chancellor, the Marquis of Dufferin, Lord Justice Atkin, Sir G. Lenthal Cheatle, Sir Henry Craik, Sir James Dundas Grant, Sir John Goodwin, Sir Robert Hill, Sir W. G. Macpherson, Dr. Nathan Raw, M.P., Sir Arthur Sloggett, Sir James Purves Stewart, and Sir John Thomson Walker. Lord Dunedin, in proposing the toast of "Alma Mater and the Edinburgh University Club of London," spoke of his own student days at Edinburgh when he was a member of the Speculative Society with Robert Louis Stevenson and Lord Guthrie. The toast of "The Guests" was proposed in an amusing speech by Dr. Walter Jagger. In response H.E. Señor Don Merry del Val made an eloquent plea for the study of Spanish literature at the Scottish Universities, where it was neglected; their countries had many resemblances, for on the hills of both blue-bonneted men played bagpipes, while their universities were alike in being democratic institutions. Lord Birkenhead and Dean Inge also responded. The health of the Chairman was proposed by Mr. Alexander Macmorran, K.C. Graduates of Edinburgh University who wish to join the club are invited to write to the honorary secretary, Dr. R. S. Frew, 73, Wimpole Street, W.1.

THE fifth lecture in the series of post-graduate lectures arranged by the Fellowship of Medicine will be given on Tuesday, May 30th, at 5 p.m., in the West Lecture Hall of the Royal Society of Medicine, 1, Wimpole Street, W., by Sir Arbuthnot Lane, on the subject of stasis. The lectures are open to members of the medical profession.

A CIRCULAR has been issued by the Minister of Health stating that he has decided to recognize as official certificates for the purpose of the Public Health (Foreign Meat) Regulations certain labels and marks (which are illustrated and described in the circular) issued by the governments of the United States of America and the Argentine Republic.

A PRESENTATION was made recently at Sheerness to Dr. George Aldridge, who has retired temporarily from practice. Dr. Aldridge was in practice at Sheerness since 1903, and was formerly part-time medical officer of health for the district; he held other public medical appointments and was the founder of the St. John Ambulance Brigade in Sheerness.

THE annual dinner of the Federation of Medical and Allied Services will be held at the Café Royal, Regent Street, London, W.1, on Wednesday, June 7th, at 7.15 p.m. Sir Berkeley Moynihan, the President, will take the chair, and Sir Alfred Mond, Minister of Health, and his predecessor, Dr. Addison, are expected to be present. Further particulars can be obtained from the Medical Director, 12, Stratford Place, London, W.1.

ON April 13th the retail business which the Society of Apothecaries of London has hitherto carried on at Apothecaries' Hall, Water Lane, E.C., was closed, and the society has handed over to the firm of Cooper, Son, and Co. the prescription books, formulae, and special preparations.

THE House and Library of the Royal Society of Medicine will be closed from Saturday, June 3rd, to Monday, June 5th, both days inclusive.

THE annual dinner of the Harveian Society of London will be held at the Café Royal on Thursday, June 15th, at 7.30 p.m.

THE annual general meeting of the Lebanon Hospital for Mental Diseases will be held at the rooms of the Royal Society of Medicine on Thursday, June 1st, at 4 p.m.

THE Harrogate Corporation has issued a handbook giving information for visitors in regard to the mineral waters and other attractions of the place. Copies may be obtained, free of charge, from the Publicity Manager, Royal Baths and Wells, Harrogate.

MR. W. HARRISON MARTINDALE, Ph.D., has prefixed to the new price list of the firm of W. Martindale a note in which he appeals to the profession to support British chemical and pharmaceutical industries. He states that the Safeguarding of Industries Act, 1921, though a step in the right direction, only attacks the merest fringe of the subject.

A MEETING of the International Council of Nurses opened in Copenhagen on May 22nd. The delegates, who were the guests of the Danish Council of Nurses, were welcomed by the President, Mrs. Kenny Tscherning. The Council was founded in 1899 by federation of the National Councils of Nurses of Great Britain and Ireland, the United States of America, and Germany, to which the National Associations of Canada, New Zealand, India, Holland, Denmark, and Finland have since affiliated.

A GROUP of American surgeons is to make a clinical tour to Europe this summer under the direction of Dr. James L. Smith of Chicago. They have arranged to spend three days in Liverpool (June 19th to 21st), three in Edinburgh, two in Leeds, and four in London. The party—the members of which will be accompanied by their families—will then proceed to the Hague, Paris, Switzerland, Italy, Tyrol, Bavaria, Dresden, and Berlin; they expect to reach New York on their return journey on August 26th.

THE Council of the Medical Officers of Schools Association has decided to suspend the issue of the journal, *School Hygiene*, until such time as the cost of printing falls. In order that members may be provided with the papers read before the association's meetings and be kept in touch with the subject of school hygiene, a yearbook will be issued at the end of 1922.

UNDER the auspices of the National Association for the Prevention of Infant Mortality and National Baby Week Councils a series of conferences on infant welfare will be held at Carnegie House, 117, Piccadilly, London, from Monday, July 3rd, to Wednesday, July 5th, culminating in a public meeting in the council chamber of the Caxton House, Westminster. Discussions will take place on "The position of the district nurse and midwife in relation to public health services in rural areas," "Rickets," "How far should treatment be undertaken at an infant welfare centre?" and other subjects. Arrangements will be made for conducted tours by motor car to a number of typical maternity and child welfare institutions of various kinds in London. Particulars and tickets may be had on application to the honorary secretary, Miss J. Halford, Carnegie House, 117, Piccadilly, W.1.

MESSRS. BAIRD AND TATLOCK have sent us a copy of the 1922 edition of their *Standard Catalogue (Vol. II) of Physiological, Histological, and Biochemical Apparatus and Instruments*; in it are included autoclaves, sterilizers, surgical instruments, polygraphs, sphygmomanometers, ophthalmoscopes, and other instruments, and models of the eye, brain, etc., for teaching purposes. The catalogue has been prepared, we are informed, with the help of a number of physiologists; it appears to be very comprehensive and it is well illustrated.

THE *Internationales Centralblatt für Laryngologie, Rhinologie und verwandte Wissenschaften*, founded by the late Sir Felix Semon in 1884, has ceased publication with the March number, and will reappear under the title of *Centralblatt für Hals- Nasen- und Ohren-heilkunde*. Dr. Georg Finder, who succeeded Sir Felix Semon in 1908, will continue to be editor of the new journal.

A BRONZE memorial tablet has been erected in an operating theatre dedicated to Dr. J. Marion Sims in the Woman's Hospital, New York. The inscription on the tablet reads as follows: "Sims Operating Theatre, dedicated to the memory of James Marion Sims, M.D., LL.D., 1813–1883, the Founder of the Woman's Hospital and of Modern Gynecology."

THE firm of John Bell and Croyden, Ltd., incorporating Arnold and Sons, have acquired the lease of No. 52, Wigmore Street, which adjoins the existing premises at 50 and 50A, Wigmore Street. It will be used as showrooms for hospital furniture, surgical instruments, orthopaedic appliances, and invalid furniture.

Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2630, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Mediscera, Westrand, London;* telephone, 2630, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin;* telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

"T. I. M.," who suffers from bronchitis and emphysema, has been advised to remove from Yorkshire to some place where the climate will not aggravate his condition. He asks for suggestions for a suitable place either at home or abroad.

TREATMENT OF CRAMP.

"A.E." suggests to "M.D.Edin." (BRITISH MEDICAL JOURNAL, p. 744, May 6th, 1922) that during the cramps every effort should be made to use the opposing muscles—for example, if the cramp be in the calf, try perseveringly to straighten the knee and dorsiflex the foot, and so on. Surely, he says, this is physiological and sound advice. "A.E." further remarks: Acting on this idea I have relieved abdominal spasms by trying to induce instant retching or vomiting by finger tip in the fauces. Unfortunately, when the pain has become intense, the reflex action of vomiting will not be induced. In that case drinking any harmless fluid in large quantity should be followed by a further effort at retching or vomiting. Aspirin often gives relief quickly. Probably "M.D." will find fomentations of sodium salicylate very useful for his joints.

INCOME TAX.

"F. T." is a medical officer in one of the Crown Colonies. He is returning to settle in practice in England, and will then be entitled to a gratuity of £1,000 and, further, four and a half months' pay, amounting to £360 odd, payable through the Crown Agents.

*** From the date of his return to the United Kingdom "F. T." will become a British resident for income-tax purposes, and we are of opinion that he would be liable to tax on the £360 as accruing after he takes up that status, whether it is paid into his own bank account or dealt with otherwise. As regards the gratuity, we should regard that as earned during his colonial service, and therefore as a receipt of capital, not income, so far as this country is concerned.

"H. W. G." inquires as to the replacement allowance for a car.

*** The only amount properly allowable is the amount spent on maintaining the professional equipment; where an improved type of car is purchased the expenditure covers something more than mere maintenance. We advise "H. W. G." to accept the figure of £350 for the purpose of the claim.

"CROSSENS" bought a new 15.9-h.p. car in 1914 for £290 and sold it for £250 in 1921, when he bought a new 20-h.p. car of the same make for £688; a 16-h.p. car of the same make would then have cost £663.

*** On the facts as stated the replacement cost allowable is £663 less £250—that is, £413.

'P."—The circumstances are briefly as follows: P and Q were in partnership on an equal-share basis, though Q's fees accounted for two-thirds of the cash receipts. Q died, and his share of the practice has been sold to R, and P and R now carry on their work as separate practitioners and are assessable as such. Our correspondent asks how the assessments should be based.

*** P and R are assessable on the basis of the average profits in the past three years earned in the practices as now constituted—that is, on the facts stated R's assessment would be twice that of P. The basis of the payment made by R is material as evidence of the share taken over, but is not conclusive; if he paid on a "half" basis for "two-thirds" of the practice he is not thereby entitled to say that necessarily he took over only one-half. We may add that if for any specific cause the profits of either P or Q fall short of the sum assessed an adjustment can be claimed at the end of the year of assessment.

LETTERS, NOTES, ETC.

THE "SALIVARY TEST" AS A ROUTINE.

DR. A. A. WARDEN (Paris) writes: I remember—now, alas! more than twenty-five years ago—that my chief, Sir Hector Cameron, once asked me, in one of his inimitable asides, if I knew the real translation of the phrase, γνῶθι σεαυτόν (know thyself), and on my answer in the negative, said, "Test your urine." The little jest has often come to my mind, but recently I have been wondering if a still more significant rendering might not be "Test your saliva." I am well aware that much research, though of little pathological value, has been spent on the chemical and bacteriological examination of the saliva, and I shall not weary your readers by references to the increasing amount of literature on the importance of pyorrhoea, pus pockets, and infection generally in the mouth as a causal factor in general systemic diseases—arthritis, gastro-intestinal affections, nephritis, etc. My object in this note is to ask why examination of the saliva is not as routine a procedure as that of any other body fluid. It is a simple matter to rinse the mouth thoroughly two hours or so after the last meal and then collect the saliva for the next thirty minutes or until the test tube contains from 10 to 20 c.cm. Mastication means traumatism, and the maximum amount of pus production appears about two hours later. Even a casual inspection will reveal, with surprising frequency and in mouths that seem models of the dentist's triumph in the shape of shining golden crowns and bridges and inlays, the presence of both blood and pus. For a generation the dentist has prided himself on his conservative work and his skill in salvaging dead teeth—now more and more regarded as dangerous sources of infection. A child's mouth free from caries, or an adult's with teeth and gums in good condition, should show, in 20 c.cm. of saliva, a precipitate in twenty-four hours of only a few centigrams of débris. In many mouths that appear clean such a test may well show several grams of yellowish white precipitate of red blood cells, leucocytes, food débris, mucus, and microbes. It is no easy matter to estimate the amount of pus present or to measure its pathological significance, but the naked-eye test alone—for the use of which I am indebted to my friend, Dr. Rodolfo Robles—is of great value.

DRUG ADDICTION.

DR. W. V. FURLONG (Dublin), in the course of a letter on this subject, writes: Your article on opium and cocaine consumption in the different countries of the world is very important, though of course we cannot do without these drugs when necessary, but the enormous amount used secretly shows that the number of drug takers in the world must be greatly on the increase. It is often a wonder to me that so many people who preach against the inordinate use of opium and cocaine should not include also in their condemnation tobacco and alcohol, which are equally pernicious drugs. There are a far greater number of people who exceed the safe limit in tobacco and alcohol than in any other drug known, and the effect of overdoses of either are much worse than opium or cocaine. Everyone in the medical world knows the effects of chronic nicotine poisoning on the arteries, heart, eyes, etc., and its pernicious effects upon every organ in the body, and still no effort has been made to stop this growing evil, although its victims must number fully 1000 for every one from opium or cocaine. Every doctor has daily to treat cases of atheroma, heart disease, amblyopia, etc., which frequently can be traced to the excessive use of tobacco. The effects of the excessive use of alcohol on the brain, liver, heart, and lungs are too well known by all doctors to require recapitulating here.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 28, 29, 32, 33, and 34 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 30 and 31.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *199*.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£ s. d.
Six lines and under	0 9 0
Each additional line	0 1 6
Whole single column (three columns to page) ...	7 10 0
Half single column	3 15 0
Half page	10 0 0
Whole page	20 0 0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

An Address
ON
DYSPEPSIA AND THE CONDITIONS UNDERLYING IT.*

BY
LORD DAWSON OF PENN, G.C.V.O., M.D., F.R.C.P.,
PHYSICIAN TO THE LONDON HOSPITAL.

THE term "dyspepsia" is not only consecrated by time but by usefulness. It denotes disturbances of digestion mainly referable to the stomach, and due to a variety of causes, some of which reside within and others without the stomach.

With extending knowledge these causes are becoming more clearly defined. Abdominal surgery has disclosed to us the part played by anatomical lesions of the stomach, duodenum, gall bladder, and appendix in the production of dyspepsia. In fact, if we take retrospect of clinical diagnosis we are compelled to confess that our errors have been those of both omission and commission, for on the one hand many dyspepsias thought to be functional have been shown to have a structural basis, and on the other a large clinical group which was formerly styled "gastric ulcer" is now known to be associated with no such demonstrable lesion. The pain after food relieved by vomiting with epigastric tenderness and occasional haematemesis, so often complained of in out-patient departments and surgeries, the subjects usually being young females, was at one time diagnosed as due to gastric ulcer, whereas such a lesion is in these cases the exception rather than the rule. We must look rather for the explanation of such symptoms to chronic catarrh of the stomach associated with infections of teeth, gums, tonsils, sinuses, appendix, or colon. True the infective factor does not stand alone, for stasis in the colon will impair the motor and possibly the secretory functions of the stomach, as will also a sedentary life and badly ventilated workrooms. We know but little of the workings of these infections, but they show the inter-dependence of the different regions of the alimentary tract.

The physicians of past days—and they were penetrating observers—used to speak of the proneness of typhlitis to occur in patients liable to attacks of tonsillitis, and the association of appendicitis with infected tonsils may be observed with equal frequency to-day. Some years ago I urged the importance of the infective factor in gastro-intestinal disease,[1] and described cases in which the same type of streptococcus had been isolated from the tonsils, stomach, and appendix of the same patient. Further, an interesting report has been published[2] of an epidemic of severe tonsillitis in a school in which a proportion of the cases developed acute appendicitis. Probably it was a strepto-coccal infection.

The teeth, gums, and tonsils have been receiving much attention on account of the part infections of these structures are thought to play in the causation of conditions so varied as gastritis, appendicitis, cholecystitis, tonsillitis, arthritis, pyelonephritis, and anaemia. Whereas for years William Hunter and others were as those crying in the wilderness urging the significance of the septic mouth, now opinion has swung the other way, and teeth are removed with a lightheartedness that calls for protest. No one denies that a septic mouth is a potent cause of gastro-intestinal disease, and in the severer forms of mouth infection teeth have, so to speak, been removed on their obvious demerits; but in a number of cases teeth not grossly or obviously diseased are removed, and when, as sometimes happens, this sacrifice is followed by no amelioration of symptoms one is driven to inquire whether the last state of the patient is not worse than the first—a view that the victim himself is apt to share. The justification for such procedure lies in the dramatic relief from illness and improvement in health which sometimes follows the sacrifice of teeth. The difficulty lies in our inability to state with confidence that, in a given case, sepsis of the jaws is *the* cause. Dental and alveolar infection which in one patient is producing definite morbid results, in another is without apparent ill effects. Escape from this clinical quandary has yet to be found. Recent work by Rosenow and others may help towards it.[3] These investigations show that focal infections such as those of teeth and gums have a specificity as regards the lesions they produce.† Thus if, in a given patient, tooth or tonsil infection is producing gastric ulcer, or appendicitis, or both; and if, say, cultivations from this tooth or tonsil are made in glucose brain broth; and if, again, from this culture a rabbit is inoculated intravenously, at the end of a few days this rabbit will show gastric ulceration and inflammation of the appendix due to the same organism—in short, the lesion has bred true from the patient to the rabbit. If these ingenious investigations receive confirmation the actual responsibility of mouth infection in any given case might be determined, and treatment become more rational and secure.

Again, in dyspepsias directly caused by a diseased appendix and cured by its removal, the distal portion of such an appendix may be a definitely infective focus as shown by its walls and contents. Though sometimes presenting themselves in capricious guise, dyspepsias in their clinical manifestations broadly fall into three groups:

I. Pain or discomfort thirty to forty minutes after food with epigastric tenderness. Vomiting, if present, follows the pain and relieves it. Haematemesis is an occasional feature.

II. Pain two to three hours after meals (it may be with tenderness) relieved by food and alkalis—the hyperchlorhydria complex.

III. Distension and flatulence are the dominant features, and the discomforts which go with them. Vomiting and bleeding do not occur. The bowels are liable to act irregularly and incompletely.

With regard to these groups of symptoms, each of them may be associated with a structural lesion, and at other times no such demonstrable lesion is present.

The typical lesion that is suggested by the first group is gastric ulcer, by the second group duodenal ulcer, and by the third group a diseased gall bladder, and all three groups may be associated with a diseased appendix.

GROUP I.

The first group has a large representation among young women, whose pale and sallow complexions, due to anaemia and constipation, one readily recalls. It is these patients who formerly swelled the statistics of gastric ulcer and accounted for the mistaken view that gastric ulcer was easily curable by rest and milk diet. The reason why the results were so good was because the patients were not suffering from ulcer. No doubt a few have ulcer and more a diseased appendix, but the majority have no anatomical lesion, and their symptoms are due to a non-functioning colon, to faulty liver metabolism and (possibly as a consequence) excretion of toxic products into the stomach; or, in other cases, to infection from gums, pharynx, or tonsils. May I say in passing that, apart from any necessary local treatment, these cases are a strong plea for the open-air ward. They do not do well in town hospitals, but recover as if by magic with rest and graduated exercise in the open air. They bring to our minds not only the unsatisfactory results, but the economic waste of treating many diseases in expensive town hospitals, from which the patients should be transferred to the country as soon as the diagnosis has been established.

A clinical picture conforming to Group I may present considerable difficulty in diagnosis, and to this I will recur later; and here arises the significance of haematemesis. It has been shown conclusively that bleeding from the stomach does not necessarily denote any demonstrable lesion. Considerable haemorrhage may have one or several points of origin: in some instances erosions may be observed, in others not even these. The same phenomenon is observed in the uterus. On the other hand, bleeding originating in the duodenum is nearly always associated with an anatomical lesion.

A few words on the treatment of *severe* haematemesis. The difficulty of saying whether there is an anatomical lesion, and if there is such the considerable operation needed to deal with it, the bloodless patient, the dilemma either of moving him or of operating in unfavourable surroundings, combine to present us with a perplexing problem. Exceptions apart, there is a better prospect with absolute rest, morphine, an icebag, and haemostatic serum.

GROUP II.

Hyperchlorhydria may be due to many causes. It is associated with duodenal ulcer, and less pronouncedly with gastric ulcer. It is caused by lesions of the appendix and of the colon, and by functional disturbance of the latter. It may have a central origin and be the expression of overwork and the anxiety of the highly strung temperament, or it may fall into the category which is called "gouty."

* Delivered before the North Staffordshire Medical Society.
† It may be that sympathetic ophthalmia is similarly explained.

Contrasted with the other two groups a larger proportion of the cases (hyperchlorhydria complex) will have a structural basis, and if a diagnosis of functional disorder is made it will need to be periodically passed under review. Moreover, the picture of duodenal ulcer is in its entirety well defined.

GROUP III.

Cases comprised in Group III, in which distension and flatulence are the prominent features, are the most difficult to sift because the symptoms are manifestations of such a variety of conditions. Thus "fatigue" dyspepsia, the abdomen over-responsive to mental stress and strain, colitis, myocardial insufficiency, anaemias, hyperthyroidism, may show similar gastric manifestations. Side by side with these are the diseased appendix or gall bladder, which if removed would cure the patient.

No doubt careful investigation often enables correct discrimination to be made, but it must be confessed that not infrequently the evidence is too vague for us to be confident in our diagnosis, and removal of the appendix under such conditions sometimes results in disappointment.

In those doubtful cases in which there is no direct evidence of appendix disease let me suggest that the more purely gastric the manifestations the better the chance of success from operation, whereas the association of disturbed action of the colon and the passing of mucus should suggest doubt as to the wisdom of surgical interference.

Appendicitis Mimicking Gastric Disease.

A diseased appendix may be the underlying cause of any of the above three groups of symptoms, and it will sometimes mimic with extraordinary accuracy the picture of gastric and duodenal ulcer. The distinctive features of the clinical picture of ulcer, and especially of the duodenum, are orderliness and periodicity. The time relation of the pain-food sequence is constant, and, except in cases of long standing, there is complete freedom from symptoms between the attacks, which will sometimes come and go with suddenness and without reason. On the other hand, in the hyperchlorhydria complex due to a diseased appendix the time of occurrences of pain after food will be more variable, and between attacks there is seldom complete freedom from symptoms—the patient is usually more or less of a dyspeptic.

Turning to the way in which a diseased appendix sets up gastric symptoms, there would appear to be two factors —namely, the reflex interference with gastric function, and infection. An examp'e of the former is to be seen with the fibrotic appendix, the lumen of which is more or less obliterated; an example of the latter is an appendix which, a short distance from its proximal attachment, becomes enlarged, and it may be bulbous, its mucous membrane thickened, and the contents purulent.

The fibrotic appendix is often found in the cases which resemble the ulcer picture. Keith and others have demonstrated the correlation of function of the ileo-caecal and pyloric regions. Moynihan pointed out that in chronic disease of the appendix the pyloric region of the stomach, including the sphincter, may be seen at an operation to be in a state of spasmodic contraction. The appendix, through the nerve mechanism of the ileo-caecal region, causes an excessive secretion of hydrochloric acid and motor irritability of the stomach wall. What the further or underlying agency is that causes ulcer to form we do not know. In the opinion of some investigators, it is a focal streptococcal infection.

Radiography.

With the acknowledgement of certain difficulties in diagnosis from clinical evidence alone it will be well to consider how far investigation by radiography and test meals will aid us in the types of cases just described.

We gain from radiography knowledge of the character and speed of gastro-intestinal movements and sometimes actual demonstration of pathological changes. These movements will, in a measure, depend on the substance employed. Thus barium sulphate, often used on account of its moderate cost, stimulates stomach action, whereas bismuth compounds rather retard it, with the result that barium leaves the stomach nearly twice as fast under like conditions as bismuth. It likewise travels more quickly through the small intestine, but in the large intestine the times are the same.

The following time-table of a barium meal is based on Groedel's observations of the normal stomach with a meal consisting of barium sulphate 250 grams, maize flour 20 grams, sugar 20 grams, chocolate or cocoa 20 grams, water 400 c.cm. The times are approximate; emptying of the stomach varies with the composition of the meal.

Stomach empties	1½—2 hrs.
Caecum reached	1 —1½ ,,
Hepatic flexure reached	2 —6 ,,
Splenic flexure reached	4 —8 ,,
Rectum reached	24 hrs.

or

1 hour after a meal: Stomach emptying; small intestine visible; caecum may have begun to fill.
2 to 2½ hours: Stomach empty; caecum filled.
4 hours: Small intestine empty; ascending colon filled.
10 hours: Large gut filled to splenic flexure.
24 hours: Large gut filled to rectum.

The normal stomach may show variations in *shape*, *position*, and *size*. The shapes vary according to the muscular tone—namely, orthotonic, hypertonic, hypotonic, atonic. A stomach of normal tone holds up a considerable column of contents in its vertical portion. With less tone the vertical portion holds up proportionately less and the horizontal portion more of the meal.

The cap—formed by the distended first part of the duodenum—has in health a characteristic shape and smooth outline, and a defect in shape and outline is evidence, though not conclusive evidence, in favour of a pathological condition, such as ulcer, adhesions (for example, from cholecystitis), or pressure from an adjacent organ. On the other hand, a normal cap is evidence of value—it is, for example, against the existence of a chronic ulcer.

An opaque meal may give direct demonstration of an ulcer, fragments of bismuth being projected from the main bismuth shadow into the depression or crater of an ulcer. This method of investigation in the hands of those who have developed the requisite technical skill possesses a great and increasing reliability. As illustrating this, in one of my cases a duodenal ulcer had been diagnosed on clinical grounds. Dr. Vilvandre, from the bismuth shadows, expressed the opinion that there was not only a duodenal ulcer but a further ulcer near the lesser curvature, and this view was confirmed at operation.

An opaque meal may likewise give direct evidence of a growth owing to a deficiency of the shadow or a raggedness of edge. Such appearances would, however, portray a growth of some standing. With an early stage of growth radiography seldom helps, and its negative conclusions must not be allowed to give us false security or deter us from action.

Motility is conveniently considered with the emptying time of the stomach: under normal conditions it is about one and a half to two hours for a barium meal. In digestion the time of emptying depends on the substance swallowed. Thus with water it would be about an hour; with light gruel two and a half hours; with full milk four hours, skimmed milk two and a half hours. Fats always delay emptying. Delayed emptying may result from pyloric obstruction, either of the spasmodic or organic type, and from weak motility, which may have its cause in the stomach wall (atony) or be associated with disease of appendix, colon, or gall bladder, or, again, with heart and other diseases.

Rapid emptying may be due to irritation from acute gastric catarrh, from ulcer or early growth of stomach, from ulcer of duodenum, from certain cases of chronic appendix, hyperchlorhydria, disease of colon, hyperthyroidism, and irritability due to nerve strain, etc. It is thus seen that inferences from rapid emptying must be made with caution.

A chronic appendix with the dyspeptic manifestations conforming to Groups I and III described above would most often be associated with delayed emptying, whereas as regards Group II the emptying would be accelerated. Often hyperchlorhydria has a tendency to acclerate and an associated spasm of the pylorus to delay emptying. As regards duodenal ulcer, emptying may be hurried in some cases and not in others.

Tenderness on palpation over the stomach and duodenum during radiographic examination may easily be misleading.

Test Meals.

The technique of test meals has been improved by enabling the contents of the stomach to be analysed at intervals during digestion instead of only once—for example, an hour after ingestion.

An adaptation of the Einhorn tube is employed. The patient swallows this into an empty stomach. By means of a syringe samples can be withdrawn. The fasting contents are first examined, then the patient swallows, with the tube in position, one pint of a thin test gruel, and samples of the contents are withdrawn at intervals of a quarter of an hour

and examined, and their free and total acidity determined in terms of a decinormal soda solution, and charted. The presence of pepsin, mucus, bile, and blood, the time of their appearance and disappearance, and the time of emptying of the stomach can be recorded.[4]

If it is desired to investigate the stomach bacteriologically the fasting content can be examined in films and by culture. Cases comprised under Group II least often, and those under Group III most often, disclose positive results.

To examine the duodenal contents the patient lies on the right side as soon as the tube has entered the fasting stomach, and in due course the tube will enter the duodenum, which can be established by the fluid becoming alkaline and by *x*-ray examination. Also a certain grip is felt when the tube is in the duodenum.

The normal stomach shows on average a maximum free acidity of 30 (0.109) and a total acidity of 50 (0.182). In contrast with this a duodenal ulcer may give a free acidity of 70 or more, and a total acidity of 80 or 90; an acidity which is associated with rapid emptying—say in an hour—is less sustained than an acidity which is associated with emptying in two and a half hours. On the other hand, there is the absence of free acid and the low total acidity (10 to 30) found in malignant growths, pernicious anaemia, and other conditions.

Malignant Disease of the Stomach.

When it is recalled how large a proportion of cancers arise in the stomach (according to some authorities 50 per cent.), and when it is realized that operative treatment of stomach cancer in its early stage is followed by encouraging results, the importance of the recognition of this condition is patent.

In its early stages the manifestations are vague, and there may be an entire absence of symptom or sign till the disease has advanced so considerably as to be incapable of effective treatment. It follows, therefore, that close attention needs to be paid to ill-defined dyspeptic symptoms, and especially in people whose digestions have hitherto been strong. Constant watch and systematic investigation should be the rule. And in patients whose general health is deteriorating a systematic search for the cause should include an investigation of the stomach even though gastric manifestations may be absent.

Well-defined pain is seldom an early feature, and here is a distinction from ulcer. There are often distension and discomfort, but not often pain. Even later there may be a considerable infiltration of the stomach with growth, and yet but little pain.

Vomiting is seldom an early sign, though it may be one of the first signs of a pyloric cancer. Haematemesis may be the first intimation that anything is wrong, though in such cases the growth is seldom found to be early. A tumour that can be clinically detected must never be expected.

A dilated stomach may be the first though not an early sign. Loss of appetite is valuable evidence, and sometimes occurs early, though in other cases a good appetite endures till late in the disease.

Anaemia may attract attention and be a feature of vaguely declining health, and the similarity between the manifestations of malignant disease of the stomach and those of pernicious anaemia are well known. There is often, too, a depression and gloominess of outlook which are suggestive.

A physician rightly puts reliance on his intuition in these doubtful cases, and is thus prompted to proceed to further investigation. The examination of fasting contents, of a test meal in the manner already referred to, the search for occult blood, will afford evidence of value.

As already stated, radiography must not be expected to yield positive assistance in the diagnosis of early stages of malignant growth, unless the latter begins as an ulcer. Perhaps when it becomes practicable to study radiograms serially at short intervals, earlier detection may become possible. If, however, an early growth is situated at the pylorus, radiography may afford evidence of its effects. At a later stage growth near the pylorus may cause a defect in the filling of bismuth. The defect may be annular in shape and appearance, or the growth may cause a "biting out" of the bismuth and an irregularity of its outline.

In this kind of investigation bismuth is better than barium because it stays for a longer time in the stomach and is not stimulating to the movements of the latter.

If the results of the foregoing investigations, carefully considered, lead to the conclusion or even the suspicion that malignant disease may be present exploration should be advised, and although this line of action sometimes will lead to negative results and unnecessary operations, this is of far less importance than the missing of an early carcinoma in a situation where removal can offer favourable prospects.

References.

[1] Dawson: The Microbic Factor in Gastro-intestinal Disease and its Treatment, *Lancet*, April, 1911. [2] Hasse: Ueber eine Edemie von Appendizitis, *Muench. med. Woch.*, 1910, p. 1123. [3] Rosenow, E. C.: (*a*) Focal Infection and Elective Localization of Bacteria in Appendicitis, Ulcer of the Stomach, Cholecystitis, and Pancreatitis, *Journ. of Surg., Gyn., and Obstet.*, July, 1921; (*b*) Studies on Elective Localization, Focal Infection with Special Reference to Oral Sepsis, *Journ. of Dental Research*, September, 1919. Bumpus, H. C., and Meisser, J. D.: *Focal Infection and Selective Localization of Streptococci in Pyelonephritis.* [4] Ryle, John A.: Investigation of Gastric Function by Means of the Fractional Test Meal, *Lancet*, September, 1920. Hunter, D.: *The Fractional Test Meal in Gastro-intestinal Disease*, London University Library, May, 1922.

EFFECTS OF CHRONIC STARVATION DURING THE SIEGE OF KUT.

BY

MAJOR-GENERAL SIR PATRICK HEHIR, K.C.I.E., C.B., C.M.G., I.M.S.,

LATE A.D.M.S. 6TH (POONA) DIVISION.

THE siege of Kut lasted 148 days, from December 4th, 1915, to April 29th, 1916. The besieged garrison consisted of the 6th (Poona) Division, supplemented by various details. The strength on December 8th, 1915, was 14,586; this included British officers 218, British rank and file 2,534, Indian officers 175, Indian rank and file 8,117, followers 3,542. Of this number 1,508 were sick and wounded in hospital.

The following notes were prepared with the view to placing on record the state of nutrition and general health of the Kut force during the penultimate week of the siege—April 11th to 18th, 1916; they were completed and submitted to the G.O.C., Major-General Sir Charles Townshend, K.C.B., D.S.O., on April 28th, the day before the capitulation. They are published now for the first time. As may be understood I was not in a condition of health and strength to take full advantage of the material at my disposal; even this meagre record called for some effort of will. The siege afforded opportunities for studying the morbid state of the body brought about by long-continued deprivation of an adequate quantity of suitable food which seldom present themselves; it would have been almost criminal to have disregarded them.

During 1915 the 6th (Poona) Division experienced severe hot weather and an epidemic of malaria in Lower Mesopotamia, and immediately before the siege underwent great physical strain and exceptional hardships on the march to the battle of Ctesiphon, during the battle (November 22nd to 24th, 1915), and in the retirement from Ctesiphon to Kut, where they arrived in a worn-out state on December 3rd, 1915. During the early days of the siege the preparation of the defence works threw a considerable amount of labour on the troops. It was in the circumstances considered advisable to let them build up part of their tissue losses for a week or so before beginning to reduce their rations; this reduction was then made gradually. Most of the garrison were in trenches and dug-outs; the remainder were billeted in huts or bivouacked, or were in tents with the floors sunk several feet.

Meteorological Conditions.—During the months of December and January and the first half of February it was decidedly cold; from January 15th to February 8th it froze every night. The ill effects of the cold were intensified by high winds and rain storms. From January 17th to 20th the trenches were flooded with ice-cold water. On January 20th twenty-four Indians were brought out of the front trenches collapsed from the cold, and were resuscitated with much difficulty; five others were found to be dead—cold and stiff. After the middle of February warmer weather set in.

The Rations of the Kut Garrison.

To grasp the state of nutrition of the garrison towards the end of the siege it would be well to bear in mind the usual classification of foodstuffs, the physiological bases upon which rations for bodies of men such as soldiers are formulated, and the functions carried out by each class. The rations of the British soldier in Mesopotamia before the siege had a heat equivalent of 3,600 calories, that of the Indian 3,100 calories.

The Protein Factor.—British troops did comparatively well as regards their protein ration during the siege. When fresh beef and bouilli were exhausted they were given 1 lb. of horseflesh, which was increased to 1¼ lb., next to 1½ lb., and then to 1¾ lb., but finally reduced to 1½ lb. again. While the ration of bread was not below 10 oz. and the butter and bacon continued, this amount of horseflesh prevented any rapid loss

of weight and stamina, but when the loaf was reduced to 8 oz. and all butter and bacon ceased, they began to lose flesh and condition rapidly—the oxidizable material in the bread and horseflesh combined was insufficient, and they started using part of the protein of their muscles for the production of force and maintenance of the temperature of the body. In Indians, except those who had eaten horseflesh from the beginning, the muscles began to waste rapidly as soon as *ghi* underwent a serious reduction, and in all except those who were highly developed physically at the beginning of the siege the muscles dwindled considerably.

The Hydrocarbon Factor.—From a physiological point of view the most serious deprivation suffered by British troops was the absence of hydrocarbons. Bacon and butter failed at a comparatively early stage of the siege. In ordinary circumstances this would have been to some extent compensated for by the large ration of horseflesh allowed, and at the beginning this was so, but during the last ten weeks of the siege the animals themselves were in such a state of starvation that no fat remained in their tissues. They could not go out to graze, as we were within gun and rifle range of the enemy on three sides. From about the end of March British troops were definitely in a state of partial starvation, and were losing ground daily; they were lacking in energy, debilitated, and incapable of any serious strain. The Indian troops received a progressively reduced ration of *ghi*, which was only 1 oz. daily from March 11th, and ceased altogether early in April. Until the second week in April only about one-ninth of the Indians were eating horseflesh, so that the small amount of fat obtained from this source is almost negligible. Indian troops had by that time reached an advanced stage of chronic starvation; their energies were markedly reduced, they were debilitated, less capable than the British of any severe physical strain, and they possessed little resistance to disease.

The early stage of the siege at which the fats and carbohydrates of the rations of British troops and Indians had to be reduced soon led to a loss in body weight, which was naturally to a large extent at the expense of the adipose tissue of the body. There were some men who began the siege in a highly muscular state and with a fair covering of fat, who did not show any serious signs of diminution in bulk, but in the vast majority it may be stated that a large part of their body fat had been burnt up by April 15th; many British troops were decidedly attenuated, especially among the younger men, while about 10 per cent. of Indian troops and followers were really emaciated.

The Carbohydrate Factor.—The greatly reduced ration of the garrison in carbohydrates (the average reduction of bread in British troops during the five months of the siege was 50 per cent., and of the *atta* of Indian troops 66 per cent.; during the last six weeks neither sugar, *gur*, butter, nor *ghi* was available) led to the removal of nearly all glycogen from the liver and muscles, so that the amount of stored material readily assimilable in the tissues for energy and heat production during the penultimate fortnight of the siege was at a minimum. This fact was demonstrated by the ease with which the men became fatigued, their inclination to remain at complete rest whenever opportunity offered, and the speed with which they collapsed, with a marked subnormal temperature, when they had the misfortune to get an attack of diarrhoea or any other malady causing a drain on the system. It likewise helped to explain how difficult it was to restore the heat of the body once it was lost. British troops especially felt the want of more bread, which forms a large part of their food normally; they also had urgent cravings for fats and sugar; there was a very marked yearning for tea. In the same way Indians had a great longing for more *chuppatties* and *gur*.

Inorganic Salts.—Shortage of salt in the rations of both British and Indian troops and followers began about the middle of the siege, after which time the salt issue underwent great reduction, the troops receiving only about one-eighth the normal ration. Early in April it ceased altogether except for a small issue made for a few days from some bags of salt that were dropped into Kut by aeroplanes. I was not able to gauge satisfactorily the extent to which this deprivation affected the nutrition and health of the troops. It is possible that some of the cases of diarrhoea and gastro-intestinal disturbance that prevailed during the last two months of the siege were partly attributable to a want of sufficient salt in the food.

It is well to bear in mind the very important differences between acute starvation, in which there is complete and sudden deprivation of all food, and chronic starvation such as we went through, in which there is continuous use of an insufficient supply of food of a kind unsuitable to maintain the normal standard of nutrition. In acute starvation until death actually happens it is possible to restore the victim to health and strength once more by an appropriate regimen; in chronic starvation a stage is eventually reached, sometimes weeks before death, from which recovery is impossible.

The following lists give the quantities of the various articles of diet used by the Kut garrison, and show the progressive reduction of some and disappearance of most of them from the rations in the penultimate and final stages of the siege.

Tables of Rations issued during the Siege.

On January 22nd, 1916, and for some weeks after, the rations consisted of:

British Troops.		*Indian Troops and Followers.*	
Bread, white	12 oz.	Atta	8 oz.
Meat	8 ,,	Rice	8 ,,
Butter or cheese	3 ,,	Gur	¼ ,,
Potato meal	2 ,,	Ghi	2 ,,
Pickles	1 ,,	Ginger	½ ,,
Jam	3 ,,	Dhall (lentils)	2 ,,
Dates	2 ,,	Chillies	⅛ ,,
Tea	⅓ ,,	Garlic	⅛ ,,
Sugar	½ ,,	Dates	3 ,,
Salt	½ ,,	Potato meal	2 ,,
Ginger	⅓ ,,	Salt	¼ ,,
Fuel	2 lb.	Fuel	1 lb.

On March 11th, and for some weeks afterwards, the rations consisted of:

British Troops.		*Indian Troops and Followers.*	
Brown bread	10 oz.	Barley flour	10 oz.
Horseflesh	1¼ lb.	Barley, unhusked	4 ,,
Jam	1 oz.	Ghi	1 ,,
Salt	¼ ,,	Salt	¼ ,,
Oatmeal	2 ,,	Horseflesh (to those who eat it)	8 ,,

This British diet is equivalent to 1,975 and the Indian to 1,550 calories. Up to April 12th the heat equivalent of the Indian rations in non-meat eaters was:

Barley flour	10 oz.	700 calories.
Barley, unhusked and parched	4 ,,	240 ,,
Ghi	1 ,,	65 ,,
Herbs (grass, etc.) as vegetables	4 ,,	40 ,,
Total		1,045 calories.

The rations from April 12th onwards with their heat equivalents were:

British Troops.

Brown bread	6 oz.	390 calories.
Lean horseflesh	24 ,,	1,440 ,,
Green stuff, herbs, and grass	2 ,,	20 ,,
Total		1,850 calories.

Indian Troops and Followers.

Coarse barley flour	5 oz.	350 calories.
Lean horseflesh	12 ,,	720 ,,
Green stuff, herbs, and grass	4 ,,	40 ,,
Total		1,110 calories.

Up to April 8th only about 1,000 out of over 10,000 Indians were eating horseflesh; on April 14th 9,239 Indians were consuming it.

In British troops, after the first fortnight of the siege, the bread ration was reduced to 12 oz., six weeks later to 10 oz., then to 8, and in the last weeks to 6 oz. For about four weeks fresh beef was issued, then bouilli beef or mutton for three weeks, then fresh beef of battery bullocks, after which horseflesh was commenced. Fresh vegetables, potatoes, and onions ceased early in February, but a ration of potato meal was continued for about a fortnight later. Butter and bacon were reduced at an early stage and ceased about the middle of February. The jam ration was very gradually lessened and ceased at the end of March. Tea and sugar were exhausted after the second week in February, then dates replaced the sugar for a fortnight.

In Indians who ate it the fresh meat ration was cut down to 6 oz. after the first week of the siege, later to 4 oz. At the end of the first week the *atta* (coarse wheaten flour) was reduced to 1¼ lb., then to 1 lb. with 6 oz. of parched unhusked barley; later to 8 oz. *atta* and 8 oz. rice, then to barley flour 10 oz. and 4 oz. parched barley, and finally to 5 oz. barley flour only. During the first week of the siege the full ration of 2 oz. of *ghi* (clarified butter) was given, then for a month 1½ oz., for another month 1 oz., for two months 1/2 oz., and during the last two weeks none. For the first week of the siege the full ration of 4 oz. *dhall* (lentils) was given, then it was reduced successively to 2 oz. and 1 oz., the issue ceasing at the beginning of March. *Gur* (jaggery or unrefined sugar) ceased about the middle of March, when its place for a fortnight was taken by an issue of dates.

During the first ten weeks of the siege the billeted part of the garrison was able to supplement the rations issued by purchase of barley cakes fried in fat sold by Arab confectioners, also small quantities of *atta*, barley flour, *dhall*, sweetmeats, and dates. These gradually disappeared from the market, and for the last six weeks only negligible quantities of eatables were purchasable. The heat equivalents of these fortuitous foods were not estimated

as nothing approaching accuracy could have been obtained. These supplementary additions, however, were of significant value to the garrison.

On April 25th I noted: "On an average fifteen men are dying daily; of these, five a day are dying from the direct effects of chronic starvation, and ten from chronic starvation with diarrhoea, bronchitis, or some other simple malady supervening. The present condition of nutrition and health of the average man of the garrison is physiologically highly unsatisfactory. His stamina is greatly lowered, his resistance to disease-causes considerably reduced, and should he suffer from any disease, such as pneumonia or bronchitis, fever from any cause, dysentery, or severe diarrhoea, it will greatly tax his vital powers."

Loss of Weight in Chronic Starvation.—During the nineteenth week of the siege I had the weight of 400 healthy British and 800 healthy Indian troops at duty taken with the view to ascertaining the average loss during the siege. The weights were taken on the same scales, at the same time in relation to meals, and in the same kind of clothes. British troops on an average lost 12.5 lb. per man and Indian troops 17 lb., which was, roughly, a loss of 10 per cent. in weight in the former and 14 per cent. in the latter. Personally I started the siege weighing 10 st. 6 lb., and at the end of it weighed 8 st. 11 lb.; my normal weight is 10 st. 12½ lb. The loss of weight reached its maximum in officers and men who began the siege with a superabundance of fat, and it may be remarked that they stood the loss well. The average loss of weight given above was that which occurred during the siege. It may not appear excessive, but, as stated in the introduction, the force had immediately antecedent to the siege lost a certain undetermined amount of weight from hardships and privations. The average weight in one platoon of Rajpoots on April 16th was 7 st. 12 lb., and in one of Jats 7 st. 10½ lb., as compared with their normal weights of 9 st. 3 lb. and 9 st. 1 lb. respectively.

Lowering of Body Temperature in Chronic Starvation.—In chronic starvation the temperature tends to fall very gradually. The temperature of healthy British and Indian troops during the three days April 17th, 18th, and 19th, 1916, was lower than normal. The average morning temperature in 200 British troops was 96.13° F., and in 260 Indian troops 95.84°. The average evening temperatures in the same men were: British 97.41°, Indians 97.03°. These observations were accurately made and the usual precautions to eliminate error adopted. In some cases in hospital the temperature was less than 90° F. just before death. We had Indians going about at duty with temperatures between 94° and 95°. My own temperature was never above 97° for the last six weeks of the siege, and during the last fortnight it varied from 96° to 96.8°. I was seemingly in good health, bar the effects of short commons. We did not meet with the great diurnal variations or fluctuations of body temperature that have been recorded in some cases of acute and chronic starvation.

On April 17th I wrote: "The present condition of the average officer and fighting man who began the siege in fair physique and with a normal deposit of adipose tissue, and who has not suffered from any disease nor been able to supplement his rations from any exceptional sources, may be described as follows: He has lost weight, in particular his muscles have materially decreased in size and about 80 per cent. of his adipose tissue has disappeared; he is much below par in stamina, and, without feeling any decided weakness, he is incapable of doing anything approaching the normal amount of physical or mental work; in moving about his lower limbs feel a trifle heavy; he tires comparatively soon and welcomes a rest after an outing, walk, or short spell of fatigue duty. During work he is disposed to be affected by a temporary giddiness, especially on bending down or after an effort demanding some physical strain, and he perspires more readily than usual. Whilst he does not suffer in any way, he has the usual sensation of emptiness felt about the epigastrium, which is temporarily alleviated by a meal, especially a warm one. His temperature is a few degrees below normal, and his pulse rate from 8 to 10 beats per minute slower than normal. He sleeps well, completely digests what he eats, his bowels are regular; in practically every one there has been an occasional attack of simple diarrhoea which is evanescent. This latter may be connected with the coarse bread or *chuppatties*, and use of such extraneous articles of food as the green herbs and grass collected from the plain as substitutes for vegetables. On the ration now being issued the garrison could continue for some time, but at the end of another fortnight we should be very reduced in weight and unfit for any work calling for much physical exertion. A certain undefinable proportion of the garrison will reach this latter stage long before a month's time; some have reached it already, and a progressively increasing number will reach it from now onwards."

During the last month of the siege men at fatigues, such as trench-digging, after ten minutes' work had to rest a while and go at it again; men on sentry-go would drop down from syncope (the spell of this duty had to be reduced to one hour instead of two); those carrying loads would rest every hundred yards or so. In many instances Indians returning in the evening after lining the trenches all day, seemingly with nothing the matter with them, would be found dead, cold, and stiff in the morning, death being due to exhaustion of the vital processes resulting from starvation. I saw one dead man lying on his back with a *chuppattie* in his hand near his mouth. It was natural that men in such a low state of health and vitality could stand little in the shape of illness—an attack of simple diarrhoea, for instance, that would have been got rid of in a day or so at the beginning of the siege in March and April often ended fatally; all recuperative and rallying power had gone. Personally up to the middle of March I could make a complete round of the front line trenches and fort (about five miles) in the morning; I had then to halve it, and at the end of April while doing the half I had to take it very quietly, and even then rest every 200 yards or so; practically all officers were in a similar condition of physical incapacity.

Inclination to Sleep in Chronic Starvation.—During the last days of the siege there was an increased tendency to sleep, a greater lowering of temperature, and a still slower pulse rate. If any disease (such as severe diarrhoea) intervened, these phenomena were exaggerated and death rapidly ensued. During the later periods of slow starvation there is practically no actual suffering even when such a disease as dysentery is present. In fatal cases so imperceptibly does life ebb away that it is sometimes not easy to say whether the man is really dead or not.

Reduction of Pulse Rate in Chronic Starvation.—It is sometimes stated that the rate of the pulse continues practically normal until a few days before death from chronic starvation. This is not the case. In the nineteenth week of the siege the average pulse rate in 200 odd cases in whom observations were continued thrice daily for a week was nine beats less per minute than normal. After the middle of April in many men the pulse rate was suddenly increased on the occurrence of impending danger, during an attack by the enemy or an exceptionally severe strafing from aerial bombs or even small-arm fire. The same occurred during severe exercise. A very slow pulse rate, from 30 to 40 per minute, was met with in many cases, both in hospital and at duty.

Mental Attitude of Garrison during the Siege.—During the first two months of the siege both British and Indian troops were moderately cheerful; for the next six weeks or so they were more subdued. For the last month without being depressed or melancholy they became somewhat cheerless, and during the last fortnight manifestations of mirth and vivacity had disappeared. Personally I was astonished at the patience and fortitude with which the garrison endured the terrible hardships they went through. I was amongst the men practically every day from the beginning to the end of the siege, and write from intimate knowledge of the conditions. The grit shown by our British and Indian soldiers was beyond all praise. "The behaviour of the men in meeting the unfortunate circumstances in which they are placed is heroic" (Diary, April 25th, 1916).

CHIEF DISEASES DURING THE SIEGE.

Diarrhoea.—This was by far the most prevalent disorder met with during the siege. On April 16th I entered in my diary:

"During the last two months there has been a high incidence of diarrhoea. In March this disorder was of a mild type and the vast majority of cases were treated regimentally, a few days' rest and medicine rectifying the disturbance. Early in April we began getting cases of very watery and severe diarrhoea with vomiting, cramps in the legs and abdomen, profound prostration, subnormal temperature, pulselessness, suppression of urine, and collapse. The majority of these cases rallied, but many of them became intensely collapsed and died on the second, third, or fourth day, some after a feeble attempt at reaction, most of them without manifesting any disposition to recover. I have seen practically all these cases; they were not true Asiatic cholera, though clinically very like it. It is not infectious; none of the attendants so far have been affected, and it occurs scattered in platoons and not in groups. The stools have not the well-known rice-water characters of cholera; they always contain a certain amount of bile; there is not the same degree of shrinking of the features, nor the change in the voice met with in cholera, and the mortality is much lower than in that disease. In a large number of instances the stools were examined by a bacteriologist expert, Captain H. H. King, I.M.S., and in none were cholera spirilla discovered."

The essential cause in all these cases was chronic starvation. The men had got into such a state of debility and wasting from shortage of food that any added strain on the economy, such as diarrhoea, was sufficient to lead to speedy dissolution. The disease continued epidemically after we got to the prisoners' camp, Shamran, where during May we had

over 1,500 cases and about 200 deaths from it. I was of opinion that the vast majority of these were ordinary cases of diarrhoea in men whose resistance had disappeared, whose stamina was greatly lowered, and whose heat-generating powers were so reduced that once a drain of any kind occurred from the body they were incapable of rallying; the low state of vitality, and especially the absence of any fuel in the system, rendered resuscitation impossible or highly improbable. The condition is one of the common accompaniments of every lasting famine in India, and has during these famines been repeatedly mistaken for genuine cholera. In the terrible and widespread famine of 1877–78 in India this form of diarrhoea was responsible for the death of most of the famine-stricken.

Dysentery.—A large number of diarrhoea cases merged into a form of dysentery that might pathologically be called catarrhal. The total number admitted into hospital with the clinical symptoms of dysentery was 684. There was besides a large number of slight cases treated regimentally; it might indeed be stated that it attacked a very high percentage of all ranks of the garrison at one time or another during the siege. It was relatively more frequent in Indian than British troops, and was of less severity and associated with a lower mortality and more amenable to treatment in the latter. Pathologically it varied in its intensity from a mild catarrhal inflammation to widespread destruction of the large bowel, and even of the lower part of the small intestine. In the penultimate and final stages of the siege medical officers were unanimously of opinion that the disease did not yield to treatment as satisfactorily as in the earlier stages. The symptoms and course of the disease were something like those of bacillary dysentery, but its real bacteriological relations, if any existed, were not determined. This condition was a particularly fatal terminal complication of scurvy.

Chronic Starvation Debility. — There are reasons for considering that there is a definite pathological state with a fairly well defined clinical course in chronic starvation debility. A general weakness without any assignable cause except the defects in the rations was naturally the commonest condition met with in the siege, and finally affected the entire garrison. It assumed graver forms in Indians than in Europeans. We noticed in hundreds of Indians that there is a stage in the downward path in chronic starvation from which recuperation cannot take place, that after the effects of starvation had reached a stage that is difficult to define, recovery was hopeless, as no possible measures appeared to have the power of restoring the victim. It is a condition of inanition in which it might reasonably be declared that all capacity to assimilate food has permanently disappeared; the glands and tissues engaged in the digestion and assimilation of food have wasted so much as to cease to function, the atrophy of these glands and tissues arising from their disintegration in helping to keep life going. This stage may or may not be associated with the diarrhoea or dysentery alluded to above; in many cases it passes almost imperceptibly into death. When soldiers doing their ordinary duties during a siege are living on less than a mere subsistence diet changes are occurring in their assimilative organs and tissues which, if continued, will lead inevitably to death. The pathological processes in operation in chronic starvation indicate that if relief is to be of service to the victims it should be commenced before the stage under reference has been reached. Enough has been said to indicate that advanced chronic starvation is necessarily associated with a very high mortality.

Scurvy.—Indian troops went through a serious outbreak of scurvy; during the siege it caused 1,050 admissions. A few cases appeared early in January; the incidence gradually rose, and in the middle of January we had 140 cases in hospital; at the end of March there were 597 cases under treatment, after which time it gradually declined. These do not include the incipient undeveloped cases which for military reasons were obliged to keep at duty, nor the latent cases. With the exception of chronic starvation itself nothing undermined the stamina of the Indian troops more than scurvy.

The essential differences between the diet of British and Indian troops were that British ate horseflesh and Indians until near the capitulation did not; Indian troops used *dhall* and British did not; British used white flour or biscuits made of it for a large part of the time, Indians used *atta* or coarse barley flour. The British got beri-beri and no scurvy, the Indians got scurvy and no beri-beri.

Beri-beri.—This disease gave rise to 155 admissions in Kut, all in British troops. These cases were the continuation of an alarming outbreak that began at Aziziyeh (a post about half-way between Kut and Baghdad) in October, 1915. There were besides many undeveloped or incipient cases that continued at duty. Short of producing obvious clinical beri-beri a diet deficient in special directions brings on gradually a condition of lowered stamina and vital energy and of inefficiency. This is a change to be watched for—a danger signal.

TREATMENT OF CHRONIC STARVATION.

It is essentially necessary after long periods of partial starvation to exercise the greatest caution and discretion in returning to ordinary food. Death frequently occurs in those who after forced abstinence of some duration suddenly and completely gratify the natural cravings of hunger. The whole digestive apparatus is in a weakened state, and the various glands in and around the intestines that take part in the process of digestion have undergone atrophy, and their functioning power has to be restored before they can resume work normally. The activities of the digestive organs and metabolic processes have necessarily been sluggish, and any sudden demands made upon these functions are liable to be followed by a breakdown in the machinery. The main indications in attempting to restore those in advanced starvation are—maintenance of the warmth of the body and the administration of readily assimilated warm liquid nourishment. Rest and the application of warmth (if the weather requires it) are very comforting.

When circumstances allow of it only the most digestible substances should be sparingly partaken of at short intervals —milk (which is the great standby), beef-tea, meat juices, broths, prepared farinaceous and partially digested liquid animal foods, white of egg, etc., solid food being eschewed for some days, then beginning with white fish, rice, bread, butter, and fatty food, meats, and vegetables in gradually increasing quantities, the normal amount not being administered for some months. Digestibility and nutritive capacity are the main points in the foods given. Solid food of any kind is at first quite inadmissible; any attempt made to consume ordinary solid food, no matter how urgent the cravings for it may be, is likely to be followed by serious reaction. Everyone who went through the siege of Kut required to be taken into hospital, nursed, and treated on the lines indicated above if the consequences of their chronic starvation were to be averted. Instead of that the garrison was, on capitulation, put on the coarse rations of the Turks at once, and within three weeks sent on a 1,000-mile march, much of it through an arid desert *en route* to various places in Asia Minor. We had published in division orders during the last week of the siege a warning as to the dangers associated with returning to normal diet after long-continued partial starvation. There being no suitable food available, and human nature being what it is, as soon as the Turks' rations were issued, especially the coarse, hard, brown rye bread and biscuits, which caused intense irritation in the stomach and intestines, a large number of British and Indian troops and followers gorged themselves with it. The immediate result was the occurrence of a violent epidemic of a disease that had all the clinical characters of cholera as already described.

During the last two months of the siege the energies of the garrison were carefully husbanded; only the most indispensable fatigues were ordered, guards and outpost duty were reduced to the lowest possible minimum compatible with the military situation, and when men began fainting on "sentry-go" at the beginning of April the two hours' spell was reduced to one hour.

It was a long time before those who went through the siege of Kut regained their normal weight; in my own case it was about one and a half years. This appears to be in accordance with the experience of all long sieges of which we have record. The digestive glands of the stomach and intestines, the pancreas, and liver, have undergone considerable atrophy, and are long in recovering their normal functional activity. It was about two years before I personally could comfortably consume a normal meal as regards quantity; earlier than that any attempt to eat the amount of food I had been accustomed to before the siege was at once followed by unpleasant effects, which, however, caused only temporary inconvenience.

I have often been asked what rations remained at the time of the surrender. On April 29th, 1916, the only food left was twenty-nine emaciated artillery horses; on that date there was not a pound of flour, *atta*, barley, or any other foodstuff available. As the Turks failed to provide any food until April 31st, the sick and wounded in hospital (about 2,500) got no rations at all on April 30th. The troops at duty marched to Shamran on April 29th, the Turks occupying Kut the same day.

CANCER OF THE BREAST.

*TREATMENT OF THE PROEMIAL BREAST.**

BY

SIR G. LENTHAL CHEATLE, K.C.B., C.V.O., F.R.C.S.,

SURGEON AND LECTURER IN SURGERY, KING'S COLLEGE HOSPITAL.

[*With Special Plate.*]

No surgeon of experience can be satisfied with the results obtained by the present surgical treatment of cancer when it arises primarily in the breast.

The object of this paper is to direct attention to the existence of a potentially dangerous state of the breast, and to indicate the advisability of removal of a breast in this state rather than wait for the evidence of disease for which surgical measures have been proved to be so unsatisfactory. The consideration of the following facts explains why surgical measures are so often doomed to failure when primary cancer is clinically recognizable as such in the breast.

First. It is an aphorism that cancer of the breast must have developed considerably before it has attracted attention to its presence. By the time it has made itself manifest it too often has spread beyond the limit of the most extensive and skilful operation.

Second. The dilemma is really worse than this bald statement makes it appear, for the patient is usually the first to discover the indications of a tumour. Unfortunately her next step too often depends upon the relative importance she attaches to their warnings. When she regards them as relatively unimportant there will be delay in receiving the treatment which should be adopted at the earliest possible stage.

Third. While all are familiar with examples of complete surgical successes in cancer of the breast, we also know that the number of complete surgical failures is too great to justify an attitude of passive contentment with the present treatment. Moreover, the successes claimed within a few years of the operations have often proved illusive. Operative measures upon cancer of the breast have been followed by complete quiescence for ten and twelve years. Success assumed on a post-operative limit of quiescence for five years or so must be regarded as too optimistic.

Fourth. In some breasts which have been excised because they were considered to be in the proemial state I have found I was wrong and that they contained tumours. Upon careful microscopical examination of whole sections of separate breasts I discovered in them tumours of the following kinds: (1) simple papillomata, (2) papillomata the innocence of which is exceedingly doubtful, (3) malignant papillomata, and (4) one with a small cancer which was infiltrating fat outside the gland. In addition to my own patients I must refer to two others. Mr. Sampson Handley kindly sent me a breast for microscopical examination. I had seen the case clinically, and then I regarded it in the proemial state. In one of the large ducts I found a papilloma the benign nature of which is open to considerable doubt. My colleague, Mr. Burghard, who has given me great encouragement by showing his interest in my work, also kindly sent me a breast which I should have described upon clinical examination as also being in the proemial state. It was only by very careful microscopical examination of whole sections that we discovered a small cancer within the breast and infiltrating the fat outside the gland, also an apparently simple papilloma in a duct in another part of the gland. In all these patients clinical signs of tumours were absent.

Taking into consideration the whole position, it would be of great surgical importance could a line of treatment be indicated that would deal adequately with breasts in which cancer or papillomata were likely to occur, and not, as we do now, devote our attention to those breasts in which these diseases are definitely present. An absolute indication of this line of treatment would be of basic importance, and its establishment as a regular surgical procedure would be a great step in the direction of safety.

I hope to prove that there is a condition of the breast which is a prelude to those particular pathological changes to which I have alluded. I name it the "proemial breast."

* The term "proemial breast" is employed to indicate a condition of the breast which makes it a prelude to later developments of simple papillomata and malignant papillomata and other forms of cancer. It is regarded as more accurate than the terms "precancerous," "precursory," etc., which might otherwise be employed.

I am so fully convinced that I have already begun treating breasts on this assumption. Careful microscopical examination revealed in some of them the early stages of the diseases I had hoped to be in time to prevent. I take these facts as offering remarkable evidence in my favour and supporting my belief that there is such a thing as a proemial breast.

Before I describe the characteristic features of the proemial breast it is essential to clear the ground in one important respect. It is a fallacy to maintain that every breast that appears nodular on palpation is in a pathological state. Provided there be not too great a layer of superjacent fat most adult female breasts are multinodular on palpation. The multiple nodules are mainly prominent parts of mammary ducts, and can be recognized as such by careful observation. Palpation should be continued in the normal directions of the ducts, of which the "nodule" is only a part, bearing in mind that a duct becomes smaller in calibre the nearer it is to the periphery of the gland. The examination is conducted best by supporting the pendent breast with one hand and palpating it with the fingers of the other. Also it must be borne in mind that the vascular turgescence of puberty, menstruation, and pregnancy increases the size of the glandular structures and may render them painful. It is possible that physiological turgescence may occur from other causes. Therefore I attach importance to the facts that in all such conditions the whole of the gland, and not only a part of it, would be taking part in the disturbance, and that the multiple nodules would be of the same size when corresponding parts of the same breast were compared. To make sure that the condition be physiological it is essential to examine the breast when the cause of the turgescence has passed.

Ducts are more accessible to palpation than the acini because they are more rigid in structure and towards the nipple more superficial in position.

THE PROEMIAL BREAST.

The proemial breast is worthy of due recognition in future pathological and clinical considerations for two reasons: (1) It is in a state that makes it a prelude to further pathological changes of a highly important character—mainly simple papillomata, malignant papillomata, and other forms of cancer. (2) Its clinical recognition and adequate treatment occasionally enables the surgeon to recognize (microscopically) the presence of one or more of these changes, before any clinical sign of their existence is obtainable by any other means—that is to say, when the proemial breast has merged into those profoundly important stages to which it has acted as a prelude. When once established the condition of the proemial breast is permanent. To describe next its clinical and pathological appearances, and its treatment:

Clinical.

The patient, who has generally reached the age of from 40 to 45 years, complains of pains in the breast. Occasionally it is so severe and has lasted so long that in spite of all kinds of treatment she can bear it no longer, and insists on having the breast removed. Generally the pain is not so severe and is of an aching character which is not always affected by menstruation. On questioning the patient, it is found that the pain began sometimes as early as 30 years of age—more often it commenced somewhat later; also that it may have lasted some six months or one, two, three, or more years. The pain is continuous. On examination both breasts may appear multinodular. But while the nodules of the unaffected breast correspond to the signs I have described as indicating a normal breast, the nodules of the diseased breast are swollen, painful and tender on palpation, and are not of the same size in corresponding parts of the same gland. Sometimes a nodule at the periphery is bigger than one situated nearer the nipple. Careful palpation reveals the fact that the swollen nodules are mainly composed of prominent parts of tortuous ducts. The state of affairs may be limited to a segment of the breast, or two segments, one of which may be on the opposite side of the same breast, of which the intervening parts are normal. Or the whole gland may be affected by the same disturbance. There may be an intermittent or continuous discharge of serum from the nipple. A thin layer of coagulated serum may be seen on the surface of the nipple. The discharge is always small in amount.

In the later stages of this complaint the pain disappears and cysts are present in varying number. Massage, rather severe in its application, may induce a thick white discharge from the nipples and constantly from the same duct orifices.

The fluid contains desquamated epithelial cells. It is necessary to caution surgeons not to massage the breast to elicit this information, since it must be borne in mind that it is possible that a breast diagnosed as being in the proemial state may contain a small undiagnosable cancer, and there would be risk of disseminating cancer cells under these circumstances.

Pathology.

In the early stages there is to be observed a more or less diffuse desquamative hyperplasia of the epithelium in one duct, or two or more ducts, and also in some of the acini which are in direct connexion with them. The desquamative hyperplasia is most obvious in the smaller ducts (see Fig. 1) and acini. Ducts may be affected alone and acini may also show epithelial activity where none exists in the corresponding duct. The consequence of an abnormal collection of their contents leads to distension of the ducts and acini and accounts for the immediate results of this process —namely, the formation of cysts and stagnation of their contents (see Fig. 2).* Small cysts in the process of formation contain the active desquamative hyperplasia of epithelium. The large cysts are lined by a degenerated atrophied epithelium which at parts has been shed.

The connective tissue around the affected glandular elements undergoes progressive secondary change and the connective tissue cells in parts begin to multiply (see Fig. 1). Also small accumulations of lymphocytes may occur at isolated and infrequent intervals, and can be seen immediately outside some parts of the ducts and acini. In the later stages these accumulations may be more pronounced and occupy longer tracts of ducts (see Fig. 2). I repeat my belief that the proemial breasts act as menaces by being preludes to and by encouraging grave changes within them, and this contention receives support from the fact that in what I estimated and diagnosed as being only proemial breasts I also found intracystic growths of simple papillomata, of malignant papillomata, and other forms of early cancer.

Treatment.

By making particular allusion to multiple small nodules occurring in normal breasts I have at once excluded many glands that hitherto have led to misconception in many minds, and it should not lead to the assumption that both glands are in the proemial state in the same individual, although it may be so.

From what I have said concerning the proemial breast it must be concluded that I regard it with supreme importance and distrust. In saying this I do not suggest that at its best it is certainly doomed to lead to grave pathological changes, but I hold that it is in a condition which is entirely favourable for their later genesis, while, on the other hand, in alarming frequency such changes have unexpectedly been found already to be present. I look upon it and treat it in precisely the same way and for the same reasons that compel surgeons to remove an appendix that has been inflamed. The proemial breast bears exactly the same relationship to cancer and papillomata of the breast as the proemial appendix does to general peritonitis. Cancer of the breast and general peritonitis are just as far beyond surgical control now as they always have been. General peritonitis is prevented by early surgical measures. My endeavour is to bring the preventive treatment of cancer of the breast similarly into line. Preventive surgery in relation to cancer elsewhere has been adopted. Take, for instance, Sir Henry Butlin's and Sir A. Mayo-Robson's work on leucoplakia of the tongue, and the latter's work and that of Sir Berkeley Moynihan on the gall bladder and on gastric ulcer. Consciously and unconsciously surgeons are acting on the same principle when they remove early those prostate glands which are interfering with the normal passage of urine.

My treatment of the proemial breast, in whatever stage it exists, is to remove it in the following way: I make one long curved transverse incision below the nipple, with its convexity downwards. Its length is equal to the limits of the breast; the outer end of the incision is continued into the axilla. Upper and lower flaps of skin are dissected from the limits of the breast and the axilla is opened. The nipple is reflected with the upper flap; it is not removed, care being taken to separate it from the parts immediately beneath it. In so doing it is wise to remove any white fluid that may appear at its base or from the surface from which it has been cut; it might be infective. The breast and fascia over the pectoralis major are dissected away *en bloc*, with the lymphatic glands attached. It is essential that the removed gland should be subjected to a most careful microscopical examination for fear the breast might have passed from the proemial stage to changes of gravest issue. Should the presence of such a disaster be discovered, it is necessary then to remove the skin formerly covering the breast, pectoralis major and minor, and more complete dissection around the higher parts in relation to the axillary vein.

My hope and belief is that in the majority of proemial breasts cancer, at all events, will not be found to be present. If, however, it should be discovered, it will be a great advantage to be thus warned of the necessity of a complete operation at a much earlier date than would otherwise have been possible.

I publish the following reports of four breasts presumed by me to be in the proemial state before operation: and the microscopical appearances I found in three of them, which proved I was wrong in that presumption.

CASE I.

Female, aged 45 years, single. She is waiting for operation.

Left breast: Small gland, nipple not retracted, no discharge from nipple. In an upper and outer segment of breast there is a fluctuating swelling, not adherent to the skin, with defined margins; situated immediately above it and covering its upper margin is a longitudinal scar made at an operation performed elsewhere five years ago for the excision of a cyst. The rest of the gland appears normal. There are no enlarged glands in axilla.

Right breast: Small gland, nipple not retracted, no discharge from nipple. In an upper and outer segment of the breast there is a fluctuating swelling, not adherent to skin, with defined margins. Immediately surrounding it are multiple nodules which can be distinguished as swollen, tender, and painful parts of tortuous ducts. The nodules are irregular in size and larger than normal. There are no enlarged lymphatic glands in axilla.

The left breast probably contains a large cyst and possibly several small ones. The right breast is in a more serious state; the precise condition can only be revealed by careful microscopical examination of whole sections of this breast. I will report later what is discovered on that examination.

CASE II.

Female, aged 43, married, one child 8 years old, which she nursed.

Right breast: Nipple not retracted, no discharge from nipple; the gland is multinodular in all parts, most marked in segments on outer and inner areas of breast. The nodules are of irregular size, larger than normal, and are painful and tender on palpation; menstruation makes no difference to pain. The pain, which has been borne for eight months, has not been improved by rest, hot fomentations, and arm carried in sling. There were no enlarged glands in axilla.

The left breast was normal.

The right breast was removed. Fig. 3 represents the state of affairs discovered upon microscopical examination of large sections made from this breast. D is the situation of the nipple, and E E E is the direction of ducts towards it. A normal duct is to be seen at C C C. A duct, A, contains a large multiradicular papilloma, apparently benign. Another duct, B, contains the beginnings of multiradicular papillomata at three separate parts. In another part of this breast, and having no connexion with parts connected with the distribution of ducts A and B, there existed a small fibro-adenoma.

CASE III.

Female, aged 58 years, married, no children.

Left breast: Nipple not retracted, no discharge from nipple. Multiple fluctuating swellings in breast of various sizes, the largest one inch in diameter. The margins of all were defined. The skin was not attached to them. She had noticed the swellings several months ago. The breast had been painful, but was not painful upon a clinical examination. There were no enlarged lymphatic glands in axilla.

The right breast appeared normal on clinical examination, and no complaints were made of it.

The left breast was removed and whole sections of the breast were cut. Many cysts were discovered of duct and acinous origins, but in a segment of its outer margin was a small cancer in the gland, and which was infiltrating the fat outside it (see Fig. 4). The whole lesion was about the size of a sixpence. In another part of the gland there was a duct containing a multiradicular papilloma.

This patient is considering whether she will take advice and have a more complete operation performed.

CASE IV.

Female, aged 42, married, two children, which she nursed.

Right breast: No retraction of nipple; no discharge from nipple. Contained in an upper and outer segment a large fluctuating swelling. Its surface was not adherent to skin. The breast was nodular throughout; some nodules were painful and irregular in size, and many were distinguishable as parts of tortuous ducts. There were no enlarged glands in axilla.

The left breast appeared normal.

The right breast was removed, and whole sections of the breast were cut for microscopical examination. I found that the

* Further Contributions to the Study of Cysts and Papillomata of the Breast, by Sir Lenthal Cheatle, *The British Journal of Surgery*, vol. ix, No. 34, 1921.

SIR G. LENTHAL CHEATLE: CANCER OF THE BREAST.

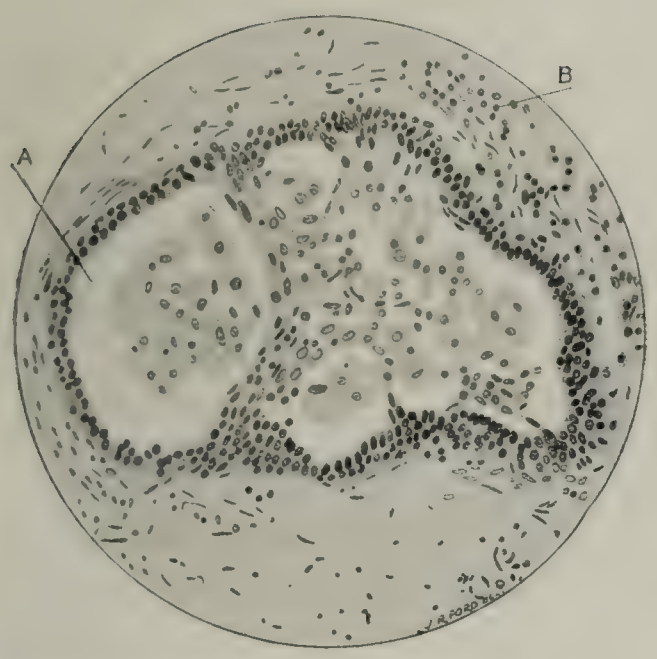


FIG. 1.—Transverse section of small duct. At five or six different parts the epithelial lining is undergoing a desquamative hyperplasia, and by this process the duct is being distended. The connective tissue cells are proliferating at B and at other parts. There are no lymphocytes present in this section.

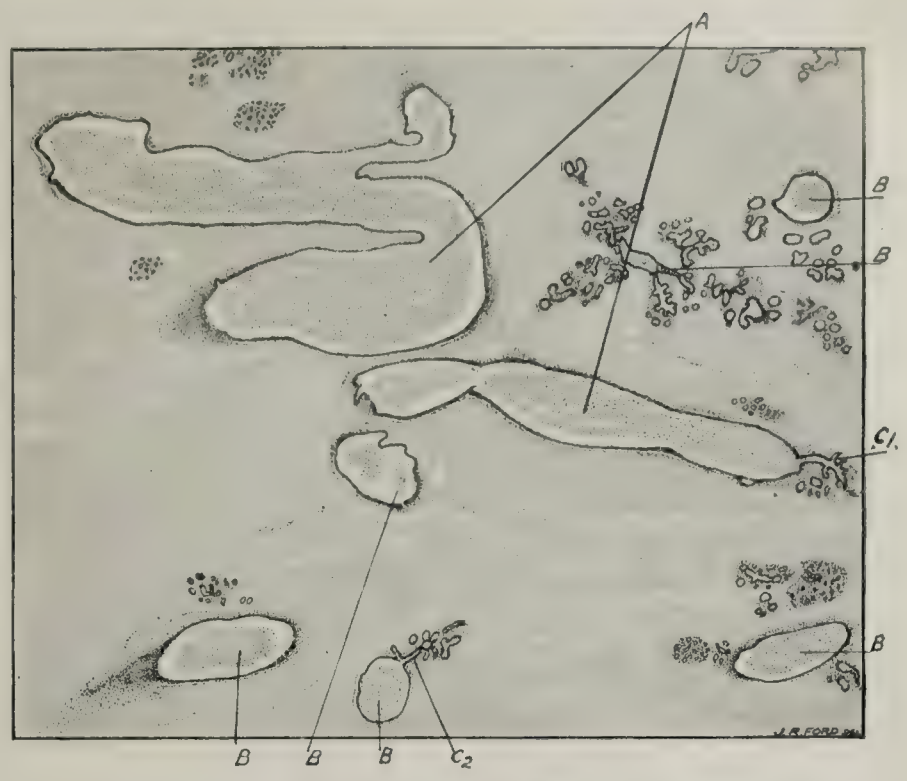


FIG. 2.—Reproduction of a duct, A, towards its termination in branches marked B. The lumens of all are enlarged and full of stagnant desquamated cells. The connective tissue outside them is dense and contains a limited number of lymphocytes, which are in immediate juxtaposition to the outside walls of the duct and its branches. It is interesting and instructive to note that the acini leading into the ducts at C1 and C2 and elsewhere are not in the least distended, a fact that suggests the cause of distension of the ducts is not due to obstruction higher up in their courses. × 30.

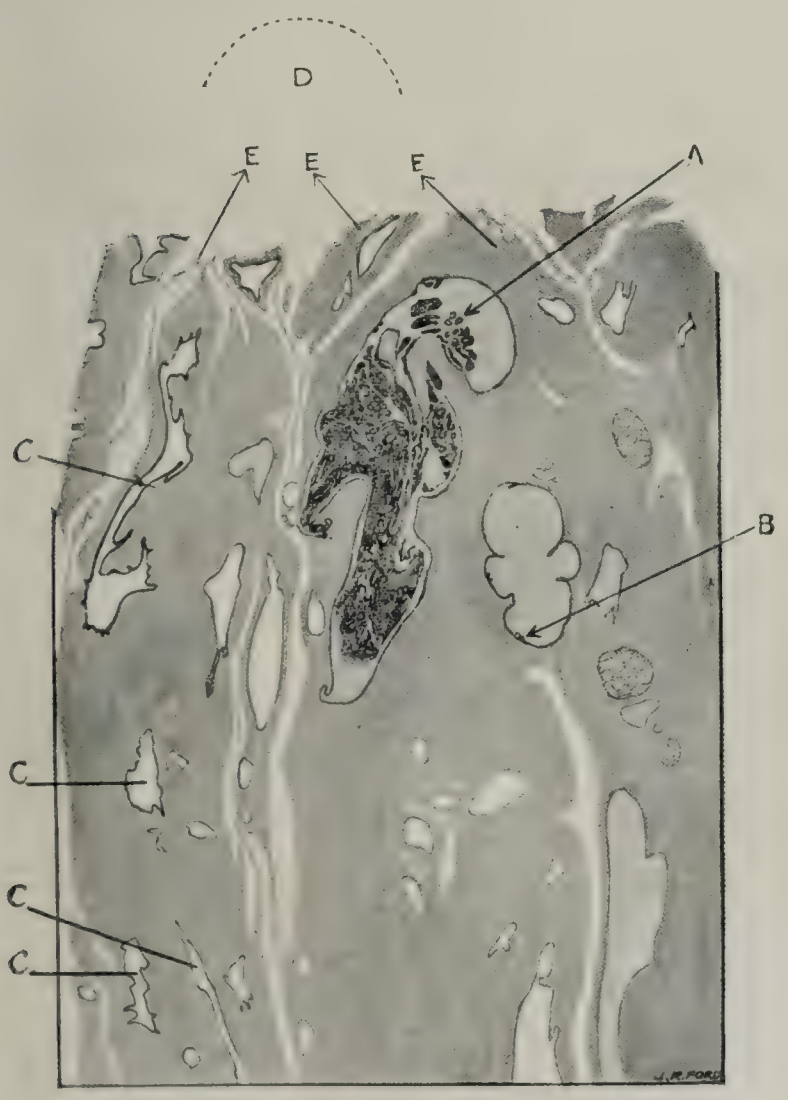


FIG. 3.—Reproduction of part of a breast under the nipple, D. E E E represent the direction of ducts towards nipple. C C C C are parts of the same duct, which is normal. A is a duct which contains a multiradicular and apparently benign papilloma. B is another duct which is dilated, and at three separate parts there are the beginnings of multiradicular papillomata of probably benign nature. The connective tissue is dense, but otherwise there are no other pathological changes. There were no clinical signs whatever of the presence of these tumours. They were discovered microscopically in a breast I believed to be in the proemial state.

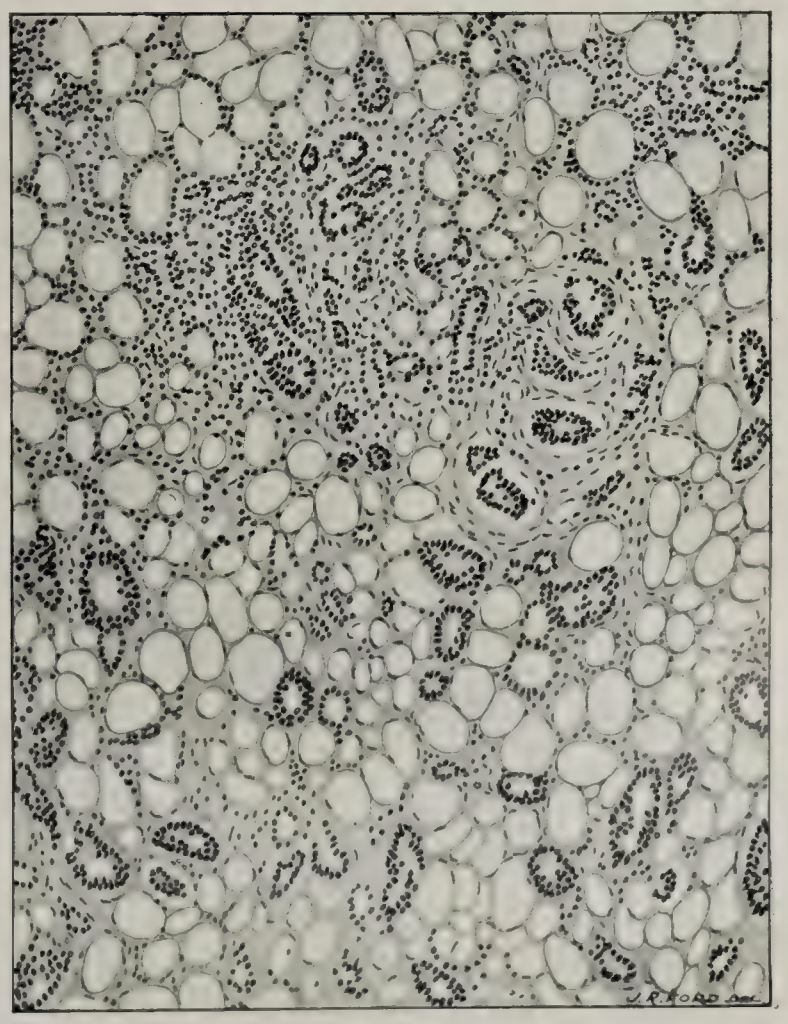


FIG. 4.—A reproduction of cancer which has infiltrated fat, into which it has spread from a small focus, clinically unrecognizable, in the margin of the mammary gland. × 80.

JENNINGS MARSHALL: SUTURE OF RUPTURED LEFT DOME OF DIAPHRAGM.



FIG. 1.—Radiogram of chest, showing hernia (on left side), stomach, and transverse colon (without bismuth meal).

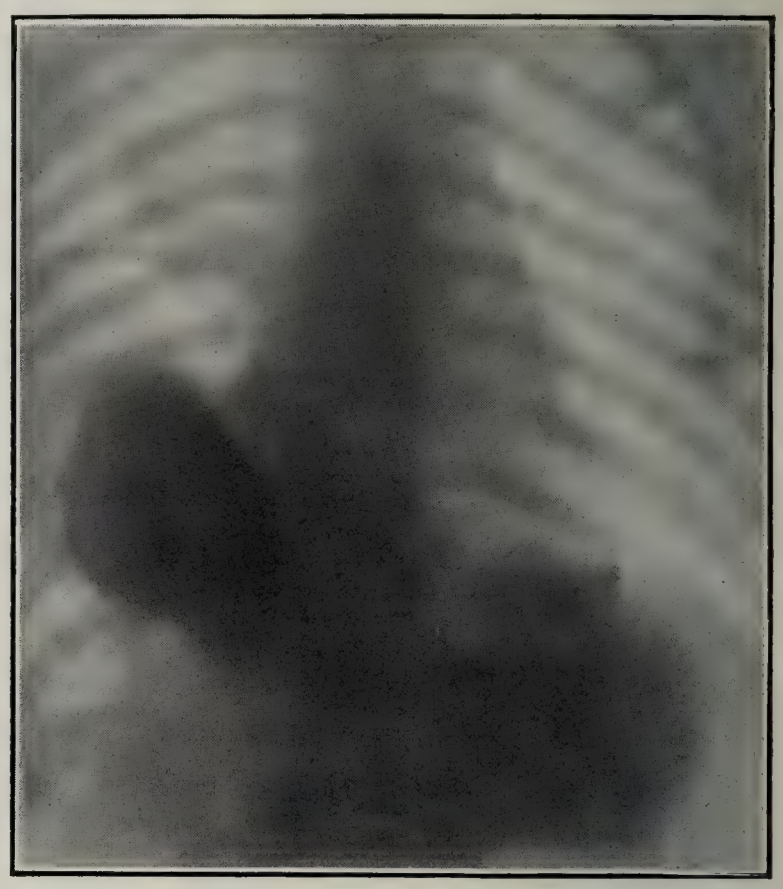


FIG. 2.—Radiogram of chest, showing bismuth meal in stomach (in hernia).

J. M. ACKLAND: ORAL SEPSIS IN RELATION TO GENERAL DISEASE.

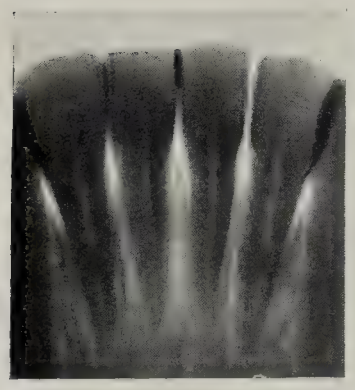


FIG. 1.—Normal lower incisors.



FIG. 2.—Pyorrhoea.

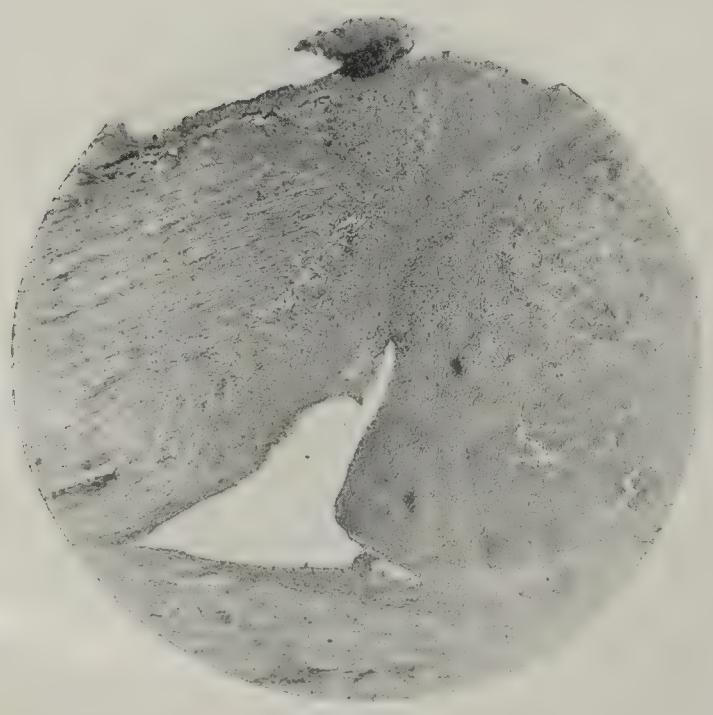


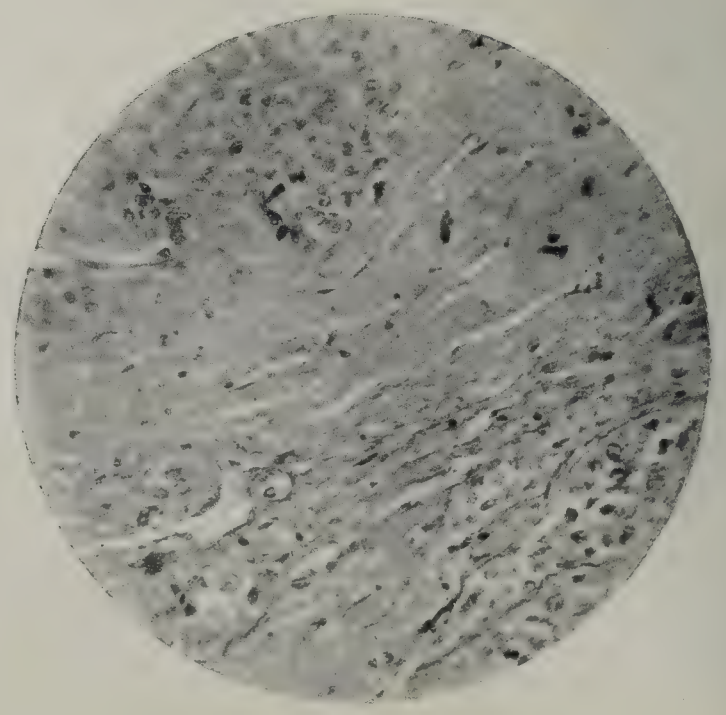
FIG. 3.—Apical abscess.



FIG. 4.—Root abscess.

E. A. LINELL: UNUSUAL CAUSE OF DEATH FROM CANCER.





fluctuating swelling contained besides its fluid contents a large papillomatous malignant growth. The epithelial cells lining the papillomatous parts of its structure are columnar.

In the main parts of the tumour the epithelial cells are rigidly confined within what presumably is the cyst wall; but at isolated intervals the epithelial cells can be seen most definitely passing through the wall and invading the surrounding connective tissue. There was a blood clot in this cyst. In other parts of this breast in the neighbourhood of the tumour can be seen ducts the epithelial linings of which are in a marked state of desquamative hyperplasia, very similar to that seen in Fig. 1. Upon the condition of things being discovered by microscopical examination the patient was advised to undergo a complete operation.

The sections have been cut too recently to enable me to get them drawn for reproduction in this article. At a future date I will publish drawings made from them. The sections are at the disposal of all who care to see them.

SUTURE OF RUPTURED LEFT DOME OF DIAPHRAGM.

BY

C. JENNINGS MARSHALL, M.S., M.D., F.R.C.S.,

ASSISTANT SURGEON, KING'S COLLEGE HOSPITAL.

With Radiographic Commentary by ROBERT KNOX, M.D.,
Radiologist to the Hospital.

[WITH SPECIAL PLATE.]

A YOUTH of 19 was admitted to hospital for injuries sustained by being thrown from his bicycle. While riding, he was thrown by a skid in front of a motor bus; he fell with the right knee undermost and then lost consciousness for a while. Unfortunately, no further details of the accident were available. At any rate, it was certain the bus passed over no part of his body. I saw the patient after attempts had been made to reduce a supposed dislocation of the knee.

There was severe shock on admission; temperature 97°, pulse rate 120, respirations 20 to 24. The right knee presented a fracture separation of the femoral epiphysis with a longish piece of diaphysis attached on the inner side. The lower end of the diaphysis presented on the outer side of the joint subjacent to the skin, which was whole. This particular displacement of fragments was probably accounted for by the manipulations.

Pain was complained of in the chest at the left costal margin about the eighth and ninth cartilages. There had been no dyspnoea, no sputum, no nausea or vomiting. The pain disappeared at the end of four days, and there was no symptom of trouble at all.

The skin showed no sign of trauma. The left chest moved but little, and was less expanded than the right. Slight cardiac pulsations were seen on the right side of the sternum; the right border of the heart was made out nearly two inches to the right of this; the left border was not determined.

Over the front of the left chest was tympany, extending up to the second rib and out to mid-axilla, where it began to yield to what became at the back slight relative dullness. Auscultation over the tympanitic area showed distant breath sounds at the upper and outer margins, none at the inner and lower part. Elsewhere the chest gave signs of partial collapse of the lung. At the left margin of the sternum there was heard at intervals a loud, intensely metallic clanking, synchronous with the heart beat. After a fortnight borborygmi were heard in the chest; they were infrequent, but had great intensity even as high as the apex of the axilla. Against the possibility of their being transmitted one noted: (1) their maximum intensity was thoracic, (2) their loudness, and (3) apparent origin very near the stethoscope. On a few occasions it was possible, by a sudden dipping of the finger-tips in the epigastrium, to cause a splash to be heard in the thorax. Diaphragmatic hernia was diagnosed on these grounds clinically.

On the fifth day the femur was plated under spinal analgesia. As the lower fragment offered nothing on the outer side but a very short cancellous strip, the incision was made on the inner aspect. Anatomical reposition was effected. Movement of the joint was begun a week later, and the other forms of physiotherapy added as soon as the scar permitted.

The condition of the lower limb had for this time made a proper *x*-ray examination of the chest impossible. The patient was screened in the supine position. The cardiac displacement was evident; the left pleural "cavity" was poorly illuminated compared with the right, and the diaphragm on that side was some one and a half inches lower. Bismuth gruel swallowed by the patient passed rapidly, to lie as a mass 3 inches by 2 inches transversely at the level of the fourth left costal cartilage.

It was thought that operative interference was indicated, though in bed the patient had no symptom, alimentary, respiratory, or cardiac. It is probable, however, that the condition of affairs on exertion might cause considerable embarrassment; further, the possibility of internal strangulation had to be borne in mind.

Intratracheal ether with the patient in the lateral position was given, the table being angled opposite the lower costal margin to "open out" the chest towards the operator. Five inches each of the eighth and ninth ribs were resected in the axilla. The pleura was opened at the upper part of the lower periosteal tube for its whole length. The in-sucking of air was very slight and there was no respiratory disturbance (as, indeed, was to be expected, nearly the maximum mediastinal displacement already being present). The first structure encountered was the omentum at the greater curve of the stomach. This organ, distended to the size of a coco-nut, lay uppermost; below it was the transverse colon, and on the inner side were many coils of small intestine. The left edge of the liver just projected into the pleural cavity. The spleen was not seen.

The rent in the diaphragm began through the oesophageal opening and extended outwards and forwards for three inches, skirting the back of the trefoil. Except at the oesophageal end of the anterior limb of the tear, omentum was adherent to the edges (on the abdominal aspect chiefly). The lesser curve of the stomach appeared only at its middle, while three-fourths of the greater was seen. The cardia and the lower end of the gullet were not displaced or loosened. The gap in the diaphragm was a little over an inch at its widest; the edges were strongly resistant to a greater increase than half an inch in this direction. It seemed that strangulation was a very distinct possibility. The viscera were reduced and retained by a moist pack. At first this seemed almost impossible of accomplishment, but when the head was elevated by adjusting the table, and a supporting sandbag removed from the front of the abdomen, it became a matter of the utmost simplicity. The edges of the rent were freshened, and omental adhesions separated. Four mattress sutures were used to draw the inner edge a quarter of an inch under the outer, whose loose edge was then attached by a close row of interrupted sutures to the upper surface of the inner edge. A widely imbricated line of union was thus secured. There was but little tension to overcome in getting the edges together.

The parietes were then closed, the pressure of intratracheal insufflation being considerably increased. It was observed that the lung inflated rapidly, particularly the lower lobe, whose margin at the completion of the parietal suture extended below the line of incision and actually touched the chest wall.

Convalescence was interrupted only by bronchitis for three days. The absorption of the remaining air was gradual, H.A.B. becoming normal in six weeks.

The patient was seen again eight months afterwards. There were no symptoms of any kind. He indulges in cricket and other sport, cycles and does heavy work. The range of knee movement was 70° to 180°.

To suspect such a condition is usually to diagnose it. Symptoms offered no help, except that the complete absence from the start of dyspnoea seemed rather striking. The mechanical condition was very similar to that in pneumothorax—lung collapse, mediastinal displacement, air in the pleural cavity, albeit enclosed in bowel.

The loudness and superficial character of the rare borborygmi were nearly conclusive. The succussion splash induced by a jerk in the epigastrium may be worthy of note. The fact that the heart does not return to its place is suggestive if one has a case suspected as pneumothorax under observation for some time. A positive bismuth meal result is conclusive, as the stomach must almost inevitably be the viscus first herniated. It is conceivable that a part of the fundus might be so gripped as to prevent the entry of the bismuth. Obviously the supine position is to be adopted. The rare herniation of intestine alone—for example, colon—could be excluded or detected only by frequent examination.

With regard to the operation itself, the whole procedure was emphatically easy. While resection of ribs might have been avoided by a powerful retractor, I doubt whether the access would have been so comfortable. A longer incision would have been needed, and the window into the chest would have had ends not so wide as the middle, which here seemed a helpful feature. One thing is certain: approach from the abdomen would have been far more difficult, reduction would have been more difficult, and a deliberate imbrication of the rent could not have been done. I should like to emphasize the very striking help of posture in effecting reduction. It was noted how tough is the diaphragm—one felt satisfied that no sutures could possibly tear out.

While one did not fear any sudden change of intrathoracic tension, insufflation ether seems to be far the best for this purpose; the anaesthesia given by Dr. Richards was entirely uneventful, and at the end provided the most gratifying feature of the whole procedure—the rapidly expanding lung after its two months' collapse. The upper lobe did not expand anything like as much as the lower, possibly as this received the direct blast from the trachea.

Comments on Radiographic Appearances.

The radiograph, taken on the first visit (September 4th, 1920) to the *x*-ray department, shows an interesting condition on the left side of the thorax. The outline of the diaphragm is irregular and very ill defined. Above it, as high as the second intercostal space, is a translucent area which is limited in the mid-line by the spine and laterally by the ribs and intercostal spaces. Its upper margin is well defined

and apparently composed of pleura which is thickened in that region. Through this clear area the details of the ribs and scapula can be made out; there is very little evidence of detail of the lung. The lower margin is irregular and ill defined, and shows strands of denser tissue with clear areas between. The general appearance is strongly suggestive of air in the pleural cavity. It has not the typical appearance of a large pneumothorax, and is more typical of gas within a distended viscus. The nature of the appearances described was clearly indicated when an opaque meal was given to the patient and a series of radiograms composed. The whole of the meal was seen to be retained on the left side, extending from a sharply defined point at the level of the first lumbar vertebra, and extending upwards to a point at the level of the seventh dorsal vertebra. The opaque shadow, with the gas-distended space above it, occupied about two-thirds of the total thoracic space on the left side. Above the shadow of the opaque material in the viscus was a clear area, and at a still higher level a dome-shaped structure representing the limitations of the above-described air space. This structure most probably consisted of thickened pleura, and formed a limiting membrane for the herniated stomach.

The *x*-ray examination with the opaque food showed clearly that the stomach was situated in the thoracic cavity; the irregularity of the diaphragm and the gas formation seen in the earlier pictures are suggestive of the diagnosis, but no positive opinion could be expressed until the stomach had been filled with the opaque food. It is interesting to note that later negatives showed that limiting structure of the air space was capable of contracting to some extent upon the stomach, and this is shown by the negatives, in which the stomach is seen to contain less of the food than in those of an earlier period.

The radiograms taken on June 28th, 1921, after the patient had been operated upon, show a different appearance from those taken when he was first examined.

The upper surfaces of the diaphragm are practically on the same level. On both sides of the chest the lung detail is well seen; there is no sign of the gas, the heart now occupies a normal position, in strong contrast to the position it assumed in the first pictures, in which it was displaced well over to the right. The lungs show an increase of the root shadows, and there is evidence of enlarged glands at the roots with peribronchial thickening extending into the lung substance.

AN UNUSUAL CAUSE OF DEATH FROM CANCER.

BY ERIC A. LINELL, M.D.MANCH.,

SURGICAL OFFICER, CHRISTIE HOSPITAL, MANCHESTER; SURGICAL REGISTRAR, ANCOATS HOSPITAL, MANCHESTER.

[With Special Plate.]

THE case recorded below seems to me of sufficient interest to warrant publication. The microphotographs printed in the special plate are self-explanatory, but the accompanying diagram will indicate the relations of the low-power view.

History.

E. E., female, aged 43, was admitted to the Christie Hospital, Manchester, on January 11th, 1922, suffering from an inoperable carcinoma of the larynx, which had required tracheotomy at the Manchester Royal Infirmary twelve days previously, to relieve urgent symptoms. She was comfortable until early in the morning of January 24th, when she awoke with severe pain over the precordium. At 1 p.m. she suddenly became very much worse, and was reported as almost pulseless. After the administration of camphor, ether and brandy hypodermically, and of mustard leaves over the precordium she was somewhat relieved.

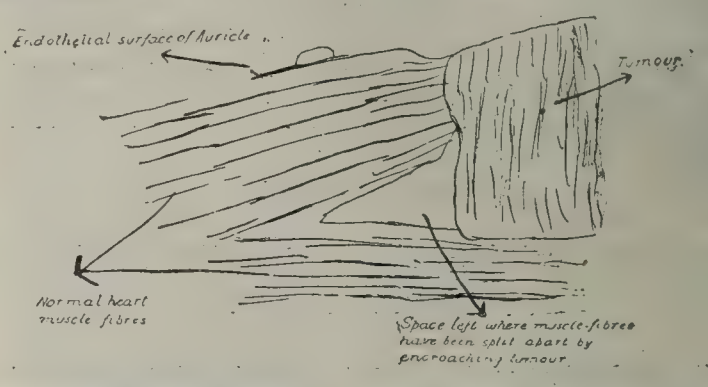
Examination.

The patient was very pale and obviously dying. The pulse was almost impalpable and the heart sounds were very weak, but there was no dilatation of the organ and no bruits could be heard. There were moist sounds at the base of the left lung. These were the only *ante-mortem* findings of note except for slight sepsis round the tracheotomy tube. The diagnosis seemed to lie between cardiac embolus and an acute mediastinitis. The patient died at 2 a.m. the next day, January 25th.

Post-mortem Examination (3.30 p.m., January 25th, 1922).

The tissues around the tracheotomy wound were infiltrated with the primary carcinomatous growth. On opening the chest there was found a left-sided pleurisy with a small amount of fluid and some collapse of the lung. An abscess of this lung was seen to have burst into the pleural cavity. Nodular secondary growths were found on the pericardium and the left pleura, and there were deposits in the bronchial glands.

The heart was of normal size, firmer than normal, and on opening the cavities *ante-mortem* clot was found in all but the left ventricle. The clot was particularly firm in the right auricle, and on removing it a papillomatous mass the size of a pea was found projecting into the cavity from the smooth endothelial wall. There was no indication of this mass on the outer aspect of the auricle, and it seemed to be arising immediately under the endocardium.



Histological examination of this growth shows the typical structure of squamous-celled carcinoma (see high-power microphotograph). From the facts that it is infiltrating the subendothelial heart muscle and is separating the muscle fibres (as seen in the low-power microphotograph) it would appear that the embolus had arrived via the blood or lymphatic system, and that it was not an implant on the auricular endothelium from embolism down the superior vena cava.

The position of the tumour is of interest, and by promoting thrombosis in this cavity it accounts, in my opinion, for the fatal termination of the disease within twenty-four hours of the onset of acute symptoms.

My thanks are due to Dr. Charles Powell White for his histological investigation of the case and for allowing me to prepare the microphotographs from one of his sections.

SOME NOTES ON ORAL SEPSIS IN ITS RELATION TO GENERAL DISEASE.*

BY

J. M. ACKLAND, M.R.C.S.ENG.,

DENTAL SURGEON TO THE ROYAL DEVON AND EXETER HOSPITAL
CONSULTING SURGEON, EXETER DENTAL HOSPITAL.

[With Special Plate.]

SINCE the year 1900, when Dr. William Hunter first wrote in regard to oral sepsis and its connexion more particularly with anaemia, increasing attention has been given to it as a factor in many other diseases. Sir Thomas Barlow at that time made reference to its importance. The practical result was the recognition of oral sepsis as the greatest septic infection in medicine, and oral antisepsis as one of the most important, simplest, and easiest means for the prevention of groups of maladies affecting almost every system of the body.

It has been said that the alveolar process—with the exception of the intestines—is the largest and the most frequently diseased part of the body from which toxins are liable to be absorbed. A very small amount of toxin absorbed from the alveolar process will do more harm than a large amount absorbed from the intestinal tract, as the toxins are carried direct into the circulation, and not—as in the latter case—through the portal vein into the liver.

Oral sepsis is a comprehensive term, and includes pyorrhoea, alveolar abscess, and the pathological conditions existing at the root of a dead tooth. With regard to pyorrhoea we have to remember that it could not occur without streptococci and staphylococci. It is the penetrating activity of the streptococcus which creates the bleeding lesion, thus opening the way for the staphylococcus, which dissolves the tissue and creates the pocket. Probably the most common of the ill effects of oral sepsis is a state of malaise, in which the patient complains of tiredness, slackness, lassitude, and a general though indefinite feeling of unfitness. We may get functional cardiac effects, such as palpitation, or a state of nervous debility and depression.

Oral Sepsis and Disorders of the Heart.

In speaking of its effect upon the heart, in addition to the functional disturbances associated with indefinite malaise

* Read at a meeting of the South-Western Branch of the British Medical Association

due to oral sepsis, the difficulty may be to decide how much of the lassitude is due to a relative degree of cardiac inadequacy, or whether both things are not due to septic absorption. In some of these cases the palpitation is most distressing, partaking more of a true tachycardia.

Ulcerative endocarditis, both acute and chronic, has been traced to this disease, and in many cases has been known to follow the extraction of septic teeth, where local anaesthetics have unfortunately been used. And here, perhaps, I may be allowed to sound a note of warning, especially in those cases where the symptoms are acute, against many extractions at a time. We have to remember that each extraction gives a greatly increased surface for absorption of toxins, and it is well to allow these cavities to at any rate partially heal before further extractions are attempted. It is a good plan to pass a probe into the sockets for the first few days, and syringe well with warmed antiseptics, using a syringe with a bent nozzle, and getting the cavities well cleared out, especially in the lower jaw, where the drainage is bad. In addition, the patient should rinse several times a day, especially after every meal. For this purpose I have found peroxide very useful.

This treatment cannot be too rigorously followed. In a recent *Journal of the American Medical Association* several cases are cited in which an organic affection of the heart was made worse by extractions of teeth, due entirely to lack of drainage in the affected area, the tooth socket being filled with a firm clot of blood and septic absorption following. The reckless use of vaccines, whilst neglecting this elementary principle of drainage, is greatly to be deprecated.

Oral Sepsis a Cause of Neuritis, Chronic Rheumatism, and Arthritis.

Probably the most common of all the groups of diseases arising from oral sepsis is that of neuritis, chronic rheumatism, and arthritis, and the attacks of acute gout in predisposed patients is certainly influenced by this disease.

Dr. Beddard, in the *Transactions* of the Medical Society of London, places no less than 90 per cent. of the cases of so-called rheumatoid arthritis in this category, and in this he is supported by Sir William Willcox. In many cases the lesions in the mouth are apparent at once, but in many others it is not so, and the cause of arthritis and allied conditions is often deeply seated near the apex of the tooth, with no local symptoms of pain, swelling, or tenderness, and here the *x* rays come to our aid. Photographs—kindly done for me by Mr. Muir, radiologist at the Royal Devon and Exeter Hospital, reproduced to illustrate this paper—show the osteitis and destruction of alveolus; also a clear space indicating the presence of an apical abscess. In these spaces will be found pus and granulations infected with pathogenic streptococci, and from them virulent toxins—if not bacteria—are carried into the blood stream. Sir William Willcox quotes a case under his care where an abscess of this kind was the undoubted cause of malignant endocarditis—an identical organism being found in the blood stream and dental abscess.

In cases of arthritis having a dental origin streptococci showing similar bacteriological characters may nearly always be found in the faeces. As Sir Thomas Horder points out, there are certain diseases more often associated with the sepsis connected with dead teeth than with a suppurating periodontitis. These diseases are specially those leading to chronic inflammation of fibrous tissues and serous membranes. Various kinds of so-called rheumatism come into this category, as well as certain cases of neuritis, and especially the more chronic and progressive cases of multiple arthritis that follow oral sepsis. The type of streptococcus found in these cases is not the long-chained *Streptococcus pyogenes*—that is, the streptococcus of acute suppuration—but *Streptococcus salivarius*, a variety of short-chained streptococcus, held up at the very root of the dead tooth and sometimes ensconced in fibrous sacs adherent to the eroded fang; and the pathological process going on at the root of a dead tooth—leading to sclerosis of the tissues here—is precisely similar to that which is taking place in the joint structures, the muscular fasciae, and the sheaths of the nerve trunks. In these cases quite often there is no suppuration at all, and it is a great error to jump to the conclusion that because there is no suppuration there is no infection. We must remember that this micro-organism at the roots of the teeth is in close contact with the blood stream, whereas we may have considerable suppurating surfaces, as in pyorrhoea, where there is a free exit for the toxin—and it is here that the *x* ray proves of such value, though even this is not infallible as an index of pathological conditions. In these cases Sir William Willcox says vaccine treatment is of great value, but strongly insists that it must be accompanied by removal of the causal infection. Affected teeth should be removed, and a vaccine prepared after, guarding against possible contamination. Vaccine treatment is usually required for three months at least, with weekly and later fortnightly doses. Here I would mention one short case of my own.

H. S., male, aged 65, consulted me in July, 1921, with neuritis in his right arm of four months' duration; he had tried electricity, massage, and various drugs without relief, and still carried his arm in a sling. I found four teeth the sockets of which were affected with pyorrhoea and one dead tooth. These were extracted under ether, and his recovery was rapid and complete—so rapid, indeed, that I feared a relapse. I wrote the patient a fortnight since—that is, after nine months—to inquire as to his condition. He replied that he could use his arm almost at once, play golf and tennis daily, and had not had a twinge since.

Oral Sepsis in Phthisis and Anaemia.

Oral sepsis undoubtedly plays an important part in many cases of pulmonary tuberculosis. The effect of the removal of the teeth is to increase for a time the amount of toxins absorbed into the circulation, and this has the effect of decreasing the local resistance of the lung tissue, with the result that the disease becomes worse. In cases, therefore, where the disease is active, the radical treatment of the oral sepsis should be delayed until a quiescent stage and then carried out very gradually.

Again, we have the relationship between chronic lymphadenitis and oral sepsis, and the possibility of serious general infection breaking through the lymphatic barriers, already lowered in resisting power by the repeated attacks of the commoner products of oral bacteria.

The next disease I would touch upon is anaemia and its association with oral sepsis. Dr. William Hunter, in a paper published recently, says that two forms of severe anaemia are to be recognized: the one the great haemolytic disease, idiopathic or pernicious anaemia; the other a non-haemolytic or septic anaemia, and the cause in no less than nine-tenths of cases is oral sepsis—pyorrhoea. In other cases it is overlooked sepsis in the antrum and nasal sinuses, but the pathology of the two kinds is different in that the septic anaemia is non-haemolytic and owes its character to deficient blood formation, just as the haemolytic or pernicious or glossitic anaemia owes its character to excessive blood destruction. This septic anaemia may exist alone, but it far more frequently complicates other anaemias in which similar conditions of oral sepsis are present; and herein lies part of the great importance of oral sepsis in the disease called pernicious anaemia, but which Dr. Hunter prefers to call "glossitic," sore tongue being one of its earliest and chief diagnostic features, and in this way we get rid of an ill-omened prognostic name. Gastro-intestinal disorders are not infrequently due to septic conditions in the mouth; these are associated with inability—from the defective and painful condition of the teeth—to masticate properly, and are the cause of loss of weight in patients suffering from these conditions. Here I may mention two cases, the first a typical one:

S. R., male, aged 30, thin, emaciated, pasty appearance, complained of a general feeling of malaise and unfitness, with considerable loss of weight; his mouth was full of septic stumps and pyorrhoea. On my advice he came into a nursing home, and there, under a general anaesthetic—a few teeth at a time—I gradually cleared his mouth. There was a marked improvement after each operation: the patient's colour improved, he began to put on weight, without teeth at all, and, as he said, he felt a different man.

The other case is that of a patient in North Devon. B. E., male, aged 40, in the last stage of phthisis, suddenly began to bring up all his food; he could retain nothing; all treatment seemed to be of no avail. I was asked to go and see him, and found a mouth full of pyorrhoea, some teeth extremely loose, and their sockets oozing with septic matter. After much consideration, for the patient was in a very weak condition, it was decided to advise extraction of five of the very loose teeth. The position was explained to the relatives, who gave their consent. The next morning I went down again, accompanied by Mr. Henry Andrew as anaesthetist, removed the loose teeth, syringed the sockets, and cleansed the mouth with peroxide. From that day everything was kept down, and although the patient only lived some six or eight weeks, I think it would probably have been a matter of a very short time if his mouth had not been dealt with.

Both these cases were officers invalided home from Mesopotamia, and I think I am right in saying they had suffered from trench fever.

Influence on Traumatic Lesions.

The influence of oral sepsis on traumatic lesions must not be forgotten. As an example, a young man injures his knee at football. The mischief does not yield to treatment, and a chronic synovitis is established. Removal of dental sepsis is followed by complete recovery.

Oral sepsis may penetrate the orifices of the parotid and submaxillary glands, and set up a chronic inflammation in the ducts and substance of the glands. Acute septic infection, which used to be common in the parotid and was often fatal, has become rare, because one of the duties of the nurse attending exhausted medical and surgical patients is to keep the mouth as clean as possible. There are other and fortunately rare cases due to pyorrhoea. One was reported in the *Lancet* a short time since. The patient had a perfect cesspool in the upper jaw from pyorrhoea, ulceration of adjacent cheek, a spreading cellulitis, which led the way to the cavernous sinus; the left crus cerebri was involved, with a corresponding right-sided hemiplegia. Death ensued in twelve hours from profound septicaemic coma six days after the onset of symptoms.

No patient who has been under treatment for Vincent's angina should be discharged as cured until swabs from around the teeth are negative and free from the fusiform bacillus regarded as the cause of Vincent's angina.

Chronic nasopharyngitis, septic bronchitis, skin troubles, middle-ear disease, are some of the other diseases which may be due to or influenced by oral sepsis.

Oral Sepsis in Children.

I am sure we all recognize the serious effect of oral sepsis in children. Their physical and often their mental growth is retarded. A common result in children is gastro-intestinal disorder, as evidenced by gastric and abdominal pain, diarrhoea of an offensive character, with much undigested food in the motions, sleeplessness, loss of appetite, marked wasting, and pallor. Many of the septic teeth are tender, with the result that we get imperfect mastication, and this, combined with the sepsis, produces the trouble. Night sweats are often present; tuberculosis is suspected, slight albuminuria may be found, and nephritis sometimes intervenes.

Dr. Still lays particular stress on oral sepsis due to dental disease, which he says is so common in children, and enlarged glands in the neck are also common; but it must be remembered that pharyngeal conditions, adenoid hypertrophy, and tonsillar enlargement have much to answer for. Tubercle bacilli have been demonstrated in diseased teeth; but even if it could be proved that these never make their way directly from a diseased or septic tooth it would still be almost certain that this disease in children is indirectly responsible in no small number of cases for the tuberculous infection of glands. Indeed, in the child of tuberculous family it is a powerful predisposing cause of tuberculous infection perhaps down the whole cervical chain.

The failure of an infant to gain weight is frequently associated with oral sepsis in a nursing mother, and the removal of the septic teeth has been followed by a rapid improvement in the weight of the child. Many of the children vomit the milk after being fed. This points to its containing some toxin which the gastric mucosa will not tolerate.

An interesting case—quoted recently—is that of a child suffering from diarrhoea which failed to yield to treatment. The mother was found to have a very septic mouth, and as she persisted in kissing the child they were separated for a while, the result being that the intestinal trouble cleared up forthwith.

Even from this brief survey it is clear that oral sepsis may affect the organism in different ways—indeed, may influence the course of most diseases; and Dr. Stanley Colyer sums up the position thus:

"The somewhat bizarre nature of the effects that have been attributed to dental sepsis may at first sight make the relationship appear improbable, but when once the principles that underlie the subject have been grasped it will be realized that the conclusions are a necessary outcome. In all diseases there are two factors at least—the seed and the soil—without which disease cannot exist. The seed varies, the soil varies; never are the two the same, never is the relation repeated. This is why variation in disease is common, and in no two persons does it run a precisely similar course. Dental sepsis is but a comprehensive term to include various septic conditions in the mouth—it is not a disease. The germs causing the sepsis vary, and so the germs passing into the body and the toxin absorbed produce different results in different people. It cannot be said why germs of a particular kind entering one body produce a septicaemia and in another an infective endocarditis, or why a toxin in one will produce an anaemia and in another a neuritis; but that such is the case seems almost certain, and for the time being we must rest content with the fact."

The tendency in medicine in the present day seems to be to divide disease into two classes—those due to germ infection, and those not due to this cause; and if, in any case coming within one category, we inquire whether there is a source of infection and test the results of treatment directed to its removal, we may arrive at a conclusion of practical value.

We cannot expect to cure all our cases, even by the most drastic treatment, but we must not argue from the particular to the general in cases of failure. There may be other foci of infection: an intestinal tract may be permanently infected, or, as in some of the most chronic cases, the damage may be beyond repair. Time will not permit of my saying more on this far-reaching subject. If I have succeeded in a very small way in calling attention to its importance my end is attained.

Since the foregoing notes were written an article has appeared in the *Lancet* (April 1st) which, while giving oral sepsis its due in playing an undoubtedly important part in the causation of general disease, points out the great need there is for more conclusive pathological proof than is often forthcoming in support of the clinical evidence available.

As giving some account of the extreme divergence of opinions naturally springing from the present state of insufficient pathological authority on this subject, and at the same time presenting a dispassionate view of the extreme schools of thought, this article is most interesting and suggestive. Professor Martin Fisher of America—a well-known writer on infections of the mouth—puts forward dental infection as a cause of very many conditions; whereas Professor Hugo Schottmüller of Hamburg, whilst conceding that oral sepsis, like infection elsewhere, is capable of affecting the general health, does not believe that it acts as a direct cause of general disease. As the writer goes on to point out, dental infections may often be so situated that there is no large outpouring of bacteria into the circulation, yet there is a possibility of small doses of bacteria escaping from time to time and altering the bodily resistance. It is quite certain that no one is in a position to deny that oral sepsis constitutes a potentially and often an actually dangerous condition, and anyone with experience amongst hospital patients especially cannot fail to be struck by the appalling prevalence of oral sepsis. The result of treatment is in very many cases followed by a cure of some other trouble or disease due to it. Whilst every case must benefit generally from its treatment, the great thing to which we should direct our energies is to make pathological proof more convincing. When this has been achieved I am sanguine enough to believe that very great and more certain results will follow the judicious treatment of oral sepsis.

THE SOLUBILITY OF QUININE HYDROCHLORIDE.

BY

J. HAMILTON CRAWFORD, M.B., M.R.C.P.E.

(Department of Pharmacology, University of Edinburgh).

THE quinine salt most generally used formerly was the sulphate, but more recently the hydrochloride has come into favour as being much more soluble in water. The sulphate is taken up only by 725 parts of water, while the hydrochloride is dissolved by 35 parts. Each is readily dissolved with acid, the bisulphate in 9 parts and the acid hydrochloride in 0.6 part of water. The presence of excess of acid is a disadvantage in intramuscular or intravenous injection, and here especially the solubility of the neutral hydrochloride weighs heavily in its favour. In the intravenous injection especially the hydrochloride is likely to be injected, not in distilled water but in saline solution or in Ringer's solution, and it is therefore of importance to ascertain whether its solubility is affected by the constituents of these fluids. The saline solution used was 0.85 per cent. NaCl. The Ringer's solution was made up to contain NaCl 0.85 per cent., KCl 0.03 per cent., $CaCl_2$ 0.02 per cent., and $NaHCO_3$ 0.02 per cent.

Distilled water dissolved 1 part neutral hydrochloride in 35 parts					
Saline solution	,,	,,	,,	,,	100 ,,
Ringer's solution	,,	,,	,,	,,	110 ,,

The lessened solubility in the presence of NaCl is, of course, only an example of the law, well known in physical

chemistry, that two salts with a common ion lessen each other's solubility, but I had not appreciated that this would hold for the low concentration of NaCl in these solutions. The still lower solubility in Ringer's solution is due to its slight alkalinity, which may lead to the precipitation of the base, and also to the fact that it contains a slightly greater number of chloride ions.

It was found that on making up the solution with saline which had been kept for a month the solubility was the same as with fresh saline, but that with Ringer's solution the solubility became less in proportion to the age of the Ringer's solution—that is, with Ringer's solution which had been standing for a month and a half, the solubility was 1 in 135. Also if the solution of quinine hydrochloride in Ringer's solution is allowed to stand for one week it is found that quinine is precipitated, only 1 part in 125 remaining dissolved.

These results show that it is advisable to use freshly prepared solutions for intravenous injection. By heat quinine hydrochloride can be dissolved in saline or Ringer's solution to the same extent as in distilled water, but there is a tendency for adeposit of crystals to take place in the needle as the solution becomes cooled during injection.

Relative Acidity of Acid Quinine Hydrochloride and Quinine and Urea Hydrochloride.

The hydrochloride of quinine and urea has been introduced of late years and may be regarded as a substitute for the acid hydrochloride. As regards solubility, each is soluble in less than its own weight of water. It is of importance to find whether quinine and urea hydrochloride differs from the acid hydrochloride in acidity. I have made up solutions containing the same amount of quinine per cent.; 1.33 per cent. solution of quinine and urea hydrochloride contains the same amount of quinine as a 1 per cent. solution of acid hydrochloride. On titrating these solutions with N/10 NaOH, using phenol red as indicator, I found that

5 c.cm. quinine and urea hydrochloride solution = 1.4 c.cm. N/10 NaOH.
5 c.cm. acid quinine hydrochloride solution = 1.3 c.cm. N/10 NaOH.

The P_H of these solutions was then tested, using standard P_H solutions with methyl orange as indicator. It was found that P_H of quinine and urea hydrochloride was 3.5 and the P_H of acid quinine hydrochloride was 3.7.

It is seen that the acidity of these two drugs, both as shown by the hydrogen ion concentration and the titrable acidity, is practically the same. Thus quinine and urea hydrochloride appears to possess no advantage over acid quinine hydrochloride.

Memoranda:
MEDICAL, SURGICAL, OBSTETRICAL.

FUNCTIONAL AMBLYOPIA.

DURING the last two years I have had under my observation ten scholars with defective vision in whom there was no error of refraction and no discoverable disease to account for the bad vision. The children, when in school, were found to have defective vision and in consequence were sent for treatment.

The sexes were equally divided. Their ages ranged from 9 to 13 years, and their visual acuity, as tested with Snellen's distant types, from 6/18 to 3/60. Both eyes were alike, or nearly so. The refractive conditions, estimated under atropine, showed practically no error, or only slight degrees of hypermetropia or astigmatism. The media and fundi were normal. On placing a -2 D. sph. over an eye the vision was usually made worse, but on adding to this a $+2$ D. sph., the one lens neutralizing the other, the child immediately read right down to 6/9 or 6/6. This manœuvre was equally successful in all the cases.

These striking results were due to suggestion, or to withdrawal of psychic inhibition. In one case the fields of vision were tested with a small white object and were found to be contracted down to about 20 degrees. Some could read the test types for near vision, at least for a short time, while their distant vision was very imperfect. All were encouraged to believe that they could read the distant types, and most of them did so ultimately, in a slow, hesitating manner. Swanzy wrote of the "fluctuating vision" in these cases, a condition that we often observe.

All these children were dull and listless, some ready to weep, and others decidedly anaemic. Probably these conditions of lowered vitality were partly due to the present industrial depression with consequent unemployment and underfeeding.

Some years ago I reported[1] the case of a girl who recovered her sight after having been for two years in an institution for the blind; her eyes presented no evidence of disease.

JAMES ALEXANDER WILSON, O.B.E., M.D.
Cambuslang, Glasgow.

RUPTURE OF VARICOSE VEINS MIMICKING ACCIDENTAL HAEMORRHAGE.

A PRIMIPARA, hourly expecting her confinement, on getting up into bed bled profusely. A midwife was summoned and she sent for me. I found the patient perturbed but otherwise looking well. The bleeding had stopped and her pulse was slow. I was told that there were no pains and no signs per vaginam of dilatation of the cervix and no boggy feeling through the fornices.

The possibility of accidental haemorrhage was entertained and a sedative was given. Two days later labour came on and the first stage was without any haemorrhagic abnormality—thus ruling out placenta praevia. The second stage was delayed, so I put on forceps. The case being primiparous I was surprised to find the anterior vaginal wall bulging down in front of the advancing head. I pushed back this protrusion, and as I did so—gently—I felt my finger perforate the tissues, and I wondered why the anterior vaginal wall should be so fragile. When the head was born there was a gush of blood from the vagina, so I promptly delivered the shoulders; luckily the child was small. There was no tear of the perineum. The blood now poured from the vagina, so I pressed the soft tissues against the symphysis, with happy results, for there was no more bleeding.

Inquiry next day elicited the history of the patient, during her pregnancy, having been examined by a doctor, who told her she had varicose veins on the front wall of her front passage, and that trouble during her confinement might result. She moved out of this doctor's area and forgot to mention to me what she had been told. This varicosity had not been seen by myself or the midwife, as we had only inspected the parts when the patient was recumbent, and she had not thought it worth while to mention this varicosity.

Had the patient presented the signs and symptoms of severe loss of blood when I saw her first I might have packed her vagina as recommended for accidental haemorrhage by the late Dr. Berry Hart in his book, *Guide to Midwifery*, 1912: "This treatment applies to cases where the cervix is undilated and the uterus not acting" (p. 514).

The above case is a good example of the disadvantage to doctor and to patient of the usual plan of the doctor being booked and then not seeing his patient till the child is born or some complication arises.

Dr. Berry Hart in his book says: "*Of course* the medical attendant should have seen his patient on several occasions before" being called to her in labour; but how many prospective fathers are prepared to meet this expense?

Kilnhurst, nr. Rotherham. CHARLES J. HILL AITKEN, M.D.

KNOT IN UMBILICAL CORD AS A CAUSE OF ACCIDENTAL HAEMORRHAGE.

THE following case may be rare enough to warrant publication:

Mrs. S., aged 24, second pregnancy, noticed haemorrhage at 6.30 a.m. on May 7th. She did not expect her confinement for another two weeks. When I saw her at 10.30 a.m. she was considerably collapsed, and still having continuous, though not severe, haemorrhage. The uterus was not unduly large and the os admitted two fingers, and was patulous. It was a vertex presentation, and there was no sign of placenta praevia. There were no "pains," and no foetal heart sounds were audible.

An enema, followed by rectal saline, decreased the haemorrhage but failed to produce uterine contractions, as also did 1/2 c.cm. of pituitrin. As at 2.30 p.m. there were still no contractions, I packed the vagina tightly, and this produced the desired effect, as the child was born (dead) at 5.30 p.m. A large clot of blood followed, and immediately afterwards the placenta. The cord, which was longer than average, had a single complete knot in it, and the foetal circulation had apparently become completely shut off, causing separation of the placenta and haemorrhage before labour set in.

The patient had complained of great foetal activity for some days previously.

A. F. GRATTAN GUINNESS, M.R.C.S.
Madeley, Shropshire.

[1] *Glasgow Medical Journal*, April, 1917.

Reports of Societies.

NOTIFICATION OF TUBERCULOSIS.

AT a meeting of the Section of Epidemiology and State Medicine of the Royal Society of Medicine, held on May 26th, with the President, Dr. A. K. CHALMERS, in the chair, Dr. REGINALD DUDFIELD read a paper on "Reforms needed in the notification of tuberculosis."

Dr. Dudfield began by remarking that the primary object of notification was to secure that all tuberculous patients should have the advantage of treatment under the scheme. A second, and by no means unimportant, aim was the collection of statistical data. Without reliable data as to the prevalence of the disease it was impossible either to make adequate provision for treatment or to judge the results either of treatment or methods of prevention. At present notification was incomplete. During the eight years 1914–21 1,439 deaths from all forms of tuberculosis occurred in Paddington. Of these 298 represented cases only made known to the speaker by the registration of death, while in 106 instances notification was made after death—that is, in 404, 28 per cent., of all cases ending fatally, the first information of the presence of the disease was the death certificate. Turning to notifications, of 3,723 cases notified during 1914–21, 106 referred to persons already dead and 247 to persons dying within a month of notification, so that 353, 9.8 per cent., could not be dealt with under the tuberculosis scheme. The full significance of deaths occurring within a short time of notification could only be known were the normal duration of a case of tuberculosis known. The speaker held that most cases of pulmonary tuberculosis in the adult were reactivations of infections acquired in infancy or youth and that accordingly some proportion of deaths occurring shortly after notification must be inevitable. Dr. Dudfield referred to the work of Wurtzen of Copenhagen on the average duration of pulmonary tuberculosis reckoned from the onset of symptoms. The averages (in months) varied from 19.5 in the age group 15–20 to 45.8 at ages over 45 in males, and from 21.2 to 47.4 in females. Dr. Dudfield then considered the distribution of fatal cases not notified to him.

Deaths Occurring in Paddington.—These numbered 143 from all forms of tuberculosis during the eight years considered; 87 of these were under the care of practitioners.

Deaths Occurring outside Paddington.—There were 155 such deaths, a large majority in institutions. Of 92 deaths from pulmonary tuberculosis in institutions, 60 occurred in lunatic asylums. Dr. Dudfield found that the practice of the medical staff of institutions as to notification was not uniform; some did not notify, others refrained from doing so at the request of the medical officers of health of the districts in which the institutions were situated, others notified systematically to the local medical officers of health, but the certificates were not transferred to Dr. Dudfield. It was to be remarked that the late Local Government Board had informed the superintendent of one of the large asylums that "where . . . a patient has been for a long time an inmate of an asylum the Board are advised that the asylum should be regarded as the usual place of residence" of the patient for the purpose of the regulations. The result was that while the death when it occurred was allocated by the Registrar-General to the area whence the deceased was admitted to the asylum, no transfer of the notification certificate to the medical officer of health of the district of origin was made.

Of 106 notifications received after the death of the patient —62 with respect to cases of pulmonary and 44 with respect to other forms of tuberculosis—54.8 per cent. of the former and 75 per cent. of the latter were deaths in institutions. Of 247 cases wherein death occurred within a month of notification, 68.4 per cent. were in institutions.

Dr. Dudfield presented tabulations of the distribution by age and sex of cases notified 0–1, 1–3, 3–6, and six or more months before death. The conclusion reached was that cases fatal within six months of notification were not a random sample. Without laying too much stress upon the matter, he was inclined to think that patients whose cases terminated fatally within six months of notification were, on the whole, younger than those who survived six months.

Dr. Dudfield, having pointed out that in 1919–21 the percentage of fatal cases only heard of at death was greater than in 1914–18, passed to a consideration of the changes of incidence and fatality, using index numbers in terms of the records of 1914 as a base. He thought the figures afforded some evidence that work under the scheme had been useful, but, in his opinion, the administrative side of the scheme should be tightened up, and to that end notification should be improved. Article V of the existing regulations ran:

> Subject to the provisions of the Regulations every Medical Practitioner (unless acting as a School Medical Inspector) attending on or called in to visit any person (whether at an institution or otherwise) shall, within forty-eight hours after first becoming aware that such person is suffering from tuberculosis, make and sign a notification of the case in Form A, and shall transmit the notification to the Medical Officer of Health for the District within which the place of residence is situated at the date of notification;
>
> Provided that a Medical Practitioner shall not notify a case of Tuberculosis under this Article if he has reasonable grounds for believing that the case has already been notified . . . to the Medical Officer of Health for the district within which the place of residence of the person is situate;
>
> Provided further that if a notification is required in pursuance of this Article in respect of an in-patient at an Institution the notification shall be sent to the Medical Officer of Health for the District in which the usual place of residence of the patient is situate.

Dr. Dudfield thought that the first of the two provisos should be repealed, and an addition made to the first paragraph requiring the medical practitioner to repeat his notification should the patient move into a new district and the practitioner continue in attendance. Regarding the second proviso, Dr. Dudfield thought that the certificate of notification should be sent to the medical officer of health of the district in which the institution was situated. Dr. Dudfield also thought that "suspect" cases should be notified, the more so as institutional treatment was now available for "suspect" cases for observation.

With regard to Article VII, providing for notification by medical officers of Poor Law institutions or sanatoriums of cases admitted and not required to be notified under Article V, and also of discharges other than transfers, Dr. Dudfield thought the provisions should apply to all institutions and to "suspects." He also thought that when the case was first notified on Form C, the medical officer of the institution should be required to supply the name and address of the practitioner arranging for the admission of the patient, if the medical officer of health desired the information. When a patient was admitted from one district and discharged to another, the medical officers of health of both districts should be notified. As at present drawn the article required the admission to be notified on Form C, even after "transfer," but not the transfer-discharge on Form D, so that there was an incomplete record of institutional treatment and an excess of recorded admissions over discharges and deaths. Dr. Dudfield thought that opportunity of immediate treatment was lost by a refusal of some practitioners to notify until the tubercle bacillus had been demonstrated in the sputum. Lastly, he referred to the difficulty of preparing accurate statistics of prevalence and secular change. The first source of error was the possibility of cases recorded as "primary" in one area being really "secondary" to notifications in another area. The second source of error was due to failure to trace removals. The latter might be dealt with by altering the form of certificate, requiring the practitioner to state that he had made inquiry as to previous notification, or by arranging for the district medical officers to forward to the county medical officer a list of cases where there has been removal to an untraced destination.

COMPARATIVE UROLOGY.

THE programme arranged for the Section of Urology of the Royal Society of Medicine for its meeting on May 25th was one that dealt entirely with the comparative aspect of medicine and pathology. Professor Hobday contributed a paper on "Calculi in animals," and it had been arranged that Mr. Kenneth Walker should follow with a discussion of "The comparative anatomy and the physiology of the accessory sexual glands."

Professor HOBDAY, in opening his paper, expressed his thanks to the Royal Society of Medicine for having asked him to read a paper, and said that veterinary surgeons appreciated the efforts made by the Section of Urology to draw together the kindred sciences of human and animal surgery. He was convinced that much good would result from closer collaboration, for after all the problems with which the veterinary and the human surgeons had to deal

were essentially the same. It was true that a veterinary surgeon worked under certain disadvantages, and possibly also certain advantages. For one thing he had to rely entirely on signs, as his patient could give him no history and make no verbal complaints. At the same time his patient could tell him no lies. Calculi were common in domesticated animals, especially in dogs and horses. The passage of a calculus along the urethra of a dog was complicated by the presence of a bone in the penis. In the case of the bull a similar complication was provided by the fact that the penis was S-shaped. This generally necessitated surgical intervention in the way of urethrotomy. Professor Gardner had analysed a large series of calculi obtained from animals, and had found that the commonest ingredient was calcium carbonate. Oxalate and phosphatic calculi were less common. An interesting point was the legal aspect of calculus. A lawsuit had recently taken place because a veterinary surgeon passed a valuable dog as fit and the dog had to submit to an operation for calculus some three months later. Professor Hobday concluded by showing a series of skiagrams of calculi in dogs and some illustrations of the operative technique of lithotomy in animals.

The President of the Section, Sir THOMAS HORDER, in thanking Professor Hobday for his paper, said that he considered it an admirable step that practitioners in veterinary and human surgery should meet together to discuss their problems, and he hoped that much good would result thereby.

Sir JOHN BLAND-SUTTON said that he felt that perhaps the chief danger of such a paper was that those urologists who had heard it might arrive at the conclusion that they themselves were capable of dealing in future with any complaints from which their own pet animals might suffer. He would deplore such an event, and personally would not entrust his own cat to anybody except Professor Hobday. During his long connexion with the Zoological Gardens he had performed *post-mortem* examinations on some thousands of animals, and it was interesting to know that calculi were of the extremest rarity amongst wild animals. In only two cases had he discovered them—once in a sloth and once in a bear. He had only one question to ask. Professor Hobday had spoken of the commonness of multiple calcium carbonate calculi in dogs. Had the possibility of a parasite providing the nucleus for such calculi been considered?

Sir JOHN THOMSON WALKER said that he felt with Sir John Bland-Sutton that it would be a great help if urologists could keep in touch with veterinary surgeons in order to work out such a problem as the etiology of calculus. The rarity of uric acid and oxalate calculi amongst animals was an interesting fact. He would like to know the state of the urinary tract in those animals in which calculi were discovered. Was obstruction present, and had any peculiarity in feeding an influence on the presence of calculi?

Mr. RALPH THOMPSON could not agree that calcium carbonate calculi were uncommon in man. He also believed that oxalate calculi were not so common as was generally supposed. The legal aspect of calculi interested him, and he suggested that after all a period of three months was sufficient to permit of the formation of a calculus in a dog.

Mr. FRANK KIDD disagreed with Mr. Thompson's remarks about the commonness of calcium carbonate calculi in man, and thought that the results of Professor Gardner's analyses of animal calculi were of considerable interest. He would like to know whether it was customary to close suprapubic wounds or drain them.

Mr. SWIFT JOLY remarked that it had always been a great surprise to him that those animals, such as birds and lizards, who passed urine so thick with uric acid crystals that it was semi-solid, should suffer so little from stone. He would have thought that they would have shown a great tendency to the formation of calculi, but such was not the case. Had Professor Hobday any figures showing the relative commonness of renal calculus amongst cattle and horses? He himself had wondered whether the entirely different construction of the kidneys in these two animals might not influence the formation of calculi.

Professor WOOLDRIDGE, speaking as a veterinary surgeon, expressed his appreciation of the hospitality that the Section of Urology had extended to him. He answered some of the questions that previous speakers had submitted, and said that the question of a parasite providing the nucleus for calculi in dogs had been thoroughly explored. It had, however, been found that dogs, at any rate in this country, suffered very little from urinary parasites, and no trace of such had been found in the centre of calculi.

Professor HOBDAY then replied briefly to the questions put to him by previous speakers. Owing to the lateness of the hour it was decided that Mr. Kenneth Walker's paper on "The comparative anatomy and physiology of the accessory sexual glands" should be postponed until the next meeting of the Section. Many interesting exhibits were on view, Professor Hobday showing a collection of calculi removed from various domestic animals, and Mr. Kenneth Walker specimens of the prostate of the badger, the wombat, and the dog.

LOCALIZATION OF TOXI-INFECTIVE LESIONS IN THE CENTRAL NERVOUS SYSTEM.

AT a meeting of the Manchester Pathological Society on Wednesday, May 10th, with the President, Mr. J. HOWSON RAY, in the chair, Dr. DAVID ORR and Dr. A. CORSAR STURROCK read a paper entitled "The influence of disturbance of the sympathetic mechanism on the localization of toxi-infective lesions in the central nervous system."

They stated that lymphogenous toxi-infections of the central nervous system followed definite nerve root paths and were primarily systemic. Non-systemic lesions such as those of pernicious anaemia, Addison's disease, and cancer cachexia were the result of blood-borne infection, but to call them haematogenous did not adequately explain their distribution. Degenerative changes in the non-systemic lesions or combined scleroses in the cord were found over the surface of the white columns and around the postero-median septum, which parts derived their blood supply from the pia-arachnoid, whilst the grey matter and most of the basis bundles, which were supplied from the anterior spinal artery, escaped. The stress of these lesions fell on those segments of the cord from which white sympathetic rami passed. In the brain the same distribution was found, lesions in a general blood infection being found in parts supplied by pia-arachnoid.

Experimental work was carried out on rabbits. First, a study was made of vascular changes in the brain after division of the cervical sympathetic, and secondly of vascular and nervous elements in the brain in similar animals after flooding the circulation with an emulsion of *B. dysenteriae* Shiga injected into the vein of the auricle. The results might be summarized as follows:

Lesions due to sympathetic division alone. These were vascular dilatation, perivascular oedema, slight proliferation of adventitial cells which might be a response to increased permeability of the vessel wall resulting from sympathetic paresis and the release of certain noxious products from the circulation. There was at the same time some morbid change in nerve cells, and the areas affected were those supplied by pial vessels—namely, the cortex cerebri and the cornu ammonis, the fascia dentata, the amygdaloid and caudate nuclei, which were supplied by folia of pia carrying vessels invaginated from the surface of the brain.

When, after division of the cervical sympathetic, a general intoxication was produced, lesions were found affecting the same areas, but to a much greater degree, and the unilateral sympathetic division intensified the morbid lesion on the same side. The areas involved in both series of experiments were the archaic regions of the brain *plus* the cerebral cortex, which was developed from the archipallium. All were supplied by pial vessels and under sympathetic control. It would appear, therefore, that the sympathetic nervous system played an important part in toxi-infective inflammation and degeneration and its involvement was a contributory factor in the localization of lesions, not only in the central nervous system, but probably wherever they might occur. Further investigation on this point might lead to a better comprehension of the genesis of obscure non-systemic lesions affecting both spinal cord and brain.

While lesions were found in all the areas mentioned above, the most striking and remarkable was extensive periarteritis in the head of the caudate nucleus just external to the anterior horn of the lateral ventricle. This lesion was so well defined and so localized as to seem of special significance in view of the obscurity which at present surrounded the etiology of certain lesions which implicated the lenticular area.

In these experiments on acute intoxications ependymal cells of the lateral and third ventricles and of the iter, as well as the epithelium of the choroid plexus, were in a state of active

secretion. This secretion consisted of small globules of a translucent and highly refractile material, which coalesced into larger masses, consisting of an inner core with a weak affinity for certain stains and an outer marginal zone with a marked affinity. This was an active secretory process of a lipoid material, which was probably of the greatest importance as an active defensive measure against intoxication as well as one destined for the purposes of regeneration and repair.

These lesions, occurring in the archaic part of the brain and intensified by disturbance of the sympathetic mechanism as well as in the superficial layers of the cortex cerebri, might play an important part in the genesis of disturbed emotional states. They were produced through interference with the blood supply without added toxin, but were greatly increased by the additional factor of an experimental intoxication. This fact inclined the authors to take a much broader view of the genesis of emotional disturbance, and tended to take the question out of the purely psychical field of argument. In emotional disturbance the initial stimulus might come from the sensorial cortical areas, the peripheral sensory nerves of the life of relation, or through the endocrino-sympathetic system, which subserved the function of kinaesthesia and was the physiological foundation for those feelings of well or ill being so important in the psychic and physical life of the organism. These kinaesthetic or vegetative stimuli, when normal, remained subconscious, but leapt into prominence so soon as they became abnormal. Every stimulus which impinged on the central nervous system produced results which embraced a vast territory, and whether the exciting stimulus be central or peripheral its influence reverberated throughout the whole nervous system and its appendages, and was certain to find its expression in a reaction on the part of the psychic and vegetative life.

A healthy affective tone played no small part in keeping the higher cortical and intellectual functions up to their highest level, and affective tone and emotion were influenced or often greatly disturbed by morbid changes in the archaic portions of the brain. It was there and in the cerebral cortex that lesions occurred after interference with the cervical sympathetic in the rabbit, and as affective tone and emotion were so closely linked up with the function of the endocrino-sympathetic system their disorder was probably the result of a psycho-physical process which altered the nutrition of the ganglion cells which governed their mechanism. A similar process was no doubt accountable for the large group of functional disturbances termed the "psycho-neuroses." Future researches might ascribe more importance to the effects of altered nutrition of the central nervous system than to the purely psychic element, though one recognized the influence of the one upon the other.

Benign Epithelioma of Skin.

Dr. LOUIS SAVATARD reminded his hearers that rather more than thirty years ago Brooke had first described before this society small tumours of the skin, to which he had given the name of "epithelioma adenoides cysticum," and that Brooke's original paper appeared in the only published *Transactions* of the society (1891–92). Fordyce of New York was at that time carrying out similar research, and communicated his results to the sixteenth annual meeting of the American Dermatological Association in September, 1892. Brooke and Fordyce's clinical and histological observations were almost identical, and to their masterly descriptions there was to-day little to add. Last summer the speaker had by chance come across one of Brooke's original cases, and he showed slides of the condition then and now. He stated that in their multiple variety there was little difficulty in diagnosis, and that the uniformity of the lesions readily differentiated them from multiple rodent ulcers. When solitary lesions presented themselves—and he had had five examples—the clinical diagnosis from a non-pigmented naevus was not possible. When these solitary lesions became ulcerated, as they had in three cases, they simulated early rodent ulcers or early epitheliomas. Some of the lesions showed pigment beneath the epidermis, in the adenoid masses and fibrous stroma. Many of the cases presented other naevi associated with the tumours. The communication was illustrated by numerous lantern slides.

A MEETING of the West Kent Medico-Chirurgical Society was held in the Miller General Hospital, Greenwich, on May 12th. Dr. C. T. T. COMBER, O.B.E., occupied the chair, and delivered his presidential address, in which he gave an account of the early days of his practice on the Yorkshire moors. He described the collection of plants and putting them up to dry in the doctor's surgery. There was much superstition, and he saw a "holy stick" to which was attributed miraculous powers of healing. He described an operation on a countryman on a farm, where the patient held the candle whilst the surgeon amputated the leg. He showed an original stethoscope, wooden pill boxes, an early tonsillotome, and an instrument for extracting teeth with a T-shaped handle. A smoking concert was afterwards enjoyed by a large company of ladies and gentlemen.

Reviews.

A MOORLAND PRACTICE.

THE late Dr. R. W. S. BISHOP's book, entitled *My Moorland Patients*,[1] contains no small store of wisdom entertainingly surrounded by anecdotes of his medical experiences in his Yorkshire practice. The work has been edited by a friend, who also furnishes a biographical note from which we learn that this "Yorkshire Doctor" was born at Ripon, studied at Leeds and London, qualified in 1889, spent some time in Paris (where he gained an easy fluency with the language), returned to England, where he acted as an assistant in Derbyshire, and finally practised for some twelve years at Kirkby Malzeard, on the moors north of Ripon, in or near Richmondshire. He retired from practice and settled in Tanfield on the river Ure; in 1915 he was attacked by a painful disease, from which he ultimately died on December 31st, 1921. His book was written in the intervals of acute suffering, and in its cheery optimism and constant good humour shows well how a brave man faced for himself the King of Terrors, whom he had so often held at bay for others amongst his moorland patients.

Dr. Bishop has in this book done for the people of the north-west part of Yorkshire something of the same kind that Turner did for Richmondshire's hills and valleys; he has pictured them in all their moods, and has shown them in storm and sunshine, in the sterner phases of tragedy, and in the lighter aspects of native humour. In one chapter some moorland tragedies are described with graphic pen, and another gives specimens of Yorkshire wit and humour; but all through the thirteen chapters an appreciation of the humorous in life runs cheerily like the moorland beck of the frontispiece. Indeed, one can easily understand that without an eye for such a way of looking at the discomforts (to use no stronger word) of medical practice in the North Riding the moorland doctor's life would be hard beyond bearing. After recounting the many things a man has to give up in these solitudes, Dr. Bishop sums up with a clear note of affection for the moorlands: "It was God's own country . . . the pages of the great book of Nature were always invitingly open, and there were ample opportunities for sport of every kind. The people, on the whole, were most kind and hospitable. Their folk-lore, habits, and language were a source of perpetual interest and study, and, if the conditions were trying, it was a healthy land."

A distinct peculiarity of country practice is early pointed out in the reflection that the patients are, unlike those in the towns, more or less stationary, and that therefore the doctor gets to know their individual character and ways better. One morning Dr. Bishop was rather worried: he had just seen two women living next door to each other; one he could not persuade to go to bed, the other he could not persuade to get out of bed. Individual eccentricities all become accentuated, and curiosity is everywhere rampant. Smoke from an unusual chimney was enough to set tongues wagging. 'Another chimbley smoking at Trotter's this morn." "What's up? Onnyways t' bairn isn't looked for yet awhile. Must be his sister fra Lunnon, or yon painting chap is there ageean." There is a sombre side to things too: the frequent intermarrying of cousins is held to have something to do with the frequency of insanity; excellent teeth, too, are becoming rare.

Dr. Bishop had many exciting experiences. Snowstorms brought him into danger, as on the day when he took a short cut and unknowingly skirted a precipice by a margin of eight inches. The farmer whom he had acquainted with his intention had merely said, "Ye mun tak care, Doctor"; but he had later gone out after him with a stable lantern. He

---

[1] *My Moorland Patients.* By a Yorkshire Doctor (the late Dr. R. W. S. Bishop). With illustrations. London: John Murray. 1922. (Pp. xi+242. Price 12s. net.)

had adventures with unfriendly dogs and with "saucy" bulls. A medical friend of his was once, after much preparation, on the point of plunging a knife deep into a painful carbuncle when the patient remarked, "If I give mouth t'aud dog'll click ye for sure," pointing to the sheepdog under the table suspiciously watching proceedings. It was not easy to get another doctor to help in operative work, for the relatives were sceptical about the necessity and still more about the speed called for. "It's none a gallopin' matter?" asked a husband, very loath to start; some time afterwards Dr. Bishop found him laboriously shaving, and was told, "I never go to Muxley without shaving; it's none a gallopin' matter, is it?" There were, of course, many obstetric occurrences, and these appear under the euphemism of "waiting for the hatching of a moorland chick." The hospitality following such events was oppressive. In addition to "wetting the baby's head" there was much solid food to be eaten; on one occasion the doctor was to be seen running at top speed with a black bag at 3 o'clock in the morning to escape from fried Yorkshire ham and a pursuing recently made father. Such hospitality must generally be accepted if one is not to be called "'igh, 'aughty, and pompey."

There is an exceedingly interesting chapter on old Yorkshire words, which, especially in connexion with medicine, are not lacking in force and expressiveness. The grave prognosis and the approach of death are deftly described as "making bad mends," "ganning t' wrang rooad," "sweealing away," "tapering off," and "pegging out." After death come the "pinkers," which is the name given to the women who lay out the body; both Dr. Bishop and his editor are puzzled about the derivation of this word, but it may be suggested that as "pinking in of the day" sometimes means the hour of twilight, so the term may have been applied to the women whose duties brought them to the person who had just passed into the night of death.

One might easily go on quoting from this fascinating record of moorland practice; but one more story must suffice. Dr. Bishop once put his thermometer in the armpit of a sick farmer, and went away forgetting to remove it; on his return he expected to find it smashed; he got a welcome, however, from the old man, and the precious instrument quite whole, with the following explanation and comment: "Ah's glad to see thee, I can tell thee, bud what a job I've had wi' yer fanglement. It kept slippin' doon an' I puts it back, an' it slipped ageean, an' I puts it back ageean. By gum I nobbut winked (slept) a bit afore it slipt ageean. I tewed all t' neet wi' it, but it's deean me ner hurt (much good), an' I sall soon be makin' good mends."

INTERNAL SECRETIONS.

PROFESSOR SWALE VINCENT has published a second edition of his book on *Internal Secretion and the Ductless Glands*.[2] The first edition, published in 1912, was exhausted in 1914, and the appearance of the new edition has been delayed in order to allow time to give adequate expression to the changes brought about by the researches of recent years. The author has exerted that rigid criticism and wise scepticism which are required in dealing with a subject which has become the happy hunting ground for intra-professional quackery, and for that exploitation of the practitioner and his patients carried on by the drug makers. The bibliography has been omitted in this edition, because when brought up to date it was very long and because the papers since 1917 are abstracted in *Endrocrinology*, and since 1915 in *Physiological Abstracts*. The amount of space given to clinical subjects has been increased considerably. Many of the new illustrations are photographs of patients suffering from diseases of the organs of internal secretion.

As examples of the value of this important work to the practitioner we may cite the following extracts from the chapter on the pancreas: "Whatever may be subsequently discovered to be the true function of the islets of Langerhans, their intimate anatomical relationship with the zymogenous tubules, the numerous transition forms in all groups of vertebrates, and the transformation of alveolus into islet, and vice versâ, all appear to prove conclusively that the islets are not organs *sui generis*, but an integral part of the pancreatic tissue." Again: "Recently it has been found that diabetes may be induced artificially in the dog if a sufficient portion of the pancreas be removed, leaving the remainder with its normal blood supply and its normal connexion with the duct. In such cases the progress of the disease is hastened by carbohydrate feeding." "Organotherapy—treatment of diabetes with pancreas or extracts made from it—appears to be useless. The most modern form of treatment and, so far as can be judged from the clinical evidence available, the most successful form, is by fasting, combined with vigorous exercise." "An important function of the pancreas appears to be to increase the resistance of the body towards bacterial infection. Extracts of pancreas are employed medicinally in gangrene and tuberculosis, as well as in pancreatic diabetes. The use of such extracts with the object of increasing the resistance to infection is of recent date, but is deserving of further practical study." Be it noted that the Toronto physiologists have just discovered how to make an extract of pancreas potent against diabetes.

Turning to the chapter on the reproductive organs we are reminded that in the human subject Lichtenstern reports that after loss of both testes, transplantation of a testis from another man restores the previous physical and psychical condition. An excellent, restrained, and cautious summary of the probable functions of the adrenals is given on page 248.

The view put forward by the author that the coccygeal bodies are safety valves in the course of the peripheral circulation seems very questionable; safety valves to what—blood pressure? After summarizing the reported effects of extirpation on the pituitary, experiments of Camus and Roussy are cited on page 365 "which, if confirmed, will necessitate a reconsideration of our whole attitude in relation to the pituitary body."

[2] *Internal Secretion and the Ductless Glands.* By Swale Vincent, LL.D., M.R.C.S., L.R.C.P., F.R.S.Edin., F.R.S.Canada, F.Z.S. Second edition. London: Edward Arnold. 1922. (Demy 8vo, pp. xx+422; 105 figures. 25s. net.)

COLLOIDAL CHEMISTRY OF THE PROTEINS.

THE researches of W. PAULI on the proteins with reference to colloidal behaviour have had an important share in the development of our present knowledge of colloids, and have added considerably to our information on the properties of the protein molecule. The appearance of a book from the pen of this investigator is therefore of sufficient interest to attract the notice of all who study chemistry in its relation to biology. His book, which has been ably translated into English by P. C. L. THORNE, under the title *Colloidal Chemistry of the Proteins*,[3] is not a complete handbook on the subject, but is intended to give a connected account of the author's investigations, and of the theoretical conclusions developed from them. The reader is presumed to possess a certain acquaintance with the characteristics of colloids such as may be acquired from reading an introductory work, as, for example, that of E. Hatschek, recently published, to whom acknowledgement for helpful advice is expressed in the translator's preface to the English edition. The methods employed by the author are described, and the results achieved by him are presented in their relation to those of other workers with the aim of connecting and co-ordinating the theoretical views which are supported by his experimental work. The methods principally employed were those which are designated "electrometric" and "electrophoretic." They were used to determine to what extent salt formation takes place, under varying conditions, between proteins and those acids and bases which are capable of combining with proteins. The degree of hydrolytic dissociation and of ionization of the salts formed is illustrated by the results of extensive investigations. No unusual demand is made on the reader's knowledge of physical chemistry in order to follow the results of experiment and the theoretical discussions; they are approached from starting points familiar to all, and are presented in terms that are clear and free from the ambiguities which frequently attend a translation. We must not omit to note that ample data are given which may be valuable to those whose interest is more directly practical.

COMPARATIVE EMBRYOLOGY.

LIKE almost every other branch of science, that of the comparative embryology of vertebrates has made enormous advances within recent times. The magnitude of the subject may be realized by a glance at Professor BRACHET's new *Traité d'embryologie des vertébrés*.[4] It contains 600 pages and

[3] *Colloidal Chemistry of the Proteins.* By Professor Dr. W. Pauli, translated by P. C. L. Thorne, M.A.Cantab., A.I.C. Part I. London: J. and A. Churchill. 1922. (Demy 8vo, pp. xi + 140; 27 figures. 8s. 6d. net.)

[4] *Traité d'embryologie des vertébrés.* Par A. Brachet, Professeur à l'Université de Bruxelles. Paris: Masson et Cie. 1921. (Roy. 8vo, pp. xv+601; 567 figures.)

nearly as many figures, and provides a voluminous and most useful bibliography brought well up to date. Most earlier textbooks have dealt very largely, if not exclusively, with the embryology of mammals. Though such books serve a useful purpose, they fail often to give that comprehensive survey of the subject so necessary in order to grasp the true evolutionary conception to be derived from a comparative study of ontogeny. Professor Brachet's volume fulfils this object in an excellent manner.

The scheme adopted is to give an account of the development of the different systems as they occur in the different classes of vertebrates, having previously devoted the earlier chapters to a general account of the origin and development of the sexual cells and of the foetal membranes.

The author, while adopting the idea of development from three centres of growth which he terms acrogenesis, cephalogenesis, and notogenesis, appears to realize the difficulty of its application to such a form as the acraniate amphioxus. He brushes this difficulty aside, perhaps somewhat lightly, by stating that amphioxus is a very simplified vertebrate, and is only of use in the early stages of development—namely, segmentation, gastrulation, and the formation of the germ layers. In other words, amphioxus does not fit in with the theory.

In discussing the theory of the germ layers, which the author regards as fundamentally true, he states that it must not be pushed to the extremes some authors have attempted in the past. For example, he points out that the sphincter muscle of the iris has been shown to be of epiblastic origin; the same can be said of the muscles of the sweat glands in the skin and of the galactophorous canals of the mammary gland. From a consideration of these and other facts, Professor Brachet is led to suggest that the germ layers, like the blastomeres, "ont une potentialité réelle et une potentialité totale"; by the former he means what they normally become, by the latter what they are capable of becoming under varying influences, natural or experimental.

The interesting and much-debated question of the segmentation of the skull is discussed in the light of the varying results obtained by different investigators, more particularly with reference to the selachians. The conclusion reached is that the number of trunk segments incorporated in the formation of the head varies not only according to different groups, but even according to the species.

Enough has been said to show that Professor Brachet's book is not a mere statement of embryological details, but that the more important theoretical aspects of the subject receive attention. The book is a valuable one and will be welcomed by all embryologists; and, as every such book dealing with so intricate a subject should be, the illustrations are numerous and exceedingly well executed. That so much can be devoted to illustration is a hopeful sign that indeed "things are looking up" amongst some of our allies.

NOTES ON BOOKS.

THE popularity of Dr. W. A. BREND'S *Handbook of Medical Jurisprudence and Toxicology*[5] can be gauged from the fact that the fourth edition follows the third within the space of three years. Of this small work we may say again that it furnishes an excellent outline of forensic medicine and toxicology for the use of students and practitioners, and that the information given, so far as we have tested it, is not too much condensed for a clear understanding of principles. The new edition contains the same number of pages as its predecessor, and in other respects the alterations are few. We observe that in Chapter XVII, on medical privileges and obligations, some paragraphs have been modified in accordance with recent changes in the law or in administrative procedure. On the other hand, in the section on cocaine poisoning the sale and prescription of this drug is said to be still subject to regulations made under the Defence of the Realm Act; the regulations now in force were made under the Dangerous Drugs Act, 1920. Fashions in textbooks come and go, but we foresee a long period of usefulness for this very short but none the less readable and trustworthy guide to the medico-legal aspects of practice.

Dr. ALEX. MAXWELL ADAMS, of Tibshelf, Derbyshire, has published an interesting little book[6] on the medical history of his own branch of the Adams family. The author gives particulars of sixteen of his family who were, or are, members of the medical profession, and he informs us further that all the living members of the family are, or have been, members of the British Medical Association. Perhaps the most interesting chapter in this history is that devoted to the life of Alexander Maxwell Adams (*primus*), the first of the many distinguished medical men of his line, who was born in 1792 and died in 1860. He was a friend of Dr. Robert Knox, the anatomist who was more or less innocently implicated in the Burke and Hare murders, in regard to whom the author gives some hitherto unpublished anecdotes. Scattered throughout the other chapters of the book are many other stories, new and old, of medical men and medical life. The author in his own career has had a varied experience of the world, from town and country practice in Scotland to the tea gardens in Assam, then West Africa, round Cape Horn in a sailing ship, an insurrection in Chile, and eventually seventeen years in rural Derbyshire. Of the present generation of the Adams family detailed here, perhaps the most distinguished is Dr. James A. Adams of Glasgow, consulting surgeon to the Glasgow Royal Infirmary, and the well-known member of the General Medical Council. Dr. A. M. Adams is to be congratulated on his record of a notable medical family.

The Practitioner's Loose-Leaf Pocket Book,[7] brought out by Messrs. H. K. Lewis and Co., is a nicely got up and convenient arrangement whereby case records, visiting lists, temperature charts, and records for vaccination and infectious diseases, all on thin cards of the same size, can be carried about in a case, from which they can readily be removed. The loose-leaf system has been employed with success in various publications, and in this instance its application to a visiting list is most convenient, for it enables it to be used in connexion with a card-index catalogue, and the number of loose-leaf cards can, of course, be varied to suit individual requirements.

[5] *A Handbook of Medical Jurisprudence and Toxicology.* For the Use of Students and Practitioners. By W. A. Brend, M.A.Camb., M.D., B.Sc.Lond., of the Inner Temple, Barrister-at-Law. Fourth edition, revised. London: C. Griffin and Co., Ltd. 1922. (Pott 8vo, pp. xiii + 317. 10s. 6d.)

[6] *A Dynasty of Doctors.* By Dr. Alex. Maxwell Adams. Reprinted from *The Hamilton Advertiser and County of Lanark News.* 1922. (Pp. 64.)

[7] *The Practitioner's Loose-Leaf Pocket Book.* London: H. K. Lewis and Co. (Prices 7s. 6d. and 10s. 6d.)

THE STORY OF "BRAIN."

COMPLIMENTARY DINNER TO DR. HEAD.

A COMPLIMENTARY dinner was given to Dr. Henry Head, F.R.S., on May 26th in recognition of his eminent services to neurology as editor of *Brain* for seventeen years. Most appropriately, remembering the fundamental importance of his own contributions to neurology, Sir CHARLES SHERRINGTON, President of the Royal Society, was in the chair.

The CHAIRMAN, in proposing the health of Dr. Henry Head, said that under his direction the influence of *Brain* had been increased and extended. It formed a living bond between neurologists in these islands, across the Channel, and beyond the Atlantic. Every worker in neurology, wherever his lot was cast, had learnt that if he took thorough work to the editor of that journal he was sure of a sympathetic hearing and of an opportunity. Dr. Head had consistently upheld the scientific method in neurology, both in his own work and in the selection of papers for publication; he had his reward in the position *Brain* had attained as a worthy representative of British science and a moving spirit in the development of neurology throughout the world.

Sir DAVID FERRIER, at the invitation of the Chairman, sketched the history of *Brain*. In 1877 some of those most interested in neurology felt that the time was ripe for the establishment of a special journal. The reports of the West Riding Asylum, the first school of neurology in this country and founded by Sir James Crichton-Browne in 1871, had come to an end in 1876, when their editor was appointed Lord Chancellor's Visitor in Lunacy. Under the editorship of Croom Robertson, then Professor of Psychology in University College, London, *Mind* had been started in 1876, but it was concerned mainly with pure psychology, and a journal more particularly devoted to the anatomy, physiology, and pathology of the nervous system seemed to be needed. A committee, consisting of Sir James Crichton-Browne, Sir John Bucknill, Dr. Hughlings Jackson, and himself, resolved to establish such a journal, and selected the title *Brain*—a title which was warmly approved by Charcot, among others. It was to be managed by the committee, and edited in alternate years by Crichton-Browne and Ferrier. The first number was issued in April, 1878, and this rather unusual, and to the committee rather expensive, arrangement, as to the editing continued for five years. Then with Volume VIII Dr. de Watteville became acting editor, working under the Editorial Committee, to which Dr. James Ross of Manchester and subsequently Dr. T. Buzzard were added.

In 1888 *Brain* became, with Volume X, the journal of the newly founded Neurological Society, but retained its title and editor. When Dr. de Watteville retired and went to live in Switzerland Dr. Percy Smith succeeded him, and was remarkably successful in relieving the financial difficulties under which *Brain* had always laboured. When he handed over to Dr. Head, in 1905, the journal was free from debt, and the high scientific reputation it had from the first enjoyed had since then been not only maintained but greatly enhanced, both by what may truly be termed the epoch-making studies in neurology by Dr. Head himself and by the many valuable papers which he had secured to the journal from contributors both at home and abroad. English neurologists had good reason to be proud of the position which *Brain* occupied in the world of neurology. Dr. Head's resignation of the editorship was a great loss, but they had the consolation of knowing that his mantle had fallen on one who would prove himself well worthy to wear it—Dr. Gordon Holmes.

Dr. HENRY HEAD, in responding, said that *Brain*, after its foundation in 1878, had a severe struggle for life and suffered from a constant deficit, which was defrayed from the pockets of the editors. It was while Dr. de Watteville was editor that *Brain*, in 1888, became the organ of the Neurological Society, and its position from that time forward ought to have been secured. Unfortunately, although the published papers grew in value expenses also increased out of due proportion. When Dr. Percy Smith took over the editorship of the journal it was saddled with a large debt, and there were no assets but the annual subscriptions from the Neurological Society, which were insufficient to meet current expenses. By rigid economy and the strictest attention to finance Dr. Percy Smith succeeded in producing a condition of solvency. "I am delighted," Dr. Head continued, "to see him here to-night, for had it not been for his devotion there would have been no journal to-day. When I took it over from his hands it was free from debt, but there is no security in this mutable world, and within two years we were faced with the amalgamation of the Neurological Society into the corporate body of the Royal Society of Medicine. This was in 1907; it meant the cessation of all obligatory contributions, and *Brain* was thrown on to the world to sink or swim on its own merits. Guarantors came forward; the form of the journal was changed so as to improve the character of the page, a new fount of type was cast, and each volume was issued at 14s., which was then considered a fair price. Subscriptions flowed in to make up the deficit due to the loss of members of the Neurological Society, and I am proud to say that the guarantors have never been called upon to contribute a penny. The next crisis came with the outbreak of war; in 1915 contributions ceased; I was almost in despair. But during the early days of the war I had been reading Dr. Hughlings Jackson's papers on aphasia, and was so struck with the way in which they had been lost to science that I reissued them as a double number of the journal. I received letters from all parts of the world about them, and v. Monakow not only translated them into French but devoted a large issue of the *Schweizer Archiv* to a critical consideration of Jackson's views, which were entirely unknown on the Continent. Then Sir Charles Sherrington came forward with his classic paper on "Postural activity of muscle and nerve," which has had so profound an influence on English neurology, and we were saved. The issue of the journal might be delayed, but every year of the war a volume appeared and the character of the papers retained a high standard. Then suddenly we woke up to the danger produced by the colossal rise in the price of paper and the treble increase in wages. In 1916 we were a paying concern, but in 1917 with the same number of pages we were in debt. Drastic measures were taken and we pulled through. Finally, by the end of the last financial year (June, 1921), we had paid off our debt without touching capital and were again making a profit. Moreover our subscribers had increased, in spite of the rise in the subscription to 24s. a volume. Through all of these changes and chances, I have had the unvarying support of the committee of guarantors, and I cannot find words adequate to express to them my thanks. A united country can present a firm front to adversity and is able to make itself felt in the comity of nations. This we have done. For *Brain* has become an international organ of neurology. It is universally taken to represent the serious side of English work. To be truly international it is necessary to be at the same time national. The Continent wants no pale reflection of itself. English neurology has influenced foreign thought because it has brought into knowledge something distinctive. It has been characterized throughout by two features—its dependence on clinical observation and its consistency in looking at pathological facts from the physiological point of view. There is no doubt that this began in 1859, when Brown-Séquard was appointed to the National Hospital, Queen Square. Hughlings Jackson was profoundly influenced by that adventurous genius, more perhaps through intercourse with his famulus Victor Bazire than by direct contact with Brown-Séquard himself. The next most serious influence to which English neurology has been exposed was the publication in 1906 by their Chairman of the "Integrative action of the nervous system." This reinforced the tendency, always present, to regard pathological facts from a physiological standpoint, a principle still incompletely assimilated by our colleagues abroad. Thus, with every number of *Brain* issued from the press it becomes more and more obvious that we have a message for the world. We can hold up our heads and speak with the enemy in the gate. It is our business, therefore, to raise our journal to the highest pitch of efficiency as the expression of English neurology. This is the task for the younger men, and I rejoice to think that it has passed into the competent hands of Dr. Gordon Holmes. As an old captain I can take my leave with a certainty that the ship will make voyages into fresh lands and carry fruitful cargoes to the greater glory of that branch of science we all have so truly at heart.

The health of the chairman was proposed by Sir WALTER FLETCHER and briefly acknowledged by Sir CHARLES SHERRINGTON. The guests, who numbered between forty and fifty, took opportunity after the dinner informally to thank Dr. James Taylor, who made the arrangements.

A HALF-CENTURY OF PUBLIC HEALTH IN NORTH AMERICA.

BY

JOHN C. McVAIL, M.D., LL.D.

(*Continued from page 846.*)

III.

FOOD CONTROL.

THROUGHOUT the Jubilee volume a reader in this country will often be struck by the legislative and administrative difficulties which arise from the fact that each of the States in the great republic is in many ways practically independent of the rest, and that the functions of the Federal Government in respect of control and co-ordination are limited. This is well illustrated in the article on Federal food control by Dr. Carl L. Alsberg, Director of the Food Research Institute of the Leland Stanford University.

A model law was prepared, but Federal control was thought unattainable, State action was sometimes limited to special objects, such as the protection of the dairy industry from competition by substitutes. In 1881, through the influence of a joint committee representative of various public bodies, a food and drug law was passed for the State of New York, which it was hoped would be generally adopted by the several States. Various other States passed food laws within a few years, but uniformity only began to appear with the passage of a Federal Food and Drugs Act in 1906. This Act was supplementary to the laws of the separate States; not only did the laws differ from each other in terms, but the interpretation put on them differed also, so that what was permitted in one State was prohibited in another. Under the Federal Act a considerable degree of uniformity was achieved through the operations of an office of co-operation established by Dr. Alsberg. The Secretary of Agriculture is at the head of the system and acts through the Bureau of Chemistry. There are stations in the leading trade centres. With regard to the general effect of the Act Dr. Alsberg makes the following statement:

> "Through the drastic power conferred in the seizure action of the Federal law, it is possible by means of concerted action of Federal, State, and municipal officials, to seize in widely separated parts of the United States a large number of shipments of any manufacturer who may be found to be shipping in inter-State commerce foods and drugs adulterated or misbranded within the terms of the Federal law. . . . The usual effect is an immediate change for the better in the product. . . . Probably no commodities regularly sold are to-day as free from adulteration and misbranding as are foods."

Newer and refined forms of adulteration are being developed with the idea of cheapening the product, and though these

are not directly hurtful to health, yet effective control requires professional men of high training. Dr. Alsberg urges that such men cannot be obtained without adequate salaries, that there is more work to be done in establishing food standards, and that education should go hand in hand with regulation and legislation.

In an article on food conservation Professor Samuel C. Prescott of the Massachusetts Institute of Technicology shows how the food supply of the world has been in effect increased by the invention and development of methods of preserving foods which, when fresh, have only a very localized area of availability. Dehydration, canning, and refrigeration are the nethods discussed and described.

Dehydration, which is the oldest method, was resorted to, though not always successfully, for preservation of vegetables during the American civil war, also for Alaska during the Klondike boom, and again in the Boer war and the world war. If the process is properly applied to materials in prime condition they can be restored by soaking in water. The question whether vitamins are adversely affected by dehydration is not yet settled.

A method of canning was patented so early as 1810, but it was Pasteur's discoveries that made a scientific system possible. The difficulties overcome up to and including the modern application of steam under pressure are recounted. The industry now includes the preservation of nearly all classes of food—soups, fish, shellfish, meats of all kinds, sausage, baked beans, vegetables single and combined, cereals, poultry, milk, butter, cheese, syrups, fruits, and many others. Though refrigeration is of ancient origin, sound frozen meat was first successfully carried to England from the United States in 1875–76, and from Australia in a refrigerator ship in 1880. Professor Prescott holds that but for conservation "food prices would be prohibitive, the health of urban communities would be endangered, and starvation would be imminent in our large cities."

MILK CONTROL.

The importance of milk control seems, if possible, to be even more fully appreciated in America than in this country, owing perhaps to the higher summer temperature. Excepting that little or nothing is said either as to details of the construction, ventilation, and cleanliness of cowhouses, or fraudulent adulteration by addition of water or abstraction of fat, no aspect of the question appears to be omitted from the paper Dr. Charles E. North has contributed. It is pointed out that Dr. W. M. Taylor of Penrith was the first to call attention, in 1857, to the conveyance of typhoid fever by milk, and the first (ten years later) to trace the spread of scarlet fever to a milk source. Dr. North calls attention to an important event in 1881—the publication by Mr. Ernest Hart, then editor of the BRITISH MEDICAL JOURNAL, of a list of epidemics due to milk: 50 of typhoid fever, 15 of scarlet fever, and 4 of diphtheria. The earliest reported outbreaks of diphtheria due to milk were by Dr. Jacob at Sutton in 1877 and Mr. W. H. Power in London in 1878. In the same year the first recorded outbreak of septic sore throat due to milk was reported, 300 cases having occurred in connexion with one dairy at Aberdeen, as well as 90 among boys at Rugby School.

In America a great diminution of epidemics due to milk has taken place since 1907. Until then pasteurization was practised by few cities, but it has become very general. Dr. North gives a table, on the lines of Mr. Ernest Hart's, of milk epidemics gathered from many sources in America and elsewhere, year by year from 1857 to 1920. These statistics certainly show a very remarkable diminution after 1907, maintained up to and including 1920, when the table ends. For the thirteen years 1908–20 inclusive he was able to collect only 40 outbreaks of typhoid fever due to milk, 4 of scarlet fever, and 3 of diphtheria; in the previous thirteen years he found 138 outbreaks of typhoid, 36 of scarlet fever, and 19 of diphtheria. Records of outbreaks of sore throat, however, have been more numerous (4 in the earlier period and 16 in the later). It would be hasty to assume—and Dr. North does not do so—that the diminution is wholly due to pasteurization of milk. The figures relate not only to America but to other countries where pasteurization is not so general. In this country, from which typhoid has for the time at least almost disappeared, account has to be taken of improved water supplies, control of the sale of oysters and of other shellfish, and various other factors. Dr. Hamer's observations on the subject have to be borne in mind, and probably an epidemiologist would hesitate to accept too readily any single factor in explanation of the change.

With regard to infant mortality, Dr. North, like other contributors to the volume, calls attention to the incompleteness of vital statistics in the United States. He writes that "Chicago records are not given because infant births are not recorded." That is a most amazing fact for the second largest city in America. He goes so far, however, as to declare that before health authorities became active "more than half of the infants born perished during the first year of life." Mention is not made of the data on which this strong statement is based.

Milk Preservation.

With regard to the preservation of milk, it is stated that without any precautions whatever excepting cleanliness in production and cold in preservation milk sent from America every two or three weeks to the Paris Exhibition of 1900 kept sweet a fortnight after bottling, in striking contrast to French exhibits of milk. Raw milk of this purity is "certified" in part of New Jersey by a Medical Milk Commission. The considerations are bacterial condition, keeping qualities, and resistance to fermentation, nutritive value, and chemical composition. But the total quantity of available certified milk is small, some serious outbreaks have occurred in course of its use, and some certified herds have been found infected by tuberculosis on a large scale, so that most public health authorities prefer pasteurization. Yet Dr. North himself has great confidence in the possibilities of cleanliness. "As further evidence of the fact that methods and not equipment are the primary factors in producing clean milk," Dr. North "transported ten dairy farmers from their homes into a new dairy district, where in ten barns of the ordinary type, entirely strange to them, with no changes in equipment, these men produced milk within the limits of the certified standard for bacteria of 10,000, compared with milk containing many millions of bacteria produced in the same places the previous day by the owners of the premises." Independently of whether pasteurization is resorted to, the principles of clean production have been largely adopted, and most of the Grade A milk used in large cities is now produced by this system. As to pasteurization, he expresses the opinion that it should be done not domestically, but on a large scale for cities, and states that many such cities have followed the lead of Chicago and adopted regulations requiring pasteurization. In many smaller cities opinion is still divided, although public health authorities are practically unanimous in its favour.

Infant Milk Dépôts.

As an indication of the development of infant milk dépôts in America, he mentions that in New York fully 27,000 babies are enrolled at the stations of the Department of Health and over 6,000 at private agency stations. The death rate among enrolled babies is less than 50 per 1,000 births, and a reduction of 10 per cent. in the previous rate is not uncommon. The question whether such a reduction is due to milk or to education was, it is considered, answered in 1912 by a report of observational work done under the Rockefeller Institute, the feeding of large groups of infants on different milks having the following results:

Milk.	*Mortality.*
Condensed	20 per cent.
Store	19 ,,
Good bottled	9 ,,
Milk dépôt	2.7 ,,

Opinions differ, however, one medical authority concluding that of a 60 per cent. reduction in mortality 15 per cent. was due to education and 45 per cent. to milk, while another held that if the total reduction is represented by 100, then only 20 per cent. of it was due to milk and 80 per cent. to training of mothers. On these differences Dr. North remarks that the conditions in the two groups were not the same, the milk in the former case being completely prepared for use, while in the latter nurses instructed the mothers how to prepare it. In laboratory work chemical testing is done by the Babcock method (sulphuric acid), which in America is universally considered the standard, and it can be used by any intelligent superintendent. In bacterial testing the count occupies the first place, and confidence in such testing is increasing. Five samples of the same milk are required to give a reliable result, placing the milk in Grade A, B, or C.

(To be continued.)



GLASGOW ROYAL INFIRMARY: VIEW FROM THE SOUTH-EAST.
(Reproduced from an architectural drawing.)

NINETIETH ANNUAL MEETING
of the
British Medical Association,
GLASGOW, 1922.

THE MEDICAL INSTITUTIONS OF GLASGOW.

"LET Glasgow flourish by the preaching of the Word"; "The poor were visited gratis and the Faculty adjourned." In these two phrases—the first, the motto of Glasgow, the second, the time-honoured formula with which every minute of the Royal Faculty of Physicians and Surgeons concludes—lies the spirit which has actuated Glasgow's citizens and Glasgow's doctors in founding and building, maintaining and staffing its many medical institutions.

It is a far cry in time from the Hospital of St. Nicholas of 1471 to the Royal Infirmary of 1922, but they are still together in space, in the same square—the one, the oldest house in Glasgow, plain, small-windowed, low-roofed, with walls restrengthened, a house for show; the other, lofty, baronial, busy with the activity of healing and teaching. A score of years after Robert the Bruce died of leprosy in 1329, the Leper Hospital of St. Ninian was built, close to the river, on its southern side; now only Hospital Street and St. Ninian Street unattractively preserve locally the memory of the founder, Lady Lochow. Exactly six centuries after the Hero King fought Bannockburn, King George, in 1914, four weeks before the beginning of the greatest of all wars, opened Glasgow's newest hospital —the Royal Hospital for Sick Children—again close to the river, crowning a hill, overlooking docks and shipyards, with a wide view of the lower Clyde valley and the western mountains. It is a long notable history of achievement and service. The Glasgow doctors originated the hospital ideas, and the public spirit of the people of Glasgow readily expanded them into material, planning, and building. The initiation of the scheme for building the first Royal Infirmary is credited to Jardine, the Professor of Logic, eagerly supported by Dr. Stevenson, the Professor of Medicine; the Eye Infirmary owes its birth to Dr. William Mackenzie, one of the greatest ophthalmologists of his day; the Victoria Infirmary arose through efforts of the doctors on the south side of Glasgow; and the Royal Hospital for Sick Children came into being largely through the influence of Dr. Finlayson, one of Glasgow's greatest clinicians.

While we remember these, we must not forget the part played by the citizens of all classes of society. Some names at once spring into evidence: the brothers John and James Templeton, of carpet-making fame; Robert and James Dick, the gutta-percha manufacturers; Edward Davies, John MacFarlane, David McCowan, John Freeland of Nice, William MacEwen, a distinguished merchant popularly called "the horse of knowledge"; Walter Couper of Cathcart, and Miss Schaw, are only a few of those who, out of their wealth and organizing ability, gave freely to the voluntary hospitals. All that they did carried the work but a little way, and it is to the great mass of the nameless ones of Glasgow in its industrial areas and in its commercial centres that the city after all owes its long and magnificent hospital record.*

* Previous articles, on the City and University of Glasgow and its neighbourhood, have appeared in the BRITISH MEDICAL JOURNAL of December 3rd, 1921, p. 961, January 7th, 1922, p. 29, February 11th, p. 242, and April 22nd, p. 649.

THE GLASGOW HOSPITAL SYSTEM.

THE hospital system of Glasgow may be partitioned off into five or six different classes.

First in order of time as well as in the affection of the people and medical profession of the city stand the great voluntary hospitals, both general and special. All of these cannot be noticed, but even the smallest of them holds a place in active life and charity.

Next come the municipal hospitals under the governance of the Corporation of Glasgow, famous the world over for municipal enterprise from the far-off days of 1859, when the waters of Loch Katrine were brought to Glasgow, down to the present when the street tram system is an object of envy to other cities. The Health Committee, in association with Dr. Chalmers, M.O.H., shoulder this great responsibility.

In the third class we place the hospitals under the Poor Law authorities, the Parish Councils, and District Boards of Control.

The fourth class has one hospital, the Glasgow Royal Mental Hospital at Gartnavel—a private institution, but governed by a body of directors.

Then we think that into a fifth class, standing also by itself, may be placed the Princess Louise Scottish Hospital for Limbless and Disabled Soldiers and Sailors at Erskine.

And last of all the private nursing homes of Glasgow deserve a place, playing as they do a large part in the intimate life of the well-to-do people of the city.

THE VOLUNTARY HOSPITALS.

When the British Medical Association met in Glasgow in 1888, the old "Royal," designed by the brothers Adam nearly a hundred years before, was still feeling acutely the movement westwards of the University, though to the people of Glasgow it was The Infirmary. It was there, only twenty years before, that Lister was carrying on that great task which inaugurated the new era in surgery. And it was there that many members of the Association crowded the wards to see the work of Macewen, brilliant in conception and daring in originality.



GLASGOW ROYAL INFIRMARY QUADRANGLE.
In bottom left-hand corner is the old Lister Ward.
(Photograph by T. and R. Annan and Sons.)

The Royal Infirmary of To-day.

This year the Association will find a new "Royal" that has arisen phoenix-like out of the ruins of the old, and they will find it modern, thoroughly equipped and hard-working, striving to live up to its great reputation. The nominal number of beds in the infirmary is 665, though its daily average of patients is always higher. There are five physicians, six surgeons, and special departments in gynaecology, ear, throat and nose, and skin diseases, and pathology. Each physician has charge of two large wards with ample side-room accommodation and an excellent classroom and clinical laboratory; each surgeon has three wards and operating theatre arranged on one flat, with an average number of patients of 52. The medical officers attached to the infirmary number 105, and there is a nursing staff of 270. The out-patient department deals with many thousands of patients in the year. The electrical department is a large organization with a staff commensurate to the great and increasing needs of this kind of work. From 1794, when the Royal Infirmary was opened, till 1874, it was the only hospital available for instruction in clinical medicine and surgery in Glasgow; after the removal of the University from High Street to Gilmorehill in the west end of the city the Royal Infirmary ceased to be used for clinical purposes except for students attending Anderson's College. It was then felt that a school of medicine worthy of the infirmary should be instituted, and in 1882 buildings were completed to the north of the old infirmary; for many years this school was attended by students desirous of obtaining the triple qualification of the Royal Colleges of Edinburgh and the Faculty of Physicians and Surgeons of Glasgow. In due time St. Mungo's College was instituted, the number of classes was increased, and a Faculty of Law was formed with an adequate staff. In 1911 the definite association of the Royal Infirmary with the university was re-established, and there are now in the infirmary four university professors in medicine, surgery, midwifery, and pathology. Thus the infirmary is crowded once again with students, both men and women, who find in its wards and out-patient departments abundant opportunities for the study of disease and a wealth of clinical material probably unsurpassed.

Plans for the working of the infirmary on a part-time unit system are being considered, and if these come to fruition the training of students and the junior staff will assuredly strengthen the already sound position of the Glasgow school.

The Royal Infirmary possesses another distinction: it has the great merit of having closed its last two financial years with a surplus. When it is considered that the ordinary expenditure in 1921 amounted to £118,250 (the average cost of each fully occupied bed being for that year £171 19s. 7½d. and the average cost of each patient under treatment £10 16s. 2½d. for an average residence of twenty-three days), and that huge expenditure was met with some hundreds of pounds to the good, it will be readily understood that the skill and watchfulness of the management are only equalled by the extraordinary generosity of the people of Glasgow and their anxiety to preserve the voluntary principle of hospital management. As the result of efforts in better organization for seeking subscriptions from the industrial workers of Glasgow the large sum of £30,000 was subscribed in 1921 by this class of subscribers alone. Legacies still continue to fall to the infirmary. These should go into the capital account, but the needs of current expenditure divert them to this use, and it is possible that this source of revenue in these difficult times is more likely to dry up than increase in the volume of its stream.

The Western Infirmary.

When the University removed to the western portion of the city it soon became evident that an infirmary was required close to it for the purposes of clinical teaching. The Western Infirmary was opened in 1874 and has been added to repeatedly since. In 1904 the new out-patient department was opened; in 1906 and 1911 new wings were added to the main building of the infirmary; in 1913 the Pathological Institute was enlarged, and in 1921 a massage building was erected. It is evident therefore that the Western Infirmary is keeping pace with the demands made upon it, both for the treatment of the sick and for the teaching of students. There are thirty-two wards in the infirmary, four services of medical wards, and six services of surgical wards, with wards for the various specialties. The medical and surgical staff number 60; each surgeon has his own theatre on the same flat and in close proximity to his wards; there is a nursing staff of 226. In 1921 the average daily number of in-patients was 557. The Western Infirmary is blest with a beautiful situation, a southern exposure with a large open space in front, and its grounds adjoin Kelvingrove Park. The close proximity of the University is a time-saving factor of great value to students. The infirmary is fortunate in the possession of an excellent convalescent home, the gift of Lord Newlands; the home is situated in Lanark, a town renowned for its fresh upland breezes. The successful management of the Western Infirmary is due in great measure to the organizing ability

and knowledge of hospital construction possessed by the Superintendent, Colonel D. J. Mackintosh, C.B., M.V.O., LL.D., M.B., one of the foremost hospital authorities in the kingdom.

The Victoria Infirmary.

The Victoria Infirmary is the third of the large general hospitals in Glasgow; it is very pleasantly situated on the southern outskirts of the city, almost on the site of the battlefield of Langside, where Mary Queen of Scots was defeated by Regent Moray. The infirmary grounds are extensive and its amenity is increased and rendered more attractive by its proximity to the Queen's Park. The infirmary was opened in 1890, with accommodation for 60 patients; the increases have been steady till now the nominal number of beds is 260. The visiting staff consists of three surgeons, with four assistant surgeons, and two physicians, with four assistant physicians; there are also special wards for gynaecology, nose and throat, and skin diseases. There is a large out-patient department, which is situated in a densely populated portion of the city near the docks; this department is known as the Bellahouston Dispensary, and there the number of attendances is estimated, as in most infirmaries, in thousands. The infirmary possesses an excellent clinical research laboratory, the gift of a well-known shipowner of the city. The convalescent home is at Largs, on the Firth of Clyde, and has accommodation for 30 patients. It is only within the last two or three years that, owing to the large number of students, the Victoria Infirmary has been able to take its rightful place in clinical teaching. The distance from the University and from the centre of the city is a somewhat serious matter and has hitherto deterred the student. Within the past year a most excellent scheme for the expansion of clinical teaching has been inaugurated, the funds subscribed by a few generous donors yielding an income sufficient to establish a post-graduate school.

Royal Maternity and Women's Hospital.

The Glasgow Royal Maternity and Women's Hospital possesses 114 beds and is probably one of the largest, as it is certainly one of the most thoroughly and efficiently equipped, maternity hospitals in the kingdom. It was founded in 1834 and its beginnings were modest. The first hospital found a home in the second flat and garrets of the old grammar school at a rental of £30 a year. The early years of the institution revealed a constant struggle against the outbreaks of septic infection, and it was not till 1860 that a house at the corner of North Portland Street and the Rottenrow was purchased for a new hospital and the building adapted for that purpose. Conditions still were unsatisfactory, and in 1881, on the same site, the maternity hospital was built. This building still stands. It was in this building that Murdoch Cameron first performed the noteworthy and successful Caesarean sections which put that operation on a sure footing. In 1908 the present hospital was opened; it contains 19 wards, which are apportioned into 12 lying-in wards, 3 isolation wards, 2 ante-natal wards, and 2 labour wards; the 114 beds are divided therefore into 89 obstetric beds and 25 ante-natal beds. The hospital staff consists of six visiting physicians, five assistant visiting physicians, one pathologist, and one physician at the gynaecological dispensary. There is an outdoor department from which patients are attended at their own homes by district nurses and students, and there are three outdoor dispensaries—gynaecological, ante-natal, and post-natal. An important auxiliary to the hospital is the maternity and child welfare centre, consisting of a complete indoor and outdoor ante-natal department and infant consultation clinic. In recent years the research department of the hospital has come into prominence for its most excellent work. By arrangement with the Medical Research Council the department was opened towards the end of 1919. The Royal Maternity Hospital is on the voluntary basis entirely, and, like the other great hospitals of Glasgow, depends largely on subscriptions from the industrial workers of the city. Both in this hospital and in the others workmen's representatives on the boards of directors are found to be men capable of taking broad, sensible views and possessing sound business capacity.

Royal Samaritan Hospital.

The Royal Samaritan Hospital was established in 1886 and meets the needs of a very large number of women of the working classes, belonging mostly to the southern portion of the city. It has accommodation for 92 patients; there are four surgeons, all of whom are gynaecological surgeons in private practice. A feature of recent years has been the excellent facilities for post-graduate work offered by the hospital, and these have been largely taken advantage of, not only by local practitioners but by practitioners overseas.



Photograph by] THE WESTERN INFIRMARY, GLASGOW. [*T. and R. Annan and Sons.*

Royal Hospital for Sick Children.

The Royal Hospital for Sick Children stands on a piece of rising ground where once stood the mansion house of Yorkhill. It is admittedly one of the finest hospitals for children in existence. We have already indicated the excellence of its site from the scenic point of view. Let it be noted, too, that it is within five minutes' walk of the University and the Western Infirmary. The hospital contains twelve wards and has accommodation for nearly 300 patients, one-third of whom are medical and the rest surgical; the patients must not be over 13 years of age. The hospital draws upon a large area, which includes not only Glasgow but the whole of the west of Scotland. A few figures will show the large amount of work which is done in this institution: in 1921 the indoor patients numbered 4,749; the out-patients seen at the hospital were 2,162; while at the old dispensary—which is nearer the centre of the city—14,769 patients were treated in that year. The visiting staff consists of one physician with four assistants, two surgeons with six assistants, and there are three visiting specialists; the nursing staff numbers 102. This hospital, again, is maintained by voluntary subscriptions. The expenditure during 1921 was

a little over £34,000. Of recent years considerable attention has been given in the research department of the hospital to the etiology of rickets and to syphilis in infancy. The country branch of the hospital is situated at Drumchapel, about six miles to the west of the city.

The Eye Infirmary and Ophthalmic Institution.

There are two main hospitals for diseases of the eye. The Eye Infirmary is situated in Berkeley Street, its original site, where in 1824 it was founded by one of its first surgeons, Dr. William Mackenzie; the building has been altered, and additions have been made from time to time. It has accommodation for 105 indoor patients, and there is a large out-patient department. An important adjunct to the infirmary is a second out-patient department at Charlotte Street, in the east end of the city, recently rebuilt.

The Ophthalmic Institution constitutes the department for the diseases of the eye of the Royal Infirmary, and is managed by the Directors of the Royal Infirmary. This institution owes its origin to Wolffe. It is situated in the centre of the business portion of the city, in West Regent Street.

These two institutions see many thousands of patients in each year, both in their indoor and in their outdoor departments.

Glasgow Hospital for Diseases of the Ear, Nose, and Throat.

Before the three large general hospitals developed a special department for these diseases, the Glasgow Hospital for Diseases of the Ear, Nose, and Throat had been established for a considerable length of time. Like many other of the hospitals, indeed, like the majority of the hospitals of Glasgow, it owes its origin to the medical profession. In 1872 the late Dr. J. P. Cassells opened a dispensary which was called the Glasgow Dispensary for Diseases of the Ear; this ultimately developed into the Glasgow Ear Hospital and from 1880 dealt with indoor patients as well as outdoor. Dr. Andrew Buchanan was at that time president of the hospital and maintained an intense interest in its work. The hospital is situated in Elmbank Crescent, where it has been since 1885. The large increase in the amount of work of late years has firmly impressed the directors with the necessity of finding new premises. An excellent site in St. Vincent Street, close to its junction with Bothwell Street, has been obtained, and it is hoped that within a very short time the new building will be begun. It is unnecessary to do more than indicate that the hospital attendances number many thousands in the year, and the work taxes the energies of the two visiting surgeons and four assistant surgeons to the uttermost. In spite of limited accommodation (the number of beds is only 15) the hospital affords a most excellent clinic, both for students and graduates. This hospital had the enviable distinction of possessing a substantial balance in the bank at the end of the last financial year.



THE ROYAL MATERNITY AND WOMEN'S HOSPITAL, GLASGOW.
(Photograph by T. and R. Annan and Sons.)

Glasgow Royal Cancer Hospital.

The Glasgow Royal Cancer Hospital is comparatively new, as it was rebuilt and completed during the year 1910. It is situated in the Garnethill district of the city, a few minutes' walk from the University. There are 50 beds in the hospital, and the staff consists of two surgeons, two assistant surgeons, a medical electrician, and a pathologist. There is no outdoor department. The number of patients treated in 1921 was 245. An important part of the work of this hospital is research; the directors and staff have no desire that the hospital should be regarded simply as a Friedenheim, where advanced cases of malignant disease may terminate their lives with some mitigation of their sufferings. The research department has been in serious financial difficulties since the close of the war, but recently a liberal donation helped to re-establish its work.

MUNICIPAL HOSPITALS.

Prior to 1865 infectious fevers were treated in the wards of the various poorhouses, the Glasgow Royal Infirmary, and in temporary hospitals occasionally erected to meet emergencies. The first Municipal Fever Hospital was opened in that year in Kennedy Street, off Parliamentary Road, and the second was Belvidere Hospital, at the eastern boundary of the city, opened in 1870. Since 1875 the local authority has been wholly responsible for the provision of accommodation for the treatment of infectious diseases. Besides making provision for fevers and the other diseases included in the zymotic group, the local authority has also made provision at Ruchill, Knightswood, and Robroyston Hospitals for patients suffering from tuberculosis in all its forms. The hospital beds available for infectious diseases in Glasgow have gradually, though not regularly, increased, till in 1921 there were 1,262 beds, which, in relation to the population, means 1.1 per 1,000.

In the six hospitals—Belvidere, Ruchill, Shieldhall, Knightswood, Robroyston, Bellefield—there is a resident medical staff of twenty-one and a resident nursing staff of 577; in addition there are an honorary consulting surgeon and three consulting surgeons, of whom one is visiting surgeon for tuberculosis; there are also a part-time radiologist for tuberculosis and a part-time specialist for venereal diseases and trachoma.

As regards the institutional accommodation for patients suffering from tuberculosis the total number of beds in the various hospitals and sanatoriums under the control of the authorities is 975, and if we add to this figure an average of 240 beds available in Poor Law institutions we find the total for tuberculosis patients in institutions is 1,404 beds.

HOSPITALS ADMINISTERED BY THE PARISH COUNCILS OF GLASGOW AND GOVAN.

The parish of Glasgow is the most populous in Scotland, the 1921 census showing it to have 596,085 inhabitants. The parish council controls the administration of one large general hospital, two district hospitals, a poorhouse, two seaside homes for adults and young persons, and two homes at the coast for children.

For cases of insanity the District Board of Control has two large and fully equipped hospitals for mentally deficient persons, practically the only institution in Scotland specially erected for the purpose.

In addition to the treatment of the indoor poor of the parish, including the boarding of children and harmless lunatics in private dwellings all over the country, the parish council has a roll of over 19,000 adults and their dependants chargeable throughout the year.

In 1921, for the first time in the history of the Scottish Poor Law, parish councils gave financial assistance to the unemployed, the amount up to the end of May, 1922, being £180,000. The total amount expended in ordinary Poor Law relief and lunacy within the parish was roughly a million pounds sterling for the past year.

The Northern General Hospital, Stobhill.

The Northern General Hospital, Stobhill, is the largest and most up-to-date Poor Law institution in Scotland. It was held available for military purposes, and on the outbreak of the war in 1914 it was converted into two military hospitals—the 3rd and 4th Scottish General Hospitals. The site of the hospital is an ideal one on a large elevated piece of ground in the northern side of the city, with an admirable outlook towards the hills in the west and north. The institution has accommodation for nearly 2,000 patients, including children, and is divided into wards in separate blocks for medical, surgical, infirm, and children's departments under a medical superintendent, with, in addition, a visiting physician, surgeon,

dentist, oculist, pathologist, and four resident medical officers. The total cost of the land and buildings opened in 1902 was half a million pounds.

The Eastern and the Western District Hospitals.

The Eastern District Hospital and the Western District Hospital are intended primarily for acute curative cases, both medical and surgical. There is a medical superintendent with a visiting physician and visiting surgeon. A special feature of the Eastern District Hospital is the wards for the treatment of incipient mental diseases; these wards are regarded as unique in Scotland, and serve the purpose of preventing many patients being sent to asylums. The Eastern Hospital has accommodation for 320 patients; the Western has accommodation for 228 patients.

Barnhill Poorhouse, Springburn.

The Barnhill Poorhouse is utilized chiefly for infirm patients and recurring sick; it has accommodation for 2,000 patients or thereby, with an adequate staff of medical officers and nurses. Its situation is unfortunately the dingiest in Glasgow, surrounded by ironworks.

Glasgow District Asylum, Woodilee, Lenzie.

The Glasgow District Asylum at Lenzie is one of the largest mental hospitals, and, with its succursal establishments, accommodates 1,292 patients. It is built on an estate of nearly 800 acres, and gives ample scope for open-air and curative treatment. It is situated a few miles outside the city, on the North British line to Edinburgh. The sanatorium pavilion is of modern type.

Glasgow District Asylum, Gartloch, Gartcosh.

The Glasgow District Asylum at Gartcosh is a newer building than Woodilee, being opened in 1895; the building is situated about eight miles from the city, within its own grounds, which extend to 440 acres, and its accommodation provides for 812 patients.

Institution for Mental Defectives, Stoneyetts, Chryston.

The Institution for Mental Defectives, Stoneyetts, has accommodation for 345 patients, and is built on the lands of Woodilee Asylum, about two miles or thereby distant from that building.

The parish of Govan comprises a second portion into which greater Glasgow for Poor Law purposes is divided. The burgh of Govan and the burgh of Partick were until recently municipalities independent of Glasgow, but now they are merged. It is these two burghs with Tradeston and Kinning Park which mainly form the parish of Govan, representing the large population of 372,000.

The Southern General Hospital, Merryflatts.

This is the new title of the hospital known for many years as Govan Combination Poorhouse and Asylum. The hospital was founded in 1845 and housed in an old mill in Dale Street, Tradeston. In 1853 it was transferred to Port Eglinton (a location known to few in these days) to a building once used as a cavalry barracks for the southern district of Glasgow. The present building was erected in 1872 in the most westerly portion of the parish on the south bank of the river lower down than the great shipbuilding yards of the Fairfield Company. There are about 2,000 beds in the hospital, with wards for mental defectives, chronic and incipient insanity cases, epileptics, patients suffering from venereal and skin diseases, maternity cases, as well as for the ordinary medical and surgical patients. The medical staff consists of a medical superintendent and three assistant medical officers, with a large nursing staff. There is a small convalescent home for children in the island of Bute.

GLASGOW ROYAL MENTAL HOSPITAL, GARTNAVEL.

The Glasgow Royal Mental Hospital is worthy of special mention, though it is in a sense a private hospital; it accommodates approximately 500 patients, whose rates of board vary from £58 to £600 per annum. The building is a large one, in the western portion of Glasgow. The average number of patients treated annually for the last four years was 492. There is ample scope for outdoor exercise and recreation, a golf course, tennis courts, croquet lawn, and a curling pond being provided. The laboratory of the Western Asylums' Research Institute is situated within the hospital grounds, and research into the etiology and results of mental diseases is carried on there.

The history of the asylum, as it used to be called, is of great interest. It owes its origin at the beginning of the nineteenth century to the efforts of one gentleman, Robert McNair, of Belvidere, Glasgow. As a director of the town's poorhouse he was horrified by the wretched condition of the insane, who, whatever their social position, were kept in "the cells" at the poorhouse on the banks of the Clyde. After years of work he saw the foundation-stone of the "Glasgow Asylum for Lunatics" laid in 1810. For many years this institution was regarded as a model asylum. The present Royal Asylum, or, to give its new title, the "Royal Mental Hospital," was opened in 1843. The building is not now of the most modern type, but in those days it was in advance of its time. The physician-superintendent is University Lecturer on Insanity: the clinical field is very large.



Photograph by] ERSKINE HOUSE. *[T. and R. Annan and Sons.*

THE PRINCESS LOUISE SCOTTISH HOSPITAL FOR LIMBLESS AND DISABLED SOLDIERS AND SAILORS, ERSKINE.

It is intended that a special excursion will be organized to visit the Princess Louise Scottish Hospital for Limbless and Disabled Soldiers and Sailors at Erskine on one of the afternoons of the meeting in July. This hospital is situated on the banks of the Clyde, about ten miles from the centre of the city. Erskine House is a stately mansion, with extensive grounds sloping to the left bank of the river. Thanks largely to the generosity of Sir John Reid, Deacon Convener of the Trades' House of Glasgow, the mansion was acquired for its present purpose. It was opened in 1916, and it is due to the untiring efforts and influence of the President-elect of the Association, Sir William Macewen, that the hospital has become the efficient complete organization which it now is. It first serves the purpose of a preparatory hospital for the readjustment of stumps and their surgical demands; secondly, it provides for the manufacture and fitting of artificial limbs and appliances, and teaches the men their full and proper use; in the third place, the men are trained in trades suitable to the degree of their disablement. The workshops for the manufacture of artificial limbs and provisional limbs have already provided 10,000 limbs. The hospital has been recognized as a Government training centre for the various trades. At the present time 110 men are undergoing training, and 126

men have already completed their training and are working in various parts of the country. There is accommodation for 400 men, half of the beds being in temporary premises. There is a well-equipped operating theatre and *x*-ray department. The surgical staff is drawn from the surgeons of the voluntary hospitals of the city, who visit the hospital at regular intervals.

NURSING HOMES IN GLASGOW.

Any notice, however imperfect, of the medical institutions of Glasgow would be incomplete without a reference to the very numerous and well-equipped private nursing homes. As in other cities, these homes are generally the private property of ladies who are trained nurses and who have gathered around them adequate and efficient staffs. These homes have been established in private houses which have been altered to suit their new purposes. Many of the large terrace mansion houses of the west end of Glasgow have been acquired, and, generally speaking, have fulfilled the purpose of a private hospital admirably. All the nursing homes have completely equipped operating theatres, and the surgeons of Glasgow carry out their private work with perfect confidence in the efficiency of the nursing and in the completeness of the aseptic technique. The first home to be established was the McAlpin Home. Miss McAlpin very early recognized that there was no institution suitable for the non-hospital class, and in 1874 she founded the home for the training of nurses, having acquired a private house in Renfrew Street—one of the backwaters of Glasgow, but very near the main thoroughfares. In 1908 a new building was erected, and, although the plan is incomplete, the portion which has been constructed, comprising as it does an excellent series of private rooms each with a small balcony and southern exposure, and a beautiful operating theatre with roof light from the north, provides in itself a private hospital of modern type. The McAlpin Home is managed by a board of directors, and is not run for profit. Any surplus accruing is used for the building extension fund. It is the largest establishment of its kind in Glasgow, and can accommodate 50 patients.

Glasgow is much in need of a hospital, similar to those established in Birmingham and in Bristol, where patients may be accommodated and treated for a moderate inclusive fee, and it is hoped that in the near future some such establishment will be erected.

Nova et Vetera.

SIR ROBERT SIBBALD'S LIBRARY.

SIR ROBERT SIBBALD died in 1722 in his 81st year. He was a nephew of Sir David Sibbald, knight-baronet of Rankeillour in Fife, and keeper of the great seal under the chancellorship of the Earl of Kinnoull. He was born in Edinburgh in 1641, but went to school in Cupar, Fife. In 1651 he was in Dundee with his parents when that city was besieged by Monk, and he narrowly escaped with his life. He was then sent to the High School of Edinburgh and had five years in the university there; he was studying theology at the time, but he changed to medicine for the reason that he "preferred a quiet life not engaged in factions of church and state." That he might "see the world and know men," he studied at Leyden and took the degree of M.D. there in 1661, and he was also at Paris and Angers.

He returned to Edinburgh to practise medicine in 1662; in 1667 he, along with Dr. Andrew Balfour, instituted a botanical garden;* he was chiefly instrumental in founding the Royal College of Physicians of Edinburgh in 1681, and became its President in 1684; in 1682 he was appointed physician to Charles II and geographer for Scotland; in the same year he was knighted by the Duke of York; and in 1685 he was made first professor of medicine in the university by the Town Council. He was elected a member of the College of Physicians in London during the short period of his practising there in 1686. In 1697 he presented his natural history collection to the university; but his magnificent library was disposed of by sale in 1723.

* See BRITISH MEDICAL JOURNAL, 1909, i, p. 908.

The Catalogue was prepared in 1722, and the title-page is as follows:

"Bibliotheca Sibbaldiana: or a Catalogue of Curious and Valuable Books: Consisting of Divinity, Civil and Ecclesiastical History, Medicine, Natural History, Philosophy, Mathematicks, Belles Lettres, &c. With a curious Collection of Historical and other Manuscripts. Being the Library of the late Learned and Ingenious Sir Robert Sibbald of Kipps, Doctor of Medicine. To be Sold by Way of Auction, on Tuesday the 5th of February 1723, at his House in the Bishop's-Land in Edinburgh; where Placards will be affix'd. The Time of Sale is to be from Two of the Clock to Six in the Afternoon. The Books may be seen Eight Days before the Auction. Catalogues are to be sold for a Sixpence each, at William Brown's, and most of the Booksellers Shops in Edinburgh, and at the Place of Sale. Edinburgh, Printed in the Year MDCCXXII."

The "Conditions of Sale" contained some curious clauses; for example, No. IV reads: "They who buy Books to the Value of 10 shillings sterl. shall have the Sixpence they paid for their Catalogue, returned, or discompted to them." No. V, too, reads: "The Books (not otherwise expressed) are supposed to be perfect; but if any of them appear to be otherwise before they are taken away, the Buyer shall have his Choise either to take or leave them."

The Bishop's Land, where this historic sale took place, was a famous edifice on the north side of the High Street, which had got its name from having been the town residence of John Spottiswood, Archbishop of St. Andrews and Primate of Scotland in 1615. From this house the Archbishop had gone to crown Charles I at Holyrood in 1633, and from this house he fled in 1637 when the Scottish people rose against the introduction of the liturgy and Jenny Geddes threw her stool in St. Giles. In this mansion, too, lived (but after Sibbald's time) Lady Jane Douglas, heroine of the Douglas cause; there also resided the first Lord President Dundas, and there his celebrated son, Henry Viscount Melville, was born in 1741, some nineteen years after the sale of the Bibliotheca Sibbaldiana. The tenement was destroyed by fire in 1814.

The catalogue has 140 pages and contains the titles of about 5,400 books along with those of 114 historical manuscripts and 33 miscellaneous ones. The particular copy of the catalogue in the writer's possession is finely bound in calf and has 24 pages of plain paper included at the end. The book bears the stamp of the Bibliotheca Heberiana, showing that it once formed part of the immense collection of Richard Heber (1773–1833), the bibliophile, whose literary treasures occupied "eight houses, overflowing all the rooms, chairs, tables, and passages." It also bears the name "D. Laing," probably the Scottish antiquary (1793–1878) into whose possession it may have passed at the time of the dispersal of the Heber Libraries (1834–35). Its special value is in the fact that the prices the books fetched are marked in on one margin of each page in ink in a contemporary hand, whilst on the opposite margin are here and there faint pencil notes of prices which do not always come up to those on the other margin. The conclusion would seem to be that the catalogue belonged to a bidder at the sale who did not always secure the treasures he was trying for. One can thus almost reconstruct the progress of the sale in some of its details.

The historical MSS. were acquired by another Edinburgh library, as a written note on one of the blank pages at the end of the catalogue records: "Sold all the Manuscripts att £260, bought for the Library of the Faculty of Advocates." From the wording of this note it might almost be concluded that the particular catalogue belonged to William Brown or to Gavin Drummond, "Booksellers in Edinburgh and Managers of the said Auction." If so, the pencil prices may have been commissions undertaken for customers at a distance. It is interesting to observe that amongst the MSS. thus disposed of were "Memoirs for Compiling the History of the Royal College of Physicians at Edinburgh" by Sir Robert Sibbald himself. This was printed in 1837. "Opera Philosophica" and "Poemata," both by George Sibbald, also appear among the MSS.; these were the work of Dr. George Sibbald, the medical uncle of Sir Robert, who advised that he should be suckled for two years because his older brothers and sisters "had died hectic." There were also in MS. "A Description of the Islands belonging to the Crown of Scotland," "Collection of Papers and Informations, in Order to the Description of Scotland," "Provinciae Edinburgenae Descriptio," and "Chronicon Melrossense"; these all remind one that Sir Robert had been appointed in 1682 "Geographer of Scotland." Any observations on the medical books and other bibliographical treasures disposed of at this sale two hundred years ago must be deferred to some other occasion.

W. B.

British Medical Journal.

SATURDAY, JUNE 3RD, 1922.

THE GLASGOW MEETING.

THE ninetieth annual meeting of the British Medical Association will be held at the close of next month in Glasgow, under the presidency of Sir William Macewen, F.R.S., Regius Professor of Surgery in the University of Glasgow. The Association is fortunate alike in its meeting place and in its president. Glasgow is a great centre of medicine, an ancient university town, and the magnitude of its commerce and shipping has earned for it the title of the second city of the Empire. Sir William Macewen's renown as a scientific surgeon and clinical teacher is world-wide; his name and work are part of the history of modern surgery. An article on the medical institutions of Glasgow appears at p. 883 this week, and a full account of the arrangements for the forthcoming meeting is published in the SUPPLEMENT.

Thirty-four years have passed since the British Medical Association met in Glasgow. The President then was Professor (afterwards Sir William) Gairdner, who, in opening his address to the Association on "The physician as naturalist," remarked that "as the healing art is probably the most cosmopolitan of the arts, so Glasgow is, beyond all doubt, as regards its commerce and its varied industries, one of the most cosmopolitan of cities." These words are as true to-day as they were in 1888, and the thesis sustained by the President of that year is not less applicable to the present time. His argument, in brief, was that tradition has demanded that the healer or physician of the highest class should also be in a very real sense of the word a naturalist, a man of science; that it is his prerogative to be trained and exercised after the best manner and according to the most thorough discipline of the science of his age; and that he has been, and should be, looked up to as a healer or physician chiefly in proportion to the confidence reposed in him as a naturalist—that is, a humble, reverent, and exact follower and student of Nature. Passing then from historical considerations, Professor Gairdner discussed certain defects (some of them still visible) in the system of medical education, and concluded that although the physician could never again become what he was in the early ages—the sole or chief representative of physical science—he must always be, and should become more and more, a man trained in its discipline and familiar with its resources. As the years pass and science advances the justness of this view becomes more and more plain.

In 1888 the Address in Medicine was given by Dr. (now Sir) Clifford Allbutt, then practising in Leeds; he dealt with one aspect of a subject in which all through his great career he has continued to show interest—namely, what may be briefly described as the application of the conception of evolution to the study of disease. The title of his address was, in fact, "On the classification of diseases by means of comparative nosology." The Address in Surgery was given by Sir George Macleod, and Dr. William Macewen (as he then was) gave an address on his recent investigations in surgery, dealing with the surgery of the brain and spinal cord. This was described in our columns at the time as "in many respects the most remarkable contribution to surgical literature which the present day has produced"; and again, that it marked "an epoch in surgery, the initial stage of a branch of our art obviously destined to a glorious and beneficent future." After his address Dr. Macewen gave a demonstration of cases so remarkable that it alone would have sufficed to render the Glasgow meeting of 1888 memorable in the annals of surgery. Many of the patients whose cases had been described in the address were presented and their demonstration greatly interested the many surgeons who attended; perhaps the most remarkable case was that of a boy in whom the whole shaft of the humerus had been re-formed from grafts; the case is, we believe, well known to surgeons of to-day who take an interest in the history of orthopaedics. In recent years clinical and laboratory demonstrations have come to fill a larger place in the work of the Scientific Sections; and at the Association's second visit to Glasgow the afternoon sessions will be devoted to this purpose, thus following the plan so successfully adopted at Cambridge in 1920 and at Newcastle last summer.

The Sections in 1888 numbered twelve; this year there are nineteen. As will be seen from the programme printed in the SUPPLEMENT, many topics of interest and practical importance are set down for discussion by the Sections at Glasgow; in choosing them special heed has been paid to treatment, both medical and surgical, and to the problems of causation. In the Section of Medicine discussions on renal disease, on exophthalmic goitre, and on degenerative diseases of the liver, will be opened by a leading authority in each subject. The Section of Surgery for its principal debates has selected cholelithiasis, splenic and pituitary diseases, and non-malignant affections of the colon. In the Section of Pathology, Professor Fibiger of Copenhagen will introduce a subject with which his name is identified—the origin of cancer in relation to specific forms of irritation; the second morning will be devoted to animal and vegetable pathology. Another aspect of the comparative study of diseases in plants and animals will be considered by the kindred Section of Microbiology, whose varied bill of fare ranges from the bacteriology of influenza to the mutation of species, and whose afternoon demonstrations include one of leishmaniasis by Sir William Leishman. Psychotherapy and the treatment of neuro-syphilis are the main topics before the Section of Neurology and Psychological Medicine; and the Section of Ophthalmology will discuss optic atrophy and heterophoria. Stillbirths and neonatal deaths has been chosen for discussion by the Section of Obstetrics and Gynaecology, each aspect of the problem being brought forward by a representative worker; the second and third mornings are set apart for independent papers, principally on treatment. The Section of Public Health has spread its net wide, and profitable debates may be expected. These eight Sections—a larger number than heretofore—will meet on each of the three days, July 26th, 27th, and 28th. Five Sections will meet on two days each—Dermatology, Diseases of Children, Physiology, Industrial Diseases and Forensic Medicine, Radiology and Electrology. Of these the second and third have arranged a joint session to discuss rickets from the clinical and physiological sides; and the fifth will discuss deep x-ray therapy and the value of gas inflation in x-ray diagnosis. The remaining six Sections, each meeting on one day, are Anatomy, Anaesthetics, Laryngology, Otology, Tuberculosis, and Medical Sociology. The last named Section, it will be noted, proposes a debate on alcohol as a beverage in its relation to certain social problems.

The Annual Representative Meeting will open on July 21st. Here the parallel with the earlier Glasgow meeting fails, since the Representative Body is of more recent birth. The difference serves only to emphasize the development of the British Medical Association along lines already laid down in 1888, when, in the words of the late Dr. Farquharson, M.P., seconding the

adoption of the report of the Parliamentary Bills Committee, it had already advanced much further than "the scientific picnic state . . . and . . . become a great and important engine for upholding the honour and interests of the profession." For it may safely be asserted that no body less broadly democratic and representative in character and composition could hope to deal effectively with the work that lies before the Representative Body at Glasgow. That the promise of earlier times has so far been amply fulfilled is evidenced by the Annual Report of Council (published in the SUPPLEMENT of May 6th). The conditions of future progress remain to be determined, and will be influenced for some time to come by the decisions of the Representatives on the three main issues with which they have to deal—namely, the development of hospital policy, the development of medical services under the National Insurance Acts, and the maintenance of the accepted standards of professional secrecy under the pressure of an increasingly complex social system. All these are questions of the most vital importance to the future of medical practice in this country, and have been and are matters of keen controversy within the profession. They are also generally recognized as matters of immediate public concern, and it is this last feature which gives them peculiar importance. It is because the problems are pressing, and because rival solutions have already been suggested, some of them inimical to the standards which the Association exists to defend, that an immediate decision would seem to be essential. The Association has before it the double task of uniting the medical profession in support of a definite policy and convincing a critical and impatient public that that policy is governed by broad consideration of the common good, and not by the narrower dictates of professional interest.

As regards hospital policy, the Representative Body is not asked to come to a decision without ample opportunity for consideration. The report on the hospital policy of the Association (published in the SUPPLEMENT of February 25th) has been fully discussed in the Divisions and at the conferences of representatives of hospital staffs convened by the Association; it has excited also a lively correspondence in our columns. The complementary report on municipal hospitals (SUPPLEMENT, May 6th) is based on the principles adopted in 1921 at Newcastle in connexion with Poor Law infirmaries. Similarly, the matters of resistance to the encroachment of approved societies upon the position won in 1911 and apparently again to be contested, and of general approval of the continuance and improvement of the system of medical benefit under the National Insurance Acts, have already been dealt with by that large part of the profession most directly concerned. The Representative Body is now asked to set the seal of professional approval upon the policy laid down by the representatives of insurance practitioners. In connexion with professional secrecy the Council offers a modification of the resolution of the Newcastle meeting, designed to meet the difficulties that have emerged in giving practical effect to the original decision. One other subject of more than ordinary importance, though of a different kind, will come before the Glasgow meeting—the consideration of certain changes in the regulations of the Association necessary to give effect to the modification of its constitutional machinery decided upon last year at Newcastle. Of these, the provisions for the incorporation of Overseas Branches and the recognition of Federal Committees are of special significance, marking as they do the successful adjustment of a difficulty which had threatened the efficiency of the Association overseas.

So far we have spoken of the scientific and medico-political sides of the forthcoming Annual Meeting. After work, play. A glance at the list of entertainments and other functions will show that the social side also is amply catered for. An attractive programme has been drawn up for each day, in accordance with the traditions of Scottish hospitality; and, besides excursions to places of interest in and near the city, members will be given opportunities to visit the beautiful West Highlands, to play golf, and to indulge in other outdoor sports.

GLYCOSURIA AND OBESITY.

A GOOD example of the study of beginnings of disease by combined clinical and laboratory methods, and a good example also of team work, is afforded by some recent researches in the physiological laboratories of the Medical College, Calcutta. The team in this case consisted of the professor of physiology, the assistant professor, and three demonstrators.[1]

The stimulus to institute a research is the existence of sufficient general information to show that there is a problem awaiting solution and to define its terms. In this instance the stimulus was afforded by the knowledge that diabetes was excessively common in India, especially on the eastern side—in Bengal, Orissa, and Madras. It was common knowledge also that the condition was far more prevalent among the well-to-do sedentary classes than among manual workers. It was so common that a Bengali said to one of the investigators, "A man is no gentleman if he does not pass sugar by the age of 40," just as in this country, when the habits of gentlemen with regard to sobriety were different, gout was exceedingly common among them in early middle life. The next general observation was that the Bengali gentleman who eventually became glycosuric was particularly apt to become obese while still young. "How often," the writers say, "have we seen students pass out from this college normal so far as the amount of adipose tissue present is concerned, yet in a few months or so many return almost unrecognizable on account of the mass of fat accumulated."

On commencing their investigations it was found that the average percentage of sugar in the blood of Bengali was 0.13, as against an average of 0.08 for Europeans, and that the percentage was higher (0.15) in the fat indolent classes than in the lean working classes, in whom it was 0.125. The sugar tolerance of the working classes proved to be high, whereas the fatter and flabbier the individual the lower his limit of tolerance. It was next ascertained that, apart from the tendency to fat deposit in the tissues there were personal variations in sugar tolerance: even a fat individual might show a high tolerance and a lean one a low. In those possessing a high carbohydrate tolerance the sugar content of the blood remained remarkably constant, but if the tolerance was low the amount of sugar in the blood was easily raised. Three classes of individuals were met with: first, those in whom the sugar content of the blood rose considerably on glucose ingestion, in whom the threshold of the kidney for sugar excretion was at a high level; secondly, those in whom the sugar content of the blood was about normal but who, on ingestion of glucose, developed glycosuria without any marked rise in the blood-sugar level; and, thirdly, those who developed glycosuria on ingestion of glucose without any rise in the blood sugar. It is conjectured that in the first class the glycogen-forming function of the liver has reached its limit while the kidney threshold for sugar excretion is at a high

[1] *Indian Journal of Medical Research*, vol. iv, p. 1, and vol. vi, pp. 485 and 508. Observations on the Sugar of the Blood and the Sugar in the Urine in Varying Conditions of Health in the Bengali. By Lieut.-Colonel D. McCay, M.D., M.R.C.P.Lond., I.M.S., Professor of Physiology, Medical College, Calcutta; Assistant Surgeon Rai Bahadur Satish Chandra Banerjee, L.M.S., Assistant Professor of Physiology; Assistant Surgeons Lal Mohan Ghosal, L.M.S., Madan Mohan Dutta, L.M.S., and Charubrata Roy, M.B., B.Sc., Demonstrators, Physiological Department, Medical College, Calcutta. The papers have been collected in a volume entitled *Diabetes in India*, published by Thacker, Spink, and Co.

level; that in the second class the glycogenic function of the liver is more efficient but the kidney threshold is lower; and that in the third class the glycogenic function of the liver is normal but the kidney threshold is low.

It appears that in general the plane of carbohydrate metabolism is higher in the Bengali than in the European, since the lean hard-working coolie, though his average blood sugar is high, has only just sufficient for his daily requirements. Little or no fat is deposited in his tissues and the liver is never saturated with glycogen. Each individual has narrow personal limits within which the sugar concentration of the blood varies, but in different individuals the limit may vary widely. There are similar individual variations in the kidney threshold, and they are independent of the glycogenic powers of the liver or the oxidative processes of the tissues.

The authors call particular attention to some observations showing that the level of concentration of sugar in the blood may, within a wide range, be independent of the kidney threshold. Thus glycosurics may be met with whose threshold is high—the usual condition in the fat, overfed classes; in others, again, it is low, and some individuals have lost the power of storing sugar and of converting sugar into fat. Again, there are individuals in whom the permeability of the kidney to sugar is excessive owing to oxaluria, gout, or stone. In the healthy person, in potential diabetics, and in actual diabetics alike the ingestion of glucose is always followed by an increase of the sugar in the urine, whether the blood sugar increases or not. Finally, kidney disease may prevent glycosuria even when marked hyperglycaemia up to 0.86 is present. Such individuals are hyperglycaemics without glycosuria; they seem to go in jeopardy of sudden death from coma.

In discussing the onset and march of glycosuria, the authors find it impossible to resist the conclusion that in otherwise healthy individuals permanent glycosuria can be caused and maintained by overfeeding with carbohydrates. They do not believe that this only occurs in individuals who are really not absolutely healthy, but rather that even the healthiest show some degree of failure to use carbohydrates. In other words, their view is that the normal human organism is inherently diabetic.

Having observed that a tendency to fat deposition appeared to represent a pre-glycosuric stage, they decided to estimate the fat in the blood in these cases and note the effects of administration of glucose. Their observations lead them to believe that the fat formation goes hand in hand with, and is due to, hyperglycaemia. So long as fat formation can keep pace with the hyperglycaemia glycosuria is avoided. When the fat formation is overtaxed, intermittent glycosuria supervenes, and later, when the fat-forming powers fail altogether, the glycosuria becomes permanent. Then the patients begin to waste. At this point the authors see another pathological factor intervening. Though the exact nature of this pathological factor remains unknown, they believe it to be related to a gastro-duodenitis which leads to some damage to the pancreas, whose internal secretion is thereby impaired.

The problem of coma as a cause of death in diabetes has been carefully studied. In the Indian type of coma signs of acidosis are usually wanting or are only slight in degree, and the terminal coma is almost invariably uraemic and accompanied by retention of nitrogenous waste products. The authors believe that in this respect coma as seen in Indian diabetics differs from that met with in Europe. But here they are in remarkable agreement with the views of Marcel Labbé, who considers that in the severest forms of diabetes some derangement of protein metabolism is added to the carbohydrate disturbance. This coincidence of opinion is worthy of note. It opens up the important question whether there is indeed a special coma peculiar to diabetes.

In treatment a plan of a severely restricted diet, with occasionally total carbohydrate starvation, was adopted. Complete starvation, as introduced by Guelpa in 1910 and popularized by Allen, was not resorted to. When the urine had been rendered sugar-free and the blood-sugar level had fallen, a process of gradual re-education to tolerance of carbohydrates was commenced. The mild type of glycosuria prevailing in India gave flattering results. In the few cases where nitrogenous metabolism was disturbed the treatment did not avert a fatal termination; these were doubtless instances of that variety of which Marcel Labbé has said impressively, "Nothing cures them."

Lieut.-Colonel McCay and his "team" are to be congratulated upon a very valuable contribution to our knowledge of the troubles associated with disturbance of carbohydrate metabolism, commonly called diabetes.

INSANITY AND RESPONSIBILITY FOR CRIME.

THE trial of Ronald True for the murder of Olive Young, and his unsuccessful appeal against conviction, provide material of considerable medico-legal interest and importance, owing to the extension of the McNaughton rules which was laid before the jury by Mr. Justice McCardie, and the full discussions which took place in both courts on the principles governing the relation between insanity and responsibility for crime.

Since 1843 the courts, where the defence of insanity is raised, have been guided by the ruling, the operative words of which are as follows: "To establish a defence on the grounds of insanity it must be clearly proved that at the time of committing the act the accused was labouring under such a defect of reason from disease of the mind as not to know the nature and quality of the act he was doing, or, if he did know it, that he did not know he was doing what was wrong." It has long been recognized that this definition does not cover all the cases in which the general sense of the community would hold that the accused should not be considered responsible, since it is well known that a person may be admittedly insane and yet capable of appreciating the nature and quality of his acts and of distinguishing between right and wrong. A good instance was afforded by the lunatic Ware, who, after killing a fellow inmate in the asylum with an iron bar, climbed on to a roof, threatened everyone who approached him, and refused to come down until he was promised freedom from punishment. In this case there was of course no question as to the presence of insanity, but alienists hold that there are other persons equally to be regarded as irresponsible owing to disease of the mind, although they do not present to the layman symptoms conclusive of insanity. In some cases of early general paralysis of the insane, epileptic insanity, paranoia, and commencing senile dementia, there may be impairment of the power of self-control leading to the commission of crime before delusions or other definite signs of insanity are manifested. The courts, however, are, not unreasonably, very chary of admitting irresponsibility in these cases, and thus there may arise a divergence between legal and medical opinion as to the conditions which should be fulfilled before a defence of insanity can be accepted.

With the object of arriving at a standpoint which should be acceptable to both lawyers and medical men the British Medical Association appointed a special subcommittee in 1913 to consider the state of the law with regard to legal responsibility for crime, and the Bar Council, the Incorporated Law Society, the Medico-Psychological Association, and the Medico-Legal Society each nominated two members of this committee. The

report of the committee, which was approved by the Annual Representative Meeting in 1915, recommended the following principle: "No act is a crime if the person who does it is at the time when it is done prevented, either by defective mental power or by any disease affecting his mind, (*a*) from knowing and appreciating the nature and quality of his act or the circumstances in which it is done; or (*b*) from knowing and appreciating that the act is wrong; or (*c*) from controlling his own conduct unless the absence of control has been produced by his own default." It might have been hoped that a recommendation made by a committee so representative of all views would have been followed by legislative or other authoritative action, but the country was occupied with other things, and until this trial the position has remained substantially what it was when the McNaughton rules were first promulgated.

The importance of the True trial comes from the fact that Mr. Justice McCardie definitely conceded the principle for which medical opinion has so long been contending. In his charge to the jury he said: "Even if the prisoner knew the physical nature of the act and that it was morally wrong and punishable by law, yet was by mental disease deprived of the power to control his actions, then the verdict should be 'Guilty, but insane.'" In the Court of Criminal Appeal the Lord Chief Justice said that this was an extension of the McNaughton rules. Counsel for the defence had cited a number of cases in which he submitted that the old rigour of the rule had in fact been relaxed, but the Lord Chief Justice did not consider that proposition to be accurate, and said that in none of these cases had the proposed extension of the rule been acted upon and approved. No further opinion upon Mr. Justice McCardie's action was expressed by the Court of Appeal.

As regards the actual facts of the case, we do not propose to question the justice of the verdict or the upholding of that verdict by the Court of Appeal. Sir Henry Curtis Bennett for the defence claimed that as four doctors had expressed the opinion that True was insane, and the prosecution had not called any medical evidence to rebut these opinions, the jury should have been bound by the medical evidence. It is difficult, however, to accept this view. The medical opinion is only part of the evidence which is placed before the jury, and the jury should arrive at their verdict from a consideration of the whole case. In the last resort the civil authority must be supreme. In non-criminal questions connected with insanity the lay authority exercises the final jurisdiction. The judicial authority under the Lunacy Acts may, and not infrequently does, refuse to sanction the detention of a person in the face of two medical certificates that he is insane. Far less, then, would the medical profession wish, or the community agree, that in criminal cases the final word should be with the medical witness.

Apart from such considerations, we cannot agree that on its merits the medical evidence, while deserving of due weight, was such as to justify sweeping all other considerations aside. True appears to have formed a deliberate intention to commit the crime; he was in want of money at the time, as shown by the fact that he had given a worthless cheque and had left hotels without paying his bills; he robbed the unfortunate woman of her jewellery; he made some effort to conceal the crime by placing pillows in the bed so as to suggest that a person was still sleeping there; he went away and changed his clothes; he invented a story of having left some man quarrelling with the woman; and he took other steps which clearly showed that he appreciated his act and the consequences to him which might ensue. The crime cannot be said to have been the outcome of an uncontrollable impulse in an ill-balanced mind, which the Subcommittee of the British Medical Association sought to provide for when it proposed the addition to the McNaughton rule. Too much importance should not, we think, be attached to the evidences of insanity which medical witnesses noticed after True had been arrested, for a prisoner under a charge of murder is not likely to be in a normal frame of mind, and it is the state of his mind at the time he committed the act which has to be determined. Similarly, in regard to the fact that in his previous life True seems to have been mentally unstable at times could at the most only have strengthened any evidence of insanity at the time when he committed the crime. There are forms of insanity in which the individual may have long lucid intervals, or even apparently quite recover. A manic depressive, for instance, may, after an attack, be, so far as can be judged, perfectly well for years before any symptoms recur. We could not subscribe to the view that if a man has been once certified he is to be held irresponsible for crime for the rest of his life. His acts must be judged on their merits, and if in themselves they show evidence of insanity the fact of the previous attack undoubtedly strengthens the view that he was insane. If, however, he commits a cold-blooded murder with deliberate forethought and motive, and takes steps that a sane man would take to avoid the consequences, the finding of the jury, tested by the Court of Appeal, must be accepted as doing justice in the case.

BOMBAY SCHOOL OF TROPICAL MEDICINE: A BROKEN UNDERTAKING.

WE learn from India that the Government of Bombay has declined to proceed with the project for establishing a School of Tropical Medicine at Bombay. The news is not a little surprising, for the Government of Bombay had very definitely expressed its intention to establish the school, and Sir Dorab Tata had promised to contribute a lakh of rupees a year towards the expenditure which was to be incurred. The Bombay School of Tropical Medicine was to have been opened on April 1st last, and all arrangements were made for this purpose. It was only at the last moment that the Bombay Government determined to cut out of the budget the whole sum allotted to the school, and issued orders that the scheme should not be proceeded with. In consequence Sir Dorab Tata has withdrawn his offer, which was contingent on the Government founding a school of tropical medicine at Bombay. As will be seen, matters had gone very far before the Government of Bombay repudiated the undertaking it had given. They had gone even further than we have so far indicated, for rather more than a year ago the Royal Society was asked to select professors for the chairs of clinical medicine and therapy and of protozoology in the school. The Royal Society, acting through its Tropical Diseases Committee, issued advertisements widely—in this country, in the Dominions, and in America. From among the applicants it selected two, one for each chair. The protozoologist selected was an American, but he, we understand, subsequently, on private grounds, withdrew his acceptance. The successful applicant for the other chair, an Australian (Professor N. Hamilton Fairley), resigned his appointment in Australia to become Tata Professor of Clinical Medicine in the Bombay School. The Government of Bombay has now given him notice that it will dispense with his services on October 31st. The situation thus brought about is obviously most unsatisfactory, and the matter cannot be allowed to rest where it is. When the Royal Society acts for the Indian Government and invites applications for positions on definite terms, the candidates selected assume that a written contract is superfluous. Clearly the Royal Society has been placed in a very false position. At the request of the Government of India it undertook to select suitable persons to occupy the two chairs. With the authority of the Government of Bombay the Royal Society, through its Committee, issued advertisements inviting candidates

to come forward and stating the terms and conditions of the appointment, which was to be in each case for a term of five years in the first instance, "but may be extended by the Government." It is now left in the lurch by the Government of Bombay, which professes to find that it has miscalculated its resources, and is not in a financial position to carry out its bargain. The Royal Society will, we feel sure, have the support of public opinion in any action it may take, and the medical profession in particular will be anxious to see that justice is done to Professor Fairley, if not by the Government of Bombay, then by the Government of India, which cannot absolve itself from responsibility for the acts of the provincial government. We understand that a new central research institute for India may shortly be established, probably at Delhi; this may afford the Government of India a way out of the false position in which it has been placed by the Government of Bombay.

THE ASYLUM SYSTEM.

WE have received a copy of correspondence which has passed between Sir Alfred Mond, M.P., Minister of Health, and Lord Henry Cavendish-Bentinck, M.P., on the subject of a letter of appeal circulated by the National Council for Lunacy Reform with regard to the conditions alleged to exist in lunatic asylums. In that appeal the statement was made that "the Minister of Health has admitted that under present conditions lunacy is treated as a crime rather than as a disease." To this statement Sir Alfred Mond takes exception, and in a letter to Lord Cavendish-Bentinck, who is honorary treasurer of the National Council, he points out that in the speech from which his remarks were quoted his actual statement was "that there was no doubt that the *general public* thought that we treated lunatics as if lunacy were still looked upon as a crime and not a disease." In reply to this letter Lord Cavendish-Bentinck accepts Sir Alfred Mond's denial of the views attributed to him and unreservedly withdraws the statement to which exception had been taken, but he urges the appointment of a Royal Commission to inquire into a system about which he feels the public mind is so seriously disturbed. It often happens that remarks made in the course of a speech are misunderstood by those to whom it is addressed, and when this occurs, as in the present instance, the erroneous impression can subsequently be corrected by the speaker, although it may be difficult to catch it up. It is otherwise, however, with certain criticisms of asylums which are included in the letter of appeal which the National Council for Lunacy Reform has caused to be circulated. The letter is written in such a way that the public would inevitably gather from it that nothing whatever is done in the way of curative treatment for the patients in asylums. An impression of this kind cannot be corrected as can an erroneous quotation. The whole letter, though referring to a system, implicitly casts more serious reflections on the doctors and nurses who are responsible for the care, nursing, and treatment of the insane. However much reforms may be needed in the asylum work we think it regrettable that the view should be circulated that nothing is done for the cure of the insane and that there is an "almost entire lack of curative hospital conditions" in asylums, when in a large number of these institutions every effort is made to restore the patients to health and send them again into the outside world.

THE "DENTISTS REGISTER."

PERSONS who desire to obtain registration or entry under one of the various sections of the Dentists Act, 1921, should make application as quickly as possible. The Act is dated July 28th, 1921, and the fourth subparagraph of Section 1, which prohibits the practice of dentistry by unregistered persons, directs that the section of the Act shall come into operation on the expiration of one year from the commencement of the Act. The application must be made within the interim period allowed. The expression "interim period" is defined in Section 14 of the Act to mean the period between the commencement of the Act and the date on which its provisions prohibiting the practice of dentistry by unregistered persons come into operation. On the average an interval of about two months is found necessary between the time an application is received and the registration effected, and a person who is not registered when the Act comes into force, whether he has made application or not, will come under the operation of the section prohibiting practice. There is, however, power by an Order in Council to extend the interim period for a further period not exceeding two years, but the Minister of Health stated recently in the House of Commons that though the question of such extension was under consideration no statement could at present be made. Further, it is to be noted that Section 14 gives the Dental Board power, on application made at any time within two years of the date of its coming into operation, to allow a person to register if the Board is satisfied that there were valid reasons for the failure to make an application before that date. It is, however, obviously desirable that all persons who desire to be registered should regularize their position at once by sending an application to the Registrar of the Dental Board of the United Kingdom, 44, Hallam Street, London, W.1. We understand that some uncertainty has been felt as to the position of a person already on the *Dentists Register*; it has been asked whether he must register again under the Act, and whether he will henceforth have to pay an annual registration fee of £5. We are informed that any person registered on or before July 27th, 1921, will not be required to register again or to pay an annual fee. Any person who registered on or after July 28th, 1921, will, if he desires his name to be retained on the *Register*, be required to pay an annual fee, which at present is fixed at £5.

FATAL BOTULISM.

HITHERTO this country has escaped any serious prevalence of the form of food poisoning to which the term "botulism" has been applied, but it continues to occur in other countries, and a considerable number of outbreaks have been reported in the United States. The symptoms are sufficiently well marked to make it improbable that the condition would be overlooked; in fact, it presents so close a resemblance to lethargic encephalitis that when the disease first appeared in this country some of the earlier cases were believed to be examples of botulism. The organism has been isolated and an antitoxin prepared, but, so far, little benefit appears to have been derived from its administration in man, although animal experiments have encouraged perseverance in its use. The name given to the disease is due to the fact that the first cases described were observed in Germany, and were associated with the eating of sausages (*botulus*, a sausage). The death rate in true botulism appears to be high, and death may ensue within a few days of eating the contaminated food. An example of the outbreaks which occur in the United States is afforded by one observed by Whiteman and Wilkinson in Cambridge, Idaho, and described in the *Journal of the American Medical Association* for April 29th, 1922 (p. 1278). Seven members of a family, with two guests, shared a meal which included, among other food, greens which had been tinned at home. Of the nine persons who partook of this meal, eight became ill with botulism and six of the eight died; only one of the nine was unaffected. The symptoms were closely alike in every case, but two types of illness were noted—one in which the vomiting was severe and the duration of illness shorter, and one in which prostration was a predominating symptom. Descriptions of two of the most typical cases are given; the early symptoms included dizziness, blurring of vision, and unsteady gait, followed by vomiting; later blepharoptosis, paraesthesia in the extremities, weakness of the arm, leg, and especially neck muscles, dyspnoea, dysphagia, and aphonia were noted in all of the fatal cases. Dilatation of the pupils with sluggishness of the light reflex and Babinski's sign were present, and the knee-jerks were exaggerated. *Post-mortem* examinations were refused by the family. Two months after the onset of the symptoms

one of the surviving patients had fully recovered, but the other was not strong enough to mount a horse unaided. The treatment of these cases was expectant. Ice was sucked when swallowing became difficult, and physiological saline solution was administered subcutaneously and by drop method into the rectum. The survivors were freely purged with half an ounce of magnesium sulphate four times daily; and a mixture of potassium permanganate 1 grain, sodium bicarbonate 1 drachm, and water 6 oz. was given internally four times daily. No specimen of the suspected food or the containers could be obtained for examination. The surviving members of the party stated that they ate freely of all the foods except the tinned greens, and gave as their reason for refusing this that it had a peculiar musty smell and an unpleasant but indescribable taste. Seven tins of food, prepared at the same time and under the same conditions as the suspected greens, were examined, and five showed evidence of decomposition, although *B. botulinus* was not found on bacteriological examination.

THE TRAINING OF THE BLIND.

THE seventh report of St. Dunstan's Hostel and After-Care Organization for Blinded Sailors and Soldiers shows that last year 406 men were receiving training in the workshops and classrooms of St. Dunstan's. In January of this year 15 new cases had to be admitted, so that the work of training blind sailors and soldiers is not ended, and the need for support is still very real. With the completion of the training of a blind man a new problem is presented, that of setting him up in the work for which he has been trained. This work, what is commonly known as "after-care," engages the activities of St. Dunstan's and represents a considerable business, and one that needs the greatest tact and thought on the part of the administrators. The best trained blind man is at a disadvantage in open competition with his sighted fellow worker, so that the careful placing of these blind men where they may best follow their employment, and the tactful observation of them during the earlier years of their activities, present a complex problem. Its complexity is increased by the difficulties in the way of getting suitable shops, houses, or other premises, owing to the present shortage; St. Dunstan's has been compelled to become a landlord on a considerable scale by securing properties in which to establish its men; they are leased or sold on a hire-purchase scheme on reasonable terms. It has nearly 300 men on its rent roll, and 120 are expected to need settlement during the next year. St. Dunstan's buys material wholesale for the settled men, and £18,000 worth of material was so bought last year. It sells the output of the men where necessary, and sold £12,000 worth last year. When so many men are unemployed St. Dunstan's feels a legitimate pride in the fact that there is not a single trained stenographer or telephone operator who has left and is out of work. The report gives a number of extracts from letters received from men settled by St. Dunstan's, and throughout there is a tone of satisfaction in useful work, which is the best testimony to the value of this voluntary effort. It is well worthy of the support of the generous.

INCOME TAX AND LOCUMTENENTS.

FROM time to time we have received inquiries as to whether a medical practitioner was entitled to treat the cost of the services of a locumtenent as a proper deduction for income tax purposes. As a matter of strict legality the point is not free from doubt, and local inspectors have often urged that a locumtenent's fees are part of the total cost of a practitioner's holiday rather than of his professional work, so that in very many cases such payments were allowed only where their necessity arose through the physical unfitness of the practitioner. This distinction has never appealed to us as well founded; prevention is not only "better" but less costly than "cure," and assuming that a practitioner whose health has given way through overwork can claim to deduct a locumtenent's fees during his enforced absence from professional work, it would seem to follow that the same grounds would justify allowance of the expenses where necessary to obtain that holiday which will obviate a breakdown. It is therefore satisfactory to learn that the Board of Inland Revenue is now prepared to agree that expenses incurred by a medical practitioner in maintaining his practice while he takes his annual holiday can properly be deducted in computing his liability under Schedule D. Such expenses, we may perhaps add, would cover not only the cash payment made to the locumtenent, but also the cost of his board and lodging.

POST-GRADUATE COURSE IN PAEDIATRICS.

THE Fellowship of Medicine and Post-Graduate Medical Association has arranged a post-graduate course on diseases of children, to be held from Monday, July 3rd, to Saturday, July 8th. Clinical demonstrations in the various departments will be given at the following hospitals, which have agreed to take part: East London Hospital for Children, Paddington Green Hospital for Children, Victoria Hospital for Children, Queen's Hospital for Children, St. Marylebone General Dispensary. The syllabus for what is aptly called "Children's Hospital Week" will be ready in a few days' time, and copies may be had on application to the Secretary to the Fellowship of Medicine, 1, Wimpole Street, London, W.1. Should a sufficient number of entries be received it is proposed to repeat the short course in general medicine, recently held, during July and August; the dates will be announced shortly. The *Bulletin* for June giving general information on post-graduate work in London is available and copies may be obtained from the Fellowship of Medicine. The next post-graduate lecture at the Royal Society of Medicine will be delivered by Sir William Hale-White on "The clinical symptoms of *coli* infection of the urine," on Tuesday, June 13th, at 5 o'clock.

THE next social evening of the Royal Society of Medicine will be held at the house of the society, 1, Wimpole Street, W., on Wednesday, June 14th. The President and Lady Bland-Sutton will hold a reception at 8.30 p.m., and Dr. T. M. Legge, C.B.E., will deliver an illustrated address on Industry and Art at 9 p.m.

General Medical Council.

NOTES.

Medical and Dental Education.—The one hundred and fifteenth session of the General Medical Council, which concluded on May 29th, has been the longest of recent years. The President's address was reproduced in full in the SUPPLEMENT for last week, and a report of the other proceedings is continued this week. The length of the session was due not so much to the disciplinary cases, though these perhaps exceeded the average in number and complexity, but to the simultaneous completion of several educational and examinational matters which have been occupying the committees. Among these has been the revision of the curriculum in medicine and in dentistry. At previous sessions what might be called second reading debates have taken place, and on this occasion the matter reached report stage. The question of the revision of the medical curriculum arose out of a desire that the preventive aspects of medicine might be more strongly emphasized. It was first approached in 1918, largely, we believe, at the instance of Dr. McVail. The movement for the revision of the dental curriculum was started in the Council in 1914 by Sir Arthur Newsholme, who is no longer a member. It had its origin in the public belief, fostered by unregistered dentists, and not altogether denied by the registered, that the number of recognized dentists was insufficient. In both cases the inquiry went beyond what was originally intended, and the result has been the revision of the whole of the recommendations of the Council on the subject of the curriculum, both for medicine and dentistry. The new regulations will come into effect on January 1st, 1923.

Demonstrations on the Living.—The Education Committee, in connexion with the practical applications of the revised curriculum, brought up a proposal that the teaching of anatomy and physiology should include, as a regular part of the course, a demonstration of structure and function on the

living body. Thereupon Sir Isambard Owen asked what precisely was intended by this phrase, which, he thought, might give rise to misconceptions on the part of the public, and Sir Sydney Russell-Wells confessed that when he first read the passage he thought it related to animal experiments. Sir Donald MacAlister, however, expressed the belief that the man in the street would understand that it was better to demonstrate the action of a muscle on the living rather than on the dead subject. He said that the matter arose because several of the subcommittees which had been considering the subject wished to emphasize the study of the living human body throughout the course of anatomy, and, some of them, throughout physiology also especially in relation to the organs of sense. With a view to removing any possible misunderstanding, an amendment inserting the word "human" was agreed to. The idea, of course, is not new. Many, many years ago the crossing sweeper used to earn a welcome half-crown by allowing himself to be the subject on which students attending the course of practical surgery marked out in blue pencil the incision they would make for some operation upon which the lecturer was discoursing; nevertheless we make no doubt that it will be assumed in quarters where no argument convinces that what is now intended is human vivisection.

Regulations for the D.P.H.—It is a pity that the greater part of the last meeting of the Council was occupied with relatively a minor matter—the method of assessing marks at examinations—so that the report of the Public Health Committee on the new rules for the diploma, upon which a long debate had been expected, had to be introduced and approved within an hour. But there was opportunity for one of Sir George Newman's interesting speeches, in which he always raises a debate to a high level. He did not conceal his satisfaction in the fact that the new rules for obtaining the diploma in public health will virtually exclude all those who do not intend to make the public health service a career, but desire to wear the diploma merely as an ornament. To the objection that they closed the door upon the general practitioner, he replied that it must not be forgotten that the Council by tightening up the general curriculum was aiming to make the general practitioner of the future as well equipped in respect to preventive medicine as was at one time the holder of the old D.P.H. The rules, which gave rise to a long discussion at the last session, appeared to receive general approval on this occasion, and only one objection was expressed, and even this did not command a majority. This was an objection to the interval of two years which is to elapse between the attainment of a registrable qualification and the final examination for the public health diploma.

Midwifery in Indian Universities.—An interesting matter which did not come before the Council, but was considered by the Executive Committee in the course of the session, was the inspection of midwifery teaching in Indian universities. Dr. Norman Walker, who has lately been visiting India, reported that he discovered a number of grievances at the universities with regard to the action of the Council—as, for example, that the communications of the Council were addressed to "the Indian universities," thus grouping all, good and bad, together; that the tone of the communications was peremptory; and that it was not recognized that the methods of teaching practical midwifery in Madras, Bombay, and Calcutta were superior to those of at least some of the schools at home. Dr. Norman Walker dealt with all these matters diplomatically, and his recommendations, which the Executive Committee has adopted, are that the degree of M.B., B.S. of the University of Madras should continue to be recognized, and that the similar degree of Bombay, Calcutta, the University of the Punjab (Lahore), and Lucknow should continue to be recognized until June 30th next, and thereafter year by year upon the receipt of a satisfactory report from an official inspector approved by the Council, and in the case of the last two universities of a statement also by the dean of the Faculty of Medicine containing the nominal roll of the graduates of the year, and a certificate that each of them has fulfilled the Council's recommendations. Dr. Walker believes that it will be possible for each of the Indian universities to show that its regulations for the teaching of practical midwifery are sufficiently in accordance with the recommendations of the Council to enable the Council to recognize their certificates. He has suggested to the Government of India that it should propose to the General Medical Council that the services of Colonel R. A. Needham, Deputy Director-General I.M.S., who accompanied him throughout his tour, should be accepted as those of the approved inspector.

Disciplinary Cases.—The hearing of disciplinary cases by the General Medical Council is usually a pitiable business—the story of careers ruined, at any rate for the time, by some weakness of character which has led the respondent into a course of conduct he quickly learns to regret. Usually, by the time he appears in the Council Chamber the respondent is contrite and promises amendment. This was not the attitude of Dr. Kynaston. As may be gathered from the report of the proceedings in his case published in the SUPPLEMENT, his attitude was confident, and though his cross-examination of the few witnesses called was not perhaps very effective, the examination and re-examination of himself was conducted in a vigorous manner. Dr. Kynaston some years before the war retired from the R.A.M.C. with the rank of major, but was re-employed during the war with the rank of lieutenant-colonel. He has satisfied himself that enlarged tonsils and adenoids can be efficiently treated without operation and has condemned the frequency with which such operations are now performed. He is, of course, entitled to hold these opinions, but exception has been taken to the manner of their presentment. Dr. Kynaston stated that he had sent his resignation from the *Medical Register* to the Council, but the President pointed out to him that he had no power to resign from the *Medical Register*. The charge brought against him by the Medical Defence Union was heard by the Council. It is set out in full in the report in the SUPPLEMENT, and, as will be seen, it resolved itself into an accusation that he had sought to attract to himself patients for his own gain by means of advertising. The Council, after deliberating on the case *in camerâ*, directed the Registrar to erase Dr. Kynaston's name from the *Medical Register*, and the proceedings in the case closed by Dr. Kynaston expressing his thanks to the Council. So the incident ended, but we shall be doing, we imagine, no wrong to Dr. Kynaston if we assume that we have not heard the last of his campaign which at various times has carried him into the lay press. To another case, that of Dr. Robert Bell, the attention of the Council had been called by a committee of practitioners in Warrington. The charge, as will be seen from the full report in the SUPPLEMENT, was that Dr. Bell had for a period of nine months prescribed for and treated a woman suffering from inoperable cancer without ever having seen or examined her, the prescribing and treatment being carried on by means of correspondence with the patient's husband, a person without medical skill or knowledge. From the opening statement of the solicitor for the Council it appeared that when notified of the complaint in due course Dr. Bell took a very high hand and threatened the Registrar with an action for libel. In his evidence before the Council he maintained that the report of a medical man that a case was incurable was a sufficient report, and that by his method of treatment such cases were curable in many instances. Lord Tenterden, chairman of the Battersea General (Antivivisection) Hospital, was called as a witness for the defence, and stated that Dr. Bell had succeeded in cases where others had failed to cure. It will be seen that the Council found the facts alleged proved, and through the President informed Dr. Bell that it took a grave view of the conduct of a practitioner who for gain prescribes for and treats by correspondence, without having seen or examined the patient, without medical evidence as to the actual nature of her complaint, and without securing medical assistance and co-operation in the actual treatment. It, however, postponed taking any action until May, 1923,* when the respondent should be prepared to satisfy the Council that in the interval he had been without reproach in respect of such methods of practice. The Council through its President thanked the Warrington practitioners who had called attention to the case. In another case, that of a practitioner who had been convicted at the Central Criminal Court last September of having unlawfully administered to a woman certain poisons and noxious things with intent to procure her miscarriage, and sentenced to a term of imprisonment, the conviction being afterwards confirmed by the Court of Criminal Appeal, a strongly worded application for leniency was made by the respondent's counsel, Sir Edward Marshall Hall, K.C. Among other points it was stated that a petition to the Council with 5,000 signatures had been received from one of the districts in which the respondent had practised. The Council, however, decided to erase the respondent's name from the *Medical Register*.

* Erroneously printed "1924" in the SUPPLEMENT, p. 215.

An Exchange of Compliments.—There was a pleasant interchange of compliments at the close of the proceedings of the Council. Dr. McVail, whose term of office as Crown representative for Scotland is about to expire, begged that he might have the honour of proposing the last resolution, which was one of thanks to the President. He recalled the fact that the late Sir Robert Morant was present on one occasion during a meeting of the Council and remarked to him afterwards, "That is a body which requires a strong President—and it has got one." Dr. McVail went on to put in a characteristic qualification—that strength in a President tended to autocracy; but he regarded the apparent autocracy of Sir Donald MacAlister as due to the speed of his thinking, which brought him to the only right conclusion ten minutes ahead of the general body of the members. When a session of the Council could be shortened by a single day it meant a saving of some hundreds of pounds, and Sir Donald was not forgetful of the obvious economy of cutting the deliberations as short as was possible consistently with fairness to all concerned. The President, in reply, said that no one appreciated what Dr. McVail had hinted more than he did himself, but any assumption of autocracy on his part was generally made unnecessary by the businesslike spirit of the Council. He paid a tribute to the work done by Dr. McVail in many capacities, and wished him long life and happiness in his retirement.

Acoustics of the Council Chamber.—The Lord Chancellor recently sympathized with the Parliamentary Gallery in their complaints as to inaudibility and illiteracy. Illiteracy does not apply in the case of a learned body like the General Medical Council, but inaudibility is a graver fault. The acoustic conditions at Hallam Street are never of the best, but on this occasion the noise of building operations going on next door, where the home of the new Dental Board is to be, made hearing sometimes almost impossible. Moreover, an afternoon on which extremely important business had to be done was chosen as the very time to do some hammering work on the stone façade of the Council chamber. We do not know of any other legislative or judicial body which works under such distractions.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

National Insurance Bill.

Insurance Doctors' Remuneration.

THE National Health Insurance Bill was read a second time in the House of Commons on May 24th. Sir Alfred Mond said that the measure originated in a recommendation of the Geddes Committee that certain supplementary special grants hitherto paid by the Exchequer, in addition to the statutory grant under the National Insurance Act, should be discontinued, and that the amount should be defrayed out of the Insurance Fund.

Sir A. Mond's Opening Speech.

The sum involved, said the Minister, was about £2,150,000 per annum, made up as follows: £1,700,000, the State contribution towards the cost of medical benefit in excess of the statutory proportion of two-ninths; £100,000, the expenditure incurred by the Ministry of Health on behalf of approved societies and Insurance Committees for the regional medical officers and the index clearance branch; and £350,000, the amount of the State grant to the Women's Equalization Fund, which was set up to assist approved societies in meeting claims due to extra sickness among married women members. The Geddes Committee advised that the amount required should be secured by increasing the contribution in respect of insured persons by a penny a week—a halfpenny by the employer and a halfpenny by the insured person. At the present time when owing to exceptional distress the Government had to raise the contribution for unemployed insurance to figures far in excess of what had been contemplated the Minister felt, as did others connected with National Insurance, that a way should if possible be found to avoid an increase in contributions for Health Insurance. Consequently, a meeting was held of the Consultative Council of Approved Societies; several conferences followed, and the unanimous conclusion was that while the State should no longer find these special grants, some other scheme should be devised to yield the requisite money without increasing the contributions. Hence the present bill. It provided that the total cost of the special Exchequer grant, apart from the Women's Equalization Fund, should as from April 1st, 1922, be a charge on the benefit funds of the societies during the present contract with the medical profession. Sir Alfred reminded the House that he made a renewed contract some time ago on a reduced scale to continue until December 31st, 1923, when it would be subject to review in the light of the conditions then prevailing.

In regard to the soundness of the proposal, he quoted from a report made to him by Sir Alfred Watson, the Government actuary, which had been issued as a White Paper. It stated that in addition to nearly £8,000,000 in surpluses amongst the societies in Great Britain, carried forward at the last valuation, over £6,000,000 in contingencies funds had been accumulated in the societies, and was transferred almost intact to the benefit funds of the societies on January 1st, 1919. In view of these resources the Government actuary held that the extra charge imposed by the bill upon the funds of the societies could be safely borne, subject to the time limit of December, 1923. The bill would not in any way affect the operation of schemes of additional benefit recently declared by the societies and branches. This proposal having been put forward by the approved societies, he accepted it as a very generous offer. Even under this arrangement the surplus would stand well over £12,000,000 above the actuarial liabilities of the societies. An alternative suggestion had been made that the money should come out of the reserve value of the societies, but to that there were serious objections. Under the present proposal the money which would be paid for these medical benefits, and would come to the funds of the approved societies, would be treated in the general account in the same way as any other benefit payment. These payments would automatically carry with them two-ninths as State grant which would be created when the time came, and would be placed to the surplus value. Sir Alfred Mond went on to state the financial objections to a sinking fund arrangement. The societies would, he said, lose the State grant of about £800,000 or £900,000 which they were keeping under this bill. There would be no money towards the redemption of the Sinking Fund till the end of next year, the fund would default in payment of interest, and its redemption would be postponed for many years after 1953, the date at present estimated for.

Touching administration, Sir Alfred Mond said he understood there was some apprehension in the minds of the medical profession that the bill might make some change, or enable a change to be made, in the arrangements for the control of medical benefit. "I have already said," he continued, "in answer to questions in the House, that there is no word in this bill which modifies the existing statutory provision for the control of medical benefit, and I take this opportunity of formally repeating that statement. Having regard to the provision in this bill for contributions in relief of State expenditure from the surplus funds of approved societies, I think that it is no more than fair and reasonable to-day that I shall give the societies an opportunity of expressing their views before any new terms of service are made with the panel practitioners on the expiry of the existing contract of service. But the responsibility for accepting those contracts rests and will continue to rest with the Minister of Health. A question has been raised as to the possible implications in the words, 'Subject to such conditions as might be prescribed in Clause 1, Subsection 1(*a*) of the bill.' These words are intended solely to provide for the detailed conditions which may arise in the field of administration. They are certainly not to be used in any way inconsistent with the principle which I have just been enunciating."

Coming to the expenditure of £100,000 by the Ministry of Health on behalf of the approved societies upon regional medical officers and for the Index Clearing Branch, the Minister thought that no one would cavil at this; the additional officers saved time and a very large amount of money by getting people off the books. In regard to the Women's Equalization Fund he said that the original idea was that it would be dangerous to take women into the approved societies on the same basis as men, and that an Exchequer grant was necessary. The Exchequer grant of £350,000 to this fund disappeared in January last, but there was a surplus of about £2,000,000 to meet any deficiency that might accrue. On an interpolation by Dr. A. C. Farquharson that a considerable reduction had recently been made in the cost of panel treatment, the Minister said that the medical fees were still very much higher than in the time of the 1918 Act. He was pleased that he had got the profession to reduce their fees somewhat, but they still left the necessity of proceeding under this bill. When a more stabilized condition obtained he hoped it would be possible to get more to the normal state of things under which the Act was framed. The Minister explained, lastly, Clause 3, intended to meet the cases of persons who had fewer than twenty-six contributions credited to them, and therefore could not draw a cash benefit in the following twenty-six weeks. Power was being taken under this clause until December 31st, 1923, to enable the department to make such payments to approved societies as would enable them to pay cash benefits to those who would otherwise not be entitled to them, owing to default from loss of employment. This money would be drawn from a fund of nearly £2,000,000, which was made up of unclaimed contributions. Under the Act such defaulters were entitled to medical benefits but not to cash benefits. The measure would enable them to have both.

Debate.

Mr. J. H. Thomas criticized the bill, though he did not wish to divide the House on the second reading. He thought that there was obscurity as to the source from which the societies should provide the extra money required for medical benefit. He wanted this to be clearly defined. He also had the feeling that the proposed action might tend to discourage economy by approved societies. Moreover, he wanted an assurance that in 1923, when the situation was reviewed, the approved societies would have a voice in determining the new arrangement between the doctors and the insured people. He did not ask that their voice should be independent of that of the Ministry of Health, but held that they should also be entitled to say something definite at this period.

Sir Alfred Warren, speaking on behalf of the Consultative Council, said that it had gone into the whole subject exhaustively before deciding for the present bill. The Council in shouldering the additional burden of £1,760,000 per annum for medical benefit thought it ought to be materially improved, or that if it could not be improved it should be got rid of altogether,

other arrangements being made. The Minister of Health had already promised that at the end of 1923, when it was proposed to enter into new agreements with the medical profession, the approved societies should be consulted. He submitted that the societies should then come into some reasonable connexion with the medical profession, a connexion which hitherto they had never had. He asked the Minister to reaffirm his determination in this respect because already the medical profession were taking exception to it. In an interview not long back with the Minister's chief advisers an attempt was made to get that promise withdrawn. He held in his hand an extract from the remarks made at that meeting by the Secretary of the British Medical Association, in the course of which that gentleman said: "Ministers may come and Ministers may go, but we know from what we have seen of the approved societies that if you give them an inch they will take an ell, and we are not prepared to give them that inch." That was a remarkable statement to make. If it were true the approved societies could have said something very much stronger, very much more pungent regarding the medical profession. When had the profession given them an inch? Unless there were a deliberate promise and that promise were kept that the Friendly Societies would be taken into consultation at the end of 1923, they would put up the strongest fight of their lives to ensure that not one farthing more could be taken from their funds.

Mr. Cautley thought that the proposal in the bill was not justified by any reason the Minister had given. He quoted from Sir Alfred Watson's report that the surplus of each society was the property of the members of the society. He was not satisfied that the money could not be raised by some prolongation of the redemption period or of the reserve value from when the original Insurance Act was filed.

Major Mackenzie Wood moved the rejection of the bill. He held that the matter was of importance because the bill transferred from the Exchequer to the approved societies a liability to pay something like £3,500,000, taking the two years together. It was also of importance because in his opinion it raised the whole question of the future relationship of the doctors to the approved societies. He insisted that the Consultative Council did not necessarily represent the approved societies. As he understood the subject the Consultative Council gave the somewhat qualified agreement that they did on the express undertaking by Sir Alfred Mond that when the present agreement with the doctors ran out at the end of next year the approved societies would be consulted as to any new agreement. The doctors, so far as he knew, repudiated that. They said that the Minister could make any agreement he liked with the approved societies, but they as doctors would have nothing to do with negotiations with approved societies. More light should be thrown upon this question before the bill was allowed to pass.

Mr. Rhys Davies seconded the amendment. It seemed to him that the Minister had simply put before the Consultative Council the alternative of agreeing to extra contributions being obtained or of shouldering this burden. The panel system under the State Insurance scheme was a failure. Prior to its advent the doctors for less money gave to the same patients whom they were now treating better service for more money. The approved societies were determined to have a say when the time came for the next agreement. He protested in the name of a large number of insured people against the provisions of the bill, his point being that it would limit the extension of benefits.

Dr. Farquharson said he had noticed with great regret that afternoon the ease and the avidity with which certain members chose to attack the medical profession: they sought to attack not only individual members of the profession, but the whole profession. If approved societies simply desired to improve the medical service by getting rid of black sheep in the medical profession they would find no more hearty co-workers than the great rank and file of the panel practitioners in this country. The medical profession were very desirous of improving the medical service. They recently agreed voluntarily to a very considerable diminution in their remuneration amounting to about £1,250,000. That was a very large sum of money which the doctors were giving up voluntarily. None should forget that the doctors were a very important part in the mechanism of the administration of National Health Insurance. One of the causes of the splendid surplus which many societies now possessed was to a very considerable extent the most effective work done by the medical profession under the Act. An honourable member had uttered a threat that if the societies did not get the doctors by the throat by the end of 1923 and make them do exactly as Mr. Thomas said they did in the old days, the approved societies would take this money and keep it. But those were the old days. There was then no State element and no employer element. Now the approved societies said, "We shall sweep away the right of the State and the right of the employer, and we shall dictate terms to the doctor." He wished to express gratitude to Sir Alfred Mond for what he had said. There had undoubtedly been an uneasy feeling in the medical profession, and rightly so, because not so many years ago doctors were slogging along at 1s. 6d. or 2s. 6d. per annum, attending individuals year in and year out for those sums. Did the House want to return to those conditions? He thought not. He had been a club doctor himself, and no harder work was ever done for a more miserable pittance than was done in those days. If the approved societies wished to force the profession back into that position, it would be a fight to a finish. The insured person would suffer. To the glory of the profession doctors would never refuse to attend the person who was ailing or sick, whether they got something or nothing. But he believed after what Sir Alfred Mond had said that when the time came to recast figures it would be done in a fair and straightforward way. The medical profession would not object to approved societies having access to the Minister. Why should they? It might be hoped also, that so far as Parliament was concerned, the financial transaction would be decided on its merits without a tax on the profession which had served the country so well.

Mr. G. Locker-Lampson suggested as a further economy for the Ministry of Health that service men should go out of health insurance when they joined the Forces. In point of fact, they got no health insurance benefit except for their wives in regard to maternity, and if they were taken out on joining the Services a great deal of unnecessary clerical work would be avoided. On leaving the Forces they could come in again and certain credits could be put to their account.

Mr. Myers regarded the bill as another example of the Government running away from its bargain. He quoted the remark of the Geddes Committee that the surpluses were largely due to the war. Even now there were direct evidences of the upward tendency of sickness benefits paid to women. Men back from the war were in a low state of physical efficiency and more liable to be thrown on the societies' funds. He referred to a statement by Sir Arthur Robinson of the Ministry of Health, who said that, although the societies had large accrued surpluses, they were going through a difficult time and they had extremely difficult times ahead of them. Moreover, there was not an approved society in the country to-day that would give its blessing to the principle of panel patients, and it was carried out in a way never intended at the inception of the Act. Was it seriously intended that insured persons should walk into the surgeries of a medical man and see a notice on cardboard, "Panel patients from 9 to 10," or "Panel patients Wednesdays and Thursdays only"?

The Minister's Reply.

Sir Alfred Mond, in reply, referred to the criticism of the constitution of the Consultative Council. He said that all the appointments of members of that Council were the results of nomination of groups, and he claimed that it represented the vast body of the great friendly societies and the trade unions. "There has been," he said, "a great deal of very valuable fruit from the bill. What we are altering is the rates of contribution by the various parties. We are removing extra grants which we gave in a moment of affluence and which we can no longer afford. Hon. members opposite will say, 'If you had only let us get the doctors we would have got them a lot cheaper,' and nastier, perhaps, 'and then you would not have to find any money.' I am not going back on that controversy now. There are plenty of hon. members who know how nearly the whole scheme broke down. In spite of the denunciation of the panel system I have yet to learn from any source any better scheme which is to be devised. I do not think it is seriously contended by any who knew anything about the old club practice in the old days that the medical service maintained in those days was really equal or superior to the practice which is being carried on to-day. I do not think that can really be seriously contended, and I do not think the people who benefit from the medical service to-day would adopt the somewhat harsh attitude that some hon. members have adopted towards the medical profession to-day. I have given that undertaking to those who represent the approved societies that when the time comes for endeavouring to arrange new terms with the medical profession I will consult them. I will attach full weight to all the views they express with their long experience. The power of deciding the terms is left with the Ministry and me, and that is a power which I cannot surrender, and if it was surrendered the Insurance Act as we know it would fall to the ground. As long as the Act which this House has passed remains in existence the responsible Minister cannot leave in other hands the settlement of the very important question of not merely the terms but the willing service and the readiness of the great medical profession. This is a full and frank explanation of the position."

On a division the second reading was carried by 113 votes to 52, and the bill was referred to a Standing Committee.

Work of the Voluntary Hospitals Commission.

In the House of Lords, on May 25th, the Earl of Malmesbury asked what progress the Voluntary Hospitals Commission had made in appointing local voluntary hospitals committees in accordance with the report of Lord Cave's Committee, and also for information as to the financial position of the hospitals, and the distribution of the Government grant of £500,000. He said he put these questions in no spirit of criticism, but with warm appreciation of what was being done by the Commission, and especially of the devoted services of the Chairman (the Earl of Onslow). The first inquiry was as to the response to the scheme and the number of committees still to be formed, and the second as to what portion of the fund had already been distributed, and the form in which the grants were made. Some suggestion had been made that a bonus might be given on good management, and thought that was a difficult matter. He hoped that any risk of the well managed hospitals getting less money than the less well managed hospitals might be avoided. With the present shortage of money there was no possibility of any funds being available for further expansion. The sources of the hospitals were dried up owing to taxation and the effects of the war. The cost of running was very much higher, the number of persons expecting treatment had enormously enlarged and a different class of patient was going into hospitals. The guardians and the ratepayers were somewhat jealous of their infirmaries being used for ordinary hospital purposes, but he hoped that means might be found

whereby there would be a greater exchange of duties between infirmaries and ordinary hospitals. He also hoped it would be found possible to give a place upon a central commission sitting in London to some representative of the Voluntary Hospitals Committees.

The Earl of Onslow, in reply, said that it was proposed to constitute in all sixty-two committees throughout England, Scotland, and Wales; fifty-two were already formed and were actually working, and six would very soon be ready. In two cases—one in England, the other in Scotland—no committees were to be formed because the local conditions were such that it was unnecessary; there was only one hospital in each county. In two other cases no decision had been reached. Some of these committees had been in existence for a considerable time, but the majority had only begun to work within the last few months. Each had been asked to report the actual situation in the area, and many had sent in valuable reports, though sufficient information had not been given about all the small areas to afford a comprehensive survey of an authoritative nature for the country. Very good reports had come from Devon, Cornwall, Warwickshire, Bristol, Derbyshire, Wiltshire, Sheffield, and some other districts. Touching Lord Malmesbury's suggestion that local committees should be represented on the Commission, the Earl of Onslow recalled that the Commission was formed on the proposals of Lord Cave's Committee, with the addition of a representative for Wales. Of the representatives on the Commission, five were appointed by the Ministry of Health, one by the Secretary for Scotland, and seven by various bodies connected with the hospitals, the Royal Colleges of Physicians and of Surgeons, the Order of St. John and the British Red Cross Society, the British Hospitals Association, the British Medical Association (which had two representatives, one for England and one for Scotland), and King Edward's Fund. That Fund having accepted the position of Voluntary Hospitals Committee for London, the metropolitan area was directly represented on the Commission. A conference of members of all local committees would meet in London on July 18th and 19th, when a full discussion of the subject would be possible. The views of the members of local committees as to whether the Commission would be strengthened and on how the representation might be made would be of great value. He thought it important to avoid making the Commission so large as to be unwieldy, but that did not appear to be a necessary corollary to the proposal. Of the original Government grant of £500,000, the Commission had spent £103,450 in London and £39,288 in the provinces—a total of £142,738. The reason that London had received so considerable a share so soon was that as King Edward's Fund was acting as the Committee reports were more speedily available. The London grants so far had been almost entirely emergency grants—that is to say, grants to hospitals who had exhausted their realizable assets. The grants, therefore, were mostly given before the annual accounts were made up. They had enabled beds to be reopened, and had prevented the threatened closure of others. The Commission decided as a general principle not to make grants in excess of half the deficit on the ordinary maintenance expenditure for the year ended December 31st, 1921, and those grants were to be made £ for £ against new money received or in sight. This term, "money received or in sight," was difficult to define; the Commission had explained it to the best of its ability, and was issuing a circular dealing with the matter at length. The Government grant of £500,000 was based on the estimate that the total deficit on maintenance account for 1921 would be approximately the same as that in 1920—namely, £1,000,000 for the whole country. But it was very gratifying to note that the reports so far almost all showed that in all probability the 1921 deficit would be considerably less than the 1920 deficit. The 1920 deficit in London amounted to £463,000, and the estimate—it was only an estimate, yet fairly accurate—was that the deficit for 1921 would be about £140,000 less. Similar figures came from other localities—hence the great hope of a considerable lessening in deficit. That being so he hoped that it might be possible to give some assistance in respect of accumulated deficits, but on that point nothing definite could be said until a complete estimate of the amount of the deficits for 1921 throughout the whole country was available. He appreciated the difficulty hospitals had found in presenting their claims, because they did not make up their accounts until the beginning of the year, but he hoped that claims would be soon completed so as to enable the distribution to proceed. An arrangement was made last year with approved societies for payments to hospitals in respect of their members. The Commission had had representations from the societies that the claims were not coming in from the hospitals. The Commission trusted that all hospitals would ask any patient who came to them whether they belonged to a society, and, if so, whether it was one of those societies upon which the hospital could make a claim, and that the claims would be proceeded with as soon as possible. Though the position of the hospitals was improving, the deficits were still very formidable, and no effort must be relaxed to put the hospitals on their pre-war footing. Co-operation was the only way—co-operation to reduce expenditure, to increase income, and to prevent overlapping and waste. Dealing next with schemes for extension which certain hospitals had proposed, he said that they must all be very carefully examined, and it must be shown that income was sufficient to meet any increased expenses of maintenance the extension would necessitate. He did not say their extension should not be undertaken, because in certain circumstances extension might be desirable, because sometimes capital expenditure was true economy. As to the possibility of utilizing Poor Law infirmaries, he said that co-operation had been found possible in certain places, and instanced Paddington and Wolverhampton; but Poor Law infirmaries were the property of the ratepayers and could not be touched unless the guardians were willing to co-operate. The local committees would be able to get an idea of what was required, and if the guardians were willing might form a scheme for utilizing vacant beds in the infirmaries. Many members of boards of guardians were members of voluntary hospital committees, and therefore co-operation should not prove difficult. In conclusion, Lord Onslow said that it appeared that income on the whole was well maintained, although in a few cases there had been a falling off, especially in areas which had experienced strikes. Moreover, expenditure was falling. The cost of food—a very large item in hospital expenditure—was coming down considerably, but drugs and dressings remained at a rather high figure. He referred to the success of the scheme for mass contribution illustrated in the Sheffield area, and said it was important for local committees to organize such schemes wherever possible. Until the Oxford scheme was developed the mass contributions were mainly confined to northern England, and its success at Oxford was worthy of note—no less than £16,000 had been raised there last year by these means. Hampshire had, he believed, already made a great success of the scheme. In Manchester there was an arrangement with the Hospital Saturday Fund for a combined collection and the organization of massed contributions. He was glad to congratulate London on its collection of the previous day.

In reply to further questions, Lord Onslow said he trusted there would be considerably more funds for the provinces. If further claims were sent in by local committees the Commission would be glad to consider them.

Drugs for Panel Patients.—Mr. R. Young asked, on May 25th, whether under the National Insurance Scheme necessary medicines beyond a certain price could not be prescribed for serious illnesses—for example, gastro-enteritis—and that therefore some panel doctors advised panel patients to become private patients. Sir A. Mond replied that insurance practitioners were required to order such drugs and appliances as were necessary without limit of price subject to certain precautions against needlessly expensive prescriptions. He should take severe disciplinary action in case of proved failure to carry out that duty. Mr. Young asked if Sir Alfred Mond knew that doctors called before the responsible committees had to give explanations of their expenditure and were reprimanded on occasions. Sir A. Mond did not doubt that course was taken. He would pursue what disciplinary action was necessary.

The Milk Supply.—Sir A. Mond in answer to Mr. Doyle, on May 24th, said he was advised that the conditions as to milk supply found in Newcastle were probably similar to those existing in other parts of the country. He was hoping shortly to introduce legislation on the subject of milk.

Outside Staff of Health Ministry.—On a question by Captain Elliot, on May 23rd, as to the regrading of the outdoor staff of the Ministry of Health, and the proportion of higher posts for men and women, Sir Alfred Mond said that women inspectors are engaged to inspect trades where women are mainly employed, and in inquiries as to the benefits of insured women. The proportion of higher to lower posts is fixed with reference to the requirements of the work, which is more limited in the case of women. The proportion is more favourable in the case of women.

Child Murder (Trial) Bill.—Lord Parmoor's Bill (subjected to severely definitive redrafting amendments) was passed through Committee in the Upper House on May 25th. The object of the measure is to allow of the reduction of an offence from "murder" to "infanticide" in cases where a mother has intentionally caused the death of her newly born infant at a time when she has not fully recovered from giving childbirth and when the balance of her mind is disturbed. The Lord Chancellor said it was not proposed to alter the law, so that the ordinary physical suffering of a woman in childbirth, aggravated by such additional mental suffering as a woman who had an illegitimate child was supposed to entertain, should alone constitute the ground for reducing responsibility. Exceptional derangement and disturbance must be established. The definition was a matter of difficulty, and would be subject to further consideration before the Report stage. It was the desire of the Government that the bill should become law, and no reasonable opportunity of getting it passed would be neglected.

England and Wales.

PRESENTATION TO DR. HERBERT JONES.

ON the conclusion of the session of the Hereford City Parliament Dr. Herbert Jones was presented with his portrait in oils, bearing the following inscription: "Presented to Dr. Herbert Jones, May 15th, 1922, by members of the Hereford City Parliament in recognition of his splendid services as Speaker since the inception of the Parliament in 1908." It gives us great pleasure to record this evidence of the esteem in which Dr. Herbert Jones is held in his own city. His public spirit and great administrative abilities are well known to members of the British Medical Association. He was president of the Worcestershire and Herefordshire Branch in 1915, and has been a member of the Central Council, as well as chairman of the Public Health Committee. It was largely through his exertions that the British Medical Association was able to obtain security of tenure for county medical officers of health in 1909, and last year for other medical officers of health. Speaking of his services a year ago, we observed that his keenness, assiduity, and diplomacy had at last received their reward in legislation of great public importance, since it placed medical officers of health in a position which enables them to do their duty without fear or favour. Dr. Jones has long been medical officer of health for the Herefordshire Combined Districts, having held that appointment, we believe, since the combination was formed; he possesses an encyclopaedic knowledge of the theory and practice of public health in this country. During the war he served continuously as Lieutenant-Colonel R.A.M.C.(T.).

BRITISH HOSPITALS ASSOCIATION.

The twelfth annual conference of the British Hospitals Association took place in Liverpool on May 25th and 26th, under the presidency of the Hon. Sir Arthur Stanley, G.B.E. A civic welcome was given to the members of the Association by the Lord Mayor, Alderman Charles H. Rutherford, who at once struck the note of finance, and the conference devoted itself to consideration of the financial straits in which hospitals throughout the country are placed. Sir Alan G. Anderson read a paper on "The change in hospital finance," and advised administrators of hospitals to follow the lead given by the Hospital Savings Association, a new London organization which had set up a scheme of regular monetary contributions to the hospitals among the working classes in the London area. The President voiced the opinion of the conference in stating that the public had determined that their voluntary hospitals were not to go, and those who were interested in hospitals had to bestir themselves and bring forcibly before the community the needs of these institutions. He thought that if the hospitals could tide over the next three or four years the voluntary system would reassert itself and the money would be forthcoming. Mr. H. Wade Deacon, chairman of the Liverpool Royal Infirmary, said that, generally speaking, patients were only too glad to contribute to hospital funds once they understood the need. In the subsequent discussion various methods were suggested by delegates, and there was a general consensus of opinion that contributions should not lose in any respect the inestimable value of being charitable and free-will offerings, bestowed on a cause that was directly and indirectly beneficial to all classes of society. Mr. W. Thelwall Thomas, senior surgeon to the Liverpool Royal Infirmary, read a paper on "The voluntary hospital: a retrospect and a prospect," and said that within his own personal experience the type of hospital patient had greatly altered. The necessitous poor were still as of old treated, but their numbers had diminished materially, their place being taken by a class who not only could, but would willingly, afford to contribute towards their maintenance and treatment. He pointed out that inasmuch as we had departed from the original object of the voluntary hospital, we must be prepared to modify the conditions of admission and of the medical service. He laid stress upon the point that it was not equitable that the medical profession should have so large a burden of gratuitous work thrown upon it.

Mr. Frank G. Hazell, superintendent of the Manchester Royal Infirmary, read a paper on "Hospital economies." He urged strongly the establishment of a central fund for the provincial hospitals on the lines of King Edward's Hospital Fund in London. He maintained that the voluntary hospitals should avail themselves of the important advantage attached to judicious advertisement. Their good work should be constantly and persistently kept before the public eye, and the public should be impressed with the fact that it was for their benefit that these institutions existed. The hospitals should be first in the mind of the public when charitable bequests were being considered. A discussion ensued, and the conference eventually passed a resolution requesting the Council of the British Hospitals Association to consider the formation of a Central Fund for Hospitals outside London. The afternoon of the last day of the conference was devoted to visits to hospitals in the neighbourhood of Liverpool, and the School of Tropical Medicine also attracted many of the delegates.

Scotland.

CARE OF MENTAL DEFECTIVES.

THE Right Hon. Robert Munro, Secretary for Scotland, has recently stated in Parliament that he is considering in consultation with the Treasury whether within the limits of the financial vote for the current year certain further provision can be made for the care and treatment of mentally deficient persons in Scotland.

GLASGOW CHILD WELFARE HOME.

The Mount Blow Country Home, the third home acquired under the Glasgow Corporation child welfare scheme, was officially opened on May 18th. It stands on a hill in a wooded estate, and has at present accommodation for forty children, but on the completion of several extensions it is expected that it will accommodate two hundred. Of the children already under treatment about 70 per cent. were admitted on account of rickets. The two other homes opened by the corporation are the Mount Vernon and Scotstoun; the children are sent to these homes after being examined by the medical officers at the different child welfare centres.

FIFE PRACTITIONER AND HIS ASSISTANT.

In the Court of Session, Edinburgh, on May 24th, Lord Morison gave judgement in an action by a Fife medical practitioner against his former assistant. A report of the case appeared in the *Scotsman* of May 25th. Lord Morison said that the real question at issue was whether the plaintiff justifiably terminated the defendant's contract of service in December, 1921. In November, 1919, the parties entered into a contract (containing a restrictive covenant to prevent the assistant from practising on his own account in a given area for a term of years), which was superseded in June, 1920, by an arrangement referred to as the draft agreement. This new arrangement differed in some material respects from the prior agreement. It substantially increased the assistant's salary and, according to it, the assistant, subject to certain contingencies, had the option of entering into a five years' partnership in June, 1922. Lord Morison said that the plaintiff's desire was to find some excuse to avoid entering into the co-partnership. No suggestion was made against the defendant's honesty and there was no complaint of his neglect of the plaintiff's patients. In his lordship's view the defendant's application to be placed on the list of panel doctors for Fife was merely a declaration that he intended to practise on his own account if the plaintiff persisted in the attitude that he was not bound by the draft agreement. His lordship found for the defendant, with costs.

Ireland.

REGIUS PROFESSOR OF SURGERY, DUBLIN.

AT a meeting of the Board of Trinity College, Dublin, held on May 19th, Sir William Taylor, K.B.E., C.B., Surgeon and Lecturer on Surgery at the Meath Hospital, was appointed Regius Professor of Surgery in succession to the late Dr. Edward Henry Taylor. Colonel Sir William Taylor, who was born in County Donegal in 1871, was educated at Strabane Academy, Dublin University, and the Royal College of Surgeons in Ireland. He has had a most distinguished professional career, and has held many important offices. He is a past President of the Royal College of Surgeons in Ireland and an honorary Fellow of the American College of Surgeons.

DANGER OF BAD MILK.

At a recent meeting of the Statistical and Social Inquiry Society of Ireland, Dr. J. W. Bigger read a paper on "Clean milk," in the course of which he stated that the chief danger involved in using cow's milk as a food for infants and children, and even adults, was not in its chemical composition, but in the presence in it of bacteria which might cause disease. It was with these bacteria, their source, and the methods used to prevent their presence in milk that his paper dealt. Bacteria, or microbes, or germs were exceedingly minute vegetable organisms of very simple type. Since the great pioneer work of Pasteur they knew that there were enormous numbers of different types of bacteria. The bacteria found in milk might be definitely harmful and disease-producing, or harmless, or those which were relatively harmless to the adult, but dangerous for young children. The chief sources of dangerous bacteria in milk were: (1) Diseases of the cow; (2) diseases of the milker, or others handling the milk; (3) the addition of dirt, chiefly excreta of the cow, either directly or indirectly to the milk. Diphtheria, scarlet fever, and foot and mouth disease might be conveyed from cows by milk, but only rarely. By far the most important disease common to both is tuberculosis. There were two chief types of tubercle bacilli, the human and bovine. The former is alone responsible for tuberculosis of the lungs or consumption, but both might affect other parts of the body, and a considerable amount of tuberculosis of the abdomen, of the lymphatic glands, and bones was due to the bovine type of bacillus. The child had much less resistance than the adult against the bovine type of disease. About 6 per cent. of all deaths from tuberculosis were due to drinking tuberculous milk, and very many children who escape death were rendered ill and weakened, or made life-long cripples, as a result of consuming infested milk. It had been estimated that 25 per cent. of milking cows suffer from tuberculosis, and 2 per cent. had tuberculous disease of the udder. He examined a series of Dublin milks and found out of fifty that four contained living and virulent tubercle bacilli—that is, 8 per cent. Public health authorities, by periodic medical inspection of workers, could usually exclude those suffering from any infectious disease, or if an epidemic should arise could trace it to its source, where it could be dealt with. Similarly, veterinary inspection of the cows should be able to exclude those whose health rendered their milk unsafe for human use.

Having dealt in detail with the precautions taken in American cities, the lecturer said that in Ireland they had no scheme for the supply of certified milk, and no maximum standard, and both were very badly wanted. If Dublin milk were on sale in Boston, 48 per cent. would have been condemned and their suppliers prosecuted. In Ireland, so long as fat was not abstracted, no offence was committed, although, in his opinion, it was a far more criminal act to sell a solution of manure in milk than a mixture of milk and water. Milk was to-day in this country sold merely as milk, and they knew nothing of its cleanliness or whether it was safe to drink. He would suggest the following requirements for a supply of certified milk for Ireland: All cows the milk of which was to be certified should be examined periodically by a veterinary surgeon, and be negative to the tuberculin test, and be otherwise healthy; all workers should be examined at intervals and pronounced free from transmissible disease; the dairy should be suitable for the purpose and be kept clean, the equipment should be of approved design, and facilities for proper cleaning be available; the milk should be cooled immediately after milking, and be sold within twenty-four hours; no certified milk should contain more than 200,000 bacteria per cubic centimetre, and lactose-fermenting bacilli should not be present in one twenty-fifth of a cubic centimetre. The fulfilment of these requirements would guarantee that certified milk was a safe food for infants and young children. His principal reason for bringing the subject before the Statistical Society was that last year in the city of Dublin 382 babies died from enteritis, and dirty milk was the cause of death in the majority of these cases. The bare figures give little idea of the sorrow and suffering caused, and, apart from all feelings of humanity, mere financial expediency would urge that the loss occasioned by this amount of disease should cease.

Discussion of Dr. Bigger's Paper.

Sir William Thompson, in moving a vote of thanks to Dr. Bigger, said that Dublin had the reputation of having the highest infantile mortality of any of the cities in Great Britain. With a sufficient amount of spirit they should be able to get a pure milk supply. If they got that, there would, he held, be a considerable decrease in infantile mortality.

Sir William Wheeler, Vice-President of the Royal College of Surgeons, dealt with the precautions taken in America to procure pure milk. There, he said, the public authorities published broadcast the results of their examinations of the character of the milk offered for sale, and this had a very salutary effect. Attention was largely devoted to obtaining for the people pure water, and he regarded it as equally important that pure milk should be available, especially for the feeding of children. It was terrible, when going through the wards of Dublin hospitals, to see the number of children who were being bowled over by bad milk.

Professor Heuston said that there was a great laxity shown in the handling, sale, and use of milk and butter. In Dublin a great deal of the milk was of a harmful character. There he declared milk was sold at equal value whether good or abominably dirty. The authorities condemned putrid meat and fish, but there was milk and butter sold in Dublin which if examined as carefully would be found to be equally bad. A great deal of the butter used by confectioners in Dublin was unfit to be used for food, and the users ought to be hunted up and fined. If that did not help, more vigorous steps might be taken. He insisted upon the cleanliness of the surroundings of the dairies, of the persons engaged in handling milk, and of the vessels, which should be put to the severest test. Sterilization should be adopted. The public should show a desire to have and a determination to get pure milk.

The Chairman (the Lord Chief Justice of Ireland), in conveying the vote of thanks, said that there was no reason why in Dublin they should not get as good milk as the people in Boston, whose standard showed that 48 per cent. of the milk of Dublin was bad.

Correspondence.

STATISTICS OF PUBLIC HEALTH.

SIR,—The substance of Sir Arthur Newsholme's American address having been reprinted in the *Lancet* (1921, ii, 833–6), the English reader can decide for himself whether Sir Arthur's charge of misrepresentation is well founded. The first sentence of the reprinted address is:

"Vital statistics or biometrics occupy in public health teaching and administration an essentially subsidiary position, being one of several tools which the public health worker employs in his pursuit of knowledge and measurement of results. To place them on an equal footing with the fundamental sciences of biology, chemistry and physics, and of pathology, preventive medicine, and epidemiology in public health administration, or in an organized programme for the training of public health officers, appears to me to imply confusion of thought and of plans."

What, then, are the essentially subsidiary uses to which statistics *may* be put? In Sir Arthur's words (p. 835):

"In statistical work there has been, hitherto, too much shovelling into heaps, and too little building of the edifice of public health. No elaborate mathematical work is needed for the study which I am advocating, or for ordinary public health needs; but it is necessary that there be an observance of the well-known rules of statistical accuracy and of sound reasoning, based on scientifically established pathological and medical knowledge, and made with an enthusiastic desire to make statistics act as a pointer to the areas in which excessive mortality or sickness exists, in order that, an intensive study of its vital statistics having been secured, a corresponding social and sanitary investigation may follow and the appropriate remedy may be applied."

The meaning of the first sentence in this quotation escaped me, but from the remainder I inferred that, in Sir Arthur's opinion, (*a*) rules of statistical accuracy and sound reasoning can be normally acquired without special training; (*b*) that the sort of training given in a department of biometry and mathematical statistics is waste of time for the student of preventive medicine; (*c*) that the primary function of the enthusiastic statistician is to call attention to something which has been done by adepts in the "fundamental sciences" or ought to be done by them.

Your readers will now judge whether I "failed to express accurately" Sir Arthur Newsholme's stated views.—I am, etc.,

Loughton, May 27th. MAJOR GREENWOOD.

STAIN FOR BLOOD FILMS.

SIR,—Dr. J. Shulman asks a question in the JOURNAL of May 20th (p. 826) which demands a somewhat detailed answer. The method of staining blood films with haemalum and eosin is probably known to all workers in haematology, but it is a method of only limited applicability.

The determination of the relative numbers of the different types of leucocytes in the blood depends upon a very detailed analysis of their structure. It is necessary to use a stain which will distinguish the details of nuclei and granules, and these latter may be neutrophile, eosinophile, basophile, or azurophile. Staining with haemalum and eosin cannot be expected to supply all this information; it is a valuable method of staining when the investigation of nuclear detail is the only object, and even the eosinophile material becomes a noticeable feature, but finer points such as azurophilia in large hyaline mononuclear cells and large lymphocytes cannot be detected. In order to obtain the best demonstration of nuclear detail with haemalum it is necessary to use films which have been fixed while still wet, and in these circumstances it is found that the red corpuscles are much deformed; it seems unlikely that the leucocytes are not also somewhat altered in shape. In films which have been allowed to dry before fixing the cells have an opportunity of returning to their ordinary shape. Jenner's stain is excellent in many ways, but it does not demonstrate the details of the nuclei very distinctly, and this makes it difficult to appreciate the structure of the myeloblast. If it is employed in the May-Grünwald manner, instead of the usual way, brighter results are obtained. Leishman's stain is extremely useful, but it does not give distinct pictures of the neutrophile elements of the leucocytes, although its rendering of nuclear detail is superior to that of Jenner. Giemsa's stain requires more experience if good results are to be obtained, but is a very excellent method, except that it, like Leishman's, does not render the neutrophile granules distinct. The best method available for routine haematological work is undoubtedly Pappenheim's panoptic, or the same author's panchrom, method. These methods depend upon the use of Jenner's method and counterstaining with Giemsa, or, preferably, panchrom, which is very similar to Giemsa stain, but contains an even greater variety of intermediate products of methylene blue.

The technique of staining is as follows:

1. Fix the dried films for three minutes with undiluted Jenner.
2. Dilute the Jenner with an equal part of distilled water and stain for one minute.
3. Pour off the diluted stain, but do not wash, and then pour on diluted Giemsa or panchrom. The dilution consists of 2.5 c.cm. of the stock stain in 10 c.cm. of distilled water; this should be made up in the vessel in which the staining is to be carried out, as the azur tends to adhere to glass and be wasted if the mixture is made in some other vessel and then poured on to the film.
4. Dry by blowing off the superfluous water and swinging about. Do not use heat, as this destroys the azur staining.
5. Mount in neutral balsam or euparal while there is still a trace of water present in the film.

This method should succeed every time it is tried; the only points requiring great care are the removal of all traces of acid from the glassware used and the freshness of the dilution of the Giemsa, which keeps only about half an hour. Further details about this method can be found in Pappenheim's *Technik und Methodologie der klinischen Blutuntersuchung*, 1919, second edition, p. 56. I have found no stains so satisfactory as those of Grübler.—I am, etc.,

ALFRED PINEY, M.R.C.P.Lond.

Pathological Department,
The University, Birmingham,
May 20th.

EXPECTANT TREATMENT OF MEASLES AND INFLUENZA.

SIR,—Dr. Carruthers, in his letter to the BRITISH MEDICAL JOURNAL (May 13th, p. 786), asks, "When will we learn to break away from the tradition of the textbooks and the fever hospitals?" I write to say that I did so many years ago, and have never regretted the step. During the past sixteen years I have treated over 200 cases of measles without a single death by the use of the following measures, which are somewhat similar to those suggested in Dr. Carruthers's letter: Avoid the use of all drugs other than aperients. Only allow drinks of water, diluted fruit juice, and whey sweetened with a little honey, till the temperature drops and the patient himself begs for something to eat. And keep him in bed until the cough is gone.

A brief account of my experiences in the tropics during an influenza epidemic of a virulent type may also be of interest. Twenty of my bad cases with high temperature, headache, general ache, and profound prostration volunteered to try the "water cure." They lived on nothing but water, strained orange juice, and a little weak tea, for four to six days, when the temperature came down and appetite manifested itself; then food was allowed. The first day's diet consisted of vegetable soup, milk, and fruit. On the second day toast-and-butter was given in addition. Later a little fish or chicken with plenty of conservatively cooked vegetables was added. No drugs were administered other than a saline purge, which was taken daily throughout the period of abstinence from food. Within eight to ten days from the time of going sick every case was fit and well enough to return to duty, and all had excellent appetites for even the plainest of meals.

I was not so successful, however, in other cases that insisted on getting textbook diet—milk, beef tea, egg flips, etc.—from the very commencement of their treatment. Few of them escaped the textbook complications—gastritis, bronchitis, pleurisy, or pneumonia—whilst one got double pneumonia and died. Most of them were unfit for work for two or three weeks, and some even longer.

There is no doubt in my mind that indigestion toxaemia is caused by coaxing or forcing nourishment into a stomach that is unable to deal with it properly, owing to absence of appetite, and is the chief factor in the production of the complications so often met with in measles, influenza, and other diseases. The wasted bodies of those who have been fed during acute illnesses is clear evidence to me that the nourishment given has not been digested, let alone assimilated. To waste away and die from lack of food is not a matter of days, as so many of us have been taught to believe, but probably of weeks. It is certainly a period far beyond the average time of recovery from acute diseases.—I am, etc.,

REGINALD F. E. AUSTIN,
Major, late R.A.M.C.

London, W., May 13th.

THE SEARCH FOR SPECIFIC REMEDIES.

SIR,—With reference to the action of emetine on fresh and vigorous amoebae, referred to in the leading article in the BRITISH MEDICAL JOURNAL of May 20th, may I point out that your deduction that the surprising results of methyl-emetine, dimethoxy-emetine, etc., were proportional not to their direct action on the amoebae but to their poisonous action on the patient, is not fair, for it is quite probable that the fact that dimethoxy-emetine, which had ten times the poisonous action on amoebae compared with the others and yet was *clinically* inert, is to be accounted for on the view, supported in the first place by the Italian observers Zancarol, Celli, and Fiocca, that streptococci are the active agent, rather than amoebae, in causing the clinical symptoms of so-called amoebic dysentery. I worked on this theory in a case of Hodgkin's disease, verified by opinions of high standing, in which there were rigors and a septicaemic condition, with the passage of bloody stools, quite "amoebic dysenteric" in nature; although the case was despaired of, I rapidly brought the patient round by injections of emetine hydrochloride gr. 1, night and morning, for a few days, on the hypothesis that Hodgkin's disease is caused by a streptococcal blood infection and should be amenable to the same treatment—namely, emetine—assuming the Italian observers were right. The glands in this case yielded to radium treatment, and, except for anaemia, the patient is well and has been able to attend to his duties and work since. Further, the article states that the nature of the co-operation between the remedial agent and the living tissues is hard to unravel; no doubt Ehrlich's side-chain theory is biochemically very right as it stands, but the ultimate fact is the action of remedial agents causing glandular hormone balance.—I am, etc.,

REGINALD LARKIN, M.D.Lond.

London, S.E., May 22nd.

DETOXICATED VACCINE.

SIR,—Dr. Jenkins, in a letter in your issue of May 27th (p. 858), says: "The fact that they [that is, bacterial split products] may act as efficient antigens proves nothing." This statement is too sweeping, and receives no justification from his allusion to the Wassermann reaction, since no one pretends that the extract in this test is an antigen or the body tested for an antibody.

The presence of a true antibody when tested for by a true antigen, as in the gonococcus complement-fixation test, may be taken as evidence of an attempt at immunization of some sort. But whether this is immunization against the whole bacterial protoplasm or only part of it is another matter. I believe that in the case of chemically treated vaccines an alteration of antigen takes place, yielding only a partial antigen, or at least leaving only a portion of the original antigen unchanged, the result being only partial immunization. This, I think, accounts for the disappointing results of detoxicated vaccines, even though some kind of antibody may be found in considerable amount. H. G. Wells and others have shown the possibility of splitting up proteins into several specific antigenic fractions.

It appears reasonable to suppose that most benefit will be derived from a vaccine which is as little altered as possible, either by heat or chemical agents. Such a vaccine can be prepared by ether extraction, and I have seen some success with this kind of vaccine. I make no extravagant claims for the method, since in my experience all vaccines yield disappointing, as well as good, results in apparently similar cases; but it seems to satisfy two of the fundamental requirements of vaccine therapy—the administration of large non-toxic doses and unaltered bacterial protein.

I am aware that this is in opposition to some recent American work, in which specific fats are said to be the agents in the production of immunity, but this work needs corroboration before it can be accepted.—I am, etc.,

A. H. PRIESTLEY,
Assistant Bacteriologist, University Public Health Laboratory, Birmingham.

May 29th.

AORTIC MURMUR.

SIR,—In your issue of May 13th (p. 759) Dr. Thomas Lindsay describes an aortic murmur which he first remarked in 1910. I noticed the condition at Shahjahanpur, India, in 1908, and published several cases, discussing the causation, and importance of recognizing the murmur, in the *Lancet* of March 6th, 1909, and also in the *R.A.M.C. Journal* of January, 1909; I described it as "postural."

The position which produced the murmur when standing up (namely, raising the arms) failed to produce it when the patient was lying down. I discussed the condition with Dr. J. Edward Squire, and in a postscript to a letter he sent me, dated December, 1908, he said: "Curiously enough, I put this letter aside to see a patient, and he furnished an example of your murmur. He was a healthy man of 28; the murmur was unaltered by respiration."—I am, etc.,

E. L. MOSS,
Major R.A.M.C.

Louise Margaret Hospital, Aldershot, May 15th.

MACHINE FOR CRUSHING GERMS.

SIR,—I gather from their paper (BRITISH MEDICAL JOURNAL, May 20th, p. 796) that Drs. David and Robert Thomson are unaware that several machines have been devised for disintegrating bacterial cells. The makers of tuberculin have long employed a ball-mill, which, however, takes a considerable time to act.

The late Sydney Rowland constructed two forms, one of which was extensively employed by the late Allan Macfadyean and also used, I believe, by Messrs. Burroughs, Wellcome and Co. In this form the material is frozen and the frozen mass is very efficiently ground. Then there is a ball-mill devised by Mr. J. E. Barnard, of which I have had considerable experience. Within half to one hour a large proportion of the bacterial cells are completely disintegrated—certainly 75 per cent. Both these machines (descriptions of which have been published) disintegrate the bacterial cells without any addition of chemicals, and I have used them for preparing endotoxins of typhoid, cholera, plague, diphtheria, and other organisms. Some of these endotoxins have been used for treatment and prophylaxis, and the results have been recorded by me in various papers.—I am, etc.,

R. TANNER HEWLETT.

Bacteriological Department, King's College, University of London, May 29th.

TUBERCULOUS DISEASES DIPLOMA (WALES).

SIR,—With reference to the notice of the Tuberculous Diseases Diploma (Wales), which appeared under the heading "Universities and Colleges," in your issue of February 25th, 1922 (p. 333), the following amendments in the Regulations for this Diploma, since recommended by the Faculty of Medicine, have now been adopted by the University authorities:

1. That the following words be added at the end of Category B, subsection (*a*)—namely:

> "Or alternatively a Certificate of one year's post-graduate work as a whole-time member of the staff of a recognized tuberculosis hospital, sanatorium, or dispensary, signed by the representative of the authorities for whom the work was performed, or by the administrative medical officer concerned."

2. That the following words be added at the end of Category B, subsection (*d*)—namely:

> "Or by the representative of the authority or the administrative medical officer under whom the year of whole-time work at tuberculosis has been spent."

I shall be much obliged if you will kindly give publicity to these amendments, as they widen the scope of the examination under Category B.—I am, etc.,

S. L. CUMMINS.

Cardiff, May 29th.

CLAYDEN *v.* WOOD-HILL.

SIR,—With the approval of the other signatories to the letter of appeal for this Fund which appeared in your issue of December 3rd last—Sir Robert Jones, Sir John Lynn-Thomas, Mr. George Gask, Mr. R. C. Elmslie, and Dr. Wilson Tyson—I am writing to say that it has been decided to close the Fund on June 30th. Will those medical practitioners and societies who have not up to the present subscribed, but who intend to do so, be good enough to forward their contributions to me with as little delay as possible?

I shall be much obliged if you will kindly publish the enclosed list of subscriptions in your next issue.—I am, etc.,

HAMILTON A. BALLANCE,
Honorary Treasurer.

All Saints Green, Norwich, May 27th.

Ninth List of Subscriptions.

Amount previously acknowledged, £1,428 8s. 10d.

£26 5s.

Medical Practitioners in Croydon, per Mr. Gervase E. Newby, O.B.E.: Mr. Elwell, £2 2s. Drs. Wayte, Cressy, Richards, Genge, Scudamore, Partridge, Hamond, Collyer, Redfern, Adams, Nicholls, Phillips, Poulett Harris, Lewin, Allan, Thompson, Pinkerton, Air, Messrs. Cowell, Collard, Neve, and Newby, £1 1s. each. Dr. Everington (2nd donation), Dr. J. Wayte, 10s. 6d. each.

£21 8s.

Members of the Newcastle-upon-Tyne Division of the British Medical Association, per Dr. E. Farquhar Murray, Hon. Sec.: Mr. H. B. Angus, Mr. J. W. Leech, Dr. S. S. Whillis, £2 2s. each. Dr. A. Parkin, Mr. R. J. Willan, £1 1s. each. Dr. A. Campbell, Dr. L. S. Davison, £1 each. Mr. J. H. Barclay, Drs. C. Barrowman, Mabel Campbell, R. Dagger, James Don, Mr. Hamilton Drummond, Drs. T. C. Grey, George Hall, W. T. Hall, James Hudson, A. Livingston, P. A. Mackay, Neil Maclay, Farquhar Murray, R. W. Nevin, Wells Patterson, Stanley Robson, H. L. Rutter, Andrew Smith, senr., S. Worthington, 10s. 6d. each. Dr. J. A. Sacco, 10s.

£14 3s. 6d.

Members of the North Lancs and South Westmorland Branch of the British Medical Association, per Dr. John Livingston, Hon. Sec.: Mr. A. S. Barling, President of the Branch, Dr. Fawcett, £1 1s. each. Drs. Alexander, Allan, Ashburner, Bayne, Blacklee, Bowman, Boyde, Carson, Cochrane, Collins, Craig, Cross, F. E. Daniel, Elliott, Livingston, Reed, Roberts, Rutherford, Sansom, Somervell, Thompson, Ware, Wilson, 10s. 6d. each.

£12.

Members of the Hartlepools Division of the British Medical Association (Hon. Sec., Dr. J. E. Mitchell), per Dr. Alfred Cox, O.B.E.

£10 10s.

The Torquay Medical Society, per Dr. A. Wightwick, Hon. Sec.

£8 8s.

Members of the City Division of the British Medical Association (Hon. Sec., Dr. H. Cuthbert Dixon), per Dr. Alfred Cox, O.B.E.: Drs. John Adams, James Turtle, W. E. A. Worley, H. C. Dixon, C. E. Evans, J. L. Hamilton, H. L. Hands, V. Feldman, £1 1s. each.

£6 3s.

Members of the East Dulwich Medical Society, per Dr. John Heard, Hon. Sec.: Drs. Langford, Robinson, Lea, Reynolds, Scatliff, Nimmo, Cox, Batten, Morton, and Heard.

£6.

Members of the Consett Division of the British Medical Association, per Dr. J. Charles, Hon. Sec.: Drs. E. G. D. Benson, A. Dewar, R. Parry, W. M. Morison, J. Charles, Fraser, Mackenzie, Murray, Gemmell, Fox, Cook, W. A. Benson, 10s. each.

£5 5s.

The Honorary Medical Staff of the Wolverhampton and Staffordshire General Hospital, per Mr. W. H. Harper, House Governor.

Dr. James R. Whitwell (Melton, Suffolk).

£5.

Sir John Atkins, K.C.M.G. (London)

£3.

The Bucks Division of the British Medical Association, per Dr. Thomas Perrin, Hon. Sec.

£2 10s.

Further donation from members of the Derby Medical Society, making a total of £24 5s. from this society (see list published on March 25th), per Dr. Charles E. Potter, Hon. Secretary.

£2 9s.

Further contribution from the Reigate Division of the British Medical Association (see list published February 4th), per Dr. T. Anstey-Chave, Hon. Sec.

£2 2s.

Dr. W. E. H. Banks, Falmouth
Dr. A. Graham-Stewart, Margate
Lieut.-Colonel J. W. F. Rait, I.M.S., Radlett
Dr. R. N. Highmoor, Litcham

£1 11s.

North Middlesex Division of the British Medical Association (per Dr. J. R. Richmond Ritchie, Hon. Sec.): Dr. J. D. R. Monro (Muswell Hill), £1 1s.; Dr. H. C. Staunton (Hornsey), 10s.

£1 1s.

Dr. R. W. Merrick, West Kensington
"Anon," Hampstead
"X. Y. Z.," Cambridge
Dr. Samuel A. Lane, Bognor
Dr. E. C. Mackay (per the *Lancet*), St. Leonards-on-Sea

10s.

Further contribution from South-Eastern Counties of Scotland Division of the British Medical Association (see list published April 29th), per Dr. M. J. Oliver, Hon. Sec.: Drs. Menzies and Hiddleston, Selkirk, 5s. each.

Dr. H. S. Hollis, Hove

5s.

Further contribution from Isle of Ely Division of the British Medical Association (see list published April 29th), per Mr. A. C. S. Waters, Hon. Sec.: Dr. Percy Moxey, March.

A BUILDING is to be erected in Winnipeg to be used exclusively by medical practitioners and dentists; it is stated that the rents will be controlled by those who take part in the enterprise and that the building will be erected in a side street to avoid high charges.

Universities and Colleges.

UNIVERSITY OF OXFORD.

Boyle Lecture.

THE Boyle Lecture of the Oxford University Junior Scientific Club will be delivered on Wednesday evening, June 7th, at 9 o'clock, in the hall of Balliol College, by Professor W. M. Bayliss, M.A., D.Sc. Wadham College, F.R.S. The subject of the lecture is "Life and the Laws of Energy."

UNIVERSITY OF CAMBRIDGE.

Diploma in Psychological Medicine.

A SHORT course of instruction for the D.P.M. examination will be held in Cambridge from July 12th to August 17th. The following lectures, etc., will be given: (*a*) Anatomy and Physiology of the Central Nervous System, with practical work (Dr. Roberts). (*b*) Psychology, with practical work (Mr. Bartlett and Dr. Miller); mental tests (Miss Fildes). (*c*) Psychopathology and Psychotherapy (Dr. MacCurdy, Dr. Noble). (*d*) Psychology and Pathology of Dreams (Dr. Rivers). (*e*) Mental Diseases, with clinical work (Dr. Archdale). (*f*) Mental Deficiency (Dr. Tredgold). The names of those who wish to take the course should be sent to the Secretary, D.P.M. Committee, Psychological Laboratory, Cambridge, by July 5th if possible.

Dr. H. B. Roderick, O.B.E., has been reappointed Demonstrator in Surgery for three years.

UNIVERSITY OF LONDON.

THE following candidates have been approved at the examinations indicated:

THIRD M.B., B.S.—*Honours:* ‖E. C. Dodds, ‖C. M. Gwillim, †Lily G. Iliff, *M. Maizels, §G. Massie, *§Merell P. Middlemore, †§D. C. Norris, *§A. C. Perry (University Medal); §Philippa P. Pughe, †E. H. Richards, *†§E. H. Weatherall, *A. D. Wright.

Pass: Janet K. Aitken, Helen R. Ashton, E. T. Bailey, K. N. G. Bailey, E. Biddle, Hilda C. Bowser, Edith K. Budden, Jean E. Callander, P. C. L. Carrier, Anaple F. M. Christie, Alison M. Collie, Gwendolen C. Cotton, A. H. Douthwaite, Elizabeth C. Eaves, K. V. Edwards, F. T. Evans, Hilda M. Garlick, J. F. Hackwood, Doris M. Hammond, O. S. Hillman, Margaret O. Howell, F. C. Hunt, Erna H. Jebens, Winifred M. Jenkins, J. N. Kerr, H. T. Levieux, C. G. Lewis, R. C. Lightwood, D. McClean, H. J. McCurrich, E. K. Macdonald, S. A. S. Malkin, Eva J. Newton, Winifred C. Piggott, Olive G. Potter, Eleanor M. Reece, M. H. Renall, Elaine M. K. Salmond, H. Shannon, L. J. Soutter, H. V. Tilak, H. Tothill, Mildred Warde, Eva Young.

Group I: Sarah E. Andrews, N. D. Ball, Joyce R. Batten, J. A. Binning, S. Bloom, V. Feldman, J. Franks, A. J. Gardham, Laura P. Gibbon, Marjorie P. C. Greene, N. E. ff. Kemm, R. A. Madgwick, Enid M. Moore, J. B. G. Muir, B. S. Nissé, F. A. Pickworth, Tressila L. Pires, W. G. Rose, F. P. Schofield, Eleanor C. E. Stone, A. J. C. Tingey.

Group II.—Mary H. Y. Blakeston, J. C. Churcher, Marjory A. Godfrey, S. D. Rhind, H. M. Toop.

* Distinguished in Medicine. † In Pathology. ‡ In Forensic Medicine. § In Surgery. ‖ In Midwifery.

UNIVERSITY COLLEGE.

Applications for the Sharpey Physiological Scholarship, value £200 a year, must be received by the Secretary of the College, Gower Street, London, W.C., by June 15th.

The Services.

ROYAL NAVY AND ARMY MEDICAL SERVICES.

Parkes Memorial Prize.

THE Parkes Memorial Prize of 75 guineas in money with a gold medal is due to be awarded in 1923. The subject for the next competition is, "The principles of the prophylaxis of malaria, with the administrative and other measures for their application on active service." Essays must reach the Secretary of the Prizes Committee, Royal Army Medical College, Millbank, S.W.1, on or before August 1st, 1923. Each essay must bear a brief motto, and must be accompanied by a sealed envelope similarly superscribed and containing the name and address of the author. The Prizes Committee reserves the right to withhold the award should, in the opinion of the assessors, no essay attain a sufficiently high standard of merit. The successful essay becomes the property of the Prizes Committee.

The competition is open to the medical officers of the Royal Navy, Army, and Indian Army, of executive rank on full pay, with the exception of the professors and assistant professors of the Royal Naval Medical School, Greenwich, and of the Royal Army Medical College, London, during their term of office.

Royal Army Medical Corps: Alexander Memorial Prize.

The Alexander Memorial Prize of £50 with a gold medal is also due to be awarded in 1923. The subject for the next prize is, "Secondary wound shock; its causation, prevention, and treatment." Essays to be sent to the secretary, "Alexander Memorial Prize," Royal Army Medical College, Millbank, S.W.1, on or before August 1st, 1923. Each essay to have a motto and to be accompanied with a sealed envelope bearing the same motto and containing the name of the competitor. The committee reserves the right to withhold the award should, in the opinion of the assessors, no essay attain a sufficiently high standard of merit.

The competition is open to executive officers of the Royal Army Medical Corps on full pay, with the exception of the professors and assistant professors of the Royal Army Medical College during their term of office.

I.M.S. DINNER.

THE annual dinner of the Indian Medical Service will be held at the Trocadero Restaurant on Wednesday, June 14th, at 7.45 p.m., with Lieut.-Colonel J. Anderson, C.I.E., in the chair. All particulars may be obtained from the joint honorary secretary, Colonel J. J. Pratt, I.M.S.(ret.), 63, Addison Road, Kensington, W.14.

Medical News.

SIR JOHN ROSE BRADFORD has been elected vice-chairman of the University College Committee. He will represent the University of London at the unveiling of the memorial to Pasteur in Strasbourg next spring. Pasteur was born on December 17th, 1822, but the ceremony at Strasbourg will, we understand, take place in May.

THE annual general meeting of governors of Epsom College will be held at 49, Bedford Square, W.C., on Friday, June 23rd, at 4 p.m., when the result of the voting for pensioners and foundation scholars will be announced.

THE Yorkshire Association of Medical Women held a dinner in the Leeds Medical School on Saturday, May 27th. Miss Aldrich-Blake, M.D., M.S., was the guest of the evening, and spoke on some of the aims and ideals of the Federation.

IT has been proposed by Dr. Freeland Fergus of Glasgow that members of the Hunterian Society (of London) who are present at the Annual Meeting of the British Medical Association in Glasgow should have the preference for an excursion to Long Calderwood, the birthplace of John Hunter. Various places of interest will be pointed out by Dr. Fergus, who will proceed with the excursion—such as the birthplace of David Livingstone, and the village of Bothwell, associated with the names of Joanna Bayley and Matthew Bayley. The exact cost of the excursion is not known, but it is thought that it will be considerably under £1. Will those members of the Hunterian Society who wish to take advantage of this invitation kindly communicate with Dr. Freeland Fergus, of 14, Newton Place, Charing Cross, Glasgow?

THE late Colonel Harry Littlewood, C.M.G., F.R.C.S., formerly of Leeds, has by his will bequeathed £1,000 to the University of Leeds upon trust for investment, and to apply the income in providing annual or biennial prizes in the anatomy department, to be awarded by and at the discretion of the professor of anatomy for the time being. The value of the testator's estate was sworn at £86,785, with net personalty of £70,905.

THE Congress of Radiology and Physiotherapy commences at the house of the Royal Society of Medicine (1, Wimpole Street, W.1) on Wednesday next, June 7th, and continues to June 10th. There will be three sections—radiology, physiotherapy, and electrology. At the morning meeting of the first section a discussion on the conditions of the normal stomach will be opened by Dr. Barclay (Manchester), Dr. Peremans (Antwerp), and Drs. Colombier and Tribout (Paris). At the afternoon meeting of the section Dr. Béclère (Paris), Dr. Murdoch (Brussels), and Sir Archibald Reid will open a discussion on the abnormal stomach. On Thursday and Friday deep therapy by *x* rays and radium will be discussed by this section. In the afternoon of June 9th demonstrations will be given at various hospitals, including one at St. Bartholomew's Hospital on intraperitoneal injection of oxygen. In the section of electrology Dr. Turrell (Oxford) will open on June 7th a discussion on the action of direct current (constant) on the tissues beneath the skin and mucous membrane. On the following day Dr. R. Woods (London) and Dr. Bourguignon (Paris) will introduce a debate on the uses of electrical methods in the diagnosis and prognosis of paralysis, and on Friday, June 9th, Dr. Cumberbatch (London) and Dr. Nobele (Ghent) will discuss the physiological and therapeutic uses of high-frequency currents. The section of physiotherapy has selected cardiac disorders as the first subject for discussion, to be introduced by Professor Bergonié (Bordeaux) and Drs. Justina Wilson, Parsons Smith, and Hunt (London). On June 8th the re-education of muscles and the treatment of scoliosis will be discussed, and on Friday, June 9th, the discussion will refer to backache and referred pain.

A TWO-DAY conference on mental deficiency will be held at Caxton Hall, Westminster, on Wednesday and Thursday, July 26th and 27th, 1922, under the auspices of the Central Association for Mental Welfare (formerly the Central Association for the Care of the Mentally Defective). The first day will be devoted to discussion of "Mental deficiency in relation to crime," and Lord Justice Atkin will give a concluding address. The second day will be devoted to educational matters, and the Right Hon. H. A. L. Fisher will attend and address the conference. Further details may be obtained from the honorary secretary, Central Association for Mental Welfare, 24, Buckingham Palace Road, S.W.1.

THE Ministry of Pensions announces that arrangements have been made, in co-operation with the Ministry of Health, for the provision at certain institutions for the treatment of tuberculosis, of facilities for vocational training, combined with treatment, which if satisfactorily completed should enable disabled men to become efficient workmen and to earn a livelihood at the occupation in which they have been trained. Applications for admission to the training courses will be considered if the applicant is resident in England; if he is suffering from tuberculosis accepted as attributable to or still aggravated by service in the great war; and if he is certified to be in consequence of that disability unable to follow his pre-war occupation or (without a course of training) any other suitable occupation, and it is necessary that he should be trained for another occupation. With certain exceptions applications must be made on a prescribed form through any Local War Pensions Committee not later than June 30th, 1922. No man will be admitted to training whose course cannot be completed by June 30th, 1924. These arrangements do not apply to officers or nurses.

THE Voluntary Hospitals Commission announces that it has decided to convene a conference of representatives of local hospital committees on Tuesday and Wednesday, July 18th and 19th, at the Ministry of Health. It is hoped that all local hospital committees will be represented by their chairman and secretary, but other members of committees will be welcome if they care to attend, and no limit will be placed upon the number of representatives from any particular committee. Cards of admission will only be sent to those persons whose names have been notified to the Commission not later than July 10th.

A GIFT of £10,000 has been made to aid cancer research by Mr. and Mrs. G. F. Todman, of Sydney, N.S.W., in memory of their daughter. At the request of the donors Sir Joseph Hood, M.P., has allocated the sum as follows: £4,000 to the Imperial Cancer Research Fund, Queen Square, Bloomsbury; £1,000 each to the Middlesex Hospital, the Cancer Hospital, Fulham Road, London, the Christie Hospital, Manchester, the MacRobert Endowment, Aberdeen University, and the Cancer Hospital, Glasgow; and £500 each to the Radium Institutes of London and of Manchester.

Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2630, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2630, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin;* telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

SYMPTOMS PRODUCED BY PARATHYROID.

"W.," who finds in the paper on calcium deficiencies treated by parathyroid published by Drs. Grove and Vines in our issue of May 20th (p. 791) the statement that "in no case has there been any symptom of overdosage," asks for information as to the nature of such symptoms.

*** We referred the question to Dr. Grove, who writes: The literature is very indefinite on the subject of overdosage by parathyroid; what has been recorded is mental rather than physical, following enormous doses long continued, and was probably *post* rather than *propter*. In none of our cases (several hundreds) with the doses we have recommended were any untoward symptoms noticed or complained of, but one of our correspondents says that a female patient gave up treatment because she thought it gave her headache. We have obtained the definite result of normal blood with the small dose (a tablet a day), and where the blood has been long reaching normal we have not found that twice a day has hastened matters.

MEDICAL SECRECY.

A CORRESPONDENT asks us to add to the article on the Hippocratic Oath, published on May 20th, an account of "the practice in the courts about Hippocrates' time and subsequently in the matter of medical witnesses."

*** We fear that his wish cannot be complied with, for no reports of medical evidence in ancient Greece appear to have survived. In the Roman Empire the medical witness must have had (pace the edict of Julius Caesar) whatever privileges belonged to a Roman citizen. There are scattered references in the middle ages—for example, Erasmus (1500) states "the sublime imperial and pontifical laws voluntarily submit to the judgement of the physicians in questions of puberty, birth, and poisoning, and also in some matrimonial questions."

OSMICS AND PSYCHO-ANALYSIS.

MR. JOHN H. KENNETH, M.A., F.R.S.G.S. (Animal Breeding Research Department, High School Yards, The University, Edinburgh), who thinks that osmics—the science of smell—may be of use in psychotherapeutic practice, asks medical practitioners for their experience of the practical use of olfactory stimuli in psychotherapy. He writes: In the course of experiments on olfactory fatigue and on associations and affects evoked by different smells, the remarkable visual and (to a lesser degree) auditory recollections of scenes and events, in some cases of more than twenty years ago, hitherto forming part of unconscious memory, were extremely vivid, as expected. The same olfactory stimulus may, of course, release varied associations or groups of associations in minute detail. An emotional disturbance may be produced, and in the presence of a complex a marked resistance is noticeable, the smell stimulus being quite as potent as a word stimulus. Of the odorous substances experimented with, musk, otto of roses, tonka bean (cumarin), and cedar-wood oil gave the most vivid results, while resistances were encountered in certain cases with musk, clove oil, and asafoetida. Experiments with the galvanometer will be carried out in due course.

INCOME TAX.

"J. F." inquires whether he is entitled to deduct, for the purposes of an assessment under Schedule D, expenses incurred in travelling in and about London to attend at two centres where he did Ministry of Pensions work on a fee basis.

*** If he is assessed under Case I, Schedule D, as for profits of carrying on a profession, we think that the expenses could be deducted; if he is assessed under Case III, Schedule D, we consider that the only expense that can legally be deducted is the expense of travelling between the two centres.

"T. McC." for many years did not claim all the expenses to which he was entitled—for example, he did not claim a deduction for the board and wages of an indoor servant. He asks what remedy he is now entitled to claim.

*** Unfortunately none; in the circumstances of his practice he could properly have claimed one-half of his total rent and rates and the cost of one maidservant, but his right of objection to an assessment is limited to the period of twenty-one days from the date of the formal notice of assessment, which was presumably sent to him. In all the circumstances the local inspector might reasonably concede an adjustment of the assessment for 1921-22—by reducing the July instalment of tax—but "T. McC." has no legal title even to that.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 47, 48, 49, 52, and 53 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 50 and 51.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at pp. *219*, *220*.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Six lines and under	0	9	0
Each additional line	0	1	6
Whole single column (three columns to page)	7	10	0
Half single column	3	15	0
Half page	10	0	0
Whole page	20	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

A British Medical Association Lecture

ON

HYPERTHYROIDISM.*

BY

GEORGE R. MURRAY, M.D., D.C.L., F.R.C.P.,

PROFESSOR OF SYSTEMATIC MEDICINE IN THE VICTORIA UNIVERSITY AND SENIOR PHYSICIAN TO THE MANCHESTER ROYAL INFIRMARY.

In the great majority of chronic diseases we are called upon to recognize and remedy deficiencies of function resulting from morbid changes in individual organs. These structural changes may produce alterations in the size of the organ involved which may have mechanical effects—as, for example, retention of urine due to enlargement of the prostate gland. Mechanical effects of this kind are, however, in many cases of less importance than the functional disabilities. We have been apt in the past to pay great attention to both gross and minute changes in structure without fully appreciating their effects upon functional efficiency. We are learning by degrees to estimate more accurately the changes in function in a diseased organ and to realize their importance. Professor Hugh Maclean [1] has shown how this may be done in the case of the kidney by methods which are applicable in practice and, when taken into consideration along with the symptoms, afford valuable information as to the extent of impairment of function in cases of renal disease. In diseases of the endocrine glands we have to consider the results not only of changes in their size and shape, but also of alterations in their functional activity which may be either exalted or depressed. Enlargement of an endocrine gland may produce important effects owing to its anatomical position. Thus owing to its confined position a comparatively moderate enlargement of the pituitary gland may produce the serious pressure effects known as "neighbourhood" symptoms, which occur in some cases of acromegaly. In medicine we are more directly concerned with the results of changes in functional activity, which may be either greater or less than normal. The results of too great functional activity are, in the case of the thyroid gland, only too well seen in cases of Graves's disease. The dire results of loss of function in the case of the suprarenal glands are familiar to all in the form of Addison's disease.

In a former British Medical Association lecture [2] a general account was given both of the methods of ascertaining, as far as possible, the physical condition of the endocrine glands and of the symptoms which are due to changes in their functional activities. On this occasion the varieties and results of glandular overactivity, as illustrated by the thyroid gland, will be considered as well as the principles which should guide us in our endeavour to relieve them. Overaction of a secretory gland is in the first instance probably due to nervous influence. The effect of fear in arresting the action of the salivary glands is a familiar example of inhibition of secretion, whereas salivation at the sight of food illustrates the results of nervous stimulation. In the case of the thyroid gland hypersecretion in the first instance is probably due to nervous overstimulation, though stimulation by chemical messengers brought by the blood is also possible. Later on definite changes in size and structure enable the gland to maintain for months, or even years, the increased activity which is now generally known as hyperthyroidism.

The cases in which hyperthyroidism is a prominent feature may conveniently be divided into three groups:

1. Simple hyperthyroidism.
2. Toxic adenoma of the thyroid gland with hyperthyroidism.
3. Exophthalmic goitre or Graves's disease.

There is no hard and fast division between these groups, but the great majority of cases in which symptoms of hyperthyroidism are present fall into one or other of them. In hyperthyroidism there is an overproduction of the normal thyroidal secretion which contains its hormones. It is possible, though not yet proved, that the secretion in some cases is not only increased in quantity, but is also altered in quality, so that there may be dysthyroidism as well. There is good reason to believe that "thyroxin," which has been isolated by Dr. Kendall, is the chief, if not the only active hormone secreted by the gland. This substance he has shown to be tri-hydro-tri-iodo-alpha-oxy-indol propionic acid ($C_{11}.H_{10}, O_3, N_1, I_3$). It is present in very small quantities, as two tons of fresh thyroid glands only yield 18 grams or 280 grains of thyroxin.

The most marked hyperthyroidism is seen in fully developed cases of Graves's disease. Here the microscopical changes in the gland are indicative of great secretory activity. The cells lining the alveoli are columnar instead of cubical, and the wall of the alveolus becomes plicated so that the secreting surface is increased while the colloid is changed in appearance. Similar but slighter changes in the gland can be produced experimentally. If part of the gland in the monkey is removed the remainder becomes more active as a compensatory change. A section of part of the right lobe of the thyroid gland of a rhesus monkey from which I removed the whole of the left lobe and part of the right lobe fourteen months before it was killed, shows similar changes in lesser degree, such as probably occur in the milder forms of hyperthyroidism in man.

Recent determinatians of the basal metabolic rate, especially by Dr. W. M. Boothby [3] of Rochester and by Dr. J. H. Means [4] of Boston, have enabled the different degrees of hyperthyroidism to be measured in percentages, and it is claimed that the results are as valuable an indication of thyroidal activity as the readings of the thermometer are of the course of a fever. This determination takes a good deal of time, and has not as yet been extensively employed in this country. In hyperthyroidism there is an increased production of heat which may be estimated by indirect calorimetry. By this method the determination of the carbon dioxide production or of the consumption of oxygen gives information from which the basal metabolic rate can be calculated, and stated in percentages above or below an average normal rate. It has been found that in mild forms of myxoedema the basic metabolic rate is from − 20 per cent. to − 40 per cent. of the normal. Slight forms of hyperthyroidism have a metabolic rate from + 20 per cent. to + 40 per cent.; moderate cases of Graves's disease from + 40 per cent. to + 60 per cent., severe cases from + 60 per cent. to + 100 per cent.

As the result of more than 2,500 observations on about 1,200 subjects A. Peterson and W. Walter [5] have shown that there is a general relationship between the pulse rate, taken in the resting and fasting condition required for determining basal metabolism, and the metabolic rate. As the basal metabolism increases from normal to + 40 per cent. the pulse rate increases from 80 to 110. In determining this general relationship, cases in which there is cardio-vascular disease or other obvious cause of tachycardia are omitted.

The determination of the basal metabolism at regular intervals affords a useful indication of the progress of the patient under treatment. It has been shown by E. M. and D. Wilson that in a case of myxoedema under treatment the rate rises from − 41 per cent. to − 10.1 per cent., and in Graves's disease rest in bed for a month may cause a fall in the rate from + 42 per cent. to + 25 per cent. We are thus furnished with a method of measuring the severity of the malady and of recording the progress under treatment month by month on a chart, much in the same manner as the course of a fever is recorded day by day. In many cases these observations show that roughly the pulse rate varies directly, while the weight varies inversely with the metabolic rate. This is important, as it indicates that when the metabolic rate cannot be measured the variations in weight and pulse rate are useful indications as to the progress of a malady due to changes in the functional activity of the thyroid.

The changes in metabolism are still further illustrated by two of my cases of myxoedema and exophthalmic goitre in which a detailed analysis of the urine passed in twenty-four hours was made by Dr. C. Powell White before and after treatment. The patients were taking ordinary hospital diet, and the findings are of interest more in their comparative than their absolute values.

A woman, aged 39, was admitted to the Manchester Royal Infirmary suffering from well-marked myxoedema. A sample of the twenty-four hours' urine was taken for examination on March 17th, 1920, before treatment was commenced. The patient was then given one 2½ grain thyroid tabloid a day. On March 24th the dose was increased to 5 grains, on April 9th to 10 grains, and finally, on April 22nd, to 15 grains a day. The symptoms steadily diminished, and had practically disappeared when another sample of the urine was taken on May 7th, after treatment for fifty days.

Dr. White found the amount of nitrogen from urea was increased from 3,501 mg. a day in the first sample to 6,948 mg. a day in the second, or to almost exactly double the amount. The nitrogen from ammonia, creatinin, and uric acid was

* Delivered to the Worcestershire and Herefordshire Branch.

also increased, the total nitrogen being increased from 5,208 to 8,444 mg. a day. This gives an indication of the increased metabolism under the stimulating effect of the thyroidal hormone.

The second case was that of a girl, aged 19, who was admitted to the Royal Infirmary on January 29th, 1920, with well-marked Graves's disease. The pulse rate varied from 98 to 120. She was kept at rest in bed and had two doses of *x* rays before the first sample of urine was collected on February 10th. Between this date and March 2nd, when the second sample of urine was taken, she received seven doses of *x* rays. The goitre and the exophthalmos both diminished a little, and the pulse rate fell to 96 but increased again to 108, and she lost 7 lb. in weight.

It is of interest to note that during this interval the urea nitrogen diminished from 7,550 to 2,744 mg. a day—that is, to nearly one-third of the former amount. The nitrogen from ammonia, creatinin, and uric acid had also diminished. The total nitrogen fell from 10,819 to 4,390 mg.—that is, to considerably less than one-half. As far as they go, these findings indicate the fall in metabolism which may occur in Graves's disease under the influence of rest and *x*-ray treatment.

The three clinical varieties of hyperthyroidism already mentioned will next be considered separately.

1. *Simple Hyperthyroidism.*

In this condition there is a slight uniform enlargement of the thyroid gland similar to that which occurs in the simple parenchymatous goitre of puberty, but it is accompanied by symptoms of hyperthyroidism. The pulse rate is accelerated and may be from 90 to 120 a minute. There is mental alertness, with agitation in some cases, and a fine tremor of the extended hands is visible. The skin is warm, and may be moist. There are no eye symptoms. This condition corresponds to what used to be described by French writers as the *formes frustes* of Graves's disease. Fatigue is easily induced, but many patients are still able to carry on their usual occupation. The metabolic rate may be increased to over + 60 per cent. In these cases early and prompt treatment is most important. Untreated, the symptoms are apt to become more marked, and some of the cases pass on into fully developed Graves's disease.

Surgical treatment is not required. Rest in bed for a week or two or longer according to the severity of the symptoms is followed by marked improvement and a fall takes place in the metabolic rate. Prolonged rest in bed is not required in these cases, and in the milder forms of the malady it is sufficient to ensure that ten to twelve hours are spent lying down. Medicinal treatment is useful and a prolonged course of arsenic in small doses of from 3 to 5 minims of Fowler's solution is often beneficial. If there is much excitability bromides may be given with the arsenic in small doses. Quinine hydrobromide in doses of 3 to 5 grains is also valuable and may be given alone or with arsenic. *X*-ray treatment is more reliable than any medicinal treatment in these cases. Details of this vary according to circumstances. A full dose may be given twice a week for the first few weeks and then once a week, the amount and frequency of the dosage being regulated by the progress, and it is advisable to give a few doses at lengthened intervals at the end of the course rather than to end it abruptly.

2. *Toxic Goitre with Hyperthyroidism.*

In this condition a goitre which may be either parenchymatous or adenoparenchymatous has usually been present for several years without causing any general symptoms. At the end of this quiescent period, which may be as long as ten years, the gland begins to show signs of overactivity. This may be the result of some sudden emotional shock or accident, or it may follow a prolonged period of nervous strain. The goitre may or may not be further increased in size. The symptoms of hyperthyroidism are those we have already considered, but they may become severe and all the symptoms of Graves's disease may appear—a variety of the malady which has also been described as secondary Graves's disease.

If such an increase in the size of the goitre takes place as to cause pressure on the trachea, clearly operative treatment must be adopted. In cases in which there are no pressure signs the indications are not so clear. My own view is that these cases of toxic adenoma should be treated by operation if the goitre is large, and especially if it is an adenoparenchymatous or cystic goitre, as soon as marked symptoms of hyperthyroidism appear. The extent and character of the operation must be adapted to the needs of the case. Removal of one lobe is apt to leave displacement of the trachea by the lobe which is left. Bilateral partial resection seems best to meet the needs of these cases. If operation is declined, or the condition of the patient prevents operation, treatment of the hyperthyroidism must be carried out on the lines already described. Improvement will take place, but the goitre is not appreciably diminished in size and the results are not very satisfactory.

3. *Exophthalmic Goitre.*

The symptoms of this malady are so well known that no description is necessary. In the treatment of fully developed Graves's disease we are faced by a difficult problem. Opinions differ widely as to the relative merits of medical and surgical treatment. I shall therefore endeavour to give shortly the results of personal experience. With regard to medical treatment all that I have already said about the treatment of simple hyperthyroidism holds good in the case of Graves's disease, though the greater severity of the symptoms entails a stricter régime. At first complete rest in bed in moderate and severe cases is essential, and may have to be continued for several weeks or even months.

The question of the influence of diet in the treatment of this malady is of importance owing to the work of Chalmers Watson, McCarrison, and Professor and Mrs. Mellanby. It has been shown by Chalmers Watson that a meat diet produces changes in the thyroid gland in animals suggestive of hyperthyroidism. Colonel McCarrison[6] has shown that excess of fats or of unsaturated oleic acid in the diet may cause a relative deficiency of iodine and enlargement of the thyroid gland, and it has been suggested that fats should be reduced in these cases. Professor and Mrs. Mellanby[7] found in their work on experimental rickets that when butter was included in the diet a fivefold increase in the size of the thyroid took place, the hyperplasia in some cases affecting chiefly the secretory cells of the alveoli, and in others the intervesicular cells. Increasing the fat in the diet of puppies from 10 to 20 grams intensified the change, and on a diet containing 20 to 25 grams of butter the weight of the thyroid gland was found to be fourteen times the weight of the gland in puppies which were fed on cod-liver oil instead of butter, and in which no increase in the size of the gland took place. They have found that in cases of Graves's disease the addition of butter intensified the tachycardia and nervousness, and was followed by loss of weight. They advocate, therefore, a diet of separated milk powder, porridge, bread, green vegetables, eggs, and lean meat, with 15 c.cm. of cod-liver oil each day. I have usually advised the exclusion of red meat and their extractives from the diet. On the other hand, I have given fats, especially if there is loss of weight, in the form of milk (up to three or four pints), cream, butter, and animal fats. I also allow fish, eggs, bread, vegetables, and fruit. It is evident that further investigations are required to ascertain the most suitable diet in these cases, as it does not necessarily follow that a diet which induces hypertrophy of the gland in healthy animals is unsuitable for the treatment of Graves's disease in man.

With regard to medicinal treatment, the special organic preparations such as rodagen, antithyroidin, or thyroidectin, have not given any specially good results. Milk of a thyroidless goat has, however, been helpful in some cases, but it is difficult to obtain and hardly worth the trouble and expense entailed. Of drugs, arsenic, bromides, belladonna, convallaria, and quinine hydrobromide are the most useful.

X-ray treatment has proved to be of great value, and there can be no doubt as to its power to reduce the activity of the gland. This was clearly shown in a case recently recorded by Mr. H. Stratford,[8] in which radiation of the scar and supraclavicular region for a year after removal of the breast for carcinoma had induced such extensive atrophy in a previously healthy thyroid gland that the patient developed myxoedema. The amount and frequency of the dose and the total duration of the treatment must be adapted to the needs of each case. The treatment may be continued for six months or a year, or even longer if improvement is taking place. As a fair example the following case may be mentioned:

Miss W., aged 36. When seen on January 18th, 1918, she had a slight goitre which had been present for about three months. There was exophthalmos, with tremors and loss of hair, and the pulse rate was 140. *X*-ray treatment, which had been given twice a week from December 14th, 1917, was continued till September, 1918. It was then continued once weekly till May, 1919. Steady improvement took place, as is shown by the increase in weight

from 8 st. 10 lb. on March 2nd, 1918, to 12 st. 11 lb. in May, 1919, and to 13 st. 2 lb. in October, 1920—a gain of 4 st. 6 lb. When seen last, on February 3rd, 1922, she had been steadily at work as a school teacher since May, 1919. She occasionally has palpitation, but is otherwise well, the pulse rate being 88.

In this case the treatment occupied seventeen months, during which she received about 100 doses of *x* rays. Dr. Barclay informs me that on an average some twenty-five doses are sufficient to produce a good result. It is, however, quite worth while to continue the treatment up to one hundred doses if necessary.

Dr. A. E. Barclay and Dr. Woodburn Morrison have treated many of my cases, and by the kindness of Dr. Morrison I am able to give you the general results which followed this treatment in one hundred consecutive cases of exophthalmic goitre treated by them with *x* rays. In some seventy of these cases this treatment was carried out on my advice. Of these cases, 82 were women and 18 men. In 4 men and in 17 women the symptoms were mild; in 9 men and in 34 women they were of medium severity; and in 5 men and in 31 women severe. In the men the duration of treatment was from five months to two years in the mild cases, from three months to three years in the medium cases, and from one to four years in the severe cases. In the women the treatment lasted from five months to two years in the mild cases, from six months to four and a half years in the medium cases, and from six months to five years in the severe cases. The condition of these cases after treatment is briefly shown by dividing them into three classes. In the first class are placed only those in whom complete recovery has taken place; thus 2 mild and 2 medium cases in men, 8 mild, 7 medium, and 8 severe cases in women, or 27 per cent. in all, completely recovered. In the second class are grouped all the cases in which a good functional result was obtained—that is to say, those cases in which, although some symptoms still persisted, such marked improvement had taken place that a living could be earned and a normal life could be lived. This result was obtained in 11 men, 2 being mild cases, 6 of medium severity, and 3 severe cases; 38 women were placed in this class—8 slight cases, 20 of moderate severity, and 10 severe cases; so that altogether a good functional result was obtained in 49 per cent. The third class contained those who continued the treatment but only showed slight improvement: two men, one being a medium case and the other a mild one, and 17 women—1 mild, 6 medium, and 10 severe cases—came into this group, making 19 per cent. The remaining four women gave up the treatment without showing any improvement.

It is extremely difficult to assess fairly the results of medical treatment in a disease such as exophthalmic goitre. In the opposite condition of myxoedema the value of treatment is at once evident because we are dealing with a malady which, before I first suggested and introduced the treatment by thyroid extract thirty-one years ago, inevitably got worse and ended in death; whereas under treatment health is now regained and life can be prolonged to its normal limit. Exophthalmic goitre in a certain proportion of cases tends to improve and even disappear under any rational line of treatment or even without it. Different series of cases have shown the following results. The course of exophthalmic goitre under medicinal treatment has been described by several writers. Dr. H. Mackenzie[9] gives a table of 33 cases combined with 24 cases recorded by Dr. R. T. Williamson, in the Manchester Royal Infirmary. Of these 57 cases, 14 died and 10 recovered completely, which gives a complete recovery of 17.5 per cent. and a mortality of 24.5 per cent. Of 169 cases admitted into Guy's Hospital during 1888–1907 (both inclusive) collected by Sir William Hale-White,[10] 75 were accounted for. Of these, excluding cases which were operated on, there were 67, of whom 26 were dead, whereas among 53 private patients only 7 died. Dr. J. H. Campbell,[11] who collected the cases treated at the same hospital between 1908 and 1917, was able to trace 89 out of 127. Dr. Campbell gives his results in round figures as: almost cured, 40 per cent.; very much improved, 30 per cent. (these 70 per cent. would correspond to the two first classes of Drs. Barclay and Morrison's tables); died, 15 per cent.; not much improved or worse, 15 per cent.

Broadly speaking, then, under the influence of rest and medicinal treatment some 25 per cent. of cases are fatal, a similar percentage recover, and the remaining 50 per cent. improve to a greater or less extent. Returning to the group of 100 cases treated by *x* rays, as far as I know, all are living, and we see that 76 per cent. either recovered completely or regained good functional activity suitable for ordinary life. It may fairly be claimed that more cases recover and that the period of disease or invalidism is materially shortened under *x*-ray treatment than without it. The risk of causing myxoedema by too much radiation is small, but it has occurred in one case which I have seen. I have, however, seen myxoedema follow recovery from exophthalmic goitre without the use of *x* rays, and other similar cases have been recorded.

In some of my cases, and especially in those residing at a distance, radium has been used, the applications being usually made once every six weeks. This treatment appears to be unsuitable for very severe or acute cases, as the primary effect may be to temporarily increase the hyperthyroidism. In one acute case which was under my care in the Manchester Royal Infirmary the first application of radium was followed by a rapid exacerbation of the symptoms and the patient died. Dr. E. S. Reynolds informs me that he knows of two sisters who both died under similar circumstances. In many cases good results are obtained, and the following may be given as a fair example of the effects of this treatment.

A man of 25 was seen in June, 1919. He had a small goitre, slight exophthalmos, tremors, nervousness, and a pulse rate of 136. He had seven or eight doses of radium in the course of a year. When last seen in February, 1922, he was feeling well, and had been able to undertake the work of a secretary to a company. He had gained 2 st. in weight. The pulse was 70 in bed, 80 when up at home, but it was 120 when he came to see me.

Dr. A. Burrows[12] has recently tabulated the cases of exophthalmic goitre treated with radium at the Manchester and District Radium Institute during the years 1915–19. During this period 180 cases were treated. His conclusions are as follows: "Fifty-two of these cases are recorded as cured—that is to say, all symptoms and signs of disease have disappeared, except sometimes some slight exophthalmos, for over two years, and only one recurrence is recorded. Many cases have already when they come for treatment definite myocardial failure, which may persist, and although the hyperthyroidism is cured they cannot be recorded as cured cases. The application of radium is a prolonged process, and much patience is needed because the treatment may last from two to three years." Five cases were well for six months or more, but had not been recently traced. If these cases are included we find that 31.6 per cent. recovered under radium treatment. The remaining 122 cases are all returned in one group as improved, not improved, or died, so that we are unable to compare the results, as far as improvement is concerned, with those obtained by *x*-ray treatment, and the number of deaths is not recorded.

Surgical Treatment.

In adopting surgical treatment in exophthalmic goitre we endeavour to effect a rapid reduction of the overactivity of the gland to a normal level by the removal of a sufficiently large amount of the secreting tissue. This may be achieved by ligation of the superior arteries, followed by a subtotal thyroidectomy at a later stage, or the thyroidectomy may be done forthwith. My early experience of operation was unfortunate, as the first three cases all died. The mortality is now stated to be from 2 to 5 per cent. In mild cases operation is not required; in cases in which the trachea is compressed it is essential. It is in moderate and in severe cases that opinion is divided. In any case, medical treatment should have a full trial for six months; if no improvement has then taken place operation should be considered. The most suitable cases are those in which the goitre is of considerable size, as they do not do well under medical or radiological treatment.

Briefly, the advantages of operation are:

1. The saving of time by the rapid reduction of the hyperthyroidism and relief of the symptoms.
2. The diminution of the risk of irreparable damage to the heart in the form of the chronic myocarditis which develops in severe and in prolonged cases.
3. The complete and rapid recovery in some cases.

The disadvantages are:

1. The risk to life.
2. The uncertainty of the ultimate result owing to the difficulty in determining the right amount of the gland which should be removed in each case. For example, one of my cases had two partial thyroidectomies performed, but at the end of ten years still showed marked symptoms of the malady, which finally subsided under *x*-ray treatment.
3. The tendency to recurrence at the end of a year.

As an example of a successful operation advised under special circumstances the following case may be mentioned:

Mrs. M., aged 27, seen on February 14th, 1921. A goitre had first appeared eighteen months before; this was followed by dyspnoea on exertion and occasional palpitation. She had a moderate uniform enlargement of the thyroid gland with tremors of the hands. The pulse rate was 150 and the cardiac impulse extended two fingerbreadths outside the left nipple line. There was exophthalmos. As this patient wished to go to China as soon as possible with her husband to reside in a district some 7,000 ft. above sea-level, and was about to visit relations in Minnesota, I advised her to go to the Mayo clinic for operation. In June last the basal metabolic rate was *plus* 40, when Dr. Verne C. Hunt of Rochester did a ligation of both superior thyroid vessels. After this she gained 20 lb. in weight and improved in general condition, but the basal metabolic rate was *plus* 45. Dr. Hunt has kindly informed me that on September 6th a double resection of the gland with removal of the isthmus was done. She had an uneventful convalescence and was able to go to Japan in November. The latest report received from Mrs. M. in Japan stated that she was perfectly well. I advised early operation in this case owing to the special circumstances already mentioned, and the result has been most satisfactory.

REFERENCES.

[1] *Modern Methods in the Diagnosis and Treatment of Renal Disease*, H. Maclean, M.D. [2] BRITISH MEDICAL JOURNAL, November 27th, 1920, p. 807. [3] *Journ. Amer. Med. Assoc.*, vol. lxxvii, No. 4, p. 252. [4] Ibid., vol. lxxvii, No. 5, p. 347. [5] Ibid., vol. lxxviii, No. 5, p. 341. [6] BRITISH MEDICAL JOURNAL, February 4th, 1922, p. 178. [7] *Journ. of Physiol.*, vol. lv, pp. vii and x. [8] *Lancet*, November 19th, 1921, p. 1059. [9] Allbutt and Rolleston's *System of Medicine*, vol. iv, Part I, p. 377. [10] *Quart. Journ. of Med.*, vol. iv, No. 13, 1910. [11] Ibid., vol. xv, No. 57, 1921. [12] A Report of the Work of the Manchester and District Radium Institute for 1921.

A PULMONARY SIGN IN ACUTE INFECTIONS OF THE BILIARY TRACT.

BY

D. P. D. WILKIE, M.Ch., F.R.C.S.,

ASSISTANT SURGEON, ROYAL INFIRMARY, EDINBURGH.

MOST medical men are familiar with the deceptive abdominal symptoms and signs which may sometimes dominate the clinical picture in the early stages of pleuropneumonia. Most can recall mistaken diagnoses as well as the feeling of satisfaction which has followed a successful detection of the trouble above the diaphragm and the sparing of the patient an abdominal exploration both unnecessary and fraught with risk. On the other hand, I find that very few are familiar with the converse picture—namely, the case presenting pulmonary symptoms and signs in which the primary and focal lesion is in the upper abdomen.

That acute infections of the gall bladder and bile ducts are frequently associated with definite physical signs at the base of the right lung is a fact I have repeatedly observed; in a number of cases it has led to an incorrect diagnosis, a primary lung lesion being suspected and the pain in the right hypochondrium being regarded as referred from the pleura.

My attention was first directed to this sign some ten years ago by the case of a gentleman on whom I had operated for inguinal hernia:

Mr. T. D., aged 65, was operated on (December 12th, 1912) for a right inguinal hernia. Four days later (December 16th) he complained of severe pain on the right side of his chest and in the right hypochondriac region of the abdomen; temperature 100°, pulse 90, respirations 26. There were very definite tenderness and rigidity just below the right costal margin, and a deep inspiration caused great pain in this region. I made a diagnosis of acute cholecystitis probably associated with gall stones, and recommended the local application of heat. At the request of his relatives a physician was called in to see him, and he discovered that there were numerous crepitations at the base of the right lung, and diagnosed congestion of the right base with referred abdominal pain. Two days later a definite tinge of jaundice appeared, and the original diagnosis received strong support. In a week the infracostal pain and tenderness had subsided.

In January, 1914, I was called to see the patient again. He had had three attacks similar to that described above, and in this, the fourth, attack the symptoms were much more urgent than ever before. I operated and found a partially gangrenous gall bladder, containing pus and over 100 calculi.

Since then I have made a habit of examining the bases of the lungs in cases of acute biliary infections, and have found that crepitations at the right base occur in quite a fair percentage of cases. The following case illustrates the importance of recognizing the significance of this physical sign:

Mrs. F., aged 53, was operated on for gall stones on November 10th, 1920. She gave a typical history of recurrent attacks of gallstone colic extending over a period of five years. At the operation ten gall stones were removed from the gall bladder, which was drained. She left hospital at the end of four weeks with the wound healed. Five days after leaving hospital she had an attack of pain round the right side of the chest. Her doctor found crepitations and some pleural friction at the right base, and gave the opinion that this was a chest condition and not connected with the biliary tract. The patient, however, insisted that the pain was the same as she had had before operation. At intervals of a few weeks the attacks recurred, always accompanied by the basal pulmonary signs, and she had poultices applied round the right side of the chest.

On January 16th, 1921, she had a very severe attack, again with crepitations, but this time also with very acute tenderness in the right hypochondrium. Poultices over the right base gave no relief, and after a few days she had a definite tinge of jaundice. Her doctor diagnosed cholecystitis and sent her into hospital. A swelling was found in the right hypochondrium and great tenderness on pressure in this region. Over the base of the right lung numerous fine crepitations could be heard, and there was slight dullness on percussion. On January 19th, 1921, she was again operated on. The gall bladder, greatly enlarged and thickened, containing muco-pus and one faceted calculus plugging the cystic duct, was removed. Since the second operation she has been entirely free from biliary and pulmonary symptoms.

This pulmonary sign may also be found where the infection is located in the ducts and where the gall bladder is not the chief seat of trouble, as the following case shows in a most instructive manner:

Mr. D., aged 67, had suffered for over a year from frequently recurring attacks of pain and discomfort in the epigastrium, accompanied by rigors and always followed by a faint tinge of jaundice. The pain was never very severe, but in each attack he felt ill, had a temperature of 100° to 101° F., and was confined to bed for several days—the latter mainly because his doctor always found signs of congestion at the base of the right lung. On several occasions the question of operation was discussed, but it was doubted whether it was justifiable on account of the pulmonary symptoms. Latterly the attacks recurred so frequently, and the jaundice though slight became so constant, that he consented to operation. His doctor noted in each attack crepitations at the right base, none at the left.

Operation (January 9th, 1921).—A very large and somewhat thickened gall bladder was found. It contained no calculi. The common duct was very dilated and thick-walled, the head of the pancreas was hard—the seat of chronic interstitial pancreatitis. The common duct was opened and a large quantity of granular débris and bile-sand scooped out. No calculi of any size were present. A probe passed readily into the duodenum. The common duct was drained, and in view of the sclerosing pancreatitis a cholecysto-duodenostomy was performed. The patient made an uneventful recovery, rapidly put on weight, and a year later reported that he had been entirely free from all biliary and pulmonary trouble.

The interesting point in regard to this case was the fact that the pulmonary signs accompanying his recurring attacks of cholangitis were for a time regarded as a contraindication to operation, and had no jaundice been present even more emphasis would certainly have been laid on the pulmonary as opposed to the biliary symptoms.

Etiology of the Pulmonary Congestion.

Three possible explanations for this must be considered:

(1) The infection in the gall bladder or bile ducts spreads by way of the peritoneum through the lymphatics of the diaphragm and so reaches the pleura and the base of the lung. Facts which favour this theory are that in two cases, besides the crepitations, pleural friction was detected over the right base, and in another case a well-marked pleurisy with effusion was present within twenty-four hours of the operation for removal of the infected gall bladder.

(2) That reflexly, from irritation of the sensory fibres of the phrenic nerve, the diaphragmatic excursion on the right side is diminished, the expansion of the base of the right lung is restricted, and some hypostatic congestion results. There can be no doubt that this factor of impaired movement of the diaphragm plays a considerable part, and whether it be a phrenic reflex or a mechanical difficulty owing to the boarding of the abdominal muscles and the plastic adhesions so frequently present about the lower border of the liver, or both, is of little moment. It is of interest, however, in this connexion to note that over 50 per cent. of those patients showing pulmonary signs complained of acute shoulder pain, usually attributed to a phrenic reflex.

(3) That the lung condition is a blood infection settling in a part of the lung the expansion of which is restricted by the factors mentioned in (2).

The work of Else and of Rosenow has shown how liable the gall bladder is to infection through the blood stream. It is therefore perfectly feasible that the blood-borne infection which settled in the gall bladder might secondarily light on a part of a lung crippled by deficient expansion.

Frequency of Pulmonary Signs.

Since my attention was attracted to the presence of basal congestion in biliary infections I have operated on 31 acute cases. In 8 of these there is no note of an examination of the bases; of the remaining 23 crepitations were noted at the right base in 12, in 11 the examination was negative. In two cases pleural friction was present in addition to the moist sounds.

Influence on Prognosis.

In no case did any pneumonic complication follow operation. In one case a pleurisy with effusion was found on the day following the removal of a gall bladder full of pus. The bases of the lungs had not been examined in this case prior to operation, otherwise some abnormal physical signs would doubtless have been discovered.

There was no death in the series of 31 cases. In 24 cases ether anaesthesia was used, in 7 chloroform.

Conclusions.

The conclusions to be drawn from the study of these cases are:

1. That in a patient complaining of pain at the right costal margin and round the right side of the chest the discovery of crepitations or even of pleural friction at the right base does not preclude, but may support, the diagnosis of an acute biliary infection.

2. That such pulmonary signs are secondary to the biliary infection, and, far from contraindicating operation, will be effectively treated by dealing surgically with the primary focus of disease.

CAESAREAN SECTION:

WITH SPECIAL REFERENCE TO PRESENT-DAY INDICATIONS FOR OPERATION.*

BY

CHARLES J. G. TAYLOR, M.A., M.D.OXON.,

HONORARY SURGEON TO THE NUNEATON AND DISTRICT GENERAL HOSPITAL.

THE operation of Caesarean section must always be a matter of supreme interest to general practitioners, as upon them rests the responsibility for the care and safety of the majority of mothers and their infants at the time of parturition. Herman classified the indications broadly into absolute and relative. Under the heading of absolute he included those conditions only which cause such a narrowing of the birth canal that the child, even after embryotomy, cannot be made to pass through the pelvis. All other conditions fall within the category of relative indications. During the past few years the list of relative indications has been enormously amplified, and careful judgement is called for in making a decision in individual cases between this operation and alternative methods of treatment.

Absolute Indications.

1. Extreme forms of pelvic deformity. As a general rule a space measuring 2 by 4 inches represents the very minimum through which delivery can be effected successfully either by cephalotribe or craniotomy forceps. It is safe to say that Caesarean section is absolutely imperative if the conjugate is 2 inches or less. Probably it would be more accurate to place the figure at 2¼ inches or less.

2. Hard solid tumours, fixed in the pelvis and causing narrowing to the extent that delivery through the pelvis is quite impossible.

Relative Indications.

1. *Contracted Pelvis.*—This is the most common condition for which Caesarean section is called for. It is generally agreed that a *true* conjugate of between 3¼ and 3½ inches is the lowest limit permitting delivery of a living child. There is some slight variation of opinion among the experts as to which figure should be taken. I think myself we should accept the 3½ inches *true* conjugate. But it is not enough to measure the conjugate only—the size of the child must be taken into consideration, and especially the size of the head, and whether the head can be made to engage comfortably in the brim. With a large child it may be advisable to choose Caesarean section with a true conjugate even of 3¾ inches, while it may be possible to deliver naturally a small child through a conjugate of 3½ inches or less. Every individual case must be considered on its merits. What are the alternatives in these cases to Caesarean section? (*a*) Craniotomy—a barbarous operation not without risk to the mother, which might be avoided entirely if only the public and many practitioners were educated up to the supreme importance of the careful examination of the pregnant woman, especially all primiparae and all who have experienced previous trouble in labour. (*b*) Pubiotomy. I believe the scope of this operation to be very strictly limited to cases of minor contraction at the pelvic outlet. (*c*) Induction of premature labour. This is really useful only in minor cases of pelvic contraction. Obviously it is inadvisable to induce labour long before full term, as in all probability the child will die. I think we should practise this method as a rule only on women whom we have attended at a previous confinement and delivered by forceps after a struggle. We know then that a slightly smaller head will pass through the pelvis naturally, and, when pregnancy occurs again, by carefully estimating the size of the head from time to time we should be able to judge the correct moment for inducing labour. After induction of labour, maternal mortality averages 1 per cent., infantile mortality 30 per cent.—some say even from 50 to 60 per cent.

All that I have said up to now presupposes that we have been given the opportunity to examine our cases before labour has begun, and that we have diagnosed correctly the degree of deformity with which we have to deal. Unfortunately, as things are constituted at present, we do not often enjoy such opportunity; far more often we are summoned to a case with no more than a curt note from the midwife that "the baby is lodged." On examination we may find the membranes ruptured, the lochia drained away, and the head still above the brim. What are we to do if, after measuring the conjugate, we find that it is useless to attempt forceps delivery?

I think, having examined the available statistics, that in a case which we have every reason to suppose is grossly infected the safest procedure is craniotomy, and this follows as a matter of course if the child is already dead. If we know that examinations have not been frequent, the general circumstances satisfactory, and the child still alive, we should favour Caesarean section. Professor Munro Kerr thinks that the risks of setting up peritonitis may be considerably diminished by delivering the infant through the uterine incision, but leaving the placenta and membranes to be expelled by the vagina, thus avoiding contamination of the abdominal wound with the torn and almost certainly infected edges of the membranes. Others, again, advocate immediate hysterectomy in obviously septic cases. Whatever treatment we may adopt may involve considerable risk to the mother, consequently in dealing with a case of this kind we must weigh all the pros and cons with great care, and, above all, decide on a definite line of treatment without delay.

2. *Tumours.*—The most common tumours likely to interfere with the birth of the child are fibromyomata and ovarian cysts; other forms of tumours, such as enchondromata, osteomata, etc., are rare. Obviously if a fibroid blocks the passage of the foetus the only thing to do is to deliver by Caesarean section, and at the same time deal with the fibroid by hysterectomy. It not infrequently happens that a fibroid which in the early months of pregnancy appears to be obstructing the birth canal subsequently becomes drawn up out of the pelvis and ceases to cause any obstruction. It may be possible in these circumstances to remove the fibroid by myomectomy and allow the pregnancy to continue uninterruptedly to term. There does not appear to be any undue risk of a miscarriage; of course the mere presence of a fibroid may bring on a miscarriage in any case.

In ovarian cysts as a rule Caesarean section is not called for. The cyst can be removed even after labour has begun and parturition allowed to terminate naturally.

Other growths—of bone, cartilage, and so on—are of such rare occurrence that we need not waste any time discussing them. But there remains one very important form of growth which I think deserving of special mention. I refer of course to carcinoma, and more particularly, as the most common form met with, carcinoma of the cervix. Caesarean section for carcinoma of the cervix is not very frequently necessary. Pregnancy is likely to cause such a rapid exacerbation of the disease that in all likelihood our attention will have been called to it long before full term is reached. In such circumstances if the growth is operable we must urge the imperative necessity of a radical operation without delay and without regard to the life of the infant. In the event of the disease not being discovered until the late weeks

* A paper read before the Nuneaton and Tamworth Division of the British Medical Association.

of pregnancy, or supposing that, after having the circumstances and the dangers fully explained to them, the woman and her husband elect to risk all in favour of a living child, then delivery must be accomplished by Caesarean section, as the effect of a natural labour on the growth would be disastrous.

3. *Placenta Praevia.*—The treatment of this condition by Caesarean section was first advocated by Lawson Tait in 1898. His suggestion was jeered at by his colleagues, but he was less than twenty years ahead of his time. It is safe to say now that the majority of gynaecologists, though not all, regard Caesarean section as the standard method of treatment in practically all cases of central and lateral placenta praevia. In marginal placenta praevia the older methods are usually quite efficacious. In the central and lateral cases operation should be performed as soon as the diagnosis is made; there is usually an initial haemorrhage, probably not very serious, and on examination the os is sufficiently dilated to admit of the placenta being felt. Now is the time to do Caesarean section before a further serious haemorrhage makes the life of the mother precarious and that of the child hopeless. Foetal mortality by the older methods is between 50 and 70 per cent., and maternal mortality about 10 per cent.

4. *Eclampsia.*—During the last ten years Caesarean section has been frequently performed for eclampsia, but I cannot find that any of the experts give more than a somewhat qualified and guarded approval of the practice. Herman, who had a very large experience of this complication, makes the bold statement that four-fifths of all cases get well, and states with refreshing frankness his view that no treatment whatever is necessary—an opinion which was also shared by Matthews Duncan. Herman only justifies what he calls "meddling" as being the best means of keeping the patient's friends quiet. But I think Herman's figures err somewhat on the optimistic side. A considerable majority of eclamptics are primiparae, and the first stage of labour is often very considerably prolonged. Not infrequently a marked improvement sets in after delivery. I think, therefore, that Caesarean section is certainly justifiable, if not absolutely indicated, when the onset of eclampsia is early in labour and we are convinced from the way things are going that the first and second stages are going to be slow. Bleeding and transfusion of saline to dilute the toxins can quite well be carried out while the operation is in progress. I should like to mention one practical hint here which applies equally whether an anaesthetic is being given to control fits or for the operation —that is, not to give eclamptic patients chloroform. The morbid appearances after death from eclampsia are very similar to those produced by chloroform poisoning; both are set up by a condition of acidosis, and it is reasonable to argue that chloroform definitely does harm. Therefore, ether should always be given; it is just as simple and quite as efficacious.

In a sense allied to eclampsia we have the chronic nephritis of pregnancy, or chronic nephritis aggravated by pregnancy. It has been customary to teach that, should the condition of a patient not show considerable improvement under treatment by rest and strict milk diet, or should alarming symptoms develop, such as headache, vomiting, eye symptoms, or a marked diminution in the quantity of urine passed, the correct procedure is to terminate pregnancy by induction of labour. It is not as a rule necessary to do this till the later weeks of pregnancy. Induction of labour is not always a very certain proceeding, especially as regards time, so that in many of these cases Caesarean section may well be the method of choice, especially when we bear in mind that the mother in such cases is spared the undoubtedly great strain of ordinary labour.

5. *Concealed Accidental Haemorrhage.*—Caesarean section is only called for in the most severe forms of this condition in which other methods have been tried and failed. In these cases the baby is nearly always dead, so no efforts are called for on its behalf. The bleeding can generally be checked by complete rest, morphine, rupture of membranes, a binder, and injections of pituitary extract. If the mother does not improve then the only thing to do is hysterectomy, as the uterine muscle will have been so stretched and disorganized that retraction will be quite impossible.

6. *After Ventro-fixation.*—Occasionally labour will be obstructed after this operation by reason of the cervix being so far tilted backwards that the presenting part cannot dilate it. Caesarean section then becomes necessary. The moral is, do not perform ventro-fixation on a woman of child-bearing age.

7. *Prolapse of the Cord.*—Caesarean section has been performed for this complication, but infant mortality does not appear to be thereby diminished, so it is hardly to be recommended as a routine practice. I think the same remark applies to—

8. *Impacted Shoulder Presentations.*—If the case is too far advanced for version I should imagine decapitation to be the best procedure, but Caesarean section has been performed very occasionally. The mortality rate is 50 per cent. for both mother and child in the few cases which have been recorded.

9. *Abnormal Conditions of the Child.*—A very large child even with a normal pelvis may occasionally best be delivered by the abdominal route, especially if it is presenting by the breech. Post-maturity is now, I think, generally accepted as a possible complication of pregnancy, and may not be of such infrequent occurrence as at one time was believed. Possibly a recent case heard in the law courts may be called to mind where, after taking expert evidence, the Lord Chancellor pronounced a child to be legitimate when it was born 331 days after the last possible chance of conception from the efforts of the lawful father. The child in such a case may be so large as to render Caesarean section necessary.

On rare occasions the operation has been performed for brow presentation, impacted breech, and persistent occipito-posterior positions. I think these cases should be regarded as constituting somewhat exceptional indications, and should require some other circumstance to justify operation.

10. *Retraction and Contraction Rings.*—It has happened that the after-coming head in a breech, and even the presenting head, has been caught and prevented from advancing by Bandl's ring. This might conceivably call for abdominal section.

11. *Scar Tissue and Rigid Cervix.*—Dilatation of the cervix may be unduly delayed by the toughness of scar tissue resulting from an operation or loss of elasticity of the normal tissue, the latter particularly in the case of elderly primiparae. Labour in some of these women is a terribly long business; if left to themselves the baby will probably die, and if forcible measures are adopted there may be very extensive laceration of the cervix and severe tearing of the perineum. I should imagine that a breech presentation in a primipara well advanced in her thirties or over forty causes more trouble and anxiety than any other problem of midwifery.

An unreduced occipito-posterior presentation may be almost as bad. Now, would it not be better to deliver many of these women by Caesarean section? The risk to the mother is very slight if operation is decided upon early, while the advantages may be enormous—a live and undamaged child, and results to the mother, both immediate and remote, very much more satisfactory. I do not, of course, advocate such heroic measures in every case of breech in a primipara—it is a difficult matter at the best of times to estimate the duration of a first labour—but I do think it would be worth while when we realize that a case is going to be protracted and we anticipate the kind of trouble I have described.

The operation has also been performed for extreme oedema of the vulva and very severe varix of the vagina and vulva. Obviously such cases must be treated purely on their individual merits.

12. *Serious Disease of the Mother.*—In such cases, particularly in fully developed mitral stenosis or advanced pulmonary tuberculosis, when the additional strain of labour may seriously imperil life, I have no doubt that the correct procedure is to perform Caesarean section. The shock of operation is far less than that arising from an ordinary labour of even moderate duration. From what I have seen in my own experience in other fields of surgery I would strongly advocate the use of a local infiltration anaesthesia in such cases.

Of *post-mortem* Caesarean section I need say no more than that it is possible to deliver a living child from twenty to twenty-five minutes after the death of the mother.

This completes the catalogue of indications, but there are still a few points to which reference should be made as having a distinct bearing on the subject of this paper.

First, as to the time of performing Caesarean section. Should we wait until labour has begun? On theoretical grounds it might be supposed that haemorrhage would be much less and more easily controlled during labour, but in practice it makes little or no difference. The manipulations of the uterus set up muscular contractions, and there need be no more haemorrhage in a case operated on before true labour has begun than after its onset. Again, should the patient be

sterilized at the time Caesarean section is performed, or should she be allowed to run the risk of becoming pregnant again? So recently as ten years ago it was widely held that the majority of cases should be sterilized at the time of the first Caesarean section. At the present day the general view is in complete opposition to this, and it is held to be rarely justifiable to sterilize a patient except in such circumstances as we have already considered, where the condition found at operation renders this course necessary in order to obtain a successful result—for example, hysterectomy for fibroids. Now that Caesarean section is so frequently performed for conditions other than obstruction in the pelvis, obviously there is no reason why many of the mothers should not have any number of subsequent labours—and a number do so. In cases of pelvic contraction, however, the view generally held is, "once a Caesarean always a Caesarean," and there are many cases on record of women undergoing Caesarean section four, five, or even more times, quite successfully. Unfortunately it is a fact that in a certain number of cases the uterine scar is not strong enough to withstand the strain of a subsequent pregnancy, and rupture of the uterus has been found to occur far too frequently. The direct cause of the weakness of the scar is sepsis at the time of the original operation.

Another fact to be noted is the relatively high rate of sterility following the operation. This, I think, is due not so much to the operation itself as to the fear that it engenders in the minds of the patients and their husbands and consequent avoidance of pregnancy.

In conclusion, I should like to emphasize, first, the supreme importance of educating ourselves and—a far more difficult matter—our patients and their mothers and mothers-in-law in the absolute necessity of keeping a careful watch on all women throughout the period of pregnancy; it is the only means of avoiding occasional disaster. Secondly, the urgent need for the provision of maternity beds in all large towns and country districts. Possibly since the introduction of the panel system and the almost universal employment of midwives in maternity cases in industrial districts we may be able to view these questions in a more detached spirit than heretofore. In any case the remedy lies first and foremost in our own hands; if we make it our business to insist that beds for maternity cases are provided, I feel convinced that the time will not be far distant when women will clamour to be admitted to them.

LITERATURE.

Galabin and Blacker: *Practice of Midwifery*, seventh edition, 1910. Herman: *Difficult Labour*, fifth edition, 1910. BRITISH MEDICAL JOURNAL, Reports of Section of Obstetrics and Gynaecology, October 1st, 1921. Ibid., December 10th, 1921. *Proc. Roy. Soc. Med.*, vol. xiv, I, November, 1920.

CAESAREAN SECTION.*

BY

SAMUEL J. CAMERON, M.B., F.R.F.P. AND S.GLAS.,

ASSISTANT TO THE REGIUS PROFESSOR OF MIDWIFERY, GLASGOW UNIVERSITY; OBSTETRIC SURGEON AND GYNAECOLOGIST, GLASGOW MATERNITY AND WOMEN'S HOSPITAL.

CAESAREAN SECTION is one of the most spectacular but also one of the easiest of abdominal operations to perform if the patient has not undergone the operation on a previous occasion. With practice this operation can be accomplished rapidly; with an efficient staff of nurses and assistants I have performed the entire operation in seven minutes. A general practitioner with an average surgical training may safely perform it in cases of obstruction due to contracted pelvis, provided the case comes under observation early in labour and that he can secure thorough sterilization of instruments, suture materials, and gauze. On reviewing my more recent results I find that I have lost one patient in seventy-nine consecutive cases of Caesarean section. The only case which died succumbed to an ordinary bronchopneumonia ten days after operation. Ether alone had been administered in this case, and I would strongly urge that for purposes of anaesthesia chloroform should be used in preference to ether in the case of rachitic patients, as they are extremely susceptible to certain pulmonary disorders; a large number of them suffer from bronchitis and emphysema.

Within recent years the indications for the operation have been extended, and at the present time the obstetrician will be most liable to be called on to employ it in one of the following conditions:

1. In all cases of contracted pelvis where the obstruction prevents effectively the foetal head from engaging at the brim. In studying the causes of operative failure in my earlier cases of contracted pelvis I found that the chief danger was sepsis. At that time I performed the operation, even if forceps had been employed unsuccessfully by the practitioner, or if the membranes had been ruptured for many hours. As a rule the patients recovered, but a few died, and others had a prolonged convalescence due to septic infection. Accordingly I determined to operate only in cases which were probably free from contamination, and therefore I performed craniotomy in most cases which had been examined vaginally before admission to hospital, and in all of these cases if the membranes had been ruptured for longer than twelve hours.

2. Neoplasms in the uterus, ovaries, or pelvic bones sometimes cause such a degree of obstruction that Caesarean section has to be performed. As a general rule, cystic tumours of the ovary can be removed through the abdominal wound without incising the uterine wall, and whenever this is feasible it should be the operation of choice. In order to minimize the strain to which the abdominal wound is subjected during labour forceps should be employed when the second stage is reached. On the other hand, we can seldom remove a fibromyomatous tumour which has obstructed labour without first performing Caesarean section; nevertheless it is possible when a subperitoneal tumour is pedunculated, and in one instance of this kind I was able with my hand in the vagina to push the tumour upwards over the foetal head, and by so doing operative interference was avoided at the time. When a patient with a fibromyoma does not wish to be sterilized, occasionally we are able to perform myomectomy immediately after delivery has been effected by Caesarean section. As regards carcinoma of the cervix, the radical operation should be practised as soon as the case comes under observation if there be a reasonable chance of success; the child's life is of secondary importance. If the disease be too advanced to permit of extirpation, pregnancy should be allowed to proceed, and at full time Caesarean section should be followed by supravaginal hysterectomy, as the risk of sepsis is thereby diminished.

3. Excessive cicatricial contraction of the cervix and vagina may so obstruct labour that the lives of mother and child can be best safeguarded by Caesarean section. As a rule this difficulty follows an operation where the cervix has been amputated and the vaginal walls have been extensively denuded and sutured for the cure of uterine prolapse.

4. The operation is valuable in certain cases of accidental haemorrhage and placenta praevia, but in placenta praevia I recommend it mainly in cases where the patient is elderly and the child is alive. It seems to me that the operation should not be recommended in such cases if the patient be young, as she may be left with a weak uterine scar which may give way during a subsequent pregnancy. It is also a justifiable procedure in any case where the placenta is central and the os is not dilated. Many lives have been saved in cases of severe accidental haemorrhage by means of this operation. If the cervix be closed and the bleeding profuse it appears to be the most certain method of controlling the haemorrhage. Theoretically the proper procedure would be to remove the uterus without incising it, as the patient can ill afford any additional loss of blood, and by adopting this plan the main vessels supplying the organ are at once clamped. In practice I find, however, that evacuation of the contents shortens the operation, as the surgeon is not hampered by a bulky organ, and, after all, the loss of blood is relatively small. In cases of accidental haemorrhage I usually perform hysterectomy immediately after removal of the foetus and placenta, but this procedure is not always necessary, and cases may make an uninterrupted recovery after the uterine wound has been sutured in the usual way.

5. There is a tendency at present to advocate Caesarean section in cases of eclampsia, but as far as my observations go much better results can be obtained by less drastic measures which leave the uterus intact. I refer to induction of labour in combination with medicinal and other measures.

6. Ventro-fixation and vaginal fixation of the uterus may disturb the position of the organ to such an extent that delivery by the natural passage is impossible, and in such circumstances Caesarean section is indicated. I have had personal experience of three cases of this character.

7. In rare instances this operation is performed in cases where labour is obstructed by a retraction ring which has formed in advance of the presenting part.

* Abstract of a lecture delivered to the Medico-Chirurgical Society, Queen Margaret's College, Glasgow.

Time of Operation.

The best time for operating on the patient is during the first stage of labour before the membranes have ruptured, as cervical dilatation ensures free drainage. In most instances, to suit my own convenience, I operate before labour begins. The patient is prepared in the usual way for an abdominal operation, and if a vaginal examination has been made recently a few antiseptic douches should be administered.

Site of the Abdominal and Uterine Wounds.

For many years I have operated on my gynaecological cases either through an incision in the rectus sheath or through a transverse wound. More recently I have adopted the incision through the rectus sheath in cases of Caesarean section, owing to the fact that a weak wound is liable to be obtained by a middle-line incision, as the abdominal wall in this situation is attenuated by the large gravid uterus. It is a matter of importance as to whether the right or left side is chosen. In my opinion the incision ought always to be made on the right side, as the uterus usually lies towards the right, and therefore the left margin of the organ approaches the middle line of the abdomen. Over a year ago I was performing the operation in the country, where the lighting equipment was miserable, and the uterus was exposed through an incision in the left rectus sheath. As soon as the uterine incision was made profuse haemorrhage occurred from the lower angle of the wound, and it was found that some large veins in the left broad ligament had been severed; great difficulty was experienced in arresting the haemorrhage. The left border of the uterus in this case was situated near the middle line, and if the incision had been made on the right side of the abdomen the above unpleasant complication would have been avoided. Two knives are always used by me—one for the abdominal and the other for the uterine wall—and I regard this as an important detail in my technique as it prevents infection of the uterine tissues if the skin be not sterile.

Every surgeon who has had a large experience in dealing with cases of repeated Caesarean section has probably on many occasions been hampered by numerous and dense adhesions in the region of the former scar or scars. The attachment of the uterus to the abdominal wall can often be diagnosed before the abdomen is opened, owing to movements communicated to the uterus being accompanied by dragging on the abdominal wall. If attached in the usual way the operation in these circumstances may be dangerously prolonged, and I have known a patient in the practice of an accomplished obstetric surgeon succumb from shock following a tedious operation of this description. In dealing with these cases I strongly advocate the evacuation of the uterine contents through transverse incisions in the abdominal and uterine walls. By so doing the surgeon can avoid the labyrinth of adhesions, and as the uterus is usually firmly fixed to the parietal peritoneum the organ will remain there in a state of ventro-suspension. Sometimes this attachment of the uterus to the parietes favours incomplete retraction, and on several occasions I have observed fairly profuse *post-partum* haemorrhage in such cases. As a rule I make the transverse incision a short distance above the upper extremity of the old scar; this will usually be above the level of the umbilicus and near the fundus of the uterus. On opening the abdomen the free portion of uterine wall near the fundus is severed transversely, and the child is extracted.

Treatment of the Uterus.

Before opening the uterus I insert four large swabs, so that two are situated laterally and the other two at the upper and lower angles of the abdominal wound. The swabs are not removed until the wound in the uterine wall has been closed. After the uterus has been opened the operator should feel for a leg and drag the limb through the wound. If he discover that he has seized a hand he should at once release it and find a leg, as the child should be delivered as a breech. As the limb is often greasy, the nurse who is attending to the dressings should keep a swab in readiness to pass to the operator to prevent his hand from slipping during the extraction. Immediately the child is delivered the uterus should be drawn through the abdominal wound on to the abdominal wall. There the organ should be turned inside out, so that the placenta and membranes can be stripped from their attachment. For this purpose a large pledget of gauze will be found most useful. In most instances the membranes in the region of the cervix are the most difficult to detach, and it is highly desirable that they should be entirely removed, as even a small portion overlying the os may prevent the lochia from escaping for several days.

When the extraction of the placenta and membranes has been accomplished the inner wall is thrust back into position in order that the uterine wound may be closed. The method which I now adopt is to begin by inserting three interrupted sutures of silk; one suture is placed in the middle of the wound and the other two midway between the first suture and the upper and lower angles of the wound. Each suture passes through the entire depth of the uterine wall, with the exception of the inner layer. These sutures are firmly secured, and the remainder of the wound is closed with similar sutures of catgut. Finally a continuous suture of catgut is used throughout the entire length of the wound. The three sutures of silk are a safeguard in case the catgut becomes absorbed too rapidly.

Closure of the Abdominal Wound and After-treatment.

As soon as the wound in the uterus is closed the four large swabs are withdrawn and the abdominal incision is closed in layers. For many years I have used anchor sutures to support the wound and to keep the small gauze dressing in position. No other covering is applied to the wound. Before the patient leaves the operating table the surgeon should observe whether blood is escaping from the vagina or not; if it is not, he should grasp the uterus and compress it through the abdominal wall. Dilatation of the cervix may sometimes be necessary to remove an obstructing portion of membrane.

In my surgical practice I have for many years allowed my patients every liberty of movement as soon as they become conscious after the operation. They are encouraged to lie on their side and to sit upright in bed in Fowler's position. By so doing drainage is promoted, flatulence is diminished, convalescence is shortened, and the liability to thrombosis is lessened.

ECLAMPSIA: EVOLUTION AS A CAUSATIVE FACTOR.

BY S. E. KARK, M.B., CH.B.EDIN.,
CAPE TOWN.

BEFORE proceeding in detail with the subject-matter of this paper I must briefly summarize a paper dealing with the general causation of the toxaemias of pregnancy read by me at the recent South African Medical Congress held at Cape Town (October, 1921).

1. A normal pregnancy is one in which all the changes that take place incidental to that condition are necessary for the purpose of gestation—that is, all the changes brought about must be functional.

2. As with almost all pregnancies there are concomitant functionless changes apart from frequent pathological-like manifestations, it is evident that almost all pregnancies are not quite normal.

3. To explain this anomaly in nature—that such an important physiological process as gestation should almost always be abnormal—I advanced the view that in the process of evolution of the various vital functions of the body the placental form of reproduction was evolved last and comparatively late. While all the other vital functions are now mature and harmoniously correlated to each other, gestation is still in some degree developmentally immature, hence its many physiological imperfections. In consequence of this tardiness in the process of evolution of the placental form of reproduction, the pregnant state approaches in some degree primitive conditions; gestation is, as it were, a physiologic atavism. This is evidenced by the following facts:

A. That in the pregnant woman the secondary feminine characteristics often become less marked; she approaches the masculine type in many respects—that is a recession towards the primitive state, in which secondary sex characteristics were not as yet markedly differentiated. This metamorphosis towards masculinity is shown by the frequent occurrence in pregnancy of:

(*a*) Overgrowth of hair on the body, especially on the face.
(*b*) Coarsening of the features.
(*c*) Thickening of the skin.
(*d*) Hypertrophy of some of the bones.
(*e*) Enlargement of the hands and feet.
(*f*) The stability of calcium metabolism.

B. Another result of this physiologic atavism of pregnancy, and one fraught with even more important and far-reaching

consequences is the "survival" of the state of hyperpituitarism in pregnancy. In this respect also the pregnant woman approaches the condition of primitive man—the Neanderthaler giant—who has been shown to have been in a condition of marked hyperpituitarism.

Hyperpituitarism in Pregnancy.

The pituitary body has been shown to increase greatly in size and in weight during pregnancy. Not only does the anterior lobe increase in bulk, but remarkable histological changes take place in the kind and number of cells. New kinds of cells—the neutrophil cells, the "pregnancy cells" (called by Bell the "emergency secretory cells" of the pituitary body)—now make their appearance in enormous numbers, and, from the way they assume a lobulated or an adenematous arrangement, suggest a glandular hypertrophy.

This marked glandular hypertrophy must mean also augmentation of the secretory function. We may therefore reasonably assume that the increase in the amount of the "hormone of growth," as Cushing calls the pituitary, is responsible for stimulating the growth and development of the foetus (probably by altering the metabolism of the woman from the usual calcium instability to one of calcium retention); for the expulsion of the foetus (by its infundibulin) when mature; and, by its galactagogue action, provides for the sustenance of the foetus after expulsion. At the same time it produces in the woman certain changes: some functional, such as the growth of the uterus, the increase of the pelvic girdle; some functionless; and some morbid, the relation of which to hyperpituitarism can best be studied clinically.

The analogy between acromegaly—a condition admittedly due to hyperpituitarism—and certain abnormal cases of pregnancy has been pointed out by many authorities.

I have shown (in the paper on toxaemias of pregnancy mentioned above) how practically all the manifold changes—functional, functionless, and morbid—that take place in the pregnant woman are very much like those produced by hyperpituitarism. Here I will endeavour to show the relationship of this hyperpituitarism in pregnancy to eclampsia.

Hyperpituitarism and Eclampsia.

In studying the sequence of the various cardinal symptoms of eclampsia, as well as of the other toxaemias of pregnancy, the following important facts seem to stand out quite clearly—namely, that as the physiological requirements for the process of gestation from the commencement to the end of pregnancy are stimulated by the hormone from the anterior lobe, the pathological changes likewise manifested from the beginning to the end of pregnancy are due to overactivity of that part of the gland. Again, as the physiological requirements for the latter stage of pregnancy are supplied by a stimulus from the posterior lobe—for example, infundibulin for the expulsion of the foetus—the pathological conditions peculiar to the latter stages of pregnancy are similarly the resultants of the overactivity of the posterior lobe, superadded on those morbid changes which are due to the hyperactivity of the anterior lobe.

These facts not only explain why eclampsia is almost always a disease of advanced and the end-period of pregnancy, but they also furnish us with an etiological and physiological basis for the usual clinical divisions of the symptoms of eclampsia into prodromal, pre-eclamptic, and eclamptic; for, as will be seen, the prodromal symptoms are due solely to the overactivity of the anterior lobe, the pre-eclamptic symptoms are the result of the overactivity of *both* the anterior and posterior lobes, while the eclamptic symptoms are due to oversecretion of the posterior lobe only.

A. *Symptoms Due to Anterior Lobe.*

Prodromal.—The prodromal symptoms are due to overactivity of the anterior lobe, and are mainly *subjective* symptoms of the same nature as those met with in early pregnancy and also in early acromegaly; these are:

In Eclampsia:

(1) Nervous irritability and excitability and a certain degree of nervous unbalancing.
(2) Vomiting and epigastric pain.
(3) Headaches.
(4) Tendency to drowsiness and sleep.
(5) Cramps and twitchings of muscles.

In Acromegaly:

(1) Similar symptoms to those recorded under eclampsia (1) are met with in early acromegaly.
(2) As in eclampsia, vomiting and epigastric pain are also symptoms in some cases of acromegaly.
(3) Cushing thinks the "pituitary headaches" are due to distension of the glandular envelope. Blair Bell ascribes them to increased secretion, and cites cases where the internal administration of the anterior lobe extract often caused severe headaches.
(4) Somnolence is a symptom in early acromegaly.
(5) Cramps and twitchings of muscles (as in eclampsia).

Pre-eclamptic.—The pre-eclamptic symptoms are due to hypertrophy of both parts of the gland. Those due to the anterior lobe are *objective* symptoms, which are caused by the hypertrophy and increase in the size of the anterior lobe producing pressure symptoms on neighbouring centres and nerves; thus we have as a result of pressure on the optic tracts or of the chiasma symptoms of disturbed vision, such as flashes of light, coloured lights, commonly called spangles, photophobia, hemianopsia, amblyopia, amaurosis, and even complete temporary blindness, while pressure on the third nerve is responsible for diplopia and even external strabismus.

B. *Symptoms Due to Posterior Lobe.*

The pre-eclamptic symptoms caused by overactivity of the posterior lobe are due to its well-known pressor action on the blood vessels and the consequent rise of blood pressure. This furnishes us with the most important and an early danger signal of an impending attack; hence we must constantly watch for a pulse with a high tension and an accentuated second heart sound.

As regards changes in the urine, this is not such a constant feature of eclampsia as raised blood pressure; but generally the urine is diminished, has high specific gravity, contains albumin, blood, and hyaline, epithelial, and granular casts. My explanation for these morbid changes in the kidney is that, as Herring and Schafer have shown that the extract of the posterior lobe has a distinct stimulating effect on the renal secretory cells, one may assume that a prolonged overstimulation with a sudden absorption of a great quantity of the stimulus would produce the opposite effect of depression of the secretory cells of the kidney (there may possibly be also a condition of dyspituitarism). In this connexion Thaon's record of haematuria produced as a late result in animals injected repeatedly with infundibulin is very suggestive.

Eclamptic.—The violent tonic and clonic convulsions in eclampsia are entirely due to an overstimulation of the posterior lobe producing, by its well-known pressor action, contractions and spasms of the blood vessels of the brain, thus causing anaemia and oedema of that organ. Dührssen suggested this spasm of the blood vessels of the brain, kidney, and liver as an explanation for the convulsions in eclampsia. The causative factor producing this spasm of the vessels he thought was an "irritation proceeding from the uterus," but the specific pressor action of the posterior lobe on the arteries being well known the primary cause for this spasm is quite evident. In this connexion one may mention Bell's experiments; he produced twitching of the muscles in animals subjected to repeated injections of infundibulin. Another interesting point to note is that in eclampsia the pupils are widely dilated, as opposed to the contracted pupils in epilepsy. Now Cramer has shown that infundibulin produces dilatation of the pupils in the enucleated eye of the frog.

PATHOLOGICAL ANATOMY.

As the most prominent and fatal symptoms of eclampsia are, according to the view propounded in this paper, due to an excessive secretion of the posterior lobe, we would expect the *post-mortem* findings in eclampsia to show such morbid changes in the various organs as may fairly be ascribed to that cause; especially should we find evidence of irritation in the posterior lobe. That this is the case is evident from the following:

Morbid Changes in the Pituitary.

1. Blair Bell finds in the pars anterior a predominance of basophil cells, colloidal substance in the pars intermedia and in the cleft, and an extensive invasion of the pars nervosa by the cells of the pars intermedia. The same author remarks on his findings: "This invasion of the pars nervosa may lead to an excessive production of infundibulin."

2. Clifford White, who examined carefully *post mortem* all the ductless glands of a patient who died two days after

labour from no evident cause (a case probably of eclampsia without convulsions), finds similar conditions in the pituitary as Bell. In the pars anterior he also finds "large cells whose protoplasm stains feebly with any stain—exhausted secretory cells (?). The pars nervosa has been invaded by the large eosinophil cells from the anterior lobe."

Brain.—Post-mortem findings in the brain in eclampsia are "moderate oedema of the convolutions, sometimes with anaemia, sometimes with congestion." These changes may reasonably be brought about, as explained before, by sudden spasm and contractions of the blood vessels of the brain.

Liver.—"The most typical changes *post mortem* are albuminoid degeneration, with haemorrhagic and anaemic necrosis. These focal necroses occur near the small portal vessels." These changes are produced by spasm of vessels as explained above. Hepatic degeneration with marked necrosis of liver cells has been produced in animals experimentally by Carro by continuous injections of infundibulin. This spasmodic necrosis is probably the causative factor also of the condition of acute yellow atrophy of the liver in pregnancy.

Kidney.—"The most common changes in the kidney in a majority of cases are those of an acute nephritis, and this is hard to distinguish from an acute parenchymatous nephritis." The cause of these changes in the cells of the kidney I explained above.

I think I have adduced sufficient evidence to show that eclampsia—in common with all the other so-called toxaemias of pregnancy—is brought about not by some accidental external agent, nor is it the result of some morbid derangement producing poisons or toxins from either the foetus, uterus, or intestine, as most of the theories advanced on the toxaemias of pregnancy assume; but that it is essentially a physiological process *overdone*—due to an excess, rather than a perversion, of an essential product.

Why nature should, in the process of gestation, so often overshoot her mark, and thus defeat her own aim, is due to the comparatively short evolutionary experience she has had of this, her newest experiment in reproduction—the placental form.

LITERATURE CONSULTED.

W. Blair Bell: *The Sex Complex; The Pituitary.*
Biedl: *The Internal Secretory Organs;* BRITISH MEDICAL JOURNAL, 1909, ii, p. 1609.
Cramer: Quoted in *Journ. Exper. Phys.*, 1908, p. 198.
Cushing: *The Pituitary Body and its Disorders.*
De Lee: *Principles and Practice of Obstetrics.*
Dührssen: *Handbuch der Geburtshulfe.*
Falta: *The Ductless Glandular Diseases.*
Herring and Schafer: *Phil. Trans.*, London, 1905.
Journal of Obstetrics and Gynaecology, 1913, p. 273.
A. Keith: *Lancet*, 1911, p. 993.
Proc. Soc. Exp. Biol. and Med., 1910–11, vol. viii, p. 48.
Schafer: *Proc. Roy. Soc. London*, 1911.

CONTINUOUS TREATMENT IN SURGICAL TUBERCULOSIS.*

BY

F. W. GOYDER, M.B., F.R.C.S.,

HONORARY SURGEON, BRADFORD ROYAL INFIRMARY, AND ORTHOPAEDIC SURGEON TO EDUCATION AND HEALTH COMMITTEES, BRADFORD CORPORATION.

In recent years so much work has been done with regard to the treatment of tuberculosis of the bones and joints, and in both medical and lay papers so much has been written, that further insistence on principles now firmly established and fully recognized may seem unnecessary. The work of Sir Robert Jones, of Sir Henry Gauvain at Alton, and of Calvé, Calot, and others at Berck-sur-Mer and elsewhere, and the discussion at the Annual Meeting of the British Medical Association in 1921, have shown clearly what can be effected by organized and continuous treatment in this direction. But it is doubtful whether in this part of the country we have followed in the footsteps of our leaders as closely as we might. Perhaps on close examination it may be found that although we have acknowledged our belief in continuity of treatment in surgical tuberculosis, this belief has never been translated into action, and, as we are told, "Faith without works is dead." Those of us who are surgically minded are still too apt to regard an operation as the whole treatment in this disease, instead of a mere incident, and an incident which continuous treatment has made less frequent and of diminishing importance. Others, who, having been impressed by certain unsatisfactory results following operation, have decided to do without it, have made no serious or continued attempt to establish the conditions necessary to avoid operation. These mistakes appear to have arisen because we do not continually bear in mind that surgical tuberculosis is a disease whose duration is measured in years and not in months, and that during the whole of the active period and for some time after we cannot afford to relax our vigilance for a moment. If we do, we run the risk of lengthening the necessarily long duration of the disease, and of permitting the existence and increasing the severity of deformity. Relaxation of continuous supervision in the early stages leads often to rapid spread of the disease, to abscesses which might have been prevented, to deformity difficult or impossible to correct when the condition becomes obsolete, and to the necessity for serious and often mutilating operations. Those who advocate early operation in these cases insist on careful and continued after-treatment. How much more, then, is it necessary if the condition is too advanced for complete eradication of the tuberculous lesion? When such an operation is apparently successful, how unpleasantly often does the return of disease, or at the very least deformity, show that after-treatment has been too brief! How seldom, in spite of all that has been written, does recovery take place without leaving the patient a cripple!

The necessarily long course of the disease makes continuous in-patient treatment in general hospitals almost impossible, and leads almost inevitably to periods of neglect of, or loss of interest in, treatment. During such intermissions the disease breaks out afresh into activity or deformity increases. Once it is recognized that deformity can be prevented, and when present can be minimized only while disease is active, the present disconnected methods will have to give way to a continuous supervision.

In Bradford there are no fewer than six institutions which deal with surgical tuberculosis. Of these, three act entirely independently of the rest. They are hospitals whose constitution precludes long periods of in-patient treatment. The other three are, in theory, linked, but since no one of them was primarily established to deal with surgical tuberculosis, they suffer from the defects of overlapping and lack of co-ordinated surgical supervision. They are a sanatorium to which, along with phthisis, cases of active surgical tuberculosis can be sent; a cripple school where, amongst other conditions, surgical tuberculosis believed to be obsolete can have the benefits of such treatment as is possible for a finally fixed deformity; and a special hospital where, with other orthopaedic cases from this school, the large percentage of cases of supposed obsolete tubercle which prove to be active can have emergency treatment. The last two institutions contain the germ of an ideal scheme and afford at the present time the only attempt to solve the problem of continuous treatment of surgical tuberculosis in the city.

To get the best results it should be possible for all children suffering from this condition to obtain systematic treatment during the whole period of active disease and for some time afterwards. If we include the infants' and children's clinics and exclude the special hospital fed from the Cripple School we have seven separate "nets," the gaps between which are filled by the medical practitioners of the city. The active cases thus "caught" in many instances escape from the net before they are "cured" (if I may venture to continue the metaphor) and are picked up again if seriously crippled at the medical inspection of school children. They may thence be sent to the Cripple School, but too late to prevent or cure deformity. Hence the weak point in Bradford is the provision for active or acute cases.

The Cripple School has accommodation for about two hundred children, of whom some 40 per cent. are or have been cases of surgical tuberculosis. The cases of active disease can and do have the benefit of recumbent, postural, and other forms of active treatment—extensions, plaster, and ultimately of properly made and fitted celluloid jackets and other appliances. By a wise provision such cases are resident from Monday to Friday in each week, and for the week-end or during periods when active surgical interference is required are transferred by ambulance to the special hospital linked to the school. In suitable cases they spend their week-ends at home. Under these favourable conditions I have been able to keep cases of spinal caries recumbent for two years and to watch them through the critical period of their gradual return to active life. And all this has been possible without interruption of their education. An extension of this scheme to include admittedly active cases is all that is needed to put

*A paper read before the Bradford Medico-Chirurgical Society on January 10th, 1922.

the treatment of surgical tuberculosis in Bradford on a proper footing. The school is healthily situated, sanatorium conditions exist, and facilities for nursing and massage are adequate. It is not too far from the town to justify a possible complaint of the parents that they are losing sight of, or touch with, their children.

In an industrial town such as Bradford, where the cases are sufficiently numerous, the most effective way of dealing with the problem is also likely to be the cheapest. It is primarily a hospital problem applied to children of school age; but since such cases under proper supervision are not ill, school teaching with suitable manual training can, and should, be given at the same time. There is no reason why in-patient (recumbent) and out-patient (ambulatory) cases should not be taught at the same institution, and this would have the further advantage that medical supervision by the same people would be practicable for both classes of case, and the after-treatment of the cured would be in the hands of those responsible for the cure. Much overlapping would be prevented, much better results would be obtained, much needless deformity would be saved, education and treatment would continue without gaps, and a larger percentage of useful citizens would be the ultimate outcome. An after-care association for those beyond school age would round off and complete the scheme.

THE NITROGEN METHOD AS AN AID TO DIFFERENTIAL DIAGNOSIS IN MENTAL DISEASE.

BY

R. V. STANFORD, M.Sc., PH.D.,

RESEARCH CHEMIST, CARDIFF CITY MENTAL HOSPITAL.

IN certain types of mental disease, and notably in general paralysis of the insane, clear evidence is to be found *post mortem* of degeneration of the brain tissues, whilst in other forms of mental disorder exhaustive macroscopic and microscopic examination has failed to reveal anything abnormal.

Since a correct diagnosis is essential to correct treatment and to prognosis, and since general paralysis is incurable in the present state of our knowledge, it is obviously a matter of considerable importance to establish any diagnosis of that disease with as much certainty as possible, and as early as possible, more especially because there are other forms of mental disorder which may simulate it very closely in the earlier stages.

Apart from my nitrogen method, which is the subject of this paper, there are essentially two laboratory methods which have been extensively employed to clinch or to negative the diagnosis arrived at by clinical observations. These are the Wassermann reaction (in the blood and in the cerebro-spinal fluid) and the reactions for excess of protein in the cerebro-spinal fluid. In both these ways valuable information may sometimes be obtained, but their limitations are considerable. A very thorough discussion of the subject will be found in Goodall's Croonian lectures.[1] Here it need only be mentioned that the applicability of the Wassermann reaction as a diagnostic test for general paralysis rests on the basis that general paralysis is a syphilitic manifestation. It will be seen, however, from the discussion of the matter above cited that different observers have found widely differing percentages of positive results in undoubted cases of general paralysis—a fact due, no doubt, to the inherent uncertainty of the reaction, for it is well known that experienced observers frequently fail to obtain similar results from the same sample. Generally speaking, it appears that positive results, whether in the cerebro-spinal fluid or in the serum, are obtainable only in something like 60 or 70 per cent. of undoubted cases of general paralysis. This compares unfavourably with the 90 per cent. of positive results in cases of syphilis, and it should also be pointed out that positive results were found in 7 per cent. of the cases other than general paralysis.

The reactions for protein in the cerebro-spinal fluid are numerous, but all aim at revealing the presence of an excess of protein in the fluid, the presence of such protein being indicative of abnormal degeneration of the brain tissue. The rapid and simple Nonne-Apelt reaction, in which any proteins are salted out by the addition of an excess of ammonium sulphate, has been the most used and is probably the most reliable procedure. Unfortunately, this test frequently fails to give a positive result in cases where the products of degeneration are not present in the form of coagulable proteins. In fact, it would hardly be too much to say that the Nonne-Apelt reaction cannot be relied upon excepting in cases where degeneration is so definite and well marked as to make any laboratory assistance superfluous to a physician of experience.

These references to the Wassermann and protein reactions are designed to show that the diagnosis of general paralysis is by no means so simple and straightforward as it is sometimes represented to be, and that there is every justification for the laboratory to provide additional methods such as that referred to in this paper to assist the clinician.[2]

Choline.

Many workers have endeavoured to detect in the cerebro-spinal fluid during life evidence of the breakdown of cerebral tissue, which undoubtedly occurs in general paralysis, brain softening, and some other conditions. Many years ago it was claimed by some that in such degenerative conditions choline (derived from the phosphatides of the brain) could be found in the cerebro-spinal fluid. Others, repeating this work, failed to confirm the results. In an investigation of this question I was fortunate enough to discover not only the truth of the matter, but also an explanation of these contradictions. There is no choline in cerebro-spinal fluid, and there is no ammonia. But when cerebro-spinal fluids, especially if they are derived from cases of general paralysis, or obtained *post mortem*, are treated in the (chemically speaking) barbarous way adopted by some of the investigators, decompositions occur, and there are produced (1) a substance which, although not choline, gives some of the alkaloid reactions shown by choline, and (2) ammonium salts which form a platinichloride only distinguishable from choline platinichloride by the polarization method first suggested and employed by Kauffmann.[3] If a freshly obtained fluid is worked up with due precaution, neither the pseudo-alkaloid nor the ammonium platinichloride is obtained.

THE NITROGEN METHOD.

It has been mentioned that the object of the choline researches was to obtain evidence during life of abnormal degenerative processes in the brain. The finding of choline or ammonia in the cerebro-spinal fluid would have been such evidence, but when the investigation just described had shown that these substances were not really there, it still seemed probable that evidence of the presence of products of degeneration might be obtained by other means. The origin, use, and fate of the cerebro-spinal fluid are still obscure, but as it is in intimate contact with the tissues of the central nervous system, it is natural to suppose that its composition might reflect any changes in the katabolism of those tissues.

In these circumstances I devised a method for the rapid and accurate estimation of the total nitrogen present per cubic centimetre of the cerebro-spinal fluid, and in 1913[4] published an account of the method and of the results obtained by means of it in about seventy cases of mental disease. It is unnecessary to describe the method in detail, the more so as the paper is available in English.[5] It need only be mentioned that 1 c.cm. of cerebro-spinal fluid is heated with fuming sulphuric acid, the reaction mixture is diluted with water, made alkaline, and distilled into a series of Nessler cylinders, where the ammonia is estimated by Nesslerization, as in water analysis. The whole process, excepting perhaps the actual Nesslerization, can be carried out by any laboratory boy of reasonable intelligence. The process is also fool-proof. In view of the very small quantity of material, certain precautions have to be taken in regard to cleanliness, and in this matter a little supervision may be required, but the effects of any carelessness are at once apparent.

Differential Diagnosis by the Nitrogen Method.

Since 1913 the nitrogen method has been in routine use in this hospital as an aid in diagnosis. The claims made for it at that time have now been substantiated over a much larger number of cases, and it is the object of this communication to describe the results which have been arrived at. These results are set out graphically in the accompanying Diagrams 1 and 2, which include 254 cases.

A word is necessary in explanation of the graphic mode of representation employed in Diagram 1, which is due to my wife, Mrs. Helen L. Stanford, B.Sc.Lond. In the original paper it was shown that the nitrogen number (NN) being the

number of hundredths of a milligram of total nitrogen per cubic centimetre, lay usually below 20 in cases of mental disease other than those of general paralysis, and almost always above 25 in cases of general paralysis. Diagram 1, into which 254 cases are compressed, illustrates this at a glance. The nitrogen numbers are printed consecutively under the heading NN at the left of the page. Opposite any particular nitrogen number there is printed a circle for each case not general paralysis found to have that particular number, and a stroke for every case of general paralysis found to have that number. Thus, opposite 17 there are 5 circles, showing that five non-general paralysis cases were found to have this number. Opposite 19 are printed 22 circles and 4 strokes, showing that twenty-two non-general paralysis and four general paralysis were found to have that number. When we get above 25 it will be seen that practically only strokes are present. The neatness of the device as a method of graphic representation depends on the fact that the two sets, the circles and

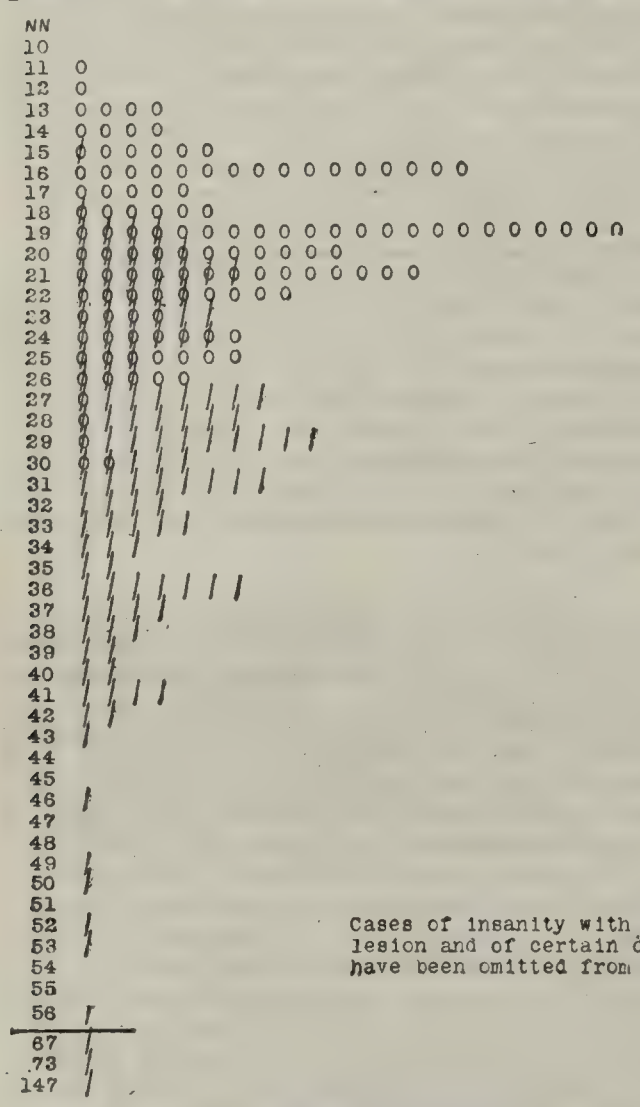


DIAGRAM 1.—Showing differential diagnosis of general paralysis from other mental disorders.

the strokes, can be printed over one another with ease, and consequently the ambiguous area of overlapping is patent to the eye. It will be seen that the ambiguous region stretches from about 20 to 26. Experimental errors will creep into the most fool-proof processes, and although I am bound to include them, I have grave doubts of the solitary case of general paralysis at 15 and of the odd non-general paralysis cases above 26.

In view of the number of cases included in this ambiguous area it might be supposed that the nitrogen method was in little better case than the Wassermann and Nonne-Apelt reactions in its reliability as an aid to diagnosis, but there are fortunately already two answers to such an objection. One is that by a method for the estimation of the total carbon of the fluid—an account of which I hope to publish shortly—it is in most cases possible to differentiate between general paralysis and other forms of mental disorder, even when their nitrogen numbers lie in the ambiguous zone between 20 and 26. The other point is that, according to many observations of mine, the composition of the cerebro-spinal fluid is remarkably constant where there is no progressive disease. If a patient has been found to have a nitrogen number of, say, 23, which is ambiguous, light will frequently be thrown on the case by examining another sample a few weeks later.

It is evident from the results shown in Diagram 1 that if the nitrogen number is below 20 there is a great probability against general paralysis, and that if it is above 26 there is an overwhelming probability in favour of that disease. There are, however, certain reservations to be made. The nitrogen method not only reveals but measures the products of excessive katabolism in the brain tissue, but it does not, of course, indicate the cause of that excessive breakdown of tissue. In Diagram 1 there are included only undoubted cases of general paralysis and cases of mental disorder undoubtedly not of general paralysis. The nitrogen method shows up also cases such as those of brain tumour, meningitis, and recent or remote cerebral haemorrhage, but such cases have been excluded from this diagram because they would not in any event be mistaken for general paralysis clinically.

Normal Cerebro-spinal Fluid.

It is a matter of great difficulty to obtain samples of normal cerebro-spinal fluid derived from living subjects. In Diagram 2, column 11, headed "Not Insane," will be found records of the total nitrogen in twelve such cases, and it will be seen that they range from 15 to 22.

	1 Mania (Acute)	2 Melancholia (Recent)	3 Confusional Ins.	4 Mania (Recurrent)	5 Dementia præcox	6 Monsys. del. ins.	7 Ins. Cum Epilepsy	8 Mania (Chronic)	9 Dementia (Sec.or Term.)	10 Congenital & Epil.	11 NOT INSANE	
NN												NN
10												10
11							0					11
12						0						12
13			0				0			0		13
14	0						0		0			14
15	00			0				0			X	15
16		00			00		0000	00	0	0000		16
17	0			00	00				0		X	17
18			0		0	0	0				XXX	18
19	0000	00	000	0	0000	0000	0	0			X	19
20	000	0000	0	0	00	0				00		20
21		00	0	0	0000	0	0			0000	XXXX	21
22			0		0	00	00		0		XX	22
23			00		0	00			00			23
24			00			00	0	0	0			24
25	00					0	0		0	00		25
26		0	0			0	0		00			26
27			0				0		00			27
28					0							28
29		0										29
30						0			0			30

DIAGRAM 2.—Showing the nitrogen numbers met with in common types of mental disease other than G.P.I.

This is of particular interest because, in spite of the extent of the literature on this subject, there do not appear to be any trustworthy data available as to the chemical composition of the fluid either in health or disease. There is good reason for this. Cerebro-spinal fluid contains only about 10 mg. of dissolved matter per cubic centimetre, and of this more than 8 mg. consists of inorganic salts, principally chlorides. Whoever wishes to investigate the organic constituents of the fluid has therefore something like 2 mg. of material per cubic centimetre to work with, or, assuming that 10 to 12 c.cm. is as much as it is desirable to withdraw excepting in certain forms of disease, he has 20 or 25 mg. of substance on which to exercise his analytical abilities. The consequence is that most of the results which are contained in the literature of the cerebro-spinal fluid have been obtained either by mixing numbers of fluids together, or from fluids obtained *post mortem*, for only in such ways could the problem be brought within the scope of the analytical chemical methods already known. It is obvious that no information of value can be expected from the examination of mixtures of fluids, and I shall now proceed to quote some results which go to show that the approach and occurrence of death are accompanied by such remarkable changes in the cerebro-spinal fluid as to render any observations that have been made on *post-mortem* fluids quite meaningless as regards the living subject.

Changes Associated with Death.

The starting point of these observations was the finding of an exceedingly high nitrogen number in a case which died

shortly afterwards. Since then I have been able to investigate the fluid in about a dozen other cases either shortly before or shortly after death had occurred. In every case the approach or occurrence of death led to a large increase in the nitrogenous contents of the cerebro-spinal fluid. For example, Case No. 20 had been suffering from general paralysis for fourteen months and his nitrogen number had gradually increased from 25 to 39. He died eleven days after this, and his fluid, withdrawn by lumbar puncture thirty minutes after death, gave NN 109. In another case (No. 3), diagnosed as confusional insanity, the nitrogen number had been found to be 24 and 27 on two occasions during life. One hour after death it was 38, and twenty hours after death it was 88.

Results similar to these two instances quoted were obtained in every case examined, and they leave no room for doubt that a very remarkable change in the composition of the cerebro-spinal fluid begins to take place shortly before death and continues after it. Whether this is directly due to excessive katabolism in the brain tissue, or whether it is due to a partial breakdown of the cells secreting the cerebro-spinal fluid, is a matter of speculation, but it is a matter of fact that it does occur and that in consequence any analyses of fluids obtained *post mortem* are valueless, for they bear no relation to the composition of the fluid during life, which is the only thing that matters. It is unfortunate that this objection renders valueless a great deal of the work on cerebro-spinal fluid recorded in the literature.

The Nitrogen Number of Cases other than General Paralysis.

It is well known that although every effort has been made to discover a physical basis for mania, melancholia, and other commonly occurring forms of mental disorder, no such basis has ever been found. These forms of mental disorder have been investigated histologically, bacteriologically, chemically, and in many other directions, but in all cases with negative results. It remains to be seen whether the study of the cerebro-spinal fluid during life may solve the problem, but the results exhibited in Diagram 2 show that the nitrogen method by itself brings no help in the matter.

The scheme of graphic representation employed is the same as that in Diagram 1, a circle indicating a case of the disease found to have the nitrogen number opposite which it is placed. It will be seen that in all the ten types of mental disorder included in the table the circles are pretty uniformly distributed between about 15 and 22, and that this is also the range of the cases not insane in column 11. There is therefore no differentiation between the different clinical types recorded or even between them and the cases not insane.

Variations in Progressive Disease.

In a progressive disease such as general paralysis it might be expected that the nitrogen number would mirror to some extent the course of the disease: that when the patient was going downhill the nitrogen number would increase, and that a stationary state or a definite remission would be accompanied by a stationary or a reduced nitrogen number. I have records of fourteen cases of general paralysis in which samples of the fluid had been obtained from time to time, and in some of these the expected parallelism is to be noticed. As examples I may cite the following cases:

Case 20.—Aged 41. Admitted January 2nd, 1911. Had seizure in December, 1911. Died February 27th, 1914.

December 10th, 1912: Nitrogen number 25. Patient in stationary state, considerably demented.

January 22nd, 1913: NN 27. Condition unchanged.

April 9th, 1913: Condition unchanged; in partial remission, no seizures. NN 27.

On June 16th, 1913, the nitrogen number was 29, and on September 29th it was 25.

December 15th, 1913: Disease progressing rapidly; several seizures. Nitrogen number 30.

February 16th, 1914: Nitrogen number 39.

February 27th, 1914: Fluid taken thirty minutes after death. Nitrogen number 109.

Case 222.—Male, aged 45. Admitted about February, 1921. On March 9th, 1921, the nitrogen number was 40; disease in active phase. On April 16th and April 30th, 1921, the disease was still in active phase (worse). The nitrogen number on both dates was 36.

From mid June until October, 1921, he had a quiet interval. October 6th: Growing more excited daily. Nitrogen number 30. October 21st: Still excited. Nitrogen number 29.

In remission from about November 19th, 1921. The patient had received an intensive course of treatment with salvarsanized serum, and, his remission continuing, was released on trial in January, 1922.

In other cases, however, the figures for the nitrogen number do not fit the condition of the patient so well.

Insanity with Gross Brain Lesion.

It has already been pointed out that the nitrogen number reveals abnormal breakdown of tissue without indicating the cause of that breakdown. The following cases illustrate this:

Case 101.—Syphilitic meningitis. On November 10th, 1913, the nitrogen number was 57; on March 2nd, 1914, it was 31; and on March 30th, 1914, it was 27. The patient was discharged relieved on July 30th, 1914.

Case 137.—Semi-recent cerebral haemorrhage, verified *post mortem*. On June 8th, 1914, the nitrogen number was 32. Patient died eight days later (June 16th).

Case 204.—The patient died from brain tumour on September 26th, 1919. The nitrogen number on September 24th was 273.

Case 250.—The patient died from brain tumour on the day of puncture (December 1st, 1921). Nitrogen number 44.

Senile Dementia and Senility.

Reference to Diagram 2, column 9, will show that in cases of secondary or terminal dementia fairly high nitrogen numbers, ranging up to 30, are frequently found. As such cases would not in any event be confused with anything else, the matter is of no importance from the point of view of diagnosis; but a very interesting observation was made recently which gives the subject a certain importance from another aspect. Case No. 257, not insane, was operated on for senile gangrene, he being aged 78. His nitrogen number was, however, only 21. I have records in two other cases, aged 68 and 72 respectively, of patients not insane and having practically normal nitrogen numbers (21 in each case).

It would seem, therefore, that there is a difference between secondary dementia and mere senility, and this leads to the conclusion that the acute mental condition which preceded the dementia must have had some physical basis in spite of the fact that neither by the method described in this paper nor by any other has that physical basis yet been discovered.

I am under obligation to my colleagues, the medical superintendent and the present and former assistant medical officers of the hospital, for the clinical information and for the collection of specimens. I have at all times had the advantage of their willing co-operation, without which, indeed, the work could not have been carried out.

REFERENCES.

[1] *Lancet*, December, 1914. [2] Compare Goodall, BRITISH MEDICAL JOURNAL, August 16th, 1919, p. 199. [3] Kauffmann, *Ber.* 1910, 43, 2735. [4] *Zeit. f. Physiolog. Chemie*, vol. 86, 1913, 219-233. [5] Reports from the Chemical Laboratory, Cardiff City Mental Hospital, No. 2.

POISONING BY BUTTER OF ANTIMONY.

BY

WILLIAM BELL, M.D., M.R.C.P.EDIN.,

BRADFORD.

COMMERCIAL antimony chloride, commonly called butter of antimony, contains an excess of acid, which gives it a power of corrosion additional to that effected by the antimony ions, which are readily separated. The effect on the bare fingers of handling the stomach in the case here recorded was similar to that produced by a moderately strong solution of hydrochloric acid—tingling and a sensation of intolerable heat.

On September 16th, 1918, I saw at his house a farmer, who was said to have "fallen into a dyke." I found him, a man aged 46, in bed upstairs at 9 a.m. He had been found lying in a flooded stream about a hundred yards away, conscious, with his head above water. Urged and assisted by his wife, he had walked home and been put to bed. He was shivering; his skin was very cold and livid all over; his pulse was rapid and full. He lay with eyes closed, but he opened them and put out his tongue when ordered. The former were congested, and the latter coated heavily with a harsh white fur. There were no marks about the lips. He was groaning and attempting to vomit. Hot bottles were obtained, but his great restlessness made it difficult to cover him warmly. His appearance at first was simply that due to exposure to cold, but the retching suggested something more, and this impression was deepened by his inability to swallow some warm milk, which he coughed back, clutching at his throat as if the attempt hurt him greatly. Violent retching ensued. Further inquiries elicited the following:

He was seen by his wife about 6.20 a.m., but not again till 8 a.m., when she found him at the stream. About his face was dark brown and slimy vomit, which his wife wiped away with her apron. He walked home and vomited some yellow-stained mucus on to a towel, which, with the apron, was shown to me. He had had no food before leaving the house. Near to a railing, which he had crossed a few yards from the stream, was found a bottle labelled "Butter of Antimony." The bottle and its contents were identified by a chemist, who said the patient had been in the habit

of purchasing two ounces of butter of antimony at a time for treating a horse's foot. The bottle contained 10 fluid drachms.

By 11 a.m. the patient was much worse: the pulse much weaker, the skin still cold and livid, the stomach the seat of burning pain. He died at 3 p.m., seven hours after he had been found, and probably a little over eight hours after he had swallowed the poison.

An autopsy was performed at 2 p.m. the next day. Rigor mortis was extreme. The body generally and the various organs appeared quite healthy except for changes produced by an irritant or corrosive poison acting rapidly. Therefore reference will here be made only to the parts on which the stress of the injury fell. On the abdomen being opened the stomach bulged forward, a striking object deep red in colour. A few coils of small intestine were injected a bright red on their anterior surfaces. There was a small bright red stain on the great omentum adjoining the greater curvature and another stain at the duodenal junction, which looked bruised. The whole outer surface of the stomach was plum-red. Its contents were 20 ounces of dark, almost black, fluid, like charcoal powder and water thoroughly mixed. After being washed almost the whole inner surface was black. It could be scraped away, as could moist dense cardboard, with considerable force. It was not rough and there was no perforation. The mucous coat had been transformed by charring into friable material and its surface shed.

As to the quantity of the poison taken, from the statement of the chemist it would appear that it could not have been more than 6 drachms. Recoveries from 4 or 5 drachms (by a boy aged 12 years) and from 1 fluid ounce have been recorded. In the present case, being empty at the time of administration, the stomach was vulnerable. The subsequent ill effects were intensified by the man's action in lying in a cold stream, probably for a considerable time. One may imagine that, planned or impulsive, his procedure was to rush to the stream to slake his burning in the cool water. By so doing he would provide a rapid diffusion of a strong irritant over the interior surface of the stomach and also liberate free acid.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

DIFFERENTIAL DIAGNOSIS BETWEEN CEREBRAL HAEMORRHAGE AND DIABETIC COMA.

THE following case is worth recording as it illustrates how easily an incorrect diagnosis may be made between cerebral haemorrhage and coma from diabetes. The case is "complete," for it was followed from the onset to a complete *post-mortem* examination.

A woman, aged 72, was admitted to hospital at 6 p.m. on November 29th, 1921, in deep coma. Her son stated that she had always had good health, and in fact had never had a doctor as far as he knew. He returned home at 5 p.m. on November 29th and found his mother lying on the kitchen floor: there was a strong smell of gas in the room, and the tea things were laid, the lid of the kettle being on the floor. A doctor was called in and he sent the patient to hospital at once.

On admission the patient had a temperature of 97°, pulse rate 88, respiration rate 28. She was in a deep coma; the breathing was stertorous, the cheeks puffing in and out. Both pupils were pin-point and equal; there was very slight reaction to bright light. A small cataract was present in the left eye. The breath had a faintly sweetish smell. The heart and lungs were normal; the blood pressure was 155 (systolic) and 130 (diastolic). The arms and legs were very rigid; all reflexes more brisk than normal, particularly the knee-jerks; there was incontinence of urine. The differential diagnosis at this stage appeared to be between carbon monoxide poisoning, cerebral haemorrhage, and diabetic or uraemic coma. A catheter was passed and ten ounces of urine withdrawn and examined. The urine was acid, specific gravity 1005; sugar + + (Fehling and Benedict, immediate reduction); acetone and diacetic acid + + (iron perchloride and Rothera test). A diagnosis of diabetic coma was made, and the patient was treated for twenty-four hours with soda bicarbonate and subcutaneous salines.

On November 30th her condition seemed the same; the urine contained no sugar, but acetone was present in a considerable quantity. On December 1st there was a marked change: the rigidity was replaced by flaccidity in the arms and legs; the reflexes of right arm (biceps, triceps) were very brisk; all other reflexes were absent; the urine still contained acetone, but no sugar. The diagnosis was therefore changed to cerebral haemorrhage. On December 2nd the patient died; the pupils were equal and pin-point; the temperature rose to 102°.

On *post-mortem* examination of the brain blood-stained fluid oozed out of the stalk of the infundibulum. There was an enormous haemorrhage into the basal ganglia and internal capsule of the left side. There was so much destruction of brain tissue that it was impossible to state the exact site of the original haemorrhage; a large clot was present in the distended left lateral ventricle. The third ventricle and right lateral ventricle both contained blood-stained fluid, but no clot. They were not distended. The fourth ventricle contained no blood and was not distended.

The thoracic and abdominal aorta showed considerable arterio-sclerotic changes, with many calcareous plaques of varying size. The kidneys were arterio-sclerotic; the right weighed 3½ oz. and the left 2½ oz.

There are records of acetone being found in cases of cerebral haemorrhage, but I can find no cases in which sugar in considerable quantity was present. Puncture of or damage to the floor of the fourth ventricle should give rise to glycosuria, but there was no evidence of this at the autopsy.

E. D. SPACKMAN, M.A., M.B., B.Ch.Cantab.

Wolverhampton.

THE ANTE-NATAL TREATMENT OF CONGENITAL SYPHILIS WITH SALVARSAN AND MERCURY.

THE following results were obtained at the Royal Infirmary, Sunderland, in the years 1920 and 1921:

Year.	Mothers treated for Syphilis.	Babies born Alive.	Result of Repeated Wassermann Tests.		Babies Dying of Syphilis.	Deaths of Foetus.
			Positive.	Negative.		
1920	10	10	3	7	0	0
1921	7	7	1	6	0	0

These cases were all treated as out-patients. Most of them were confined in their own homes, and brought their babies for examination about a month after birth. A Wassermann test was done on the babies about the first, third, and sixth months, but occasionally the periods varied, one case, for instance, having been tested for the first time one year after birth.

Dr. Findlay's results[1] encourage one to hope that not only will the "negative" baby remain negative, but that the mothers will continue to bear non-syphilitic children.

NOEL F. ROWSTRON, M.D.,
Honorary Physician, Royal Infirmary, Sunderland.

THE TREATMENT OF EARLY CASES OF CHOLERA WITH VOLATILE OILS.

I WISH to record a form of treatment which in the course of many years I have found not merely beneficial, but certainly curative in the early stages of cholera. Many years ago, placed in the midst of a severe and widespread epidemic of cholera, I met a gentleman who told me of what he called a "certain cure" for cholera, consisting of grated nutmeg in rum. I had opportunities of watching the effect of this in a good many cases; the early ones were cured immediately, the disease being apparently aborted. On reflection I was convinced that the beneficial effect of the nutmeg was due to its volatile oil, which probably had a bactericidal effect on the cholera vibrios in the duodenum and small intestine. I then found in the camp hospitals a "pro diarrhoea mixture" supplied by the medical stores which contained approximately 28 per cent. of the volatile oils of cajeput, aniseed, and juniper in equal parts, tincture of cinnamon 50 per cent., and ether alcohol and aromatic sulphuric acid about 22 per cent. I tried this for cases of cholera in 40-minim doses, containing about 12 or 15 minims of the mixed volatile oils, at half-hour intervals, and the reports I got on the effect of this mixture were most favourable. Since then I have had opportunities of watching the effects of the treatment of cases of cholera with volatile oils in three different years, and in early but typical cases of cholera, whether oil of cloves, or cinnamon oil, or the mixture of four oils previously mentioned was given, the disease was invariably aborted.

In two cases that I can call to mind cholera vibrios were isolated in the central laboratory at Baghdad. These cases were given one or two doses (12 minims) of oil of cloves before being transferred to the isolation hospital; they were walking about the following day, and saline infusions were not found necessary on their arrival.

Very recently nine cases having the clinical appearance of cholera have been brought to the military cholera hospital here during the existence of a mild epidemic in the vicinity. In some of these a bacillus resembling the cholera bacillus was found, but not giving the correct cultural reactions. The first case, treated on ordinary lines with saline infusion, etc., died. One other died ten minutes after admission. The other seven, treated with oil of cinnamon in 12-minim doses, supplemented, in several cases that were collapsed, with saline infusions, recovered.

A fact that tends to convince me of the benefit derived from these volatile oils in early cases is that the patients say immediate relief has been obtained. Assuming, then, that certain volatile oils known to have antiseptic properties are curative

[1] BRITISH MEDICAL JOURNAL, 1921, ii, p. 887.

in the early stages, the manner in which they act requires explanation. To me it seems probable that, being mostly insoluble and unabsorbable in the stomach, they pass on into the small gut, where such easily destroyed organisms as the cholera vibrio would be killed or rendered inert. I do not suggest that the administration of these volatile oils is of considerable value in the advanced collapse and toxaemia stages of the disease, though any effect they may have in the destruction of cholera germs lingering in the small gut should not be ignored, especially as their administration is harmless. When these conditions are established the administration of saline infusions is imperative.

G. O. F. SEALY,
Indian Station Hospital, Ferozepore. Lieut.-Colonel I.M.S.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

SOUTH-WESTERN BRANCH: EXETER DIVISION.

A CLINICAL and pathological meeting of the Exeter Division of the British Medical Association was held jointly with the Devon and Exeter Medico-Chirurgical Society on Friday, May 19th, in the library of the Royal Devon and Exeter Hospital. There was a wealth of excellent material in the shape of cases, pathological specimens, and radiographs. Dr. VLIELAND showed a case of syphilitic paronychia successfully treated with salvarsan. Dr. FOULKES showed an interesting case of compound palmar ganglion. Dr. BARTLETT showed a specimen of ruptured left ventricle of the heart from an epileptic patient. Mr. DYBALL showed a fine specimen of tuberculous hyperplasia of the colon. He described the condition of the transverse colon at the operation as resembling an intussusception, very hard and thick. The colon after removal was found to be filled in the transverse portion with papillomatous masses, with patches of extensive ulceration; the patient is making a slow but good recovery. Mr. DYBALL also showed a specimen of twisted ovarian cyst with an adherent inflamed appendix, and several others. Dr. GORDON described and Dr. SOLLY showed specimens from a case of chloroma. Dr. ROPER showed and discussed a case of leukaemia. Mr. CANDLER showed two cases of septic infection of the knee-joint treated with injections of ether, with complete recovery of function; also an enlarged prostate with a large calculus embedded in the urethral orifice. Mr. NORMAN LOCK showed skiagrams of two cases of severe deformity of the femur resulting from gunshot wound and fracture respectively corrected by open operation and pleating; also a series of skiagrams illustrating diseases and deformities of the hip-joint.

Reports of Societies.

ICTERUS NEONATORUM.

AT a meeting of the Edinburgh Obstetrical Society held on May 10th, with the President, Dr. LAMOND LACKIE, in the chair, Dr. FARQUHAR MURRAY read a communication on icterus neonatorum. The paper was the outcome of observations on a series of babies, 68 per cent. of whom developed jaundice. These showed that the jaundiced state commenced twenty-four hours after birth in the majority of cases, and rarely lasted more than a week. It was deleterious to the child, and a late onset (second, third, or fourth day) presaged a milder attack. Comparison of birth-weight with incidence of jaundice showed that there was a relationship—small babies being specially liable—which suggested that the "serum content" decided whether jaundice appeared or not. A deficiency favoured, while an abundance was antagonistic. To prove this babies of similar birth-weight, which had been separated early, were compared with those where the cord had been ligatured at the routine time. The former showed a definitely higher percentage incidence of jaundice. Cases in which the serum content was increased by stimulating the baby to aspirate as much blood as possible, or by the actual injection of serum, showed the best results. Sex, the umbilicus, and the method of feeding were excluded from the etiology, while the idea that the jaundice was due to destruction of superfluous red blood corpuscles was also discounted. Cold was a predisposing factor, but prematurity and asphyxia were causes, in that the babies started life with a subnormal blood content. Dr. Murray was of opinion that the observations pointed to haemolysis as the initial cause. The serum content was a deciding factor. He ventured to suggest that the haemolytic agent was the result of the metabolism of fats during the early days after birth while the baby was living on its own food reserve prior to the establishment of breast feeding. The practical suggestions of the paper were the importance of assuring that the baby got its maximum blood supply before ligation of the cord and the possible therapeutic value of a blood transfusion or injection of serum in jaundiced and premature babies.

Omphalorrhagia.

Dr. DOUGLAS MILLER read a paper on omphalorrhagia, with a record of two cases. These two cases had been the only ones occurring in the Edinburgh Maternity Hospital for a number of years. They occurred at the same time, and occupied adjoining cots in a small ward. One died, while the other recovered. The former was a full-time female, healthy at birth and until after separation of the cord on the eighth day, when a sharp haemorrhage occurred from the stump. In spite of treatment by local application of adrenaline, and ethyl chloride freezing, invagination of the stump with a purse-string suture, acupressure, injection of 20 c.cm. normal horse serum, and finally of 10 c.cm. fresh citrated blood into the longitudinal sinus, oozing continued and ended fatally. The coagulation time estimated by Wright's method was 7¼ minutes. In the other child which recovered the coagulation time was 15 minutes. Nothing abnormal was discovered at autopsy, but the organs yielded a pure culture of a coliform organism. As regards etiology, syphilis was certainly excluded, as was haemophilia by the sex, absence of family history of such, and by the late onset. The most probable cause in the speaker's opinion was general sepsis. With regard to treatment he advocated the early introduction of 100 to 150 c.cm. of citrated blood from the parent into the external jugular vein or superior longitudinal sinus, as being more important than local measures.

Specimens.

Professor R. G. MCKERRON (Aberdeen) showed a specimen of chorion-epithelioma extending into the right broad ligament and involving the ovary. The patient was aged 23 and in July last expelled a hydatidiform mole. As bleeding persisted the uterus was curetted, but irregular pyrexia continued till the end of August, when a mass was found in the abdomen extending up to the umbilicus, accompanied by signs of pelvic inflammation. Three days later an abscess burst spontaneously above the pubis and a large quantity of offensive pus was discharged, with rapid diminution of the abdominal swelling. She was discharged from hospital on September 23rd with her condition considerably improved. Bleeding soon recurred and persisted more or less continuously till the end of February, when she noticed blood-stained expectoration. The uterus was then enlarged to the size of a 3½ months' pregnancy, and after dilating the cervix an irregular growth could be felt in the anterior wall of the uterus. Microscopic examination of a scraping showed chorion-epithelioma. Three days later her temperature rose to 103°, she became steadily worse, and died on March 10th, two weeks after the uterus was curetted.

Dr. FARQUHAR MURRAY (Newcastle upon-Tyne) showed a specimen of secondary abdominal pregnancy following incomplete tubal abortion. The patient was aged 39 and gave a history of seven months' amenorrhoea. There had been three attacks of pain—at the seventh week, fourth month, and two weeks before admission. At no time had there been vaginal bleeding. The foetal limbs could be felt as irregular nodules in the pouch of Douglas. On opening the abdomen the foetus was found enclosed in an amniotic sac covered with fibrin and containing little fluid. The placenta was contained in a distended tube, through the dilated ostium of which the cord and amniotic membrane passed. The foetus, which showed deformities of hands and feet, had reached six months' development and lived and breathed for three-quarters of an hour after removal.

Dr. MURRAY also exhibited a specimen of a two months' pregnancy in a rudimentary uterine horn which was attached to the main part of the uterus by a narrow pedicle. Sections of the pedicle showed no evidence of any communication.

TOWN-PLANNING AND THE MEDICAL PROFESSION.

AT a meeting of the Oxford Medical Society, held at the Radcliffe Infirmary in May, Captain R. L. REISS, Chairman of the Garden Cities and Town-planning Association, opened a discussion on "Town-planning and the medical profession." He said that town-planning was really a most important branch of preventive medicine. The medical profession agreed that bad housing, and particularly the bad surroundings of houses involving a deficiency of sun and air, militated against health and led to the spread of infectious diseases. It was unnecessary before a professional audience to enlarge upon its effect upon such diseases as tuberculosis. It was not merely, however, the density of houses in our towns, but the lack of any separation of industrial and residential areas which had a bad effect. The smoky atmosphere, the continuous noise and noxious fumes, all played their part in producing a C3 population. In particular they had a substantial effect upon infant mortality and child welfare generally. It was true that certain causes of infant mortality could be prevented, at any rate with our present knowledge, by proper town-planning and the proper lay-out of housing schemes, but our experience at Letchworth showed that infant mortality could be substantially reduced where a town was healthily planned and where the residential and industrial areas were separated. The infant mortality at Letchworth was an average of 30 as compared with the average of 100 in our larger towns. He recognized that the excessive infant mortality in large towns was not all directly due to bad housing conditions, but when direct and indirect causes were taken into account it was substantially true to say that infant mortality was so caused. Poverty, drunkenness, lack of cleanliness in personal habit, all played their part in producing bad health, but they in their turn were in a great measure due to the slum conditions under which such a vast majority of the population lived.

Whilst town-planning was of supreme importance as a measure of preventive medicine, it was also very important from the economic point of view. The haphazard development of our towns by which factories and houses were mixed up together was not merely bad for the health of the residents, but uneconomic from the industrial point of view. For example, in the east end of London rows and rows of small houses were found near the docks, and as a result factories had to be located away from the river and a large amount of unnecessary transport was caused, a fact which also militated against the amenities of life of the residents near the river who lived in streets continually traversed by heavy drays and lorries.

Town-planning did not merely mean the laying out of a town on satisfactory lines with separate properly planned industrial and residential areas, with open spaces and a limitation of the number of houses to the acre. There was a further consideration which had to be taken into account. Even if a town were well planned there was a limit of size beyond which it was undesirable to go, undesirable as regards amenities of life of the residents and also from the economic view-point. To-day, in London, the worker had two alternatives before him, either to live in the centre in a slum area near his work, or to live in comparatively healthy surroundings on the outskirts and to travel long distances daily to and from his work, thus involving himself in a considerable waste of money, time, and nervous energy.

When Captain Reiss served on the Unhealthy Areas Committee, presided over by Mr. Neville Chamberlain, M.P., he heard a large amount of evidence from medical officers of health in London to the effect that it was very nearly as bad for the health of the worker to live in healthy surroundings on the outskirts and to travel in overcrowded conveyances to and from his work as it was to live in the slums at the centre. The ideal to be aimed at, therefore, was to have a number of towns varying from populations of 30,000 to, say, 100,000 or possibly even 150,000, properly planned and with a limitation of size, surrounded by an agricultural belt. Such a town existed at Letchworth and was in process of building at Welwyn Garden City.

There remained, however, the problem of how to deal with our existing towns. In the case of the largest towns, every effort should be made to prevent further continuous extension. This could be achieved by the starting of new towns in the open country on similar lines to Letchworth and Welwyn Garden City, and so decentralizing both industry and population. The effect of this would be to drain the congested areas in the centres of our big towns. Something more was needed, however. In the case of the town of moderate size, under the Town Planning Act the Council had the power and the duty to prepare a town-planning scheme for the portions of its area not built upon. Such a scheme would, of course, be only a half-measure as compared with what had been done at Letchworth, but would provide that at any rate future development should be economic and should provide for the proper separation of residential and industrial areas and also for the maintenance of open spaces. The older parts of the town could be gradually remodelled, slum areas cleared, the population diminished, and open spaces provided. This, however, would be a gradual process. The point which Captain Reiss specially emphasized was that it should be done on a well thought out plan for dealing with the town as a whole, and not merely as a problem for clearing a small area *per se*. Comparatively small results had been obtained in London by the clearing of such areas in the past, owing to the London County Council having dealt with areas by themselves and not as a part of a whole. Further legislation should also be pressed for, to enable town councils to prepare re-planning schemes for their existing areas, which would provide not merely for the clearing of slums but also for the gradual re-planning of the rest of the town. This would not involve pulling down buildings straight away but merely that when buildings were pulled down the land should only be utilized again in accordance with the plan. Thus there would be industrial zones and residential zones. Any residences in the industrial zone would not be pulled down at once, but the land on which they stood would have to be utilized only for industrial purposes if at any time the houses were pulled down. Such a measure had been introduced in certain of the American cities with good results.

In conclusion he urged upon the medical profession the supreme importance of making their voice heard with regard to these matters. Much of the work of health committees and medical officers of health was at present stultified by the lack of proper town-planning measures, and if only the medical profession urged the public to realize this and to realize the enormous waste in health and money caused by bad planning, there would be much value to be obtained and rapid progress in the future would be made.

The address was followed by a spirited discussion.

BRAIN TUMOURS.

AT a meeting of the Section of Medicine of the Royal Academy of Medicine in Ireland, held on April 21st, with the President (Dr. A. R. PARSONS) in the chair, Dr. V. M. SYNGE showed specimens from two cases of brain tumour. The first case was that of a girl, aged 9, who had been ailing for eight months, being out of sorts and suffering from weakness of the right leg, followed in a short time by weakness of the right arm and by squinting in the left eye. During the eight months she had vomited on three or four occasions, but never complained of headache. A week before admission to hospital she suddenly lost the power of speech and could only swallow with difficulty. The child appeared wasted and neglected, the right arm and leg were paralysed, both knee-jerks were exaggerated, Babinski's sign was present on both sides, there was no ankle clonus, and sensation appeared normal. Abdominal reflexes were present, there was incontinence of faeces, and at times retention of urine; the left facial and left abducens nerves were paralysed. The pupils reacted normally, there was slight doubtful nystagmus in the left eye; the tongue could not be protruded, there was paralysis of the left side of the soft palate, pharynx, larynx, and left vocal cord. The patient could not speak and could not swallow, Kernig's sign was present, and flexion of the head on the trunk produced pain; the chest showed signs of bronchopneumonia. The child died a few days after admission to hospital. The *post-mortem* examination revealed a large tumour involving the left side of the pons, medulla, and cerebellum; it proved on section to be a sarcoma. The second case was that of a girl, aged 20, who had suffered from headache and vomiting for two months; she had double choked discs and well-marked nystagmus. Subsequently all the signs of cerebellar tumour developed, and death occurred four months after the onset of symptoms. The *post-mortem* examination showed multiple tuberculomata of the left lobe of the cerebellum.

Dr. F. C. PURSER reported a case of meningitis (with the characteristics of tuberculous meningitis) who had made

a slow but complete recovery. Mr. BURKE showed *post-mortem* specimens from a case of lymphatic leukaemia, with moderately enlarged spleen and greatly enlarged lymphatic glands. Dr. W. F. LAW reported three cases of hypothyroidism, all of which recovered completely on treatment with thyroid extract.

AT a meeting of the Tuberculosis Society of Great Britain, held at the Margaret Street Hospital on May 22nd, with Dr. DE CARLE WOODCOCK in the chair, a discussion was opened by Dr. WILSON on "The therapeutic measures for the relief of pulmonary tuberculosis, especially in relation to dispensary treatment." He considered that as tuberculosis officers had given more time to the subject, and had a more accurate knowledge of the pathology and conditions of the disease than the general practitioner, they would in most cases be able to give greater relief. In his opinion to give cough mixtures to tuberculous cases was harmful to the digestive system. He then described the methods by which he had obtained the best results. He had found ammonium picrate the best general tonic; he emphasized the value of calcium salts in general treatment, and recommended bismuth in large doses for diarrhoea. Colonel GUNTER exhibited charts showing the results of tuberculin treatment. Theoretically, tuberculin was the right remedy, and it had been pushed a good deal. Much remained to be known as to the correct groups of cases to which it could be satisfactorily applied; one group in which it was most valuable was the asthmatic. In the course of the discussion there was a good deal of criticism on the action of the Ministry of Health in attempting to restrict tuberculosis officers to making diagnoses and to instructing the general practitioner in the conduct of treatment. The general view was that the position adopted by the Ministry was detrimental to the best interests of the public, and absurd on the ground that it set up specialists and then refused to use their special knowledge.

Rebielus.

GARRISON'S HISTORY OF MEDICINE.

DR. FIELDING GARRISON'S *Introduction to the History of Medicine*[1] holds a place by itself among medical textbooks—somewhere, let us say, beside Allbutt and Rolleston's *System of Medicine*. In explaining why historical matter had been omitted from his *System*, Sir Clifford Allbutt wrote: "To trace the living waters of the healing art and the auxiliary sciences in their secret channels under the foundations of the temple, of the gymnasium, of the museum, or of the market-place, until they burst forth once more in the time of Vesalius, of Harvey, of Morgagni, of Haller, of Hunter, of Bichat, of Bernard, of Laënnec, is not a pursuit for these pages." But in 1896, when this was written, the medical student and the practitioner had no single volume to which they could turn for an adequate summary of the history of medicine. The gap was filled seventeen years later by the publication of Dr. Garrison's admirable book. His official position at the Surgeon-General's office at Washington, within the great storehouse of medical literature—the Surgeon-General's Library—and in close touch with its *Index Catalogue*, gave him unusual advantages for the preparation of a work of this kind; indeed, he describes it as being in a very real sense a product of that library.

We praised this compendious history of medicine on its first appearance, and welcomed the second and enlarged edition which was published shortly after the entry of the United States into the European war. Our admiration is increased by perusal of the third edition, which bears evidence of the most painstaking revision. It is true that the book has grown in eight years from 763 pages to 942; but the added matter has been introduced with due regard for perspective, and the character of the work is unchanged: freshness and individuality of treatment are not spoilt by excess of overlaid material. A great part of the revision has been carried out in order to keep abreast of the large amount of original work done during the past four years in the way of medical historical research. Additions have also been made to the many short biographical notes, illustrated by portraits, which impart a very human interest to this survey of the progress of medical science.

Dr. Garrison's primary aim in writing an outline of medical history was to stimulate the medical student and the busy practitioner to pursue their own studies, and each subsequent edition has confirmed our opinion that his book is the most readable, and in its own way the most valuable, of medical histories. No medical library, however small, could be thought complete without it. The author's literary skill and wide learning stand out on every page; but beyond this his wealth of bibliographical references makes the book a key to the subject at large. His many English readers will welcome Dr. Garrison as the national delegate of the United States at the International Congress of the History of Medicine to be held in London during the third week of next month.

[1] *An Introduction to the History of Medicine.* With Medical Chronology, Suggestions for Study, and Bibliographic Data. By Fielding H. Garrison, A.B., M.D., Lieut.-Colonel Medical Corps, U.S. Army. Third edition, revised and enlarged. Philadelphia and London: W. B. Saunders Company. 1921. (Roy. 8vo, pp. 942; illustrated. 45s. net.)

CARDIOLOGY.

IT was with pleasurable anticipation that the reviewer opened Dr. ALFRED WEBSTER'S book on *Cardiac Arrhythmia and the Neocardiology*,[2] for the valuable records in his paper entitled "Cardiac arrhythmia in relation to cerebral anaemia and epileptiform crises," published in the *Glasgow Medical Reports* of 1900, had not been forgotten.

It is, however, a little difficult to discover the motive for this present large volume, but it seems to show a desire to discredit the accepted views relating to auricular fibrillation, heart-block, and other forms of arrhythmia. The author generously recognizes the extraordinary progress in our knowledge of these arryhthmias during the last fifteen years. But towards the end of his book he says that he "is not clever enough to form any distinct idea as to what all this neocardiological talk means"; he admits that "his helplessness only deepens the conviction that the clearer that idea is likely to become the greater will be his dislike both of the thing meant and of the theoretical conjuror who, as he bitterly supposes, is by sophistic tricks trying hard to take him in." The reviewer is forced to entertain a shrewd suspicion that this is just what one of his neocardiological friends has done, judging by his replies to the author concerning the origin of the smaller waves in tracings 1, 2, 3. It looks very like gentle leg-pulling.

The book consists of a running commentary on a very large number of tracings which are loosely grouped. The first series (6 to 58) exemplifies the gradual change from a high-tension pulse to one of hyperdicrotism; then follow some interesting records taken from a patient with Cheyne Stokes breathing. Records of "premature beats" form a fruitful source for dissertation. There is also a beautiful series (310 to 475) from a case showing recurrent attacks of rapid action. Other sections deal with auriculo-ventricular dissociation, or dissociated action, or heart-block, auricular flutter and fibrillation.

Unfortunately, tracings such as those from 310 to 475 are practically valueless in the absence of jugular records, and throughout the author has been content to base his argument and his interpretation of the tracings on the superficial resemblances of various portions of the records one to the other. Such a method is full of danger. It is hard to understand why advantage was not taken of the information to be gained from jugular records; they would have given definite information concerning the activities of the auricles, and this would have made it possible to speak with certainty. It is obvious that the author fails to distinguish clearly between the pulse of auricular fibrillation and that of ectopic beats, and in some instances he confuses the former with pulsus alternans. For instance, he labels 120, 177, 178, 179, 181 as typical examples of fibrillation; the irregularity in 120 is, however, clearly due to premature beats, and that in 177, 178, and 179 is, we judge, the result of premature beats complicated by a tendency to alternation, the latter being accentuated after each extra-systole; 133 is another excellent example of alternation.

The author is frankly bewildered by the "premature beat, so called," which, as he exclaims, "occupies a position of infinite variety," a variety which he still further accentuates by confounding it with the pulsus alternans and with any record of auricular fibrillation to which it may bear a superficial resemblance. The key to the confusion of which Dr. Webster complains lies in the sentence, "Irregularity is merely a matter of degree." There is something archaic about such a statement. An auricle is either fibrillating or

[2] *Cardiac Arrhythmia and the Neocardiology.* By A. Webster, M.D. London: Watts and Co. 1922. (11½ × 9¼, pp. 195; illustrated. 25s.)

it is not fibrillating, and if the radial records had been complemented by simultaneous phlebograms or electrocardiograms there would have been no place for such phrases as "if this is the pulse of fibrillation," "if the auricle is fibrillating."

Many words are spent in attempting to prove by reasoning based on his tracings that auricular fibrillation cannot coexist with heart-block. This is waste of time, for such a combination has been demonstrated repeatedly by means of the string galvanometer and its existence is no longer a matter of opinion. Little is to be gained, however, by pursuing this line of criticism, but the book produces a feeling of disappointment. Excellent material and clinical enthusiasm have not been put to the best purpose. Dr. Webster gives a remarkable series of sphygmograms, and the absence of their corresponding phlebograms is to be regretted.

The Heart Rhythms,[3] by Dr. DUDLEY LAMSON, is a good book and should prove of value to students, practitioners, and teachers. The author's main object is to describe the various rhythms of the heart as a whole and in relation to each other but apart from all other functions of the heart, and also the methods by which they can most easily be recognized. The introduction of the electrocardiograph in 1910 swept away much of the confusion concerning the various forms of irregular heart action and made it possible to tabulate all the possible rhythms. These are not many, but it is essential to have a knowledge of all before a diagnosis can be made.

The book is divided into two parts. The first deals more particularly with the classification of the rhythms. The basis of this classification is the division of the heart into functional areas by means of the electrocardiograph, which renders it possible to classify the rhythms on the basis of the point of origin of impulses. They then fall into four groups: The sino-auricular, the ectopic auricular, the auriculo-ventricular nodal, and the ectopic ventricular rhythms. These four groups are again subdivided and a fifth added—namely, abnormalities of condition in any rhythm. There are several excellent and helpful diagrams in this part of the book, and the ideas are clearly and simply presented.

The second part is devoted to a consideration of the different instruments for recording the heart rhythms. There is a brief account of the electrocardiograph. From an electrocardiogram it is possible to obtain *complete* data concerning a rhythm, "the rate, regularity, source of impulse formation of both auricular and ventricular beats, the length of conduction time, and the inter-relation of auricular and ventricular beats."

Various forms of polygraph are mentioned and some excellent advice is given concerning the best way of analysing the records. The significance of the various waves in the jugular pulse is discussed. From the polygraph the information obtained is necessarily incomplete; it does not tell us the point of origin of the impulses, but there should be no difficulty in determining the time relations of the systoles of the auricles and ventricles. A number of polygraphic records are reproduced as examples of the various types of cardiac rhythm. The records are good and the explanatory description clear and concise. The author is to be congratulated on having produced an excellent book.

GYNAECOLOGY.

DR. A. C. MAGIAN of Manchester has contributed yet another to the numerous manuals on gynaecology[4] which have appeared of recent years. His object is "to place before the general practitioner a readable synopsis of some of the principal diseases peculiar to women." In this limited aim he appears to us to have succeeded, and the book should not be judged according to the standards applicable to a complete and authoritative textbook of the subject. He frankly admits, moreover, that he has "abstracted and condensed much invaluable material" from a score or more of the best known writers on gynaecology whom he names. This candid acknowledgement that his work is in some measure, at least, a compilation disarms a good deal of criticism which might otherwise have been levelled at the book. The subject-matter is just the standard commonplaces as seen through the mind of one who, we should imagine, is neither a teacher nor a specialist, but who practises gynaecology to a considerable extent. It is quite possible that for this reason the book may find a measure of popularity, because the point of view from which teachers and specialists are prone to present their subject is not always that from which the general practitioner can obtain the most enlightenment.

It is unnecessary to review the book in detail, but certain points may be mentioned. One is the quite unnecessarily numerous illustrations of instruments and apparatus, many of which are in no way peculiar to gynaecology as distinguished from general surgery. The latter part of the book is indeed strongly reminiscent of a surgical instrument maker's catalogue, and there must be scores of pages of paper wasted in these superfluous illustrations. The man who needs pictures to tell him the difference between a Spencer Wells's and a Kocher's artery forceps requires teaching in operative gynaecology other than can be obtained from any book. Wherever Dr. Magian wishes to emphasize points of diagnostic importance he sums them up and tabulates them at the end of a section in rather smaller print, and frames them with bold black lines. From the point of view of arresting attention this is quite good, but the black lines so strongly recall "mourning" or "in memoriam" cards that they give the book a somewhat funereal aspect. We notice with appreciation that Dr. Magian never mentions an authority without stating in a word or two who he was, or is. For example, "Bartholin's gland (Thomas Bartholin, Danish anatomist, 1618–1680)," "Fröhlich's syndrome (Alfred Fröhlich, contemporary Austrian neurologist)." This is distinctly interesting because not a few of the authorities, both ancient and modern, whose names one meets with are to many nothing but names. At the same time this practice requires to be most accurately carried out, and it is doubtful if all the credit for the invention of "Fergusson's speculum" should be attributed to Sir William Fergusson. Another point in which Dr. Magian labours to instruct the reader is in giving in brackets the etymology of all the many Latin or Greek words which are inseparable from technical medical writings. This, again, is a praiseworthy and interesting practice calculated to be instructive to all readers. It is all the more disappointing, therefore, to find that the Latinity of the numerous prescriptions scattered throughout the book is not above criticism. Not that this is by any means uncommon, but it is surprising in the work of one who, in these other respects, shows a desire to be accurate in small things. The illustrations, apart from those of instruments, are good, and the whole *format* of the book is creditable.

Dr. Magian adds an appendix in regard to some twenty-five preparations which he recommends in his prescriptions. Many of these are familiar as the proprietary compounds of well-known manufacturing firms. The author believes, however, that many of them are quite unknown to medical men in this country, and suggests that because of this there is a tendency to scoff at them. In his experience they have apparently not failed any oftener than some of the best-known pharmacopoeial drugs. Our own impression is exactly contrary. *Omne ignotum pro magnifico*, and clever advertising has before now led to the employment of proprietary compounds to an extent their merits have not always justified. Dr. Magian adds what, in our opinion, would have been better left unsaid:

> "If the doctor dispenses his own medicines he can produce with these compounds something quite distinctive that will at all events impress the patient favourably and in this way do good all round. . . . The practitioner will increase his reputation by adding to his drug list a few preparations that are not in common use, and by judiciously letting his patient know that she is receiving special attention."

A FRENCH MANUAL OF ANATOMY.

IN the second edition of the manual of human anatomy[5] by Dr. GÉRARD the original text has been revised and nearly 300 illustrations added. The general arrangement is rather striking since it represents a combination of systematic and regional methods; this places the manual at a disadvantage as a book of reference, but for the student it has most distinct attractions and materially prevents repetition. The inclusion of the account of the joints immediately after the description of the particular bones entering into the formation of the articulations appears to be such an advantage that it would be a benefit to see it adopted in other anatomical

[3] *The Heart Rhythms.* By Paul Dudley Lamson, M.D. Baltimore: Williams and Wilkins Company. 1921. (Med. 8vo, pp. 100.)

[4] *The Practitioner's Manual of Gynaecology.* By A. C. Magian, M.D., Gynaecologist to the Manchester French Hospital. London: Wm. Heinemann, Ltd. 1922. (Demy 8vo, pp. xiv + 436; 147 figures. 21s. net.)

[5] *Manuel d'Anatomie Humaine.* By Georges Gérard. Second edition. Paris: Masson et Cie. 1921. (Sup. roy. 8vo, pp. 1280; 4 plates, 1,025 figures. Fr. 75 net.)

textbooks. The descriptions are for the most part concise and lucid, and the more important facts are not obscured by the finer details, since the latter, together with the more significant variations and anomalies, are set out in smaller type after the principal features have been indicated. The manual is comparatively free from inaccuracies, although the actions attributed to many of the muscles will not receive universal approval and the account of cortical localization is not quite in accord with modern research. Although, where necessary, references are made to important papers on special points, most of them are to French literature, and scant attention is paid to work in this country or America.

The manual is very freely illustrated, chiefly by simple line drawings, which are clear, helpful, and effective; a large proportion of them are from special dissections and executed by the author. Some of the drawings and photographs illustrating the osteology section lose much of their usefulness by being too small, and the four coloured plates are hardly of sufficient value to justify the labour entailed in their reproduction. Except in the presentation of a larger proportion of original illustrations than usual and the general arrangement, the book does not offer any special features not to be found in the standard textbooks on human anatomy.

FOCAL INFECTIONS AND INSANITY.

IN his book, *The Defective Delinquent and Insane*,[6] Dr. HENRY A. COTTON approaches the problem of mental disorder from what is undoubtedly a sound biological basis. He takes the view that mind is related to body as function is to structure; that in the last analysis all disturbances of function must be capable of explanation in terms of physical and chemical changes in the body; and that so-called mental diseases are the reflection of some bodily disorder. Though such theoretical views are quite unexceptionable, the somewhat extreme standpoint which Dr. Cotton here proceeds to elaborate regarding the influence of focal infections in the production of insanity would appear to be in need of confirmation at the hands of other observers before it could be generally accepted. His basic contention is that the most constant factor in the production of the psychoses is an intracerebral, biochemical, cellular disturbance arising from circulating toxins, originating in chronic focal infections situated anywhere throughout the body, and more particularly around the teeth or in the tonsils.

The author has made exhaustive investigations into the question of dental infection in the insane, and has carried out systematically an unusually thorough dental therapy in his cases. His experience leads him to deplore the modern methods of repair and conservation of teeth; he regards such measures as responsible for much concealed foci of infection, and as seriously detrimental to the health in a number of instances. He advocates that every patient admitted to a mental hospital should have the teeth radiographed; infected, impacted, and unerupted teeth removed and the sockets curetted; and, whether *x* rays reveal infection or not, the extraction of any devitalized teeth. These contentions are supported by references to a number of cases, and a series of excellent radiographs, photographs, and drawings of infected teeth are reproduced. Though perhaps Dr. Cotton has overemphasized focal infection as a causal factor in mental disorder he has certainly drawn attention to a condition hitherto much neglected in asylum cases, and his book should be of service in this respect. There is much in the volume which deserves careful study, and the researches included therein may be regarded as a definite contribution to psychiatry.

NOTES ON BOOKS.

THE lower slopes of Parnassus are often the most pleasant to browse upon, and Dr. HABBERTON LULHAM'S new volume of light verse, *Kettle-Songs*[7] (one third of which appeared originally in *Punch*), is in the true tradition of Calverley and Locker-Lampson. His verses are polished and witty, with a pleasant touch of sentiment, and they do not sacrifice quality to technique, as some light versifiers seem inclined to do to-day. Dr. Lulham's subjects are delightfully varied. He sings merrily of the joys of country life and the "shady side of dear Pall Mall," golf and gipsies, the *Blessed Lexicographer* as a bedside book, watchmaking, aunts and babies, dentists, the bedside manner, and the intermittent pulse—

> "You mean it merely drops a beat or so,
> A sort of syncopated pit-a-pat?
> But, my dear fellow, surely you must know
> That's good old rag-time! Oh, I don't mind *that*!"

We recommend Dr. Lulham's volume to our readers as a tonic to prescribe for convalescents.

Dr. CABANÈS and his friend Dr. WITKOWSKI have made a collection of stories about doctors and their patients, and have published them in a volume with the title *L'Esprit d'Esculape*.[8] They have classified them in three chapters: the first containing witticisms, generally at the expense of their doctors, uttered by more or less celebrated patients; the second, retorts by doctors, including some of their candid observations about each other; and the third, quotations having a more or less distinct medical flavour, drawn chiefly from the inexhaustible mine of French diarists and letter writers, but not ignoring the writings of some of our own countrymen. There are a number of illustrations, including several after Hogarth and Rowlandson. It is not a book that can be made the subject of a serious review, for it is not a serious book. It seeks to do no more than amuse, but in this it succeeds.

We have received for review a copy of a small book entitled *Safe Marriage*,[9] by ETTIE A. ROUT—a lady whose fine record of service for the troops during the war, and for the civil population in France after the war, is known to us and to many of our readers. As the title suggests, her theme is the prevention of venereal disease and the prevention of conception, and she is quite frank in acknowledging that physical means directed towards the first end must in some degree be directed towards the second also. In her treatment of both matters she is no less frank; but she avoids altogether the air of ecstatic sloppiness with which some writers on sexual relationship seek to embellish their frankness. We fully recognize the importance of sex knowledge, but if we may say so without offence, the pendulum seems to us to have swung a little too far away from over-reticence, so that in the present day the lay public is, if anything, overdone with popular works on the congress of the sexes in man. Having expressed this opinion we should add that the little book on venereal prophylaxis and contraceptive technique now before us is (with the possible exception of a phrase or two on page 46) unexceptionable in taste and tone. Many readers will disagree with the author's point of view, and some will feel grave misgivings about the effect of her teaching; but none can doubt the sincerity of her purpose. Medical men and women who read the pamphlet with an open mind will probably gain something by so doing, and will certainly recognize it as the work of a serious student of two great social problems. Miss Ettie Rout is rather contemptuous of the England of to-day, and more than doubtful of England's future; but with all their faults Englishmen admire "a *plus* quantity," and the more so when they find it in the work and character of a kinswoman from overseas.

A useful little annual, now in its fifteenth year, is compiled by the travel editor of the *Queen* newspaper.[10] Besides giving a considerable amount of miscellaneous information useful to tourists, the book contains short notes about most of the home and Continental resorts likely to be visited by the ordinary English traveller, the various places being grouped in alphabetical order under the names of the principal countries. The volume is neatly printed and can be carried comfortably in an overcoat pocket. Inexperienced travellers, in particular, will find it helpful, as a preliminary to studying the more comprehensive guide-books to the several districts.

MESSRS. GEORGE ROUTLEDGE AND SONS are preparing a Modern Chemistry for the use of post-graduate readers in a series of volumes, written by authorities in the several departments. The series will be edited by Sir William A. Tilden, D.Sc., F.R.S., Emeritus Professor in the Imperial College of Science, and Professor J. C. Philip, D.Sc., F.R.S., Professor of Physical Chemistry in that College. The first volume, on the metastability of matter, will be written by Professor Ernest Cohen of the Van 't Hoff Laboratory, Utrecht; the second will be by Mr. Oscar L. Brady, D.Sc., of University College, London, on oxidation and reduction in organic chemistry; and the third by Professor T. M. Lowry, F.R.S., of Cambridge, on physical aspects of organic chemistry.

[6] *The Defective Delinquent and Insane: The Relation of Focal Infections to their Causation, Treatment, and Prevention.* By Henry A. Cotton, M.D., Medical Director, New Jersey State Hospital at Trenton. With a Foreword by Adolph Meyer, M.D. Lectures delivered at Princeton University. London: Humphrey Milford, Oxford University Press. 1921. (Med. 8vo, pp. xvi+201; 32 charts, photographs, and drawings. 12s. 6d. net.)

[7] *Kettle-Songs.* By Habberton Lulham. Hove: Combridges. 1922. (Cr. 8vo, pp. 87. 3s. 6d. net.)

[8] *L'Esprit d'Esculape.* Paris: E. Le François. 1922. (Imp. 4to, pp. 290; 19 figures.)

[9] *Safe Marriage: A Return to Sanity.* By Ettie A. Rout. With Preface by Sir William Arbuthnot Lane, Bt., C.B., M.S. London: William Heinemann (Medical Books), Ltd. 1922. (Cr. 8vo, pp. 78; 7 figures. 3s. 6d. net.)

[10] *The Queen Newspaper Book of Travel.* A Guide to Home and Foreign Resorts. By M. Hornsby, F.R.G.S. London: The Field Press, Ltd. 1922. (Pp. 540; 9 maps, 76 illustrations. 4s. net.)

A HALF-CENTURY OF PUBLIC HEALTH IN NORTH AMERICA.

BY

JOHN C. McVAIL, M.D., LL.D.

(*Continued from page 882.*)

IV.

WATER PURIFICATION.

THE investigations into the purification of public water supplies made by the Massachusetts Board of Health are well known and highly valued in this country, but from the article on the subject contributed to the Jubilee volume by Professor George E. Whipple, who occupies the chair of sanitary engineering in the Harvard Engineering School, it would appear that though great progress has been made water purification is not yet adopted to the same extent in America as in Britain.

The prevalence of typhoid fever after the civil war seems to have been the first factor in causing serious attention to be given to the need for water purification, but the problem in America is not identical with ours. Some of the great rivers which yield a public supply are very muddy, notably the Mississippi, and methods of filtration vary with the circumstances. Sand filters and mechanical filters both have their sphere of usefulness; broadly speaking, the former is used for the clearer waters, the latter for those with much suspended matter. Aluminium sulphate was first used in 1884, and both coagulation and sedimentation are applied in connexion with some schemes of mechanical filtration. The first large installation for slow sand filtration was brought into use at Albany in 1899 for the water of the Hudson, and three years later the first modern mechanical filter on a large scale was adopted by the East Jersey Company to purify the waters of the Passaic river. It is found that while sand filters cost more to establish, mechanical filters cost more to operate. The increase in mechanical filters has been rapid owing to the fact that many waters require purification by coagulation.

Processes supplementary to filtration differ according to the character of the waters; for those deficient in oxygen aeration was in use even earlier than filtration. It helps also to remove odours due to microscopic organisms. Artificial aeration is resorted to on a large scale for the Catskill supply to New York, and Professor Whipple thinks that the method may come into more frequent use. Sedimentation is an old process, but much remains to be learnt about the rate of subsidence of small particles. Coagulation with alum is also an old process, and it was formerly thought that if the whole of the alum were used up as a coagulant the water would not be adversely affected; now, however, it is believed that the reaction is not complete, and that part is not changed into aluminium hydrate, there being a tendency to increase of acidity. Lime and iron sulphate are used for some muddy waters, and lime and soda, with alum where acidity has to be checked, in very soft waters. Softening processes are found to be costly, and various improvements are being introduced. Coagulation is sometimes used in combination with slow sand filtration. Professor Whipple does not discuss the biological aspects of sand purification. The removal of colour is effected to some extent by natural bleaching during storage, but alum is used also. Often the removal of colour is difficult and experiments are now being made along the lines suggested by colloidal chemistry. For the removal of algae producing an evil odour, aeration, filtration, and copper sulphate in very minute quantities are applied; chlorine also is now much used for purification. Protection of reservoirs from pollution by sewage is often found to need attention, and in some places it has been necessary to drain swamps. The Public Health Association established in 1905 what is now the standard method of water filtration in America.

The general results of the activities of the last half-century may be summarized as follows: In 1870 there was practically no filtration of public supplies; ten years later the total population supplied with filtered water was about 30,000; twenty years later it was ten times as much. In 1900 the population supplied with filtered water had risen to 1,860,000; in 1910 it amounted to 11 millions, and in 1920 to about 20 millions, or about a fifth of the total population of the United States. Altogether more than a third of the population living in towns of over 2,500 inhabitants now use filtered water.

STREAM POLLUTION AND INDUSTRIAL WASTES.

The methods used for the prevention and treatment of stream pollution due to industrial wastes in America present a general resemblance to those in use in this country, but in England they had to be applied earlier owing to the more rapid development of industrial congestion and to the fact that the comparative smallness of our rivers lessens their power of diluting waste material. Certain differences between the two countries in matters of administration may be noted. Dr. Earle B. Phelps, formerly professor of chemistry in the Hygienic Laboratory of the United States Health Service, who contributes an article on the subject to the Jubilee volume, holds that in America "the public health interest is paramount" and "State legislation for the most part also recognizes stream control as a public health function." That can hardly be said of this country in the present day. For one thing, excepting in the special cases of London, Aberdeen, and certain smaller towns, river water is rather avoided for public domestic supplies; upland surface water and deep wells are safer sources. Pollution of a stream is seldom so great as to create serious effluvium nuisance, though there was a time when the Manchester Ship Canal and the Clyde at the harbour of Glasgow could be called, the one a cesspool and the other a sewer. It is doubtful whether a tidal harbour like Glasgow's comes under the regulations for the prevention of pollution in rivers, but however that may be the conditions were recognized to be so offensive that they were remedied. Speaking generally, a polluted stream cannot in this country be proved to be a serious menace to health, but it is more or less broadly recognized that in the interest of cleanliness and the amenity of the district gross pollution should be avoided.

Professor Phelps properly points out that the true reason for the comparative failure of early legislative measures against pollution in this country was that "legislation was enacted in advance of any suitable study of possible remedial methods, and especially of their practicability and costs, and then the enforcement of the law was left to local authorities." The interests of local trades sometimes seemed to be opposed to the preservation and purity of the waters of a river, and local authorities were often much too local to be independent. On the other hand, when compulsion was applied it not infrequently resulted in the recovery of waste products, the value of which has gone far, sometimes all the way, towards paying for the outlay involved in purification. Complete centralization of control is undesirable, but the best bodies for the purpose are not small authorities, of whom there may be a dozen or a score on a single river, each ready to excuse itself and to blame its neighbours. A conservancy board for the whole watershed from source to outlet is the recommendation of the most recent Royal Commission, and is undoubtedly the soundest principle that can be followed. As Professor Phelps observes, the essential considerations in any case are the size of the stream, its consequent capacity for dilution of sewage and other polluting matter, and any possibilities it may have for self-purification in its course. The standards of pollution and purification have been altered as the result of experience, and Professor Phelps refers to the studies by himself and others as to the conditions in New York harbour and to the virtual abandonment of the older nitrogen basis and the establishment of the present oxygen basis and putrescibility methods; in this line of advance America and this country resemble each other.

DISPOSAL OF SEWAGE AND REFUSE.

It appears from the article by Mr. Rudolph Hering, D.Sc., Consulting Engineer, New York City, that the principles followed and the methods applied for the disposal of liquid and solid refuse in the United States are essentially similar to those of this country, and have been largely adopted from the practice here, the reason being, as pointed out in regard to some of the other matters dealt with in the Jubilee volume, that the problems had to be tackled in Britain sooner than in America. The conditions, of course, are not identical, and the extensive areas of some American cities relative to their population necessarily affect their schemes, but the differences are not fundamental.

It is surprising to gather that in America some sewerage systems are even yet in private ownership, though Dr. Hering points out that the tendency is all in the direction of municipal possession and management.

It may be noted by sanitarians and house builders in this country that sewer ventilation is obtained by direct

connexion between street sewers and house drains and soil or rain pipes. Dr. Hering writes:

"Artificial ventilation is hardly ever required, because a sufficiently good natural ventilation can be secured simply by providing perforated manhole covers on the street surface and a free and unobstructed passage of air from the street sewers to the house sewers above the roof. The usually different temperature at such inlets and outlets will produce a sufficient air circulation. All house fixtures must be securely trapped."

While European methods for disposal of dry refuse prevail, it is stated that in the smaller towns, chiefly of New England, garbage is used for feeding hogs more systematically and under more effective organizations than before, and with the approval of the United States Government.

From his own experience and the numerous records available Dr. Hering concludes that the health of men engaged in the disposal of sewage and refuse is as good as that of men employed at sewage pumping stations, sewage farms, or among the rag-pickers of Paris, or the men on rubbish reclamation works in America. He thinks, however, that great care should be taken to prevent the conveyance of infectious disease, though "no such danger is expected to arise from garbage before it can breed flies, or from ashes." A committee of the American Public Health Association reported in 1916 that in the best managed cities the work of cleansing streets was little if at all more unhealthy than the average of other labouring occupations.

Quarantine.

For the United States, with their high rate of immigration from almost every part of the world, the prevention of disease introduction is obviously a public problem of immense importance.

The article on the subject in the Jubilee volume is by Dr. Hugh S. Cumming, Surgeon-General of the U.S. Public Health Service. He states that American practice is stricter than English, since the former applies preventive measures not only to ships actually infected, but also to vessels from infected ports. These, however, are dealt with as "suspected" vessels in this country and are not disregarded, so that the difference seems to be largely a matter of terminology. The institution of national control has been a gradual process, completed only so recently as March 1st, 1921. Formerly control was local, and officers changed often owing to political influence. Dr. Cumming takes occasion to emphasize the importance not merely of avoiding frequent change of officers, but of securing that those appointed are really competent. The promiscuous selection for the position of quarantine officer of men untrained in the technical duties of the office, no matter how proficient in the general practice of medicine and surgery, is, he considers, a very faulty custom. The object of quarantine in America is the same as here, "the maximum protection of the country with a minimum hindrance to commerce and the least inconvenience to the travelling public." It is claimed that the American system is unique in maintaining a double line of defence—medical examination (through the consulate) at the port of departure as well as at the port of arrival. Dr. Cumming says:

"Officers of the Public Health Service are stationed in the Philippines and in other parts of the Orient, including the coast of China, on the west and east coasts of South America, on the islands of the West Indies, and in all the chief ports of Europe, to enforce sanitary precautions against vessels, cargo, passengers, and crew departing for ports of the United States. Whether it be the fumigation of a vessel at the plague-infected port of Hong Kong in order to destroy rodent carriers of the disease; whether it be the fumigation of a vessel in the yellow-fever-infected port of Vera Cruz for the purpose of destroying mosquitos on vessels sailing for ports of the United States; or the delousing of verminous passengers from the typhus-infected areas of Europe, this group of Public Health Service men working in foreign countries operates as a tremendous force in safeguarding the ports of the United States from the introduction of quarantinable diseases, and always with but the slightest interference to the travelling public or to the movement of traffic."

The strictly quarantinable diseases are stated to be cholera, typhus, plague, small-pox, leprosy, and, within limitations, anthrax. There is no mention of yellow fever in this list, but obviously it ought to be included, since it is said later on that "the prevention of the introduction of yellow fever during the past sixteen years, despite its almost continued prevalence in Mexico, Central and South America, is a striking testimonial to the system and the personnel composing it." While the endemic small-pox of the States is now an extraordinarily mild disease a highly virulent strain prevails in Mexico, and for several years past between 40,000 and 50,000 vaccinations have been performed along the Mexican border. No mention is made of conscientious objectors. American quarantine of course is not confined to the seaboard, there being about a hundred land stations. It is held that partly owing to prevalence of stegomyia and consequent risk of yellow fever, partly because the water front construction of United States ports is of timber, affording easy harbourage to rats, and partly for other reasons, the United States needs maritime quarantine more than any other civilized country, and the figures given show the extensive scale on which the work is done. In 1920 some two million persons, passengers and crews, brought by 20,000 vessels, were inspected; 5,000, of which nearly 4,000 arrived from infected ports, were disinfected; 47 of them had infection on board. Less than 50,000 persons were detained and disinfected; 4,800 were vaccinated or examined bacteriologically. Typhus fever is prevalent in Mexico, and on that frontier 130,000 persons were deloused and 55,000 vaccinated. At insular quarantine stations and foreign ports over 10,000 vessels were inspected and 1,500 fumigated. The cost is regarded as small compared with the benefit, but the scheme must be continued until the internal sanitary condition of the country becomes so good as to prevent such diseases from spreading.

(To be concluded.)

EPHRAIM McDOWELL.

DR. AUGUST SCHACHNER, when sending a copy of his book,[1] the subject of this notice, accompanied it with a letter to the Editor emphasizing the view that insufficient honour had been done to McDowell, and that his memory had been clouded over, in particular, if we understand Dr. Schachner rightly, by claims made on behalf of Spencer Wells and his contemporaries. Anyone, therefore, inquiring about Ephraim McDowell (1771–1830), and desirous of obtaining a clear statement of the essential facts without extraneous matter, would be well advised first to read the account of him by S. D. Gross.[2]

In 1890 McDowell's granddaughter, named Mary Young Ridenbaugh in the first edition, but in subsequent editions Mary I. Valentine,[3] published a biography which contained a few of his letters but included many dubious statements and gossip. Whenever the history of ovariotomy has been discussed of late McDowell has been referred to; in 1879 S. D. Gross, Oliver Wendell Holmes, and Spencer Wells[4] all joined in applying to him the title, "Father of Ovariotomy"; in the BRITISH MEDICAL JOURNAL of July, 1880,[5] there is a correspondence of historical importance between Charles Clay and Thomas Keith; in the JOURNAL of November, 1884, is the address given by Wells at Birmingham, the title of which should be noted; it was "The Revival of Ovariotomy and its Influence on Modern Surgery."[6] The centenary of McDowell's first ovariotomy was celebrated in 1909, when D. McMurtry of Louisville styled him "The First Ovariotomist." Mr. Alban Doran contributed a history of the Samaritan Hospital, and Dr. Herbert Spencer called McDowell an American hero, and said that his achievement was a *monumentum aere perennius*.[7]

In the issue of this JOURNAL for June 21st, 1913 (p. 1333), is a fairly long account of a paper by Dr. Schachner,[8] and as recently as in November and December last references to McDowell were made in connexion with the address of Sir Harold Stiles by Drs. Fleming, Cameron, and Mitchell.[9]

Dr. Schachner's book contains 314 pages of text, 4 additional pages of bibliography, 11 pages of index in double columns, and 21 illustrations. Chapter I describes how pioneers moved westwards from Virginia into "Kentake," the Iroquois word for prairie or meadow land. With negro labour as a substratum the forests were cleared, wheat and tobacco planted, and traffic by the rivers flowing into the Mississippi developed, whilst the whites fought the Indians and the wolves. Genealogies of early settlers are given, and also the origin of the town of Danville, 500 miles west of Richmond, where McDowell practised.

McDowell was descended from Scottish ancestors, one of whom fought under Cromwell in Ireland and had helped to defend Londonderry against James II. The second chapter relates to McDowell's time in Edinburgh during 1793 and 1794; a point which has worried previous writers as to why McDowell left without taking a degree appears to be decided by a letter written to him there by his father. He stated that he could expend £300, that and no more, upon his son's education abroad. Chapters V and VI include McDowell's

two papers in the *Eclectic Repertory* of 1816 and of 1819.[10] Subsequent chapters contain controversial matter on the history of ovariotomy with repetitions which in the preface are stated to be inevitable; conclusions in the absence of sufficient evidence have to be arrived at by a chain of suppositions.

Among the illustrations are those of McDowell's house, front and back, and of the interior of the annexe in which Dr. Schachner thinks the operation on Mrs. Crawford was done. The house is now occupied by negro tenants and is in bad repair; Dr. Schachner took a great deal of trouble in trying to buy it, but was prevented by the landlord demanding more than double its utmost value.

On the title-page of Dr. Schachner's book there is printed in red: Ephraim McDowell, "Father of Ovariotomy" and Founder of Abdominal Surgery. The inverted commas may be understood to imply that the title given by Gross, Holmes, and Wells is one that is attached to McDowell beyond dispute. The addition, Founder of Abdominal Surgery, might be taken as reiteration for the purpose of emphasis, following the method employed in the Prayer Book; merely as a question of time ovariotomy may be said to have been founded before the operations for intestinal obstruction or appendicitis, with which McDowell's countrymen have had much to do. But Dr. Schachner evidently desires the title, Founder of Abdominal Surgery, to have a wider meaning. One or two criticisms of the way Dr. Schachner has handled authorities may suggest difficulties in maintaining his thesis. McDowell, when in Edinburgh, attended the extramural class on surgical anatomy held by John Bell, who, aided by the artistic skill of his brother Charles, was a most brilliant teacher. But nowhere in John Bell's published writings is there any reference to ovarian disease and ovariotomy; there is no evidence that McDowell heard the subject mentioned in Edinburgh, either by Bell or by anybody else.

The most important contribution made in the eighteenth century is not noted by Dr. Schachner in his bibliography and is only indirectly referred to in the text. The *Mémoires*[11] which appeared in 1753, by Le Dran, jun., Mouton, De la Chaud, Montanlieu, Malaval, De la Porte, and Morand, especially that by De la Porte, are reflected in William Hunter's description in 1757, and their recommendations were followed by Nathan Smith in 1821. It is important to compare McDowell's account of his first operation in 1809 with that by Nathan Smith of his in 1821. McDowell is said not to have made notes at the time, but to have written his report after his third operation in 1816, depending upon his ledger for his dates and his memory for his facts. He then stated that he had been called by two medical practitioners to see Mrs. Crawford, who had believed herself to have become pregnant again, and to have gone beyond her time. Operations had been done for what we now know as extrauterine foetation, and had been successful. The incision employed for this was that which McDowell adopted. He made it on the left side of the abdomen, 3 in. outside the left rectus abdominis muscle; it was 9 inches in length from the lower border of the ribs downwards. It was made straight through into the abdominal cavity upon which the intestines prolapsed, as was inevitable when such a long incision was made in a patient not anaesthetized. He tied the pedicle, leaving the ends hanging out of the wound, cut open the tumour, and removed 15 lb. of a dirty, gelatinous-looking substance, then extracted the sac, which weighed 7½ lb., and closed the incision by sutures and strapping, except for the ligature ends. The patient was making her bed five days later, and returned home well after twenty-five days. Mrs. Crawford survived the operation thirty-two years, mostly in good health, and died (as the illustration reproducing her tombstone shows) in 1842, aged 78.

Nathan Smith, professor of surgery at Yale, performed his first ovariotomy in 1821, and described the operation to his class of surgery during the following winter. He published the account of it in two of the most important periodicals of the time, the *American Medical Recorder* of January, 1822, and the *Edinburgh Medical and Surgical Journal* of October, 1822.[12]

Nathan Smith had previously examined *post mortem* a woman who had died after being tapped seven times, and found a cyst without adhesions, only attached by the ovarian ligament. He had also examined two other specimens of ovarian cysts taken out *post mortem*, equally unattached except by the ovarian ligament, although there had been several tappings during life. His description of his patient's history shows that he could make an adequate diagnosis beforehand. He had the woman's head and shoulders raised and an assistant pressed the cyst forwards against the abdominal wall; he made an incision three inches in length in the linea alba, from the umbilicus downwards, but only so far as the peritoneum, until the bleeding had ceased. After opening the peritoneum the cyst was punctured with a trocar, and seven pints of fluid were collected, whilst one pint escaped. As the emptying cyst was dragged out only adherent omentum followed—no intestines. Two leather ligatures were applied to omental vessels, and two others in dividing the pedicle. The incision in the abdominal wall was closed completely. There were no unfavourable symptoms afterwards, and in three weeks the patient was walking about. The leather ligatures were the strips of kid which had been previously used in the United States for the ligation of arteries; they were absorbable and rendered relatively free from germs by the tanning. The first successful ovariotomy in England was done in 1836 by Jeaffreson of Framlingham, Suffolk. In the course of thirty years he had watched about 20 cases; in 1833 at a necropsy he had exposed the cyst through an incision 1 in. long and let off fluid with a trocar until the sac could be drawn out, when it proved to be attached only by the ovarian ligament. Having watched his patient from 1833, and knowing of Nathan Smith's case, he followed him, except that he made an incision only 1 in. long, as the French Memoirs and William Hunter had suggested. Through it he drew off 12 pints of "clear serum" and in drawing out the sac a small cyst containing 2 oz. was emptied. He put a silk ligature round the pedicle, but cut the ends short. The patient recovered and remained in good health. King of Saxmundham, who assisted Jeaffreson, imitated him except that the incision had to be 3 in. in length; R. C. West of Tonbridge, Kent, and Crisp of Harleston, Norfolk, followed; their cases were all successful.[13] Subsequently Charles Clay of Manchester in 1842, who had learnt of McDowell's operation through Lizars, began his series of operations by employing the long incision, with the ends of the ligatures hanging out, for cysts as well as for more solid tumours.

In a letter written by McDowell about a year before his death occurs this sentence: "Therefore, it appears to me mere humbug about the dangers of peritoneal inflammation so much talked about by most surgeons."[14] The early ovariotomists showed that the peritoneum could be very tolerant of injury, yet surgeons knew that following an opening of the peritoneal cavity cases were apt to die in a few days of acute peritonitis. McDowell said that out of 11 he had only lost one, the fifth. Yet the remark of Baker Brown, which Wells reported, was a pertinent one: "It is the peritonitis which beats us." What the peritoneum will not tolerate was demonstrated by Pasteur when he drew micrococci in a chain and told the audience that they were the real cause, not those which had been alleged. In the sense of becoming established the practice of abdominal surgery can hardly be said to have been "founded" until the precautions had been added which prevents this peritonitis from beating the surgeon to-day.

REFERENCES.

1 *Ephraim McDowell, "Father of Ovariotomy" and Founder of Abdominal Surgery.* With an Appendix on Jane Todd Crawford. By August Schachner, M.D., F.A.C.S., Louisville, Kentucky. Philadelphia and London: Lippincott. 1921.

2 Gross, S. D.: Origin of Ovariotomy, with an Account of the Life and Services of the late Dr. Ephraim McDowell of Kentucky. *North American Medico-Chirurgical Review*, 1860, iv, 1028.

3 Ridenbaugh, Mary Young: *The Biography of Ephraim McDowell.* New York, 1890. Valentine, Mrs. Mary I.: *The Biography of Ephraim McDowell*, second edition, revised, 1894.

4 *Transactions* of the Kentucky State Medical Society, 1879.

5 BRITISH MEDICAL JOURNAL, 1880, ii, 32, 95, 109, 186.

6 BRITISH MEDICAL JOURNAL, 1884, ii, 893, 949.

7 *Transactions* of the American Gynecological Society, 1909, vol. xxxiv.

8 Schachner, A.: *Johns Hopkins Hospital Bulletin*, 1914, vol. xxiv.

9 BRITISH MEDICAL JOURNAL, 1921, ii, 776, 866, 1011.

10 Three Cases of Extirpation of Diseased Ovaria by Ephraim McDowell, M.D., of Danville, Kentucky. *The Eclectic Repertory and Analytical Review, Medical, Philosophical.* Edited by a Society of Physicians. Philadelphia, October, 1816-1817, vol. vii. Observations on Diseased Ovaria by Ephraim McDowell, M.D., in a letter to the Editor dated September, 1819, referring to two additional cases, *The Eclectic Repertory*, 1819, vol. ix.

11 Pleusieurs Mémoires et Observations sur l'hydropsie enkistée et le skirre des Ovaires. *Mémoires de l'Académie Royale de Chirurgie*, 1753, vi.

12 Smith, Dr. Nathan: Case of Ovarian Dropsy, *American Medical Recorder*, 1882, v, 124. *Edinburgh Medical and Surgical Journal*, 1822, xviii, 532.

13 Jeaffreson, William: A Case of Ovarian Tumour Successfully Removed, *Transactions* of the Provincial Medical and Surgical Association, 1837, v, 239. King, R. C.: Ovarian Dropsy—Removal of the Cyst, *Lancet*, 1836-7, i, 583. West, W. R.: Successful Operation for the Removal of an Ovarian Tumour, *Lancet*, 1837-8, i, 307; 1839-40, i, 160. Crisp: *Lancet*, 1839-40, i, 287.

14 Schachner: *Ephraim McDowell*, p. 130.

British Medical Journal.

SATURDAY, JUNE 10TH, 1922.

"NEW AND NON-OFFICIAL REMEDIES."

THE American Medical Association for the last fifteen years has carried on an extremely useful piece of work by publishing annually a list of the new proprietary remedies which conform to certain simple rules. The reasons which made the American Medical Association take up this work and the results which it has produced are well worth the consideration of the medical public in this country. Probably most medical men here have been disquieted by the increasing tendency for commercial interests to influence or even to dominate therapeutics. Leaving out of account so-called patent medicines, about which medical opinion is probably almost, if not quite, unanimous, the position which has been attained by certain classes of what may be termed the "ethical" proprietary medicines is scarcely satisfactory to those who desire the advance of therapeutics. There is undoubtedly an increasing tendency to introduce to the medical profession by means of advertisement new preparations the value of which is doubtful or unknown. These preparations are "ethical" in that their composition is not a secret, and in that they are not advertised direct to the public; but there is an unpleasant resemblance between some of the "ethical" proprietary preparations and the ordinary quack medicine in the extravagant claims made as to their therapeutic action.

Everyone knows how difficult it is to arrive at a final conclusion on the therapeutic value of any new remedy, but it is instructive to consider the difference in the fate of a new remedy, depending upon whether it is or is not a proprietary article. When a non-proprietary substance such as quinidine is applied to some new therapeutic purpose, the value of the remedy is determined by years of patient work, and every fresh fact announced concerning its action is subjected to rigorous criticism. The greater part of such discussions are carried on in scientific journals which circulate almost exclusively among pharmacologists and physiologists, and the medical profession as a whole usually only hears of those facts which have survived the critical testing of many independent observers. If, on the other hand, the remedy happens to be a proprietary article it suffers a very different fate. The first positive results obtained are immediately blazoned forth to the whole profession, whilst any work which contradicts these results is apt to remain in obscurity. If a controversy arises concerning the merits of the preparation the struggle is (to say the least) an unequal one, for a powerful commercial interest advertises one side, whilst it is the duty of no one in particular to call attention to the opposite view. A situation such as this is not favourable to advance in sound therapeutics, and it is important to realize that in this country we have no definite check on the manner in which new remedies are advertised, except the self-respect of the firm which introduces them; this safeguard is adequate in some cases; it is reinforced by the scrutiny to which advertisements tendered to them are subjected by the more responsible medical journals. The disposition has been, no doubt, to rely on the maxim *caveat emptor*; and if the appeal of all drug manufacturers were in truth always only to members of the medical profession, who are skilled judges, there might be less reason to question its applicability here. This, however, as will be shown, is not always the case.

The leaders of the American Medical Association found that the medical press of America was being flooded with advertisements very little better than those of ordinary quack medicines, and they took determined steps to meet the evil. They came to the conclusion that it was useless to try and solve so large a problem by occasionally refusing to advertise a particularly flagrant offender, and they decided to take the positive step of publishing for the benefit of their members an official annual list of those proprietary remedies which conformed to certain simple rules. A council of pharmacy and chemistry was established by the American Medical Association in 1905; it consisted of professors in medicine, pharmacology, and chemistry, assisted by a committee of consultant physicians. The council has laid down ten simple rules to which proprietary remedies must conform, if they are to be included in the approved list. The chief rules are that the remedy must not be secret, must not be advertised directly to the public, and must not be advertised by unwarranted, exaggerated, or misleading statements as to its therapeutic powers. Remedies which conform to these rules are included in the volume *New and Non-official Remedies*,[1] whilst in another volume, *Propaganda for Reform in Proprietary Medicines*,[2] are published accounts of some of the more glaring scandals in proprietary medicines claiming to be "ethical." The council has carried on this work for fifteen years in the face of steady and persistent opposition and abuse. The effects produced by such an effort as this are hard to measure, for the evils prevented are at least as important as the evils cured.

The American Medical Association states that at the period when it commenced this work there was a marked tendency to turn quack medicines into "ethical" proprietaries. The proprietors found it more profitable to publish some sort of formula for their nostrums, to save the enormous cost of general advertisement, and to advertise only in the medical press, trusting to the medical profession to act as unpaid agents for introducing their products to the public. The simple device of enclosing with their medicines copious advertisements, mentioning all the diseases which the nostrum pretended to cure, was adopted to ensure that after the nostrum had been introduced to a patient by a doctor the patient would continue to use it, and would probably recommend it to his friends.

The American Medical Association believes that the work of its council of pharmacy and chemistry has been of the greatest value in providing an impartial guide to the medical profession in America, and also in checking the exuberance of the imagination of proprietors of new remedies when advertising their wares. The question naturally arises whether any such work is needed elsewhere than in America. The situation in this country is that it is nobody's business to check the claims made in advertisements of new remedies. The medical journals exercise a varying degree of discretion in regard to the advertisements they admit to their columns. But there is no authority which can inform the manufacturer what methods of advertising are acceptable to medical opinion, nor the managers of medical journals what new proprietary preparations are genuine; nor is there any authoritative source of information available to medical men who wish to know whether some new remedy which they see advertised is a reputable one or merely a quack nostrum decked up to suit the supposed taste of the medical profession.

The whole question is a difficult one, since large

[1] *New and Non-official Remedies, 1921.* Chicago: American Medical Association. 1921. (Cr. 8vo, pp. 418. 1.50 dols.)

[2] *The Propaganda for Reform in Proprietary Medicines.* Vol. i, ninth edition. (8vo, pp. 512.) Reprinted from the *Journal of the American Medical Association.* (Can be obtained through Messrs. H. K. Lewis, 136 Gower Street, W.C.1, price 6s.)

commercial interests are involved, and it is hardly possible to deal with it piecemeal; if anything is done fixed rules must be laid down and rigorously enforced in all cases. This kind of work naturally arouses violent opposition, and involves heavy expenditure in time, and a certain expenditure in money, since laboratory analyses are necessary.

THE REPORTING OF THE SECTIONS.

AFTER the feast, the reckoning. After the feast of reason at the Sections of the Annual Meeting, the recording of the wisdom distilled or to be distilled from the words uttered. There will be nineteen Sections at Glasgow, and between them they are to hold forty sessions, each of about three hours. At a rough estimate, well over a million words will be spoken in the Sections. It is said that the human mind can form no clear idea of a million, except by way of comparison. Senor Ibanez, the Spanish novelist, has recently written in three weeks a novel containing 80,000 words; this is regarded as a *tour de force;* he would have to repeat it thirteen times, would have to write thirteen fat volumes, to produce a million words. That number of words would fill over 600 pages of the BRITISH MEDICAL JOURNAL. The Association undertakes that a report of the proceedings of the Sections shall be published, and has made certain rules for the conduct of Sections the observance of which helps to ensure not only satisfactory sessions but interesting published reports.

On this, as on previous occasions, the BRITISH MEDICAL JOURNAL will have a reporter in each Section, but even so the collection, preparation, printing, and publishing of reports of forty sessions is a big task. In this connexion is it out of place to say that the members of the British Medical Association who are unable to be present have the right to expect readable reports eliminating mere prolixities but retaining all matters of interest? Experience long ago showed that the haphazard acceptance of a number of papers on subjects having no relation to each other did not usually result in fruitful debates, and the policy of asking the officers of Sections to arrange a discussion for each session was adopted. It has proved successful; it has stimulated interest, attracted good audiences, and has usually led to interesting and informative debates. The officers of the Section—its president, vice-presidents, and honorary secretaries—select a subject and invite someone who has given special attention to it to produce a short review, summarizing existing knowledge and indicating points upon which opinion is not settled. The rule was made that these opening remarks should not contain more than 5,000 words (a little over three pages of the JOURNAL), and later on it was decided to put the opening papers into print a month or two before the meeting and to supply copies to members who wished to take part in the debate; at the same time the opening speaker was informed that his audience might be assumed to have studied his paper, and that, instead of reading it all out, he should confine himself to indicating the heads to which subsequent speakers might most profitably direct their remarks.

It was believed that in this way freedom and spontaneity would be encouraged and time afforded for a larger number to take part in the debate. On the whole the plan has worked well, but certain difficulties have been encountered. Opening speakers have not always been willing to pick out heads for discussion without giving reasons for their choice and indicating their own opinion; in some instances this turns out to be tantamount to reading out the whole or nearly the whole of what is already in print, and the chairman may not consider it advisable to interfere, for he may feel that if the opening is too condensed it will not be easy to get the discussion going. Another difficulty arises when the officers consider that the subject has several aspects which should be introduced by as many separate speakers; examples will be found in the programme of some of the Sections this year. The judgement of the officers is not questioned, but one effect is that when there are three or four openers and each produces a paper 5,000 words long, some 15,000 or 20,000 words may have to be printed in advance, and when eventually published will fill ten to fifteen pages of the JOURNAL. If there are several opening speakers and they do not read out their remarks in full the time of the Section is saved, but the volume of matter coming in to be printed is apt to be increased. The regulation with regard to independent papers is that they shall not exceed a quarter of an hour in delivery, and that the text submitted for publication shall be what is actually read and not an expansion thereof. It is provided also that no subsequent speaker shall occupy more than seven minutes. The latter rule is generally observed, but the former is often violated.

The Association has made special arrangements to add a number of pages to issues of the BRITISH MEDICAL JOURNAL during the autumn to provide for the speedy publication of reports of the work of the Sections. With these additional pages the total number of pages available is about 400, and a very simple arithmetical calculation will show that if there are forty sessions this means an average of ten pages for each session. The following resolution, adopted unanimously by the Council of the Association, is published for general information:

> That the attention of Officers of Sections and contributors to these proceedings be drawn to the fact that the Council provides an addition to the number of pages in the JOURNAL during the autumn for the publication of the proceedings of the Sections of the Annual Meeting, and that such provision cannot be exceeded.

BIRTHDAY HONOURS.

THE list of honours conferred on the occasion of the King's birthday includes a baronetcy to Sir Berkeley Moynihan. It is unnecessary, and, indeed, would be an impertinence, to attempt to set out here the great services he has rendered to surgery, and the high reputation he has achieved not only in this country but throughout the world, especially in America. He is a member of the Council of the Royal College of Surgeons of England, a Fellow of the American College of Surgeons, and Professor of Clinical Surgery in the University of Leeds as well as surgeon to the Leeds Infirmary. He delivered the address in surgery at the annual meeting of the British Medical Association in Brighton in 1913. Memories, however, are so short that we may properly recall the fact that he served continuously throughout the war, attained the rank of Temporary Major-General, and was a member of the Army Medical Advisory Board. In connexion with these services he received the C.B. in 1917, and the K.C.M.G. in 1918. He had received the honour of knighthood in 1912. By conferring a knighthood upon Professor W. M. Bayliss, F.R.S., the Crown has recognized one of the leading physiologists in this country, whose reputation as a philosophical physiologist is known throughout the world. His most important contributions have been in connexion with the vasomotor nervous system, secretion, the physical chemistry of enzyme action, and the properties of colloidal systems. During the war his researches, especially with regard to traumatic shock, afforded a scientific basis for treatment which resulted in conspicuous benefit to the troops and the saving of many lives. Dr. Hugh Kerr Anderson, F.R.S., who receives the same honour, is a nephew of the late Dr. Elizabeth Garrett Anderson, and is now Master of Gonville and Caius College, Cambridge, in which capacity he showed graceful hospitality to members of the Association when it held its annual meeting in Cambridge in 1920. He is a member of the Cambridge

section of the Royal Commission on the Universities, and was at one time lecturer on physiology in the University of Cambridge. Dr. John Macpherson receives the honour of knighthood in recognition of his excellent services as Commissioner in Lunacy for Scotland since 1899, a post he has just vacated. He was for some years lecturer on mental diseases at the School of Medicine of the Royal Colleges in Edinburgh, and gained wide clinical experience when holding the offices of senior assistant physician to the Royal Asylum, Morningside, and medical superintendent of the Stirling District Asylum. He has recently accepted, for a term of three years, the chair of psychiatry in the University of Sydney, in order to organize the teaching and practice of psychiatry in the University and develop the clinic for mental diseases already existing. The same honour is conferred upon Dr. A. J. Rice-Oxley, physician to H.R.H. Princess Beatrice, and now for a third time mayor of Kensington. During the war he was medical director and acting physician to the Princess Beatrice Hospital for Wounded Officers and to the Dorchester House Hospital for Wounded Officers, and received the C.B.E. in 1919. A knighthood is conferred upon Dr. David Maurice Serjeant, in connexion with his unique position as colonist, volunteer, patriotic writer, and municipal worker. Among the honours conferred upon officers of the Army and Navy is the K.C.B. to Surgeon Vice-Admiral Sir Robert Hill, K.C.M.G., Medical Director-General R.N. Sir Robert Hill during the war was principal medical officer of the Grand Fleet. The same honour is received by Major-General A. P. Blenkinsop, D.D.M.S. Eastern Command, who gave distinguished services during the war as Assistant Director-General A.M.S. and D.M.S. Mesopotamia. He saw service also in Sierra Leone in 1886–89 and in South Africa in 1900–2. The Hon. Maui Pomare, who receives the K.B.E. (Civil), is a member of the Executive Council of the Dominion of New Zealand, representing the native race, and has recently been Minister in Charge of the Cook Islands. He holds the degree of M.D. The King has conferred the K.C.V.O. upon Mr. Richard Robert Cruise, surgeon oculist extraordinary to the King and surgeon to the Westminster Ophthalmic Hospital. Surgeon Commander Frank Hutton Nimmo, R.N., is appointed a member of the fourth class of the Royal Victorian Order. The distinction of C.M.G. is conferred upon Dr. A. R. Cook, in recognition of his services to the Uganda Protectorate; upon Dr. Emilius Hopkinson, travelling commissioner in the Gambia Protectorate; and on Dr. A. E. Horn, director of medical and sanitary services in the Straits Settlements and Federated Malay States. The I.S.O. has been received by Major Lynsdale, acting professor of materia medica, Medical College, Madras, and the Kaisar-i-Hind medal by Mr. E. H. Hankin, D.Sc., late chemical examiner to the Government of the United Provinces; before and after his acceptance of that appointment in 1892 he made numerous valuable contributions to bacteriology, and has written also on the flight of birds and on Mohammedan art. The same distinction has been received by Miss Eleanore Thompson, lady superintendent, Medical College Hospital, Calcutta, and Miss Susan Campbell, L.R.C.P. and S., in charge of the Zenana Hospital, Scottish Missions, Rajputana, and Dr. Edith Mary Brown, Principal, Women's Christian Medical College, Ludhiana, Punjab. Nor must we forget the Right Hon. Sir Auckland Geddes, K.C.B., British Ambassador at Washington, who receives the G.C.M.G., for he is a member of our profession, and was successively assistant professor of anatomy at Edinburgh and professor of that subject at the School of the Royal College of Surgeons in Dublin and in McGill University. We note also that the honour of knighthood is conferred upon two distinguished exponents of sciences related to medicine—Professor F. W. Keeble, F.R.S., who holds the Sherardian chair of botany at Oxford, and Dr. E. J. Russell, F.R.S., director of that great agricultural institution, the Rothamsted Experimental Station. Mr. Herbert Atkinson Barker, described as "specialist in manipulating surgery," is also made a knight.

THE CONDITIONS IN POTTERS' SHOPS.

An exhaustive inquiry into the atmospheric conditions in potters' shops has been made by Dr. H. M. Vernon and Mr. T. Bedford, and an account of their investigations has just been issued by the Industrial Fatigue Research Board as Report No. 18. In these shops the potters make plates, cups, saucers, and other articles from moist clay or from china "slip," and the articles are transferred at once to the drying stoves, which are usually situated in the middle of the shops. The stoves, which are heated by steam pipes, pour large volumes of hot air into the shops, which in consequence are considerably overheated. Systematic observations, made both in summer and winter, showed that the majority of the potters' shops were 5° to 9°F. warmer than engineering shops and boot and shoe shops, where work of a similar degree of activity is carried on. This means that through the greater part of the year the shop temperature was over 70°. This high temperature was not compensated for by increased ventilation, for the kata-thermometer observations showed that the average velocity of the air currents was only about half as great as that observed in boot and shoe shops (namely, 19 ft. a minute, as against 36 ft.). Apparently the potters themselves did not experience much discomfort from the adverse conditions, as they opened very few of the shop windows until the temperature rose above 70°, and even when it was over 80° they opened only two-thirds of them. The reason is that they had got acclimatized to the heat, as they usually start work in the industry at the age of 14. Nevertheless, there can be little doubt that it is bad for their health. In the second half of the report Dr. Vernon describes a long series of investigations on the efficiency of the various types of potters' stove, and comes to the conclusion that almost all of them are badly constructed. The very few well-constructed stoves met with allowed hardly any hot air to pass back into the shops, and were therefore much more efficient from the mechanical point of view than the rest, as well as conducing to human efficiency. It is curious that in such an important industry as that of pottery so little definite information was available on certain fundamental principles. The pottery manufacturers were not at all agreed as to whether, in the drying of their ware, it was desirable to have a fairly rapid current of moderately warm air, or as an alternative a slow current of hot air. The report goes somewhat fully into the question, and shows that the second alternative is the correct one, and it suggests alterations in the form of the drying stoves by means of which it can be achieved.

THE SPAS OF FRANCE.

The battle of the spas has been joined. The principal British spas have formed themselves into a federation, the better to make known to the medical profession and the public their therapeutic merits and social amenities; and they have issued an attractive publication, *British Spas and Health Resorts*.[1] These are most commendable measures, for undoubtedly the merits of British spas are not sufficiently known even to the medical profession of this country. Inquiries are beginning to be heard about the spas in Germany and German-speaking countries; they had an astonishing vogue before the war, and it should be noted that some of the most popular of them are not within the boundaries of the German Reich; Marienbad and Karlsbad are examples. France is also seeking to make its spas better known. Some time ago the French Minister of Public Works constituted a special department in Paris called the Office Français de Tourisme, with branches in Great Britain, in the United States, Spain, and Switzerland. One of the first acts of this department has been to publish a small album entitled *The Spas of France*, copies of which can, we understand, be obtained from the office in Great Britain (56, Haymarket, London, S.W.1). The volume is beautifully illustrated

[1] *British Spas and Health Resorts.* The Official Publication of the Federation of British Spas. Cheltenham and London: E. J. Barrow and Co., Ltd.

by excellent photographs of all the principal spas; the particulars given are very businesslike, and include notes on the climate, on the sanitary administration of the place, on its springs and bathing establishments, on the chemical composition of the waters, and on the clinical indications for their use; contraindications are also wisely enumerated. The translation into English has been well done. The majority of the places mentioned are little known in this country; everybody has heard of Aix-les-Bains, Vichy, Vittel, Contrexéville and Plombières, but beyond these spas knowledge is fragmentary; it will be a surprise to many to find that the album contains particulars of 83 spas, ranging from the Vosges to the Pyrenees. Probably not everybody knew that Dax, in the Landes, the level country north of the Pyrenees, possesses mud baths, which are considered to be useful in the same classes of cases as those in which the Bohemian mud baths are employed. The mud at Dax, which has an oily consistency, contains a mineral element derived from the alluvial mud of the river Adour, and a vegetable element yielding a rich cryptogamic flora. It also displays natural radio-activity. The amount of space given to each spa is roughly proportional to the merits of the spa and the excellence of its bath houses and installation generally; thus four pages are given to the chief spas, two to those the management of which is less perfect, and one or less to small spas possessing active waters but somewhat insufficient means for their therapeutic application. Before the war an energetic campaign had been undertaken to improve those French spas which stood in need of it; in particular, attention was, at the request of the Académie de Médecine, given to the general sanitation of each town and the purity of its ordinary water supply, as well as to the canalization of the mineral water to prevent contamination. This campaign has been vigorously resumed and great improvements have already been carried out. One very distinct advantage of many of the French spas, which in this respect compare favourably with most of those in German-speaking countries, is that they are situated in beautiful regions where the hale members of families visiting the spas may find distraction other than tennis and golf; these also are provided.

CLOPTON HAVERS.

ALTHOUGH the Haversian canals are familiar to every student, the name and works of their describer, Clopton Havers, are little known to this generation; it may, however, be mentioned that No. xlii of the unsigned *Archaeologica Medica*, which were contributed to our pages by our lamented colleague, C. Louis Taylor, was devoted to Havers, "an early English histologist" (BRITISH MEDICAL JOURNAL, 1898, i, p. 224). Dr. C. B. Reed[1] of Chicago has therefore performed a service to us in providing an illustrated account of this forgotten anatomist's work. He has not been able to add much to the biographical details given in Munk's *Roll of the Royal College of Physicians* and J. F. Payne's life of Havers in the *Dictionary of National Biography*, but he mentions that Havers was the son of a clergyman, and was largely indebted for his education to Dr. Richard Morton, fellow and chaplain of New College, Oxford, who later transferred his activities to medicine, and, as a friend of Thomas Sydenham, may have introduced his pupil to "the English Hippocrates." In this connexion it is interesting to recall the tradition that Havers and another composed, or at least put into good Latin, Sydenham's *Observationes Medicae*. Born between 1650 and 1660, Havers was at St. Catherine's Hall for a time, but left Cambridge without a medical degree, which he obtained on July 3rd, 1685, at Utrecht, with an inaugural dissertation *De Respiratione*, translated four years later in the *Philosophical Transactions* of the Royal Society of London. He then started on the physic line in London, specializing in anatomy, and on December 15th, 1686, was elected a Fellow of the Royal Society. Not unnaturally it was to this body that he communicated in 1689, 1690, and 1691, the first descriptions of the minute structure of bone, and the earliest definite account of the bony canals that keep his name in remembrance. The papers were published in a collected form in 1691 as "Osteologia Nova, or some new Observations of the Bones and the parts belonging to them, with the manner of their accretion and nutrition," in English in London, and in Latin at Frankfort the next year, at Amsterdam in 1731, and at Leyden in 1734. The original English edition, which was the standard source of reference for more than forty years, is now extremely rare; indeed, it appears that there are only four copies in America. It contains a description of the periosteal prolongations, afterwards known as Sharpey's fibres, which were regarded as nervous, and not, as was later shown, merely as connective tissue; an account was also given of the folds in the synovial membranes, which were spoken of as mucilaginous glands. Dr. Reed briefly sketches the contemporary conditions in the medical and scientific world, out of which Havers so conspicuously emerged, and remarks that there is probably nothing in English literature so nearly representing the restless, searching currents of thought during the late seventeenth century as his *Osteologia*, which, though containing numerous postulates and ill-founded assertions, offers many gems of careful reasoning and attentive observation. Havers's career was prematurely cut short by a malignant fever on April 29th, 1702, at Willingdale Doe in Essex.

[1] C. B. Reed. *Bull. Soc. Med. History of Chicago*, 1922, ii, 371-388.

THE ETIOLOGY OF TYPHUS FEVER.

DURING the last decade many investigations have been carried out in regard to the etiology of typhus fever, and quite a number of different organisms have been asserted to be the infective agent. In the JOURNAL of May 27th, 1922 (p. 849), there was published a note on a communication made to the Moscow Medical Society last April by Dr. N. Kritch in which an anaerobic micrococcus, described as the *Microbion typhi exanthematici*, was suggested as the cause of typhus fever. Four requisites have been laid down as determining experimental typhus fever: (*a*) Induction of the typical disease through inoculation from animal to animal indefinitely; (*b*) presence of the characteristic vascular lesions, especially in the brain; (*c*) absence of secondary infections with ordinary bacteria; and (*d*) development in recovered animals of immunity to subsequent injections of typhus virus. At most only one of those four requirements, so far as is known, has been complied with in the experiments of Dr. Kritch. Certain proofs of etiological relationship to typhus fever were previously made in regard to the *Rickettsia prowazeki* of da Rocha-Lima (*Arch. f. Schiffs- u. Tropen-Hyg.*, 1916, xx, 17), and the *B. typhi exanthematici* of Plotz (*Journ. Amer. Med. Assoc.*, 1914, lxii, 1556), but Olitsky, working in the laboratories of the Rockefeller Institute for Research, arrived at the conclusion that neither of those organisms could be regarded definitely as the inciting agent of typhus, although he had been inclined for some years to accept the etiological relationship of the Plotz bacillus owing to the fact that he had found specific antibodies against the organism in the blood of typhus patients, that with it, it was believed, experimental typhus in guinea-pigs had been induced, and that a similar bacterium was recovered from typhus-infected lice. In the *Journal of Experimental Medicine* (1921, vol. xxxiv, p. 525) Olitsky published an article, summarizing the results of his investigations into the etiology of typhus fever, which has an important bearing not only upon the organisms which he discusses there, but also upon that now reported by Dr. Kritch. The investigations reported in this paper relate to the bacteria which could be cultivated from the blood and spleen of guinea-pigs at different stages of infection with the virus of typhus fever. The findings indicate that the virus of typhus fever is distinct from ordinary bacteria, and, as the disease set up by the virus progresses, the infected guinea-pigs become subject to secondary or concurrent invasion by bacteria, a mixed

infection being induced. The bacteria which under the influence of the typhus virus invade the body of a guinea-pig are, Olitsky states, of several kinds, and vary not only among themselves, but also with the day of the fever on which the examination is made. Since the more unusual of these organisms (the Plotz bacillus, an anaerobic streptococcus, an aerobic diphtheroid, and a diplobacillus) are non-pathogenic for guinea-pigs, while the more common bacteria (such as a Gaertner-type bacillus, Welch's bacillus, the *proteus* bacillus, and the staphylococci) induce distinctive effects, and since all the bacteria could be suppressed without their reappearance in guinea-pigs inoculated with the virus containing them, Olitsky concludes that they are independent and unrelated to the true virus of typhus fever. Since, then, the body of the guinea-pig reacting to the virus of typhus fever appears to be readily invaded by a variety of bacteria whose presence complicates the typhus infection, but which have no etiological relation to the specific disease, the report made by Dr. Kritch, equally with previous reports, must, as we pointed out in noticing her research a fortnight ago, be received with reserve.

PLANT DISEASES.

BEFORE the discovery of the tubercle bacillus or the cholera vibrio extensive studies had been carried out on the bacterial diseases of plants, though the science of plant bacteriology did not progress with the same rapidity as the study of human bacterial diseases, probably because it did not make so strong an appeal to the imagination of research workers. But the work of recent years has revealed the fact that plants are the victims of bacterial diseases and undergo pathological processes remarkably similar to those occurring in human beings. Infection is often carried by insects or occurs through a wound of the root; there is a stage of bacterial invasion resulting in either local or generalized lesions; the bacteria produce disease by mechanical interference with function and by the secretion of toxins. Such diseases as pear blight, the bacteriosis of beans, crown gall and black rot of cabbage—to mention only a few—are well-defined bacteriological infections in which the morbid processes are as well understood as in any bacterial disease of man. Many of these diseases can be reproduced experimentally by inoculation with laboratory cultures of the causal organisms. Of the protection which some plants enjoy or the reason of the susceptibility of others to these bacterial invaders little is known; although the somewhat fantastic claim has been made, we do not say with what justice, that anaphylaxis may be induced in onions. A most readable little book, *Les Maladies Parasitaires des Plantes*,[1] by M. Nicolle and J. Magrou, is written from the medical point of view, and deals with diseases of plants caused by insects, worms, and fungi, as well as bacteria. There is very little in it directly concerned with human disease, but no medical man could read it without enjoying a wider outlook on pathology through the consideration of the constant menace parasites threaten towards man and plants alike.

THE next of the exchange lectures with Dutch universities, arranged by the University of London, will be given on Monday next, June 12th, by Dr. Murk Jansen, lecturer on orthopaedics in the University of Leyden. The subject of the lecture is "Injurious agents and growths." Professor G. Elliot Smith, F.R.S., will take the chair at 5 p.m.; admission is free without ticket. A reception will be held at 4.30 p.m. Dr. Jansen in 1918 had arranged, in conference with Sir Robert Jones, to undertake the treatment of orthopaedic cases among the British soldiers and sailors interned in Holland. The scheme, we believe, was never carried out, as it had not been completed at the time of the armistice, but this country is none the less indebted to Dr. Jansen for his ready consent to help.

[1] *Les Maladies Parasitaires des Plantes.* Par M. Nicolle et J. Magrou. Paris: Masson et Cie. 1922. (Cr. 8vo, pp. 199. Fr. 8 net.)

Scotland.

EDINBURGH UNIVERSITY EXTENSIONS.

ON June 2nd there was opened at Edinburgh a branch of the University Union, containing a dining room and reading rooms, at the new King's Buildings at Liberton, which are situated several miles from the main buildings of the university. Principal Sir Alfred Ewing, in declaring the building open, said that it was barely two years since the foundation stone of the chemical laboratories had been laid by the King, and, almost without observation, the laboratories had not only come into existence, but into active utilization. They had to recognize that not only chemistry but other departments also required new quarters, and they looked forward to a succession of scientific departments coming out to join chemistry at Liberton. It became obviously desirable, if not imperatively necessary, to provide some amenities for the members of the university who were taken away from the social comforts of the unions and the various restaurants, and the University Court had, with the co-operation of the University Union, been able to provide this new accommodation, which was a novel experiment on the part of the Union.

EDINBURGH SICK CHILDREN'S HOSPITAL.

The annual meeting of the supporters of the Royal Edinburgh Hospital for Sick Children was held on June 2nd, with Sir John R. Findlay in the chair. The chairman said that the most agreeable feature of the annual report was that for the first time since the war a slight decrease in expenditure was shown. They might congratulate themselves that they had at last turned the corner, though they could never hope to approach pre-war expenditure. During the whole period of the war, however, they had been singularly fortunate in the amount they had received in legacies, and the position was that at the end of that trying time they had succeeded in paying their way and had larger funds than they possessed at the outset. An institution like that hospital, however, could not afford to remain still, and every improvement made in the way of communication brought more patients to their doors, while another cause of the increased expenditure was the increased cost of a great many modern methods of treatment. The constitution of the hospital laid it down that it was for the use of the poor, but this was a relative term, and for their purpose the poor meant those who were unable to pay for such treatment as the necessities of their case demanded. The system of fixed charges for treatment was entirely at variance, in his opinion, with the principle of a voluntary hospital, and they could not exploit the services of the surgeons and physicians who gratuitously placed their skill at the disposal of the public.

SOUTHFIELD TUBERCULOSIS COLONY.

A new institution for the treatment of tuberculosis, on the colony principle, has been opened at Southfield, near Edinburgh, under the auspices of the Royal Victoria Tuberculosis Trust. This institution is to serve an important function in connexion with the training of medical students in tuberculosis, and, under the direction of Sir Robert Philip, will be a notable addition to the teaching equipment of the Edinburgh Medical School. The colony accommodates, at present, thirty-six patients, and is intended for experimental work and the investigation of special cases. Cases will be accepted which, because of the time required for cure or their obscure nature, could not be dealt with adequately at the ordinary sanatorium, and there will be no limit to the period during which patients may remain. It is intended that the natural history of tuberculosis in its rarer varieties and manifestations shall be studied at Southfield through the special cases brought to the institution, and the new remedies or methods, which are announced from time to time, will be tested there. A feature will be made of the clinical records in the institution: operations are to be photographed and colour drawings made of any special conditions. The colony was opened on May 31st by the Duke of Sutherland, Lord High Commissioner, when Sir Ralph Anstruther, President of the Royal Victoria Trust, and Professor Harvey Littlejohn, also spoke.

GARSCUBE COTTAGE HOSPITAL, GLASGOW.

Garscube Cottage Hospital, on the outskirts of Glasgow, entered on June 1st upon a new phase of its existence, when it was opened as a rest home for mothers and babies in

connexion with Glasgow Maternity Hospital. This cottage hospital was opened in 1876, and carried on the work for which it was originally intended until about 1900. During the war it was used by the Red Cross Society as an auxiliary hospital, and after the signing of the armistice until last August the Ministry of Pensions made use of its facilities.

England and Wales.

POST-GRADUATE COURSES AT NEWCASTLE-UPON-TYNE.

UNDER the direction of a committee representing the Council of the University of Durham College of Medicine, the honorary staff of the Royal Victoria Infirmary, and the North of England Branch of the British Medical Association, a special clinical post-graduate course will be held in the Royal Victoria Infirmary, Newcastle-upon-Tyne, from July 3rd to 15th inclusive. The intention is to enable practitioners to undertake a fortnight's intensive study in the wards and out-patient departments; the mornings will be devoted to clinical medicine, surgery, gynaecology, and pathology, while in the afternoon classes will be held in venereal diseases, medical diseases of the eye, and in the examination of the blood and diseases of the blood. The fee for the whole course is 10 guineas, for the morning course only 6 guineas, and for the afternoon course only 6 guineas. Applications to attend the course should be sent not later than June 20th to Mr. Norman Hodgson, M.B., B.S., 14, Jesmond Road, Newcastle-upon-Tyne, from whom a detailed syllabus can be obtained.

LIVERPOOL EYE AND EAR INFIRMARY.

The annual meeting of this hospital furnished a striking exception in the cheerful and encouraging note of its report to those of other institutions in the city, as far as finance was concerned. The annual report showed a credit balance of over £650 during the past year. Some little time ago the question of closing some of the wards was mooted. Fortunately the committee decided to take payment from patients who after careful and sympathetic investigation were found to be in a position to make some payment towards the cost of maintenance while treated at the hospital. The result proved satisfactory; almost in every case the patient preferred to make some payment than be beholden altogether to charity. More accommodation was required, especially for cases of diseases of the ear, as well as for the nursing and service staff. It was also contemplated to provide a private ward for paying patients who would defray the cost of their maintenance and pay the medical staff according to private arrangement. Such improvements could not be undertaken without the assistance of the charitable public. The chairman emphasized the fact that the benefits of treatment as far as the poor were concerned would, so far from being jeopardized by the voluntary system of payment by patients, be enhanced through efficiency all round, and thus sustain the reputation of the hospital now enjoyed for over 100 years.

ROYAL SOUTHERN HOSPITAL, LIVERPOOL.

Mr. H. C. Wardleworth Nuttall has been appointed honorary assistant surgeon to the Royal Southern Hospital, Liverpool. He studied medicine at the University of Liverpool, where he gained several honours and took the diplomas of M.R.C.S., L.R.C.P. in 1910. During the war he was lieutenant R.N.V.R., and served in the Mediterranean and German S.W. Africa. Later he acted as deputy medical transport officer in Scotland, and had the supervision of naval patients in Edinburgh. Mr. Nuttall became F.R.C.S.Edin. in 1920, and in 1921 obtained the F.R.C.S.Eng. He is surgical tutor and pathologist at the Royal Southern Hospital and honorary surgeon to the Bootle Borough Hospital.

POST-GRADUATE COURSE IN DISEASES OF CHILDREN.

The syllabus of the post-graduate course in diseases of children, already announced by the Fellowship of Medicine and Post-Graduate Medical Association, is available and copies will be forwarded on application to the Secretary to the Fellowship at 1, Wimpole Street, London, W.1. The class lasts one week, during which clinical lectures and demonstrations will be given by members of the staffs of the East London Hospital for Children (July 3rd), Paddington Green Children's Hospital (July 4th), Victoria Hospital for Children (July 5th), Queen's Hospital for Children (July 6th), and St. Marylebone General Dispensary (July 7th).

Correspondence.

FIRST REPORT OF THE MINERS' NYSTAGMUS COMMITTEE.

SIR,—Those who have had practical experience of the disease will be as dissatisfied as I am with the general tenor of the first report of the Miners' Nystagmus Committee. The evidence given for their decisions is extraordinarily inconclusive.

It is the fashion for the moment to attribute the disease wholly to the deficiency of light. How, then, do they account for Snell's case of the disease in a ceiling paperer? I have had one or two cases where there was no deficiency of light. Such cases are simply not mentioned.

On page 29 we are told that "there does not appear to be any definite connexion between the thickness of the seams and the incidence rate." In support of this statement, which is in direct opposition to Snell's painstaking work on the subject, the committee gives Table VII, "Showing Thickness of Seam in which 1,613 Coal-face Men Worked." However, on looking at the table we find that the number of *cases of nystagmus* is 1,613, and that only one case of nystagmus occurred where the thickness of the seam was less than 2 ft., while 650 cases were found in those working where the thickness of seam was 6 ft. and over. Such a table is absolutely useless unless the number of men employed at each thickness of seam is stated. Obviously more men are employed in the thick seams than in those less than 2 ft. There might be only two men employed in the seam less than 2 ft., and 40,000 in the seams 6 ft. and over.

On page 40 there is a very curious example of the committee's reasoning:

"If lights amounting to 100 candle power are placed in a room having walls, floor, and ceiling of a reflecting power of 80 per cent., one-fifth of the light will be absorbed and four-fifths reflected."

Certainly.

"This reflected light is for all intents and purposes a new light of 80 candle power. The total effective light in the room is therefore the same as if the walls and ceiling had been black, and 400 lamps of 1 candle power each had been spread evenly over the walls, in addition to the original 100 candle power."

But it is to the amazing ignorance of first physiological principles that I wish to call attention. The miner cares not in the least for the total effective light in the pit; what he does care about is the light on the coal-face that he is hewing. Everyone knows that in a fairly dark room contrast of illumination is of supreme importance; one will see an object illumined by a 1/2 foot candle when the rest of the room is lighted by a 1/10 foot candle far better than if the whole room had an illumination of a 1/2 foot candle.

I might criticize other points, but finding fault is always an invidious task. My object is only to urge the Committee to take more care in drawing up their second report, so that it may be throughout of scientific value.—I am, etc.,

Newcastle-upon-Tyne, June 1st. ARCHD. STANLEY PERCIVAL.

SIMPLE GOITRE.

SIR,—Lieut.-Colonel McCarrison's article (April 22nd, 1922, p. 636) again strongly suggests the septic or toxic origin of goitre.

It may prove of interest in this connexion to call attention to the powerful action of iodine, as evidenced by its clinical use. Recently Dr. Louie Stegman, of Battle Creek, Michigan, published the report of a case treated with hypodermic injections of iodine, in which an increase of 40 per cent. in leucocytosis was demonstrated, the blood examination being made after the fourth weekly dose. I had previously failed to get an expected similar result, but my examinations were made after the first dose.

The case quoted above is important, as it practically establishes the action of iodine on a rational basis and obviates the necessity of classing it as a purely empirical effect as previously. There is abundant clinical evidence to support the view given above, and one can easily understand that iodine must have a powerful effect not only in cases of goitre, but in any condition in which the production of leucocytosis may be expected to be of effect. As I stated before the International Congress of Ophthalmology at Washington recently, "one

cannot expect to accomplish everything by an increased leucocytosis, but it is surprising what can be done."

One point more is also of interest. In two of my cases I have had to discontinue the use of iodine because symptoms of exophthalmic goitre supervened.—I am, etc.,

Montreal, May 9th. RICHARD KING.

THE LYMPHOID DIATHESIS.

SIR,—General Burnham's observations in Albania (May 13th, p. 781) regarding the absence of appendicitis, enlarged tonsils, and adenoids in 20,000 cases observed, negatively corroborates my own observations extending over many years. These may be summed up as follows: Enlarged tonsils, adenoids, and appendicitis are diseases of one family, probably caused by the same or closely allied germs. They are diseases affecting the lymphoid tissue; and if a patient has adenoids when a child he is liable to disease of the tonsil and appendix when he grows up. Also, in this connexion he has the danger of tuberculous disease to face, either of the glands when young or the lungs when he reaches maturity.

The pupils in these cases are enlarged. Sir Wm. Jenner drew attention to the large pupil in patients suffering from enteric fever in contrast to the small pupil in cases of typhus. But I believe the large pupil in enteric fever will be found after the fever has disappeared. Those in charge of fever hospitals might kindly settle this point.

Enteric fever attacks the lymphoid tissue of the bowel, and the patients who are prone to tonsil trouble and appendicitis are more susceptible to enteric fever than their neighbours. For want of a better name these patients might be classed as having the lymphoid diathesis. When these "lymphoid" patients contract malignant disease it takes the form of sarcoma. They are practically immune to carcinoma. Here it may be observed that malignant disease of the spleen (a lymphoid organ) is very rare, in this respect contrasting sharply with the liver, an organ very prone to cancer growth.

For the prevention and treatment of those diseases of the lymphoid tissues I beg to refer to the treatment of phthisis of the lungs in Graves's *Clinical Medicine*, the last edition of which was published over fifty years ago.—I am, etc.,

Glasgow, May 13th. JOHN T. MACLACHLAN, M.D.

ETIOLOGY AND TREATMENT OF DIABETES.

SIR,—To Dr. Barnes we have no further reply: we fail to see any connexion between his remarks and the question under discussion. Until the products of the biological activities of tapeworms have been isolated and compared with the abnormal toxic products of a tuberculosis patient, no comparison of this problem with our work is possible.

Dr. Cammidge states that he has not had the opportunity of seeing *in vitro* the results of fermentation of pure cultures of *B. amyloclasticus*. His further statement, therefore, that "certain of these alterations are found in all cases of typical diabetes, and probably explain why a particular type of organism should be a constant feature," is of no real value, since he admits that he has had no experience with this organism, and we refuse to allow any importance to his generalizations concerning it.

We note with interest that he has "carried out extensive bacteriological examinations of the faeces in diabetes." We are surprised that he has failed to find this organism, which is quite distinctive. It is well known that unlimited search for an organism may be made, but if the media and conditions of growth are not adapted to that organism no amount of labour will bring that organism to the front. Had Dr. Cammidge in his bacteriological work departed from stereotyped methods and used those methods we have indicated, we do not believe that he could have abandoned the work when he had satisfied himself "that variations from normal could be explained along the line of digestive disturbance."

What these digestive disturbances were and how the intestinal contents varied we asked Dr. Cammidge to explain before fully answering some of the points he raised. Dr. Cammidge gave us no definite reply to the question; we suppose, however, that he is referring primarily to the pancreatic secretion. We presume that it has not occurred to him that the high acidity produced by this organism might have been responsible for a prolonged stimulation of pancreatic secretion, which should have induced that definite chemical alteration in the intestinal contents to which he refers.

For Dr. Cammidge's work we have great admiration, but we believe that it is he who has put the cart before the horse, and that had he used for a prolonged period of time the methods we have indicated he would not have abandoned a combination of bacteriological and chemical methods for the futilities of pancreatic insufficiency.

We stated explicitly in our paper that if the reaction of a fermenting mash is taken the acidity is found to rise rapidly. Other observers working with a similar acetone-producing organism have found that a high acidity precedes the formation of acetone. This production of acidity would reflexly stimulate the pancreas in an attempt to neutralize it, and this, combined with any possible occasional extension of the acidity up the pancreatic duct, would result in the interstitial fibrosis of the pancreas mentioned by so many observers. We believe, however, that the rôle of the pancreas in diabetes is purely secondary. Labbé, Professor of Pathology at the Faculty of Medicine, Paris, in his admirable monograph on diabetes mellitus (1922), discusses very fully the rôle of the pancreas in diabetes. His findings essentially are that a certain amount of fibrosis of the pancreas is present in diabetes—sometimes a considerable amount—but that it is not always present; that it may occur *post mortem* in non-diabetic cases; and that its magnitude bears no relation to the severity of the diabetes. He concludes his chapter on the pancreas by stating: "Anatomically and physiologically we have not yet been able to localize the functional disturbance, which clinically manifests itself by an imperfection of the carbohydrate metabolism."

We have demonstrated an organism which acting by a diastatic ferment can produce all the abnormal products met with in diabetes. Since the paper appeared we have ascertained that the organism producing this ferment can also split up glycogen. Can Dr. Cammidge mention any other body ferment which can produce these abnormal products and also break down glycogen? Our findings are so clear and definite, and can be repeated so easily by any bacteriologist who will trouble to follow our method in detail, that there can be no doubt that the evidence was sufficient to publish our results. We would point out that our statements are all based on absolute experimental findings.

Dr. Cammidge in his first letter referred to the disappearance of acetone on giving carbohydrates. The mere stoking up of the culture tubes with more carbohydrate when fermentation with *B. amyloclasticus* had commenced would not necessarily allow further growth to proceed. The organism is extremely variable, and in the case of a similar organism used during the war similar difficulties appeared; great as these difficulties were, however, it did not prevent something like 5,000 tons of acetone being produced by its action.

Quite apart from the consideration of the primary fermentation in the intestines, however, is the question of the secondary action produced by the diastatic ferment when absorbed by the liver and tissues, and the action upon the liver cells of the acetone and N butyl alcohol also produced. These combined with the effects of organic acids directly and indirectly upon the pancreas give a rough general idea of the working of this organism present in the intestines of diabetics.—We are, etc.,

ARNOLD RENSHAW, M.D.
Manchester, May 31st. THOMAS H. FAIRBROTHER, M.Sc.

PREPARATION OF VACCINE LYMPH.

SIR,—May I be allowed to make some comment on your editorial article on the subject of the preparation of calf lymph appearing on page 847 of your issue of May 27th, which has special reference to my publication on the subject which appeared in the recent issue of the *Journal of Pathology*? I do so with the desire to help those of your readers who, from various points of view, are likely to be interested in the subject, and who, I think, might appreciate a knowledge of the circumstances which led me to make my investigation.

It will be seen from the following that there was a serious shortage in the supply of calf lymph in Great Britain during the Scottish small-pox epidemic of 1920. The second annual report of the Scottish Board of Health for 1920, published last year, reveals the situation with regard to the adequacy and source of supplies of calf lymph, as they existed in Great Britain two years ago, in the following passages (pp. 51–54):

"To this total of 545,000 (that is, persons vaccinated at the public expense) there must be added another 200,000, either done privately or at the public expense, in areas from which no returns are available, making a total of, approximately, 750,000 for the whole of

Scotland. The seriousness of the situation was early recognized. . . . The desirability of a widespread vaccination movement and the need for an adequate supply of calf lymph then engaged our attention. *Arrangements were made with the Government Lymph Establishment and (as the margin available for use in Scotland without unduly entrenching on the English reserve supply soon proved insufficient to meet the needs of Scotland) with approved private firms for the supply of calf lymph for the whole of Scotland.*

"During the year, since the beginning of the outbreak, 845,711 nominal doses were distributed. . . . The majority of the local authorities in Scotland offered free vaccination to the inhabitants, and in addition a considerable number of vaccinations were carried out by practitioners who obtained their lymph from private sources. It was ascertained that the sales through wholesale houses and retailers attained unprecedented proportions. *As the preparation, elimination of extraneous organisms, microscopic and bacteriological examination of lymph necessarily involve time, the approved and available stocks in Great Britain were inadequate to meet the demands, and the continuity of the supply was secured only by calling on French reserves.* . . . The reports obtained from the medical officers of health, and confirmed in a number of areas by examination by our medical officers of very considerable numbers of cases, show that the various strains of lymph secured a very high percentage of successful vaccinations. The strains, while active and in a small percentage of cases giving severe reactions, did not in any authenticated case result in any ultimately serious consequences." (*Italics* are my own.)

About one half of the total quantity of lymph required was supplied by an approved private firm of whose laboratory at that time I was director: the research to which your editorial article refers was made in this connexion. Much of the valuable information which you desire to see placed before your readers (for example, the number of cases for which the lymphs in question were used and the results showing personal and insertion success), I regret to say, has not been made available. But this much I think your readers will regard as significant—namely, that the approved private firm of whose laboratory I was in charge continued to supply calf lymph during 1921 to the Scottish Board of Health. This contract for further supplies was again renewed at the beginning of 1922.

It was unfortunate that no opportunity was afforded during the Scottish small-pox epidemic of 1920 to watch the comparative results of lymphs treated by the methods I describe, and particularly those prepared and kept in cold storage at the Government Lymph Establishment at Hendon, which at that critical period was not in a position to furnish the material so urgently needed. Your readers will be able to realize from these circumstances that my attention was necessarily turned to devising a precise method for the rapid preparation of bacteria-free lymph on a large scale.

The question of subsequent storage of a purified lymph in order to avoid the risk of loss of potency is another matter. Whether storage takes place at 45° to 55° F., as I favour, or at 10° F., as occurs at the Government Lymph Establishment, must depend upon the period and temperature of exposure of the lymph from such time as it leaves the manufacturing laboratory to the time when it becomes inserted upon the patient's arm.

Whereas the Scottish Board of Health is accustomed to insert a clause in its contract with the approved private firm (above referred to) to the effect that the activity of the lymphs supplied must be guaranteed for a period of not less than six months after receipt, the Government Lymph Establishment enjoins that Government lymph supplied to public vaccinators in England and Wales shall not be used when it has been in the recipient's possession for a longer period than seven days, and, further, that such lymph as remains unused after the lapse of seven days following receipt should be at once returned to the Government establishment. The interpretation of these facts is that Government lymph is not to be relied upon for a longer period than seven days after issue from cold storage at 10° F., yet lymph prepared by the process I describe and stored subsequently at 45° to 55° F. can be relied upon to retain its activity for six months and has so proved itself.

I hardly like to admit that the sudden and inexplicable loss of potency in lymph, which I have not infrequently encountered, is altogether due to my lack of experience or unfamiliarity with the esoteric pathology of the "lymph expert," and I can only add that every private lymph manufacturer I have met is equally familiar with the phenomenon. In this connexion I may recall two occasions, one in Belgium in 1915 and the other in Italy in 1918, when whole batches of lymph supplied by the Government Lymph Establishment at Hendon for use in the field proved to be totally inert upon arrival. In the Belgian instance I counted 2,000 inert tubes in a single batch.

A point also has been made that the prevalence of foot-and-mouth disease in animals at a period of epidemic small-pox might gravely interfere with the rapid preparation of calf lymph in the manner I advocate. In the recent widespread epidemic of foot-and-mouth disease the total proportion of calves affected, including contacts, destroyed in Great Britain was, I understand, but a small fraction of 1 per cent. Seeing that the average yield of lymph per calf is not less than 15,000 doses (this figure being based on the yield obtained from the last 100 calves privately vaccinated), 70 calves might be expected to yield a million doses, and such difficulty as might arise—due to prohibition or limitation of movement of calves to an institutional laboratory—may be overcome, I suggest, by the employment of a mobile laboratory, simply and suitably equipped.

I would like to add that if my paper published in the *Journal of Pathology* appears somewhat abridged, it is rather because of the strict limitations and consideration for space imposed by the editors of that journal. I would mention, however, that your editorial article deals only with that portion of my paper which relates to lymph preparation, and that some of the points raised are answered, I think, in the later portions dealing with the subject of immunity and hypersensitiveness.

Vaccination is a thorny subject, and I greatly regret that it should be considered that my publication in the *Journal of Pathology* contains "animadversions (and they are not few) on lymph as others make it." I had no intention of so offending, and I am still unconscious of the reason for this criticism.—I am, etc.,

MYER COPLANS.

The Bacteriological Department, King's College, University of London, June 2nd.

DETOXICATED VACCINES.

SIR,—In the BRITISH MEDICAL JOURNAL of May 27th, 1922, there appeared a criticism of my researches by Dr. C. E. Jenkins. Criticism is valuable as it stimulates further experiment. I have not so far criticized Dr. Jenkins's paper on "Residual vaccines," which appeared in the BRITISH MEDICAL JOURNAL of June 11th, 1921 (p. 846), so I would like this opportunity to make a few general remarks, not only with regard to his letter but also in relation to his paper published about a year ago.

Dr. Jenkins states in his paper that by using my old method in combination with treatment with hydrogen peroxide he removes *all* of the toxins from the germs. He states, moreover, that the endotoxins as well as the thermolabile toxins are destroyed by heating to 120° C. He finally autoclaves his vaccines at that temperature to sterilize them.

If, as he states, a temperature of 120° C. destroys the toxins, why does he bother to remove the toxins by the other process, since according to his statement they will be destroyed in any case by the final autoclaving? After stating that the toxins are destroyed by a temperature of 120° C. he goes on to explain that the toxicity of his residual vaccines prepared by this treatment is due to an inherent toxicity in the protoplasm of the germs themselves, and he appears to believe therefore that the absolute limit in dosage of vaccine is reached. According to his paper his dosage commences at something under 2,000 million germs, but he does not state what is the maximum.

By detoxication, according to my latest process, I have been able to give 25,000 million as an initial dose of most vaccines with a maximum of over 100,000 million. I have inoculated myself with doses of 150,000 million of *M. catarrhalis* detoxicated by my latest methods, without any appreciable reaction, and in some of my private cases I have reached doses of 400,000 million of mixed coryza vaccine. Facts of this nature would certainly appear to show that Dr. Jenkins's assertions are erroneous and that the limits of detoxication are by no means yet reached.

In his own paper he quotes from Vaughan, but he does not appear to have studied Vaughan's work sufficiently. Thus Vaughan clearly states that "superheated steam at 184° C. disrupts the bacterial cells, but does not destroy the intracellular poison." "Heating the cellular substance of the colon bacillus in physiological salt solution at 140° C. in the autoclave does not destroy or even weaken the poison." Farther on in his book Vaughan then proceeds to show how this intracellular poison can be removed. Dr. Jenkins's statements are therefore in direct opposition to Vaughan's researches and my own work.

Finally, I would like to say that the autoclaving at 120° C. to which Dr. Jenkins subjects his vaccines is entirely unnecessary: any such drastic procedure has been proved to destroy the specific antigenic properties of any protein. Kolmer in his book on *Immunity and Specific Therapy*, 1917 (p. 333), points out that an antiserum to uncooked horseflesh will not necessarily detect cooked horseflesh in sausages, and that for the detection of boiled horseflesh a special antiserum to the boiled material may have to be used. I feel certain that if autoclaved sheep cells were injected into a rabbit very little haemolysin would be produced towards fresh sheep cells as a result. Finally, Dr. Jenkins says that he has never heard of cholesterolized heart extract being either prophylactic or curative in syphilis, and everyone agrees with this; but it is of no value in the argument. Noguchi states definitely that in doing the Wassermann reaction we are not testing for syphilitic antibodies, and Dr. Jenkins would be well advised to avoid such statements until the nature of the Wassermann reaction is more thoroughly understood.—I am, etc.,

London, May 30th. DAVID THOMSON.

SIR,—I should perhaps have made it clear that when I said that an antigen proves nothing concerning efficiency as an immunizing agent I desired to be taken literally—that is to say, that because a substance is an efficient antigen that fact is not in itself a proof that it is also a good immunizing agent. I do not deny that it may be so. But I cannot accept the theory that proved antigenic efficiency is full and sufficient proof of immunizing power against the whole organism. I quoted the Wassermann reaction as an undeniable example of an antigen utterly devoid of immunizing power. Dr. Priestley's experience of detoxicated vaccines seems to have been disappointing and is at variance with my own. I also have found that they do not always succeed, but I have found that they succeed more frequently than does the older type of vaccine. I have been given to understand that my belief in the superiority of these newer vaccines is shared by those who have used them.—I am, etc.,

Manchester, June 3rd. C. E. JENKINS.

ENGLISH CYSTOSCOPES.

SIR,—I wish to make a slight correction in my article on "Pyelography" in your issue of May 13th, in justice to the Genito-Urinary Manufacturing Company, who have called my attention to the slip. In that article I stated that the special model of catheterizing cystoscope which they make for me is nowhere larger than 24 Charrière; this was an error for 22 Charrière. The point is one of considerable importance, as the smaller the calibre of the cystoscope the more easily can it be passed without causing pain, especially in the male subject. Despite the narrow calibre of the cystoscope, there is no reduction in the size of the field as compared with the larger German models.

I should also like to take this opportunity of emphasizing one or two other points in connexion with English cystoscopes. Before the war we were dependent on Germany and, to a less extent, America for cystoscopes, but since the war we have been driven to making cystoscopes in England, and this has been accomplished by the getting together of the actual workers themselves, who have banded themselves together as the Genito-Urinary Manufacturing Company, resolved to try and beat the Germans at their previous monopoly. I think everyone will agree that the object is praiseworthy and one that merits all possible encouragement from the profession. I think it can be stated confidently that the English cystoscopes as made by this company are now second to none in the world and in many of their new features show a considerable advance beyond the American and the German models.

Until recently it was very difficult to produce an English cystoscope at a price that could compete with the German cystoscopes owing to the fall in the German exchange; but the company informs me that their prices have now been so far reduced as to fall into line with the prices of the German instruments of similar type. At first when the new company was experimenting with new models it had to sink a good deal of money and had to charge high prices, and I believe that this perhaps kept some English doctors from buying English cystoscopes as they preferred to get them at the German prices from Germany.

I would like to appeal to English instrument makers and to English doctors to support home industries and to pause and consider English cystoscopes as far as possible before sending to America or Germany. There is a tendency amongst certain people still to send to Germany for instruments, especially as they think that they are cheaper; but now that the prices have been equalized there is really no excuse in encouraging German industry at the expense of our own workers. That this industry can become an important one will be realized if it is known that before the war one German firm (so they informed me) were accustomed to sell as many as 3,000 cystoscopes a year.—I am, etc.,

London, W.1, May 29th. FRANK KIDD, M.Ch.

HIP-JOINT DISEASE IN THE TUBERCULOSIS DISPENSARY.

SIR,—In the course of a few years of work in a tuberculosis dispensary, following on a longer period of general practice, some experiences in the latter are explained. During fifteen of the early years of a new and rapidly growing colliery village one saw many cases of joint trouble in the young population. The hip-joint was, as usual, the commonest sufferer, and fortunately one was able to see the cases in quite early days. In accordance with the teaching of Howard Marsh rest in bed in this class of patient was secured for at least a couple of weeks by placing a good-sized fly-blister over the joint. This procedure never failed one in keeping the child lying down long enough to get rid of the trouble; and fortunately in no case was there lameness or crippling.

Work in the dispensary has explained this good fortune, the reason evidently being that few of the cases were tuberculous, but rather local manifestations of some other general infection cured by the enforced rest and the counter-irritation produced by the blister. Since the patients of one's area of dispensary work are chiefly of the same class opportunity of seeing cases which have not ended so satisfactorily somewhat frequently occurs. Varying degrees of lameness and crippling are seen in little patients—boys generally—who hobble about seemingly without pain and discomfort, and whose *x*-ray pictures show surprisingly little or no trace of bone or cartilage change—the lameness evidently caused by the luxation of the soft tissues resulting from movement when rest was needed by the inflamed joint. The von Pirquet test is usually negative, and one generally learns that the initial lameness followed an attack of scarlet fever, measles, or bronchopneumonia, and the trouble at first usually labelled "growing pain" or "a bit of rheumatism."

Tubercle infection in addition no doubt alters the picture and the end-result (especially if the bone-setter has "put the joint in"), but it seems a pity that these comparatively innocent cases should not get the initial necessary rest so easily obtained. Of course it is wise to warn the friends of the urinary trouble, sometimes amounting to strangury (but soon disappearing with the rest in bed), which results from the use of the fly-blister. It is reasonable to think that cases of Perthes's disease and coxa vara may be the result of want of early and complete rest of these non-tuberculous joint affections.

The following are notes of a case seen in the last few days:

Male, aged 6 years, lame eighteen months, but worse last six months. Pertussis and bronchopneumonia about two years ago. Wasting, shortening, flexion and abduction limited; no pain, and nothing acute in symptoms. Von Pirquet negative. Radiologist's report: "No evidence of alteration in bone or cartilage, or any acute disease of the hip-joint."

—I am, etc.,

Newport (Mon.), May 27th. J. LEWIS THOMAS.

THE OUTLOOK IN TROPICAL HYGIENE.

SIR,—In his letter on the above subject in your issue of May 20th Colonel Balfour, C.B., states that so far as he is aware "no diploma in sanitary science as applied to the tropics yet exists for sanitary inspectors." Whilst this is applicable to lack of action in Great Britain, considerable progress in this respect, at least in one part of the tropics—India—has been made in providing sound technical education for this class of men, who form the backbone of applied hygiene. In November, 1893, the Local Government of the Madras Presidency was advised to take action in this matter. By December 10th, 1894, the concurrence of local

bodies, the sanctioning of funds and final approval by that Government of the course of education recommended were secured. Since that date no sanitary inspector could be newly entertained by any authority in the whole area of the Madras Presidency unless he possessed the certificate of qualification showing that he had attended this course, and passed the examination prescribed by the Government ruling. The Madras Government was thus the first in the tropics to require compulsory technical training of sanitary inspectors. That the training afforded is efficient may be judged without my taxing your space with details. I may state that the general educational standard for admission to the course is the matriculation examination of the Madras University, which is equivalent to the F.A. of the Calcutta University. Assistant sanitary inspectors attend courses of physiology, bacteriological demonstrations, and theoretical hygiene, under the professors of the Madras Medical College, and practical hygiene under selected sanitary officers. Qualification as sanitary inspector demands a very complete additional course and examination in minor sanitary engineering. Rulings exist (which rival conditions of medical registration in Great Britain in stringency) affecting maintenance of technical knowledge and reputable conduct. In these circumstances, it was not considered necessary to accept aid from the Royal Sanitary Institute, which sought to ally itself with the education of sanitary inspectors in India, about fifteen years after this had been duly organized in the Madras Presidency. Indeed, by 1909, there were 683 sanitary inspectors qualified under the scheme sanctioned by the Madras Government, of whom 554 were in active employment; 65 per cent. of these men were Brahmins by caste, and practically the remainder of other high castes—a great advantage in effecting many necessary sanitary measures without causing discontent among the masses. In 1911 the Government of India, after referring to progress thus made in the Madras Presidency, urged action by all local Governments, and consequently general attention is being given in the various Provinces to the subject at the present time.

I understand Colonel Balfour especially looks to the Royal Sanitary Institute to arrange for sanitary inspectors being trained for work in the tropics—a matter also urged by him at the International Medical Congress of 1913. If that be so, it will certainly require an effort on the part of that able sanitary body suitably to modify its doubtless well-intentioned method of aiding the tropics—in practice limited to bestowing the blessings of its seal at Rs. 25 a head on students educated locally, as set forth in its arrangements with the Bombay Government in 1908–9.

A man who does not possess an intimate knowledge of the habits and customs of the tropical people dealt with is not likely to be of much utility for a considerable period after joining an appointment; the man locally educated has this advantage. On the other hand, a man educated in Great Britain has the opportunity of gaining knowledge of more diverse and radical engineering works than one educated solely in the tropics; and this is of importance, as without a sound knowledge of minor sanitary engineering the value of sanitary inspectors in the tropics is greatly diminished.

It should, however, be possible to evolve a scheme for a "diploma in sanitary science as applied to the tropics" for sanitary inspectors which will take cognizance of these facts, and thus progress beyond the stage of a commercial treaty with authorities in the areas concerned.—I am, etc.,

Hendon, June 3rd. W. G. KING, Colonel I.M.S. (ret.).

REMOVAL OF THE NIPPLE IN THE PROEMIAL BREAST.

SIR,—Sir G. Lenthal Cheatle, in his interesting paper on cancer of the breast (June 3rd, p. 869), states that in removing the proemial breast the nipple is not removed, care being taken to separate it from the parts immediately beneath.

I have recently on two occasions had to remove the nipple at subsequent operations for attacks of chronic inflammation in it and the skin immediately surrounding it, apparently due to interference with the blood supply.

As the only objection to its removal is a sentimental one, I think a more satisfactory result is obtained by excising it.—I am, etc.,

Leicester, June 4th. F. BOLTON CARTER.

THE CASE OF MR. F. W. AXHAM.

SIR,—As we have been assured in repeated and uncontradicted announcements that the honour recently conferred on Mr. H. A. Barker owes its origin, at least in part, to the efforts of certain leading members of the medical profession, it would seem inevitable that a not less strenuous attention should now be directed to the position of Mr. F. W. Axham. It will be remembered that some years ago Mr. Axham's name was removed from the *Medical Register* because of his active association with Mr. Barker's work. I make no pretence either to estimate the value of this work or to review the decision of the General Medical Council. It is, however, certain that but for Mr. Axham's co-operation Mr. Barker's activities would either have been restricted or, alternatively, would have cost much suffering to many of his patients. The profession can hardly defend a position in which, while the principal, by medical efforts, is promoted to honour, his colleague, by a medical verdict, is declared "guilty of infamous conduct." That both should come under condemnation, or that both should be approved, is at least a consistent judgement. But that one should be exalted and the other contemned stands open to obvious reproach.—I am, etc.,

C. O. HAWTHORNE.

London, W.1, June 4th.

Obituary.

W. H. R. RIVERS, M.D., D.Sc., F.R.S.,

Fellow and Praelector in Natural Sciences, St. John's College, Cambridge.

DR. W. H. R. RIVERS was taken suddenly ill early on Whit-Sunday with symptoms pointing to an acute abdominal lesion and died the same evening. He had attained great distinction as an anthropologist and experimental psychologist, and had recently been accepted as the candidate of the Labour party for the representation of the University of London in the House of Commons.

William Halse Rivers Rivers was born in 1864; he went to Tonbridge School and was a student of St. Bartholomew's Hospital; he graduated M.B. London in 1886, and M.D. of the same university in 1888. His work was recognized by the honorary degrees of LL.D. of St. Andrews and D.Sc. of the University of Manchester, and in 1898 when he became a Fellow of St. John's College he was made M.A. *honoris causâ* in the University of Cambridge. He became a Fellow of the Royal College of Physicians of London in 1899, gave the Croonian lectures on the Action of Drugs and Fatigue in 1906, and in 1915–16 two courses of FitzPatrick lectures on Medicine, Magic, and Religion. He had promised to take part in a discussion on alcohol in the Section of Medical Sociology at the Annual Meeting of the British Medical Association at Glasgow.

It was as an anthropologist that his name first became known. He was a member of the Cambridge expedition to Torres Strait, and in addition to contributions to the reports of that expedition wrote on the history of Melanesian society, on kinship and social organization, and on dreams and primitive culture. He was President of the Royal Anthropological Institute and of the Folk-Lore Society.

At an early stage of his career Rivers had been house-physician to the National Hospital for the Paralysed and Epileptic, and was afterwards lecturer on psychology at Guy's Hospital, as well as lecturer on physiological and experimental psychology in the University of Cambridge. In physiological investigation he was one of a company of workers long associated with Dr. Henry Head, and the results of their researches were recorded in the series of papers on the structure and functions of the afferent nervous system published in *Brain* during the first decade of this century. During the war he held the temporary rank of captain R.A.M.C., was medical officer to the Craiglockhart War Hospital and the Military Hospital, Maghull, and psychologist to the Central Hospital, R.A.F. He thus maintained continuously his interest in psychology as well as in anthropology, and his friends were greatly impressed with the enthusiasm with which he turned from his more academic studies to clinical work in the branch of practical medicine that specially appealed to him.

His chief contribution to medicine was his remarkable

book on *Instinct and the Unconscious*,[1] first published in 1920, and described in its subtitle as "a contribution to a biological theory of the psychoneuroses"; in reviewing it shortly afterwards, we said that it opened up new lines of thought and would well repay the most careful study. A second edition of this book was published only a few months ago; in preparing it he made some alterations in the original text, mainly in connexion with the subject of dissociation, and added a couple of papers he had published in the interval. We may best indicate the attitude of Dr. Rivers to the present state of psychological medicine by a brief examination of this second edition. The object with which he wrote the monograph was to correlate the psychoneuroses with the concepts concerning the normal activities of the mind and nervous system held by biologists and physiologists. In the present highly specialized state of knowledge this is a difficult task, for it demands an expert acquaintance with branches of science seldom satisfactorily covered by one man. By his physiological work, his exceptional knowledge of psychology, especially of the more primitive races of mankind, by his considerable experience of the treatment of war psychoneuroses, and more particularly by his broad outlook, Dr. Rivers was eminently fitted to harmonize the facts of clinical psychology with the principles of biology and physiology. While not a blind follower of Freud he was able to grasp the good points in the Viennese professor's work. He regarded many of the mechanisms suggested by Freud as well adapted to explain how the conditions underlying a morbid state produce the symptoms through which the state becomes obvious. As the psychoneuroses depend essentially upon the abnormal activity of processes not ordinarily entering into consciousness, he devoted particular consideration to the general biological function of the process whereby experience passes into the region of the unconscious. Thus he illustrated the significance of suppression of psychological experience by a discussion of the phenomena of protopathic and epicritic sensation, as worked out in conjunction with Dr. Henry Head, of the relation between the optic thalamus and the cortex, and of the mass reflex. The ability with which this was elaborated was remarkable. The distinction between suppression and dissociation is made clear, and the different significance of the term as used in psychology, where it is so firmly and appropriately established, and in physiology by Drs. H. Head and G. Riddoch, leads to the suggestion that some other word should be found for the process so essential to the method by which such momentous contributions are being made to the physiology of the nervous system.

Psychological dissociation is defined as the process which experience undergoes when it is suppressed and acquires an independent activity and consciousness, as in a fugue. Suppression often exists without anything that can be called dissociation, and when there is definite activity of the suppressed content evidence of consciousness accompanying this activity, but cut off from the general body of consciousness, is absent. The biological need for the presence of dissociation among the potentialities of human behaviour is then discussed, and it is pointed out that regression corresponds closely with the process called devolution by Hughlings Jackson, who argued that in disease the organism tends to retrace the steps of its development. Thus hysteria, which is a protective mechanism, represents a recrudescence of the reaction to danger in an early stage of animal development. In anxiety- and compulsion-neuroses, the regression is characterized by the emotional disturbance natural in childhood; and mania is regression to an extremely primitive state, but is complicated by disorder and disintegration, and so this feature is less obvious than in the milder forms of psychosis and in the psychoneuroses.

Dr. Rivers's contributions to science covered a wide field and always bore the mark of distinction, but to medical men this work will long remain the most familiar milestone.

The withdrawal of Dr. Rivers's influence at this moment is a very great loss to practical medicine as well as to science. By the width of his knowledge and the sobriety of his judgement in general psychology, informed as it was by a profound acquaintance with anthropology, he had already illuminated many dark places in psychological medicine, and we were looking forward to his guidance in the future.

The funeral service was celebrated at St. John's College Chapel on June 7th.

[1] *Instinct and the Unconscious.* A Contribution to a Biological Theory of the Psychoneuroses. By W. H. R. Rivers, M.D., D.Sc., LL.D., F.R.S. Second edition, revised. Cambridge University Press. 1922. (Demy 8vo, pp. 277. 16s.)

GORDON LEY, F.R.C.S.Eng., M.R.C.P.Lond.,

Gynaecologist to the Hampstead General Hospital.

ONE of the two passengers in the ill-fated aeroplane which fell into the English Channel on the morning of June 3rd was Mr. Gordon Ley, F.R.C.S., who held a prominent place among the younger gynaecological surgeons in London. He was travelling on professional business to Paris in a French machine, which after passing over the coast dived suddenly into the sea from a height of 1,500 feet, two or three miles off Folkestone, and the pilot and both passengers lost their lives. Dr. G. H. Varley, of Cadogan Place, who was on the Boulogne packet, was taken at once in a boat to the wrecked aeroplane, but only in time for the sad task of recognizing the body of his colleague.

Gordon Ley was born in 1886 and studied medicine at the London Hospital, where he won a scholarship in obstetrical medicine in 1907, and after qualifying was assistant for a time in the Pathological Department. He obtained the diplomas of M.R.C.S. and L.R.C.P. in 1908, the Fellowship of the Royal College of Surgeons in 1912, and the Membership of the Royal College of Physicians in 1913. His earlier hospital posts included those of resident medical officer to Queen Charlotte's Lying-in Hospital, pathologist to the Chelsea Hospital for Women, and gynaecologist to the Eastern Dispensary, Leman Street. He was afterwards appointed obstetrical registrar and tutor at Charing Cross Hospital, assistant obstetric surgeon to the City of London Maternity Hospital, and gynaecologist to the Hampstead General Hospital. At the Annual Meeting of the British Medical Association at Newcastle-upon-Tyne last summer, Gordon Ley was one of the honorary secretaries of the Section of Obstetrics and Gynaecology, and gave valuable assistance to us in reporting its proceedings for the BRITISH MEDICAL JOURNAL. Only last week we announced that he would read a paper on primary carcinoma of the ovaries in the same Section at the forthcoming Annual Meeting at Glasgow. For some years past he had been a regular attendant at the meetings of the Obstetrical Section of the Royal Society of Medicine, and contributed several papers of much merit to its *Proceedings*. He was also the author of an article on utero-placental haemorrhage which appeared in the *Journal of Obstetrics and Gynaecology* last year. Thus a professional career of great promise has been cut short with tragic violence.

The inquest was held at Folkestone on June 6th, and Mr. Gordon Ley's brother, Dr. R. L. Ley, of Great Yarmouth, gave evidence of identification. On the same afternoon the body was laid to rest in Folkestone Churchyard.

LOUIS RANVIER,

Honorary Professor of General Anatomy, Collège de France.

NOT a few English members of the profession—now, indeed, all in the sere and yellow leaf—will recall the interest, it may almost be said the emotion, with which they first read the *Traité d'Anatomie pathologique* by Cornil and Ranvier. It was as the lifting of a blind letting a flood of sunlight into a dark room. Cornil was a man of wide generalizations, sometimes hazardous; Ranvier the man of detail and precision. Histology, normal and morbid, had then a great attraction for the scientific-minded among the younger men in medicine. Experimental medicine was immature, but histology, though the refined methods of to-day were unthought of, afforded means of getting down to a solid basis of demonstrable facts which the then available methods of clinical observation could not afford. Physiology stood aloof. It was making great strides, but had forgotten the maxim of Sharpey, and indeed of John Hunter, ever to remember that whatever else it was or might become it was the foundation of medicine and should be taught to medical students with that fact always in the mind of the teacher. Cornil and Ranvier had begun with a small private laboratory in Paris, where they gave special courses for students, but Cornil soon obtained academic promotion, and Ranvier, having attracted the attention of Claude Bernard, was in 1867 appointed the first director of the laboratory of histology newly established at the Collège de France; later on he became the first occupant of the chair of general anatomy. He worked incessantly at his favourite subject, wrote a *Traité technique d'Histologie*, in which every statement was founded on or tested by his own observations, became a member of the Académies de Médecine and des Sciences, and retired some twenty years ago with the title of honorary, or emeritus, professor to an

estate he had near Roanne. He has died at the age of 87, leaving part of his fortune to that town for the erection of a sanatorium for tuberculosis.

LIEUT.-COLONEL C. W. OWEN, C.M.G., C.I.E., I.M.S.(Ret.).

LIEUT.-COLONEL CHARLES WILLIAM OWEN, C.M.G., C.I.E., Bengal Medical Service (retired), died at Hankham, Sussex, on May 23rd, aged 69. He was the son of the late Arthur Smith Owen, merchant, of Southampton, and was educated at Paris, at St. Thomas's (where he held an exhibition), and at Brussels. He graduated as M.A.Paris in 1875, and took the M.R.C.S. and L.R.C.P.Lond. in 1874. After holding a commission for a short time as surgeon in the Royal Naval Artillery Volunteers, he entered the I.M.S. as surgeon on September 30th, 1876; he became lieutenant-colonel after twenty years' service, and retired on March 15th, 1902. Among other appointments he held in India he was surgeon to the Commander-in-Chief (Lord Roberts), medical adviser to the Maharaja of Patiala, and residency surgeon, Jaipur. He served in the Afghan war of 1879-80, when he was present at the action of Charasiah, took part in the cavalry action in Chardih Valley, in which he was slightly wounded, and in the operations at and around Kabul in December, 1879; he was mentioned in dispatches, and received the medal with two clasps. Subsequently he served in the Egyptian campaign of 1882 on the headquarters staff, was present at the battle of Tel-el-Kebir, and received the medal with clasp, and the Khedive's bronze star. He was medical officer to the Russo-Afghan Boundary Commission in 1885–87, and served with the headquarters staff in the Mohmund campaign of 1893 on the north-west frontier of India, receiving the frontier medal with a clasp. He was decorated with the C.I.E. on May 24th, 1881, the C.M.G. on February 15th, 1887, the Afghan Order of Harmat in 1886, and received a Good Service Pension on April 29th, 1918. After his retirement he settled in Sussex, where he was a justice of the peace, and did a large amount of county administrative work. He was vice-chairman of the Eastbourne Rural District Council, member of the board of guardians, chairman of the Hailsham grouped council schools, member of the Sussex Education Committee, Land Tax Commissioner, county director of the British Red Cross Society for Sussex, member of the East Sussex War Pensions Committee, and during the war, from 1915 to 1920, surgeon-major of the Sussex R.A.M.C.(Volunteers). He was twice married: first, in 1878, to the eldest daughter of the late Horace Barry, who died in 1920, and secondly, in 1921, to the elder daughter of the Rev. H. Hopley.

The Services.

DEATHS IN THE SERVICES.

Colonel William Henry Bant Clapp, R.A.M.C. (retired), died at Wallasey on March 26th, aged 82. He was the son of Purveyor W. H. Clapp, was born at Douglas, co. Cork, on December 16th, 1839, and educated at Queen's College, Cork, graduating M.D. of the Royal University of Ireland in 1860. He subsequently took the M.R.C.S. in 1862 and the F.R.C.S.Edin. in 1889. He entered the army as assistant surgeon on October 1st, 1862, served in the 54th Foot (2nd Dorset) in the old regimental days, became brigade surgeon in 1890, and retired at the end of 1894. He served in the Egyptian war of 1882, receiving the medal and the Khedive's bronze star.

Surgeon Lieutenant-Colonel Herbert Boyd, Bengal Medical Service (retired), died at Birchington on April 22nd, aged 74. He was a Canadian, born at St. John's, New Brunswick, on May 22nd, 1847, and was educated at Harvard, where he graduated as M.D., afterwards studying at St. Mary's and Paris, and taking the M.R.C.S. and L.S.A. in 1866. He joined the Indian Army as assistant surgeon on October 1st, 1869, and retired on January 15th, 1895. His whole service was passed in military employ. He served on the north-west frontier of India in the Jowaki campaign of 1877–78 (medal with clasp); in the Afghan war of 1878–80, at the capture of Ali Musjid, and forcing of the Khaibar Pass (medal with clasp), and in the Hazara campaign of 1888 (clasp).

Captain Archibald Lang MacLean, M.D., M.C., Australian Army Medical Corps, died at Sydney on May 13th, after a long illness, due to gas poisoning on active service. He was educated at Sydney University, where he graduated M.B. and Ch.M. in 1910. The Military Cross was conferred upon him on February 1st, 1919. Since the war he had served with the Australian Antarctic Expedition.

Flight Lieutenant Edward Gerald O'Gorman, M.B., Royal Air Force, was killed at Heliopolis in Egypt on April 29th by the crashing of an aeroplane which he was piloting. He was a native of Fermoy, co. Cork, and was educated at the Cork Medical School; he graduated as M.B., B.Ch., and B.A.O. of the National University of Ireland in 1918. He joined No. 70 squadron of the Royal Air Force in Egypt in April, 1920, was appointed flight lieutenant three months later, and in June, 1921, became medical officer of the Flying Training School at Abu Sueir, Palestine.

Dr. Roderick McLeod, Bengal Uncovenanted Medical Service (retired), died at Oban on April 18th, aged 82. He was educated at Edinburgh University, where he graduated M.D. in 1862, just sixty years ago, taking the L.R.C.S.Ed. in the same year, and soon afterwards was appointed an uncovenanted medical officer in Bengal, where he held the civil surgeoncies of Chapra and Gaya, and afterwards served as health officer of the port of Calcutta, retiring about thirty years ago. He was a brother of the late Mr. James McLeod, C.I.E., of Lal Seriah, Champarun, well known all over India, and a cousin of Colonel Kenneth McLeod, K.H.P., I.M.S.

Lieut.-Colonel J. W. West, C.M.G., R.A.M.C., is appointed honorary surgeon to the King, and is granted the brevet rank of Colonel, vice Major-General Sir M. P. C. Holt, K.C.B., K.C.M.G., D.S.O. (retired).

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

AT a congregation held on June 3rd the following medical degrees were conferred:

M.B., B.CH.—H. V. Edwards.
B.CH.—G. C. Wells-Cole.

UNIVERSITY OF LIVERPOOL.

THE first course of study for the degree of Master of Orthopaedic Surgery (M.Ch.Orth.) instituted at the University of Liverpool, will commence in October next. Full particulars can be obtained on application to the Director (Sir Robert Jones), or to the Dean of the Medical Faculty.

UNIVERSITY OF MANCHESTER.

DR. JOHN SUTCLIFFE has resigned the post of clinical lecturer in mental diseases, and Dr. R. A. Webb that of demonstrator in pathology.

CONJOINT BOARD IN SCOTLAND.

THE following candidates have, after examination, been admitted as diplomates in Public Health: Ellen D. Anderson, Ba Kin, J. M. Campbell, J. Frew, K. A. Gilchrist, T. E. Hastings, D. Heard, S. J. Henderson, T. M'Gowan, R. J. Peters, C. B. Reekie, Margaret T. Rutherfurd, Marguerite L. Sclanders, D. M. Scrimgeour, Margaret M. Stuart, R. P. Smith, G. Taylor, Anna M. Williams.

Medical News.

DR. ALEXANDER BLACKHALL-MORISON has been elected a corresponding member of the Medico-Chirurgical Society in Edinburgh.

PROFESSOR G. ELLIOT SMITH, F.R.S., and Professor J. I. Hunter will describe a reconstruction of the Piltdown skull at a meeting of the Royal Anthropological Institute, 50, Great Russell Street, W.C.1, on Tuesday next, June 13th, at 8.15 p.m.

SIR GEORGE HENRY MAKINS, G.C.M.G., C.B., F.R.C.S., has been appointed a director of the Clerical, Medical, and General Life Assurance Society, to fill the vacancy caused by the death of Sir Alfred Pearce Gould.

THE annual general meeting and dinner of the Cambridge Graduates' Medical Club will be held on Wednesday, June 21st, at the Imperial Restaurant (Oddenino's), Regent Street, London, W., at 7.30 p.m., with Mr. T. H. Kellock, Vice-President, in the chair. Members intending to be present should communicate with Mr. R. Davies-Colley, C.M.G., 10, Devonshire Place, W.1.

THE annual dinner of the Harveian Society of London will take place on Thursday, June 15th, at the Café Royal, Regent Street, at 7.30 p.m., with the President, Sir William Willcox, in the chair.

DR. GUSTAVE MONOD, M.R.C.P.Lond., will give a course of demonstrations (in English) on practical hydrology at the Thermal Hospital in Vichy, from June 19th to 26th. The subjects to be dealt with are modern treatment at spas of diabetes, gout, enteroptosis, hepatism, and disorders of the sympathetic system. Further particulars can be obtained from the Secretary to the Fellowship of Medicine, 1, Wimpole Street, W.1.

THE annual general meeting of the Röntgen Society will be held at the Institution of Electrical Engineers, Savoy Place, W.C.2, on Tuesday next, at 8.15 p.m. A paper on German apparatus for the production and measurements of x rays for deep therapy will be read by Drs. F. L. Hopwood and E. A. Owen, and various methods and instruments will be demonstrated by other members.

H.R.H. THE DUKE OF CONNAUGHT will distribute the prizes at St. Thomas's Hospital Medical School in the Governor's Hall on Wednesday, June 21st, at 3 o'clock. After the ceremony there will be tea and music on the terrace.

WE are informed that the Advisory Committee of the Tropical Diseases Research Fund has called the attention of the governments of the various colonies and protectorates to the use of antimony in leprosy and syphilis, and also that the Turkish authorities intend to test the drug in leprosy.

AT a meeting of the Cardiff Medical Society on May 9th Dr. D. R. Paterson gave an account of the history of medical endoscopy from the earliest times to the end of the eighteenth century. He dealt more particularly with the examination of the nose, mouth, and ear cavities, the uterus, and rectum. He traced the beginnings of endoscopic methods in Greek medicine and pointed out their relatively high development in Roman times, as evidenced by the finished instruments found in Pompeii. The address was illustrated by lantern slides.

DR. J. LIONEL STRETTON has been appointed a justice of the peace. He became surgeon to the Kidderminster Infirmary in 1882, and was appointed a consulting surgeon a few months ago. He has thrice been chairman of the Worcestershire Division of the British Medical Association, and was chairman of the Worcestershire Medical War Committee throughout the war. Last year he was entertained by his colleagues at a complimentary banquet and received a presentation of plate.

WE mentioned a short time ago that the Society of Apothecaries of London had given up its retail business. It has now taken the same course with its wholesale business, which has been taken over by Messrs. Randall and Wilson, Limited, of Southampton.

THE Cowdray Club, 20, Cavendish Square, W.1, will open its doors to members on June 22nd. This club owes its existence to the munificence of Lord and Lady Cowdray, and nurses and other professional women are eligible for membership; there is a special reduction in the subscription to members of the College of Nursing.

THE new buildings of the Hospital Saint-Michel, Paris, erected through the generosity of the Baron and Baronne Pierre de Gunzbourg, were opened on May 29th.

A SPECIAL intensive post-graduate course in cardiology will be held at the National Hospital for Diseases of the Heart, Westmoreland Street, W.1, from July 3rd to 15th. The fee for the course is £7 7s. Inquiries should be addressed to the Dean, Dr. B. T. Parsons-Smith, at the hospital.

MESSRS. WATSON AND SONS, LTD., Sunic House, Parker Street, London, send us a small waistcoat pocket pamphlet, in which, in addition to calling attention to what they are doing to advance methods of protection for *x*-ray and radium workers, they publish the reports of the X-ray and Radium Protection Committee. It also embodies a report from the National Physical Laboratory on an installation which they have recently supplied and erected.

THE Argentine Medical Syndicate, which was founded last year, has already enrolled over 300 members; it was soon followed by the foundation of a similar syndicate in Uruguay. The aim of these organizations is stated to be not only to promote the interests of the medical profession but to awaken in medical men the consciousness of their importance in general progress.

A SPECIAL course on orthopaedics will be held at Berck-Plage, under the direction of Dr. Calot, from August 7th to 13th. The course is intended for medical practitioners and will be of a practical nature; the English language, as well as French, will be used at the demonstrations. The fee is 150 francs, and particulars may be obtained from Dr. Fouchet, Institut Calot, Berck-Plage, Pas-de-Calais.

THE professional jubilee of Dr. Espina y Capo, of Madrid, is shortly to be celebrated by presenting him with a portrait bust, and by fixing a memorial tablet to the wall of his clinic.

DURING the first six weeks of 1921 the excess of births over deaths in France was 72,851 as compared with 179,356 in Germany during the first three months of the year.

THE Health Department of New York City states that though the number of cases of epidemic encephalitis notified to it is still relatively small it is increasing; more than 300 have been reported since the beginning of the year, with 70 deaths; in the corresponding period in 1920 there were 654 cases, and in 1921 there were 528.

A FARM of 200 acres in Alleghany County, New York State, has been presented by Drs. W. H. and S. V. Mountain to the Physicians' Home, an institution incorporated under the laws of the State of New York; it is to be converted into a home for indigent medical practitioners or their widows and orphans. It is stated that well-equipped laboratories for research work and experiments will be established in the home.

Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.*

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS WHO wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London*; telephone, 2630, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London*; telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London*; telephone, 2630, Gerrard.

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh*; telephone, 4361, Central).

QUERIES AND ANSWERS.

OXYURIS.

DR. V. C. HACKWORTH (Hove) asks for advice in treating a case of thread worms in a girl of 11, which has resisted all the usual remedies for several years.

STAINS FOR BLOOD FILMS.

DR. H. M. CADE (Bacteriologist to the East Suffolk County Council, Pathologist East Suffolk and Ipswich Hospital) writes: Might I advise Dr. J. Shulman to use Pappenheim's modification of the May-Giemsa stain in his blood examinations? This stain is panchromatic, and can be regarded as a universal stain. It brings out the azur granules excellently. Two solutions are used:

(*a*) May-Grünwald's eosin-methylene blue in methyl-alcohol.
(*b*) Giemsa's glycerin-alcoholic solution.

Staining is carried out as follows:

> Pour on the film the May-Grünwald stain, allow to act for three minutes to fix, then add an equal quantity of distilled water and stain for one minute. Pour off stain and, without washing, add the Giemsa stain diluted to about 15 drops in 10 c.cm. distilled water; allow to stain for fifteen minutes. Dry in the air.

I have used this stain extensively and find it to be reliable; it stains the nuclei quite as well as the old haematoxylin method. Jenner's stain is useless for distinguishing the various kinds of cells; its only merit is its property of staining brilliantly the eosinophil granules. I cannot quite understand why Dr. Shulman has had difficulty with Leishman's stain; I have used it in many thousands of cases and found it to work well.

AREA OF VACCINATION VESICLES.

"D. S. B." asks what is the area of vesiculation which should be attained in small-pox vaccination.

*** We understand that the official view is that the total area should amount to one-half of a square inch and there should be half an inch of clear skin between the edges of the vesicles on the eighth day after the operation. There is no stipulation as to the size of the individual vesicles, the point being that their total area should amount to one-half of a square inch. The purposes of division are—to diminish inflammation, to promote healing, and to minimize the risk of insertion failure—that is, risk of failure of all the insertions.

INCOME TAX.

"L. T. D.'s" car transactions have been as follows: 1911, Wolseley 12–16 h.p.—first car—cost price £325; 1918, Singer 10-h.p., second-hand—additional car—cost £250; 1920, Wolseley sold for £260; 1920, Triumph 2½-h.p. cycle bought for £73; 1921, Humber 11.4-h.p. bought for £700; 1921, Singer sold for £110.

*** The original outlay on the equipment of two cars was £575 and we think that the present equipment of one car and one cycle may be taken as equivalent to the former, bearing in mind that one car was secondhand. On that basis the amount to be claimed would be as follows:

Additional outlay	£73	+ £700	= £773
Deduct amounts received for old cars ...	£260	+ £110	= £370
Expense of replacements			£403

We assume that "L. T. D." did not deduct the £73 expended in his statement for 1920.

"M. Q. B. G." has been Government M.O. in a British colony; he came to England on December 23rd, 1921, on six months' leave, but is retiring from the Colonial Service and is buying a practice as from September 1st, 1922.

*** The profits of the practice are, of course, assessable on the basis of the three years' average as returned by the present practitioner; but he will be entitled to have that assessment divided between himself and "M.Q.B.G." as from September 1st, so that he will pay on the basis of 5/12ths of the gross assessment, leaving our correspondent liable on the remaining 7/12ths. We suggest, therefore, that the latter should explain the circumstances to the local inspector of taxes, and file a declaration of income, etc., including 7/12ths of the amount returned by his predecessor. If his full earnings should fall short of the sum assessed on him owing to some specific cause he can obtain a reduction to the actual earnings on application at the end of the year.

"E. M. J." inquires as to the appropriate deduction for "rent" in respect of the professional portion of the house which he owns.

*** The amount of the total "rent" is determined by the valuation of the house as for the respective years for which the receipts and expenses are being taken—not as for the year of assessment. If the *gross* value is taken no deduction can be claimed for repairs or other expenses which are taken into account in reducing the gross valuation to a net basis; the more usual and the correct course is to take a proportion of the net assessment and to take into the professional expenses a similar proportion of the cost of repairs, etc. The extent of the work done does not appear to be material to the issue of what proportion of the value should be charged for tax purposes; that depends on the number and quality of the rooms used professionally.

"M. N." has for the past four months been receiving assistant's remuneration at £450 per annum, paying out of that a weekly sum to the firm's housekeeper for board and lodging. Previously he was earning about £2 a week in a hospital appointment.

*** If "M. N." held a specific office at the hospital the emoluments there would fall under Schedule E, and could not be averaged now with the assistant's remuneration chargeable under Schedule D. No deduction can be made for the payments made for board and lodging.

LETTERS, NOTES, ETC.

A Diploma in Tuberculosis.

DR. B. WALKER (Durban) writes: The time would appear to be ripe for general practising physicians, who see a large number of cases of diseases of children, to voice their opinions on this "tuberculosis craze" which, like a flood, is invading London, and has now crept over the Scottish border and the Roman Wall to Edinburgh. Thousands of poor London children, under the health section of public education, are dubbed "tuberculous" when there is not a vestige of fact pointing to the presence of that disease. Had we better start a diploma in diseases of children before we specialize in tuberculosis? I know that the eye enthusiasts have managed to coax Oxford to grant a diploma in ophthalmology, and I know also how this diploma is referred to socially by our lady friends as a diploma obtained "when he was at Oxford," leaving it to be inferred that the subject of conversation took his arts degree as everybody else had to do at that university. Specialization is already overdone, and general physicians are beginning to dread sending on their patients for opinion to many specialists. This aspiration to emulate American methods will land us in ridicule, and we shall be served rightly if the Faculty of Medicine gives its blessing.

Medicinal Paraffin as a Dressing for Septic Wounds.

DR. MARGARET C. VIVIAN (Bournemouth) writes: Dr. White Robertson, in his book *Studies in Electro-Pathology*, emphasizes the value of medicinal paraffin as a dressing for septic wounds, and describes the excellent results he obtained by this means in the treatment of wounds during the war. A similar recent experience of my own may be of interest.

A young woman was badly bitten in the hand by a dog. Three punctured wounds were inflicted, the worst being two deep holes, one on each side of the base of the dorsum of the second finger, where the dog's teeth had gripped. The accident took place at 7 p.m. on a Saturday, and I saw the patient half an hour later. The hand had begun to swell, and there was a good deal of bleeding. After holding it under the tap for a few moments, I applied a pad of lint soaked in medicinal paraffin covered with a piece of oil silk. The next day the hand was very much swollen and discoloured, and the patient complained of pain and throbbing in the wounds, and the glands above the elbow and in the axilla were enlarged and painful. The paraffin dressing was renewed. On Monday morning the swelling had entirely subsided, there was no pain, and the patient could move her fingers freely. A week later the wounds had completely healed.

The Treatment of Pneumonia.

DR. F. C. MCCOMBIE (Chabua P.O., Assam) writes: With reference to Dr. A. J. Mathison's claim for potassium iodide and creosote as a specific for lobar pneumonia, in your issue of March 11th (p. 420), I may mention that I am in medical charge of a group of tea estates in Upper Assam, on each of which I have hospitals, both large and small, suitable to the requirements of the estate, in charge of Indian subordinate medical men, of varying degrees of professional ability. The diagnosis is in most cases checked by me at my periodical visits, and clinically I have no doubt we are dealing with frank lobar pneumonia among coolies. My attention was drawn to this treatment in 1914, and I issued a circular that all cases of pneumonia were to be treated with the "specific." After eight months I called for figures, which I give below. I also give the figures for the previous and also the following year, when I gave no special instructions for treatment, although most of my subordinates have continued the iodide and creosote mixture, preferring it on clinical grounds.

Year.	Cases.	Deaths.
1913	302 ...	75 = 24.9 per cent.
1914 (eight months) ...	119 ...	27 = 22.7 ,,
1915	231 ...	53 = 25.1 ,,

The Interstitial Gland.

DR. NORMAN MACFADYEN (Letchworth) writes: With fear and trembling I venture to ask a question; it is possible it may show great ignorance of recent research. It has always seemed to me that in cancer there is degeneration accompanied by a furious uncontrolled growth of embryonic tissue. This may mean that the equilibrium of normal tissues has broken down and that Nature has attempted to heal the breach by a mild outburst of rudimentary cells. Now if by ligature of the vas deferens the normal cells can be revitalized, would it not be worth while in suitable cases—as for instance, in cancers which cannot be completely removed—to try this operation? If by this means equilibrium could be re-established, the uncontrolled forces might then be controlled.

A Stereoscopic Head Mirror.

DR. L. GIBBONS, writing from Bad Nauheim, Germany, has sent us a description, with photographs, of a stereoscopic head mirror (Relascop) devised by Dr. E. Wessely, assistant in the Vienna University Clinic for Diseases of the Throat and Nose. With it binocular vision, instead of monocular, can be employed in the examination of the upper air passages. It is stated that the head mirror is of simple construction and can be taken to pieces to be sterilized; it includes its own electric lighting attachment, and the eyes of the observer are protected against infection. The field of vision is very large, and for purposes of class teaching self-contained reflecting mirrors are attached, by means of which students can follow a demonstration. The mirror is made by the firm of C. P. Goerz, Vienna.

A "Rat Barrack."

DR. J. A. HARAN, C.M.G. (Bath), writes: Whilst looking over Hall's *Ireland* (London: How and Parsons, 1841) I happened upon the following interesting note: "Mr. Russell has a 'rat barrack' on his premises. It is about 12 ft. long and 6 ft. broad, and the walls about 4 ft. high, with a coping-stone on the top that projects a couple of feet inside the wall—the inside of the wall is full of holes that just admit a rat's body, leaving his tail outside—the whole is covered with old boards; there are two passages for them to come outside into the yard, where they are fed and never disturbed; the consequence is they never go into his store where the bacon is; once every three months he closes the holes that communicate with the yard—he uncovers the walls, and the rats all run into the holes in the walls; their tails are 'hanging out,' when a man goes in, takes them one by one by the tails and throws them into a barrel, when they are all destroyed, to leave room for a fresh supply."

Vacancies.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 24, 25, 27, 28, and 29 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 26 and 27.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at pp. *227*, *228*.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£ s. d.
Six lines and under	0 9 0
Each additional line	0 1 6
Whole single column (three columns to page) ...	7 10 0
Half single column	3 15 0
Half page	10 0 0
Whole page	20 0 0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

An Address
ON THE
SINS AND SORROWS OF THE COLON.

DELIVERED BEFORE THE HARROGATE MEDICAL SOCIETY ON NOVEMBER 26TH, 1921,

BY

ARTHUR F. HURST, M.A., M.D.OXON., F.R.C.P.,
PHYSICIAN AND NEUROLOGIST TO GUY'S HOSPITAL.

THE sins of the colon are its diseases. But I sometimes wonder whether it is not more sinned against than sinning, for what with attacks from above with purges, attacks from below with douches, and frontal attacks by the surgeon, its sorrows are numerous and real. I believe that a more thorough appreciation of its normal anatomy and physiology, and the routine employment of the various methods of examination, which modern science has made available, are wanted in order that its sins may be recognized at such an early stage that treatment may lead to their complete and permanent relief.

The Motor Functions of the Colon.

Like all other hollow organs, the motor functions of the colon depend upon tone and peristalsis, which are mutually independent. An atonic stomach or colon is often referred to as if it were one in which peristalsis was deficient, but peristalsis is often very active in the presence of hypotonus, and may be weak or irregular in the presence of hypertonus. The tone of the colon depends largely upon the bulk of its contents, and varies continuously according to the amount of faeces and gas present in each segment at the moment. Owing to this the internal pressure is normally constant and only rises when its tone or the volume of its contents is pathologically excessive, pain being then produced. As the caecum and ascending colon contain large quantities of semi-fluid faeces during the greater part of the day, their tone is less and their lumen is consequently much greater than that of the rest of the large intestine, especially the descending and iliac colon, which are generally empty and consequently in a state of tonic contraction, which more or less obliterates their lumen. Thus it is quite normal to find a large and splashy caecum, when the part of the colon which can be felt in the left iliac fossa feels like an almost solid cord.

Anybody who has made frequent *x*-ray examinations after a barium meal must have been struck by the remarkable contrast afforded by the continuous peristalsis of the stomach and continuous peristalsis and segmentation of the small intestine on the one hand, and the completely motionless colon on the other. On comparing the appearance of the colon every hour through the day, I was struck by the fact that it only changed materially after those hours in which a meal had been taken. By making a screen examination at intervals of a quarter of a minute during the latter part of a meal and immediately after we were rewarded by seeing on several occasions "mass peristalsis," which had already been described by Holzknecht, and is now recognized as being the only movement of importance which occurs in the colon. Two or three times a day a powerful peristaltic wave moves rapidly along a considerable length of the bowel, carrying all the contents before it. The chief stimulus to this movement is the gastro-colic reflex, which follows the entrance of food into the empty stomach. After all of the soluble material and most of the water have been absorbed from the intestinal contents, they are carried from the caecum and ascending colon by the mass peristalsis to the pelvic colon, where they remain until the first peristaltic wave of the following morning occurs, either as a result of the stimulus of getting up and dressing or of breakfast. They are then carried into the previously empty rectum, where they give rise to the desire to defaecate, which is followed by the normal reflex process of defaecation. Consequently during the greater part of the day the caecum, ascending colon, and pelvic colon are more or less full, but the rest of the colon is generally empty.

The Radiology of the Colon.

No attempt should be made to treat a case of constipation, which does not quickly respond to simple treatment, until an *x*-ray examination has been carried out. This should not be done until the patient has discontinued the use of aperients for forty-eight hours, but, if necessary, an enema can be given the day before and again in the early morning of the day on which the examination begins.

By no other means is it possible to compare the position of the colon in the erect and horizontal postures, to determine whether adhesions are present, fixing its different segments to each other or to neighbouring structures, and to discover how quickly the intestinal contents traverse the bowel and how long their residue remains in each segment. It is, however, useless to carry out such an investigation unless the remarkable variations which may occur in normal individuals are thoroughly recognized. The times I gave in 1907 as the average rate for the passage of the intestinal contents in healthy individuals were nothing more than the average, though they have often been taken as the "normal" times, the slightest divergence from which has been regarded as pathological. Healthy individuals, however, vary within wide limits in this direction, and the position and mobility of the caecum, ascending and transverse colon are also subject to considerable variations. It is not pathological for the caecum to drop into the pelvis in the erect position, and a powerful forward in the Guy's fifteen of 1907, who had never had a day's indigestion or constipation, was only one of several perfectly healthy individuals I have seen with the greater curvation of the stomach over two inches below the umbilicus and the transverse colon reaching almost to the bottom of the pelvis.

Ptosis of the colon hardly ever gives rise to symptoms by causing kinks, and stasis in the colon must be considerable before it can be regarded as of real importance.

It is an interesting fact that more than half of the severe cases of constipation which have been sent to me in the last fifteen years have suffered from pure dyschezia, or inefficient defaecation, the passage through the intestines having been normal in rate. In such cases the only treatment required is re-education of the act of defaecation by a proper attention to the hygiene of the bowels, together with the use of graduated glycerin enemas in resistant cases. In the remaining cases stasis in the proximal part of the colon was most common; it is comparatively rare for the whole of the large intestine to be involved. An accurate diagnosis will show what form of treatment by diet, drugs, massage (given on the first occasion under the *x*-ray screen so that the exact manipulation required can be observed), exercise, and, in the case of general colonic stasis, intestinal lavage is indicated in each individual case.

Radiography after an opaque meal rarely reveals the presence of a growth in the early stage; in all suspicious cases a barium enema should be given, as this is often arrested at the seat of the tumour, but I have seen a few patients in whom this method also failed to show anything abnormal, although a growth was discovered by other means, or subsequent events showed that one was present.

Colitis and "Colitis."

Colitis is inflammation of the colon. But the term "colitis" is very frequently applied in the absence of any evidence that the colon is inflamed. I am convinced that the loose employment of the word is an important factor in the development of many cases of severe hypochondriasis. Colitis should never be diagnosed unless positive evidence of its presence is obtained by examination of the stools and by means of the sigmoidoscope. Under normal conditions the mucous membrane of the colon is kept moist by the secretion of mucus, which renders the onward passages of the faeces more easy. Like all other mucous membranes, it reacts to mechanical and chemical irritation by the secretion of excess of mucus, in order to protect its delicate lining epithelium from injury. Consequently the presence of hard faeces in the normal colon calls forth a secretion of mucus. If the faeces accumulate in the rectum, the mucus is unformed. If, however, the mucus is produced in the pelvic colon or more proximal part of the large intestine, and a thin layer of mucus remains in contact with the mucous membrane sufficiently long, a ferment, mucinase, which is present in the mucous membrane, causes it to coagulate, much in the same way as fibrinogen forms fibrin when blood coagulates. A membrane of coagulated mucus is produced, and this is subsequently passed in the form of shreds, or occasionally tubular casts of the part of the colon in which it was produced. Microscopical examination of this mucus may demonstrate the presence of desquamated epithelial cells, but there are no pus cells or other evidence of inflammation, and the sigmoidoscope invariably shows that the mucous membrane is perfectly healthy. The name "mucous or muco-membranous colitis" commonly applied to

this condition is therefore incorrect. When pain caused by spasm of the colon coexists, as it often does, the term "mucomembranous colic" might be used, but in the absence of pain the condition should not be regarded as any more pathological than the presence of a little unformed mucus with scybala which have been retained rather longer than usual in the rectum.

When mucus is present with soft or fluid faeces colitis is more likely to be present. But inquiry must first be made as to whether an aperient has been taken, because the mucous membrane also protects itself from the chemical irritation of drugs by the production of mucus. Thus the existence of colitis can only be inferred from the discovery of mucus if the faeces are unformed and no aperient has been taken.

More important than mucus is the presence of pus in the stools. This always indicates that some organic pathological condition exists. In cancer and in ulcerative colitis the pus can generally be recognized by the naked eye. If, however, it comes from the more proximal parts of the colon, it is likely to be intimately mixed with the faeces and the mucus, both of which should be examined microscopically, especially if the latter is unformed and opaque instead of transparent.

In the absence of haemorrhoids bright red blood in the stools is of equal significance. If no mucus or pus is present it probably comes from a rectal polypus, but if mucus and pus coexist acute haemorrhagic colitis, ulcerative colitis, dysentery, or cancer is almost certainly present.

Unless abdominal or digital examination of the rectum reveals the presence of a growth with certainty, a sigmoidoscopic examination should be made in every case in which the symptoms and the appearance of the stools suggest the presence of colitis or a growth.

The Sigmoidoscope.

The sigmoidoscope is one of the most valuable of all instruments used in the investigation of disease, and yet it is rarely employed except by surgeons, especially those interested in diseases of the rectum. In my opinion every physician and every practitioner should familiarize himself with the sigmoidoscope. With a little practice it can be introduced with perfect safety into the bowel of women as well as men without an anaesthetic and without causing anything more than a moderate degree of discomfort. An anaesthetic makes it impossible to assume the knee-elbow position, in which the passage round the pelvi-rectal flexure can be negotiated in almost every case without inflation, which is a matter of great importance, as inflation not only causes pain, but may also be dangerous when the wall of the colon has become thinned by ulceration.

It is no more justifiable to treat colitis without first inspecting the mucous membrane of the colon with the sigmoidoscope than it is to treat a sore throat without looking at the pharynx. I have seen numerous cases, which had been treated for months as "colitis," in which the sigmoidoscope revealed the presence of a growth. It must be remembered that the pelvi-rectal flexure, the most common place in the colon for the development of cancer with the exception of the rectum, is beyond the reach of the finger introduced per anum, and a growth here and in the lower six inches of the pelvic colon, which are also accessible to inspection with the sigmoidoscope, is often impalpable from the abdomen, although it can sometimes be felt through the front wall of the rectum or by bimanual examination.

With the sigmoidoscope, too, the various forms of colitis can be recognized, the absence of any inflammation in mucomembranous "colitis" can be demonstrated, the diagnosis between amoebic and bacillary dysentery can be made, and the process of recovery in colitis and dysentery can be watched. The symptoms of ulcerative colitis and dysentery, like those of gastric and duodenal ulcer, disappear under treatment long before the ulcers are healed. We have the great advantage in treating the former that the sigmoidoscope makes it possible to determine when the cure is really complete, and no case should be allowed to pass from active treatment until the sigmoidoscope has demonstrated that the mucous membrane is perfectly healthy. By this means alone can disappointing relapses be prevented. Only when the sigmoidoscope comes into its own will the surgeon see most cases of cancer of the pelvic colon and upper part of the rectum at the early stage, in which alone a radical cure by operation is still possible.

The Use and Abuse of Purgatives.

If the fortunes made from purgative pills had been devoted to the hospitals which treat the victims of their abuse, the financial problem of the voluntary hospitals would have been solved. About £10,000,000 was expended in 1921 on patent medicines, the majority of which contain purgatives.

I have already pointed out that the stools should be inspected and the *x*-ray examination carried out whilst no aperient is being taken. It is interesting to observe how large a proportion of patients, who are supposed to be the victims of toxaemia from intestinal stasis, feel better whilst these examinations are being carried out. The fact is that symptoms result far more frequently from the artificial diarrhoea produced by purgatives than from intestinal stasis. Purgatives often cause abdominal pain, intestinal stasis very rarely. Bacterial decomposition is very active and excess of toxins is produced and absorbed in the colon when its contents are kept fluid by the use of purgatives, but the reverse is the case in the semisolid or solid contents of the colon in intestinal stasis.

On several occasions when I have been asked to decide whether the operation of colectomy, which had been recommended for "intestinal stasis," should be performed, I have found that all the symptoms disappeared on giving up purgatives and adopting some more rational treatment. It is sad that the description Gulliver gave the Houyhnhnms of the habits of his fellow countrymen is as true to-day as it was in 1727: "They take in at the orifice above a medicine, equally annoying and disgustful to the bowels, which relaxing the belly drives down all before it; and this they call a *purge*." I do not say that an aperient should never be used, but when required, one should be chosen and a dose should be found which result in the passage of a single formed stool each morning.

Intestinal Lavage.

The mythical origin of intestinal lavage should be of interest in Harrogate, where many thousand Plombières douches are administered every year. Pliny (A.D. 77) tells how the Egyptians learnt to wash out their bowels from observing the habits of the ibis: "He washes the inside of his body by introducing water with his beak into the channel, by which our health demands that the residue of our food should leave." It is cruel to deprive the ibis of his claim to this epoch-making discovery, but the truth must be told: the ibis does not give himself a Plombières douche, but after washing his beak in water he oils it in his preen-gland, which is situated near the anus, in preparation for preening his feathers.

In the seventeenth century the enema reached the height of its popularity. It is recorded that Louis XIV received several thousand intestinal douches in the course of his life, and that the pious Duchess of Alva treated her sorely ill son with enemas of an emulsion of religious relics. Unhappily they failed to save him.

The last twenty years have seen a remarkable revival in the popularity of the intestinal douche, a popularity which has led at times to its indiscriminate use for conditions in which it was not suitable. It is a valuable remedy, but its precise indications require to be defined, and I should like to say a few words about the technique of its administration.

In the first place intestinal lavage is of use when it is necessary to remove retained faeces from a colon which, on account of its irritable or inflamed condition, ought not to be further irritated by the use of aperients. Muco-membranous "colitis" comes under this category. The fluid used should be of a non-irritating character, or a condition of catarrhal colitis will be added to the hypertonic and hypersecretory condition already present, just as the inhalation of irritant fumes produced by the burning of the powders used in asthma causes catarrhal bronchitis to be added to the simple hypertonic and hypersecretory condition of the bronchi, which is alone found in uncomplicated asthma. I had thought at one time that the Harrogate sulphur water used for intestinal lavage might sometimes act as such an irritant, but I have found by actual experiment on the healthy mucous membrane of the colon that it is no more irritating than normal saline solution. It would be interesting to know whether it owes to its radio-active or other constituents any healing properties not possessed by the latter. There is a real danger that a course of intestinal lavage in cases of this kind might lead to constipation by making the patient too dependent upon them.

For this reason patients should attempt to get their bowels open naturally each morning before they receive their douches; if this is impossible they should have paraffin, together, when necessary, with the minimal dose of senna required to produce a stool.

Secondly, intestinal lavage is of great value in the treatment of the severer forms of colitis, and especially of ulcerative colitis. Antiseptic and astringent drugs can be applied by this means directly to the mucous membrane in any required strength, without becoming diluted in the stomach and small intestines and without irritating them. The drug I have found most valuable in the local treatment of colitis is albargin, a silver nucleinate, which Rogers proved experimentally was the most satisfactory antiseptic in cases of dysentery. A solution of 1 grain to 1 ounce of water should be used.

It is of great importance that the douche should be properly administered. Nurses are always taught to pass the tube as far into the rectum as possible, and they are rarely satisfied unless twelve or more inches have been introduced. Until comparatively recently I understand that this was the practice not only in Plombières, but also in Harrogate and the other English spas in which the treatment has been employed. But the pelvi-rectal flexure, where the freely movable pelvic colon joins the fixed rectum at an acute angle, is four and a half inches from the anus, and it is a physical impossibility to pass a rubber tube beyond the flexure, except through a sigmoidoscope which has been manipulated through the flexure. This was proved long ago by Sir James Goodhart in the *post-mortem* room, and in 1908, and again more recently, I demonstrated the same fact with the *x* rays, which show that the tube turns back when the flexure is reached, and then curls up in the rectum. The end of a tube passed in the usual way must therefore rub against the mucous membrane of the rectum, and when twelve or more inches of stiff tubing are introduced into the rectum it is obvious that a considerable amount of damage may be done. This explains the observation I have frequently made, that in cases of severe colitis treated by douching through a tube introduced in the ordinary manner, the sigmoidoscope shows a pelvic colon either healed or nearly healed, whereas the whole of the rectum, which has been rubbed every day with the tube, is still acutely inflamed. The tube should therefore be introduced not more than two inches beyond the anus. The fluid should be run in slowly at a pressure not exceeding twelve inches of water, and not more than a pint and a half should be used. The *x* rays have shown that a barium enema of a pint and a half of fluid, introduced, at a pressure of twelve inches, through a tube inserted two inches beyond the anus, invariably reaches the caecum, whatever position is assumed by the patient, unless organic obstruction is present. I believe that de Graaf was correct when he wrote in his monograph, *de Clysteribus*, in 1668, that the usual ritual of lying in a series of positions during the administration of the douche has not the slightest effect. There is no doubt, however, that the knee-elbow position, by making the pelvi-rectal flexure less acute, allows the fluid to pass more readily into the pelvic colon and so prevents the overdistension of the rectum, which otherwise may make it difficult for the patient to retain the fluid for twenty or thirty minutes, as is advisable in the severe forms of colitis.

The Surgery of the Colon.

Apart from the treatment of cancer of the colon, diverticulitis, and other causes of acute and chronic obstruction, the indications for surgery in diseases of the colon are few. At one time I believed that appendicostomy or caecostomy should be performed in every case of ulcerative colitis of any severity, as Lockhart-Mummery has so persistently urged. But since I discovered that anti-dysenteric serum has such a remarkable healing effect on the disease,[1] I believe that it will in the future only be necessary to perform the operation in the exceptional cases in which no improvement follows the intravenous injection of large doses of serum.

I have always held that intestinal stasis only required surgical interference in very rare and neglected cases, in which prolonged medical treatment fails to relieve local and general symptoms of real severity. In the fifteen years I have been interested in the subject I have only recommended five patients to undergo an operation for this condition—three times short-circuiting and twice partial colectomy. One patient died, one was completely and permanently cured, and the remaining three were benefited to a varying extent. Short-circuiting of the part shown by the *x* rays to be affected, without dividing the bowel, or its excision should be performed in preference to complete colectomy. The statistics of Guy's Hospital show that the mortality in total colectomy for intestinal stasis is about 16.5 per cent. The ultimate results of the operation would require to be extremely good to justify such a high mortality, considering that with the exception of one case recorded by Lockhart-Mummery[2] intestinal stasis has never, so far as I know, proved fatal. I have come across an occasional brilliant result, but improvement is much more frequently only partial, and in many cases the patient is either no better or is actually worse than he was before the operation. It is a surgical aphorism that no operation should be performed on the stomach in the absence of a demonstrable lesion, and I look forward to the time when a similar aphorism will be applied to the colon. I have been appalled in the past to see how lightheartedly colectomy has been recommended for comparatively trivial symptoms before any serious effort has been made to treat them by other means. But it is satisfactory to note that the operation, which reached the height of its popularity shortly before the war, is gradually becoming obsolete. I was told in 1919 during my visit to Cleveland, Baltimore, and the Mayo clinic, that, after an unsatisfactory trial, colectomy was now no longer practised for intestinal stasis, and in contrast to the forty colectomies performed at Guy's in 1914 only one was performed in 1920 and not one in 1921.

A Diagnostic Clinic for Harrogate.

I have endeavoured to show how the treatment of diseases of the colon should never be undertaken before a thorough investigation has been carried out. I have not referred to various other examinations of equal importance—such, for example, as that of the secretory functions of the stomach by a fractional test meal, which may reveal the presence of achlorhydria, one of the most common causes of chronic diarrhoea, and a powerful predisposing factor to infection of the bowel.

These investigations require team-work. Each physician practising in a health resort like Harrogate should have at his disposal a diagnostic clinic, into which his patients could be admitted for ten days or a fortnight whilst he investigates them by the usual clinical methods, inspects their stools, and, when necessary, makes sigmoidoscopic examinations, whilst his radiological, biochemical, and bacteriological colleagues carry out such examinations as he may direct. At the end of this period he will be in a position to advise what treatment is required during the remainder of the patient's visit.

If possible the physicians should have no financial interest in the nursing-home side of the clinic. Patients should receive two accounts, one from the clinic and one from the physician. The latter should be an inclusive one, fixed beforehand, which should cover every examination which may be required. A certain proportion of the physician's fee should be paid to a central fund, out of which the radiographer and pathologists receive their salaries, which would thus be proportionate to the amount of work they are called upon to perform.

During the past year I have been associated with a clinic run on somewhat similar lines. Investigations have been carried out by clinicians, pathologists, and a radiographer, working as a team, and I can assure you that my work has been more interesting, less fatiguing, and more satisfactory from my own and from my patients' point of view than it ever was before. I believe that the future of medicine lies largely in the development of team-work in diagnostic and treatment clinics. In this direction Harrogate has a great opportunity. It should lead the way in establishing spa treatment on a sound scientific basis, so that those earlier days will sink into oblivion when spa treatment meant the application of spa water to the skin, the stomach, and the bowel, whatever was the matter with the patient, and Guy Patin's criticism of mineral waters, "I do not believe much in these, they never cured anybody, and I never believed that they would," was justified. Harrogate will then maintain its position as the Mecca for the sins of the colon, and will be free from any suspicion of reproach as adding to its sorrows.

REFERENCES.

[1] A. F. Hurst, *Guy's Hospital Reports*, lxxi, 1921. [2] P. Lockhart-Mummery, *Proc. Roy. Soc. Med.*, Supplement to vol. vi, 186, 1913.

A PHYSIOLOGICAL EXPLANATION OF PAIN DUE TO FUNCTIONAL DISTURBANCE OF THE MUSCLES OF THE COLON.

BY

T. STACEY WILSON, M.D., F.R.C.P.,

HONORARY CONSULTING PHYSICIAN, BIRMINGHAM GENERAL HOSPITAL.

It has long been known that the colon is liable to a functional disturbance of its muscular coat which consists in such a hardening of its walls as to render the outline of the bowel sufficiently distinct to suggest its forcible distension with gas. This theory, however, as to the cause of the hardening is not admissible because palpation of the colon shows that the character of the hardening and its distribution could not be explained by distension with gas, and the phenomenon must be due to some peculiar activity of the muscular coat of the bowel. This hardening is associated with pain and usually with tenderness of the hardened portions of the colon. This abnormal rigidity of the colon constitutes one of the common physical signs of the complaint known as "mucous colitis." It also occurs in the caecum in cases of appendicitis, and the tumour felt in this condition is sometimes mainly due to this cause. It may, however, occasionally occur apart from all other symptoms of disturbance of the colon, not even constipation being present.

The clinical aspects of this peculiar state of the colon wall was discussed in the International Medical Congress which was held in Paris in the year 1890. It first came under my notice in 1892, when I had a patient in whom the whole of the ascending colon from the iliac fossa to the hepatic flexure could be felt as a tube with rigid walls nearly the diameter of a woman's wrist. The case was supposed to be one of appendicitis, and the patient had had many similar attacks prior to my seeing him. The colon retained this remarkable rigidity for some days; it passed off gradually from above downwards, and when the muscular spasm had apparently ceased the hardening could, nevertheless, be sometimes felt to return for half a minute or so under the hand during palpation, the bowel rising up and forming a hard tumour the size of a small hen's egg and then softening again. It was quite clear to me that this extraordinary case demonstrated the existence of a form of muscular activity in the bowel wall which was not generally recognized, and the muscular hardening which was palpable in the colon appeared to me to be strong confirmation of the theory advanced by the late Professor Rutherford of Edinburgh that muscular fibres had not only the power of contraction but also of an extension which was a vital act on the part of the muscular tissue.

A study of this and many similar cases which have come under my notice since has been sufficient to convince me that the muscular fibres of the circular coat of the colon have the power of becoming rigid in an extended condition and of thus turning the colon into a tube with rigid walls and a definite lumen whose diameter varies in different cases and sometimes is as much as 1½ inches or more.

I have palpated the colon in the right and left iliac fossae in practically every patient I have examined during the last thirty years, and this careful examination of the muscular tone of this part of the intestine has abundantly confirmed the opinion I formed in 1892 that muscular fibres must have the power of becoming rigid in an extended condition. Until quite recently the accepted teachings of physiology have given no help whatever to the clinician so far as any explanation of this phenomenon is concerned. In the year 1915, however, Professor Sherrington contributed an important paper to *Brain* which gives an entirely satisfactory explanation of the muscular hardening which is clinically observable in the colon.

Postural Activity of Muscular Fibres.

In this paper Professor Sherrington shows that muscular fibres, in addition to the power of contraction, have another form of activity to which he applies the term "postural activity," because it plays so important a part in maintaining the posture of the body. This form of activity might be mistaken for a true tonus, but he shows that if voluntary contraction be eliminated (by removal of the cerebrum of an animal, such as a cat) the muscles are capable of exerting considerable force without any definite contractile activity. For instance, if a limb be supporting a weight, the removal of the weight will not cause any material movement of the limb, as would have been the case if the weight were being supported by contractile activity. It seems as if a muscular fibre had the power of becoming rigid in any condition of extension or contraction and of retaining this attitude for a long period of time, or, on the other hand, of varying it as necessary under nervous control. In the case of the bladder he draws attention to the fact that an almost empty bladder can be gradually distended with almost no alteration of the intravesical pressure, the muscles, while retaining the same grip upon the contents, gradually lengthening, so as to enlarge the size of the bladder.

He kindly gave me the bearing of his observations upon the question here discussed. He says:

"In their postural or tonic activity the tension of muscles or muscle fibres is largely independent of their length. Therefore a ring-muscle, for example, in the gut, may quite well assume a 'cartilaginous' hardness and yet maintain a ring-shape of any desired lumen—or if requisite might presumably obliterate its lumen. The case of the gut is quite analogous to the bladder or stomach; the musculature of these latter will exert no more pressure upon 200 c.cm. of content than on 50 c.cm. They grasp their content with the same pressure independently of the length of the muscular fibres, just as the hand can grasp an orange with the same light pressure as a walnut."

He also uses the following simile:

"Perhaps I can put the notion briefly by comparing the muscle fibre to a plaster-of-Paris brick, which would set and unset at the desire of a nerve. If a 6 inch brick were desired it flowed into a 6 inch length and there set; if a 3 inch, then it unset from the 6 inch length, became 3 inches shorter and proportionately wider, and set again. If a 9 inch brick, conversely."

In these observations of Professor Sherrington we have a perfectly satisfactory explanation of the hardening of the colon with which we are clinically familiar. We may not yet be quite certain as to the relationship between the postural activities of the colon muscles and their contractile functions, but this point is, I think, immaterial to the present argument. In the normal bowel there must be perfect co-ordination of these two types of muscular activity, otherwise a conflict between them would result. In the cases of which we are now speaking we recognize the occurrence of lack of co-ordination in consequence of an abnormal amount of postural activity interfering with the normal peristaltic contractions.

Possibility of Pain Arising in the Colon.

In such a case as this the stronger of the two types of muscular activity will overpower the weaker—an occurrence which, in the case of voluntary muscles, would be certain to give rise to pain, and the degree of pain would be proportional to the force of the opposing types of muscular activity.

In the case of the colon there is good clinical reason to believe that abnormal muscular activity of this nature is capable of giving rise to a true sensation of pain. When speaking, however, of the sensation of pain being caused by muscular conflict in the colon, we have to remember that it is devoid of nerves of common sensation, and therefore theoretically might be expected to be incapable of originating a sensation of pain. Before going farther into this question some physiological points must be considered in connexion with the relationship of the normal activities of the colon to the central nervous system.

The colon muscles are in touch with the brain through the sympathetic nervous system, and its muscular and secretory functions and blood supply are regulated by afferent and efferent impulses passing along sympathetic nerve fibres. Now muscular activities in the colon as elsewhere call for increased blood supply to the muscles concerned, and we know that increased blood supply to the splanchnic area (such as that which takes place during digestion) is associated with a certain amount of vaso-constriction of the cerebral vessels and of the arterioles of the systemic circulation. We have all experienced the mental and physical inertia which is apt to follow a full meal. We may therefore say that muscular activity in the colon (as in other parts of the alimentary tract) will give rise to certain afferent impulses which have the effect of causing relative vaso-constriction of the cerebral vessels, and which also are inhibitory to the systemic circulation.

When there is excess of postural activity the increased rigidity of the muscular wall of the colon which results from it must call for abnormally powerful contractile efforts for the accomplishment of peristalsis, quite apart from the possibility of a kind of muscular conflict taking place between the two opposed types of activity. This abnormal activity must originate abnormally powerful afferent impulses in the sympathetic nerves of the colon, and in so far as reflex

circulatory phenomena are concerned we must expect as a consequence an abnormal amount of inhibition of the cerebral circulation and also of that in the systemic muscles.

Therefore, if we take a series of patients who all show by increased hardness and by tenderness of the colon (in situations where it is palpable) that there is an abnormal amount of postural activity of its muscles we may reasonably expect them to show symptoms referable to inhibition of the normal vaso-dilatation which accompanies cerebral activity, and also of the normal vaso-dilatation in the muscles which accompanies physical exertion. In such a series of patients we do find many who show such symptoms as these. They will use some such expression as the following: "I do not know what has come over me, I seem to be losing my energy. When I sit down to write a letter or do a bit of brain work, instead of doing it as easily as usual I frequently find that I have to force myself to do it." They will speak of "brain weariness" and "mental inertia," and other symptoms suggestive of inhibition of the normal vaso-dilatation. That this is the true explanation, and that they are not suffering from ordinary neurasthenia, is shown by the fact that when by abnormal effort they have started to work (in other words, have accomplished normal cerebral vaso-dilatation) they work as easily as normal, and do not suffer from the exhaustion after the work is done which is so characteristic of a true neurasthenic state.

We also sometimes find in these patients who show excess of postural activity of the colon muscles that there are symptoms suggestive of inhibition of the vaso-dilatation which normally accompanies muscular exertion, and they will speak of lassitude and a sense of weariness, which, however, is not true exhaustion, because it will speedily pass off after a little brisk exercise. These symptoms are not usually continuous, but are more apt to come on intermittently, and are most liable to occur at times when the colon is functionally active. The early hours of the morning is apparently a time when the colon might be expected to be active in those patients in whom a morning evacuation of the bowels takes place. It is very common to find that such patients, when suffering from this functional colon disturbance, are apt to wake up of a morning (whether earlier or later) with very considerable mental depression, and when the time comes for getting up they are apt to feel distinct lassitude on muscular exertion instead of the normal absence of weariness after a night's rest. This lassitude, however, will pass off as soon as a little active exertion is undertaken, showing that it was merely of a vascular inhibitory nature, and not a true weariness.

The following is a very characteristic case where a sudden attack of mental depression would come on under circumstances which suggested that it had some reflex nervous origin, and was not a spontaneous mental phenomenon.

The subject was a dentist who came under my care for colon disturbance and whose mental troubles lessened as his colon condition improved and who has now for many years been quite free from them. I will quote his own description of the sort of attacks to which he was liable. He said: "I am sometimes enjoying a game of draughts with my wife of an evening after supper when suddenly a black cloud seems to come over me. My wife is unkind to me, my children are wicked, my practice is going to the dogs, and I am in the depths of misery till I can go to bed and sleep it off, as I can do." This same patient was liable to sudden attacks of mental depression with a suicidal tendency, so much so that when at the seaside he would not take a steamer trip unless he had some friend with him who promised never to leave him for an instant. Although happy as a rule, he felt that a sudden and uncontrollable attack of mental misery might overtake him at any minute just as a sudden attack of abdominal pain might do.

Returning to the question of pain in connexion with this functional muscular disturbance of the colon, it will readily be granted that if a muscular conflict does occur in the colon, such as has been described, the afferent impulses which would arise in the muscles concerned would be capable of causing a sensation of pain if the messages reached the sensory tracts of the cord. Now in the cases of which we are speaking pain is of frequent occurrence and of varying severity, and its clinical features are such as to confirm the theory that its causation must be the same as that of the reflex nervous symptoms of which we have spoken. For instance, as a rule the severity of the pain varies according to the amount of abnormal postural hardening (as judged by palpation) which is present in the colon. Also the pain is liable to occur at times of functional activity of the colon, just as the reflex symptoms do. Moreover, not infrequently it can be noticed that the two sets of symptoms alternate in the same patient. The following is such a case.

A patient came complaining of indigestion and abdominal pain. He said, "I sometimes have pain in my abdomen, and I sometimes have attacks of mental depression, and it is a strange thing that when I am free from pain I have much mental depression, but when I have pain in my abdomen I am free from mental depression, and am happy. I cannot understand it—it ought to be the other way round; I ought to be happy when I am free from pain and depressed when I have got it, but I am not." In this case, when the nervous impulses were transferred from the sympathetic to the sensory tracts of the cord he felt pain; when they travelled to the brain along sympathetic paths he felt mental discomfort in place of pain.

In this connexion it is of interest to note that it is occasionally possible to substitute a sensation of pain for one of mental depression by intentionally inducing pain in a tender portion of the colon. By this means the afferent impulses which formerly were finding their way to some other part of the brain, and were causing mental misery, appear to be deflected to the sensory tracts and a sensation of pain takes the place of mental discomfort. I have on one occasion myself been able to experience this transference, and I sometimes find patients who can succeed in doing so after the possibility of the success of such an attempt has been pointed out to them.

The clinical study of these cases seems therefore clearly to demonstrate that pain can be caused by the transference to the sensory tracts of the cord of afferent impulses which arose in the sympathetic system and which if retained in that system would have caused disturbance of the brain of a reflex character and would not have caused physical pain. It seems probable that when the muscular activity which originates the nervous impulse is decidedly more powerful than those due to normal digestive activity there is considerable probability of this transference taking place, and where, as in cases approaching the severity of ordinary colic, the afferent impulse is an extremely powerful one the transference of the nervous impulse from the sympathetic system to the sensory tracts of the cord almost invariably takes place and a sensation of pain is the result. With regard to the localization of the pain it is not as a rule felt over the spot where it probably arose, but is usually "referred" or "segmental" in character.

Mental Misery of Colon Origin.

The clinical study of a series of cases where mental depression and neurasthenic symptoms result from functional disturbance of the colon muscles shows that there are some cases which cannot be explained by the theory of inhibited cerebral vaso-dilatation which has already been discussed. Where the circulation alone is concerned we have pointed out that the defect can be removed by a more vigorous mental effort, just as is the case with physical lassitude which can be overcome by a more vigorous muscular effort. It is not at all unusual, however, to find cases of functional colon disturbance where the mental depression is so severe as to be wholly beyond the patient's voluntary control, and constitutes an acute mental misery which is comparable in the mental sphere to a severe physical pain in the sphere of sensation. The occurrence of such cases compels recognition of the fact that nervous impulses arising in the colon and passing to the brain along sympathetic nerve paths have the power of directly disturbing that portion (or those functions) of the brain upon which the sense of wellbeing is dependent, and of giving rise to an acute mental misery which truly represents the physical pain which they would have felt if the afferent impulse causing it had been transferred from the sympathetic to the sensory tracts of the cord. It is my custom to tell such patients that they are feeling stomach-ache in their minds instead of in their bodies.

The fact that these cases are really due to the functional disturbance in the colon is demonstrable clinically by the fact that they yield to treatment which lessens the amount of postural activity in the colon. Patients have told me that the mental cloud of which they complained began to lift within a couple of days of commencing treatment for the colon trouble.

I have said nothing as to some less usual but very striking cases of reflex disturbance due to functional colon disturbance. I have seen two cases where the reflex contraction of the systemic arterioles was sufficient to cause attacks of vasomotor angina pectoris. I have seen cases with symptoms suggestive of Raynaud's disease yield speedily to

colon treatment. I have dealt successfully with cases of reflex weeping, of reflex screaming, and of reflex asthma and other interesting cases, which were clearly due to nervous disturbances arising in the colon. These varied cases have certain features in common. They are associated with colon hardness and tenderness. Symptoms are most likely to come on during periods of functional activity of the colon or when muscular activity in the colon is liable to be started by mechanical vibration. Moreover they are cured, and often speedily, by treatment which lessens the abnormal muscular activity of the colon.

In confirmation of what has been said as to the three chief ways in which the abnormal muscular activity of the colon affects the nervous system, it would be easy for me (as soon as time is available for analysing the material at my disposal) to select, from the hundreds of cases which I have treated during the last thirty years, three parallel series of cases where the condition of the colon, the mode of occurrence of the symptoms, and the results of treatment exactly corresponded, but where in the one series the symptom complained of would be pain, in the second evidences of reflex circulatory disturbance, and in the third series mental depression or mental misery (unaccompanied by any pain) would be the only symptoms complained of, except possibly constipation.

I hope that the further study of this subject will show that these theories regarding pain which I have brought forward have a solid foundation in fact, and that a more general recognition of the part which is played by functional muscular disturbance of the colon in cases which are apparently pure neurasthenia or causeless mental depression may greatly lessen the amount of suffering now being borne by these unfortunate individuals.

TWO HUNDRED AND TWENTY-FIVE CASES OF PNEUMONIA: AN ANALYSIS.

BY

AMBROSE W. OWEN, M.D., B.S.LOND.,

HONORARY SURGEON, ABERDARE AND DISTRICT GENERAL HOSPITAL.

SINCE October, 1917, I have attended 225 cases of pneumonia. I have excluded four patients, aged respectively 72, 70, 66, and 66, in whom pulmonary congestion was a contributory but not the main cause of death. I have tabulated the others etiologically as follows:

	No. of Cases.	Male.	Female.	Deaths.	Male.	Female.	Mortality per cent.
Lobar pneumonia	34	26	8	3	3	0	8.8
Bronchopneumonia:							
Primary and secondary to bronchitis	68	43	25	10	9	1	14.7
Secondary to measles and German measles	30	19	11	6	3	3	20.0
Secondary to pertussis	15	7	8	5	3	2	33.3
Secondary to pertussis *plus* measles	4	2	2	1	0	1	25.0
Secondary to acute gastro-enteritis..	1	0	1	1	0	1	100.0
Secondary to malaria	1	1	—	—	—	—	—
Influenzal (1,400 cases of influenza)...	72	38	34	6	2	4	8.3
Totals	225	136	89	32	20	12	14.2

The mortality for the series is 14.2 per cent. The youngest case was aged 3 weeks, the oldest 83 years; both recovered. Diphtheria and scarlatina do not figure in the list, and out of several hundred cases of the two diseases (endemic here) I have not seen one in which pneumonia occurred. Doubtless the mild nature of the cases as compared with former days accounts for this. I have included in the list only undoubted cases of pneumonia. Cases marked in my visiting books "? pneumonia, capillary bronchitis, etc." have been omitted, as have also many cases of prolonged influenzal pyrexia quite possibly pneumonic in nature, so that I have under- rather than over-estimated the total number of cases.

I make no claim to absolute scientific accuracy in the table, but as I have made a practice of taking notes of all cases of pneumonia I have a vivid recollection of all the cases and think I am fairly correct. Probably the cases of primary bronchopneumonias are over-estimated and those of influenza under-estimated. A large number of the cases occur in infants and young children, and unless occurring in the influenza seasons, or in houses where adult members are ill with influenza, the differential diagnosis at the lower ages must needs be very difficult.

All the patients were of the industrial class, living for the most part (five were in hospital) in overcrowded, not always overclean, houses, and had as nurse, as a rule, a harassed female already preoccupied with the needs of a large number of children. The mortality, in spite of this, seems to compare favourably with that of hospital statistics. Is it because only the worst cases are sent to hospital, or is it the journey thither?

Recurrences were noted in twelve patients, each having two attacks. I have excluded in this connexion three patients now in a state of chronic bronchopneumonia; I have credited each with one attack, their condition never having resolved. They are liable to attacks of febricula—all, in fact, have withstood influenza, and were I not cognizant of their condition I should have labelled them all influenzal pneumonia, on account of the physical signs.

A study of the cases shows that pneumonia, especially in the fatal cases, is often a disease of ill health. With the exception of the cases under one year, after the infectious diseases (and even in them a certain amount of contributory ill health can often be demonstrated) the possession of a clean bill of health is of paramount importance in the prognosis. I have little fear of pneumonia in a young, undoubtedly healthy adult. This is, of course, well recognized by all physicians, as witness the old German army statistics, mentioned by Osler, in which the death rate among 40,000 picked men was only 3.6 per cent.

Previous Morbidity of Cases.

Of my non-fatal cases phthisis definitely existed in 4. It was diagnosed (before the pneumonia) by a tuberculosis physician in 2 (I was doubtful—both now in good health); 2 were marked "? T.B. element"—both had attended previously at a tuberculosis centre; one was marked "strumous child—liable phlyctenular conjunctivitis"; one "scars neck after T.B. glands"; one "one brother phthisis, other T.B. elbow"; and one occurred in a young boy admitted to hospital for operation for "? chronic appendix or T.B. peritonitis." He developed pneumonia whilst waiting operation, which was postponed until he got stronger, and has not yet been performed. These make 12 tuberculous, or strongly suspected tuberculous, patients; 3 were recent syphilitics, well beyond the secondary stage—that is, the pneumonia was not due to the syphilis. Chronic bronchitis existed in 5, and gouty bronchitis in one. An attack of subacute rheumatism (old undoubted case of rheumatism) was followed by pneumonia in one; he was removed to hospital for treatment of the rheumatism on a cold day, and the pneumonia was due, I thought, to the removal and not to the rheumatism. One man had aortic incompetence—also old rheumatic. One infant was a congenital syphilitic baby and one rickety. Two adults were chronic alcoholics; and one boy, aged 16, a congenital idiot. These make 28 morbid cases, and to these must be added 3 (recurrence took place in 3 of the 28), which make 31 morbid cases out of 193—a percentage of 16.

Fatal Cases.

Two of these were of very tender age—one 6 weeks, the other (a twin) 11 weeks; both followed pertussis. Of the morbid conditions, one, aged 4 months, was a premature (eight months) baby; two, aged 10 and 11 months (former a twin), had "severe anaemia"; one, aged 11 months, was a congenital syphilitic, marasmic baby; one, aged 2¼ years, was a paraplegic child who had been so for three months after an attack of myelitis (not poliomyelitis), which I attributed to influenza; one, aged 26, was a dwarf with chronic bronchitis and emphysema; and one, aged 53, was a chronic asthmatic. Phthisis also played a prominent part here; 3 were definitely phthisical: the ages were 32, 25, and 4¼ years. The two latter were mother and daughter, and all three were victims of the November, 1918, influenza epidemic. I might mention here that 5 out of the 6 influenza deaths were in "morbid" patients. In 3 cases phthisis was strongly suspected before the pneumonia: No. 1, aged 34 (since his death his wife and a daughter, the latter one of this series, are dead of phthisis); No. 2, aged 3¼ years, lasted for three months after pneumonia following measles *plus* pertussis, and

died of phthisis—a sister had died previously of tuberculous meningitis; No. 3, aged 16 months (his only brother had died of phthisis a year previously). Thus 13 out of 32 were "morbid" cases—that is, 40.6 per cent. These figures represent the apparent morbidity; as will be seen later, in one or two cases morbidity probably existed but was not suspected. These facts are more usefully expressed in the following table, which gives also the age incidence of all the cases. It will be seen that 50 per cent. of the deaths were in infants under 1 year, and 75 per cent. under 5 years. The apparently high mortality between 25 and 40 is explained by the high morbidity rate which existed in this series. No death took place between 5 and 25. A man, aged 48, marked "?," with no morbidity against him, was a thin and cadaverous man with whose previous history I was not familiar; also a fatal case, aged 51, was thin and pigeon-chested, but with no actual disease.

Age.	No. of Cases.	Deaths.	Mortality per cent.	No. of Fatal Cases Morbid.	Percentage Morbidity of Fatal Cases.
Under 1 year ...	39	16	41	4	25
1 to 2 years ...	29	4	13	1	25
2 to 5 ,, ...	50	4	8	3	75
5 to 25 ,, ...	61	0	*Nil*	—	—
25 to 30 ,, ...	10	2	20	2	100
30 to 40 ,, ...	15	3	20	2	66
40 to 50 ,, ...	11	1	9	?	—
50 to 60 ,, ...	6	2	33	1	50
60 to 70 ,, ...	1	0	—	—	—
70 to 80 ,, ...	2	0	—	—	—
83 years	1	0	—	—	—
Totals ...	225	32		13	

General Features.

Of the lobar cases 5 were apical (4 right side), and of these 4 were associated with severe delirium; 1 was fatal; 5 were "central," all associated with vomiting, and "? gastric" was the diagnosis on the first visit in 4, "? pn., typhoid, or C.S.F." for several days in the other. The signs in this latter were not definite until a day or two before the crisis. I remember well wondering at the time how curious it was that three of these central cases occurred in the same street within three weeks of each other (February, 1918), and were very similar in character. I had no suspicion at the time that they were other than lobar; looking back, however, in the light of the influenza epidemics I feel they were possibly influenzal—the epidemic did not start here until late in June, 1918. I wonder, indeed, if all cases of central (so-called lobar) pneumonia are not influenzal in nature (see later). One of the lobar cases developed pericarditis and arthritis, and one empyema. The latter was the only case in which effusion was marked enough to be recognizable; two of the cases were larval, both lasting three days.

Bronchopneumonias.—One case occurred after swallowing paraffin; two were "anaesthetic"—after herniotomy and appendicectomy respectively; the latter also developed endocarditis, the former was a suspected tuberculous case. Two of the cases (fatal) took place in the influenza seasons, and were possibly influenzal.

Influenzal Pneumonias.—The physical signs varied. I have no doubt that a good many of these cases were diagnosed as bronchopneumonia and lobar pneumonia in former days, at least by the younger generation with no experience of the 1889 pandemic and before the illuminating experience of the recent pandemics. The cases were so few and far between that they escaped recognition. The central type of pneumonia (see above) was common in the recent epidemics, particularly in the epidemic early in 1922. I remember well one of the latter cases in which, on account of the bilious vomiting, dirty brown tongue, low temperature (100°), and absence of chest pain and dyspnoea, I was not certain that I was not dealing with a case of typhoid until the crisis on the seventh day; before this the signs of pneumonia were not definite. These cases would be more difficult to diagnose in the inter-epidemic periods, when the term "influenza" is not constantly ringing in the ears. Creeping pneumonia was also common. Many of the cases bore a marked clinical resemblance to lobar pneumonia. Of my 72 cases, 4 were secondary to pleurisy (primary involvement of pleura is commoner in influenza than is generally thought), 28 of the cases were unilateral—at least a diligent search found nothing on the other side. The breathing, however, was not the loud, dry breathing of lobar pneumonia, but was more distant and more "crackly." I suspected acute phthisis in not a few of the cases—a suspicion not borne out in a single case so far; a brisk haemoptysis occurred in some of the one-sided cases, and, curiously, in those in whom it occurred the pneumonia was often of short duration. In two cases of this nature the temperature dropped from 103–104° to normal on the third day, and the patients were out walking (without consulting me) on the tenth day. One of the cases developed acute appendicitis during an attack of influenza; I removed an acutely inflamed appendix and he developed double pneumonia after the operation; it resembled the influenzal cases (much heliotrope cyanosis), so I have not counted it "anaesthetic"; he recovered. One case had intense jaundice—the only one of the 225 in which this was noted. His was a creeping, asthenic pneumonia (temperature 100°) with intense delirium; he threw himself 15 feet out of his bedroom window into the garden below at 1 o'clock on a frosty November morning, his wife and sole nurse—to whom I had given orders that he must not be left a moment—being under the influence of alcohol at the time. He escaped with a few scratches and the crisis occurred two days later. Two of the cases were pregnant—one (third month) carried to term and bore a baby with congenital heart disease (? foetal endocarditis); the mother died three years later. The other (sixth month) aborted a month later and recovered.

These statistics would be incomplete if I did not state that 6 of the patients have died at varying intervals after their attacks; in 4 the pneumonia could be held responsible to some extent for the fatal ending. No. 1 died, aged 26, ten months later of delirium tremens (chronic alcoholic). No. 2 died, aged 3 years, one and a half years after from tuberculous meningitis. Tuberculosis was not suspected until the end. No. 3 died three and a half years after, aged 4½ years, of "chronic interstitial pneumonia"—possibly syphilis of lung, as child was a congenital specific. No. 4 died, aged 47, of "phthisis" three years after influenzal pneumonia when three months pregnant; tuberculosis was not suspected until after pneumonia. No. 5 died, aged 52, of "hysteria gravis" (refused food) three years later; she was examined by six doctors and no signs were found. No. 6 died, aged 10, after an interval of ten months, of "phthisis." A note at time of pneumonia read: "Pn. ? influenzal or tuberculous." Her mother is since dead of phthisis; her father died of pneumonia (suspected of tuberculosis). This case, however, developed severe diphtheria two months before death.

Treatment.

I have tried none of the vaunted specifics. The general treatment is as usual—milk, beef tea, albumin water, and plenty of cold water until after the crisis. The most useful drug, in my opinion, is ammonium carbonate—5 grains every four hours for adults and 1 grain for an infant of 1 year, and proportionately according to age. I have often seen a great improvement on the addition of this drug to the medicine, and I now give it in all cases where pneumonia is feared; it seems to act better than the sp. ammon. aromat. Strychnine and digitalis I now never use; the few early cases in which I tried them died; they seem much more useful in the cardiac debility following the crisis—why, I cannot say, unless it be that digitalis raises the blood pressure too much in the acute stage. Morphine I give only to adults, and only in the form of tinct. chlor. et morph. (*B.P.*, 1885), which is soothing without being too depressing to the respiratory centre; 10 minims are given with the carbonate. The hypodermic injection of morphine I think very harmful. I now never give morphine in any form to young children—even the use of tr. camph. co. seems to increase the cyanosis; it must be remembered, however, that the difficulties of controlling the dosage are a factor to be reckoned with in industrial practice. Brandy, I am sure, is of real benefit. I think that the use of the hypodermic syringe—with the apprehension it causes in a good many of the patients—could be done away with without any appreciable increase in the mortality resulting.

TREATMENT OF CHRONIC SYNOVITIS OF THE KNEE-JOINT.

BY

G. GELSTON ATKINS, M.C., B.A., M.D.,

CAPTAIN R.A.M.C.,

SURGICAL SPECIALIST, 23RD BRITISH STATIONARY HOSPITAL, BAGHDAD.

THE question of chronic synovitis of the knee-joint is of supreme importance in the army. Men who suffer from it are not fit for work with a battalion, as they always have an ever-ready excuse for avoiding duty; although in some cases it would be possible for them to continue their work. Every R.A.M.C. officer must be familiar with this type of case, as it is quite common to find in one's surgical wards men who state that, on several occasions, their knee has been "out."

The condition of the affected knee that one commonly finds is as follows: The knee-joint is full of fluid. The vastus internus muscle is invariably wasted, sometimes to a very marked degree. The vastus internus cannot voluntarily be fully contracted; this is best explained by two diagrams representing (1) the contraction of a normal vastus internus, and (2) that associated with a chronic effusion in the knee-joint, as registered by a Marie's tambour.

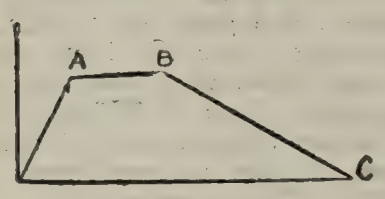


FIG. 1.

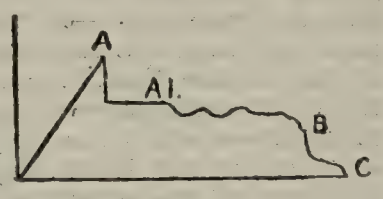


FIG. 2.

FIG. 1.—Normal contraction: A voluntary contraction rises sharply to A, and the top of the contraction curve can be maintained, A—B. Finally the relaxation of the muscle is controlled, B—C.

FIG. 2.—Contraction of vastus internus from a case of chronic effusion in the knee-joint: A voluntary contraction does not rise so sharply as in Fig. 1. There is a sudden drop, A—A1, over which the patient has no control (this can often be detected clinically). The top of the contraction curve cannot be maintained, and the relaxation is not under control.

In old-standing cases some lateral instability of the knee-joint is usually present. Tenderness on pressure may be elicited over various points around the head of the tibia. In most cases it is impossible from the indefinite history to diagnose a torn cartilage, unless the external cartilage is involved, in which case we have the true "clicking knee"—a click being felt every time the knee-joint is voluntarily fully extended—but this is rarely met with owing to the anatomical relationship of this cartilage. It is not attached to the external lateral ligament, whereas the internal cartilage is attached to the internal lateral ligament. In the majority of cases the cartilage is not at fault, and a diagnosis of this condition should not be made unless there is a very definite history of locking of the joint at the time of the original injury. Sudden locking *plus* sudden "going back" is diagnostic of a torn cartilage; if it diminishes and goes away slowly the trouble is not a cartilage. Again, a definite thickening over the anterior end of the internal cartilage *plus* pain behind the head of the fibula due to strain on the diametrically opposed portion of the capsule is due to an injured internal cartilage.

A strain of the internal lateral ligament causing an effusion into the joint is a common injury, and very often simulates a torn cartilage. A probable explanation of the clinical signs already mentioned is as follows. The knee receives a strain, an effusion into the joint takes place, and reflexly the vastus internus is thrown out of action; the reason is that the chief nerve of supply to the knee-joint is the nerve to the vastus internus, the nerve passing through that muscle and supplying it before it enters the joint. As a result of this reflex action the vastus internus rapidly wastes and loses tone, and a condition as represented in Fig. 2 is reached. By treatment the effusion is got rid of and the man returns to duty; but owing to the weakened condition of his vastus internus any small twist given to the joint again strains the knee, with the result that more fluid with further weakening of the vastus internus takes place, and so a vicious cycle is established. If, on the other hand, the vastus internus has regained its normal tone, any small twist to which the knee is subjected is at once counteracted by the voluntary bracing up of the vastus internus muscle. In the weakened type of vastus internus already referred to, this bracing action cannot take place owing to that muscle being reflexly out of action (see Fig. 2, A1).

The treatment is to break this vicious cycle, and the obvious structure to attack is the muscle. If we provide for the injured structures as large a blood supply as is possible, we are using nature's method, and in order to do this it is necessary to use the affected muscles. We have seen, however, that the vastus internus responds only weakly to a voluntary stimulus, and it is therefore necessary first to re-educate this muscle to respond to a voluntary contraction. This is done by causing the patient to keep his leg perfectly straight, in which position he is instructed to practise bracing up the vastus internus; this is done daily. In cases of severe wasting, the use of an artificial stimulus, such as is produced by a Bristow coil, is recommended, until such time as a voluntary stimulus is again exhibited. The muscles of the thigh are massaged and subjected to contrast baths of hot and cold water. This treatment very soon produces a marked increase of tone and of muscular element in the vastus internus. It is possible within a fortnight (if the treatment is conscientiously carried out) to produce an increase in girth of the thigh at this level of from 1 to 1½ inches. No marked improvement will be noticeable unless the effusion in the joint is first got rid of, and this is also done by increasing the blood supply around the joint. The fluid in this chronically inflamed joint is pathological and will be absorbed. The greater the blood supply around the joint the more rapidly will the effusion disappear, and the effusion disappears only at the same rate as the stretched fibrous capsule of the joint retracts. The required toning effect on the capsule is amply provided for by the use of contrast baths, which also favours an increase of blood supply. To increase further the blood supply in the posterior part of the joint the patient is instructed to place the sole of the foot of the same leg as the affected knee on the dorsum of the foot of the sound leg, and by opposing the ankle extensions of the sound leg against the flexions of the bad leg considerable exercise can be given to these muscles, all of which increases the blood supply around the affected joint. The patient is not confined to bed, but he is allowed only light exercise and is instructed that he is not to walk over any uneven ground. Occasionally a tight bandage over wool is applied to the joint at night.

Under this treatment the fluid disappears from the joint, and the vastus internus regains complete tone, which will prevent a further recurrence of effusion into the joint. There is one type of knee-joint occasionally met with in which all methods fail to get rid of the fluid, except aspiration. As soon as it is decided that one is dealing with a case of this kind, aspirate at once, as it is all-important to get rid of the effusion. If the fluid is due to any intra-articular condition, the effusion will recur, and this fact helps in the diagnosis of an otherwise difficult case. If an operation is to be done, the tissues to be operated on and the knee-joint have been brought to a very healthy condition by the treatment outlined. Tender spots found at the insertion of tendons about the knee-joint are due to a local effusion of the fibres at their insertion. The above treatment, by contrast baths and massage, will cause these local patches of effusion to disappear. In a series of 300 cases treated by the above method it was found that in 75 per cent. of the cases no recurrence of the effusion into the joint occurred for some time afterwards, after continued football, etc. In these cases, the original symptomatic diagnosis was altered to "strain of knee-joint." If a further effusion occurred, some intra-articular lesion was diagnosed. Care must be taken to eliminate tuberculous knee-joint, and also an effusion of the joint due to a hypertrophic infrapatellar pad of fat, in which case suitable limitation of complete extension must be provided for.

In conclusion, chronic effusion of the knee-joint is, in 75 per cent. of cases, not due to an injured cartilage, but to a strain of some structure around the joint. This can be effectively dealt with by re-education of the vastus internus, *plus* the production of as large an increase as is possible in the blood supply around the joint. This latter is obtained by (1) contrast baths; (2) limited active exercise of all muscles around the joint; and (3) massage. If this treatment is instituted in every case of chronic effusion of the knee-joint the number of operations for a so-called injured cartilage will diminish, and many men will be able to enjoy various forms of sport which they otherwise would not be able to take part in for fear of "putting out" a knee again.

NEURO-SYPHILIS WITH SEVERE LARYNGEAL CRISIS: TRACHEOTOMY.

BY

JOHN W. LEITCH, M.A., M.B., F.R.F.P.S.GLAS.,

VISITING EAR, NOSE AND THROAT SURGEON, BELLAHOUSTON HOSPITAL; DISPENSARY SURGEON FOR DISEASES OF THE EAR, NOSE AND THROAT, GLASGOW ROYAL INFIRMARY.

CONSIDERATION of the symptoms presented in the case here reported points to an irritative cortical lesion as the most likely cause of the severe laryngeal crisis. The experiments of Krause, Semon, and Horsley have shown that there is a centre for adduction of the vocal cords in each cerebral hemisphere at the anterior part of the lower end of the ascending frontal convolution. Irritation of either centre results in adduction of both cords, while abduction though represented is more difficult to produce, and is rather governed from the lower centres in the floor of the fourth ventricle.

A pensioner, aged 35, was admitted about 3 a.m. on January 15th, 1922, as an urgent case suffering from respiratory embarrassment and cyanosis, having been found in this condition by the police. I saw him first about 8.15 a.m., in response to an urgent call, as his symptoms were becoming worse. He was then propped with pillows in bed in a semi-recumbent position, had a haggard and anxious expression, and looked seriously ill. The pulse was regular, 72 a minute, and of good quality and tension. Respiration seemed shallow and difficult, but there was no stridor. He was apathetic and apparently unable to raise his voice above a whisper. In a few minutes respiration ceased altogether, and his pulse then became weaker and ceased to be palpable. Tracheotomy instruments had meantime been got ready, and a low tracheotomy was then performed by a single incision of the scalpel. The tracheotomy tube was inserted without delay, but respiration did not begin, and it was noticed that there was no bleeding from the tracheotomy wound. Artificial respiration by compression of the lower ribs (Howard's method) was resorted to, and in a short time spontaneous breathing returned. A few seconds later, and before consciousness returned, there were convulsive movements of the arms and legs sufficiently violent to throw the tray with the instruments off the bed and to give some trouble to keep the patient from being jerked out of bed. He then appeared to waken up, lay down quietly, and was able to phonate quite well when the finger was placed over the tracheotomy tube. Three hours later, when I saw him again, he had lost his anxious look and expressed himself as feeling well. The tube, which had slipped out of the trachea, was replaced in position.

Examination of the larynx showed that the epiglottis was infantile in type and hid the greater part of the vocal cords. The arytenoids moved normally, and there was no oedema or other sign of abnormality. There was a superficial ulcer round the fraenum of the tongue. Knee-jerks were exaggerated, especially on the left side, and there was slight clonus of the left ankle. There was no noticeable "scanning" speech. The pupils were equal, moderately dilated, and reacted well to light. The urine contained some albumin and a trace of blood. On January 18th direct laryngoscopy with cocaine anaesthesia showed the movements of the anterior parts of the vocal cords as far as the vocal processes to be normal, but the posterior one-third moved sluggishly and did not approximate fully. There was some redness and oedema of the mucous membrane of the arytenoids and false cords, but this was considered to be due to passive congestion, and not inflammatory. There were no further laryngeal symptoms, and in ten days the tube was removed and the wound healed up. On January 30th examination revealed a painless swelling the size of a hazel nut in the left anterior pillar of the fauces. A week later this gumma had completely gone, and another had appeared at the anterior border of the right sterno-mastoid muscle, causing some pain and stiffness of movement of the neck. This also subsided within a week, leaving no trace. Dr. Douglas Adams, under whose care the patient was, has kindly supplied the following further details. He had frequent diplopia, lightning pains in legs, girdle sensation, frequency and precipitancy of micturition, difficulty in walking in the dark. The knee-jerks became slightly sluggish, but were never absent, and there was impairment of tactile sensation in the legs. The pupils continued to react actively to light. The Wassermann reaction for blood and cerebro-spinal fluid was positive. The cerebro-spinal fluid gave a normal cell count and protein content. The colloidal gold reaction showed a strong luetic curve—namely, 3322110000.

The patient was discharged from hospital on March 3rd, 1922, to continue antisyphilitic treatment, which had been confined to mercury and iodide on account of the albuminuria.

The occurrence of general convulsions during recovery in this case would be explained by extension of the irritation to neighbouring centres, as frequently occurs in laryngismus stridulus. The appearance and rapid subsidence of gummata elsewhere supports the view of a cortical lesion, while the paucity of localizing symptoms points to a gummatous formation in the *membranes* covering the cortical centre rather than in the brain substance. Had there been a lesion in the neighbourhood of the pons or fourth ventricle other cranial nerves could scarcely have escaped being involved. At the same time the possibility of early tabes has strong claims. It is known that such crises are an early—and sometimes the earliest—symptom of this disease, and that the spasmodic attacks vary greatly in frequency, occurring sometimes only two or three times in the course of years, and sometimes daily or oftener.[1] Yet a diagnosis of early tabes does not negative the probability of the laryngeal crisis in the present instance being due to an irritative cortical lesion caused by a gumma.

Another point worthy of note is the quick recovery, even after the cessation of both circulation and respiration. The question at once arises as to how soon after apparent death measures for resuscitation must be regarded as of no avail. A recent paper in the BRITISH MEDICAL JOURNAL,[2] in which among other cases one of resuscitation two hours after apparent death is recorded, is of interest in this connexion. It seems reasonable to conclude that, at least in cases where there is not an obvious cause of death, measures for resuscitation should not be lightly abandoned. Particularly does this apply in cases of sudden death under chloroform or other general anaesthetic, in which the patient is usually comparatively vigorous, and in which perhaps a rapidly performed tracheotomy followed by Howard's method of artificial respiration might be tried more often with success. Free entrance of air into the lungs is assured, there is less disturbance of the patient than with Sylvester's method of artificial respiration, while external massage of the heart is at least as efficient; and finally, it is much less drastic than direct massage of the heart through an incision into the pericardium.

I am indebted to the Minister of Pensions for permission to publish the above.

REFERENCES.

[1] Allbutt and Rolleston: *System of Medicine*, 1908 edition, pp. 280, 281.
[2] Dr. D. E. Anderson: Resuscitation after Apparent Death, BRITISH MEDICAL JOURNAL, March 11th, 1922, p. 416.

THE TREATMENT OF ASYLUM DYSENTERY BY MEANS OF ANTIDYSENTERY SERUM.

BY

P. LORNIE, O.B.E., M.D.,

SENIOR ASSISTANT MEDICAL OFFICER, MONMOUTHSHIRE ASYLUM;

AND

D. ELLIS JONES, M.R.C.S.,

JUNIOR ASSISTANT MEDICAL OFFICER, MONMOUTHSHIRE ASYLUM.

THE results in the following cases of asylum dysentery, treated at this institution during the past two years, indicate the value of antidysentery serum. The matter is of importance, since during the second half of 1921 the number of persons in mental hospitals who were attacked by the disease was 728, and of these 126 died.

The serum mainly used was supplied by Messrs. Burroughs, Wellcome, and Co., and was prepared by injecting horses with cultures of Shiga's, Flexner's, and Kruse's bacilli. In Cases 5 and 6 a serum of a similar nature prepared by Messrs. Evans, Lescher, and Webb was administered.

Case 1.—Female, aged 48. The patient, who was in an extremely debilitated state, developed diarrhoea. On the fifth day of the attack the dejecta contained blood and mucus. No previous attack of dysentery had been recorded. The milk diet was stopped and a diet of albumen water, Benger's food, and Valentine's meat juice substituted. At the same time the patient was put on a bismuth mixture and iodoform enemata. This treatment was continued for six days without improvement; 40 c.cm. of the serum were then injected into the pectoral regions. In three days' time the blood and mucus had disappeared, and the patient showed a marked physical improvement. Convalescence was somewhat gradual, but no further traces of blood or mucus were detected, although diarrhoea continued in a mild form for two weeks after the injection. There was no pyrexia during the illness. Nine months afterwards the patient developed slight diarrhoea, cardiac weakness, and pulmonary congestion, and died. At the necropsy the mucous membrane of the large intestine was much injected, but there was no ulceration.

Case 2.—Female, aged 44. For three months this patient had suffered from intermittent diarrhoea, which had been treated with salines and bismuth. Blood and mucus then appeared in the dejecta. Antidysentery serum, 45 c.cm., was administered. The dysenteric symptoms disappeared in three days' time. A week after the injection the bowels had not opened for twenty-four hours; twelve days after injection the stools were normal. No pyrexia was recorded during the course of the disease. The patient one year after treatment has had no recurrence.

Case 3.—Female, aged 21. This patient had suffered from diarrhoea for three days when blood and mucus were observed. There was slight pyrexia, ranging round 100°. Antidysentery

serum, 25 c.cm., was given hypodermically. In five days the temperature had fallen to normal and the evidences of colitis had disappeared.

Case 4.—Female, aged 46. This patient developed a severe dysenteric attack, with blood and mucus, much abdominal pain, and pyrexia up to 103°. She was given 25 c.cm. of the serum, and after five days no further looseness of the bowels was recorded.

Case 5.—Male, aged 74. This man suffered from a severe attack of dysentery with slight pyrexia. Small doses of salines were given at frequent intervals. After two days of the saline treatment no blood or mucus was observed in the dejecta, and the temperature was found to be subnormal. The diarrhoea, however, continued, and two days afterwards there was a recurrence of the pyrexia and traces of blood and mucus were again detected in the motions. The patient was then given an injection of 25 c.cm. of serum, and after an interval of two days only two evacuations were recorded in the twenty-four hours, one of which was formed. There was a marked physical improvement twenty-four hours after the administration of the serum.

Case 6.—Male, aged 72. This patient, who had two years previously suffered from dysentery, again suffered from an attack of the disease. He was at the same time suffering from pernicious anaemia in a state of remission. For the first two days there were frequent evacuations containing blood and mucus, and associated with hyperpyrexia ranging up to 105.4°. On the third day the temperature was found to be subnormal, but the colitis continued unabated. On the fourth day the temperature rose to 100° and 40 c.cm. of antidysentery serum were injected. On the following day the temperature was normal and the evacuations had decreased in number, but the blood and mucus were still present. Next day the number of motions was not diminished but blood and mucus had disappeared. In a further three days' time he had only one formed action, and shortly afterwards he was complaining bitterly of constipation.

Case 7.—Male, aged 53. This patient developed an acute dysenteric attack with a temperature ranging up to 104°. Twelve hours after the commencement of the attack 40 c.cm. of the serum were given. The temperature fell to normal within twelve hours after the injection, and during the day only three dysenteric motions were passed, although eight had been passed on the previous day. Two days afterwards he had only one formed motion.

Case 8.—Male, aged 67. This inmate suffered from a moderately severe dysentery with an even temperature of 101°. Only 25 c.cm. were used. The condition at once cleared up and at the end of a week he was again in his usual state of health.

Case 9.—Male, aged 82. This man developed dysentery at the same time as the previous case. The same treatment was used, and the course of the disease was exactly similar to that recorded under Case 8.

Case 10.—Female, aged 44. This patient was found to be suffering from a severe attack of dysentery, associated with blood and mucus, tenesmus, much abdominal pain, very frequent motions, and high pyrexia. She was given 20 c.cm. of serum daily for four successive days. The temperature had fallen to normal by the fourth day, and the tenesmus and pain had disappeared, while the number of motions had greatly decreased. By the fifth day mucus and blood had disappeared. The patient rapidly recovered, although a slight diarrhoea lasted for a week afterwards. This patient two years previously had had an attack of equal severity, which took a month to clear up under salines.

It is somewhat difficult to dogmatize on such a small number of cases, but owing to the comparative freedom of this institution from dysentery it has taken over two years to collect these records. The results are certainly of a more satisfactory nature than any obtained in this institution before the introduction of serum treatment. Apart from the rapid clearing up of the blood and mucus and the cessation of the diarrhoea, the rapid fall in the temperature and the immediate and marked physical improvement have been outstanding features.

FURTHER OBSERVATIONS UPON EXTERNAL HYDROCEPHALUS.

BY

CECIL E. REYNOLDS, M.D.CAL., M.R.C.S.,

LOS ANGELES.

IN the BRITISH MEDICAL JOURNAL of July 16th, 1921 (p. 66), and elsewhere, I have described typical cases of acquired external (occult) hydrocephalus and the treatment adopted. These clinical pictures have been found with great constancy in numerous subsequent cases. The treatment, however, has been simplified in many cases. A striking fact has presented itself, in that congenital external hydrocephalus exhibits certain differences of character from the acquired form, and, since the operative outlook is much worse in the congenital cases, it is important to be acquainted with diagnostic methods other than the history as given by the parents.

A congenital external hydrocephalus is frequently associated with microcephaly. The reason for this is that the brain pulsation is a great factor in the normal development of cranial capacity. When there is a layer of fluid external to the brain this expansile pulsation is diminished. Curiously, the ventricles do not enlarge as a rule in external hydrocephalus, at least not to any extent. The brain instead shrinks, the skull is often arrested in development, and the subarachnoid and subdural fluid stays abundant because the foramina of Magendie, Key, and Retzius are patent, and often there is no tela choroidea or arachnoid covering the fourth ventricle at all.

Many patients have normal-sized heads, but appear mentally defective with some bulbar paresis, and varying degrees of spastic or flaccid diplegia or pantoplegia. Invariably the legs are more affected than the arms, since, next to the cerebellum, the region of greatest pressure seems to be the leg centres at the vertex where a puddle collects around the arachnoid villi, in the same way as rain collects and eddies at the mouth of a partially blocked drain. An opening in the dura in this region unless promptly closed is almost inevitably fatal in these cases, for cerebro-spinal fluid escapes in a jet and continues in spite of a vertical posture of the head and with ever-increasing frequency of respiration until the respiratory centre fails or multiple capillary cortical haemorrhages occur. The safest approach is a graduated suboccipital deduralization in chronic cases, which is also the more logical. Supratentorial measures are subsequently required in a certain proportion of cases. Many cases of so-called Little's disease are therefore not due to haemorrhage nor to trauma at the vertex, the vertical symptoms being secondary to defect in function of the basal membranes.

I operated upon a four-days-old infant suffering from continuous right-sided Jacksonian fits following a prolonged forceps labour, and found excessive clear fluid at the vertex, but no haemorrhage, as was expected. The dura was left open over the Rolandic area in this case, and the child made a perfect recovery and is now normal. Such a procedure would have been followed by a very severe reaction in a chronic case.

It is not easy to say why a uniform increase of external fluid produces a flaccid and sometimes a spastic diplegia, but, contrary to expectation, the flaccid type of this disease has often a better prognosis than the spastic. This latter fact possibly indicates that the cerebellum has been more compressed than the cerebrum in the well-nourished flaccid cases. Another point is that the congenital cases do not have fits, as far as my observation goes, whereas the acquired cases of external occult hydrocephalus always do, even when the disease has been acquired within the first few days of extra-uterine life. I believe that the congenital cases have had their fits *in utero*, or the cerebral devitalization has progressed beyond the convulsive stage before birth.

In a series of 29 cases of external hydrocephalus operated upon there has not been one with either clinical or serological signs of syphilis, nor with appreciable enlargement of the head. On the other hand, cases of internal hydrocephalus due to cerebello-medullary adhesions show a high percentage of positive Wassermann reactions, and, of course, great cranial enlargement. Such cases are scarcely worth surgical consideration.

The acute specific diseases, especially tonsillar infections, as well as birth trauma, appear to be the usual causes of primary external hydrocephalus. Without doubt, the frequent textbook statements regarding "ex vacuo" accumulations of fluid are true of local collections in certain instances, but I believe that when extracerebral fluid is general, the brain has shrunk because the fluid accumulated owing to defective powers of absorption of the basal arachnoid, and that the fluid did not accumulate to fill the vacuum left by an otherwise unaccountable atrophy of the cortex. In other words, there seems to have been a tendency in the literature to put the cart before the horse in this matter. Why the brain shrinks and the ventricles do not dilate in external hydrocephalus is purely a question of physics.

THE third conference of the International Union against Tuberculosis will be held in Brussels from July 11th to 13th. The subjects for discussion include: (1) Tuberculosis in the child, (*a*) before school age, and (*b*) during school life; (2) antituberculosis prophylaxis in the home by the visiting nurse; and (3) the work of the tuberculous during and after cure. Visits will be organized to the different antituberculosis establishments in Belgium. Those who wish to become members are requested to send their names and addresses with subscription (£1) before June 26th to the secretary, International Association for the Prevention of Tuberculosis, 20, Hanover Square, W.1.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A CASE OF ADDISON'S DISEASE, RAPIDLY FATAL.

THE following case is of interest on account of the well-marked signs and symptoms, and in the light of the *post-mortem* findings.

The patient, a boy aged 17, was admitted to hospital in a very exhausted condition. The skin was so dark in colour that he was thought to be a mulatto. It was stated that weakness and discoloration of the skin had begun three years before, and seemed to date from a severe attack of sickness. Both the weakness and discoloration had persisted, but had varied considerably in degree from time to time. The bronzing of the skin was noticed to be most marked always when the patient was very exhausted. He had worked only intermittently since the onset of the symptoms, but had never been confined to bed until a week before admission, when he became extremely exhausted, and complained of pains over all his body. The boy had been much troubled with headaches, but had had no sickness after the first attack three years before, and the appetite and digestion had been good; indeed the appetite had been voracious. He had complained from time to time of pain in the lower part of the abdomen on the right side. During infancy the left knee had swelled and required incision, and had not healed finally till two years later. Apart from this the child had seemed healthy. The family history was negative, except that the father suffered from bronchitis.

On admission the patient was wasted and extremely weak, but was moderately well developed. He was so light that a nurse was able to carry him down the ward in her arms. He was apathetic and dazed, and did not speak unless roused. The skin was cool, dry, and deeply bronzed. The conjunctivae were very slightly tinted. There were no enlarged glands to be felt. Round the left knee there was extensive scarring with considerable limitation of movement. The temperature was 98.2°, the pulse rate 104 a minute, and the pulse was running and of very poor quality. The blood pressure measured 64 mm. of mercury. The heart was not enlarged, and the sounds were weak but pure. A blood count showed that the red blood cells numbered 5,200,000, the haemoglobin was 95 per cent., and the white blood cells numbered 15,000. Except for flattening of the percussion note at the right apex the respiratory system appeared normal. The respirations numbered 28 a minute. The tongue was dry and furred, and the lips and teeth covered with sordes. The abdomen was retracted, and there were slight tenderness and resistance on palpation of the right iliac fossa. The liver and spleen were not enlarged. No abnormal constituents were found in the urine.

A few hours after admission the patient became very restless; the following morning he had a convulsive seizure and became unconscious. The seizure was marked especially by rigidity affecting both arms, which were flexed at the elbows, the jaws, and both legs. The head was retracted, but there was no cervical rigidity. Kernig's sign was present. There were no knee-jerks, and the plantar responses were indefinite. There was no cyanosis. From time to time clonic movements of small amplitude occurred, but they gradually became less frequent; the rigidity decreased slowly, and the patient died four hours after the onset of unconsciousness.

On *post-mortem* examination the heart appeared healthy except for an almost complete absence of epicardial fat. Both lungs were extensively adherent to the chest wall, and showed limited chronic tuberculous lesions at their apices. The liver, spleen, and kidneys showed marked *post-mortem* change, but otherwise appeared normal. Neither suprarenal gland could be identified, so the whole mass of tissue above the kidney was dissected out on each side for microscopic examination. There was a caseous and calcareous gland mass lying close to the coeliac axis extending towards the left semilunar ganglion. The thymus was persistent but not prominent. The thyroid gland showed marked congestion. There was oedema of the brain.

Microscopically the thymus showed a nearly normal structure with some congestion. The thyroid showed generalized interstitial inflammatory change; the stroma showed marked cellular proliferation, while in places the colloid was eroded and vacuolated, and in other parts had disappeared; the gland had the appearance of great functional activity. The pituitary showed intense congestion but otherwise nothing of note. The tissue from the right suprarenal area was divided into several blocks, and sections examined. In none of the sections could suprarenal tissues be found. The left semilunar ganglion was embedded in fibrous tuberculous tissue, but the nerve elements showed only slight degenerative change. The tissue from the left suprarenal area was similarly treated, and two of the blocks showed isolated islands of suprarenal tissue surrounded by dense fibrous tissue and caseous material. The cells were of the cortical type, and many showed extensive vacuolization with loss of nuclear staining. No medullary suprarenal tissue was recognized.

The most interesting features of the case were: (1) The practically complete absence of suprarenal tissue and the length of time during which this condition must have existed before death occurred. (2) The marked activity of the thyroid gland, probably compensatory in nature, affording evidence of the correlation of function of the two glands. (3) The persistence of the thymus gland, in view of Wiesel's suggestion that adrenal insufficiency hinders its involution.

I wish to thank Professor W. K. Hunter for permission to report the case, and Dr. J. A. G. Burton for the histological details.

CHRISTIAN M. FLEMING, M.B., Ch.B.,
Late House-Physician, Royal Infirmary, Glasgow.

COBRA BITE.

CASES of recovery from cobra bites, after manifesting all the symptoms of the effect of the venom in the central nervous system, are so rare that the following account should be placed on record:

A young Anglo-Indian employee of the Bengal-Nagpur Railway had recently captured a female cobra (*Naia tripudians*) 4 ft. 6 in. long, and on May 24th, 1921, was exhibiting it to some friends of his, when it suddenly bit him twice on the dorsal surface of his right wrist, at about 8.45 a.m. A string and handkerchief were tied tightly above the bite, and he was brought to hospital, where he was seen about 9 a.m. A rubber tourniquet was applied tightly round the forearm, and gold chloride was injected subcutaneously around the bites after they had been incised. The patient was placed in bed in hospital and two injections of antivenene, 20 c.cm. each, were administered under the skin of the abdominal wall. He was suffering agony from the constriction of the ligature and tourniquet, and the arm was getting considerably swollen. The ligatures were removed about 10 a.m, much to his relief, and I warned the nurse on duty to let me know as soon as he presented any untoward symptom. At 10.55 a.m. it was reported that he was restless and said he could not see. On examination I found that he had complete ptosis of both eyelids, he was bringing up a considerable amount of sticky saliva and mucus from his mouth, and his speech was becoming slurred. I immediately ordered antivenene to be injected intravenously, and this was done at once, 60 c.cm. being injected. From now on symptoms of paralysis developed with great rapidity. The sticky mucus increased greatly, and he vomited up bile and mucus twice; he then lost all power of speech and of swallowing, and had severe spasms. He was quite conscious all the time, and was very distressed by the constant flow of sticky mucus, which had to be swabbed out of the back of the pharynx very frequently. He lost control of his sphincter ani, and had three copious watery evacuations within an interval of ten minutes. I ordered continuous oxygen inhalation at 11.30 a.m. as the respirations had become very shallow and sighing, interrupted every few minutes by a severe spasm, during which the back became arched, after one of which respiration stopped altogether. The patient was lifted to the floor, and I had to do artificial respiration for about a quarter of an hour before the respiratory movements recommenced and became in any way regular. Once this was re-established he seemed to turn the corner. From this time (12.45 p.m.) onwards the symptom that troubled the patient most was the flow of sticky mucus; he had no more spasms. I saw him again about 2 p.m., when the respirations were still regular, but the pulse, which had been 80 to the minute, had gone up to 120, and later rose to 132. He complained by signs of great thirst, so I gave him ice to suck, which relieved him a little, but he still could not swallow water. I ordered atropine sulphate gr. 1/100 at 4.15 p.m. with the hope that it would not only stimulate the respiratory centre but also diminish the secretions. It came up to my expectations; the secretions perceptibly diminished, and the respiratory movements became deeper. The patient now started to talk again, although the speech was very slurred, and I began to hope that he would pull through. At 8 p.m. the pulse became slower, although his temperature had gone up to 102° F. At 10 p.m. he was still restless, and I ordered that another atropine injection should be given if he had any respiratory trouble. At 10.30 p.m. he complained of a severe pain over his heart and had dyspnoea, and atropine gr. 1/100 was again injected. This had an immediate beneficial effect; he slept for forty minutes, and from then onwards he did not look back. He slept off and on during the night, and by 7 a.m. on May 25th the only paralytic symptom noticeable was ptosis, which finally disappeared by 10 a.m. His only complaint now was the arm, which was very inflamed and swollen, and was sloughing where the gold chloride was injected. The sloughs subsequently came away, and afterwards a skin graft was applied; the patient was discharged from the hospital without any contraction.

In this case the cobra, which was in captivity, undoubtedly injected a lethal dose of venom into the patient, as evidenced by his symptoms, and the success attending the treatment was due to the injection of massive doses of Calmette's antivenene direct into the circulation. A contributory cause to the recovery was, I am convinced, the injection of atropine, which, so far as I know, has not previously been given in such cases. The venom of the cobra kills by paralysis of the respiratory centre, while atropine in medicinal doses stimulates the respiratory centre. All secretions from the mucous membrane and lungs are also diminished, which contributes to an appreciable extent in stimulating respiration. In this case the action of the atropine was most marked in diminishing the secretion of the saliva and the mucus of the buccal mucous membrane, and also in stimulating the respirations. I would strongly recommend its trial in addition to other remedial agents in every case of cobra bite.

V. ST. JOHN CROLEY, L.R.C.P. and S.Edin.,
Medical Officer, Khargpur, Bengal-Nagpur Railway.

Reports of Societies.

DIATHERMY IN SURGICAL PRACTICE.

AT the meeting of the Section of Surgery of the Royal Society of Medicine on June 7th, with the President, Mr. RAYMOND JOHNSON, in the chair, a discussion took place on "Diathermy in surgical practice."

Mr. CLAYTON GREEN, in opening, said that diathermy was a method of treatment on the principle of the cautery, but with the difference that whereas with the cautery destruction was limited to the area practically in contact with the cautery point, in diathermy, as used for surgical purposes, the area of destruction was enormously increased. The chief advantage in applying this method as opposed to the cautery was the great ease with which it could be directed to growths in relatively inaccessible positions. It was his dissatisfaction with ordinary operative procedures in cancer of the tongue and floor of the mouth which led him to adopt diathermy as an alternative. In the more advanced cases it had the advantage that it did away with any question of cancer infection of the wound, it allowed destruction of a much wider area of tissue than could be obtained with the knife, and it was applicable to cases otherwise inoperable or in which an operative procedure of such magnitude would be necessary as to be extremely hazardous. It had certain disadvantages, however; in the first place, it was advisable to ligate any of the main vessels across the route traversed by the cautery. In all cases where it was necessary to remove a portion or the whole of the tongue or the floor of the mouth he invariably tied the vessels. Another disadvantage was that the wound was of the nature of a foul slough produced in a foul cavity. Although, in cases submitted to operation in the ordinary way, a certain amount of sepsis was more or less inevitable in the mouth, he admitted that the amount of sloughing appeared at first sight to be a detrimental factor in the application of this method. In the result, however, only one of his cases treated by diathermy showed any ill effects arising from this extensive sloughing. Yet another disadvantage was that the bone touched by the point of the cautery was necrosed, and the amount of time necessary for the separation of such necrosed bone was several weeks, during which time the patient had to be scrupulously careful to keep his mouth from anything which could give rise to sepsis. Again, in operating with diathermy a considerable amount of care had to be taken both by the operator and the manipulator of the machine, otherwise the patient or the operator or both might be burnt. On one occasion he burned himself considerably, and the burn took a long time to heal. He had submitted 31 cases of carcinoma of the floor of the mouth, tongue, or tonsil to operation by this method, and there were no complications, and only one death (from bronchopneumonia). He attributed the immunity from pulmonary trouble to the fact that no blood whatever trickled down the trachea into the lung. Of the 31 cases there were 6 in which there had been no recurrence, either locally or in the glands. In a certain number a local cure was effected so far as the primary focus was concerned. With few exceptions there had been alleviation. He had also applied the method to bladder trouble, though in comparatively few cases. So far as his experience went, small localized growths were efficiently treated and well controlled by intravesicular cystoscopic methods, but when the growth was larger the choice would lie between resection of the bladder wall and the destruction of the papillomata by the suprapubic opening. The latter was the method he had practised in 6 cases. The scarring of the bladder did not appear to interfere with the functioning of the ureters. He would not urge that diathermy should be adopted in preference to any other method, but he thought that it had a good deal to recommend it. In the large group of inoperable cases where the surgeon had to turn away, reluctantly admitting his inability, this method supplied a want in a most admirable manner, and gave relief where no other means of relief could be found.

Mr. DOUGLAS HARMER spoke of the treatment by diathermy of malignant growths, particularly of the upper air-passages. Ordinary excisions with the knife gave very unsatisfactory results, and with the exception possibly of cancer of the vocal cords and of the lip one could hardly be certain of curing more than one-third of the malignant cases by simple excision. With diathermy the recurrence of a growth could sometimes be prevented quite successfully even if it had failed to respond to ordinary cutting methods. Diathermy had completely altered his own opinion and that of his colleagues with regard to the treatment of carcinomas of the floor of the mouth. If these cases could be obtained before there were any palpable glands in the neck they did well; and it was surprising what good results might be obtained in cases of carcinoma of the tongue, even when very extensive. Carcinoma of the tonsil was one of the worst forms of carcinoma to be met with, but here again there was no question that with diathermy good results could be obtained, without recurrence for three or more years. In some very extensive carcinomas diathermy gave great relief of pain. Without hesitation he would declare that for this particular type of growth in the floor of the mouth diathermy was the treatment of choice. With many growths it was advisable to excise first and then treat the cavity with the button or flat plate so as to heat it up thoroughly and sterilize it completely. In cases of carcinoma of the jaw he exposed the growth freely; if there was a great mass of it he cut it away or removed with the spoon, and treated the remainder of the cavity unmercifully with the cautery. In view of the subsequent application of diathermy it did not matter that some part of the growth remained after excision, because the thorough sterilization by the cautery did away with any risk of infecting the wound. In applications to the face there was a danger that in attempting to get rid of a carcinoma inside the cheek the skin outside the cheek should be destroyed; therefore his applications were made very gently and tentatively in this region. He thought he could say that with diathermy there were no bad results. At St. Bartholomew's Hospital well over 100 cases had been treated, and the mortality was limited to two patients who had died of secondary haemorrhage; but secondary haemorrhage was no more common with this method than with ordinary cutting operations. There was certainly extensive sloughing, and the wound presented a very untidy and unpleasant appearance, but there was practically no toxaemia. The electric current also did away with the pain in a way that cutting operations failed to do. It was remarkable how it "knocked the sensory nerve sideways." Therefore it was of value in inoperable cases, if only on account of the relief of pain. The scar which was formed over the diathermic wound was invariably smooth and pliable. In certain cases of lupus where it was advisable to get a rapid recovery he had found diathermy superior to any other method of treatment; in naevi which were vascular and unsightly it was possible to bring about rapid coagulation, and so get rid of the swelling; and in certain innocent tumours such as warts, which were liable to recur if cut out with the knife, better results could be obtained with diathermy than with ordinary surgery.

Dr. E. P. CUMBERBATCH exhibited some cases to the Section, and said that he had treated by diathermy certain rodent ulcers which had resisted other forms of treatment, including ionization, *x* rays, and radium. One case of rodent ulcer occurred in an old woman who had been treated previously for the same condition by zinc ionization; the ionization had caused the disappearance of the ulcer, but it had recurred, and ionization then had no effect upon it whatever. Diathermy was applied, and there were no signs of recurrence now after three or four years. A case of naevi which was treated by diathermy in 1910, on the first introduction of the method to British electrotherapeutists by Nagelschmidt, was seen by him seven years later, when it had recurred, and he brought about its disappearance again by the same method.

Mr. CECIL ROWNTREE said that for some years he and his colleagues at the Cancer Hospital had been using diathermy in advanced cases of cancer. At the outset there were some technical difficulties arising from the use of an entirely new method. One question was whether the use of one or of two poles was the more satisfactory. One of his colleagues used both poles on the tumour, and, he thought, got more extensive destruction in less time, and with better ultimate results, than others who employed the unipolar method, which, however, was the more generally used. Another difficulty in treating mouth cases was the formation of vapour in the mouth, which obscured the view; and then, again, there were difficulties arising from the use of the anaesthetic and from the various gags and specula. He had met with secondary haemorrhage with no greater frequency than after ordinary operations with the knife, but there seemed always to be a fear that secondary haemorrhage might arise. He was convinced that diathermy did sometimes produce a very

intense and rapid enlargement of the glands of the neck. On two occasions when this occurred he, perhaps foolishly, tried to remove the glands, and found them converted into a pus-containing cancerous sac. There was no possible doubt as to the value of diathermy treatment in advanced cases. It relieved pain, lengthened the patient's life, and encouraged hope. In a certain number of the earlier growths it was also most valuable. He felt strongly inclined, where possible, to excise the glands and then to do the diathermy.

Mr. W. G. SPENCER said that he had had no opportunity of actually employing diathermy save in one or two exceptional cases. He could only congratulate the previous speakers upon their results, and if he deprecated what he thought were extreme views as to the value of the method it was not because he wished to minimize at all its great importance when applied in certain cases. He thought that one of the cases shown by Dr. Cumberbatch as an instance of the good results of diathermy—an epithelioma of the scalp—might have been excised with a plastic operation, which would have been a fairly simple matter. The patient now appeared to be developing an epithelioma following the diathermic scar. That was very likely to follow as a result of burning. He could not agree with the proposal to treat either by diathermy or by *x* rays or radium simple cases of rodent ulcer on the face or elsewhere. They could be excised, especially if one went deep enough, and with the plastic operation they were healed up within a week, and nothing more was to be seen of them unless the patient developed rodent ulcer elsewhere. He congratulated Mr. Harmer upon the way in which he had treated endotheliomas of the roots of the tongue and the fauces, but in the case of ulcers of the floor of the mouth he could not help wondering how they were diagnosed. Was it proposed to apply a form of cautery to an ulcer upon which a definite diagnosis had not been made? The late Sir Henry Butlin had made great efforts to protect people from cancer of the tongue by getting general practitioners to persuade their patients to have these patches cut out and submitted to microscopic examination. He deprecated the application of the cautery to these patches in the absence of such an examination. He could not agree with the application of the cautery after excision; in the case of the tongue, for example, after getting the mouth clean, it was easy to sew up the surface of the tongue, getting the healthy portion of the tongue to cover in the raw surface, and so obtain healing by first intention in the mouth, and afterwards to get a mobile tongue. He believed that diathermy was of use within certain well-defined limits; Mr. Clayton Green's application of diathermy to bladder conditions was a most important advance in surgery, but he protested against the extension of diathermy to all sorts and kinds of conditions indiscriminately.

Mr. PHILIP TURNER said that in some cases of rodent ulcer which he had treated by diathermy he had been struck by the suppleness of the scar which resulted; he had expected to find the scar so firm and hard that the patient would not be able to open his mouth. There was no doubt that for advanced cases of rodent ulcer diathermy offered the greatest promise. Many cases of early rodent ulcer would also be treated satisfactorily by this method, but in a great many of them, when the ulcers were small, excision was the simpler and quicker procedure. As for the use of diathermy in malignant disease, epithelioma of the tongue might be destroyed by a combination of surgical measures and diathermy in which any part that could not be removed by the knife should be destroyed by the cautery; but in the cases of which he had had experience there was frequent recurrence in the neck after operations in the region of the floor of the mouth. In the treatment of malignant disease the best method was early and complete removal, and this depended upon early diagnosis; but in addition to the surgical methods there were certain auxiliaries, of which diathermy was one of the most useful, and he would rank it before *x* rays or radium. With regard to accidents following diathermy, he had had one case of secondary haemorrhage and one case in which a patient had a very bad burn. He quite agreed as to the remarkable disappearance of pain after diathermic applications.

The PRESIDENT said that it had been a very enlightening discussion, though he confessed himself still in doubt whether in carcinoma of the mouth diathermy should be reserved for the cases which were to be regarded as otherwise inoperable or only amenable to very extensive operation, or should be regarded as the treatment of preference in all cases.

GENETIC ORIGIN OF DEMENTIA PRAECOX.

AT a meeting of the Medico-Psychological Association of Great Britain and Ireland, held in the rooms of the Medical Society of London, on May 25th, the President, Dr. C. HUBERT BOND, made sympathetic reference to the loss by death of Dr. Blakiston, Dr. Abbott, and Dr. James Middlemass. Of the latter he spoke in terms of high eulogy for his work on the Council of the Association, and in the compilation of the Association's *Handbook*. A resolution of sympathy was carried by members rising in their places.

Sir FREDERICK MOTT, K.B.E., F.R.S., read a paper on the genetic origin of dementia praecox, which was illustrated by micro-photographs and drawings. He began by mentioning previous publications he had made concerning the changes he had found in the cells of the central nervous system, especially the cortex, which would account for suspension or suppression of function, and consequently disintegration of the psychic unity. He assumed that the less severe changes denoting hypofunction would account for cases in which recovery or partial recovery occurred. He drew attention to the fact that he had investigated cases which began with what was diagnosed as confusional insanity and manic-depressive insanity, which had terminated in post-adolescence in dementia, and he had found in these cases a regressive atrophy of the reproductive organs similar to that found in 27 male cases of dementia praecox. He regarded all these types of psychoses as genetic in origin, and he referred to the two schools of thought in relation to dementia praecox: the psychogenic and physiogenic. According to Jung the primary cause is a psychological fault in function whose history can be traced back to childhood. The physiogenic theory which Sir Frederick Mott (based upon his researches) advocated presupposes an inherent germinal narrow physiological margin of normal functional capacity of the brain, and stresses, whether physiological, psychological, or pathological, may be sufficient to excite, reveal, or accelerate the disintegration of the psychic unity owing to the genetic inadequacy. He referred especially to the effect of emotional stress and mental conflict with repression of visible manifestations upon the endocrine glands, and the interrelation of the suprarenal, thyroid, reproductive organs, and brain. He considered that the influence of toxic agents *per se* in the product of the true psychoses was exaggerated. He next described the microscopic examination of the brain and reproductive organs of two interesting cases of dementia praecox:

The first case was a congenital imbecile with infantile uterus and ovaries, who developed symptoms of dementia at puberty. Here there was arrest of development of the supragranular layer of pyramids of the neo-cortex, with glia proliferation. This might be correlated with the ineducability of the girl. At puberty symptoms of dementia came on, and this might be correlated with a widespread degeneration of the cells of the cortex, especially of the deeper layers of pyramids and the polymorph and infragranular layer, which Shaw Bolton conceived to be connected with the vegetative and reproductive functions.

The other case was one of acute dementia praecox occurring in a highly intellectual youth, in which there was insanity on both the maternal and paternal sides. There was a marked regressive atrophy of the testes, together with the characteristic changes in the cells of the cortex. A brother who died from bullet wound of the brain also had a similar regressive atrophy of testes. A sister suffered with manic-depressive insanity.

A dictum of Hughlings Jackson, "the last to come ontogenetically the first to go," Sir Frederick Mott thought might possibly be explained by the fact that the countless millions of cells of the cortex cerebri were developed from relatively few of the protomeric cells constituting the neural tube and primary cerebral vesicles. Therefore, if there was a germinal defective formative energy, it was this part of the nervous system which was latest developed ontogenetically and phylogenetically that would be affected either by arrest of development or by an innate lack of durability. The supragranular layer of pyramids of the neo-cortex was the latest developed, and might therefore, as in the imbecile, undergo arrest of development. As the sex instinct in adolescence matured it stimulated and energized all the cells of the body, including those of the brain; but if there was a genetic inadequacy, with a narrow physiological margin of the highest level of neurones upon which to function and maintain metabolic equilibrium, then any one of the stresses mentioned might be sufficient to cause hypofunction with suspension or suppression of the normal activities of the highest and latest developed level, and disintegration of the psychic unity.

The PRESIDENT, after expressing the cordial appreciation of the paper by members, asked whether the dictum of Hughlings Jackson, which had been amply confirmed, that the faculties or functions which came last were the first to go, could be regarded as a progressive fact—that is, as era succeeded era would the more recently developed structures assume a condition of greater stability than at present?

Dr. MENZIES pointed out what seemed to him an objection to Sir Frederick Mott's theory—namely, that the Betz cells were analogous to neo-cortex, and were of late development, phylogenetically and ontogenetically, and therefore on this reasoning ought to be affected, but were not in primary dements. Moreover, the Betz axons were not myelinated.

Dr. CARSWELL spoke of the far-reaching importance of this communication in giving a true insight into the pathology of mental disease. With regard to the remarkable fact mentioned by Sir Frederick Mott that of 10,000 Serbians in the war who had had great stress and every variety of privation only five became insane as a sequel, in the speaker's large experience among the mentally afflicted in Glasgow the incidence of insanity per annum among the industrial population in a large engineering locality was the same—namely, 5 per 10,000, even though stress and strain and indulgence in alcohol were operative there too. In districts where dwelt what might be termed the sediment of the population the incidence of certifiable cases rose to 10 or 12 per 10,000. Figures such as these supported the view of those who said that for stress and strain to result in insanity there must be organic genetic defect also.

Dr. HARVEY BAIRD asked whether spermatic or ovarian extract was likely to do good in the cases referred to. In a few cases of dementia praecox he had tried it, but he could not say it was successful. Dr. MILLS asked whether the failure of the endocrine glands or the defect in the supramarginal layers of the cortex was the greater factor in cases of dementia praecox, or were both defects correlated in the production of the condition?

Professor GEORGE ROBERTSON (Edinburgh) also warmly praised the lecturer for his contribution. He agreed that all forms of insanity appeared, at their margins, to run into one another, like the colours in the rainbow, which were not sharply demarcated but merged into the next. He was much struck by Sir Frederick Mott declaring that it was not necessarily the brain which must be investigated in these cases, reminding him of the view of the French writer Binet that the intestinal tract was largely responsible. Moreover, Bale had done a number of *post-mortem* examinations on cases dying of mental disease and found changes in the central nervous system which he regarded as the cause of the mental condition. He discussed the paper in some detail.

Sir FREDERICK MOTT, in reply, said the Betz cells, as shown by their myelination, were ontogenetically of earlier development than was the rest of the cortex. There was myelination in all the projection centres, and the sensory-motor cells must be myelinated before the association cells, as it was only at birth that an individual could have a simple sensation; later these were linked up with perceptions. In the dog's brain myelination was more developed in ten days than in the human brain in three months. It must be remembered that a cell nourished itself, it was not nourished; therefore he did not expect improvement in dementia praecox from the giving of extracts. If any were at all hopeful it would be thyroid, because the thyroid secretion originally went into the alimentary canal, and therefore it could be absorbed. Moreover, when extracts were given by the mouth, it was not definitely known what happened to them; therefore it would seem to be wiser to give them by the rectum or the vagina. The typical form of the disease under discussion was dementia simplex—loss of mind—and that he associated with degeneration of the nerve cell which was beyond repair; though many symptoms depending on hypofunction might get better.

The PRESIDENT reminded the members of the great debt the Medico-Psychological Association had already been under to Sir Frederick Mott for his various important contributions, and referred to the effect it would have upon the teaching of psychiatry, as well as on its practice. Sir Frederick was heartily thanked.

The Maudsley Lecture.

On the same day members attended at the County Hall, Spring Gardens, to hear Sir Maurice Craig deliver the Third Maudsley Lecture, the subject being "Some aspects of education and training in relation to mental disorder."

COLLAPSE THERAPY IN PULMONARY TUBERCULOSIS.

A MEETING of the Aberdeen Medico-Chirurgical Society was held in the society's hall on the evening of June 1st, with the President, Dr. SCOTT RIDDELL, in the chair, when Dr. J. M. JOHNSTONE, of Tor-na-Dee Sanatorium, read a paper on "Collapse therapy in the treatment of pulmonary tuberculosis." He explained that the main principle involved was the production of rest of a diseased lung by immobilization, and showed how the condition of collapse favoured healing by the growth of fibrous tissue, by hindering spread of the disease, by eliminating mixed infection and stopping toxaemia. After sketching the history of artificial pneumothorax he discussed the indications and contraindications in detail. He laid it down that the ideal case for pneumothorax would be one with moderate or advanced unilateral disease which had failed to respond to sanatorium treatment in a reasonable time, but that, in practice, a small active lesion or a larger quiescent lesion in the opposite lung was not an absolute contraindication. He questioned the wisdom of producing collapse in the very early stages of the disease on the ground that cure was not unlikely by other less drastic means in a shorter time, and whilst he agreed that pneumothorax might sometimes be advisable in advanced bilateral disease for the relief of symptoms it must be looked upon as palliative rather than curative. For curative pneumothorax about 5 per cent. of the general run of cases were suitable, but in only 60 to 70 per cent. of these cases could pneumothorax be successfully induced. After referring to the treatment of haemoptysis, pleurisy with or without effusion, and spontaneous pneumothorax by pneumothorax and gas replacement methods, he briefly discussed the question of how long the lung must be kept collapsed in different types of cases to allow healing to occur. Dr. Johnstone strongly advocated *x*-ray control of artificial pneumothorax treatment, especially during the induction stage. He summarized the published statistics of the general results of pneumothorax treatment and read notes of a number of cases, successful and unsuccessful, treated at Tor-na-Dee Sanatorium. Lastly, he described the operative measures which had been advocated and utilized to produce partial or complete collapse of a lung, both as alternatives or supplements to artificial pneumothorax and when pneumothorax had failed. The methods of severing adhesions preventing complete pneumothorax, the uses of phrenicotomy, extra-pleural pneumolysis, partial and complete thoracoplasty, and extra-pleural pneumothorax, were all reviewed, and cases of paraffin replacement of the upper lobe and Saugman's thoracoplastic operation were described. It was urged that all these operations could be, and should be, done under local anaesthesia in order to prevent swamping the opposite lung with discharges.

Dr. JAMES LAWSON, of Tor-na-Dee Sanatorium, dealt with the technique of the operation of artificial pneumothorax and the conduct of such a case. He described the Pearson-Lillingston apparatus and the conduct of the initial operation, laying stress on the importance of a definitely negative manometric response as an indication that the point of the needle lay between the layers of the pleura. He pointed out how the manometer might act as a minimum pressure gauge recording merely the negative pressures of inspiration, and, the needle being blocked by the visceral pleura during expiration, no oscillations occur. He showed further how deceptive negative pressures might be found in the lung when the air entry into the part punctured was restricted, and how by adding oil of peppermint to the fluid in the gas reservoir the passage of gas into the lung and air passages could be quickly detected by the patient. Attention was directed to the rise in pressure which took place in an artificial pneumothorax cavity with the change in the position of the patient from the lateral to either the dorsal or erect attitude, and how this was of importance when it was desired to re-establish a previous pressure or when excessive pressures might increase the risk of rupture of the lung, as in cases with adherent cavities. The conduct of a case he divided into three stages: First, that occupied in arriving at the optimum pressure or the lowest pressure at which the maximum degree of collapse could be attained, and he pointed out the absolute necessity of careful *x*-ray control during this period if such complications as laxity of the mediastinum were to be detected. The second stage he described as that concerned with the maintenance of the optimum pressure, and dealt

with the accumulation of fluid as the commonest complication. His experience suggested that effusions might exercise a beneficial effect, and provided satisfactory collapse could be maintained such effusions were best left alone. In the event, however, of toxic symptoms arising referable to the fluid, frequent gas replacements and possibly lavage of the cavity would be required. The third stage was that of re-expansion, which, however, Dr. Lawson was unable to deal with fully in that paper.

A discussion then ensued, taken part in by Professor ASHLEY W. MACKINTOSH, Dr. STRUTHERS STEWART of Nordrach-on-Dee Sanatorium, Sir HENRY GRAY, Mr. ALEXANDER DON, and the PRESIDENT.

Reviews.

A HANDBOOK ON VITAMINS.

Vitamins and the Choice of Food,[1] by Mrs. PLIMMER and Professor PLIMMER, is based on a course of lectures delivered by the latter in Aberdeen, and is intended to give a short summary of the vitamin problem intelligible to the general reader. The authors have produced a very interesting book in which the important and complex problems associated with the action of vitamins are dealt with very clearly; it should be intelligible to anyone possessing a slight knowledge of physiology, and medical men will find in it much that will appeal to them.

The book deals with the general properties of the three vitamins and special attention is given to the deficiency diseases, scurvy, beri-beri, rickets, and keratomalacia. Two chapters are devoted to the effects produced by diets deficient in various amino-acids and to the relation between pellagra and qualitative deficiency in proteins. These chapters are particularly interesting and we are not aware that the information collected in them can be found elsewhere in a readily accessible form. The final chapters deal with the effects produced by partial vitamin deficiency and with the general question of errors in the choice of food. A point of special merit in the book is that full emphasis is laid on the facts that have been definitely established about vitamins, and the enormous social importance of deficiency diseases is properly insisted on.

Most of our knowledge of vitamins is recent and many interesting questions are still matters of controversy; there is always a tendency to overemphasize controversial points by devoting undue space to them, and in this way the impression may be produced that a subject is in a much more unsettled state than it really is. The authors have avoided this error very well, and bring into clear relief the enormous importance of the part that deficiency diseases have played in the history of the world. Most medical men will probably be surprised by the extent of the ravages of the deficiency diseases which this book records. Vitamins are sometimes spoken of as fads, and it is well to be reminded of the essential fact that deficiency diseases have destroyed armies and navies and have ruined empires in the past; millions of lives have been lost that could have been saved had our present knowledge been available.

One of the penalties of writing a short and readable account of a new and growing subject is that it is necessary to dogmatize upon matters that are still uncertain, or at any rate to simplify unduly problems which are really complex. The authors in this book treat rickets as a disease simply due to deficiency of vitamin A; there is no doubt that often this deficiency is an important factor in the production of rickets, but several other factors such as faulty mineral metabolism and lack of sunlight also appear to play an important part. However, it is almost impossible to produce a really readable book for non-experts in this subject, and yet to go fully into matters of controversy.

SERUM BY THE MOUTH.

Hormone Therapy by Sera, Vaccines, and Drugs,[2] by Dr. D. MONTGOMERIE PATON of Melbourne, is a remarkable book, whether or not the reader can agree with its contents, for it represents the experience with the oral administration of antidiphtherial serum in various diseases by a busy practitioner during twenty-three years. It is indeed a restatement and expansion of the author's *New Serum Treatment* published in 1906, a work which we are told constitutes his claim to be the pioneer in non-specific immunity. He contends that serum contains the secretions of the ductless glands, and that these are absorbed, whereas contained antitoxins, as in antidiphtherial serum, are not, when the serum is taken by the mouth. Further, vaccines and the drugs emetine and cantharidin lead to increased secretion by the ductless glands, and thus are of use in hormone therapy. He states that when the antitoxin in antidiphtherial serum has reached 200 to 250 units per cubic centimetre the hormones in it are practically at full strength, and that antidiphtherial serum has a much more intensive recuperative power on all tissues than normal serum. In connexion with the hormone-producing power of a streptococcic vaccine it is stated that the simultaneous administration of potassium iodide "vastly widened the sphere of action, and from the results obtained it seemed to do this by the iodide restraining the action of the suprarenal glands, and so enabling the thyroid to do its work in certain directions unhampered by the opposition of the suprarenals"; this is a somewhat novel view, and the mention of "an antidiphtheria serum grown on a culture of normal serum" (p. 98) suggests a slip of the pen. But although the author's hypothesis may not be acceptable or appear to be proved, his empirical results are interesting; emetine hydrochloride is, he says, a specific for alcoholism, and has a well-marked action on the tobacco habit; thus a neurotic "cigarette fiend" entirely stopped smoking, and another was puzzled why he could only smoke 2 oz. instead of his usual 4 oz. a week.

THE ETIOLOGY OF TYPHUS FEVER.

THE volume entitled *The Etiology and Pathology of Typhus*[3] represents the main report of the Typhus Research Commission of the League of Red Cross Societies to Poland. It has been compiled by Dr. S. BURT WOLBACH and Dr. JOHN L. TODD, the joint heads, with Dr. FRANCIS W. PALFREY, the clinical chief of the commission, and records the clinical and pathological researches made by them during their stay in Warsaw from January to August, 1920. The book is appropriately dedicated to the memory of the investigators who contracted a fatal attack of typhus fever as the result of their researches—namely, Corneff, Cornet, Jochmann, Lüthje, von Prowazek, Ricketts, and Schüssler. In this connexion a melancholy interest attaches to the circumstance that the entomologist to the commission was Mr. A. W. Bacot, whose death from typhus on April 12th we recently had with deep regret to report.

Apart from one section devoted to clinical observations, the work deals entirely with laboratory investigations, including the study of lice in connexion with the etiology of typhus, especially as regards *Rickettsia prowazeki*, and the naked-eye and microscopical anatomy of typhus in man and guinea-pigs. In this respect the book before us offers a contrast to the work on typhus fever in Serbia by Dr. Richard Strong and his colleagues (see JOURNAL, June 11th, 1921, p. 857), in which the clinical description formed the predominating feature. The clinical studies recorded in the volume now before us were made at the chief hospital in Warsaw for typhus (St. Stanislaus) on a selected group of 181 patients (86 men and 95 women), consisting of the most typical of the severer cases admitted. The mortality was 13.26 per cent.—a low figure compared with the appalling death rate in recent epidemics in Serbia, Rumania, and Russia. The clinical description is accompanied by photographs of the eruption and of necrosis of the skin, and by numerous temperature charts; the most important clinical observations, including the age, sex, day of disease on admission, symptoms, complications, dates of defervescence and death, are set forth in tabular form at the end of the section. It is noteworthy that among 90 cases in which agglutination tests for *B. typhosus* and *B. paratyphosus* A and B were carried out by the bacteriologist, Mr. Henry Pinkerton, *B. typhosus* was agglutinated in maximum dilutions of from 1 to 200 to 1 to 1,600 in 15 cases, in maximum dilutions of 1 to 25 to 1 to 200 in 27, while 48

[1] *Vitamins and the Choice of Food.* By Violet G. Plimmer and R. H. A. Plimmer, D.Sc., Professor of Chemistry in the University of London. London: Longmans, Green and Co. 1922. (Demy 8vo, pp. xii + 161; 25 illustrations. 7s. 6d. net.)

[2] *Hormone Therapy by Sera, Vaccines, and Drugs.* By D. Montgomerie Paton, L.R.C.P. and S.Edin. London: Baillière, Tindall, and Cox. 1922. (Pp. 163. 7s. 6d.)

[3] *The Etiology and Pathology of Typhus.* Being the main report of the Typhus Research Commission of the League of Red Cross Societies to Poland. By S. Burt Wolbach, John L. Todd, and Francis W. Palfrey. Cambridge, Massachusetts: Published by the League of Red Cross Societies at the Harvard University Press. 1922. (Imp. 8vo, pp. x + 222; 34 plates, 13 figures.)

gave no agglutination. A few of these patients had either had a previous attack of typhoid fever or had been given prophylactic inoculations, but in most cases of positive agglutination with the typhoid bacillus no clinical explanation was found either in the past history or in signs of a double infection, and the writers think it probable that the agglutinations were due to the peculiar propensity of typhus fever to show non-specific agglutination.

The results obtained by Mr. Pinkerton with the Weil-Felix reaction confirmed the claims made by most other workers that the test is a valuable supplement to the clinical diagnosis of typhus, and that it should form part of the routine laboratory work of every hospital receiving typhus patients. Of 83 serums from typhus cases tested only 3 failed to agglutinate *B. proteus* cultures at a dilution of 1 to 100; 56, or 67 per cent., were positive in a dilution of 1 to 800 or over; and 26, or 31 per cent., were still positive at 1 to 1,600. The highest dilution at which agglutination was obtained was 1 to 3,200. In a careful series of experiments during which they became convinced that *Rickettsia prowazeki* is the cause of typhus it was found that a variable percentage only of lice fed upon typhus patients acquire the virus of the disease, although all the lice have equal opportunities for becoming infected. Thus in the 52 feeding experiments performed *Rickettsia* were found in the lice on 27 occasions only. Micro-organisms other than *Rickettsia* did not appear in any of the feeding experiments. The writers suggest that the louse in order to become infected must pierce a capillary at the site of a lesion or localization of *Rickettsia* in the endothelium. Owing to a paratyphcid infection all but three of the monkeys sent from London to Warsaw were lost, and the animal experiments were confined to guinea-pigs. A febrile reaction of from three to nine days, discoverable only by the thermometer, was the only evidence of disease in the majority of these animals. Only three deaths occurred; they were preceded by spastic paralysis resembling that seen in rabbits. The naked-eye pathological changes in the experimental typhus of the guinea-pig are slight, but characteristic lesions are found showing the *Rickettsia* on microscopical examination.

The book contains an interesting section on the pathology of typhus in man based on 49 necropsies, only 10 of which were done later than five hours after death, so that the tissues were affected in the least degree by *post-mortem* changes. The histology of the skin was also studied in 28 specimens excised under local anaesthesia during life from cases in all steps of the disease. These studies confirmed the work of previous observers, notably Fraenkel, Jaffé, and Ceelen, who showed that typhus is a disease of the smaller blood vessels, the characteristic lesion or "nodule" being caused by a proliferative reaction of the endothelium and neuroglia to the *Rickettsia prowazeki*, which is localized almost exclusively in the vascular endothelium.

A bibliography of recent work on the etiology and pathology of typhus fever is followed by a large number of beautifully executed microphotographs showing *Rickettsia* in the organs of lice, guinea-pigs, and man, typhus nodules, and other lesions. The work forms a valuable addition to the literature of typhus fever, and will be read with interest by the clinician as well as by the pathologist.

GUY'S HOSPITAL REPORTS.

THE second of the four quarterly parts of vol. lxxi of the *Guy's Hospital Reports*[4] opens with the second and concluding part of Sir Charters Symonds's historical appreciation of Sir Astley Cooper, who, like John Hunter, was not in any hurry to publish his work, and made it a rule never to make any statement not verified by his own observation. This article, which is full of interesting detail, is followed by a symposium on Addison's (pernicious) anaemia, which took place at the Guy's Hospital Research Club on January 12th, 1921; it reports the remarks of nine speakers; in his introductory note Sir William Hale-White recalls the additions to our knowledge of the disease since Addison's description in 1849. Twenty-three years later Biermer published his work and called the disease "pernicious anaemia," but, as Dr. HURST pointed out, "beyond the pernicious name he invented, Biermer added little but confusion to our knowledge of the subject." The condition of the gastric juice is considered in several of the contributions; free hydrochloric acid was absent in all the Guy's cases, and Dr. Hurst believes that the infection responsible for the haemolytic toxin cannot take place unless hydrochloric acid is completely absent from the gastric contents; he emphasizes the importance of giving large quantities of hydrochloric acid during the quiescent periods and in cases of apparent cure for the remainder of the patient's life. Mr. E. W. Bowell's account of the blood has a refreshing air of personal observation and of independence.

The late results of operation in 190 cases of gastric and duodenal ulcer at Guy's between the years 1910 and 1915 are described by Dr. J. J. Conybeare, medical registrar, who finds that out of 150 gastro-jejunostomies 65 per cent. were cured or much improved, whereas only one-sixth of the cases of simple excision of the ulcer were really satisfactory. Dr. A. F. Hurst records two cases of syphilis of the stomach, Mr. W. H. Ogilvie reports spontaneous rupture of the splenic vein in a case of enlarged liver and spleen, Mr. W. M. Mollison writes on the frequency of antral infection in children, and Mr. C. Gill-Carey describes cases of septicaemia in otitis media and its complications. A valuable and specially interesting feature in this instalment is the continuation of Dr. G. W. Nicholson's "Studies on tumour formation," in which he deals with tissue malformations and anomalies of bulk and of differentiation.

[4] *Guy's Hospital Reports*, vol. lxxi (vol. ii. Fourth Series), No. 2, April, 1922. Edited by Arthur F. Hurst, M.D. Issued quarterly. London: Henry Frowde, and Hodder and Stoughton. (Pp. 112; 22 illustrations. Price: Subscription, 2 guineas post free for volume of four numbers; single numbers, 12s. 6d.)

AN ANTHOLOGY OF HARDY.

MRS. HENRY HEAD has done a service to several sorts of people in bringing together into a volume entitled *Pages from the Works of Thomas Hardy*[5] an anthology of his writings in prose and verse: First, to the convinced Hardyite, who will applaud her choice or deplore her omissions according to his humour, but will, as the preface suggests, be able to carry this volume with him when forced to leave the well-worn volumes on the shelf and "travel light." Secondly, it will encourage those, more numerous perhaps than Mrs. Head may think, who are frightened by Hardy—by the relentless clearness of his vision. Thirdly, it will send some to read the novels and poems who as yet know them not.

The literary judgement of contemporaries has very often proved mistaken, but it is difficult not to believe those who tell us that future generations will recognize in Hardy one of the great men of English literature. In a few sentences of penetrating analysis Dr. Henry Head in his preface shows reason for the promise of immortality. "Hardy's writings," he says, satisfy the postulate that "what we call Nature is the personification of a series of physical events of which man is an integral part. If he is to survive with any approach to happiness, he must maintain his existence by adapting himself in mind and body to forces that are indifferent to his welfare. . . . To Hardy, fate is not the wrath of a righteous Deity nor the ill-omened consequence of some outraged social custom; it is a sequence of natural events, which are neither malevolent nor well-intentioned, but simply indifferent." "Often," Dr. Head continues, the dice in one of Hardy's stories "seem loaded against the victim. . . . But more careful analysis shows that some human failure in adaptation, due to hereditary or temperamental idiosyncrasy, has contributed to render these indifferent forces effective."

Mrs. Head has classified her extracts under six heads, and, save to those who are thoroughly familiar with Hardy, her anthology will perhaps give a better idea of Hardy's message than desultory reading of his books. It may be hoped that the ultimate effect will be to send many who do not know him well to the books themselves.

[5] *Pages from the Works of Thomas Hardy*, Arranged by Ruth Head, with an introduction by Henry Head, M.D., F.R.S. London: Chatto and Windus. 1922. (Cr. 8vo, pp. x + 243. 7s. 6d. net.)

SANITATION IN INDIA.

THE fact that a third edition is already required is the best proof that in this book, *Sanitation in India*,[6] Drs. TURNER and GOLDSMITH have supplied a want. The first, published in January, 1914, and reviewed in our columns on May 30th in that year, was exhausted in less than two years; the second, issued in February, 1917, was sold out early in 1921. Dr. Goldsmith, joint author, died in December, 1919. In this

[6] *Sanitation in India*. By J. A. Turner, C.I.E., M.D., D.P.H., and B. K. Goldsmith, M.B., D.P.H.; with contributions by S. C. Hormusji, K. B. Shroff, and L. Godinho. Third edition. Bombay: *The Times of India*. 1922. (Demy 8vo, pp. xiv + 1133; illustrated.) Rs. 15 (£1).)

third edition the sections on water, plague, tuberculosis, leprosy, and influenza have been rewritten, and much fresh material added elsewhere. The book is copiously illustrated, the type and general get-up are good, and there are few misprints. A number of Indian sanitary acts and regulations, useful for reference, are given at full length, and it should be said that untranslated vernacular terms occur frequently.

We note a few errors that might be corrected in any future edition. On page 316 appears what may be called a singular understatement: "In India the great rivers (Ganges, Mahanudi, etc.) are *several miles long*, and the current is so slow that the water takes several *days* to drift from the source to the sea." (Italics are ours.) Surely *hundred* must have been omitted before *miles*, and *days* should be *weeks*. The Indus is 1,802 miles long, the Ganges 1,557, the Mahanudi 502. Dr. R. H. Firth, I.M.S. (p. 432), is Colonel Sir R. H. Firth, late R.A.M.C. The *late* Lieut.-Colonel W. Morris, R.A.M.C. (p. 143), is shown as living in the *Army List*. On page 85 it is said that "ooreed and mungh (pulses) belong to the same class as grass — viz., the bean tribe." While pulses are leguminosae (beans), grasses are gramineae, a natural order far removed from the former. On page 672 it is stated that antitoxin has been proposed as a remedy for tetanus, and that in the future some efficient way of protecting the system (from tetanus) may become available. Surely the extensive and successful use of antitetanus toxin during the recent war deserves fuller and less qualified recognition.

NOTES ON BOOKS.

JUDGED by his latest book, *The Edge of the Jungle*,[7] Mr. WILLIAM BEEBE is to be reckoned a naturalist of the school of Fabre, but, as he truly says, there is no reason why the same man should not employ at one time the latest laboratory methods in entomology—they are in the main anatomical—at another time devote himself to the observation of habits—which may be reckoned a kind of physiology—and at yet another be a systematist. Mr. Beebe in one morning can be all these. As an observer he is both venturesome and patient; he has some astonishing stories to tell, and tells them very well, only occasionally lapsing into a vague brilliancy which may perhaps be the best way to give a picture of tropic life so swift and exuberant that the observer's brain becomes fatigued by the too rapid succession of impressions. Of many of the events he saw and records he admits that he is baffled even to suggest an explanation that commends itself to human reason; but unlike Fabre he remains a good evolutionist, finding comfort in the immensity of the time the physicists are now willing to grant. The book may be heartily commended both to the general reader and to the home-staying naturalist who is not afraid to realize how diverse are the facts that have to be brought into some general scheme.

It is now thirty-eight years since Dr. Mitchell Bruce wrote his small handbook on *Materia Medica and Therapeutics*. Since that time edition after edition has appeared and been reprinted, testifying to the high regard in which this work has been held by practitioners and by generations of medical students. When the eleventh edition was published in 1918, under the joint authorship of Dr. MITCHELL BRUCE and Dr. WALTER DILLING, important changes had been made in the *British Pharmacopoeia* to meet the difficulties due to war restrictions, and those temporary modifications had to be taken into account in revising the manual. In the same way the authors, in preparing the twelfth edition,[8] have now had to take note of the removal of war restrictions. They have not, however, contented themselves with merely recording a return to more normal conditions, but have revised the work thoroughly. Several sections have been recast and much new matter has been included in order to keep pace with the progress of pharmacology and therapeutics. Moreover, new sections have been added on balneology and mineral waters, and on invalid diet. These two additions will, we feel sure, be welcomed by those for whom the book is intended. It is a commonplace that on both subjects the newly qualified practitioner is, as a rule, painfully ignorant; the brief outline here given should do something to guide him, and will at least serve to indicate the importance of these matters in practical therapeutics. In other respects the general plan and scope of the work remain much as before, and we are glad to see that its size has grown little with the passing years.

[7] *The Edge of the Jungle*. By W. Beebe. London: H. F. and G. Witherby. 1922. (Demy 8vo, pp. 237; illustrated. 12s. 6d. net.)

[8] *Materia Medica and Therapeutics*. An Introduction to the Rational Treatment of Disease. By J. Mitchell Bruce, C.V.O., M.A., LL.D. (Hon.) Aberd., M.D.Lond., F.R.C.P., and Walter J. Dilling, M.B., Ch.B.Aberd. Twelfth edition, revised. London, New York, Toronto, and Melbourne: Cassell and Co., Ltd. 1921. (Fcap. 8vo, pp. 691; 6 figures. 10s. 6d. net.)

It is by no means certain that any good can be gained by writing books against spiritualism. If such books are written, it may be that the best line of attack is through ridicule of the absurdities of the cult. Mr. SUMMERS in his pamphlet *The Fallacies of Spiritualism*[9] takes the matter seriously. There are, however, some good stories in his book, such as that of the "spirit" of Dante and the language he used when he trod upon some tintacks which had been scattered about the floor. After quoting passages from the works of prominent exponents of spiritualism in which descriptions are given of the spirit world where whisky and soda and cigars are procurable, Mr. Summers mentions the amusing fact that in Miss Estelle Stead's heaven most of the spirits are "khaki heroes," though before the war they may have been stonemasons or draper's assistants. Relapsing into seriousness, he suggests that the medium through whom the "khaki heroes" speak is the "victim of tricks of telepathy and hypnotism—two of the most uncontrollable of psychic forces known to men." Then we have the story of the spirit photographed by Professor Charles Richet, who was asked to breathe into a vessel of lime-water, which at once became turbid! After referring to the uselessness of clairvoyance, the dangers of hypnotism, and the dangers of spiritualism, Mr. Summers concludes with a chapter entitled "Where are we?" From this it appears that, in the words of Professor Jastrow, "spirit manifestations are traceable to reactions of the subconscious mind in highly keyed and nervous personalities." The book concludes with a quotation from Professor Huxley: "The only good that I can see in the demonstration of spiritualism is to furnish an additional argument against suicide. Better live a crossing sweeper than die and be made to talk twaddle by a medium hired at a guinea a séance."

The book on gynaecological surgery by R. PROUST and J. CHARRIER[10] is a convenient little volume. It is abundantly illustrated, there are 288 figures, and though the illustrations are, of course, quite small and may not conform to the highest canons of art, they are thoroughly serviceable, and illustrate the verbal descriptions in an adequate manner. To those who read French with facility the little book can be recommended as an admirable compendium of the subject, most suited perhaps to the needs of men revising for a higher examination in gynaecology, but helpful in varying degree to all who are practising the subject. The reviewer has not had the pleasure of seeing this little book before, but he is not surprised to know that this is the fifth edition in eighteen years.

[9] *The Fallacies of Spiritualism*. A Survey of Recent Claims and Pretensions. By A. Leonard Summers. London: A. M. Philpot, Ltd. 1922. (Cr. 8vo, pp. 79. 2s. 6d. net.)

[10] *Chirurgie de l'Appareil Génital de la Femme* de R. Proust et J. Charrier. Paris: Masson et Cie. 1922. (Cr. 8vo, pp. 300; 288 figures. Paper, fr. 10; bound, fr. 12.)

ROYAL MEDICAL BENEVOLENT FUND.

AT the meeting of the Committee held on May 9th, 25 cases were considered and £374 voted to 22 applicants. The following is a summary of some of the cases relieved:

Daughter, aged 55, of M.R.C.S. who died in 1890. She is a trained nurse and worked for over thirty years, but has had to give up owing to rheumatoid arthritis; her only income is 7s. 6d. a week from insurance and a grant from the National Fund for Nurses. Voted £18 in three instalments.

M.B., C.M.Edin., aged 72, who practised in North London. Owing to overwork during the war his health suffered, and after a serious attack of influenza had general eczema. Applicant has had very little work to do the last two years; three children helped to support him, but owing to trade depression cannot do so now. Voted £30 in twelve instalments.

Widow, aged 52, of L.R.C.P. and S. who died in 1921. Applicant asks for help to enable the youngest daughter to enter a training college. The money received from the practice was invested and brings in £45 per annum. The third daughter is an apprentice and pays her mother 30s. a week for her keep. Rent of the flat amounts to 30s. a week. The Fund has granted £20; this has been paid to the Royal Medical Benevolent Fund Guild, which is supplementing it.

Daughter, aged 59, of a doctor who died in 1870. Three sisters live together in one room, one an invalid. The eldest had to give up housekeeping owing to ill health, and the second earned a little money by nursing. The second sister receives a grant from the Fund of £13 in twelve instalments, and the Fund has granted the applicant £18 in twelve instalments and a special grant of £6.

Daughter, aged 40, of M.R.C.S.Eng. who died in 1906. Applicant has been invalided ever since the death of her father, and is entirely without means. Relieved five times, £81. Granted £26 in twelve instalments.

Subscriptions may be sent to the Honorary Treasurer, Sir Charters J. Symonds, K.B.E., C.B., F.R.C.S., at 11, Chandos Street, Cavendish Square, London, W.1. The Royal Medical Benevolent Fund Guild is overwhelmed, in these days of exorbitant prices for clothing and household necessaries, with applications for coats and skirts for ladies and girls holding secretarial posts, and suits for working boys. The Guild appeals for secondhand clothes and household articles for the benefit of the widows and children who in happier times would not have needed assistance. The gifts should be sent to the Secretary of the Guild, 43, Bolsover Street, W.1.

CONGRESS OF RADIOLOGY AND PHYSIOTHERAPY.

THE first bilingual Congress of Radiology and Physiotherapy was held in London, at the house of the Royal Society of Medicine, from June 7th to 10th. It was organized by the Section of Electrotherapeutics of the Royal Society of Medicine and the British Association for the Advancement of Radiology and Physiotherapy with a view to facilitating the interchange of knowledge and experience between British workers in radiological science and their French and Belgian colleagues. The President of the Congress was Sir Humphry Rolleston, K.C.B., and the three Sections, devoted respectively to Radiology, Electrology, and Physiotherapy, were presided over by Mr. Thurstan Holland, Dr. E. P. Cumberbatch, and Dr. J. B. Mennell. The largest Section was that of Radiology, which discussed only two subjects, but had a crowded attendance and much animated debate during the whole of its five sessions. In addition to the ordinary meetings of the Sections, special demonstrations were given in departments of various hospitals, and visits were paid to the Physical Training College and to other centres. An exhibition of *x*-ray and electrical apparatus was held at Surrey House, Marble Arch, in which all the leading British firms in this specialized industry were represented.

Sir HUMPHRY ROLLESTON, in opening the Congress, referred to the death of many British pioneers since the last international gathering of radiologists in London, which was in association with the International Congress of Medicine. He mentioned Silvanus Thompson, Samuel Sloan, James Mackenzie Davidson, William Deane Butcher, Henry Lewis Jones, Cecil Lyster, and William Ironside Bruce, the two last named being victims of their own devotion. He then proceeded to welcome the distinguished foreign visitors, mentioning Professor J. Bergonié of Bordeaux, Drs. Kouindjy and Bourguignon of Paris, Professor Gommaerts of Ghent, and Dr. Gunzberg of Antwerp.

The Normal Stomach.

The whole of the first day in the Section of Radiology was devoted to the discussion of the normal and abnormal stomach as studied by *x* rays. The discussion was opened by Dr. A. E. BARCLAY, who exhibited some ingenious models reconstructing the actual shape of the normal stomach from the shadows seen in the *x*-ray room. The normal stomach, he said, was an extremely elusive thing, or rather the conception of it was extremely difficult to formulate. The stomach might vary within very wide limits, and yet be perfectly normal. It was not a cast-iron retort, but one of the most flexible and sensitive muscles in the body. A normal stomach could alter its shape and size without becoming an abnormal organ. The tonic action which played so important a part in varying the appearance was, from the radiological point of view, an entirely automatic contraction of the muscle which compensated for and counteracted the effect of gravity on the stomach contents. He referred in particular to the action of the fibres of the inner oblique coat of the stomach, which were a continuation of the circular fibres of the oesophagus, spreading out in fan shape and intermingling with and disappearing in the circular and longitudinal fibres in the lower half of the stomach. There was now sufficient evidence to suggest strongly that the function and control of these powerful oblique bands were independent of the control of the other coats, and he believed these fibres to be the cause of a certain picture of the normal stomach which had puzzled him for years, and to which he gave the name of "cup and spill," the food collecting in the upper part of the stomach in a "cup" and spilling over into the lower part.

This type of stomach was referred to by other speakers, and Mr. G. JEFFERSON exhibited some beautiful illustrations of the layers of stomach muscle—circular, horizontal, and oblique—bearing out what Dr. Barclay had said. Dr. DOUGLAS WEBSTER preferred to call it the "cascade" stomach, and said that it appeared from literature that both the "hour-glass" and the "cascade" had intermittent as well as persistent forms, and that the condition might be due either to an ulcer or to a nervous or remote cause. Mr. A. M. CONNELL mentioned a case which seemed to suggest that the "cup and spill" stomach might be caused by traction on the oesophagus, with which the oblique fibres were continuous. Dr. PEREMANS of Antwerp pointed out that the stomach, when barium-filled, differed in many respects from the normal stomach of the textbooks, and that it was possible that the radiological stomach was itself to some extent artificial. The problem was summed up by Dr. GILBERT SCOTT, who declared that it was as difficult to describe the normal stomach as to describe the normal face. The stomach had certain characteristic expressions—he instanced the "hungry" stomach, the "slack" stomach, and the "exhausted" stomach. The emptying rate was of no diagnostic value whatever, for the "hungry" stomach might empty in an hour.

Methods of Stomach Examination.

Two schools of practice made themselves heard in the discussion on the best methods of examination of the stomach, the one suggesting that the screen view alone was of value, and the other that the screen was of less importance than the plate. Sir ARCHIBALD REID considered that the ideal examination would consist in exhaustive screen work supplemented by radiographs when necessary to verify the points which the radiologist had already elicited. He admitted that plate work was not so meticulously accurate as work with the screen, but the statistics of a large number of cases, not specially selected, showed that it was reasonably efficacious, and it had the advantage of exposing the radiologist to less danger. Dr. GILBERT SCOTT advocated palpation under the screen, a method which he had found to yield the most consistently correct results in diagnosis. It was true that the plate would show a gross lesion or an ulcer of fair size, but the test of any technique was the detection of the very small gastric ulcers, and these, if they happened to be on the anterior or posterior surface of the stomach, were missed by the plate. The precautions to be observed were that the screen must be at least 30 in. from the tube, that the minimum current must be used (ordinarily not more than 1 or 2 milliampères), and that the examination must be carried through as quickly as possible. A quick examination, taking not more than five minutes, was possible if it was undertaken systematically, inch by inch. Formerly he was in the habit of paying attention to the clinical history of the patients, but now he found it better to start without any information so as to avoid bias. Too much reliance was apt to be placed on the emptying of the stomach; in the normal stomach it was possible to find a difference of four hours in the emptying rate as the result of a variation of diet alone.

Dr. G. E. VILVANDRE agreed as to the value of palpation, but said that it had to be carried out in a very limited field. It was of no use to place the hand over the smaller curvature and declare that there was no ulcer. If careful palpation were carried out all around the curvature, a point would be found at which the patient had definite pain. Mr. J. M. REDDING did not allow himself to be influenced by what he saw on the screen unless it was substantiated by radiograms. He believed that the very smallest lesion, given a certain amount of good fortune, could be demonstrated on the plate. The statement that any one area of the stomach or duodenum presented localized tenderness was fallacious in the great majority of cases. The complete insensibility of the stomach was sufficiently apparent in operations on the abdominal wall under local anaesthesia. Such painful sensations as occurred in the stomach were, he agreed with Dr. Hurst, the result of increased tension of the muscular coat. If true visceral pain did occur as the result of pressure, it was obvious that it would be produced by such pressure as would bring about the natural increase of tension—that is to say, pressure by the flat of both hands over the whole surface of the viscus, and not pressure applied to one small area. Only in exceptional cases was it justifiable to associate the epigastric tenderness with any particular area of the underlying organ.

Dr. A. E. BARCLAY advocated palpation, which, however, must be carefully done, and the palpating hand should be behind the shadow of the diaphragm. The serial plate method, however, was preferable to the screen in the examination of the last few inches of the lesser curvature. He drew attention to one disability among *x*-ray workers who undertook long screen examinations—namely, diarrhoea—but by the use of an apron, back as well as front, he had found this trouble disappear entirely.

Dr. LEONARD ROWDEN said that the ulcers of the stomach which were most likely to be missed were those near the cardiac end, and he found a better view of the cardiac end obtainable by having the patient in the horizontal position when the meal was given. He always gave a full meal, and preferred to make his palpation towards the end of the emptying rather than at its beginning. He had given up the double meal method, finding the single meal serve his

purpose. By watching the peristaltic waves, viewed from the back of the patient who was lying prone, he had been able sometimes to detect a break in the peristalsis which was significant of malignant disease of the stomach.

Dr. E. I. SPRIGGS said that whether or not pain on palpation was indicative of ulcer, the converse was certainly not true; he knew from cases within his experience that absence of pain on palpation did not exclude ulcer. The most effective protection to the radiologist was to spend some hours each day in the open air. Dr. C. W. SABERTON referred to abnormalities of the stomach due to reflex irritation. Frequently the appendix caused a spasmodic condition of the duodenum or an incisura on the greater curvature, where there was no evidence of any organic disease in the way of an ulcer crater. The detection of duodenal ulcers was as difficult as it had always been, and he was never sure of such an ulcer from direct evidence. Dr. G. B. BATTEN drew attention to the distortion which was possible if radiography was carried out with the patient lying on his back. Dr. MAURICE HAYES said that for fifteen years he had devoted himself to *x*-ray work, including a great deal of palpation, and had escaped all injury. He did the gross palpation with the gloved hand, and the detailed palpation without any rays at all, following this up, where necessary, by palpation with the naked hand under the screen.

Mr. THURSTAN HOLLAND from the chair summed up the discussion, and urged the necessity in all doubtful cases of studying the meal right through the whole intestine, and of keeping in mind the possibility of some reflex cause for the doubtful symptoms.

Deep-seated Radiotherapy.

Three sessions of the Section, covering two days, were occupied with a discussion on deep therapy with *x* rays and radium. The German systems, particularly the Erlangen technique, found critics and supporters. Dr. CASEMAN of Antwerp, who opened, gave a description of the Dessauer system of deep-seated therapy which he followed.

Dr. ROBERT KNOX gave an account of the technique devised by the Electrotherapeutic Department at the Cancer Hospital, the outcome of which had been the construction at first of two rotating tubes whose beams converged at a point beneath the skin, and later the construction of a rotating table with fixed tubes, the idea being by one or other kind of movement to get the penetrating radiations over the entire area concerned. Dr. GILBERT SCOTT thought that radiologists should take a broader view of cancer. It was not sufficient to treat the primary growth. The larger the area irradiated the better, not only because this procedure would influence any isolated cells, but also because the amount of scattered radiation would be increased.

Dr. VILVANDRE described a visit to the Freiburg clinic, where, he said, the work was very thorough and scientific, and the microscope was brought in to assist diagnosis. He did not think that British radiologists could do better than follow the German example in the matter of deep therapy, and he begged radiologists not to be diverted from the path of pure science by national pride or prejudice. Professor SIDNEY RUSS discussed the subject from the physical point of view, and stated the problem as being one which consisted of three variables—namely, the radiation itself, the sensibility of the tumour, and the body resistance.

Dr. N. S. FINZI urged the need for high voltages in treatment. Intensive radiotherapy in future would not be a question of 200 or 300 kilovolts, but of 1,000 kilovolts. When it was possible to get radiations of that order radiotherapy would become much simpler and more accurate, as well as more efficacious. Two main methods were at present being followed in Germany. One of these was the Erlangen technique, which consisted of the use of a fairly large number of small fields, and the other was the Dessauer method, in which very large fields were used. The small field method demanded very great personal accuracy, but the other method had the disadvantage that so very large a total area of tissue was exposed to the maximum radiations. In Dr. Finzi's opinion surgery would become more and more associated with *x*-ray treatment in the case of carcinomas, but the *x*-ray applications would come first, and the surgeon's knife afterwards, an interval of perhaps several weeks separating the two procedures, and then, if the surgeon found no cancer cells, he was not entitled to say that there had never been any! The discussion was continued by a number of other speakers, one or two of whom reserved their more considered remarks for the discussion on the same subject which is to take place in the appropriate Section at the Glasgow meeting.

Radium.

A number of interesting communications were made on the special subject of radium applications in deep-seated cancers. Mr. SAMPSON HANDLEY made some suggestions with regard to the disposition of buried radium tubes, which he thought should be placed in a ring just outside—not inside—the visible focus, thereby giving a lethal dose to the microscopic growing edge of infection, which, after all, was the important thing in the development of the growth. Beyond the remotest visible nodule of the disease there was a growing edge, permeating the lymphatics: and he believed that radiologists generally had concentrated too much attention upon the visible manifestations of the disease and not sufficient upon the microscopical extensions. It was perhaps also insufficiently recognized that in such cases as breast cancer the plane of spread of the disease was in the deep fascia and not in the skin, although it was in the skin that the nodules were seen. This meant that the lethal dose of radiation must be conveyed, not to the skin, but to the fascia at a depth beneath the skin which might, in the case of a stout person, amount to more than an inch. In malignant disease of the mediastinum Mr. Handley thought the future would show that extensive surgical procedures might be necessary and advisable in order to get the radium tubes into the best possible positions within the thorax.

Mr. HAYWARD PINCH, of the Radium Institute, defined deep radium therapy as a therapeutic procedure with radium, either in the form of salts or emanations, used with a screen of not less than 1 mm. of thickness of silver or its equivalent in some other heavy metal. Deep radium therapy could be carried out by the external application of a heavily screened surface applicator, or the insertion of buried radium salt or emanation tubes into the growth, or by a combination of these two methods. The use of surface applicators was not ideal, because with these not more than 50 per cent. of the gamma radiation was made available, but there were certain situations in which external application was either obligatory, as in subcortical lesions, or in which it was advisable, as in malignant disease of the thyroid. He believed that as time went on surgical procedure would oftener be called into play to assist radium treatment. In a growth not exceeding 3 cm. in diameter the best results were obtained from burying one tube of radium of suitable size and shape. If the growth was much larger or flatter several tubes might be scattered throughout its extent at a distance of about 3 cm. apart. The two methods were combined by the use of buried tubes in the primary focus and an irradiation of the efferent vessels and lymphatics with the surface applicators. He looked forward to the use of larger quantities of radium—grams instead of milligrams—and it was hoped that the Radium Institute would shortly be able to open a small nursing home in which cases could be irradiated with one or two or even up to five grams of radium bromide. Judging from animal experiments it was important that patients undergoing deep radium therapy should have a plentiful supply of vitamin B in the diet. The combination of radium with *x* rays would probably give better results than either agent alone. The sequelae of radium treatment included a passing nausea, which sometimes went on to vomiting, and also certain disturbances due to auto-intoxication, with a slight rise of temperature and a feeling of general malaise. Radiated tissues presented diminished resistance to bacterial infection, and there was such a thing as radium exhaustion, in which tissues long irradiated failed to respond to radium any further. At Erlangen the artificial menopause was produced in one sitting by suppression of the ovarian secretion, but there was evidence that chlorosis vulvae was conditioned by loss of the ovarian secretion, and it seemed possible that this might arise in cases so violently dealt with.

Professor W. S. LAZARUS-BARLOW agreed that the closer the two agents, *x* rays and radium, were kept together in treatment, not necessarily in the same hands, the better for the patient. At Middlesex Hospital a certain amount of work had been done with a large quantity of nearly five grams of radium bromide. But perhaps there was too much inclination to assume that if good results were obtained with a small quantity of radium, much better results would be obtained if a larger quantity were available. It was true that more radium was required, but not necessarily for the treatment of the individual case. He went on to refer to a number of

cases at various hospitals in which cancer of the tongue and mouth—definite squamous-celled carcinoma—had yielded to radium treatment, so that, at any rate at present, there was no trace of the former condition. Most of these cases were treated by the introduction of very small quantities into a number of foci, the radium emanation being allowed to remain there until it decayed practically to nothing. Of the fact that cancer cells were specially radium-sensitive there could be no doubt, but he would go farther and say that if a really satisfactory treatment of malignant disease was to be established it must be because the body of the individual in which the cancer existed was able to produce some anti-substance to the cancer cells. That was really the only rational basis for hope in the treatment of malignant disease. The discussion concluded with the exhibition of some remarkable photomicrographs of cancer cells and their changes, shown by Professor DAELS of Ghent, who also described his method of burying radium deeply in the tissues.

The Re-education of Muscles.

At a joint meeting of the Sections of Electrology and Physiotherapy a discussion took place on the re-education of muscles. It was opened by Dr. P. KOUINDJY, formerly chief of staff in charge of re-education at Salpêtrière, who gave a description of the exercises which he had adopted. These included a whole series of simple movements the object of which was to teach the patient to remain first on one leg and then to keep the standing position while the upper limbs performed different educative gymnastic movements. Once the standing position was acquired and the balance of the trunk in this position obtained, one proceeded to the re-education of walking, which included four cycles: (1) stability, (2) regulation of step, (3) balance during the walk, (4) the re-educated walk. He insisted that the exercises in these four cycles should be carried out in their proper order, so that each series followed the one preceding it, and became, so to speak, a corollary of the movements already performed. Nothing was more dangerous than to break the sequence of the exercises. A few simple pieces of apparatus, such as a marked carpet, the horizontal ladder, and the inclined plane, served the purpose of carrying on with greater assurance the re-education of walking. He dealt in a similar way with the re-education of the upper limb, and described certain workshops which he had organized for the wounded in which functional re-education by means of work has proved of great benefit.

Scoliosis.

In the discussion on scoliosis Mr. R. C. ELMSLIE read a paper in which he insisted on the importance of the education of the child as a factor in securing correctness of position. The child must be instructed in the sense of correctness and taught from the first how to use his muscles. Dr. TIMBERG also touched upon the importance of home exercises as distinct from those given in the gymnasium—meaning correctness of attitude while sitting in a chair at table, and so forth. Mr. MCCRAE AITKEN referred to the usefulness of keeping on a plaster jacket during sleep, even after it had been abandoned during waking hours, so that the child in slumber was prevented from twisting into an unnatural position. He had used very extensively Abbott's method, but these were useless unless the child was taught from the beginning how to use his muscles. Other speakers in the discussion were Dr. DE MUNTER of Liége and Professor GOMMAERTS of Ghent.

Backache and Referred Pain.

The Section of Physiotherapy held an interesting discussion on backache and referred pain, in which papers were read by Drs. SOSNOWSKA and WETTERWALD of Paris, Dr. GUNZBERG of Antwerp, and others. Mr. EARDLEY HOLLAND, who was invited to speak on the subject from the gynaecological point of view, said that backache was often considered to be a symptom of pelvic disorder, but it was obvious that many cases which came to the gynaecologist complaining of backache had absolutely nothing wrong with the pelvic organs. The commonest variety of backache was due to sacro-iliac strain during pregnancy. During at least the last four months of pregnancy a faulty attitude was adopted. Furthermore, the sacro-iliac joints, which were said to be loosened, underwent a violent form of exercise during labour. The patient, therefore, ended with sacro-iliac strain. His practice was to treat this strain by means of a very firm belt around the iliac crest, and as the patients commonly had visceroptosis the wearing of corsets was enjoined. Some of his colleagues also advised high heels, but heels appeared to be high enough already! Dr. J. B. MENNELL said that there was a point two inches away from the umbilicus, on the line between the umbilicus and the antero-superior spine, where deep pressure would reveal sacro-iliac strain if it existed. He believed that thousands of appendices had been removed when the real trouble was not appendicitis but sacro-iliac strain. He himself had seen a number of patients from whom the appendix had been removed because of pain in the right iliac fossa, and the pain, which was unchecked by the operation, was relieved by adequate pelvic support.

High-frequency Currents.

In opening the discussion in the Section of Electrology on the physiological action of high-frequency currents, Dr. CUMBERBATCH expressed the view that high-frequency currents had some other influence on the body besides the production of heat, although, until the problem was further elucidated, he was going to continue to act on the assumption that the effects were those of heat alone. He gave an account of a number of cases successfully treated by diathermy, both by local application for surface lesions and general application in cases of high blood pressure, where, he believed, diathermy acted by reducing the viscosity of the blood. Many cases of gonococcal arthritis, at a stage not too advanced, had yielded to this method of treatment. This subject and some of the other matters discussed in this section, as also in the Section of Radiology, are on the programme of the similar Section at Glasgow.

CLOSE OF THE CONGRESS.

Sir HUMPHRY ROLLESTON, in closing the Congress, expressed the great gratitude which workers in general medicine felt for the efforts electrologists and radiologists were making to add to the volume of knowledge. It had been a great pleasure to meet a number of French and Belgian workers in this field, and he hoped that there would be a renewal of this pleasant and useful association another year.

FEDERATION OF MEDICAL AND ALLIED SERVICES.

THE annual dinner of the Federation of Medical and Allied Services was held on June 7th. Sir BERKELEY MOYNIHAN, Bt., the President, who was in the chair, said that it was the privilege of the Federation—a privilege it had created for itself—to give such assistance and counsel as it could to the Ministry of Health; but it could not properly discharge this task until two conditions were fulfilled—namely, unity in the profession, and a right relationship between the Federation and other bodies. At the present moment a wise tolerance was not everywhere displayed within the profession; views tenaciously held were not always expressed without bitterness, nor was every opportunity taken by generous utterance to bring together professional brethren who, though working on different lines, were pursuing the same end. It was natural that there should be deep and acute differences of opinion, for the everyday work of every medical man was a conflict. He was ceaselessly at war with an implacable and ruthless foe, and he knew that when the enemy was overcome it was not because a syndicate had been at work nor because a committee had been sitting, but because he (the medical man) had put all that he had into the struggle. It was for this reason that medical men became individualists, and individualists were always apt to have prejudices. Prejudice was but the emotional reaction of ignorance to truth, and the sooner prejudices were got rid of the better. Forbearance and generosity were called for in the common language they used of one another. He remembered going into the church of St. George the Greater at Florence and seeing in a side chapel the tomb of Salvino degli Armati, the inventor of spectacles, with the inscription, "May God forgive him his sins!" While the work of the medical man was individual (Sir Berkeley Moynihan continued), it had a very obvious national significance. When, towards the end of last year, he heard that one of the original founders of the Federation had been summoned to the bleak and rugged North to take care of the health of the Prime Minister, he became anxious as to the effect of the Prime Minister's malady upon the Irish question, then in a critical

stage. When Louis XIV was urged by Madame de Maintenon and the clericals to put his signature to the revocation of the Edict of Nantes he stubbornly refused at first, and only gave in at the last extremity when he was driven mad by a carious molar. Perhaps Sir Squire Sprigge might add to the gaiety of the profession by writing another of his fascinating books, describing the influence of medicine upon politics. In conclusion, he hoped that the profession would by degrees develop a corporate sense of common ideals and common duties and responsibilities. He himself was always accused by his best friends of having ideals; but ideals were very good things to have lying about. Perhaps nobody ever attained his ideal; certainly the best of them never did, because they set their ideals so high. Ideals were not for attainment, but for pursuit.

The Right Hon. ROBERT MUNRO, Secretary for Scotland, who in the absence of Sir Alfred Mond responded to the toast of the Ministry of Health, said that the Ministry and the Scottish Board of Health were quite an harmonious coalition. Though they had many differences of opinion they were solved by peaceful persuasion on both sides.

Colonel NATHAN RAW, M.P., in proposing the toast of "The Federation," said that it had three objects: to discuss with all those interested in health questions the formation of a public opinion upon which action might be taken; to protect the community against ill-advised legislation; and to secure adequate representation in Parliament of those interested in health problems. The Federation now embodied three separate councils: a medical council, a council of the allied professions, and a citizens' council, the last named being presided over by Lord Islington, whose name he coupled with the toast.

Lord ISLINGTON said that the Federation now included thirty-four societies, whose total membership ran to 100,000 individuals. The citizens' council was the latest development, and represented the lay organizations. Health was a technical matter, in respect to which the community was largely unorganized, ill informed, and even misinformed. It was an imperative necessity to educate public opinion, and he hoped that the Federation would take full advantage of the medium of the press.

Sir THOMAS HORDER proposed the health of the President and Sir Malcolm Morris, congratulating the former upon his baronetcy and the latter upon his approaching golden wedding. Both said a few words in reply.

A HALF-CENTURY OF PUBLIC HEALTH IN NORTH AMERICA.

BY

JOHN C. McVAIL, M.D., LL.D.

(*Concluded from page 925.*)

V.

HOUSING AND VENTILATION.

A BRIEF article on housing as a factor in health progress in the past fifty years, by Mr. Lawrence Veiller, secretary to the National Housing Association, states that whereas the slum was formerly confined to cities, especially to New York, it is now to be found everywhere, even in villages and on the prairies. The first housing Act in the States was the New York Tenement House Law of 1867.

Fifty years ago it was the practice to build working-class houses with "interior rooms" without either light or air supply excepting such as might be obtained from an adjoining room. Then came a requirement for airshafts, which as it turned out made things rather worse, for they were closed at the bottom and without means of ventilation. They were rendered illegal, and ventilation of rooms into spaces or courts made compulsory. Privy vaults, with their plagues of flies, are being displaced by water-closets, garbage is being collected, and surface and slop drainage controls the breeding of mosquitos. Overcrowding of rooms is still common, and overcrowding on site has tended to increase with the growth of cities. Central water supply has displaced shallow wells and yard pumps. The health officer is making inspections instead of waiting for complaints, and a higher standard of personal and general cleanliness is being observed.

The article, however, gives no information as to the progress being made in the providing of additional houses, nor does it say whether the municipality or the State is undertaking the task of such provision. The explanation of Mr. Veiller's silence on the matter may probably be that America is still endeavouring to rely on private enterprise and business emulation. If so, the question occurs whether builders are receiving any kind of assurance that if they do their duty alike in plans and workmanship and reasonableness of charges, neither the State nor the municipality will rise up in competition against them. America is suffering, like this country, from a remarkable shortage in dwelling-house accommodation, and an exposition of the State or Federal policy that is being adopted in meeting the situation would be of real interest at the present time.

From the statements contained in the article on ventilation by Dr. George T. Palmer, epidemiologist, Detroit Department of Health, it is clear that American conditions differ from those in this country in two essential respects: first, the range of atmospheric temperature is much greater in America, and secondly, that in this country we still rely largely on the open fire for ventilation as well as for heating.

During the last fifty years the very word "ventilation" has changed its meaning. Formerly it covered just the provision of pure air. Now it "is the adjustment of the indoor air environment to meet the requirements of comfort, health, and efficiency." Thus defined it pays much more attention to temperature than to any other factor, and next to temperature comes humidity, though on that question there seems much more difference of opinion. The old CO_2 standard is soundly trounced by Dr. Palmer, and it was no doubt unfortunate that the establishment of CO_2 as a convenient measure of impurity had the effect on the public, and even to some degree on the professional, mind of maintaining the erroneous view that a small increase in the very minute quantity—four parts in 10,000—of that gas naturally existing in the air is in itself a menace to health. When the carbonic acid bogy began to lose its terrors, the theory of organic effluvia for a time took its place. Temperature was receiving attention by 1895, when Billings, Mitchell, and Bergey wrote that—

> "The discomfort produced by crowded, ill-ventilated rooms in persons not accustomed to them is not due to excess of carbonic acid, nor to bacteria, nor in most cases to dust of any kind. The two great causes of such discomfort, though not the only ones, are excessive temperatures and unpleasant odours. Such rooms as those referred to are generally overheated, the bodies of the occupants, and, at night, the usual means of illumination contributing to this result."

Concerning standards of air supply, Dr. Palmer recalls how the principle of 30 cubic feet per person per minute came to be accepted as an approach to De Chaumont's 50 feet, based on his observations that the CO_2 measure of four parts in 10,000 could not be exceeded by more than two parts without accompanying conditions indicative of detriment to health. The experimental work of Flüge, Paul, Leonard Hill, and others in establishing modern principles is noted. The principles on which ventilation practice in America is based are set out. The use of ducts for temperature adjustment, humidification, changes in heating practice, re-circulation, the newer ventilation standards, deficiencies in existing laws and codes, and present-day ventilating needs, are discussed in a fashion which incidentally demonstrates the author's practical experience of the problems. He evidently appreciates the value of cross-ventilation by means of opening windows, on which so much reliance is placed in this country, especially for hospitals, and even for schools, though the difficulty in schools is much greater owing to the small cubic space practicable per child. But, as already mentioned, the conditions in America are so different from those in this country that the same methods are not generally applicable, though fundamental principles cannot but be identical.

INDUSTRIAL HYGIENE.

In an article on industrial hygiene by Dr. George M. Kober of New York the history of the subject is carried very far back, and the abuses that arose, especially in textile industries early in the last century, are described. In 1906, Congress of the United States established a National Committee on Child Labour, which resulted in a great deal of Federal and State legislation. Massachusetts, as seems to have been usual, had taken the lead, but it was not until 1877 that inspectors were given the right to enter factories. The first step in many States was to require the provision of fire escapes, and eventually the provision of sanitary conveniences. Seats for female workers, guards for dangerous machinery, ventilation, meal hours, prohibition of employment of women

within two or four weeks after childbirth, medical attendance for lead poisoning, hospitals for miners, and a variety of other matters came to be included in many State laws, but still without uniformity of either purpose or requirement.

Workmen's compensation has been subject to similar divergencies, but since 1914 progress has been rapid, so that laws have been enacted by forty-five States and three territories. The New York State law of 1920 covers 23 diseases, and the Ohio law of 1921 15 diseases, as against 30 in the British Acts.

A bureau of statistics of labour was created in Massachusetts so long ago as 1869, and the Federal Government followed in 1885. It has issued many valuable publications. A bureau of mines was formed in 1909-10, and whereas in 1907 6.19 per 1,000 day workers were killed by accidents, in 1918 the rate was reduced to 3.94. A children's bureau was created in 1911-12, and was placed under the Department of Labour in 1913.

The U.S. Public Health Service organized a division of industrial hygiene and sanitation in 1915, with a research laboratory. The Health Service programme includes surveys of industrial health hazards and their prevention, reports on disease prevalence and sanitary conditions, medical supervision of employees, standards of industrial hygiene, sanitation of industrial communities, co-operation with health authorities, and supervision of industrial establishments owned by the Federal Government.

Courses in Industrial Medicine.—Dr. Kober states that all medical schools which have courses in hygiene and public health also have eight to ten lectures on industrial hygiene and the more dangerous occupations. There are both undergraduate and graduate courses. Harvard in 1918 was the first institution in the world to establish a course of instruction and research leading to degrees in industrial hygiene. The courses include applied physiology of industry, air analysis, industrial toxicology, vital statistics, industrial sanitation, preventive medicine and hygiene, industrial health administration, employment management, workmen's compensation and the legal aspects of industrial disease, nutrition, industrial surgery, orthopaedic surgery, and industrial medicine. These subjects also are the first year's work for the degree of doctor of public health in industrial hygiene, a second year being devoted to an investigation upon some phase of industrial health. Hospital attendance on occupational disease is also required. A school of hygiene and public health was opened at Johns Hopkins University in 1918. The University of Pennsylvania has since 1906 laid emphasis on industrial hygiene in courses for its degree of doctor of public health. Yale began courses in 1917. Occupational disease clinics were first begun at Cornell University in 1910, and are now held at various hospitals. Work goes on also in industrial surgery and the physical reconstruction of disabled workers.

Economic Loss.—This problem of loss in industry due to lowered health conditions has been made a subject of special study by Dr. E. L. Fisk. It was calculated by a U.S. commission in 1913–15 that 30 million wage-earners lost about nine days annually through sickness. A large life insurance company found that the loss was 5.8 days for males and 6.9 for females. Dr. Fisk has gone into the question of the cost of periodic medical examination of the entire population, and estimates that it would amount to 525 million dollars. If about ten millions of the persons examined required treatment at 100 dollars a case, this repair work would cost 1,000 million dollars, or, say, roughly £200,000,000. He makes estimates of the losses from several theoretically preventable groups of diseases—tuberculosis, influenza, venereal infection, and eyestrain. The economic loss from fatal and non-fatal accidents is estimated by the Department of Labour at over 31 million dollars. All these are enormous figures, and we quote them without comment, but Dr. Kober expresses his cordial agreement with Dr. Fisk on the subject of periodic medical examination—a proposal which was brought before our own Royal Commission on the Poor Laws, but was adversely criticized in its report as being calculated to produce a nation of hypochondriacs.

Dr. Kober concludes his exhaustive and informative paper by advocating the promotion of physical education at school, and advanced military training between the ages of 18 and 20.

"When we supply our children with healthful schoolrooms and teach them the value of periodic medical inspection, of pure air, sanitary homes, proper and sufficient food, physical culture, baths, and suitable clothing, and the importance of pure, clean lives, the lessons taught will be applied in the homes and workshops of the nation, and a very important advance in the conservation of life and efficiency in the industries will be the consequence."

The reviewer heartily agrees.

PUBLIC HEALTH NURSING.

In a sketch of the history of public health nursing, Mrs. Lavinia L. Dock, secretary to the International Council of Nurses, after references to Florence Nightingale and to the organization of district nursing in England, especially by the establishment of Queen Victoria's Jubilee Institute, goes on to describe the growth of public health nursing in the United States from 1877 onwards. It was quickly perceived that "the services of nurse and physician must be as easily obtainable by the poor as by the rich, and there must be no exclusion." In the antituberculosis movement the value of the nurse as a teacher of hygiene and sanitation was early recognized. The school nursing movement started in 1902 and spread rapidly. Employers of labour had begun to engage nurses in 1895, and in 1909 an industrial life insurance company set on foot for its policy-holders a nursing scheme which has grown to vast dimensions. In 1910 a course of training for public health nursing was established at Columbia University, and "such training is now (1920–21) given in the form of post-graduate courses, of which there are 22 offered by universities in various parts of the country." At present the Rockefeller Foundation is financing an inquiry into the whole system of nursing education.

Specialism in nursing raises troublesome problems in America, as in this country, but it is recognized as, within limits, unavoidable. Controversy exists as to whether private or public control of nursing is the better; by some it is held that dual responsibility should exist, as municipal authorities are not so likely to enter on new experiments as private bodies. The rapid extension of State direction and control is, however, the most significant factor in the development of public health nursing; this is attributed largely to the influence of the war, and the American Red Cross has done much temporary financial and administrative work, which has prepared the way for the State taking full charge. The Public Health Nursing Service increased from 130 twenty years ago to 11,000 at the beginning of 1920. The national organization for public health nursing has a considerable staff, publishes a monthly magazine, and circulates much special literature. It has standing committees for public health nursing, education, organization, legislation, records, and reports. Sections have been created for tuberculosis, child hygiene, school and industrial nursing.

Certain fundamental principles of work tested by experience are now universally accepted. One is that the nurse should not work under a charitable organization, otherwise her services are limited to those below the poverty line. Another is that she should not dispense material relief, as "patients learn to look for and value such assistance rather than her own gifts of nursing, skill, and wise advice." A similar observation is sometimes made in this country with regard to gifts of milk at child clinics; the mothers come for the milk but disregard the treatment and advice. Miss Gardner is quoted as maintaining that "the work should be on as sound a financial basis as possible. All who can afford to make payment for services should do so. This usually is arranged on a sliding scale, the maximum being the cost price of the visit; and the minimum the amount possible for the poorest patients, a range usually covering from five cents to fifty or sixty." Many associations, it is stated, now offer an hourly service at full cost or more (seventy-five cents or a dollar). Another principle is that records, including various specified details, must be kept, and another that there must be no interference with religious belief; it has been found that public health work should not be carried on by a church. Co-operation is the keystone of good work, and on professional relationships with the physician Miss Gardner is quoted as saying, "The public health nurse should not diagnose, should not prescribe, should not recommend a particular doctor or a change of doctor, should not suggest a hospital to a patient without the concurrence of the doctor, and should never criticize by word or unspoken action any member of the medical profession." But regarding this Dr. Ethel C. Burnham says, "These rules appear to me too severe, and I believe that in time they may be modified, so that a nurse will not be compelled to serve under a physician who is palpably ignorant or dangerously careless."

British Medical Journal.

SATURDAY, JUNE 17TH, 1922.

THE WELSH NATIONAL MEDICAL SCHOOL.

THE South Wales newspapers announce that the Welsh School of Medicine at Cardiff is confronted by a rather serious difficulty. The University of London and the Conjoint Board of the Royal Colleges in England, acting independently but simultaneously, have notified the authorities of the School that they are unable to recognize the King Edward VII Hospital in Cardiff as providing the facilities prescribed in the case of the hospital of a medical school. This is tantamount to refusing to recognize the Welsh National Medical School as at present organized. The Faculty of Medicine of the University of Wales, it is stated, fully appreciates that so long as the recognition applied for is withheld the status of the Welsh School of Medicine must be adversely affected, the enrolment of students for the final studies much diminished, and grave hardship inflicted on those students who have already entered upon the fourth year's courses at the Welsh school.

The report presented to the Senate of the University of London as the result of an inspection of the arrangements at the hospital is to the effect that the facilities at Cardiff for teaching practical or clinical medicine are not adequate; the professor of medicine is at present the sole teacher of that subject recognized by the University of Wales; the other members of the staff in medicine are not "recognized" teachers of the University and have no duties in relation to the teaching of the students. Moreover, the professor has at his disposal so small a number of beds that they cannot, it is said, be adjudged satisfactory provision even for a limited number of students. There are no arrangements at present for special instruction either in diseases of children or in dermatology, and definite teaching appointments have not been made in the special departments of ophthalmology, oto-rhino-laryngology, and anaesthetics. With regard to surgery, it would appear from the report that the authorities have not made definite arrangements with the surgeons for the establishment of surgical dresserships to be held by students when the number of students is such as to render the dresserships under the whole-time professor insufficient. From an interview with the dean of the medical school published in the *South Wales Daily News* we gather it to be admitted that the number of beds for medicine is too small, although it was thought that it would be enough to enable the school to start. Professor Hepburn stated also that appointments in ophthalmology, oto-rhino-laryngology, and anaesthetics had actually been made, and that it is intended to appoint Dr. Alfred Howell, assistant physician to King Edward VII Hospital, Cardiff, and physician to the clinic for diseases of children at the City Lodge, to be lecturer on diseases of children, and to give clinical instruction at the City Lodge. The position has been discussed at joint meetings of the Board of the Welsh National Medical School, and of representatives of the University College of South Wales and Monmouthshire and the governors of King Edward VII Hospital. It is reported that as an outcome of these deliberations various recommendations have been made, including one to the effect that the honorary physicians of the hospital shall be recognized as university teachers. The adoption of this recommendation will, it is stated, provide forty additional beds for instruction in medicine.

We have no doubt that the difficulty will be overcome, and probably the action of the University of London and the Conjoint Board of the Royal Colleges, though it has caused a good deal of surprise in Wales, will eventually prove to be a blessing in disguise. We suspect that the root of the trouble is that the population which a university hospital in Cardiff should serve has outgrown the capacity of the King Edward VII Hospital. It is an attractive building externally, but it is in the centre of the city on a site which cannot be materially enlarged, and that site is overcrowded. It is not for us, of course, to suggest what should be done, but we strongly suspect that the wisest course would be to reconsider the whole hospital situation in Cardiff, and perhaps find, somewhere in the outskirts of the city, a convenient site on which the additional accommodation now required could be provided, the present building being reserved for emergency cases.

THE CASE OF RONALD TRUE.

IN our issue of June 3rd we expressed the opinion that no case had been made out for not carrying into effect the sentence passed upon the convict True at the Central Criminal Court and subsequently upheld by the Court of Appeal.

Since that date the Home Secretary, acting under the powers vested in him by the Criminal Lunatics Act of 1884, has ordered the prisoner to be removed to a criminal lunatic asylum, where he will be detained during His Majesty's pleasure. The outburst of indignation which this action has excited shows that the view we took at least coincides with popular opinion. Sweeping legal subtleties aside it is clear that the average man considers that True was guilty of a brutal murder, was responsible for his acts at the time, and should suffer the full penalty of the law. Much of the indignation so widely expressed undoubtedly arises from a belief in the popular mind that improper influences have been exerted on behalf of the convict. It is freely stated that he is the offspring of a woman of social importance, and it is said that his reprieve has been brought about by assistance which a man without wealthy friends would not have been able to command. In his statement to the House of Commons on June 13th the Home Secretary explained that he acted strictly within the law and, as we gather, in accordance with the views of the judge who tried the case and of the Lord Chief Justice, who presided in the Court of Criminal Appeal. We have no hesitation in accepting his repudiation of the suggestions, so freely made, that improper motives have been operative.

If there has been any failure of justice—and this question we are not at the moment discussing—it would appear to be the fault of the law rather than of its administrators. Let us make this quite clear. We are not now dealing with the question of responsibility for crime or with the judges' answers in McNaughton's case. The present position is one which arises under Section 2 (4) of the Criminal Lunatics Act of 1884, which enacts that "in the case of a prisoner under sentence of death, if it appears to a Secretary of State, either by means of the certificate signed by two members of the Visiting Committee of the prison in which the prisoner is confined or by any other means, that there is reason to believe such prisoner to be insane, the Secretary of State shall appoint two or more legally qualified medical practitioners, and the said medical practitioners shall forthwith examine such prisoner and inquire as to his insanity, and after such examination and inquiry, such practitioners shall make a report in writing to the Secretary of State as to the

sanity of the prisoner, and they, or a majority of them, may certify in writing that he is insane." In acting upon the result of the inquiry the Home Secretary is guided by paragraph 1 of the same section, which runs: "Where a prisoner is certified in manner provided by this section to be insane, the Secretary of State may, if he thinks fit, by warrant, direct such prisoner to be removed to the asylum named in the warrant."

It would appear, therefore, that the Home Secretary was bound to order a further medical inquiry into the prisoner's state of mind, and the committee appointed for this purpose having reported that the prisoner was insane, the only question that arises is how far the Home Secretary was entitled to exercise discretion under paragraph 1. The words in that paragraph "if he thinks fit" suggest that he need not necessarily accept or act upon the opinion of the committee. On the other hand, the terms of the Act would seem to imply that if the committee finds the prisoner to be insane the Home Secretary shall cause him to be removed to a criminal lunatic asylum; if this is not the meaning of the Act there can be no point in holding the inquiry it directs shall be held.

The action of the Home Secretary from the legal point of view is accordingly not an overriding of the decisions of the Central Criminal Court and the Court of Appeal. It does not imply that True was insane either at the time he committed the crime or at the trial. The course taken is in fact that which is laid down by law to be followed when a prisoner becomes insane after conviction and while waiting for the sentence to be carried out. From the demeanour of the House it was clear that the Home Secretary had carried conviction on this point, and the motion for an adjournment did not receive the support of forty members as the rules of procedure require.

The case of Ronald True has, however, illustrated yet another unsatisfactory feature regarding insanity and the criminal law of this country. The Criminal Lunatics Act simply uses the word "insane" without any references to responsibility and without any attempt to define the word. From the medical point of view we know that it is impossible to frame a definition of insanity which shall cover all cases and exclude many who would not be regarded as insane. The *Times*, which has gone curiously wrong in its editorial comments on the case, has done a service by encouraging a correspondence to which Sir Herbert Stephen and Sir Maurice Craig have been the chief contributors; the former opened by stating the extreme legal view, saying quite definitely that some insane persons may, in spite of their insanity, be held responsible for their acts, and, if found guilty, suffer the penalty that the court may inflict. Yet the Criminal Lunatics Act would appear to provide such persons with a means of escape from their punishment.

We have already referred to the strong subcommittee which was appointed by the British Medical Association in 1913 to consider the state of the law with regard to legal responsibility for crime, and we feel more than ever now that action on the recommendations of that committee is called for.

THE ETIOLOGY OF CANCER.

THE interest the public takes in the discussion of the cause and prevention of cancer has been shown once more by a recent correspondence in the *Times*, but though among the contributors were some men of high intellectual powers and scientifically trained minds hardly any points new to the medical reader have been brought out. The fallacy of contrasting rates of mortality in different countries at different levels of statistical accuracy and medical efficiency is well known and was not avoided by all the correspondents, but, apart from this, the testing of hypotheses not prima facie unreasonable is a far harder matter than any of the writers seemed to realize.

Let it be granted—and we think it may be granted—that the increased rate of mortality from malignant disease in this country is not sufficiently explained by (*a*) improved methods of record and diagnosis, and (*b*) increase of the numbers exposed to risk at vulnerable ages. The vague conclusion that increasing "civilization" is responsible is unhelpful, if logical. Some correspondents suggest that an article of diet—for example, tea—or some other substance of increased consumption, such as tobacco, may be the culprit. It clearly may, but it is very hard to devise a method of testing the assertion. The statistical association of an increasing *per caput* consumption of tea and an increasing death rate from cancer takes us hardly any way: for consumption of tea we might substitute income tax, expenditure on the navy, circulation of cheap newspapers, or any other statistical ratio which has increased over the same period. The comparison of cancer mortality rates upon smokers and non-smokers is also not demonstrative, because the habit of smoking is not distributed at random; generally speaking, the minority of a population in respect of any widespread social custom are likely to differ from the majority in more ways than one. It is, of course, not beyond the power of modern statistical methods to handle many different variables, but the provision of a very large amount of accurately recorded information is essential, information that cannot be compiled by any existing statistical department. Few of the correspondents to the *Times* seem to have realized these difficulties. Thus Mr. Hudson writes, "'Statistics show that cancer only develops among persons of a highly nervous temperament,' says one correspondent. Well, here is a direct challenge to the statistician." A statistician before taking up this direct challenge will probably wish to know, first, what is the definition of a highly nervous temperament, and, secondly, where statistics are to be found which prove that such persons are particularly liable to cancer.

There are indeed many lines of statistical research which can be and, we believe, are being pursued. The General Register Office has steadily improved the statistics of incidence by primary site and an examination of these data suggests various lines of fruitful investigation. Similarly, materials are accumulating for the closer analysis of occupational incidence. But the number of years over which really comparable data can be compiled is still small. Importance also attaches to the correlation of incidence of other fatal diseases and cancer, a subject upon which Maynard, Greenwood and Wood, Clairmont, Brownlee, and others, have written. There is also the geographical distribution of the disease within the same country. The general level of accuracy of diagnosis is now perhaps sufficiently high to justify such studies in England and Wales. Above all, closer co-operation between the research officers of the central departments and insurance practitioners holds out the promise of valuable clinico-statistical investigations.

But, without in the least desiring to set bounds to the possibility of advance on these lines, we believe the impulse to discovery is likely to arise in laboratories, perhaps in connexion with such researches as those mentioned by Professor Joly. Alice was told that if she wished to meet the Red Queen the best thing to do was to walk in the opposite direction. The endowment of research in general rather than cancer research in particular may be better policy than to attempt to induce men of imagination to restrict their range.

THE CONGRESS OF RADIOLOGY AND PHYSIOTHERAPY.

THE Congress of Radiology and Physiotherapy arranged in conjunction with our allies of France and Belgium, which had to be postponed last year owing to the railway strike, has been held at the Royal Society of Medicine on June 7th to 10th. In addition to attracting most of the leading radiologists and electrotherapeutists in Great Britain many well-known French and Belgian workers attended. As was perhaps to be expected, the Section of Radiology, over which Mr. Thurstan Holland of Liverpool presided, attracted the largest audiences, but the Sections of Electrology and Physiotherapy were well attended also, and altogether the Congress was a great success. This is, we believe, the first congress of the kind which has been held in this country, and there is no doubt that the papers read and the discussions which took place will have a definite and useful influence on the three somewhat specialized departments of medicine concerned. In the Radiological Section the two subjects for consideration—namely, the normal and abnormal stomach, and deep therapy—both proved attractive, especially perhaps the latter. Much difference of opinion was manifested with regard to the claims for exact dosage in the treatment of cancer made by, or emanating from, the Erlangen clinic. Probably the general view was that a very distinct step forward had been made in the method of applying *x* rays to this disease, an advance which might in the future have far-reaching effects, yet it was very doubtful whether the Erlangen claim to have discovered and defined a lethal and a stimulating dose could be substantiated. Warnings came from many speakers that the time had not yet arrived when the surgeon should be thrown overboard, but that, on the contrary, surgical removal of malignant growth should remain the first method of attack; *x* rays and radium, as Mr. Sampson Handley pointed out, should be regarded as additional weapons, and no surgeon could afford to do without them. The proceedings of the Physiotherapy Section included a visit to the Physical Training College at Dartford, and the foreign visitors were much impressed by the work which was being carried on there. Chief amongst the discussions in this section was that on cardiac disorders opened by Professor Bergonié, and it was generally agreed that the treatment of heart conditions was not complete if the ordinary medicinal methods were not followed up by those of physiotherapy, in which graduated exercises are an important element. Perhaps the most important communication in the Electrotherapeutic Section was that of Dr. Bourguignon, who described his own researches on muscle and nerve reactions by the chronaxie method. An international committee has been established, and it is intended that some time next year (1923) a second congress on similar lines shall be held in Paris.

HOW IT STRIKES A CONTEMPORARY.

THE members of the Congress of Radiology and Physiotherapy which met last week in London could not separate without dining together. On this occasion Sir Humphry Rolleston, President of the Congress, was in the chair, and the toast to the guests was committed to Sir StClair Thomson, who, rising to the occasion, made a speech full of wit and humour, which, out of compliment to the French and Belgian members present, was delivered in French. The English, he said, had been described as a people who passed the greater part of their lives in the open air, who knew no language but their own, and even in that expressed themselves with difficulty. But they had no false shame in the matter, and although they never troubled to learn the tongue of their neighbours they held open their gates and extended their hands. As he was speaking in French, and might rely upon the English portion of his audience failing to follow his remarks, he would let the visitors into a secret: he himself was not English but Scottish, and it was well known that the Scottish and the French were always in accord "pour embêter les Anglais." It was just because they had been neighbours of the English—the Scottish in the north and the French in the south—that they had had to wage such fierce combat in centuries gone by, but having fought as gentlemen and not as barbarians, the conflict being over, they made the best of friends. Englishmen, *pur sang*, were too modest to act as guides to their unknown island, and therefore he would charge himself with the duty of giving some information and counsel to the visitors from abroad. If they wished to understand England they must know, not merely that its inhabitants lived on an island, but that each inhabitant was himself an island—isolated, silent, uncommunicative. If they asked a favour of an Englishman he might not respond, or might even refuse, but by stealth he would perform whatever was asked of him, and then if he were thanked for it would get angry. If they spoke to the Englishman of his climate, his relations, or his Government, he would always give the same answer—that he detested them all and always. They would find that England was administered by the Scottish, governed by the Welsh, and harassed by the Irish. That was the reason why this was called the United Kingdom! The Continental visitors had come to this country in the hope of discovering the English. He himself had been discovering the English for half a century, and finding their welcome (when he came to understand them) so very warm, he had remained until he had become himself more English than the English. The English were a people who loved to be indolent, and yet they were very hard-working; they were melancholy, and yet of great good-humour; they were a clumsy folk, and yet very much alive and awake; rude, and yet engaging; and silent, but of great sincerity. The toast was responded to by Professor Daels of Ghent, who expressed the gratitude of his Belgian colleagues for their reception in London, and their appreciation of the comradeship of science which they found here; and by Professor Bergonié of Bordeaux, who spoke feelingly of British fraternization, alike in the great cataclysm of the war and in the troubled years which had followed it. Dr. Gunzberg of Antwerp added a few words, mentioning that it was in his city, in September, 1920, that, at a gathering of French and Belgian radiologists, with a few British visitors, the idea of a bilingual Congress was projected. The healths of the President of the Congress (Sir Humphry Rolleston) and the General Secretary (Dr. Stanley Melville) were received with great enthusiasm.

THE MECHANISM OF HEREDITY.

THE Croonian Lecture delivered before the Royal Society on June 1st by Dr. T. H. Morgan, professor of experimental zoology in Columbia University, New York, dealt with the mechanism of heredity, a subject to which he has made many important contributions. He began by pointing out that the changes that take place when the germ cells ripen are known to be of such a kind that, granting the hereditary elements are carried by the chromosomes, these changes may be made to serve as a mechanism furnishing an explanation of the principles of heredity discovered by Mendel. If, he continued, the criticism were made that these facts only showed a parallelism between the chromosomes and inheritance of characters, then the following evidence could be quoted as bearing very directly on the issue. In the course of the ripening of the germ cells irregularities occurred, he said, at times in the distribution of the chromosomes. These irregularities could be followed in successive generations, and the departures from the ordinary course of inheritance there shown were found to be *exactly* related to the new distributions of the chromosomes. Without a detailed account of this evidence it was not possible to do more than to state that the facts furnished most convincing testimony that the Mendelian characters are carried by the chromosomes. Not only was there evidence that the chromosomes were the bearers of the hereditary elements, but, owing to a phenomenon known as "crossing-over," it was possible to determine that the hereditary elements lay in a single line in each chromosome. It was even possible to form a rough estimate of the upper limits of size of these elements;

at the present time such estimates are necessarily very crude, and are interesting only as the first attempt to determine the size of the "gene."

PHYSIOLOGICAL EFFECTS AT HIGH ALTITUDES.

IN the Friday evening discourse delivered at the Royal Institution last week Mr. Joseph Barcroft, F.R.S., Reader in Physiology at the University of Cambridge, provided some details of the recent expedition to Peru, to study physiological effects at high altitudes, supplementing the account he gave to the Chelsea Clinical Society as reported in our columns on April 22nd (p. 648). The observations were carried out in the mining town of Cerro de Pasco, which is situated in the Andes, at a height of about 14,000 feet. Mr. Barcroft noted in passing the curious fact that at 12,000 feet there were cows which gave milk, and at 13,000 feet cows which gave little or no milk; this was not a question of fodder, because fodder was brought to the animals, and still they gave no milk. At 15,000 feet there were neither cows nor milk. Another point of interest was that fleas disappeared at 11,000 feet, though the louse accompanied man to a higher region. The Andes were chosen for this expedition for two reasons. The less important was that, unlike the heights on Teneriffe, to which the lecturer had previously gone as a member of an expedition, water was obtainable, by means of a water tower on the railway, right up to the level at which the work was done, and water, of course, was the first essential of the laboratory. The second reason was that in this case, instead of a mountain solitude, there was a community which had been acclimatized for generations to life at these levels. The people in this region were interesting ethnologically: they might loosely be called Indians, and their civilization, such as it was, probably dated back to before the days of the Incas. Many of them lived in chimneyless and windowless houses; they had a purely communal system of government, and some of their customs would hardly appeal to more civilized races. When a native was very ill, for instance, the date of his funeral was fixed without reference to his convenience, and an official saw to it that he was ready to keep the appointment! It was remarkable what loads the people were able to carry at these altitudes. A boy of about 13 would carry from the interior of a mine a burden of 40 lb., ascending a staircase with it from a point 250 ft. below, while a full-grown man would carry a hundred pounds of metal; yet the European was out of breath if he carried his coat up a slight incline. Even the native, however, only accomplishes the work with great panting and with many intervals for rest. *X*-ray photographs of the chests of some of the natives showed that the ribs started almost horizontally and went round the chest like the hoops of a barrel. According to tables of chest measurements in relation to the length of the spine, the natives in this region should have a chest measurement of less than 80 cm., whereas their usual chest measurement was 90 cm. The native who was 5 ft. 2 in. in height had a chest which should belong to a man of 5 ft. 11 in. Mr. Barcroft dealt also with blood changes. The immediate effect of the ascent was greatly to increase the number of red blood corpuscles, and although this excess was somewhat reduced later, the blood of members of the expedition showed throughout a larger proportion of young blood cells than normal. Comparative *x*-ray photographs showed also that the heart tended distinctly to become smaller. Mr. Barcroft closed by appealing for the establishment of some institute and laboratory which should continue permanently the study of the physiological effects at high altitudes.

MEDICAL SCIENCE AND THE THEATRE.

Pasteur is the title of the play with which M. Lucien Guitry, the eminent French actor, has this week opened his repertory season in London. The piece, which was played last year in London on a few occasions by M. Guitry, was first produced in Paris in 1919. It no doubt owes something to the successful production in this country of *Abraham Lincoln*, for both plays depict a great man in selected scenes at different periods of his life. The author of *Pasteur* is M. Sacha Guitry, son of the actor, who admittedly found his inspiration in Vallery-Radot's biography of Pasteur, and designed the play especially to suit the talents of his distinguished father. The first act shows Pasteur in his study with his pupils at the outbreak of the war of 1870. In the second act there is a moving representation of a meeting of the Academy of Medicine, where Pasteur vigorously combats an attack upon his theories; in this scene the audience plays the part of the members of the Academy, with one or two actors speaking from the stalls. In the third act the boy Joseph Meister, who has been bitten by a mad dog, is brought to be inoculated by Pasteur, who sends for a doctor to perform the inoculation, for Pasteur himself held no medical qualification. The dramatist shows his art at the close of this act, for Pasteur, although he knows he can give no help, stays on all night in case something unexpected may happen. The scene changes in the fourth act to Pasteur's home in the country, where he his ill and on the verge of a breakdown; his friend the doctor tries to persuade him to take a rest, but Pasteur is deeply engaged in the study of epilepsy and cannot tear himself away. To him comes again Joseph Meister, now a youth, and a delightfully sympathetic scene ensues between the two. The last act is the crown of Pasteur's career, his reception by the President of the Republic in the amphitheatre of the Sorbonne, crowded by his friends, among whom is Lister, whose name is announced, although he does not actually appear on the scene. The play has no "love interest" and no female character, and follows no dramatic rules; it is practically a series of monologues, in which the actual words of Pasteur are often used, and its only unity is in the portrayal of its chief character. It is a triumph for M. Lucien Guitry, who appears to live the part of the simple, unaffected, kindly man of genius. A play of very different character is announced by Mr. Bourchier for production in London at the end of this month—*Le Caducée*, by "André Pascal," a pseudonym of Baron Henri de Rothschild, who is a doctor of medicine and a philanthropist, as well as a playwright. *Le Caducée* was given with much success in Paris last year, and depicts the career of a Parisian surgeon, an unscrupulous charlatan, who sells the antiques in his consulting rooms on commission, splits fees with the doctors who send him patients, encourages the visits of reporters and photographers to his operating theatre, performs unnecessary operations and kills his patients, and at the end commits suicide. There are some thrilling scenes in the play, and one medical character, "Professor Godfroy," is well portrayed; but its whole atmosphere is extremely distasteful to anyone to whom the honour of the medical profession has a meaning at all, besides being grossly untrue to life, certainly in England, and probably also in France.

MEDICINE AND INDUSTRIAL LEGISLATION.

SIR THOMAS OLIVER, at the conference of the Royal Institute of Public Health at Plymouth, read a paper giving an account of some of the social and medical gains of industrial legislation, in the course of which he said that factory life was a unity, and the hygienic problems it presented could be satisfactorily settled only by a combination of medicine, capital, and labour. It was being suggested in the United States that each trade union should organize its own health work and conduct it with the co-operation of the Workers' Health Bureau, but he thought that in this country labour should not attempt to act single-handed, but should trust the Home Office and employers, and co-operate with the leaders of industrial hygiene, who were neither the partisans of employers nor the patrons of labour, and who were able on that account to take a wide view of industrial health problems. In the benefits it sought to bestow preventive medicine was indivisible. To split it up in the manner suggested by the trade unions of the United States would inevitably lead to the intrusion of politics. The Employers'

Liability Act had been superseded by the Workmen's Compensation Act, whereby compensation was given for personal accidents where no one was at fault. The benefits of this Act were extended to most trades, including agricultural labourers, with the result that thirteen millions of workpeople were brought within its sphere. The object of the Act was to compensate for accidents, but, as in the courts of law the term "accident" was difficult to define, considerable difference of opinion had arisen at times as to what really constituted an accident. The coexistence of disease and accident intensified the difficulty, since where a sick person met with an accident and died from it shortly afterwards it might be a question whether death was the result of the injury or of the pre-existing illness. The trend of industrial legislation during the last half-century had been in the direction of the protection of life in occupation, the preservation of the health of the workers, and, in the case of accident and ill health traceable to occupation, the provision of compensation. There was a growing disposition to demand more and more assistance from the State, and the State unfortunately had yielded too readily to the clamour. One way by which the increasing call upon the resources of the State might be lessened would be to make each industry capable of meeting the financial claims consequent upon the death of workers. The National Insurance Act provided relief for the time being, but there was no reason why life insurance should not apply to a whole factory, so that in the case of death of any one of the workers a sum of money might be paid to the widow and children of the deceased. There were insurance offices willing to undertake the risk, and to pay £100 to a workman's dependants, in return for 6d. a week for each worker employed up to the age of 65 or 70. Such a scheme might well be contributory. "Group life insurance," as it was called, had already found favour in the United States, where it was run entirely by employers, who found in it one means of keeping the men longer attached to a factory, of diminishing labour turnover, and of creating a better feeling between employers and employed. No medical examination of workpeople was required, since they were insured *en bloc*, and the insurance office paid quite irrespectively of the cause of death. Trade unions preferred such a method of insurance as this to the granting of pensions, since to obtain a pension workers would be obliged to render at least twenty years' service in a particular factory.

A CORONER AND THE OATH.

OUR attention has been called to an inquest held recently at the Durham Workhouse, in which the medical witness asked to be sworn in the Scottish fashion. The coroner is reported to have replied: "Why on earth quibble about it on such a hot day? You are in England now, and if you don't take the oath I will either commit you or refuse to take your evidence." To a further protest the coroner replied, "Fiddle-de-dee." The medical witness then took the oath, holding the testament while the oath was administered. It would seem that the coroner was wrong in refusing to swear the witness in the Scottish fashion, for in 1893 the Home Office issued a circular to magistrates, clerks, coroners, etc., which quoted from the Oaths Act of 1888 to the effect that if any person desired to swear in the Scottish manner he should be permitted to do so without further question. There is nothing in the Oaths Act of 1909 withdrawing this right. We do not consider that the question is of much practical importance, for now that the insanitary practice of kissing the book has been abolished, the difference between the present English and the Scottish methods would, to most people, be immaterial. We must, however, record a protest against the deplorable exhibition of bad manners on the part of the coroner. In former years, when coroners were not concerned to do much more than find a verdict of death from accident, murder, or natural causes, as the case might be, the part played in an inquest by the medical witnesses was relatively small. But with growing social development it becomes more and more important for many purposes to ascertain scientifically the precise cause of death, and to achieve this purpose close and cordial co-operation between the coroner and the medical witnesses is essential. Co-operation, however, is not promoted by such unseemly outbursts as that described above.

THE FELLOWSHIP OF MEDICINE.

THE *Bulletin* of the Fellowship of Medicine and Post-Graduate Association for June contains quotations from letters addressed to the secretary by visitors from abroad who have benefited by the post-graduate courses in London; they express their gratitude to the Fellowship and incidentally their appreciation of the courtesy and ability with which the secretary, Miss Margaret A. Willis, has discharged the duties of that office. All who are acquainted with the work of the Fellowship of Medicine and Post-Graduate Association know that Miss Willis has well deserved this praise, with which we wish to associate ourselves. One of the letters quoted is from an American graduate, who says that during a two months' visit he found the work well organized and instruction much more readily available than he had been led to believe. "The general plan is excellent. If the hospitals are a little scattered the transportation system is the best in the world. The men who give the instruction are in general of such high calibre and the instruction is on such a sound basis that I see no reason why London should not increase steadily in importance as a post-graduate centre." He goes on to express the hope that it will be possible before very long to publish a schedule for six months or a year ahead, so that men from other countries may be able to arrange their visit to the best advantage. Another letter quoted is from an Australian graduate; he considers that when all the difficulties are considered the results achieved are quite remarkable. With regard to the American graduate's suggestion that a handbook should be published, the editor of the *Bulletin* points out that the question of finance comes in, but expresses the hope that before long the financial position will permit of an advance in propaganda undertakings. We can only trust that this hope will be fulfilled.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

THE annual dinner of the West London Medico-Chirurgical Society was held at Princes' Restaurant, London, on June 7th, with the President, Sir George Lenthal Cheatle, in the chair. After the loyal toasts had been honoured, Mr. W. McAdam Eccles proposed the toast of "The Imperial Forces," to which Lieut.-General Sir Arthur Sloggett responded. The toast of "The West London Medico-Chirurgical Society" was proposed by Sir Anthony Bowlby, P.R.C.S., and in response the President briefly summarized the history of the society, mentioning the names of the many famous physicians and surgeons who had been closely associated with it. It had, he said, always encouraged general practitioners and consultants alike, and the number of young medical men who were members had been a feature of the society from its foundation. The toast of "The Cavendish Lecturer" was proposed by Sir Arthur Keith, who welcomed Professor Harvey Cushing as a surgical ambassador from the United States to this country. In response to the toast Dr. Harvey Cushing said that at present, on the invitation of the authorities of St. Bartholomew's Hospital, he was acting for a short time as director of its surgical professorial unit, returning the visit that Mr. Gask had made last year to the Brigham Hospital, Boston, U.S.A., as temporary surgeon-in-chief. Such an interchange of teachers between the medical schools of America and England was evidence of the sincere friendship which existed between the medical profession in the two countries, and had received so great an impetus from their close association in the British Expeditionary Force during the war. The toast of "Kindred Societies and Guests" was proposed by Sir Alfred Rice-Oxley, M.D., Mayor of Kensington, who received many congratulations during the evening on the knighthood with which he had just been honoured. The toast

was acknowledged by Mr. James Berry, president of the Medical Society of London, and Sir William Willcox, president of the Harveian Society. The toast of the President, given by Mr. Rickard Lloyd and acknowledged by Sir G. Lenthal Cheatle, brought the evening to an end.

A LETTER OF EDWARD JENNER.

THE May number of the *Canadian Medical Association Journal* contains, with comments by Dr. M. E. Abbott, an interesting unpublished letter by Jenner. It is dated April 11th, 1808, and is addressed to Miss Newcome, Gresford Parsonage, near Chester. From a facsimile of the address, the mere transmission of the letter from Cheltenham to Chester appears to have cost 1s. 6d., and as Jenner's correspondence was immense, his outlay on postage must have been very heavy. Through Miss Newcome he congratulates certain ladies on the success of a vaccine campaign on which they were engaged, and replies to several questions. The vaccine mark, he says, is similar to that of the natural cowpock, but its form depends on how it was produced by the lancet; next, the security conferred by the vaccination is obtained by the eighth day if the pock has proceeded regularly up to that time. The third question, "Is it a preventive of itself?" elicits the reply, "Not uniformly so." Both question and answer are so condensed that, in the absence of the text of the ladies' letter, the meaning is not absolutely clear, but the point appears to be whether one vaccination prevents a second. Jenner's reply may be taken to mean that he had seen cases in which it had been possible to cultivate vaccinia on the arm of a previously vaccinated subject. He does not say whether the explanation might sometimes be found in the character of the primary operation, or in lapse of time, or in individual idiosyncrasy. But he was not writing a disquisition; he was only answering a letter. A further question was, "Why is the scab the least eligible source of infection?" and the reply is that its outer edges would be formed only at a late stage—after the areola was complete—but that matter from the centre would be more likely to produce a perfect pock. After commending the ladies for the method and accuracy of their case records, and making reference to an outbreak of small-pox at Ringwood in Hampshire, Jenner answers a fifth and final question by relating a little incident which had given him much pleasure. "A fine little boy, about 6 years old, came to my house in town last spring, and presented me with a nosegay. He was accompanied by his mother. 'Pray, young gentleman, who are you?' said I. 'Edward Jenner,' said the boy. The mother then told me that his unhappy father died of the small-pox just at the time he was born, and in the same room, and that Dr. King, who attended her, vaccinated her infant at *half an hour old*. Thus was he shielded from the horrid pestilence that had destroyed his father. Don't you think the little urchin's bouquet smelt sweet?" Then he goes on to say that though in emergency no time is too early for vaccination, yet, when there is a choice, it may be prudent to defer the operation till the infant is a month old.

THE MEDICAL SCHOOL OF COLUMBIA UNIVERSITY, N.Y.

IN his annual report for the year 1921 the President of Columbia University, New York, Professor Nicholas Murray Butler,[1] whose numerous degrees include the Honorary LL.D. of no fewer than sixteen universities, says much that is valuable on educational problems, and particularly those of medicine. Medical teaching has become extremely costly, and indeed is, he says, the spoilt child of education. Nevertheless it is, he affirms, about half a century behind other forms of higher instruction, as a result of what may be described as the intellectual isolation of the medical profession. There is therefore, he alleges, need for a very severe critical investigation of medical teaching by a body of experts in educational processes. As long ago as 1769, in his famous Commencement Address, Dr. Samuel Bard, Professor of the Practice of Medicine in King's College, New York, set out the essentials of a public hospital, medical teaching, and research. The very long delay in realizing this scheme is as much as anything attributed to the feuds, jealousies, and rivalries of the medical profession in New York during the last century. The President therefore considers that the most notable achievement of a notable year has been to clear the way for carrying into quick effect the project for the development of the medical school in a manner fully worthy of its opportunity. This has been rendered possible by the cordial co-operation of the Presbyterian Hospital and by generous provision, whereby the sum of fifteen million dollars, necessary for the satisfactory success of this scheme, has been practically assured. The professors of clinical subjects are to be university professors in fact as well as in name, will be called on for full-time academic service, and will be provided with adequate salaries; they will come under the following statute of the University: "No officer of instruction shall be employed in any occupation which interferes with the thorough, efficient and earnest performance of the duties of his office." But the literal obligation thus implied is not to be too rigidly insisted on in practice, and the President, on whom rests the responsibility of determining when in any given case the statute may appear to be violated, takes the wise view that arbitrarily to deprive a university officer of opportunities for practical experience, even where they bring pecuniary reward, is to decrease and not to increase his scientific and educational usefulness. One of the main objects of the modern university is to keep its teachers and organizers of research from becoming too academic, too narrowly limited to their work in the university, and too remote from the outside world. In establishing full-time service for clinical professors it has not been thought necessary or advisable to adopt any of the methods, some of them fantastic and bizarre, that are understood to have been proposed elsewhere. Professor Butler points out that Columbia University has an exceptional opportunity to go forward without delay and without great expense in carrying out its plan for post-graduate courses in medicine. This attitude would not be unworthy of the sincerest form of flattery by a university within a hundred miles of South Kensington.

[1] *Columbia Univ. Bull. of Information*, 1922, ser. xxii, No. 5, pp. 1–62, January 14th. Annual Report of the President, 1921.

"PHYLLOSAN."

FORMS sent out recently by the publishers of the *Medical Directory* to medical practitioners, for the purpose of correcting the entries in the forthcoming edition of that work, have been accompanied by a leaflet issued by the Chlorophyl and Chemical Corporation, Ltd., advertising the preparation known in this country as "Phyllosan." One side of this leaflet is headed "Authentic Evidence of Efficiency from the Leading Medical Press of the World," and the references given include the BRITISH MEDICAL JOURNAL, March 4th, 1922, but no indication is given that this is a reference to our advertisement pages and not to our editorial columns. The only editorial reference to Phyllosan that has appeared in the BRITISH MEDICAL JOURNAL was an article published on February 25th, 1922 (p. 317), and to this notice we would direct the attention of members of the medical profession who may possibly have been surprised by the leaflet issued by the Chlorophyl and Chemical Corporation, Ltd., in the envelopes containing the *Medical Directory* forms.

ON June 4th, at the special invitation of the governors and the medical school, Professor Harvey Cushing took over the directorship of the surgical unit of St. Bartholomew's Hospital and replaced the director, Mr. Gask, for ten days. The compliment was, as it were, a return for a like compliment

paid to Mr. Gask last year, when he acted as temporary chief of the Peter Brigham Bent Hospital, Boston, to which Dr. Harvey Cushing as professor of surgery at Harvard is surgeon. Dr. Cushing was elected an honorary Fellow of the Royal College of Surgeons of England in 1913, and in recognition of what he did for British soldiers during the war, when he worked at various casualty clearing stations in France and acted as consultant in head injuries, he received the C.B.

THE next of the exchange lectures with Dutch universities arranged by the University of London will be given on Wednesday next, June 21st, by Dr. A. A. Hijmans van den Bergh, professor of pathology at Utrecht. The subject is "The pathology of haemoglobin." The chair will be taken by Sir Frederick Andrewes, M.D., F.R.S., at 5 p.m. A reception will be held at 4.30 p.m.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE House of Commons resumed its sittings on June 12th.

The Case of Ronald True.

The action of the Home Secretary in remitting the death sentence upon Ronald True and ordering his committal to Broadmoor Asylum was the subject of questions in the House of Commons on June 13th.

The Home Secretary's Statement.

Mr. Shortt, replying to a question addressed to him by Mr. Stanley Holmes, made a lengthy statement. He said he hoped to show that the course taken by him was in every way essentially what would have been taken, and could only have been taken, by any other Home Secretary, and was in entire accordance with the practice in every case in the past for very many years. He understood that his action had been criticized on two grounds: First, that he should not have instituted the medical inquiry into the mental condition of True; and secondly, having received the report, he need not have acted upon it. It had been suggested that he, in instituting the further inquiry, had in some degree reopened the issue, whereas he should have regarded it as having been closed by the findings of the jury by which the case was tried. It was alleged that he had slighted the verdict of a British jury and the decision of the Court of Criminal Appeal. He maintained that he had done nothing of the kind.

Mr. Shortt then quoted Subsection 4 of Section 2 of the Criminal Lunatics Act of 1884, under which if the Home Secretary had reason to believe that a condemned prisoner was insane it is laid down that he "shall" order an inquiry. (The subsection is printed at p. 963.) At that time he had before him the reports of the two prison doctors who had had the prisoner under close observation for nearly two months. These doctors gave evidence at the trial, as did two other medical men, that the prisoner was certifiably insane. He knew also that no rebutting evidence was called during the trial, for the reason that the prosecution found itself unable to obtain such evidence. This did not mean that the jury were wrong in finding the prisoner guilty. There were, in fact, two issues which were quite distinct. The first was: Was the prisoner at the time he committed the offence insane within the limits of the doctrine of criminal responsibility as laid down by the courts? That was a question on which the jury gave an answer. The further question which arose under the Act was whether the prisoner at the time of the statutory inquiry (being then under sentence of death) was insane within the meaning of the Act so as to be certified and removed to an asylum. That question was left by the statute to the unfettered judgement of two or more medical men; and in instituting such a medical inquiry he was in no way running counter to the views of the judges. On the contrary, the judge who tried the case in the first instance, in reporting that he had passed sentence of death, drew the special attention of the Home Secretary to the medical evidence as affording matter for further consideration, and at the conclusion of the appeal the Lord Chief Justice said that there were certain powers which in proper cases were always exercised by the Home Secretary. In summing up his information Mr. Shortt said that he thus had (1) the report of the prison doctors saying they considered the prisoner at the time certifiably insane; (2) the request of the learned judge who tried the prisoner that he should carefully consider the evidence as to insanity; and (3) the very plain hint of the Lord Chief Justice. If in these circumstances he had neglected to put the provisions of the statute into operation by directing a medical inquiry, he would have been guilty of a flagrant breach of public duty, and when challenged he would have had no defence.

Mr. Shortt next came to the second point of criticism—that having received a report that the prisoner was insane he was not bound to act upon it. He said that those who took that view were under a complete misapprehension. The principle that an insane man should not go to execution had been enshrined in the law of this country for at least 300 years. He quoted Sir Edward Coke, Sir Matthew Hale, Serjeant Hawkins, Blackstone in his *Commentaries*, a solicitor-general of the time of William III, and Stephen in his legal *Commentaries*. All these quotations set forth in unequivocal language that an insane man should not be put to death. Mr. Shortt next referred to the eminence of the doctors whom he asked to serve as a committee of inquiry. Two of them were most highly experienced official doctors, who had had long prison experience. One of these two had been superintendent at Broadmoor Asylum, the other was a prison commissioner. Both were men who for years had had the complete confidence of all the judges when giving evidence as to sanity or insanity. The third doctor, Sir Maurice Craig, was a very well-known specialist. When these doctors unanimously reported that the prisoner was certifiable by the law of the land, reprieve had to be granted.

Mr. Shortt afterwards dealt with what he described as the cruellest criticism that could possibly be made against him—the suggestion in some quarters that he had been actuated by some influence in the form of aristocratic pressure on behalf of the prisoner. He assured the House that he knew nothing as to who True was or who were his relations. No communication had been made to him except by the learned judge, and no communication had been made to the Home Office until the committee was set up, when the solicitor for the defence presented a petition for reprieve, as generally happened in these cases. Subsequently Dr. Dyer saw a relative in order to take evidence as to the prisoner's antecedents.

Mr. Shortt closed by asking the House to believe him when he said that he was actuated in this case, as in other murder cases, solely by the merits of the case; he was loudly cheered as he sat down.

Mr. Stanley Holmes asked leave to move the adjournment of the House to discuss the question.

The Speaker said he must make it quite clear that no question of adjournment could arise on the advice tendered to His Majesty by the Home Secretary with regard to a reprieve or the contrary. That principle had been the settled practice of many years. He put the question to the House on other grounds. The question could only be as to whether the Home Secretary had acted rightly under the powers which were entrusted to him in this matter.

Only twenty-eight members rose in their places; as the number requisite for leave to move the adjournment is forty, the motion fell to the ground.

Mr. Shortt was again cheered as he left the House.

Ministry of Health Vote.—In the vote for salaries and expenses of the Ministry of Health, Sir Alfred Mond, on June 13th, stated that the estimates of his department showed a reduction of £1,372,000, without any diminution of the outlay on public health services such as the treatment of tuberculosis, maternity, child welfare, and venereal diseases. Referring to the promise of the Rockefeller Institute to give two million dollars (£400,000) to found a school of hygiene in London if the necessary money for maintaining it were provided, he reminded the House that he had promised that if the work could be done for £25,000 a year, that amount should be furnished; in a couple of years this service would be begun. The total amount of grant so far paid out to voluntary hospitals was about £103,000 in London, and about £39,000 in the provinces.

Chemicals for Research Work.—Dr. Raw asked, on June 12th, whether the President of the Board of Trade was aware of the statement of the secretary of the Royal Holloway College, that as a result of the passing of the Safeguarding of Industries Act, one-third to one-half of the time of research workers was spent in preparing compounds which formerly could be bought. Mr. Baldwin said he was aware that such statements were made. Imports were not prohibited. He suggested that research workers should place themselves in direct communication with British makers of fine chemicals; they would welcome any detailed criticism and co-operation in the development of the British industry.

INJURIOUS AGENTS AND GROWTH.

DR. MURK JANSEN'S LECTURE.

ON June 12th a lecture on "Injurious agents and growth" was delivered at the house of the Royal Society of Medicine, under the auspices of the University of London, by Dr. MURK JANSEN, O.B.E., lecturer on orthopaedic surgery at the University of Leyden, Holland. The chairman, Professor ELLIOT SMITH, F.R.S., referred to the pioneer work of Dr. Jansen as an orthopaedic surgeon of international reputation, as one of the men who has done most to bring the medical profession in Holland and England into closer touch, and as a sympathetic friend of our soldiers and sailors interned in Holland.

The lecturer showed how his method of determining the causal factors and explaining the symptoms of feebleness of growth is based on the comparison of children of the same parents—preferably chosen from large families—with regard to the injurious influences to which they have been subjected either before or after birth. Three fundamental principles of feebleness of growth were enunciated:

1. The feebleness of growth is proportional to the intensity of the injurious agent.
2. Feebleness of growth is proportional to the rapidity of the growth of the individual and its parts, so that the main effect of the injurious agent falls upon that part of the body which is growing most rapidly at the time the injury is inflicted.
3. Feebleness of growth is characterized by enhanced sensibility to the injurious agent and enhanced fatigability.

Achondroplasia was discussed as an example of congenital feebleness of growth. The shortening of the base of the skull, the tilting upward of the posterior margin of the palate, and the dorso-lumbar kyphosis were regarded as due to increased folding of the flexible sclero-blastemous skeleton between the third and sixth weeks of embryonic life, as a result of the increased hydrostatic pressure produced by an amnion which was lagging in growth. The increased amniotic pressure led not only to positive pressure signs but also to relative anaemia of the foetus by expression of the blood.

As an example of feebleness of growth after birth, the serial members of large families were discussed. In a given family, for example, the eldest child exceeded normal height, and presented the four classical symptoms of muscular weakness—namely, round back, protuberant abdomen, flat feet, moist and blue extremities. This child had a musculature too weak to bear the body weight; in short he had "outgrown his strength." The succeeding two or three children were of average height, displayed muscular weakness, and in addition some degree of knock-knee, so that the stress of the injurious agent fell on the region of most rapid growth—that is, at the growth discs or epiphyses in the neighbourhood of the knee. The remaining children displayed less than the average height and marked muscular and skeletal changes ranging from the so-called rachitic condition to that of pedatrophy or athrepsy.

The tissues which undergo most rapid growth from the newborn to the adult condition are muscle and bone, the muscle increasing from 25 per cent. in the newborn to 43 per cent. in the adult, and the skeleton increasing from 14 per cent. to 18 per cent. The growth in length of the skeleton takes place at the epiphyses and the greatest increase in length takes place at the epiphyses bounding the knee. Accordingly the clinical facts accord with the three principles enunciated, and the stress of the injury falls on the fast-growing cell groups, so that the result is muscular weakness, muscular weakness with knock-knees, rickets involving the ends of the bones, rickets involving the shaft of the bones, and lastly complete athrepsy.

The histological characters of the epiphyses were next considered, and the costo-chondral junction was taken as a type. The histological section displays three zones—namely: (1) a zone of multiplication of cartilage cells; (2) a zone of enlargement and specialized arrangement of cartilage cells; (3) a zone of cell differentiation where cartilage cells become differentiated in accordance with the formation of bone. Cell differentiation is more vulnerable than cell enlargement, and cell enlargement more vulnerable than cell multiplication, so that a given injurious agent will lead first of all to failure of cell differentiation with heaping up of the cartilage cells to form an enlargement; a stronger injurious agent will lead to lack of differentiation and lack of cell growth; still stronger injurious agents may lead to the third degree—that is, lack of cell division.

The manner in which feebleness of growth was characterized by enhanced sensibility and enhanced fatigability was shown by a series of curves in which functional pressure was plotted on the horizontal axis and growth on the vertical axis. The curves for normal skeletons, for skeletons with slight feebleness of growth, and for skeletons with severe feebleness of growth were discussed in a most suggestive manner.

In conclusion Dr. Jansen indicated that the purpose of this work on feebleness of growth was essentially prophylactic. Sufficient evidence had been adduced to justify the need for the protection of the mother from overwork, poverty, and worry. The results already obtained with regard to the vulnerability of the fast-growing cell groups to injurious agents justified an inquiry into the action of alcohol and tobacco on the father, an inquiry which had already been made in the case of the harmful effect of x rays. A hearty vote of thanks was accorded the lecturer.

MEDICAL TERMS IN THE VERNACULAR AND THE DIALECTS.

III.

SMITTLE AND SMIT.

EVERY doctor in Scotland and the North of Ireland knows that smittle means infectious, but the word is so widespread in English dialects also as to be in use in all the northern counties, as well as in Derbyshire, Lincoln, and Nottingham.

Like so many vernacular medical words, smittle (as verb, noun, and adjective) has several forms: in Yorkshire it sometimes appears as smickle (verb and noun), but more commonly, as in many other counties, as smit (verb and noun), and as smitting (participle); in some parts of Lancashire it is transformed into smitching, and in some other parts of the North of England the word used is smittling, and in Fife smittral; smittleish or smittlish is fairly widespread. Smittleness is, of course, infection; a smitting sickness is an infectious disease. Smiting and smitten are not, strictly speaking, forms, although in meaning they approximate.

Smittle, according to the *New English Dictionary*, is derived from the verb smit, which means to stain, contaminate, tarnish, mark (as one does sheep), and to infect or affect by contagion. Smit, again, has been formed on the Old English smittian, the weak grade of smitan, to smite; and it is to be noted that smite in obsolete senses meant to pollute, blemish, or smear. In other Teutonic languages there are similar words with like meanings. Thus in Swedish there are smitta, smittkoppor (small-pox), smittsam, and smittsamhet (infectiousness); and in Middle Swedish there was the almost identical word smittol (infectious). In Norse smittestof means contagious matter. Dr. James Colville[1] connects smittle with the Icelandic smeita, steam from cooking fat. In Dutch there is smet, meaning a blemish or spot; and Dr. Colville[2] points out that when a Boer in South Africa, speaking the Taal, says "daar teekens is van een besmettelijke ziekte" (there are tokens of an infectious sickness), he is not far from the vernacular smittle. In German, likewise, there is schmitz, a stain, and schmütz, filth. It would be easy to pass more widely into less established etymological relationships, as, for instance, through smite into such meanings as to throw, to strike, to smear, or through smut into smudge and blacken; but this would be to leave the present-day signification of smittle, although it is of some weight that the editors of the *New English Dictionary* think that the sense of throwing is perhaps the original. Dr. Johnson does not give smittle in his dictionary, and Bailey gives only smiting, meaning infectious, as in use in Lincolnshire.

Thomas Carlyle, in writing of the words sclavic and slave, reflects, "What long-drawn echo of bitter rage and hate lies in that small etymology!" and, in dealing with smittle, we may similarly see underlying the word no little past terror and dread. We go back in thought to the dreary days and the gloomy nights when some plague or pestilence or Black Death was sweeping over these islands, and when our ancestors, escaping from the towns and fleeing even from each other, would whisper the "creepy" word smittle and visualize dimly some horror of a malign force casting death-laden evil things at mankind, baleful and noisome. All was mysterious, weird, and full of awe; often the plague was communicated

from one individual to another—that is, smittle; sometimes it apparently passed by and the "contact" escaped, but one could not tell. It will be said that now much more is known, and that in cocci, bacilli, and spirilla any microscopist can see the causes of smittleness or infectiousness, which were hidden from his ancestors; but there is a danger that even the modern pathologist knows not why or how they actually produce disease, or why they do so at one time to the height of an epidemic, and why at other times they lie quiescent. Smittle is still a "small etymology" which has something of terror for us, when we think of our ignorance of its ultimate nature and mode of working or leaving alone. When a doctor in India meets a swarm of flies which have been resting on a group of lepers and are now winging their way towards him he confesses to at least a feeling of apprehension; influenza gives the nation an annual scare; and pneumonic plague is a horror.

Smittle and smit are met freely in the literature of Scotland and the north of England, and are in every day employment in the tongue of the people. Andrew Wyntoun (1350?—1420?), the Scottish historian, who fortunately wrote his *Chronicle* in the vernacular and not in Latin, used smit in the figurative sense of moral contamination as well as in the literal meaning of a spot or taint or infection. With the meaning of infected, smit was used, as Jamieson pointed out in his *Scottish Dictionary*, in the Acts of James I of Scotland, the disease referred to being leprosy: "that the Bishopis, Officiallis, and Denis inquyre diligentlie in thair visitatioun of ilk paroche kirk, gif ony be smittit with lipper." Smit was even admitted to the high rank of a proverb word as in the saying,[3] "ae scabbit sheep will smit a hail hirsell" (flock). In the sense of pollute, Whyte Paterson uses smit[4] in the sentence, "for I ne'er wad lat wrang smit my lips." Smittle (in Scotland, at least) has generally been more restricted in its meaning, and has uniformly indicated infectious or to infect. Wright, in the *English Dialect Dictionary*, has given many illustrative quotations: "Such was the dread of the smittal disease, that they wouldna let them into the toons wi' the corps"; "there never was a plague, either on beast or body, mair smittal than that [rinderpest]"; "our trouble seemed a smittal one." The last quotation comes, it is interesting to note, from a book written by a medical man, D. M. Moir of Musselburgh, better known as Delta, the popular contributor to *Blackwood's Magazine*. Similar usage obtains in the north of Ireland: "hoo did ye get the maisels?" "a wus smit at the skael"; "they say the coul's smittal."

In the dialects of Northern England smit and smittle have wider meanings than in Scotland and Ireland. Sometimes they have the signification of infect as in the Lincolnshire question, "are measles smitting?" the Yorkshire phrase, "she's getten fever, an'll smit tha," and the Westmorland "small-pox are very smittle"; but they have also the sense of similarity, as in the Yorkshire phrase, "she's the smit of her mother"; or that of smutted, as in "smitted clothes are the plague of the housewife on the washing day"; or that of "marked" like sheep. Farther away from the original meaning is that of "likely," as in the Northumberland "it's a smittal spot for a salmon"; and still farther is that of "sure" or "certain as a stock-getter" in the Cumberland expression, "as smittal as t' smo'-pox," said of a successful male animal kept for breeding purposes. One can, however, trace the connexion in idea.

J. W. B.

REFERENCES.

[1] *Studies in Lowland Scots*, p. 314. [2] Op. cit., p. 210. [3] Henderson's *Scottish Proverbs*, 1881, p. 87. [4] *The Proverbs Rendered in Scots*, 1916, p. 35.

ACCORDING to a recent census the increase of the population of Paris during the last ten years is confined exclusively to the foreign inhabitants, the number of whom has increased from 158,000 in 1911 to 169,527 in 1921. The female population is largely in excess of the male. The differences between the two sexes is greatest between the ages of 20 and 30.

THE fourteenth Congress of the Italian Psychiatric Society will be held in Rome from October 19th to 21st, when the following subjects will be discussed: (1) Nosography and pathogenesis of the psychoneuroses, introduced by Professors Modena of Ancona and Morselli of Genoa; (2) pathogenesis of so-called essential epilepsy, introduced by Professors Besta of Milan and Roncoroni of Parma; (3) schizophrenia and pseudo-schizophrenia, introduced by Professors G. Montessano of Rome and Kolijlinskij of Genoa; (4) pathological anatomy of psychasthenia, introduced by Drs. Aretini of Arezzo and Pilotti of Rome.

England and Wales.

CONGRESS OF OBSTETRICS AT LIVERPOOL.

THE British Congress of Obstetrics and Gynaecology will be held in the Medical Institution, 107, Mount Pleasant, Liverpool, on Friday, June 30th, and Saturday, July 1st. The following bodies will take part: Royal Society of Medicine (Obstetrical and Gynaecological Section), Edinburgh Obstetrical and Gynaecological Society, Glasgow Obstetrical and Gynaecological Society, Midland Obstetrical and Gynaecological Society, Royal Academy of Medicine (Obstetric Section), and the Ulster Medical Society. The proceedings will include a discussion on the results of treatment of eclampsia, and operations at the Liverpool Royal Infirmary. The Congress dinner will be held at the Midland Adelphi Hotel on the evening of June 30th.

LIVERPOOL STANLEY HOSPITAL.

The annual meeting of the Liverpool Stanley Hospital took place on May 22nd, and, as in the case of the other three general hospitals of the city, the report for the past year showed a deficit. At present the debit balance stood at £8,012; there had been a diminution in expenditure, but unfortunately the cost of maintenance was still much in excess of that incurred in pre-war years. The treasurer remarked that the absence of new subscribers who realized their responsibilities was a notable state at the present. There was a gap left by those good citizens who had supported the hospital in years past, to be filled up by the rising generation, if the voluntary system was to be maintained. The hospital was thoroughly equipped and able to meet the wants of the northern area of the city. The committee had now in hand sufficient money to enable them to provide accommodation for patients of moderate means, and this sum, amounting to £20,548, was to be devoted to the new building for the reception of patients on a contributory basis. It was pointed out that forty years ago the hospital was in sore straits financially, but was speedily relieved through the generosity of Liverpool citizens, and the committee looked forward to a similar effort by the public.

CENTRAL MIDWIVES BOARD.

The Central Midwives Board for England and Wales met on May 31st, and held a special penal meeting, followed by the ordinary monthly meeting. Sir Francis Champneys presided. Seven midwives were cited to appear, and the names of three were removed from the roll. The Board agreed to consider carefully an inquiry from the town clerk of Kensington as to whether, in view of the prevalence of ophthalmia neonatorum, a direction to midwives might be issued from the Board as to the routine application of a suitable silver preparation to the eyes of all newly born infants. The Board decided to take into consideration at its next revision of rules the following resolution received from the inspectors of midwives and teachers of practical midwifery: (1) That the period of training of pupil midwives be lengthened; (2) that midwives approved by the Central Midwives Board to teach practical midwifery possess definite qualifications besides that of holding the Central Midwives Board certificate.

Scotland.

PROFESSOR CALMETTE AT EDINBURGH.

AN address was delivered on June 7th before the members of the Medico-Chirurgical Society of Edinburgh, with Professor Sir Robert Philip in the chair, by Professor A. Calmette, of the Institut Pasteur of Paris, on "The protection of mankind against tuberculosis." He said that after he had demonstrated the specific character of the tuberculous virus and its inoculability to different animal species, Villemin, finding it difficult to transmit tuberculosis to the dog, the cat, and the sheep, was the first to raise the question of whether any animals were immune to this disease. Later, after the discovery of the tubercle bacillus by Robert Koch, it was found that almost all the mammalia could be artificially infected, but that a small number of species could contract tuberculosis spontaneously, and that some others were so highly resistant as to be immune even to artificial

inoculation. The problem might be put as follows: How to render the leucocytes and the endothelial cells of the vessels—which enclose the tubercle bacilli but are unable to digest them—how to make these cells non-sensitive to the poisons which these bacilli contain and secrete (endo- and exo-toxins), so that the organism may tolerate the presence of a number of inoffensive foreign bodies, such as particles of silica, carbon, or metallic fragments, even of considerable size. It seemed that for man, as for animals prone to tuberculosis, such as the bovines, one early and slight inoculation was desirable, provided that it was not followed by further repeated massive infections. Such slight inoculation conferred on the organism a resistance which, while not a true immunity, protected it in case of subsequent grave reinfections from a rapidly fatal form of the disease. It might be affirmed that every subject infected in childhood by a very feeble dose of bacilli was rendered less likely to contract acute miliary tuberculosis. It was very difficult to prosecute investigation in antituberculous vaccination in laboratories and in countries where bacillary infection was so widespread that a given animal could not certainly be protected from accidental contagion. That was why he had proposed the creation of a centre of research in a position as isolated as possible, preferably on the West Coast of Africa, in the great belts of forests inhabited by large anthropoid apes, especially the chimpanzee.

Presentation to Sir John Macpherson.

A presentation was made on June 6th by professional and other friends to Sir John Macpherson, M.D., in recognition of his long and eminent services devoted to the interests of the insane. He recently retired from the post of H.M. Commissioner of the General Board of Control, and is about to proceed to Sydney as professor of psychiatry. The ceremony took place in the hall of the Royal College of Physicians of Edinburgh, with Professor Sir Robert Philip, President of the College, in the chair, and Lord Polwarth, in handing a piece of plate and a cheque to Sir John Macpherson and a diamond brooch to Lady Macpherson, congratulated them on the honour which had so rightly been awarded by His Majesty. Sir John Macpherson had played an important part in lunacy administration in Scotland, and his friends wished him a very happy time in Sydney. In returning thanks Sir John Macpherson said that his own connexion with Scottish lunacy began in 1883, when he became an assistant medical officer in Stirling District Asylum, and shortly afterwards he went to Morningside under the then greatest living authority, Sir Thomas Clouston, whose memory as a master and teacher he revered. He could testify, as his predecessors had done, to the cordial relations which existed in Scotland between the medical and lay authorities concerned with the care of the insane. By the hospitalization of asylums, skilled nursing, open-air treatment, open-air work, and as great an extension of liberty as was consistent with actual safety, suffering had been relieved and life under abnormal conditions made more endurable.

Moncrieff-Arnott Chair at Edinburgh.

The appointment is announced of Dr. Edwin Bramwell, F.R.C.P. Lond. and Edin., F.R.S.Edin., to the Moncrieff-Arnott chair of clinical medicine at the University of Edinburgh, in succession to the late Professor Francis D. Boyd. Dr. Edwin Bramwell is a son of Dr. Byrom Bramwell, the distinguished Edinburgh physician, and has made his reputation chiefly in the study of diseases of the nervous system. He is physician to the Edinburgh Royal Infirmary and lecturer on clinical medicine and neurology in the university.

The Glasgow Eye Infirmary.

The writer of the article on "The medical institutions of Glasgow," published in our issue of June 3rd, desires to correct a wrong impression which is conveyed in the note on the Glasgow Eye Infirmary. That infirmary did not really begin in its present site at Berkeley Street, but had its origin on a very small scale in a street now no longer existent, near North Albion Street, which again is a street close to High Street, where the old university buildings stood. This was in 1824, and in 1835 the infirmary was removed to College Street; in 1852 the directors purchased a house in Charlotte Street, formerly the residence of David Dale, a well-known Glasgow merchant. The hospital in Berkeley Street was not opened till 1874.

Ireland.

Royal College of Surgeons in Ireland.

At a meeting of the Royal College of Surgeons in Ireland on June 8th for the election of President, Secretary, and Council for the ensuing year, the following were elected:—President: Sir William I. de Courcy Wheeler. Vice-President: R. Charles B. Maunsell. Secretary: Sir Lambert H. Ormsby. Council: John B. Story, Sir Thomas Myles, Sir Arthur Chance, Sir Lambert H. Ormsby, George M. P. Murray, R. Bolton McCausland, Sir F. Conway Dwyer, Sir Robert H. Woods, Richard Lane-Joynt, Sir William Taylor, Thomas E. Gordon, Alexander J. Blayney, Trevor N. Smith, Sir C. Arthur K. Ball, Major-General R. H. S. Sawyer, Louis A. Byrne, Andrew Fullerton, Seton Pringle, and Edward Sheridan.

Sir William I. de Courcy Wheeler is a son of the late Surgeon Wheeler of Merrion Square, Dublin, and Robertstown, co. Kildare, a former President of the College. He has been a member of the Council of the College for the past seventeen years, and acted as President during the illness of the late Mr. E. H. Taylor. He was created a knight in 1919 for his services during the war. He has been visiting surgeon to Mercer's Hospital for many years, and represents Ireland on the editorial staff of the *Medical Annual* and of the American journal, *Surgery, Gynecology, and Obstetrics*, and is also a member of the editorial staff of the *British Journal of Surgery*, under the chairmanship of Sir Berkeley Moynihan. He is acting as one of the secretaries in connexion with the International Congress of Surgery to be held in London in 1923.

Sir William Wheeler is the author of a textbook on operative surgery, which has reached a fourth edition. He graduated in Trinity College with a moderatorship. For several years he was a demonstrator of anatomy in the School of Physic, and acted for a short time as assistant to the late Professor D. J. Cunningham. He is consulting surgeon to the Blackrock Orthopaedic Hospital, for the foundation of which he is largely responsible, and he presides over the City of Dublin Nursing Institution, which has played a conspicuous part in advancing the interests of Irish nurses. He married the Hon. Elsie, eldest daughter of Lord Shaw of Dunfermline, who is at present in Ireland acting as Chairman of the Reparations Commission.

Ulster Medical Society.

The annual general meeting was held in the Medical Institute, Belfast, on May 25th; the President, Dr. Robert Hall, occupied the chair. The annual report of council, the honorary librarian's report, and the honorary treasurer's statement of accounts, were submitted and approved of. The deficit shown in last year's accounts of £150 had been reduced to £102, although the society's work had in no way fallen off. Much regret was expressed at the necessity of having a voluntary extra-subscription fund and of asking contributors to the society's proceedings to pay in part the expenses of publication in the *Transactions*, and hearty thanks were given to those who had thus aided. It was decided to carry out the pressing repairs to the building which had been required by the trustees. The following officers were elected for the ensuing session 1922–23: President, R. J. Johnstone, M.B., F.R.C.S.Eng., M.P.; Vice-Presidents, Dr. J. T. Creery (Coleraine) and Dr. V. G. L. Fielden (Belfast); honorary treasurer, Dr. S. I. Turkington; honorary librarian, Dr. W. L. Storey; honorary secretary, Dr. Robert Marshall, F.R.C.P.I.; honorary editing secretary, Mr. G. R. B. Purce, M.Ch., F.R.C.S.Edin. Council: Dr. H. L. McKisack, F.R.C.P., Dr. Jas. Colville, Dr. Maitland Beath, Dr. W. W. D. Thomson, Dr. Foster Coates, Dr. Boyd Campbell.

THE Royal Northern Hospital has received £500 from the executors of the late Miss Amy Hill (who was associated with the institution for forty-four years), £1,050 to endow a "Frederick Brazil" bed from the executors of the late Mr. Frederick Brazil, and £1,000 from the executors of the late Mr. Joseph Grisby Spencer.

THE late Mr. James Templeton of Glasgow and Dunblane has by his will bequeathed £2,500 each to the Western Infirmary, Glasgow, the Victoria Infirmary, Glasgow, the Royal Hospital for Sick Children, Glasgow, and the Western Infirmary, Glasgow, and £1,000 to the Medical Missionary Society, Glasgow.

Correspondence.

THE INTERSTITIAL GLAND AND SEX PROBLEMS.

SIR,—Dr. Leonard Williams's paper on the interstitial gland, published in the JOURNAL of May 27th, was most interesting. If his suppositions are correct, and it is possible for a male child to grow up morphologically male but "interstitially" largely female, then, as he suggests, homosexuality in such an individual ceases to be a felony, and must be regarded as normal *per se*. But if this latter suggestion comes to be accepted, we may look for some striking defences in cases of unnatural crime.

Referring to sex causation, while one is keenly alive to the fact that most of our knowledge of this fascinating subject is founded on theory, some of Dr. Williams's statements, and at least one of the conclusions he arrives at, are scarcely in accordance with the results obtained by recent research. For instance, he says:

> For several weeks the embryo is neuter, and we are to suppose that the male element and the female contained therein are striving for mastery the one over the other.

The rather sweeping statement that the "embryo is neuter" must strike somewhat strangely on the ears of most embryologists. Rumley Dawson stated in his paper in the Obstetrical Society's *Transactions*,[1] that the human ova have their sex already definitely fixed prior even to their dehiscence. In the posthumous edition of his book[2] he wrote:

> The male ova arise from the right ovary and the female from the left ovary, so that the female infant is born with her primitive ova already either male or female, and thus the causation of sex comes to be dependent on the woman alone.

Whitridge Williams (Baltimore)[3] admits that until very recently we were almost absolutely ignorant concerning the causation of sex, and that it was generally believed that it did not become established until some time after fertilization. He points out, however, that recent investigations clearly show that this is not the case, but that the sex is determined in the germ cells either primarily or immediately after their union, so that it has become immutable by the time segmentation of the ovum begins. As the youngest human ovum yet recorded—the Teacher-Bryce ovum—is only about 13 days old and exhibits the trophoblast stage, it follows that "neutrality of sex," if it exists at all, cannot be a matter of weeks.

Then again, in regard to the interstitial gland in the female, if, by this term, one is to assume those hypertrophied theca cells which develop around the periphery of follicles undergoing atresia, one can dismiss it as being of but secondary importance as regards an internal secretion, as according to Williams of Baltimore,[3] clinical observation bears out Fränkel's statement that the internal secretion is elaborated in the corpus luteum. If we are to accept Rumley Dawson's sex theory at all—and, so far as I have been able to ascertain, no later investigations have actually disproved it—then, instead of administering male interstitial gland, as Dr. Williams suggests, in cases of deficient "maleness," one would require to administer corpus luteum extracted from the right or male ovary, and from the left or female ovary in cases of deficiency in "femaleness."—I am, etc.,

R. DOUGLAS HOWAT, L.R.C.P. and S.Edin.

Denholm, Hawick, May 30th.

SIR,—In the otherwise illuminating and suggestive paper by Dr. Leonard Williams published in the BRITISH MEDICAL JOURNAL of May 27th there is an expression of opinion with which medical men as a whole will, I am confident, disagree, and a statement to which, I am equally confident, they will take the severest exception.

The author quite rightly maintains that the attitude adopted by a civilized community towards homosexuality is of social importance. Now the general attitude of the British community towards such practices is one of utter detestation. Dr. Williams proceeds to admonish society on this—to him—incorrect attitude, and to warn it that, if it is to merit the qualification "civilized," it must not place too many legal, moral, and conventional obstacles in the path of those who are inclined in the direction of this practice. He says:

> I am entirely of the opinion . . . that the present law on the subject requires revision. Regarded in the light of pure physiology, it is no more reasonable to punish a man for being homosexual than it would be to punish him for having red hair. Both of these things are burdens cast upon him by forces over which he has no sort of control, nor can he alter or modify them by any effort of the will.

As strict matter of fact a man is not punished for being a homosexual. Indeed, if we are to believe some of the extravagancies of Freud and Jung, to say nothing of the unutterable twaddle of certain of their disciples—the neo-psycho-analysts—we are all in the same position in relation to homosexuality, and punishment is therefore out of consideration. Legal punishment is only inflicted on an individual who is proved to have committed an act of homosexuality, a totally different thing, since in the one case we are dealing with a state or condition, in the other with an act, or rather acts. But Dr. Williams would have the law on the subject relaxed, and the community "educated" up to a lofty indifference to a disgusting and opprobrious vice—a vice that is after all as old as the ancient Syrian town on the northern slopes of the Dead Sea from which it takes its name.

While not for a moment admitting the validity of Dr. Williams's statement as quoted above, I would ask the question, Why should society enact its rules solely "in the light of pure physiology"? It could equally be pleaded of the man who, on a hot perspiring day in August, strolled down the Strand in his birthday suit, or who obeyed the calls of nature in the middle of the public thoroughfare, that, "regarded in the light of pure physiology," it would be unreasonable to restrain him. And whither does such argument lead? To be consistent, Dr. Williams will have to admit that individuals addicted to lesbianism, tribadism, sapphism, masochism, and all other "beastly isms" of the sexual pervert no more merit punishment than do the possessors of red hair! Nor should he exclude thieves and cut-throats. Fortunately, however, society has not so evolved and framed its laws of conduct. While making all due provision for physiological and, it should be added, pathological factors, it recognizes these only in conjunction with many other equally important factors, and it insists that such eccentrics should be clapped either into prison or madhouse. It does so with three objects: to cure the individual of his anti-social proclivities, to deter others from like conduct, and to rid itself of that which is a source of annoyance and disgust.

Dr. Williams reminds us that it is not so very long since people were tortured for being insane. He might, with equal disregard for relevancy, have called attention to the fact that in those good old times epileptics were deified.

Although a determinist I disagree entirely with the statement that homosexual acts, like red hair, are "burdens cast upon" the individual "by forces over which he has no sort of control, nor can he alter or modify them by any effort of the will." Each one of us is undoubtedly within the clutch of circumstance, and our acts are but links in an infinite and inexorable cause-effect chain. Nevertheless, education, law, environment, etc., all have their place in that chain, and consequently our acts are, in their relation to other parts of the chain, very materially modifiable. Acts are determined by the strongest desire at the moment of action, and a good society will see to it that education, environment, reward, and punishment, subordinate the primal urge to evil to a stronger desire to refrain from evil.

It may be stated with tolerable certainty that the overwhelming majority of homosexual acts are perpetrated by individuals who have acquired the practice—that is to say, in whom the tendency towards the vice was not inborn or germinal. Such cases resulted from faulty nurture, not faulty nature, and therefore were preventable. It may be an ugly thing to say in cold blood, but none the less is it true, that in the present state of society, if the law in relation to homosexuality were to be relaxed, the vice would increase with as great promptitude and certitude as would hooliganism in a great city if all the physical forces of law and order were to be removed.

Dr. Williams thinks it "high time that the members of our profession expressed strong and clear views on this question." I cordially agree and sincerely hope that a vigorous response to his suggestion will be forthcoming. A lenient attitude towards perpetrators of homosexual acts constitutes a grave social danger.—I am, etc.,

C. MARSH BEADNELL,
Surgeon Rear-Admiral, R.N.

Llandinam, N. Wales, May 29th.

---

[1] Obstetrical Society's *Transactions* for 1900, vol. xlii, p. 356.
[2] E. Rumley Dawson: *The Causation of Sex in Man*, 1921.
[3] Whitridge Williams: *Obstetrics*, pp. 169 and 64 respectively.

FATAL BOTULISM.

SIR,—In the interesting annotation (June 3rd, p. 893) attention is drawn to the considerable number of outbreaks, reported as "botulism," that have been observed during the last few years in the United States.

It is perhaps deserving of emphasis that in respect of only a very small minority of these outbreaks of associated cases of acute nervous disease has there been any show of attempt to demonstrate, by bacteriological or serological methods, the connexion of the cases with *B. botulinus*. And I do not know that in connexion with any one such attempt has the demonstration been so conducted as to satisfy any competent bacteriologist of its sufficiency. Moreover, there do not appear to have been lately conducted any fresh experiments tending to show that the bacillus called *botulinus* is really responsible for outbreaks of the kind reported as due to "botulism." Again, no definite clinical criterion appears to be established that distinguishes all cases called "botulism" from all others called "encephalitis lethargica," though the former name is reserved for cases occurring in association—usually commensal—and the latter for cases that are apparently dissociated from others in their origins. This, however, is a matter of epidemiology and not of *clinical* importance. But as the Derby outbreak of August, 1919, clearly shows (Annual Report of the C.M.O., 1919–20, Ministry of Health, pp. 357 et seq.), commensal association is quite compatible with the diagnosis of encephalitis lethargica.

There are many interesting points that call for discussion, but the object of this letter is to point out the need for a revision, at the hands of critical pathologists and bacteriologists, of the statements made and copied from one book to another concerning botulism during recent years. I need hardly insist that Dickson's demonstration (Monograph No. 8, Rockefeller Institute, 1918) of the fact that the bacillus called *botulinus* will grow on canned tomatoes and beans does not prove that, in a country where canned fruits and vegetables are everywhere consumed, certain types of illness are due to the toxic products of this organism. Nor does Marinesco's investigation of the brains of animals dying or killed after inoculation with this organism or its products help us with regard to the pathology of human cases called "botulism," but of no proven association with the bacillus. In fact, the subject is as obscure as when Grisolle wrote, eighty years or more ago, that we did not then possess any satisfactory description of the effects characteristic of this type of poisoning. All the descriptions, he said, are incomplete and give us only a very slight idea of the physiognomy of the disease and of the nature of the changes produced by it.

One epidemiological fallacy has dogged the history of botulism ever since Kerner first described it one hundred years ago—the fallacy that commensality in relation to an acute outbreak of disease necessarily implies food poisoning. But when, during the Christmas holidays, measles breaks out amongst the participants in a children's party, we do not implicate cakes and jellies.—I am, etc.,

London, W., June 3rd. F. G. CROOKSHANK.

A PULMONARY SIGN IN ACUTE INFECTIONS OF THE BILIARY TRACT.

SIR,—Mr. Wilkie, in the BRITISH MEDICAL JOURNAL of June 10th (p. 908), draws timely attention to the relationship of physical signs at the base of the right lung to acute lesions of the upper abdomen. He points out our familiarity with the cases which have referred pain in the abdomen from a lesion above the diaphragm, but warns us that the presence of crepitations and other physical signs at the base of the right lung may be in favour of, and not against, an abdominal diagnosis.

The wonder is that pulmonary signs are not more regularly present in patients with an "acute upper abdomen." It is a common experience after operations in "cold" cases, such as gastro-enterostomy, cholecystectomy, etc., to be told by the house-surgeon that the case is "a bit chesty." For the first few days there may be profuse expectoration of the broncho-pneumonic type. In the great majority of these cases, the chest symptoms disappear in a few days after an aperient and the first successful evacuation of the bowels—in other words, when the tension in the abdomen is relieved. The condition is vaguely spoken of as ether bronchitis and the onus is placed on the shoulders of the anaesthetist. Criticism is silent when a local anaesthetic is employed, and rather complicated explanations are forthcoming when the operator is accustomed to employ anaesthesia administered per rectum. The fact is that these cases are often due to oedema of the lung, the result of impaired movement of the diaphragm, reflexly as is suggested by Mr. Wilkie, "from irritation of the sensory fibres of the phrenic nerve," or more likely from the mechanical difficulty of diaphragmatic excursions against rigid recti muscles combined with the general effort of the patient to prevent movement in the recently wounded area.

When transient oedema of the lungs occurs so often after high laparotomies in chronic cases, its presence in cases of the acute upper abdomen before operation is not surprising. The causal factors are the same whether mechanical (as I have been in the habit of teaching), reflex, or infective. In 1916 Murphy drew attention to the high mortality from oedema of the lung after closure of large umbilical hernia due to "a deficiency in the action of the diaphragm muscle (the piston of respiration) in breathing."

My only doubt, after reading Mr. Wilkie's instructive paper, is in regard to the limitation of these pulmonary signs to cases with infections of the biliary tract.—I am, etc.,

Dublin, June 12th. W. DE C. WHEELER.

THE OUTLOOK IN TROPICAL HYGIENE.

SIR,—In your issue of May 20th Colonel A. Balfour, C.B., makes the following statement:

> "There was a great need of establishing a special course of instruction in this country for sanitary inspectors destined for the colonies. *So far as I am aware, no diploma in sanitary science as applied to the tropics yet exists for sanitary inspectors.* All that has been done in this direction is represented by the certificate granted by the Royal Sanitary Institute to sanitary inspectors who have qualified in the examination on tropical sanitation which has been recently instituted." [Italics not in original.]

I concluded therefrom that he was not aware of conditions which had existed for nearly a generation in the Madras Presidency, and more recently in other parts of India; and that he contemplated the provision of a particular course of instruction in tropical hygiene under the Royal Sanitary Institute, in support of its recently evolved certificate. In my letter on the subject (BRITISH MEDICAL JOURNAL, June 10th, p. 935), guarded by the conditional phrase "if that be so," I suggested that modification of the inappropriate method pursued by the Royal Sanitary Institute in bestowing its seal upon certificates of men educated [and examined] locally in the tropics, was a very desirable first step in the matter.

Colonel Balfour has now favoured me with a copy of his paper (not yet published by the Royal Sanitary Institute), in which it is shown that he does not look to the Royal Sanitary Institute for the course of instruction he desires, but to the future Imperial Institute of Hygiene. He regards the Royal Sanitary Institute in this connexion merely as an examining body.

A scheme erroneously described at its initiation is apt to be inhibited in development by doubts incident to incorrect information at disposal of otherwise willing supporters. Hence, as I believe all sanitary workers in the tropics would wish success for Colonel Balfour's scheme in its broad aspects, I submit this amendment of my letter above referred to.—I am, etc.,

London, N.W., June 12th. W. G. KING, Colonel I.M.S.(ret.).

EXPECTANT TREATMENT OF MEASLES AND INFLUENZA.

SIR,—As no one else has commented on the subject, may I add my voice to those of Major Reginald F. E. Austin (June 3rd, p. 901) and Dr. Thos. Carruthers (May 13th, p. 786), for I believe their contention to be worthy of every support.

I, too, for many years have been preaching the starvation and cold-water treatment of measles and other acute febrile conditions, and am satisfied as to the results. A few days' starvation from food does no harm, and drinks of water do every good.

There is a remarkable dread of cold water among the public. When told to give a feverish child drinks of water the mother almost invariably asks incredulously, "What? *Cold* water, doctor?" and is sometimes with difficulty persuaded. But I venture to say that warm milk, to a hot, feverish, thirsty child, is a revolting drink to offer.

I shall never forget a case here during an epidemic of what was popularly called "black measles," where three out of five children in one cottage died within a week. Three of them were in bed in one room, and on my visit one day as medical officer of health I was told with dismay that one of them, aged about 2 and just able to walk, had got up in his

delirium, staggered across the room to the washstand, and had wellnigh emptied the water-bottle. I at once said, "Well, it has probably saved his life," as indeed proved to be the case. He was asleep and already perspiring freely when I saw him. Thin barley water, made as tea is made, simply by pouring boiling water over a good handful of pearl barley and infusing till cold, is about the best of the drinks. It is hardly distinguishable from plain water when poured off, but contains the albumin and salts of the barley without the starch. It can be flavoured with thin lemon peel if liked. A large teapot or jugful of this, if put down overnight, is ready for the day's use each morning.—I am, etc.,

Bromsgrove, Worcs., June 8th. H. CAMERON KIDD.

ENGLAND AND VENEREAL DISEASE.

SIR,—Your review of my little book *Safe Marriage*, in the BRITISH MEDICAL JOURNAL of June 10th, is more than fair; it is very generous. But when you say, "Miss Ettie Rout is rather contemptuous of the England of to-day, and more than doubtful of England's future," you rather misunderstand what I wrote. I certainly believe that *on the average* the Anzacs are finer than the English in many ways, but that is only natural. Australasia was founded by highly selected British stock in the first instance—discoverers, explorers, sailors, soldiers, pioneers, and adventurers, men such as those who in our times make up the polar expeditionary parties. Second followed men of high character, noble political ideals, and great national vision, their inspiration to found a Greater Britain beyond the seas. Third, we had men and women of high education, great integrity, and sustained courage, many of them connected with different Church settlement schemes; they went out in sailing ships which took months to arrive, and they were indeed fortunate if they could get a reply to a letter within twelve months. Fourth, in Australia we had the convicts, many of whom were not criminals at all, merely rebels against absurd social conventions and mischievous laws. We got the rebels—you kept the slaves! Fifth, with the discovery of gold came the rush of miners and adventurers of all sorts. That was the beginning of the Anzacs. But there were always and still are far more men than women in Australasia; therefore sexual selection operated favourably in this way: that women were able to exercise a fairly wide choice as to the kind of man they wished to make the father of their children. In England, with its two million surplus women, women have not the same choice. The environment of the Anzacs is also much better on the average than the masses of the people are able to secure in England. We are better fed, better clad, better housed; we have a better climate, more open-air life, and we are geographically isolated from the diseased countries of the Old World.

All this is not to say that England has no men equal to the Anzacs. Of course she has! In the learned professions particularly she has many whom we gladly admit to be our superiors, and from whom we gladly learn. Generally speaking, you have more of the graces and vices of life than we have, and we have more of the crudities and virtues. We unite in feeling that the venereal problem constitutes the gravest affront to the pride and state of our empire. But our method of tackling it is—*to face the truth;* yours is—*to deny the facts.* Therefore I am optimistic so far as the Anzacs are concerned; pessimistic so far as the English are concerned. The main grounds for pessimism seem to me these:

1. During the war some millions of English men and women became infected with venereal disease, and many of them are still uncured.
2. From 1919 to 1922 large numbers of Englishmen have been abroad as soldiers in venereally dangerous areas, inadequately protected by disinfective measures, and within that period the number of fresh infections is wellnigh equal to the number of soldiers abroad!
3. During the same period some millions of men and women have been wholly or partially unemployed continuously, forming an idle or floating population, often quite unstable and more or less nomadic, and gradually becoming demoralized.
4. The surplus women have now grown to two millions, and by pressure of their numbers and lack of occupation they tend to lower the prestige of woman in England, arouse sex hostility, and over-feminize the national mind; and, in addition, large numbers of girls acquired loose habits during the war which they are unable or unwilling to abandon now.
5. London is the great meeting place and highway of the world, and residents and visitors are at perfect liberty to take any liberty they like with the sexual health of each other.
6. Every effort to induce the people to be clean sexually and to limit the number of their offspring is bitterly opposed; thus the national stock becomes progressively degraded by the fertility of the unfit who stay at home and the emigration of the fit who go abroad. And every day adds another thousand persons to the swarming population of England!

—I am, etc., ETTIE A. ROUT.

London, W., June 10th.

"ALASTRIM" OR "PARASMALLPOX."

SIR,—There are one or two points in Dr. Jervis's letter in the JOURNAL of May 27th requiring a reply from me.

Firstly, he suggests that, in my letter appearing in your issue of May 13th, after having stated in the second paragraph that alastrim is a separate entity, I contradict myself by refuting this in the last paragraph. How Dr. Jervis can possibly read such a meaning into the last paragraph of the letter I am at a loss to understand. His interpretation of the passage is so interesting that, with your permission, I will repeat the paragraph, which says:

"If 'alastrim' (synonyms: amaas, milk-pox, Kaffir-pox, etc.) is a disease separate and distinct from small-pox, it should have a distinctive name. If 'alastrim' or 'amaas' are unsuitable names why not call it 'parasmallpox'? *No useful purpose can be served by pretending that it is small-pox.** It might be suggested that to call it small-pox would induce people in the areas where the disease is epidemic to submit to vaccination. That subterfuge might, however, defeat its own object—for the antivaccinators would naturally retort, 'If small-pox has lost its power to kill and disfigure its victims, why trouble getting vaccinated against it?'"

The second point in Dr. Jervis's letter requiring attention is his reference to the confusion of issues. He says:

"This is not a time for confusing issues; rather is it a time for clear thought and direct action, because knocking at the nation's door at this very moment is what may prove to be one of the most serious epidemics of small-pox which has ever assailed the population of these isles."

The issue raised in Dr. Jervis's first letter, published on April 29th, was one of nomenclature. He appealed earnestly for the utter banishment of the silly word "alastrim." I suggested the word "parasmallpox," which naturally conveys to any medical mind the meaning "an acute specific infectious disease resembling small-pox." If "alastrim" is silly, "parasmallpox" is sensible. Some name is required for a disease, which every person who has had opportunities of studying it must admit is not classical small-pox, in order to facilitate discussion. Names or words are our only means of expressing ourselves.

He now appeals, dramatically, not to say picturesquely, for "clear thought" and "direct action." Can Dr. Jervis say what issue has been or is being confused and by whom?—I am, etc.,

R. P. GARROW,
Chesterfield, June 7th. Medical Officer of Health.

BILHARZIA DISEASE IN SOUTH AFRICA.

SIR,—The presence in Natal of schoolboys who have contracted disease through bathing in the Durban suburbs, and show in their urine the ova of *Schistosomum haematobium*, *S. mansoni*, and ova resembling those of *S. bovis*, emphasizes the need to differentiate the various schistosomes which in their cercarial stage infest the fresh-water snails in South Africa.

One can produce at will the cercariae of *S. haematobium* in *Physopsis africana* which has been bred free from other sources of possible infection, and efforts are being made to secure the cercariae of the rarer schistosomes, whilst other efforts are being made to secure their adult forms.

Bilharzia disease has long been known to exist in the Cape Province, and at one time was very common at Kingwilliamstown and Uitenhage. As the disease also occurs amongst the schoolboys who bathe in Baaken's Spruit at Port Elizabeth, I visited this river in October last and found numerous examples of *Physopsis africana* attached to the rocks, water-lily leaves, and water weeds. Previous collections of this snail from Port Elizabeth failed to show schistosome infestation, but on this occasion it was found to be heavily infested with schistosomes resembling those of *Schistosomum haematobium* and diagnosed by Dr. E. C. Faust as such.

I understand that this is the first occasion that the cercaria of *Schistosomum haematobium* has been identified and the intermediary host responsible determined with certainty in the Cape Province.—I am, etc.,

F. G. CAWSTON, M.D.Cantab.,
Durban, Natal, May 8th. First Streatfeild Research Scholar.

* This sentence in the original letter did not appear in italics.

THE CASE OF MR. F. W. AXHAM.

SIR,—In your issue of June 10th Dr. C. O. Hawthorne opens a delicate question which perhaps should be best left alone. It is hardly credible that the honour recently conferred on Mr. H. A. Barker is due—even in part—to the efforts of leading members of the medical profession. If so, it would be interesting to know who they are.

The cases of Sir H. A. Barker and Mr. F. W. Axham are on two different planes. According to the announcement of the knighthood to Mr. H. A. Barker in the *Daily Mail* it was stated that "when quite a child he showed great ability for manipulative surgery." This, if true, indicates that Sir Herbert's ability is congenital, innate, or instinctive in origin—at least, I have never heard of a school where the children were taught manipulative surgery.

In the case of Mr. F. W. Axham his skill in anaesthetics was due to the training he received under the educational supervision of the General Medical Council, and this skill had to be practised in accordance with the restrictions and traditions maintained by that body. If these restrictions and traditions are broken, as they were by Mr. F. W. Axham, the General Medical Council had no option but to act as they did. To reconsider that decision on the ground of the knighthood to Mr. H. A. Barker would be illogical, but there is no reason why the anaesthetist should not be honoured by a decoration lesser than that conferred on the operator.—I am, etc.,

Warrington, June 11th. J. S. MANSON.

SIR,—Dr. C. O. Hawthorne's letter is surprising. He seems to argue that because the Government or the people, with the connivance of some medical men, has decided to confer the honour of knighthood on an unqualified practitioner, therefore the General Medical Council and the profession at large should regard the practitioner as duly qualified, not only henceforth but retrospectively too.

It is rather disingenuous of Dr. Hawthorne to use the terms "by medical efforts" and "by a medical verdict," as though each equally represented the official action or even the judgement and desire of the medical profession. He makes "no pretence to estimate the value of the work," but in the next sentence implies quite definitely that "restriction" of the worker's "activities" would have been a misfortune in his opinion.

It is not a question of "one being exalted and the other contemned" *by the same people or body*, as he implies, and there is no opening to obvious reproach so far as the profession at large is concerned.—I am, etc.,

Swinton, Manchester, June 12th. J. PRICE WILLIAMS.

FIRST REPORT OF THE MINERS' NYSTAGMUS COMMITTEE.

SIR,—In your issue of June 10th (p. 932) I should have pointed out that the curious example of the committee's reasoning was a quotation immediately prefaced by the words "An illustration given by Trotter (66, p. 24) will explain the great importance of this reflecting power."

It is clear, then, that the committee give their sanction to the quoted passage.—I am, etc.,

Newcastle-upon-Tyne, June 11th. ARCHD. STANLEY PERCIVAL.

MACHINE FOR CRUSHING GERMS.

SIR,—In the BRITISH MEDICAL JOURNAL of June 3rd, 1922 (p. 902), Professor Tanner Hewlett states that we are apparently unaware that several machines have been devised for disintegrating bacterial cells.

We would like to point out that we are well aware of the existence of these machines, since we actually possess in our laboratory the ball-mill devised by Mr. J. E. Barnard. We found this machine so unsatisfactory that we discarded it as useless, and its motor is now used for driving other apparatus. One of its many faults is that the grinding cup is made of phosphor bronze, while the balls are made of steel. The result is that the ground germ material becomes quite black, due to the admixture of bronze dust. These machines are only capable of grinding germs in a more or less dried or frozen condition, and there is no doubt that an apparatus which will smash germs in a clean watery suspension is much to be desired.

The new machine which we possess is capable of cutting up yeast cells, and we feel that with further improvements the actual bursting of bacilli will be accomplished.—We are, etc.,

DAVID AND ROBERT THOMSON.

London, W.C.2, June 8th.

DETOXICATED VACCINES.

SIR,—I remove the toxins from my vaccines before sterilizing them because I can see no point in retaining broken inert products in a vaccine when it is possible to remove them.

I am not concerned to deny that fractions of an organism may produce antibodies to themselves when injected into an animal, but I contend that such results do not of themselves prove that the animal treated is thereby immune against attack by the whole organism.

I have never said that heat alone is sufficient to detoxicate a vaccine. I rely upon washing and the action of nascent oxygen. The autoclave is used to obtain rapid and efficient sterilization, and I showed conclusively in my paper that after the washing and the oxygen had done their work heat did not affect the vaccine either in its toxicity or its curative power. I published a large number of cases in support of that statement. So far from the autoclaved vaccine being inferior to the unheated vaccine, it actually showed slightly better results. Dr. Thomson may believe that a temperature of 120° C. destroys the specific antigenic power of any protein, but it would appear that his own quotation of Vaughan's work in the previous paragraph of his letter entitles one to be somewhat doubtful of the precise value of his belief. The fact that my results with an autoclaved vaccine are flatly opposed to the theory on the subject is one of those regrettable instances in which proved clinical facts happen to be at variance with what a theory states they ought to be.

I am aware that we do not test for syphilitic antibodies in the Wassermann reaction. I am obliged for the advice tendered, and, it is almost unnecessary to add, will treat it appropriately. Meanwhile I still await an explanation of how a germ can remain "unaltered" after being washed, treated with nascent oxygen for twenty-four hours, and finally autoclaved.—I am, etc.,

Manchester, June 12th. C. E. JENKINS.

The Services.

AUXILIARY R.A.M.C. FUNDS.

THE Auxiliary Royal Army Medical Corps Funds are divided into two branches: (*a*) Officers' Benevolent Branch, and (*b*) Relief Branch. Up to the end of 1921 the Benevolent Branch has assisted 42 widows and 102 orphans of officers in the Auxiliary R.A.M.C.; the total amount awarded was £5,788. The Relief Branch has assisted 116 widows or totally disabled men of rank and file of the Auxiliary R.A.M.C., and 299 children, nearly all orphans; the total amount awarded was £7,819. As in both cases the majority of the children are young, and the primary object of the Funds is to assist in education, the Funds' work will not be completed for several years. The Committee hopes to be able to maintain these grants and will be grateful for continued help. The President is Lieut.-General Sir John Goodwin, D.G.A.M.S.; the Hon. Treasurer is Colonel C. Mansell Moullin, R.A.M.C.(T.); and the Hon. Secretary Colonel Sir W. Hale-White, R.A.M.C.(T). The office is at 11, Chandos Street, Cavendish Square, London, W.1.

The annual meeting of the Funds was recently held at 11, Chandos Street. In the absence of the President, Colonel William Collier, a Vice-President, occupied the chair. Since the last annual meeting £1,778 has been granted to help the maintenance of the orphans of 36 officers in the Auxiliary R.A.M.C. who lost their lives as a result of the war; and £2,471 has been granted in the same way to the widows and orphans of 96 of the rank and file, making a total of £4,294 granted, and 135 cases relieved in a single year. As frequently several children of a single case were relieved, the total number of persons relieved was considerable.

DEATHS IN THE SERVICES.

COLONEL PATRICK ALEXANDER WEIR, Bengal Medical Service (retired), died at Farnham Common, Bucks, on April 20th. He was born on June 4th, 1851, the son of the Rev. James Weir of Drainie, Elgin, and educated at Aberdeen, where he graduated M.B. and C.M. with first-class honours in 1874, and at Guy's Hospital. He entered the I.M.S. as surgeon in September, 1875, became colonel in 1905, and after five years' tour of office as Inspector-General of Civil Hospitals in the Central Provinces, retired in October, 1910. He served in the Afghan war of 1878–80, receiving the medal. Along with the late Lieut.-Colonel J. Crofts, I.M.S., he was the author of *A Medico-topographical Account of Kohak and Jhalawar*.

Obituary.

W. H. R. RIVERS, M.D., D.Sc., F.R.S.

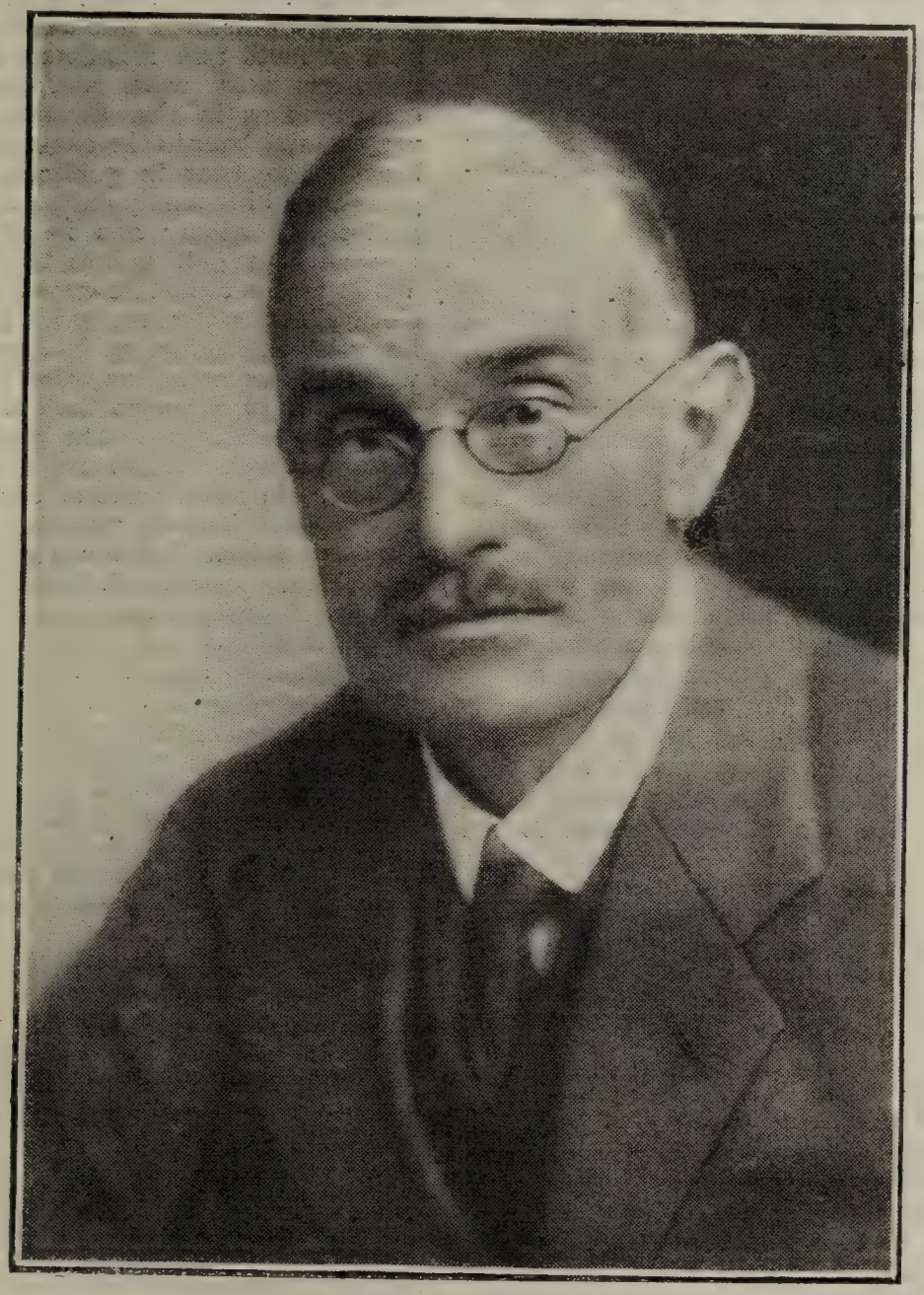
AN APPRECIATION.

BY HENRY HEAD, M.D., F.R.S.

ON the evening of June 4th we were horrified to learn that Dr. Rivers had died after a few hours' illness. No mere recital of the events of his life, of the posts he held, or the honours he received from learned societies, can give any idea of the profound loss caused by his death, and no single person is capable of doing justice to his varied activities. For the range of his work included the functions of the nervous system, psychology in its widest sense, and anthropology; and these three great interests of his life he treated as different aspects of the same problem—the biological reaction of man to his environment.

We first met in 1891, when he was house-physician at the National Hospital, Queen Square. I had worked for some years with Ewald Hering, and Rivers absorbed with avidity the views on colour vision and the nature of vital processes in living matter expressed in the writings of this physiologist of genius. When the unexpected invitation came to lecture in Cambridge on the functions of the sense organs, he was already deeply read in the subject; but, with his usual thoroughness, he prepared himself for his new duties by some months spent abroad in the study of experimental psychology.

As university lecturer on this subject he was persuaded to accompany the Cambridge Anthropological Expedition to the Torres Strait in order to supervise this aspect of the work. At that time his interest was purely psychological; but during the course of observations on the condition of colour vision he constructed a genealogical table to show the exact relationship of the inhabitants forming a small closed community on a remote island. This yielded evidence of unexpected ethnological value, and led him to develop his genealogical method of studying kinship as a key to social organization. He applied to other communities this precise means of recording the results obtained by field work, and in 1902 spent some time amongst the Todas, a primitive Indian people living in the Nilgiri Hills. During his absence he was elected to a Fellowship at St. John's College and, for the first time in his life, his material position was secure.



Photograph by] DR. W. H. R. RIVERS. *[Elliott and Fry, London.*

He had always been interested in the physiological consequences of nerve division. When, therefore, in 1903, we determined to bring clinical results to an experimental test by dividing the radial and external cutaneous nerves in my arm, he undertook the rôle of examiner. Throughout the next five years of precise and untiring observations he began to consider the structure and functions of the nervous system from an evolutionary standpoint.

At the close of this work in 1908, he made an expedition to Melanesia, which resulted in *The History of Melanesian Society*. This was a bold attempt to reconstruct the story of successive immigrations from the coexistence amongst a single people of incompatible forms of culture and social organization. Here he showed that his powers of accurate ethnological field work were associated with remarkable capacity for constructive generalization.

From this time his interests became centred more definitely in anthropology, and at the outbreak of war he was again in Melanesia. But on his return to England he threw himself into medical work. In July, 1915, he became one of the brilliant band of workers who at that time made Maghull the centre for the study of abnormal psychology; here his knowledge of organic nervous disease stood him in good stead. Rather more than a year later he was transferred to the Craiglockhart War Hospital, and it was here, amongst officers suffering from functional neuroses, that he revealed his remarkable power of gaining the confidence of young men. In earlier days at Cambridge his general health had been poor, and, in order to accomplish the large amount of work completed during this period, he was compelled to live somewhat the life of a recluse. But his vivid interest in the personality of each individual patient under his care and his determination to give help developed a latent capacity to influence deeply those with whom he was brought into contact. At the end of 1917 he was transferred to the Royal Air Force as consulting psychologist, and acquired a remarkable knowledge of flying, which resulted in a research on the mental aspects of military aviation.

Such varied experiences led him to consider functional nervous disorders from a general biological standpoint; he came to the conclusion that sexual factors played no essential part in the war neuroses, but that they were due to disturbance of an even more fundamental instinct—that of self-preservation. His last published work, *Instinct and the Unconscious*, was an attempt to derive these morbid mental states from the dissociated activity of instincts long held in subjection.

With his return to Cambridge in 1919 began one of the happiest and most brilliant stages of his career. He was appointed prelector in natural sciences at St. John's College; no formal teaching was required, but his enthusiasm, personal influence, and individual knowledge of the undergraduates profoundly stirred the scientific life not only of the college, but also of the university as a whole. The standard he demanded of himself made it imperative for others to keep up to a high level. He held informal meetings in his rooms for discussion of the most diverse subjects, and here he was seen at his best.

He was intensely occupied with the drama of human life, and this made him an interested auditor and a valuable counsellor in serious trouble. Triviality he abhorred. Pretentious pomposity withered in his presence, and the incompetent, however high in official rank, trembled before him. He created an atmosphere in which the insignificant could not survive. He was endlessly patient with an honest expression of personal opinion. His charity was boundless; but unsuspecting persons who expressed some mischievous view were often startled by the vehemence of the reaction they evoked from this modest man of science. With younger

men he was extraordinarily gentle, and I have often watched him wait his opportunity to drop into a discussion the exact word which brought together two disputants who had failed to understand one another. With him all conversation was constructive; he disliked barren argument or talking for effect and mastery.

He was an unusually trustworthy critic of the work of others; his opinion was sought by the most diverse persons and administrative bodies, and his verdict was given without hesitation. When he praised he carried immediate conviction, and his rare interventions in the debates of a committee of which he might happen to be a member were always effective.

His strongest characteristic was his intellectual rectitude, for he was never afraid to face the consequences of any view he might hold, and was always prepared to yield to cogent contradictory reasons. Whatever course of action he undertook was approached with the same quiet intensity; however adventurous might be his opinions, he wasted no time in tilting at windmills. The loss to science and to the university caused by his death is irreparable; for he aroused in those who came into contact with him a passionate consciousness of the significance of life and the beauty of organized knowledge.

R. C. ELSWORTH, M.D., F.R.C.S.,

Consulting Surgeon, Swansea General Hospital.

WE have, with much regret, to record the sudden death on May 27th, at his residence in Swansea, of Dr. R. C. Elsworth, in his 64th year.

Richard Cogswell Elsworth was born in Carlisle, received his medical education at Edinburgh, and graduated M.B., C.M. in 1888 and M.D. in 1901; he took the diploma of M.R.C.S.England in 1891 and that of F.R.C.S. in 1896. He had been in practice in Swansea for more than thirty years, and was surgeon, and afterwards consulting surgeon, to the Swansea Hospital. He was a member of the Swansea Division of the British Medical Association, and in 1903 contributed to our columns a paper on Freyer's operation for enlarged prostate. He held a commission as major in the R.A.M.C. (Territorial), and during the war worked at the 3rd Western General Hospital, Cardiff.

We are indebted to Dr. H. A. LATIMER, now of Tunbridge Wells but for long Dr. Elsworth's colleague on the staff of the Swansea General Hospital, for the following tribute to his memory:

By the sudden death of Dr. R. C. Elsworth, on May 27th, Swansea and a large district in South Wales have been deprived of the services of a brilliant surgeon, and many friends, among whom I am proud to number myself, are left to deplore the loss of a man who had endeared himself to them by his kindness, skill, and willing assistance in their time of need. I am led to make this personal allusion because I am left his debtor for an operation on myself, of a grave character, which he performed some years ago, and for other acts of professional friendship of great value to me.

Dr. Elsworth was educated at the University of Edinburgh, where he acted as assistant to the late Sir Thomas Fraser, F.R.S., Regius Professor of Medicine, and subsequently as a demonstrator of anatomy at that school. From Sir Thomas Fraser, who was one of my colleagues on the General Medical Council, I learned of the high appreciation he had of my friend—an appreciation which was the result of his observation of his work when under him.

The careful study which Dr. Elsworth pursued at his famous university and the opportunities it afforded him made his diagnostic skill one of distinction, and I have no doubt that his post as a demonstrator of anatomy paved his way to the singularly rapid and brilliant handicraftsmanship which marked his career as a surgeon, and led to his enjoyment of a large consulting and operating practice in the region of his adoption. This power of using his hands was exhibited in various directions—in photography and in general mechanics. I needly hardly say how valuable a thing it is for a surgeon to be endowed with such gifts, for if to diagnostic acumen is conjoined a power of manipulation of instruments and a consummate knowledge of anatomy we have the highest qualities of a surgeon exhibited in one man.

Dr. Elsworth's death at the comparatively early age of 63 was due to his exhausting work during the great war, and he is one of many members of our profession who have fallen in the exercise of their duties to the State during the years of stress caused by that terrible conflict. I have known of several such cases where the work in "carrying on" during those eventful years sapped all the powers of life and left men worn out by their exertions. He joined the R.A.M.C. at an early stage of the war, and, in addition to his work in Swansea, had the charge of a large hospital at Cardiff, which he visited three days a week. His responsibilities were great, and he coped with them with characteristic energy, but the strain was immense, and I do not doubt that he has fallen a victim to it.

A COLLEAGUE in Swansea sends us the following appreciation:

Looking back on Dr. Elsworth's career, what struck one most of all was his almost superhuman physical and mental energy. The pace at which he got through a heavy morning's work at the hospital astounded anyone watching him for the first time; every movement was crisp and full of purpose—no hesitation, nothing slipshod, everything looked so very easy. But those who knew him realized that his wonderful quickness of hand and mind were both attributable to years of assiduous hard work and practice in his early days as demonstrator in the dissecting room at Edinburgh University, and later to the constant thought and close reasoning brought to bear in perfecting his surgical technique in general and his manipulative dexterity in particular. When gastro-jejunostomy was in its infancy he spent many an hour at home getting into touch with his needle and thread. While others talked he would be stitching away at pieces of cloth laid over the arm of his easy chair. "Woman's work," he called it, but just an instance of the sound foundations on which his somewhat unorthodox methods rested.

Starting in Swansea first of all as a general practitioner, he was soon able to devote himself entirely to surgery and to build up a well-merited and widespread reputation as a consultant. In these parts of the country a consultation or an urgent operation may mean a journey of anything up to two hundred miles. There are probably few roads in South or West Wales over which Dr. Elsworth has not driven his car by day or night. His hospital patients always came first. Never mind how urgent or attractive the call he would never be tempted to leave till his task in the wards or operating theatre was finished. His hospital work he used to tell us was his religion; never sparing himself, he tolerated no slackness on the part of his assistants. Like most men of his sturdy type he had the power of infecting all around him with his untiring energy and concentration, and of the many men who as house-surgeons came under his influence there must be few to-day who do not realize that they owe some part of their success to the inspiring example and teaching of Dr. Elsworth.

During the war Dr. Elsworth served with characteristic enthusiasm on the staff of the 3rd Western General Hospital at Cardiff. This extra call on the energies of a man who was already overworked was undoubtedly responsible for the cardiac and vascular troubles that brought about his sudden death. These were strenuous times for all doctors left in this country, and men carried on in a spirit that was hardly less heroic than that shown by their comrades overseas. The writer recalls one day that well supports this suggestion. Those of us who travelled to Cardiff with Dr. Elsworth could not help noticing that he looked ill—he had a septic finger and was evidently in pain and fit only for his bed. On arrival at the Military Hospital he collapsed in a long faint and had eventually to be carried back to Swansea in a motor car. That evening he was for some time in a critical condition; he took an anaesthetic and his finger was freely incised. He got back into harness far too soon, well knowing that this breakdown had left its mark, but in spite of all his friends could do he refused to take things more easily; he went ahead with indomitable pluck and finished his life as no doubt he would have wished it—quickly, and with no distressing days of inactivity.

ARTHUR HENRY ROBINSON, M.D.DURHAM,

Medical Superintendent, St. Mary (Islington) Infirmary.

ALL who knew Dr. Arthur Henry Robinson, medical superintendent of St. Mary (Islington) Infirmary, will have heard of his death with deep regret. It took place on May 31st, in his 68th year. He was about to retire from his appointment, but his death was, we believe, unexpected. He received his medical education at University College, London, took the diploma of M.R.C.S. in 1878, graduated M.B.Durham in the same year, and proceeded to the degree of M.D. in 1880. Soon after graduating he became resident surgeon and pathologist

to the Royal Infirmary, Hull, and surgeon to the Hull Dispensary, but for the greater part of his active life he had held office in various Poor Law infirmaries. He was appointed medical superintendent of the Mile End Infirmary in 1885, a post which he held for fifteen years; on resigning it he received a gratifying presentation from the staff. He was the first medical superintendent of the new St. Mary (Islington) Infirmary, which was opened by the present King and Queen, then Duke and Duchess of York, in July, 1900. To Dr. Robinson, therefore, fell the task of organizing the medical work, which he afterwards superintended down to the time of his death. He joined the Royal Artillery early in life, and when he eventually retired with the rank of surgeon-colonel he received the Volunteer Decoration. During the war he was officer in charge of the Highgate War Hospital.

Dr. Robinson kept himself well abreast of the progress of medicine and surgery, and contributed several papers to the *Transactions* of the Clinical, Pathological, and Medico-Chirurgical Societies, and to the medical press. He also issued a translation into English of Calot's book on orthopaedics. He was a kindly man who, having chosen his sphere of work, gave to it the best that was in him, finding recreation in literature and the study of medical history. He made many friends, by whom his memory will be held dear. The funeral took place from St. Peter's Church, Dartmouth Park Hill, on June 3rd. The very large attendance at the service included representatives of the Islington Board of Guardians and of the staff of the infirmary. Among those present was Mr. Walter Schroder, coroner for Central London, who at the Islington coroner's court on the same day bore testimony to the keen interest Dr. Robinson took in his work and his anxiety that patients in the infirmary should be treated with the highest skill and the greatest consideration.

PROFESSOR LAVERAN.

THE death of Professor Laveran removes one of those who at the end of the nineteenth century laid firmly the foundations of tropical medicine. He was president of the Academy of Medicine in Paris when it celebrated its centenary in December, 1920, and his friends believe that the preparations for that event and the celebration itself overtaxed his strength, for he never afterwards returned to work.

Charles Louis Alphonse Laveran was born in Paris on June 18th, 1845, the son of a military medical officer, who was at that time professor, and afterwards became director, of the French military medical school at Val-de-Grâce. Following in his father's footsteps, Laveran became a student at the military medical school at Strasbourg in 1863, held resident appointments in the hospitals of that city, and in 1867 took his degree with a thesis on the regeneration of nerves. In 1874 he won the position of professeur agrégé at the Val-de-Grâce school, and at the termination of that appointment in 1878 was sent to Algiers, where he served at Bône and Constantine; it was at the latter place that on November 6th, 1880, he first observed the haematozoon in the blood of a patient suffering from malaria. In a little book, scarcely more than a pamphlet, he described the various forms of the parasite as he had observed them in the blood, and illustrated his description with excellent freehand drawings. At a still earlier date certain writers had suggested that yellow fever was carried by mosquitos, and it was, we understand, a suggestion made by King in America in 1883, to the effect that mosquitos played some part in the etiology of malaria, that first turned Laveran's attention to the hypothesis, which in the following year he himself adopted. In that year, however, Laveran was appointed professor of military hygiene and clinical medicine at Val-de-Grâce, and his opportunity of personally verifying the hypothesis was lost.

After ten years' occupancy of the chair at Val-de-Grâce and three years in administrative work, a period during which he seems to have suffered eclipse, Laveran retired from the army and joined the Institut Pasteur, in which he afterwards became professor. At the Institut Laveran resumed his researches with regard to the haematozoa of malaria, and studied the parasitic sporozoa of animals. In much of this work he was associated with F. Mesnil, who helped him in the application of the experimental method in the problems with which he was concerned. Laveran published the first edition of his treatise on malaria in 1898 and issued a second in 1907. In 1904 he published in collaboration with Mesnil a book of over 400 pages on the trypanosomes; the second edition, issued in 1912, contained over 1,000 pages. For the next five years he gave himself mainly to the study of leishmania and the diseases produced by these organisms, a subject on which he published a treatise in 1917.

Laveran received many honours in his own and foreign countries; he was a member of the Académie des Sciences, president of the Société de Pathologie for twelve years, received the Nobel prize in 1907, and was elected a foreign Fellow of the Royal Society of London in 1916. He was an unremitting worker, and for forty-two years devoted all his energies to the study of pathogenic protozoa and their relation to disease in man and animals.

The death of Dr. FREDERICK TURTLE on June 6th at Kirkmead, Woodford, removes a veteran member of the medical profession. He was born as long ago as 1833 at Newcastle-under-Lyme, and was apprenticed, as was the custom in those days, to Dr. Tom Foster of Manchester. Subsequently he came to London and proceeded with his medical curriculum (which at that time consisted of three winter and two summer sessions) at the Middlesex Hospital. He obtained his first qualification, M.R.C.S.Eng., in 1855, and took the L.S.A. a year later. He held the posts of House-Surgeon at the Royal Free Hospital, and Resident Medical Officer to the Marylebone Infirmary. At the former institution he was associated with the late Thomas Henry Wakley, F.R.C.S., one of the sons of Thomas Wakley, founder of the *Lancet*. He graduated M.D.St. Andrews in 1862. After a short time in practice at Lamberhurst and Collett Place, E., Dr. Turtle succeeded the late Dr. Duchesne at Woodford in 1866, where he continued in active practice until 1902, a period of thirty-six years. Sympathetic in disposition, always a very energetic man, and gifted with an extraordinary natural memory, he conducted successfully a very large practice, and managed at the same time to keep up with current events in medicine. When he was a student, in the fifties, the clinical thermometer and stethoscope were not in general use: the short clinical thermometer was introduced in 1868 by Sir Clifford Allbutt. Dr. Turtle retired from practice twenty years ago, but retained his energy and excellent health until a few weeks ago, still finding interest in the new discoveries in medicine, and could occasionally be found reading in the Library of the Royal College of Surgeons. He was twice married and leaves a family of three sons and two daughters, two of the former being members of the medical profession. The funeral was attended by four medical men bearing his surname: Dr. F. W. Turtle and Dr. G. de B. Turtle (sons), Dr. James Turtle and Dr. W. R. M. Turtle (great-nephews).

Universities and Colleges.

UNIVERSITY OF OXFORD.

Rolleston Memorial Prize.

THE Rolleston Memorial Prize at Oxford, which is open to graduates of Oxford and Cambridge, under certain conditions, for original research in physiology, pathology, animal and vegetable morphology, and anthropology, has been awarded to Gavin R. de Beer, B.A., Demy of Magdalen College, Oxford.

UNIVERSITY OF CAMBRIDGE.

AT a congregation held on June 9th the following medical degrees were conferred:

M.D.—N. G. Horner, H. W. C. Vines.
M.B., B.CH.—W. F. Eberlie.
M.B.—H. E. Creswell.*

* Admitted by proxy.

UNIVERSITY OF LONDON.

APPLICATIONS for the Sir William Dunn Chair of Pathology, tenable at Guy's Hospital Medical School, salary at least £1,300 a year (no pension), must be received by June 22nd.

Dr. Doris Mackinnon has been appointed examiner in general biology at the first examination for medical degrees in July, 1922, in place of Professor A. Dendy resigned.

The following have been reappointed to act as examiners for the first and second examinations for medical degrees in the session 1922–23 (the chairmen of the respective boards are indicated by an asterisk):

Chemistry: Mr. H. C. H. Condy* (London Hospital Medical College) and Mr. J. A. Gardner (St. George's Hospital Medical School, London School of Medicine for Women, and Physiological Laboratory), together with the

two external examiners. *General Biology:* Dr. F. Drabble* (Northern Polytechnic Institute) and Dr. Doris Mackinnon (King's College), together with the external examiners. *Physics:* Mr. F. Womack* (St. Bartholomew's Hospital Medical College) and Mr. J. H. Brinkworth (St. Thomas's Hospital Medical School), together with the external examiners. *Anatomy:* Professor W. Wright* (London Hospital Medical College) and Professor E. Barclay-Smith (King's College), together with the external examiners. *Physiology:* Professor H. E. Roaf (London Hospital Medical College) and Professor W. D. Halliburton (King's College), together with the external examiners. *Pharmacology:* Dr. P. Hamill (St. Bartholomew's Hospital Medical College) and Dr. V. J. Woolley (St. Thomas's Hospital Medical School), together with the external examiners (Professor F. Ransom*).

The following footnote has been added to the regulations for the M.D. Examination (Branch III) for internal and external students:

In view of the similarity in the subjects of the examination for the M.D. Degree in Branch III under the regulations for December, 1922, and subsequently, and the subjects of the examinations for the diploma in psychological medicine, candidates are warned that the standard of the examination for the M.D. degree in psychological medicine is distinctly higher than that of the examination for the diploma in psychological medicine.

In connexion with the correspondence between the War Office and the University regarding the recruiting for general hospitals of the reconstructed Territorial Force, a conference was held on February 15th, when the Vice-Chancellor submitted to the Director of Medical Services a series of revised questions which, together with the replies thereto, were submitted to the Senate, which, at its meeting on May 24th, passed the following resolutions:

(1) That the Senate express their appreciation of the courtesy of the War Office in the arrangement and conduct of the conference which took place on February 15th, 1922, and in the subsequent negotiations; and that they express their willingness to co-operate in a scheme for recruiting the personnel of the reconstructed Territorial Force General Hospitals in accordance with the scheme outlined in the revised answers to the questions which were submitted with the Vice-Chancellor's letter to the Director-General, Army Medical Services (February 21st, 1922).
(2) That the War Office be informed that the Senate would also be willing to co-operate in a similar scheme respecting the provision of personnel for home hospitals, which it is understood is now in contemplation.

The Vice-Chancellor, Sir Sydney Russell-Wells, has been appointed chairman of the Anglo-American English Conference Committee; and Professor Sir John Rose Bradford, K.C.M.G., C.B., vice-chairman of the University College Committee.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN Ordinary Council was held on June 8th, when Sir Anthony Bowlby, President, was in the chair.

Diploma of Fellowship.

Diplomas were granted to the following twenty-four candidates found qualified for the Fellowship at the recent examination:

F. J. Anderson	W. B. Foley	S. T. Parker
Alice Bloomfield	W. A. Hewitson	B. H. Pidcock
J. F. C. Braine	S. L. Higgs	B. T. Rose
D. J. Browne	J. G. Jones	J. P. Ross
R. S. Corbett	W. McK. H. McCullagh	J. Victory
I. W. Corkey	G. Massie	H. M. Wharry
E. A. Crook	C. H. Medlock	W. E. Wilson
A. R. Dingley	D. F. A. Neilson	H. B. Yates

Election of Examiners.

The following were elected Examiners for the Fellowship for the ensuing year:

Anatomy: Arthur Ralph Thompson, John Ernest Sullivan Frazer, Gordon Gordon-Taylor, William Frederic Haslam. *Physiology:* Arthur Rendle Short, John Mellanby, David de Souza, Ffrangcon Roberts.

Conjoint Examination.

The Committee recommends the Council to elect the following candidates as the Examiners to be appointed by this College under the Examining Board in England for the ensuing year:

Elementary Biology.—Thomas William Shore, James P. Hill. *Anatomy.*—Frederick Gymer Parsons, David Hepburn, John Basil Hume. *Physiology.*—Herbert Eldon Roaf, Charles Arthur Lovatt Evans. *Midwifery.*—Cuthbert Lockyer, George Drummond Robinson, Charles Hubert Roberts, Eardley Lancelot Holland. *Diploma in Public Health.*—Sir Frederick William Andrewes, Francis Joseph Stevens. *Diploma in Tropical Medicine and Hygiene: Bacteriology.*—Hugh Basil Greaves Newham; *Diseases and Hygiene of Tropics.*—George Carmichael Low. *Diploma in Ophthalmic Medicine and Surgery.*—Sir John Herbert Parsons, Herbert Willoughby Lyle, Malcolm Langton Hepburn. *Diploma in Psychological Medicine.*—Sir Frederick Mott.

Examinership in Dental Surgery.

The President reported that Mr. W. H. Dolamore's term of office on the Board of Examiners in Dental Surgery would expire on July 25th next, and that the vacancy thus occasioned would be filled up at the Ordinary Council on July 27th.

GENERAL LUDENDORFF has recently received the honorary title of doctor of medicine from the University of Konigsberg.

THE University of Jena has conferred the honorary degree of Doctor of Medicine on Dr. Otto Henken, director of the department of medical optical instruments in the Zeiss factory.

Medical News.

THE annual meeting of the Durham University Medical Graduates' Association will be held at 11, Chandos Street, Cavendish Square, London, W., on Thursday, July 6th, at 5 p.m. The annual dinner will be held at the Café Royal, Regent Street, W., at 7.30 p.m. on the same day. Tickets, price 15s., excluding wines, may be obtained from the Honorary Secretary (South), Dr. J. K. Haworth, St. Mary's Hospital, W.2. All medical graduates of the university are cordially invited to the dinner.

THE summer meeting of the British Orthopaedic Association was attended by Sir Robert Jones, the President, and about forty members and visitors. It was held on Friday and Saturday, May 26th and 27th, at Sir William Treloar's Hospital for Crippled Children at Alton and at its annexe at Hayling Island. At Alton a lantern-slide demonstration was first given, showing in general the methods of treatment in the hospital, and a cinematograph of the application of a high plaster jacket. The college in which the technical training of crippled boys between the ages of 14 and 18 is carried out was then inspected; the principal trades taught are leather bag, case, and trunk making, tailoring, and boot making and repairing. A series of cases illustrating mechanical methods of treatment of spinal caries and hip disease was shown in the afternoon. On Saturday the association paid a visit to Hayling Island, where treatment by fresh air, sunlight, and sea bathing was demonstrated, and Professor Leonard Hill gave a short lecture on the physiological effects of sunlight.

THE late Sir Patrick Manson has left estate of net personalty of £57,085. He has bequeathed his medical library and scientific instruments and apparatus to Dr. Philip Manson-Bahr, and the residue of his property, subject to his wife's life interest, to his children or their issue in equal shares, directing that the share of his son David should be retained on trust for his said son and his wife and issue, and failing issue to his son David he left the reversion of his portion to the London School of Tropical Medicine in connexion with the Seamen's Hospital Society to conduct investigations into tropical diseases, such investigations to be conducted abroad as far as possible.

MR. VICTOR BONNEY will resume his "gynaecological talks" under the auspices of the Fellowship of Medicine and Post-Graduate Medical Association, on Saturday, June 17th, at 12 noon, at the house of the Royal Society of Medicine, 1, Wimpole Street.

MEMBERS of the British Medical Association who play bowls will be interested in the announcement, in this week's SUPPLEMENT, of an international bowling match that has been arranged to take place on July 27th during the Annual Meeting at Glasgow.

DURING the annual general meeting of the Eugenics Education Society a conference on "The inheritance of mental qualities, good and bad," will be held at the rooms of the Royal Society, Burlington House, Piccadilly, on Tuesday, July 4th, at 5.30 p.m. The speakers will include Dr. Tredgold and Dr. C. Hubert Bond.

IN accordance with the proposal made in our correspondence columns on May 27th, p. 859, a society to be known as "The Medical Society for the Study of Venereal Diseases" was formed at a meeting held at the house of the Royal Society of Medicine on June 9th. Dr. David Watson of Glasgow, who presided over an attendance of about twenty-four, said that the object of the society would be to bring together for the reading of papers and discussion the many keen spirits now engaged in work upon venereal diseases. A formal motion to establish such a society was moved by Dr. Wilfrid Fox of St. George's Hospital, seconded by Dr. Alexander Wilson of Manchester, and carried unanimously. Some discussion took place as to whether the society would not gain its ends better by becoming a Section of the Royal Society of Medicine, but the feeling of most of those who spoke appeared to be in favour of independence; a final decision was postponed until the society had been got into working order. Certain rules were agreed to, including one which laid it down that the society should not express its corporate views on any subject of administrative or political interest, unless invited to do so by a department of the Government, and that in the event of any such invitation the views expressed should be those of 80 per cent. of the members voting on a referendum. It was also stipulated that the society should be composed exclusively of regularly qualified medical practitioners. It was agreed that the annual subscription should be 10s. 6d., but that if hereafter a journal was started it should be two and a half guineas. The Chairman said that as the cost of publishing a monthly

journal would be £500 or £500 a year, a membership of over 200 would have to be ensured before this responsibility could be shouldered, and the question was remitted to the council which is to be formed. The annual general meeting will be held each year in July, and the Chairman suggested that the same town and the same time might be chosen as those of the annual meeting of the British Medical Association. Local divisions of the society are to be formed and to appoint their own officers and hold meetings for the discussion of matters of clinical and administrative interest. Each division will also have two representatives on the council. The nucleus of a council was formed, and Dr. Robert Forgan, who has acted as secretary of the provisional committee, agreed to continue in that capacity until the first regular meeting of the society in July.

THE next meeting of the Medical Officers of Schools Association will be held at the house of the Medical Society of London on Monday, June 26th, at 5 p.m., when a discussion on the public health problem raised by children suffering from cardiac disorder will be opened by Professor F. S. Langmead, Dr. W. P. S. Branson, and Dr. James.

As already announced, a graduate course on children's diseases, under the auspices of the Fellowship of Medicine and Post-Graduate Medical Association, will be held from July 3rd to 8th at the East London Hospital for Children, Paddington Green Children's Hospital, Victoria Hospital for Children, Chelsea, Queen's Hospital for Children, the Middlesex Hospital, and St. Marylebone General Dispensary. The syllabus may be had from the secretary of the Fellowship of Medicine, 1, Wimpole Street, W.1.

PROFESSOR GEORGE H. F. NUTTALL, F.R.S., of Cambridge, has been elected a corresponding member of the Société de Biologie, Paris, and of the Society of American Bacteriologists.

THE next post-graduate lecture at the Royal Society of Medicine, under the auspices of the Fellowship of Medicine and Post-Graduate Medical Association, will be delivered by Professor H. MacLean, on "Recent work on albuminuria and glycosuria," on Monday, June 19th, at 5 p.m.

THE sixteenth French Congress of Medicine will be held in Paris from October 12th to 14th under the presidency of Professor F. Widal, when the following subjects will be discussed: (1) Diagnosis between gastric and duodenal ulcer, introduced by Drs. Enriquez and Durand of Paris and Drs. Cramer and Saloz of Geneva. (2) The pathological significance of the abnormal forms of leucocytes, introduced by Drs. Sabrazès of Bordeaux and Lemaire of Louvain. (3) Prophylaxis and treatment of deficiency diseases, introduced by Drs. Weill and Mouriquand of Lyons and Rathery of Paris. Further information can be obtained from the general secretary, Dr. A. Lemierre, 217, Rue du Faubourg St. Honoré, Paris.

DR. T. GERALD GARRY, of Cairo, who a couple of years ago contributed to our columns a short account of Pistany (Bad Pöstyen), then stated that the mud used for the baths had a natural temperature of 140° F. He now writes to point out that Pistany is the only mud bath in Czecho-Slovakia which is naturally warm. The mud baths used at other places are, he states, artificially heated.

THE seventh annual meeting of the National Council for Combating Venereal Diseases will be held in the Robert Barnes Hall, 1, Wimpole Street, W.1, on Monday, June 19th, at 4 p.m. The President, Lord Gorell, will give a valedictory address.

TO the memory of Dr. Just Lucas-Championnière, who was one of the first French surgeons to study Lister's practice in Glasgow and by his example and persistent advocacy introduced the antiseptic system into France, a monument has been erected in the courtyard of the Hôtel-Dieu, Paris, at the entrance to the department he directed for so many years. The monument is the work of Professor Paul Richer, and was unveiled by M. Strauss, the Minister of Hygiene.

THE celebration of the Bretonneau centenary has been postponed from June to October. The exact date will be announced later.

AT the International Congress of Otology, to be held, as already announced, in Paris from July 19th to 22nd, there will be an exhibition of normal and pathological preparations, and also, we are informed, an exhibition of instruments, ancient and modern, associated with both otology and rhino-laryngology. The Faculty of Medicine is providing large rooms for the exhibition, and objects should be sent by June 20th, addressed to Drs. Mahu and Truffert, Faculté de Médecine, Rue de l'École de Médecine, Paris.

DR. LUCIEN CAMUS and Dr. Louis Martin of Paris have been made corresponding members of the Royal Academy of Medicine of Brussels.

THE Royal Society of Medical and Natural Sciences of Brussels will celebrate its centenary on June 22nd.

A POST-GRADUATE course in practical surgery will be held at the Salpêtrière Hospital, Paris, from June 19th to July 3rd, under the direction of Professor Gosset; the fee is 150 francs, and particulars may be had from the secretary of the Faculty of Medicine, Paris.

THE annual "Voyage d'Études Médicales" will start on August 26th and end on September 6th, under the direction of Professor Paul Carnot. The party will visit Bordeaux, Arcachon, Dax, Biarritz, Salies-de-Béarn, St-Jean-de-Luz, Cambo, Pau, Saint-Christau, Eaux-Chaudes, Eaux-Bonnes, Angelés, Lourdes, Cauterets, Luz, Saint-Sauveur, Gavarnie, Barèges, Bagnères-de-Bigorre, Luchon, and Toulouse. The subscription is 680 francs for the tour from Arcachon to Luchon. Application should be made to the secretary, Dr. M. Gerst, 94, Boulevard Flandrin, Paris.

Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.*

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London*; telephone, 2630, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2630, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

SURGEON REAR ADMIRAL W. EAMES, R.N.(ret.), writes: In reply to "T. I. M." I recommend West Southbourne, situated about five miles east of Bournemouth. It has pretty surroundings and a climate which is very salubrious, and has been described as "life-giving."

OXYURIS.

"J. M." writes: If Dr. Hackworth's patient can have his appendix removed I think he will not experience any difficulty later in expelling the oxyuris. Threadworms find in the appendix a safe asylum when measures are taken to expel them. In the intervals of treatment they come forth again. The appendix being inaccessible during the course of treatment, the best plan would be to remove it, and later again attempt one or other of the usual measures.

DR. C. E. PRATT, Assistant R.M.O. Bermondsey Medical Mission, writes: In reply to Dr. V. C. Hackworth's question about threadworms in a girl of 11, may I give you the routine treatment carried out at this clinic, where we get a great many cases, some of them remarkably stubborn? Our treatment is as follows:

The child is given an aperient, such as liquorice or syrup of senna (dose according to age), while at the clinic. The mother receives two powders, each consisting of equal parts of calomel and santonin (for a child of 11 we should give calomel gr. j, santonin gr. j), and also a bottle of liquid paraffin. With these she has a paper of written directions, which are carefully read over and explained to her. They are as follows:

1st day: No solid food after 5 p.m. A cup of milk at supper time.
2nd day: At 7.30 a.m. give the first powder, a drink of hot milk, and keep the child lying down. Light diet all day.
3rd day: Treatment as on 1st day.
4th day: Treatment as on 2nd day.
5th day: Ordinary food. Give liquid paraffin ʒiij at bed time.

Continue the liquid paraffin ʒiij every night for a fortnight. If worms still remain, treatment is begun again. Stools to be most carefully examined.

These directions are simple and very explicit, as they have to be in a district such as this, but our results have been very successful. The great thing is to get the mothers to persevere with treatment.

TREATMENT OF PSORIASIS.

"A. B. S." writes: A man, aged 47, has had generalized psoriasis for about sixteen years. At present the rash is red, raw, and angry-looking. Almost the whole of the skin from the waist downwards is affected, and also the arms from the elbows downwards. The disease has cleared up several times of its own accord during the sixteen years he has been troubled with it, but for the last four years he has had it constantly, and for the last six months he has been quite unable to work, owing to the burning and irritation of the parts affected. The rash used to be scaly, but there is very little scale formation now. In spite of vigorous chrysarobin treatment, oil of cade ointment, etc., he is getting worse. Even arsenic internally in large doses has been given a trial. Suggestions as to definite curative treatment will be thankfully received, as the poor man's condition is pitiable.

POTASSIUM PERMANGANATE IN HAEMORRHAGE.

DR. V. N. MEHTA (Viramgam, Bombay Presidency), writes to say that in an obstinate case of epistaxis which had resisted other methods the bleeding was immediately arrested by irrigating the nose with potassium permanganate solution, 20 grains to the pint. He adds that finely powdered crystals of the salt applied over the bleeding surfaces act as a very good haemostatic in minor operations.

INCOME TAX.

"R. H." was assessed for 1921–22 on the sum of £2,230, the average amount of the previous three years' profits. His profits for the year ending April 5th, 1922, were actually £1,130. Can he claim any reduction of the assessment?

*** A reduction to the amount of the year's profits can be claimed only if (*a*) the practice was set up later than April 5th, 1919, or (*b*) "R.H." has succeeded to the practice since that time and suffered in his professional earnings from some specific cause—for example, the coal strike of last summer.

"C." makes the following inquiry: B. joined A. as one-third partner in October, 1919; for the six months to March, 1920, B. paid tax on one-third of one-half of the total cash receipts, including back debts in which he did not share. In March, 1922, the partnership between A. and B. was dissolved, leaving A. in the practice. Should B. pay income tax to A. on back debts received after the dissolution of the partnership?

*** No; unless this is specifically provided for in the partnership deed. Payment of tax on the basis of cash receipts is a convenient method of meeting income tax liability, but those payments refer to the earnings of the period for which the assessments are made and not to the earnings in respect of which the cash is received. B. has apparently paid tax in respect of his earnings for the period from October, 1919, to March, 1922—except as regards the instalment due in July, 1922—and has no further liability.

"M. F. G. M." qualified in October, 1920, and commenced work as an assistant in November, 1920, earning £150 for the period to April, 1921. From then to April, 1922, the earnings were about £350. On what amount is he liable for the year 1921–22?

*** The amount assessable is determined by the earnings of the first twelve months; our correspondent cannot take the amount for the year to April 5th, 1921, as the basis for the following year, because he did not commence work as an assistant until November, 1920.

"D. E." is one of three partners who pay their own locomotion expenses, expended £200 for car renewal in 1920 apparently, but has been allowed £67 only on the assessment just received.

*** It has to be remembered that the renewal of a car is allowable as a professional expense, and that the basis of assessment is the excess of receipts over expenses on the average of three past years. For these reasons the full £200 cannot be claimed as a specific deduction for any financial year; it is only an item of expense in the determination of the profits for 1920 and consequently affects the 1921–22 assessment by one-third of £200 = £67 only. The converse, of course, would arise in the event of the receipt of any unusually large fee in any particular year.

"W. V. M." was demobilized in March, 1920, took up a position as assistant in October, 1920, and became a partner in October, 1921. On what basis should his declarations be made?

*** (1) For the year to April 5th, 1921, on the actual earnings of the year or on the average earnings of the three previous years, whichever is the less, and (2) for the year to April 5th, 1922, as regards the first six months on the earnings of that period, and as regards the second six months, on the basis of the income tax assessment—that is, if he has, say, one-third share of the partnership, profits as from October, 1920, then he would return for that half-year one-half of one-third of the amount assessed on the practice for 1921–22.

LETTERS, NOTES, ETC.

RHYTHMIC IRREGULARITY OF THE HEART.

DR. GEORGE H. VOS (Tottenham, N.) states that he has for over thirty years attended a lady, now aged 82, who has always had fair health, but has a gouty diathesis, as evidenced by the joints of hands and feet. When the pulse is counted five beats occur, then a pause, and then five more beats. If he keeps her interested in conversation the pulse becomes continuous, but the groups of five beats return when she becomes quiet. No murmurs can be heard. Our correspondent asks for an explanation.

COCKROACH IN THE NASAL PASSAGES.

DR. ARTHUR SHEARD (Huddersfield) writes: While at sea in the Mediterranean, on March 18th, 1922, I first noticed that I had contracted what I thought to be a slight "cold in the nose," characterized by a tendency to spit up mucus, and also occasionally to eject a small plug of tenacious mucus from the right nostril on forcibly blowing the nose. I experienced no real sense of irritation—in fact, the discomfort was so slight that I thought nothing of it at the time. There was no obstruction to breathing through either nostril. On the evening of March 19th, when composing myself to sleep, my head had no sooner reached the horizontal position than I experienced a slight fullness in the *left* nostril, suggesting that more mucus required to be discharged. Accordingly I closed the right nostril and blew forcibly, but this action increased the irritation to an acute "tickling" sensation, which at once caused an involuntary flow of tears from both eyes. There was no obstruction to breathing through either nostril, and digital examination of both nostrils failed to reveal anything. On cessation of the blowing of the nose the irritation ceased, so I dismissed the occurrence from my mind and slept soundly.

At 4.45 a.m. next morning I awoke with the recollection of having had a vivid dream, an experience which is unusual with me. I lay awake for a few minutes, and then remembered about my difficulty the previous evening, although now I felt nothing unusual in the nose. I again blew the nose forcibly several times, which action brought on a slight sense of fullness in the left nostril, but none of the sharp tickling sensation felt previously. After a few attempts I obtained sudden and complete relief by ejecting something from the left nostril into a handkerchief. After switching on the light, great was my astonishment to observe that I had ejected a full-grown cockroach. It was quite dead, and enmeshed in a film of clear tenacious mucus. Its body measured three-quarters of an inch in length.

The only conceivable time when the cockroach could have entered the nostril must have been during sound sleep, the most recent occasion for which was some twenty to twenty-four hours previous to its ejection. Most probably it had entered two or three days previously, which would account for the slight "cold" which I had experienced. Three features of this incident stand out as remarkable:

1. The entrance of the cockroach into the nose without causing any irritation or disturbance. During sleep I invariably breathe quietly through the nose with the mouth closed.
2. The comparatively long period (probably two days or more) during which the insect remained in the nasal passages without causing any appreciable inconvenience. Not once during this time had I even the desire to sneeze.
3. The ease with which the offending insect was ejected by forcible blowing of the nose.

I may say that cockroaches were a common pest on board my ship, but I have never heard of anyone having undergone an experience similar to mine described above.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 26, 27, 30, 31, and 32 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 28 and 29.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at p. *232*.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£ s. d.
Six lines and under	0 9 0
Each additional line	0 1 6
Whole single column (three columns to page) ...	7 10 0
Half single column	3 15 0
Half page	10 0 0
Whole page	20 0 0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

Observations
ON
THE DUODENAL TUBE IN THE DIAGNOSIS AND TREATMENT OF BILIARY DISEASES.

BY
JONATHAN MEAKINS, M.D., F.R.C.P.E.,
CHRISTISON PROFESSOR OF THERAPEUTICS, EDINBURGH UNIVERSITY; PHYSICIAN TO THE ROYAL INFIRMARY, EDINBURGH.
(From the Department of Therapeutics, University of Edinburgh.)

IN 1917 Meltzer[1] reaffirmed his "law of contrary innervation"* and his conviction that disturbance of this law was of great pathological significance. He demonstrated it particularly in regard to the physiological function of the gall bladder in promoting an interrupted flow of bile into the intestine. He further suggested instances where suspension of the physiological process might give rise to pathological sequelae. He drew attention to the musculature of the gall bladder, which on contraction empties this viscus of its fluid contents. The antagonist of this musculature is the circular muscle of Oddi, which is situated at the termination of the common bile duct, thus closing the papilla of Vater at its duodenal entrance. In conformity with the "law of contrary innervation" the muscle of the gall bladder is relaxed and the muscle of Oddi contracted during the storing of bile, while a reverse action takes place when the bile is being poured into the duodenum. The nervous control appears to be equally interesting.

"According to Doyon, stimulation of the peripheral end of the splanchnic nerves causes simultaneously a contraction of the gall bladder and an inhibition of the tonus of Oddi's muscle. The vagus, on the other hand, seems to contain motor fibres for the sphincter of the common duct and inhibitory nerve fibres for the gall bladder. Furthermore, also the afferent innervations show the character of contrary innervation. For instance, stimulation of the central end of the vagus causes simultaneously a contraction of the gall bladder and an inhibition of the sphincter muscle."

There are numerous suggestions in physiological experiments that variations in dietary may influence this co-ordination of gall bladder and sphincter muscular action. Sometimes this influence may be for good and sometimes for evil. Rost first demonstrated the fact that the injection of peptone or albumoses into the duodenum was followed by the prompt discharge of bile into it, and that this was due to a reflex act which caused the simultaneous relaxation of the sphincter of Oddi and the contraction of the gall bladder.

In a footnote to his communication Meltzer records his observation that the application of a 25 per cent. solution of magnesium sulphate "to the mucosa produces a completely local relaxation of the intestinal wall." Such a result is not obtained if the salt passes through the stomach. He therefore makes the suggestion that the local application of a 25 per cent. solution of magnesium sulphate by means of the duodenal tube might relax the sphincter of the common duct and permit the ejection of bile and perhaps even the removal of a calculus of moderate size wedged in the duct in front of the papilla of Vater.

The development of the use of the duodenal tube by Einhorn and other workers stimulated investigation, and many observations were made upon the normal and pathological contents of the duodenum. In particular these observations were directed to the character and digestive power of the pancreatic and hepatic secretions. Attempts to increase the flow of these fluids, except by means of the so-called cholagogues administered by mouth, were not undertaken until Lyon[2] applied the observations of Meltzer in regard to the local duodenal action of magnesium sulphate on the gall bladder and bile-duct sphincter. Lyon's experiments were entirely successful and established the basis for extended investigation into the contents of the gall bladder in health and disease. He further developed the technique in order that the gall bladder might be evacuated of its fluid contents whenever considered advisable if such evacuation were mechanically possible.

Methods.

The patient should fast for at least six hours before the duodenal tube is introduced. The tube is then passed to the first mark (40 cm.). The stomach contents are then aspirated by means of a glass syringe. If the stomach be normal, they will be found to consist of slightly opaque acid fluid with flakes of mucus; this is quite typical of the resting gastric juice. It is well to examine this material, when obtained, as to its total acidity, for frequently useful information may thus be obtained. The stomach is then washed out with 30 c.cm. of tepid water, which is introduced by syringe and withdrawn. This repeated process need not be prolonged if the stomach appears normal. The patient is now placed on the right side in the recumbent position. The duodenal tube is then passed to the second mark (55 cm.) and the process of washing and evacuation repeated two or three times. The tube is finally introduced to the third mark (80 cm.), where it is allowed to remain. The patient is kept lying on the right side with the abdomen inclining towards the bed, although it is not found advisable that he should lie too flat on the abdomen. It is important that the patient should be made as comfortable as possible in order that restlessness and fatigue may be avoided. The patient remains in this position for about half an hour, when a small sample of the contents of the gut is removed for examination. If the end of the tube be in the duodenum the fluid withdrawn may be scanty, alkaline or neutral, and sometimes more or less bile-tinged. If it contain free hydrochloric acid (indicated with Congo red paper) it may be presumed that it has not yet passed the pylorus or at the best is just within the duodenum.* Each fifteen minutes following a small sample of the contents is obtained for examination. When these samples are alkaline or neutral and probably slightly bile-stained it may be concluded that the end of the tube is well into the duodenum. This usually takes from three-quarters of an hour to an hour, but sometimes longer. In a certain number of cases it may be impossible to obtain an alkaline or neutral sample. If the resting gastric juice has been examined a high degree of acidity may frequently have been found in such cases. If the final samples remain acid but with a much lower concentration of titratable acid than that of the resting gastric juice it may be presumed after two hours that the tube has reached the duodenum, especially if the fluid be bile-stained. Subsequent events will indicate whether this be so or not.

When it has been decided that the tube is in the duodenum 30 c.cm. of a 25 to 50 per cent. solution of magnesium sulphate is injected through it. This is allowed to remain for five or ten minutes, when a sample may be removed. If the procedure has been successful the fluid will be found to be deeply bile-stained, and if the withdrawal be continued at intervals almost pure bile may be obtained. If diagnosis be the principal point in view the bile may be withdrawn in fractional amounts and placed in numbered test tubes and subsequently examined when the procedure has been completed. If, however, drainage or thorough evacuation of the gall bladder be the primary object, then persistent withdrawal of the bile is not required and the contents (magnesium sulphate and bile) of the duodenum may be allowed to pass down the bowel. In these circumstances care must be taken not to introduce too much magnesium sulphate, as violent purging may then result.

In the practice of a busy practitioner, where a nurse skilled in the procedure is not available, or in the wards of a hospital where a number of patients are treated each day by this method, the steps outlined above may be too time-consuming. The following plan may therefore be adopted. The tube is passed the night before to the 80 cm. mark, a spring clip being attached to the free end in order to prevent leakage, and pinned to the nightdress. The patient is then instructed to sleep on the right side. If there be restlessness and difficulty in sleeping, 1 gram of sodium or potassium bromide, or an equivalent amount of some mild hypnotic in solution, may be introduced into the stomach through the tube, which may be completely emptied by injecting a few cubic centimetres of air. A good night's rest is thus usually obtained. At a convenient hour in the morning a small sample of fluid is withdrawn. Only exceptionally does this fail to give positive evidence of coming from the duodenum. The magnesium sulphate may then be introduced. When it has been determined that the bile is flowing freely the tube may be removed,† and after half an hour the patient may have the breakfast indicated under the circumstances of the condition irrespective of the duodenal tube having been introduced.

* Sherrington has termed this "reciprocal innervation."

* The passage of the tube into the duodenum may be hastened by having the patient drink about 150 c.cm. of hot clear meat soup or milk. The latter is to be preferred as it does not obscure the future colour indications. This drink should be taken before the tube is introduced to the second mark, and therefore the second washing and evacuation of the stomach is omitted.

† It is usually advisable in infected conditions of the biliary tract to lavage the duodenum with a bland aseptic solution before the removal of the tube.

The importance of this direct method of investigating the character and flow of bile can hardly be overestimated in pathological conditions of the liver, the gall bladder, and their ducts.

Abnormalities of the Bile.

Lyon[8] has drawn attention to the difference in the character of the bile during consecutive periods of the physiological drainage of the bile ducts and gall bladder. The first bile which appears is of a light golden colour and as a rule quite transparent. This is followed by a much larger quantity of darker greenish-yellow bile, which is more concentrated and frequently quite viscid. Finally a small quantity of much paler and thinner bile is obtained. Lyon considers that these three types of bile are at the time of drainage in three more or less separate portions of the biliary tract. The bile in the common duct, and probably the cystic duct (10 to 20 c.cm.), is the first bile to appear. There is then a short transition flow of bile, which rapidly becomes darker until the darker bile is obtained. (This may amount to between 30 and 150 c.cm.) Finally a small amount of light yellow bile is obtained, which flows slowly and steadily. It has been suggested that this bile is identical with that which flows normally from the liver and is stored in the gall bladder, where it becomes concentrated during the periods of physiological biliary stasis. It must always be remembered that normally the bile does not enter the duodenum in a continuous stream but intermittently when the appropriate stimulus is in operation. This stimulus is normally the product of gastric digestion—the acid chyme with proteoses, albumoses, and peptones. As will be mentioned later the character and periodicity of diet may have an important bearing on biliary affections.

A careful macroscopical, microscopical, and, if indicated, chemical examination of the different succeeding and continuous aspirations of bile may give much valuable information as to the site and character of the pathological process. It has been found to be extremely difficult definitely to diagnose abnormal conditions of the lower biliary passages (independent of the gall bladder) by an examination of the first samples of bile obtained. If they are found to be abnormal it cannot be definitely stated that this bile has not been contaminated by the residue from the last expulsion from the gall bladder which may be the site of the pathological condition. This difficulty, however, does not arise if the first portion of the bile be healthy and the second portion (dark green and more viscid) be definitely abnormal, whilst the final portion is again found to be normal. Under such conditions it may be definitely affirmed that the pathological lesion is situated in the gall bladder. Furthermore, if the whole of the bile—even the last portions—be abnormal, it may be inferred that the abnormal process has either arisen in the hepatic duct or above, or that it has extended upwards into these channels. In such cases this may be taken as definite evidence of an extensive cholangitis, and even hepatitis may sometimes be diagnosed. If the first portion only of the bile be abnormal it may be assumed that the lesion is confined to the common duct.

The various indications of abnormal conditions in the biliary passages as indicated by the bile are as follows: Increased viscosity and turbidity, presence of flakes of bile-stained mucus, pus cells, large numbers of degenerated epithelial cells and pathological micro-organisms, such as streptococci, *B. typhosus*, large numbers of *B. coli*.* Small gritty particles of material which may chemically be identified as biliary sand, and even definite gall stones of considerable size, have been obtained. The diagnosis of the local lesion will depend upon the degree and character of the abnormality of the bile. If there be numerous pus cells, with or without numerous micro-organisms, it may be safely inferred that the condition is of an active inflammatory character. This is usually associated with a systematic reaction. A chronic suppurative lesion of the gall bladder may, however, exist without pronounced systematic or local symptoms provided a modicum of biliary drainage be present. Such a degree of drainage, however, may not be sufficient to prevent the development of chronic symptoms of intoxication.

Abnormalities of Biliary Drainage.

Evidence of partial or complete mechanical obstruction due to gall stones, adhesions, neoplasm, and other conditions is frequently found. The causes of pathological stasis or partial retention are of great importance in the production of immediate symptoms or future complications. But there are other less obvious conditions which are of even greater importance. Meltzer[1] has quite clearly pointed out the pathological sequence of events which may follow upon prolonged biliary stasis. It is recognized that this may occur as a secondary condition consequent upon the impaction of gall stones, inflammatory swelling of the tissues, new growth, or pressure from without the passages. But his claim that primary biliary stasis may in itself lead to certain of these more conspicuous lesions is not commonly appreciated.

It has been demonstrated that the bile in health may contain pathological organisms. That these do not set up pathological processes is due to the fact that the cells of the biliary passages are of normal vitality. In such soil micro-organisms seldom find a favourable habitat for their growth and invasion. If, however, abnormal conditions arise which lower the vitality of the parts, or in any manner improve the habitat of the organisms for their growth, then pathological processes are apt to arise.

As has been stated previously, the evacuation of the gall bladder is an intermittent act depending upon initiation of a definite reflex by suitable stimuli. In order that this physiological function may operate properly two things are necessary—first, a properly balanced nervous path for such a reflex, and secondly, a proper stimulus. This physiological reflex is under the control of the vagi and the splanchnic nerves, and the evidence seems to indicate that the vagus contains motor fibres for the sphincter of the common duct and inhibitory fibres of the gall bladder. Thus it is quite conceivable, and indeed probable, that central impulses are capable of inhibiting or at least rendering more difficult the action of the proper stimulus even if it be normally operative. The emotional and other states which are conducive to the disturbance of many physiological reflexes need not be discussed at present.

The various stimuli which may initiate this reflex are not as yet fully understood, but that they are intimately connected with the processes of normal digestion there is good reason to believe. Bruno has shown that during the fasting stage no bile enters the duodenum, but when the digestive chyme enters the stomach after a meal bile is ejected into the duodenum. Rost has shown that if the gall bladder be absent the bile enters the duodenum in a continuous stream. He has further demonstrated in a healthy dog with the gall bladder in operation that injection of albumoses, peptones, and other products of protein digestion into the duodenum immediately initiates a flow of bile from the papilla of Vater. He has proved that this flow of bile is produced by the reflex act of simultaneous contraction of the gall bladder and relaxation of the sphincter of Oddi. These observations would indicate that the gastric contents furnish the normal stimulus for this reflex. This, however, is not entirely true. Oddi[10] and Archibald[4] have conclusively demonstrated that high acidity of the duodenal contents stimulates the contraction of the sphincter of Oddi. The resistance which this spasm of the sphincter muscle affords to the flow of bile may be judged from experiments. Archibald found that under fasting conditions 180 to 330 mm. pressure of water forced fluid through the sphincter, but when the duodenal mucous membrane was douched with 15 per cent. solution of hydrochloric acid it took 330 to 800 mm. pressure of water to produce the same result.

We are therefore faced with certain facts which may indicate how a deleterious action upon the normal physiological flow of bile may be brought about—how, in other words, a biliary stasis may be produced. The question naturally arises, Is such a biliary stasis a harmful condition? As yet sufficient evidence has not been accumulated to answer this question in full, but there is much to indicate that it is a condition which may be fraught with much eventual mischief. It has already been mentioned that normal bile may contain pathological organisms. Much more so is this the case in infectious diseases such as typhoid fever. In ordinary circumstances biliary infections are not common occurrences, probably for the reason that the mucous membranes of the passages are healthy and the flow of bile quite normal. But it is well to recognize the evil influences which biliary stasis has in predisposing to biliary disease. Whether this be by lowering the resistance of the containing structures or in providing a suitable habitat for the growth of pathological micro-organisms, or in both ways, is not as yet clear.

In addition to the pathological processes which may be produced in the biliary system by a disturbance of the reflex

* A small number of these organisms are frequently found in the bile, and may probably be due to the filtration action of the liver on the portal blood.

ejection of bile we have to consider the very important pathological condition which may be initiated in the pancreas. The observation of Opie[5] that the impaction of a small stone in the ampulla of Vater could give rise to acute haemorrhagic pancreatic necrosis has been repeatedly confirmed. Opie demonstrated that this most serious lesion was consequential upon the regurgitation of bile into the pancreas through the duct of Wirsung. Archibald[4] has pursued this subject farther, and has shown that such regurgitation of fluid can be accomplished by producing a spasm of the sphincter of Oddi and increasing the intrabiliary pressure. Further, he has demonstrated that acute haemorrhagic necrosis of the pancreas may be produced in this manner.[6] Whether the pancreatic lesion be acute or chronic depends upon a number of circumstances. But the fact seems now quite evident that biliary stasis is frequently a most important factor in producing these lesions.

Functional Biliary Stasis.

It is not the purpose of this communication to discuss biliary stasis caused by gross mechanical lesions, but to deal chiefly with biliary stasis of a so-called functional character—a stasis which is present before structural changes of an obstructive type are evident. Meltzer has pointed out the possibility that by some strong mental excitement

> "tonic contraction of the sphincter of the common duct, at a period assigned for the discharge, does not become relaxed while the gall bladder contracts within the usual normal limits; this would result in abnormal stasis within the biliary ducts which may lead to icterus—*emotional icterus*. Or both the muscle fibres of the gall bladder and of the sphincter are abnormally strongly contracted, which would lead to biliary colic with consecutive jaundice without the presence of catarrhal conditions or of calculi, at least not in the first few attacks of comparatively short duration."

In addition to the possible action of powerful emotion in producing a functional biliary stasis there must be considered the probable results of a deficiency of the proper stimulus. It has been pointed out that the products of normal gastric protein digestion play a prominent part in supplying such stimulation.* This being the case, it will be readily appreciated how important it may be that a properly balanced diet should contain a certain amount of protein. Meltzer has particularly emphasized the possible dangers in this regard of a purely vegetarian diet. A diet may contain sufficient calories but may not be properly balanced in so far as diet may affect the physiology of digestion and metabolism.

The manner in which the contents of the stomach, apart from the products of digestion, influence the biliary function has already been suggested. If the duodenal contents be kept abnormally acid, the physiological relaxation of Oddi's sphincter will not take place. Thus it will be seen that gastric hyperacidity may possibly exercise an important influence in producing a certain degree of functional biliary stasis.

The association of gastric hyperacidity with biliary lesions in general assumes an additional importance when considered from this point of view. It has been recognized for some time that lesions of the gall bladder are frequently accompanied by signs and symptoms of gastric hyperacidity. It has even been held by some that the hyperacidity has been reflexly produced by the cholelithiasis. Little or no evidence has been advanced in support of this view except the observation that the two conditions are frequently associated. In view of the present experimental observations it would be more consonant with the facts to suggest that biliary stasis and subsequent gall-stone formation might be the result rather than the cause of hyperacidity.

The influence of functional biliary stasis upon the formation of gall stones is probably very important. Two outstanding factors in the production of gall stones are recognized—bacterial invasion and biliary stasis. In regard to the etiology of gall stones, Mayo-Robson[7] makes the following statement:

> "Anything, therefore, which causes stagnation of bile may dispose to gall stones; on the other hand, whatever leads to a regular emptying of the bile passages will tend to clear out such detritus as cast-off cells and incipient collections of cholesterin crystals and mucus, and thus to prevent the formation of gall stones. Among the remoter causes we must consider age, sex, habits, dress, diet, diathetic conditions, and disease."

In regard to the diet he makes the following interesting observations:

> "If the supply of nitrogen in the food be limited, the bile salts will be diminished and cholesterin may be precipitated. This may serve to explain the presence of gall stones in gouty persons who on account of the lithic diathesis limit their intake of nitrogen. The larger consumption of farinaceous food in Germany may also serve to explain the greater prevalence of gall stones there than in England, where meat enters more extensively into the dietary. In diabetes, in which nitrogenous food is prescribed, gall stones are rarely found."

Since Gallippe[8] in 1886 first demonstrated the presence of bacteria in biliary calculi much attention has been paid to this aspect of the question. The evidence collected goes far to substantiate the view that bacterial infection of the bile passages is the chief cause of the origin of gall stones. As has been pointed out above, the normal bile frequently contains pathological micro-organisms. The numerous routes which have been suggested whereby they may reach the bile need not be discussed in detail. It will be sufficient to mention the two main ones—namely, an ascending infection by way of the bile ducts and infection through the liver from the portal or systemic blood stream. In such circumstances it is not surprising that cholelithiasis is a common condition. In fact it might be expected to be much more frequent than it is. It has already been stated that the two most important factors in preventing the pathological growth of micro-organisms in biliary passages are a healthy mucous membrane and efficient biliary drainage, while biliary stasis in itself may lead to a lowering of the resistance of the biliary mucous membrane. One attack of biliary infection is frequently followed by others. It is quite readily seen how this may be the case when it is realized that biliary inflammation leads to a prolonged partial stasis and the stasis perpetuates the favourable habitat for the growth of micro-organisms. In this manner a vicious circle is established.

It is quite evident from these observations and experimental facts that biliary stasis and any abnormal conditions which tend to promote it or to perpetuate it are probably the most important factors in the etiology of the more common biliary lesions. The initial form of stasis in all these circumstances is most probably of a functional nature resulting either from a spasm of the gall-duct sphincter or prolonged absence of the proper stimulus in sufficient strength.

Treatment of Biliary Lesions.

Apart from its value as a diagnostic measure, the use of the duodenal tube as outlined lends itself to treatment. In conditions where there is biliary stasis independent of complete obstruction it is advisable to promote free and periodical emptying of the gall bladder and passages. This is of particular importance when the stasis is associated with some chronic inflammatory process. If cholelithiasis be present, and there be good reason to avoid an operation if possible, much in the way of amelioration may be expected. This hope is especially warranted when it is realized that in practically every case of cholelithiasis a chronic infection of the biliary passages is present, which infection perpetuates and is perpetuated by biliary stasis in the manner of a vicious circle. The claims of operation *versus* duodenal tube drainage need not be considered. The indications for either therapeutic measure are quite clearly to be distinguished. It may be observed, however, that in the use of the duodenal tube no physiological organization is disturbed in so far as present knowledge goes. In the case of operation this cannot be conceded. After cholecystectomy the rhythmical flow of bile ceases and it dribbles into the duodenum whether necessary or not. This may be harmless, but at any rate is not physiological, and it is possible that the presence of large quantities of bile in the intestines when it is not needed may exert some deleterious influence. Furthermore, it is established that the bile is more concentrated in the gall bladder than in the hepatic ducts, and that bile salts are absorbed from the intestine to be stored again in the gall bladder, so that an ejection of concentrated bile may take place when necessary. Without the gall bladder none of these physiological processes may be carried out. In the case of cholecystenterostomy not only is the gall bladder physiologically eliminated but an open door for infection from the bowel into all the radicles of the biliary system is permanently established. However, in spite of all these objections, and apart from the risk attending any major operation, it is sometimes imperatively indicated and therefore must be undertaken. But there are many instances in which operation is not

* It is probable that there are other physiological stimulants which as yet have not been demonstrated.

indicated, in fact the risk of the cure may be greater than that of the disease; in addition there are conditions where operation as a therapeutic measure would be useless.

Catarrhal Jaundice.

The prolonged course of catarrhal jaundice is well known, and anything which would shorten it would be welcomed. It is frequently associated with systemic infections or obvious infections of the digestive tract from the teeth to the duodenum. In fact, catarrhal jaundice is a result of an infection of a greater or lesser part of the biliary passages. Therefore there are present in this condition the two fundamental factors, stasis and infection, most liable to promote biliary mischief. The longer the stasis remains in whole or in part the greater will be the liability to future trouble. The indication, therefore, is to re-establish efficient biliary drainage as soon as possible. Lyon[9] in a series of cases of catarrhal jaundice occurring during an influenza epidemic in the United States navy reduced the average duration of the jaundice by 50 per cent. In those cases treated by the expectant measures the average duration was thirty-five days, while in these cases treated with the duodenal tube the duration was seventeen days.

Cholecystitis and Cholangitis.

The probable vicious circle established by biliary stasis and cholecystitis has already been referred to. The treatment of severe suppurative or gangrenous cholecystitis by operation is well recognized, but there are many degrees of lesser severity in which the use of the duodenal tube is especially indicated. The complete evacuation of the gall bladder at frequent intervals (twenty-four hours) promotes freer drainage and conduces to the more rapid resolution of the morbid condition. It also helps to remove small collections of pus, cholesterin, precipitated bile salts, mucus, and bacteria which are so prone to form the nucleus of a gall stone. The chances of the infection spreading to distant radicles of the biliary tract and into the pancreas are also diminished. Even where surgical drainage of the gall bladder has been instituted it may be demonstrated by the duodenal tube that the infection is persistent, and that much can be done to hasten resolution by duodenal drainage.

Cholelithiasis.

Instances have been reported where small faceted gall stones have been evacuated with the bile on the use of the duodenal tube, but it must be acknowledged that such instances are rare. It is not at all uncommon, however, to find biliary sand, which represents the early stages of the formation of gall stones, in the evacuated bile even where the presence of larger gall stones is not diagnosed nor definitely considered.

There is no reason to believe that through duodenal drainage the ejection of gall stones from the gall bladder can be brought about. Where small stones have been found it may be surmised that they had been lodged in the ampulla of Vater. In so far as cholelithiasis is concerned there is as yet no evidence to indicate that duodenal drainage can replace operative procedure. There is, however, much to recommend the employment of both measures.

Numerous cases of cholelithiasis are met with where an operation would be attended by considerable risk or might be absolutely contraindicated. In these circumstances much relief may be obtained by the use of the duodenal tube. In fact it may be demonstrated that many attacks of so-called gall stones are in reality periods of acute exacerbations of cholecystitis and cholangitis *plus* cholelithiasis. In such cases the periodic use of the duodenal tube may in great part clear up the chronic infection and thus obviate the recurrent attacks of cholecystitis.

The following reports may serve to demonstrate the value of this plan of duodenal drainage of the biliary tract:

CASE I.

J. M., female, aged 30; married, no children. Duration of illness four years. The onset was gradual with pain in the right side of the epigastrium radiating to the right shoulder. The first attack lasted for some hours and was associated with vomiting. Similar attacks occurred during the next three weeks. She was then free of attacks for three and a half years. Eight weeks before coming under observation the attacks of pain with gradual onset recurred, each attack lasting about six hours and occurring every two or three days. Otherwise the patient was free of symptoms. On examination, there was acute tenderness and rigidity over the gall bladder, very slight jaundice and glycosuria with minute traces of bile in the urine. The stools were not clay-coloured. Treatment with the duodenal tube showed the bile to be viscid, turbid, and of a dark greenish colour. On examination many epithelial cells and leucocytes but no micro-organisms were found. Repeated biliary draining relieved all the symptoms, the bile became quite clear and of light greenish colour, and the glycosuria disappeared.

This appeared to be a case of recurring cholecystitis with biliary stasis and associated glycosuria. It was thought probable that the glycosuria could be accounted for by the secondary pancreatitis resulting from chronic biliary stasis. A year elapsed without return of symptoms. The glycosuria did not return although the patient was on a full diet and had a high carbohydrate tolerance.

CASE II.

C., female, aged 64; married, twenty-one pregnancies. During the last ten years the patient had suffered from periodical attacks of "indigestion and gastric discomfort," which were relieved by vomiting. The pain was never extremely severe, came on gradually, and usually lasted for some days, being felt in the upper right quadrant of the abdomen and radiating to the right shoulder-blade and shoulder. It lasted from seven to ten days and was usually associated with jaundice. There was no history of acute paroxysms of pain such as is usually found in cholelithiasis. On examination there was some tenderness in the right hypochondrium with localized rigidity. The liver was not enlarged. There was slight jaundice and a trace of bile in the urine. The stools were not clay-coloured. The duodenal tube was passed and a large quantity of dark turbid bile was recovered after the injection of magnesium sulphate. This greatly relieved the pain, and after repeating the draining on the next day the symptoms entirely disappeared. This treatment was carried out twice a week, until the bile became a clear golden colour and the patient continued to be completely free from discomfort.

This appeared to be a case of mild cholecystitis with considerable biliary stasis which was relieved by the use of the duodenal tube.

CASE III.

E. C., female, aged 59; married, five children. Two years before coming under observation the patient suffered from a very severe attack of acute pain in the upper right quadrant of the abdomen, which radiated to the right shoulder-blade. During this attack she suffered from jaundice. Since then she has had many mild attacks of pain situated in the same region, the onset of which has been gradual, lasting for a few hours to a few days, but has never been severe enough to prevent her working. On examination there was slight tenderness of the right upper quadrant of the abdomen on deep palpation. Otherwise examination was negative. The duodenal tube was passed, magnesium sulphate injected, and 50 c.cm. of dark viscid bile obtained. No pus cells were found on microscopical examination. This gave the patient considerable relief, and all symptoms disappeared after three such treatments.

It was considered probable that this condition was due to cholelithiasis with associated cholecystitis, and operation was advised. At the operation the gall bladder was found to be fibrosed and thickened; it contained a single stone the size of a walnut. The common bile duct was dilated, but did not contain any stones, and the head of the pancreas was fibrosed.

CASE IV.

E. C., female, aged 78; married, seven children. In 1913 the patient began to suffer from attacks of angina pectoris, which gradually became less severe under treatment. In 1918 she had her first attack of abdominal pain. This was of very acute onset and extremely severe, associated with tenderness and rigidity over the right upper quadrant of the abdomen, radiating to the back and the right shoulder. It was associated with jaundice and clay-coloured stools. These attacks recurred at irregular intervals of a few weeks. Sometimes the onset was very acute and at other times very gradual. The gall bladder was always tender and palpable during the attacks. *X*-ray examination revealed the presence of a single large stone situated in the gall bladder. The diagnosis of cholelithiasis and acute cholecystitis was made, but for various reasons an operation was considered inadvisable. It was decided to attempt to drain the gall bladder by means of the duodenal tube. This was found to be accomplished with ease, and the patient did not suffer any inconvenience on the introduction of the tube. During the first drainings of the biliary tract dark, turbid, viscid bile was obtained, which contained many leucocytes and bacteria of the *B. coli* group. The biliary drainage was repeated bi-weekly, the bile gradually assuming a lighter colour, being much less viscid and clearer. As the bile improved in appearance the intervals between the biliary drainage were lengthened until it was only necessary to do it once a fortnight. Since then the patient has been completely free from attacks of pain, and can now tell by the onset of symptoms of general depression and abdominal discomfort when a biliary drainage is necessary.

There seems little doubt that this is a case of cholelithiasis with associated cholecystitis, the main symptoms being due to the cholecystitis and spread of the inflammatory condition to the ducts. That biliary stasis contributed to the exacerbation of these symptoms there seems little doubt. The risks

of operation in this case would be considerable owing to the frailty of the patient's general condition and her inability to accomplish much exertion on account of the cardiac condition.

These are but examples of certain classes of cases in which biliary drainage by the duodenal tube has given satisfactory results. There seems to be no doubt that there is a definite field of usefulness for it, and more extended experience will probably give indications for its further development.

REFERENCES.
[1] Meltzer: *Amer. Journ. Med. Sci.*, cliii, 1917, 469. [2] Lyon: *Journ. Amer. Med. Assoc.*, lxxiii, 1919, 980. [3] Lyon: *Amer. Journ. Med. Sci.*, clx, 1920, 515. [4] Archibald: Seventeenth Internat. Cong. of Med., London, 1913. [5] Opie: *Johns Hopkins Hospital Bull.*, xii, 1901, 182. [6] Archibald: *Surg., Gyn., and Obstet.*, 1919, 529. [7] Mayo-Robson: *System of Medicine*, Allbutt and Rolleston, vol. iv (1), 1908, 253. [8] Gallippe: *C. R. Soc. Biologie*, Paris, 1886, 116. [9] Lyon: *Amer. Journ. Med. Sci.*, clix, 1920, 503. [10] Oddi: *Arch. ital. di Biol.*, ix, 1882-1888. [11] Oddi: *Arch. per le Sci. Med.*, Torino, xii, 1888, 333.

An Address
ON
THE SPREAD, PROBABLE MODE OF INFECTION, AND PROPHYLAXIS OF LEPROSY.*

BY
SIR LEONARD ROGERS, M.D., F.R.C.P., F.R.S.,
I.M.S.(RET.).

FROM the time of Moses the control of leprosy has been one of the most difficult medical problems of world-wide importance. Nor are the reasons far to seek, for although since the discovery of the lepra bacillus the disease is now nearly universally acknowledged to be a communicable one, yet owing to the failure hitherto to cultivate or inoculate the organism with any degree of certainty, we are still very ignorant regarding the precise manner in which the bacillus passes from one case to another; while in the absence of any reliable method of treatment it has hitherto nearly always proved impossible to detect and segregate the early but infective stages of the disease. In view of the increased powers in the latter direction which the recent progress in the treatment of leprosy has placed in our hands, I propose briefly to review the problem in the light of a study I have recently made of the literature, more especially of the last sixty years.

The Spread of Leprosy over the World.

The following is briefly the history of the spread of leprosy over the world. Historical data show it to have been present in Egypt and India about 1400 to 1350 B.C., and in China about 200 B.C., while in Europe it was unknown to Hippocrates 400 B.C.; but Aristotle described it in 345 B.C. as a rare disease, so it was probably introduced by the invasion of Darius, taking some time to spread sufficiently to attract attention. Italy was free until the return of Pompey's soldiers from the East in 62 B.C.; Galen wrote of it in Germany in A.D. 180, and it gradually spread over all Europe by the eighth to the tenth centuries. During and after the crusades it greatly increased in Europe, becoming a scourge in the twelfth and thirteenth centuries, France alone having two thousand leper hospitals and England some two hundred, this being the first great effort to control leprosy by segregation, to which the rapid decline of the disease in the latter part of the fourteenth century is attributed by most authorities, assisted in England by the famine of 1315–16 and the black death of 1349, which are believed to have caused a loss of half the population. Some anticontagionist writers have questioned the prophylactic value of the mediaeval leper hospitals on the ground that the isolation was not sufficiently complete to stamp out a contagious disease, but in view of the prolonged close house contact usually necessary to allow of infection of leprosy, as I shall show presently, they must have been of great use, and it is worthy of note that the disease died down most rapidly in just those countries where segregation was most stringently enforced, while leprosy remains endemic to this day in outlying parts of Europe where these measures were not much used, such as Norway, Spain, Portugal, Greece, Turkey, and parts of Russia.

Very soon after leprosy began to decline in Europe it spread to the West Indies, the northern part of South America, and Mexico, being carried by infected early Portuguese and Spanish invaders, and later also spread widely by negro slaves from Africa, and Chinese and Indian immigrants after the emancipation of the slaves; and it is interesting to note that all the evidence points to the aboriginal American Indians having been free from leprosy, while those who have always kept aloof from intercourse with Europeans still remain so. Lastly, leprosy spread to Oceania in epidemic form during the second half of last century, becoming prevalent in the Sandwich Islands in 1853, in New Caledonia in 1865—the latter outbreak certainly and the former probably beginning with immigrant Chinamen—while in 1878 the Marquesas Isles were invaded with equally serious effects. Thus the whole history is that of a communicable disease slowly creeping over the world, although it was not until the appalling character of the invasion of the Oceania Islands by leprosy became evident that the then widely held hereditary and non-contagionist doctrines of the origin of the disease were seriously questioned and its communicability gradually became generally recognized, being materially hastened by Hansen's discovery of the lepra bacillus in 1874.

Hereditary Theory of Origin of Leprosy.

Perhaps the most remarkable feature of the history of leprosy is the almost complete replacement of the world-aged contagious theory of its origin by the hereditary theory of its causation during the nineteenth century, largely based on the book of Danielssen and Boeck of 1848, who looked on the occurrence of a second case within four generations of a family—including collateral descent and ascent and irrespective of whether the parent was diseased before or after the birth of a child—as evidence of hereditary causation, and completely ignored the possibility of family or household infection; and even then had to admit some cases to be of spontaneous origin. The absence of hereditary propagation of leprosy in the descendants of Scandinavian lepers living under far more favourable hygienic conditions after migrating to the United States of America; the frequency of infection in leprous tropical climates of Europeans free from all hereditary taint; the spread of epidemic leprosy in Oceania far too rapidly to be possibly accounted for by heredity; and the rapid loss of sexual powers of adult male lepers and want of development of such powers in adolescent males, had already greatly shaken the hereditary theory before Hansen's discovery finally established the infectivity of the disease, although the precise mode of communicability still remains unsettled and has to be discussed in the light of recorded cases.

The Communicability of Leprosy.

As the result of an analysis of answers to questions sent to a number of medical men in leprous countries in 1862 the Royal College of Physicians of London reported leprosy "not to be contagious or communicable to healthy persons by proximity or contact with the diseased," and that there was therefore no justification for segregation measures. As the direct result of this opinion the Colonial Office issued orders stopping all action in that direction and urged the repeal of all laws empowering isolation of lepers. Yet Dr. N. C. Macnamara, I.M.S., with great experience of leprosy came to exactly the contrary conclusion from an analysis of the 107 reports from India, constituting a large majority of the total reports received by the College, further opposition to whose view was soon forthcoming from actual workers in the tropics. Thus, Drognant-Landré recorded a number of infections in 1869; all the thirteen doctors reporting to the British Guiana Leprosy Commission of 1875 favoured contagion; W. Munro collected many cases and stated the whole case in favour of contagion in 1877–79; Brosse, with long experience at the Trinidad leper asylum, wrote a book on contagion in 1879, and Hillis of British Guiana, in an important work on leprosy (1881), found evidence of contagion in 67 per cent. of 139 cases without heredity which he closely investigated. In 1876 Hansen refuted the hereditary theory in Norway and supported the communicability of the disease, and in the next decade Vidal, Bocq, Leloir, and Besnier took the same view in France, and, with the exception of the Indian Leprosy Commission of 1891, to which a strong anticontagionist was nominated by the College of Physicians, but whose views were repudiated by the London Leprosy Investigation Committee who appointed them, every important leprosy conference of the last three decades has endorsed the infectiousness of leprosy, which is now generally accepted. Sir Jonathan Hutchinson's view, first put forward in 1863, that leprosy was "fish-eater's gout"—but subsequently repeatedly modified until "commensal communicability," apart altogether from fish diet, was acknowledged—is also a prebacteriological theory of only historical interest.

* Delivered before the Tropical Diseases Section of the Royal Society of Medicine.

Conditions favouring the Spread of Leprosy.

The most important of these are a low stage of civilization, such as existed in Europe during leprosy prevalence in the Middle Ages, and still persists among the poorer classes in India, China, Africa, and Polynesia, etc., and to some extent in Norway and Iceland, in the form of one-roomed houses with overcrowding and promiscuity; great sociability, as in the Sandwich Islands and in Norway at certain seasons; absence of all fear of the disease—social ostracism of leper families, on the contrary, having been followed by temporary disappearance of the disease in South Africa in 1756 (Impey) and in Louisiana in 1785 (White); a low state of morals and sexual promiscuity, as in Europe in the Middle Ages (G. Newman), and recently in Hawaii, where it is recorded that only those Europeans who had intimate associations with the natives got leprosy, and the same is largely true of British Guiana and other tropical countries; and such social customs as eating with the fingers out of the same dish and smoking a common pipe, as in Hawaii. The Chinese believe in sexual infection of leprosy, and also in benefit being derived from passing on or "selling" the disease in this way, as the ignorant in some parts of England still believe in regard to venereal diseases; but the proved discharge of lepra bacilli from the nose and mouth in sneezing, coughing, etc., readily accounts for infection through close contact with lepers, including sexual relations. Deficiency of protein and fresh vegetable diet has also repeatedly been stated to predispose to leprosy, and probably furnishes the only real basis of the badly cured fish theory; while Tonkin has pointed out that animal proteins are largely absent from the diets of the leprosy-afflicted races of Africa, India, China, etc.

Leprosy Incidence and Climate.

Leprosy is prevalent from Iceland to the equator, so that climate alone appears to have little influence on its occurrence. Nevertheless, a study of the rates per mille that I have collected shows that very high leprosy incidence, such as 5 per mille and upwards, only occurs within the tropical zone in places with a high rainfall, nearly always from 60 to 80 inches or more a year, thus having a hot moist climate, which may very possibly be favourable to the survival of the lepra bacilli for a longer time outside the human body, facilitating infection. Thus, in Central Africa we have recent records of rates per mille of 5.0 in French Guinea, 5.2 in North Nigeria, 13.0 in French Equatorial Africa, 20.0 in Abyssinia, 20.3 in the Kameruns, and 60.7 on the Ivory Coast; in Asia, 10.7 in the Dutch East India Island of Amboina, and, according to Kermorgent, 44 in the Straits Settlements; in Oceania, 26.0 in New Caledonia, 35.0 in the Loyalty Islands, and 66.7 in the Marquesas Islands, while in Hawaii the rate has been 11.88; in tropical America we have records of 5.1 in Barbados, 16.0 in Trinidad, 20.0 in French Guiana, and 25.0 in Dutch Guiana, all appallingly high incidences when we recall that in India, where lepers can be seen daily in the streets of all large towns, the rate is barely 0.5 per mille.

Between the tropics and 35° latitude, as well as in some tropical countries, the leprosy rates per mille are comparatively low, such as 1.17 in South Africa and below 0.5 in Egypt, Algeria, Argentina, etc.; while in colder latitudes the highest rates I have so far found recorded are 3.0 in 1896 and 1.1 in 1907 in Iceland; 1.91 in 1856 in Norway before isolation measures were adopted; 1.94 in Japan, and 1.06 in Cyprus. In considering the influence of temperature we must bear in mind that during the long winter months of high latitudes the people are closely crowded in houses artificially warmed to a high degree, so that if the infection is mainly a house one, as I shall show immediately, the conditions of life in such cold countries as Iceland and Norway may easily be more favourable to the communication of the disease than those in places between 35° latitude and the tropics with climatic conditions favourable to open-air life during the greater part of the year, and the incidence of leprosy just described is easily understood.

Group Infections in Newly Attacked Countries.

Owing to the incubation period of leprosy commonly extending to from two to eight years or more and the insidious onset of symptoms, it is naturally exceedingly difficult to trace the source of infection in places where the disease has for long been widely prevalent, but in newly infected countries a number of striking instances are on record, such as the following: In Cape Breton Island the first case was a French woman aged 52, from whom infection was traced to five of her children, all born after she was attacked, two grandchildren, a stepson, an attendant of one of the leper sons, and a man who had slept with one of the infected sons—three persons not related to the family being thus among the victims. In the Louisiana outbreak of 1866 a French woman was again the first leper; three of her four sons, one of two daughters all living in the same community, a nephew residing eight miles away, a young woman who nursed the first patient, and a young man who slept with one of the infected sons, were all attacked within a few years. Again, in the Memel district of East Prussia, between 1848 and 1907, no less than 78 cases of leprosy were traced to infection introduced into a previously free district by six leprous Russians coming to reside there as servants—examples which will suffice to prove that under favourable circumstances the slow and insidious communication of leprosy from case to case can be traced. In Natal two natives returned from the Cape after living there with a leper woman and both developed the disease two years later, with the result that leprosy became widespread among all the neighbouring previously uninfected tribes, over 100 cases being known at the end of forty-two years.

Modes of Infection.

The general history of the spread of leprosy over the world and its progress in newly infected countries thus leaves no doubt that the disease is in some way communicated directly or indirectly from one patient to another through the causative bacillus. The exact mode or modes of infection, however, remain obscure owing to want of reliable methods of cultivating the organism and infecting animals with it, so we have to fall back on recorded histories of cases for indications of the conditions under which the disease is communicable, and the most probable channels of entrance of the bacillus into the human body, for the purpose of studying which I have now collected 700 instances, analysed in the following table, in which the probable source of infection was noted.

Table of 700 Recorded Cases of the Probable Source of Infection in Leprosy.

Mode of Infection.	Number.	Percentage.	
Conjugal	85	12.14	18.28
Cohabiting	43	6.14	
House	180	25.7	39.84
Room	35	5.0	
Bed	64	9.14	
Attending on lepers	139	19.87	19.87
Leper playmate	23	3.28	19.42
Close association with leper	113	16.14	
Wet nurse	8	1.14	2.59
Wearing leper's clothes	3	0.43	
Vaccination	4	0.59	
Inoculation from leper	3	0.43	

In considering these figures it is worth recalling that the stock arguments of the anticontagionists were that the disease was rarely transmitted from husband to wife and vice versa, and was very rare among attendants on lepers, yet my table shows that almost one-fifth of the recorded infections fall into each of these two classes. A large number of the infections of attendants on lepers related to patients in private houses, but a fair number also took place in leper asylums and settlements, so most of these, as well as the cases of conjugal, cohabitating relationships, house, room, and bed infections, or nearly four-fifths of the whole, were house infections—just as I showed in 1897 was the case in the equally insidious infection of kala-azar—while many of the cases entered as "close association" included visiting the houses of leper friends, from whom the infection was apparently derived. Thus the outstanding feature of the analysis is that in the very great majority of the cases there were frequent and prolonged opportunities of contact in a house inhabited by a leper before the disease was communicated, although occasionally the contact was short, as in three instances in which infection was traced to sleeping on a single occasion with a leper woman, the man developing leprosy after ten months, one and two years respectively after such close contact. Many of the cases in which infection followed cohabitation between a healthy and a leprous subject were European males living with leprous native females in tropical countries, while a number of the conjugal infections took place in temperate climates, such as Norway. There is, however, evidence that conjugal infections are comparatively uncommon in proportion to the frequency of this form of exposure, for they were found to be only from 4 to 5 per cent. in the Molokai leper settlement of the Sandwich Islands—a fact which is explained by the greatly diminished susceptibility to the disease in persons over 30 years of age, while it

has also been pointed out that owing to male lepers soon losing their sexual powers their wives are then little more exposed to close contact with them than other members of the household. The infections among playmates were mostly European children associating with native leper children, and it is generally recognized that children and adolescents between 5 and 20 years of age are especially susceptible to the disease.

The house infections include many persons who occupied the same room or even the same bed as a leper, and the numbers occupying the same room must in reality have been far more numerous than the 5 per cent. shown in my table, as so many of the house infections occurred in the poorer tropical races whose houses only contain one room. Further, no less than 9.14 per cent. of the whole series were actually recorded as having occupied the same bed as a leper, apart from conjugal and cohabiting couples, the addition of whom brings the known bed infections up to no less than 27.42 per cent.—a most striking fact which well brings out the long and close contact commonly necessary before infection takes place between the diseased and the healthy. The cases of infection from wet nurses are also of interest in this connexion, and several times showed very prolonged incubation periods.

Is Leprosy Commonly Conveyed by Inoculation?

When we come to consider the precise manner in which the leprosy bacillus gains access to the human body we encounter great difficulties, as it may well be either through their ingestion in food or by inoculation through some minute abrasion in the skin or in a mucous membrane, such as that of the nose, mouth, and gastro-intestinal canal, as in many cases of tuberculosis. In my studies of leprosy literature I have been struck by the number of authoritative writers on the subject, such as Hansen, Hillis, Munro, Arning, etc., who are strongly in favour of inoculation being the ordinary mode of infection; while there appears to be little or no clear evidence in favour of ingestion of the bacilli in food producing the disease, for a marked feature of its incidence is the capricious manner in which only one of a number of healthy persons of a household containing a leper is attacked by the disease within a short time, which is more easily understood if infection is due to the accidental entrance of the bacilli through some minute abrasion of the skin or mucous membrane than if the organisms are ingested with contaminated food of which many of the household are likely to have partaken. The frequency with which anaesthetic leprosy beginning in the lower extremities has been observed in bare-footed races, as in Crete, Java, Abyssinia, the Sudan, etc., is only readily explainable on the inoculation theory, as are the cases in which leprosy has been recorded to have been contracted by wearing leper's clothes; while Tonkin has associated the high incidence of the disease in Trans-African Sudan stretching across from the south of Egypt to Northern Nigeria with the prevalent custom of clothes being passed on from the well-to-do to poorer and poorer persons until threadbare, without ever being washed.

Of great significance in this respect is the strong suspicion that in rare instances leprosy has been transmitted by arm-to-arm vaccination, as in Professor Gairdner's cases of a European child developing leprosy after being vaccinated from a native child of leprous family in the West Indies, and another European child vaccinated from the first showing the disease after his return to England; and those of Hillis in which a brother and sister of a Portuguese family both got leprosy after vaccination from the same source. Exaggerated statements have, however, been made regarding this danger in the West Indies, but in the Sandwich Islands leprosy did undoubtedly spread widely after very carelessly performed wholesale vaccination during epidemic small-pox in 1852 (Daland); it is also on record that in parts of the Sandwich Islands leper centres developed after vaccination in numerous places where it previously had been unknown, and the same relationship has been reported in Mexico. Moreover, Arning in Hawaii readily obtained lepra bacilli from vaccine vesicles raised in leprous subjects; Beven Rake's negative results were all in anaesthetic cases with few bacilli, while he found acid-fast bacilli in the one nodular case he tested. This disaster is easily prevented by the modern method of using calf vaccine.

Although, with the exception of Arning's disputed Hawaii criminal, the results of the experimental inoculation of man with lepra bacilli have been negative, probably on account of the subjects being over the age of the greatest susceptibility to the disease, yet there are cases on record which practically amount to positive inoculation experiments, such as the following. Professor Ehlers records the case of a Danish doctor wounding his finger during an obstetrical operation on a leper negress, followed by slow healing, and after a comparatively short incubation period anaesthetic leprosy, beginning in the wounded finger, appeared. In a second case a doctor wounded himself in opening an abscess of a leper and subsequently developed the disease; while I met with a case in India of a doctor who attributed his disease to operating on a leper, and who also had extensive anaesthetic lesions of one hand in addition to numerous macules. Equally striking are two tropical cases, in each of which a leper boy inserted a sharp instrument into his flesh and a European playmate immediately afterwards ran the same instrument into his limb, both developing leprosy in a comparatively short time, only a few months in one of them, with acute febrile onset and macules. Such a series, together with cases such as Larey's in which persons with wounds got leprosy, taken with all the preceding evidence, makes me think that the common mode of infection is the inoculation of the bacilli through minute accidental lesions in the skin, and possibly also in the nasal or oral mucous membranes; in further support of this view we have the instructive observations of Leboeuf in New Caledonia, who found acid-fast bacilli on the skins of seven out of twenty-nine healthy persons living with lepers, two of whom actually developed the disease later. Much work has been done on the question of the possibility of transmission of the lepra bacilli through the bites of insects, with inconclusive results, but it is still very possible that it may be so carried. It also appears to me to be very significant that lupus, which is recognized to be an inoculated dermal tuberculosis, so closely resembles some individual forms of leprous eruptions both in appearance and chronicity, while the practical limitation of leprous lesions to the connective tissues of the skin and nerve sheaths indicate the deeper layers of the skin and possibly of the nasal mucous membranes as the probable site of the primary infection, although once the infection is fully established the bacilli may undoubtedly be disseminated through the blood stream.

THE PRINCIPLES OF PROPHYLAXIS AND CAUSES OF FAILURES.

The foregoing considerations make it clear that the first essential in prophylaxis is the removal of all infective cases from frequent and close contact with the healthy, especially the most susceptible—that is, children and young people up to 20 to 30 years of age. By far the most infective type of leprosy is the tubercular form, including mixed cases, with discharge of large numbers of bacilli from the nose and breaking-down nodules; while anaesthetic cases, especially chronic mutilated ones, who have often lost all infectivity, are comparatively innocuous, yet they constitute the great majority of inmates of Indian and other leper asylums on account of their helplessness, although their isolation is of little value in preventing new infections. It is significant that in the recent epidemic outbreaks in the Pacific islands tubercular cases have predominated, and that in the successful segregation measures in Norway great attention was paid to isolating the tubercular cases in hospitals, and home isolation under close medical supervision was mainly confined to the slightly infective nerve form.

The safeguarding of children and young persons from contact with lepers cannot be too strongly insisted on, as I have elsewhere shown their great susceptibility. This view is also held by Professor Lie of Norway and other authorities, so the children of lepers should be separated from their infected parents at birth whenever possible, and marriages of lepers, at any rate of the child-producing ages, should be prohibited, for McCoy has shown that the fecundity of female lepers is little if at all reduced. There is less objection to an adult of over 30 voluntarily accompanying his or her conjugal mate to a leper colony, as infection is then comparatively rare.

When we come to enforcing segregation we meet with great practical difficulties, as the necessary compulsory legal powers must be so tactfully exercised as to obtain, if possible, the co-operation of the people to prevent extensive hiding of cases vitiating the results. In the absence hitherto of any efficient treatment of leprosy isolation measures have frequently failed, partly owing to many cases not being detected until years after the onset of the disease, and partly from inefficiency and want of continuity in carrying them out. Time will only permit me to mention a few illustrative examples,

although I hope before long to be able to deal more fully with the whole subject of leprosy. Thus, in Crete there are leper villages just outside the large towns whose inmates have to beg for their livelihood, and Ehlers found that some made enough money to buy their houses in the leper villages, and then let them to healthy people while they went on begging tours; while in South Africa the accommodation was for long totally insufficient to isolate even the small proportion of lepers who wished to be admitted; yet Hutchinson quoted these two instances as failures of segregation in support of his non-contagious theory of leprosy. Again, failures, from isolation measures being relaxed or discontinued as the direct result of the unfortunate 1865 College of Physicians report, are recorded in British Guiana, St. Kitts, and in Dutch East and West Indian Islands, and similar vacillations of policy led to former failures in French Guiana, Iceland, New Caledonia, etc. Want of compulsory powers led to very slow progress in stamping out a focus of leprosy in New Brunswick, while political influence prevented the full use of compulsory powers in Louisiana. In the Sandwich Islands little progress was made until the segregation laws were more rigorously enforced under American influence, when much more satisfactory progress was made, and in the French possession of New Caledonia village segregation largely failed for want of sufficient influence of the native chiefs, but the same system met with considerable success in the French Marquesas Islands with the help of the military power of authoritative chiefs. In Norway, on the other hand, patient persistence in a sound policy of isolation commenced on a voluntary basis in 1856, when leprosy was on the increase, and made compulsory in 1885, had reduced the lepers by 1900 to only 6 per cent. of the former numbers, and Hansen showed that the number of "new cases"—that is, persons in whom the disease had commenced within three years of their being found—was in each quinquennial period in almost mathematical proportion to the number of remaining centres due to unisolated lepers in the districts, proving that the disease declined as the infective centres were reduced. Yet Norwegian experience showed that only 1 case in 5 was discovered and isolated within the first three years of the appearance of the symptoms, thus largely accounting for the slow progress in stamping leprosy out of Norway; and if this is so in a European country with numerous medical men, it will necessarily be much more difficult in medically backward and poor tropical countries such as India, Hawaii, and the Philippines; so it is not surprising that such a statement as that of Bayon that new cases of leprosy had been reduced by 90 per cent. within a few years of segregation being enforced in the Philippines have not been borne out by later official figures showing the yearly discovery of many cases. It would, however, be interesting to know what proportion of the present yearly admissions to the Cullion settlement are "new cases" in the Norwegian sense and how many are old long-hidden lepers. A careful study of the above instances and of the whole recent literature of leprosy has convinced me that so long as lepers have the strongest possible incentive to hide their disease as much as possible to avoid life-long imprisonment without hope of cure, so long will it be a very prolonged, difficult, and expensive procedure to stamp out the disease by the only effective measure—isolation of the infective sick from the healthy.

The Value of Improved Treatment as an Aid to Prophylaxis.

This brings me to my last and most important point. Now that we possess in the soluble preparations of the active unsaturated fatty acids of chaulmoogra, cod-liver, soya bean, and other oils introduced by me, a reliable method of clearing up the bacillus-bearing lesions of leprosy, with loss of infection, including cessation of the discharge of the organisms from the nose, lepers have for the first time a powerful incentive to come forward for treatment as early as possible instead of hiding their terrible calamity. There is already clear evidence, both in Honolulu and in India, that early cases are declaring their disease and asking for the new treatment, which is the most revolutionary and hopeful sign in the age-long conflict with this dreadful scourge, all the more terrible on account of its insidious onset and prolonged disfiguring course; so I would urge that the time is ripe for renewed efforts under the present favourable conditions to deal more effectively with leprosy with a view to lessening its incidence and eventually stamping it out. In Honolulu scores of cases have already been discharged from the hospital, apparently cured, under parole, and good progress is also being made elsewhere, especially by medical missionaries in charge of Indian leper asylums, in spite of their cases being mostly very advanced ones, with the result that at Ditchpali, for example, earlier cases are now flocking in for the new treatment. The various Indian Provincial Governments are also taking up the provision of leper settlements with ample land in the country in place of the prison-like town asylums. Bengal has already acquired 240 acres for this purpose at the cost of a liberal Indian gentleman, and the Legislative Council has recently voted a larger grant than the Indian Minister originally proposed owing to financial stringency, and it is hoped before long to be able to accommodate 1,000 lepers, with a cottage system for earlier cases, a hospital for advanced maimed ones, and a separate part for healthy children of lepers; and when patients begin to return to their homes after successful treatment the demand for accommodation is likely to exceed even that now being provided, although with the simplified intramuscular injections of the ethyl ester preparations it will also be possible to treat numbers of early cases at hospitals. With several hundred thousand lepers in India alone, and probably one or two millions in the world, including those among the dense populations of China and Africa, the task is great; but once a fair proportion of the earlier and more amenable cases receive regular treatment, rendering them no longer infective to their households and neighbours, new cases should gradually decrease, while the advanced and helpless cases will die out by degrees, and slow but sure progress will be made in reducing the incidence of perhaps the most dreadful disease to which human flesh is heir.

ACUTE INFLAMMATION OF A LARGE DIVERTICULUM OF THE JEJUNUM WITH PERFORATION.

BY

GRAHAM W. CHRISTIE, M.C., M.B., F.R.C.S.EDIN.,

LATE RESIDENT SURGICAL OFFICER, ANCOATS HOSPITAL, MANCHESTER.

THE following case presents many points of clinical and pathological interest.

On February 3rd, 1922, I was asked to visit a married woman, 48 years of age, who the day previous had been taken ill suddenly with acute abdominal pain and had vomited several times. Her bowels had not moved during the last forty-eight hours. When I saw her she did not look ill; the pulse was 96 and the temperature 99°. She was of good general condition, excepting that she was somewhat flabby. She complained of acute pain in the left side of the abdomen, below the umbilicus. At the site of the pain there was distinct tenderness on palpation and a suspicion of slight rigidity, though I could not be certain, as she was fat. On deep inspiration I could feel a round mass, somewhat larger than a tennis ball, about midway between the umbilicus and the symphysis pubis, just to the left of the middle line. The lump was hard and of the consistence of a uterine fibroid, though it was extremely tender. Vaginal examination did not offer any assistance in diagnosis, and per rectum no fullness could be felt through the pouch of Douglas. The swelling was not particularly mobile, though it was circumscribed.

There did not appear to be any urgency to explore the abdomen, so I kept the patient under observation and with fomentations to the abdomen and enemata the condition gradually subsided. The swelling, however, still remained tender, though I noticed that it was becoming smaller from day to day. There was no sickness or vomiting after the first twenty-four hours. When the condition had more or less subsided I advised operation, and this I performed fourteen days after the onset of the acute phase of her illness.

Previous History.

For years she had suffered from flatulence. She had also been subject to recurrent attacks of colicky pain in the abdomen which periodically had necessitated a day in bed. These attacks had been much more frequent during the last year. Her bowels had always been regular and she had never had attacks of sickness. She had no children. Menstruation had always been scanty and she had never missed a period during her twenty years of married life. Her general health had been good.

Operation.

On February 16th, 1922, I explored the abdomen by a mid-line incision below the umbilicus. On opening the peritoneum a quantity of serous peritoneal fluid escaped. About the centre of the abdomen to the left of the middle line was a mass somewhat larger than a tennis ball and entirely covered with a thick layer of omentum. When the swelling was slowly denuded of its omentum there was exposed a large spherical swelling, tense and fluctuating, about the size of an apple, springing from the anti-mesenteric border of a loop of small intestine. While separating the omentum at one point, a large gangrenous patch was disclosed on the fundus of the swelling, with a perforation in its centre through which very foul-smelling pus and semi-solid contents escaped. It was

now obvious that this was a condition analogous to acute inflammation of a Meckel's diverticulum, which had perforated soon after the commencement of her illness but which had fortunately been successfully dealt with by the omentum. The swelling was clamped at its pedicle and the diverticulum with patches of adherent omentum excised. The wall of the gut was closed in the ordinary way. It was now found that the lumen of the gut at the site where the diverticulum had been excised was constricted and it was considered essential to make a lateral anastomosis. In seeking the ileo-caecal junction the ileum was traced backwards and the origin of the diverticulum from the jejunum about nine inches below the duodeno-jejunal junction established. A lateral anastomosis was now done between the short loop of jejunum above the site of the diverticulum and a loop below. The areas of intestinal suture were covered with free edges of omentum. The pelvic organs, appendix, and other viscera were normal. The abdomen was closed in layers without drainage.

The diverticulum excised was about the size of a Tangerine orange. The long axis of the lumen of its pedicle was about one inch in length. At its fundus there was a gangrenous area, through which very fetid pus could be expressed. To the naked eye the wall of the sac seemed to be of the same structure as the wall of normal small intestine. The periodic attacks of colicky abdominal pain may quite conceivably have been due to periodic emptying of the contents of the diverticulum into the lumen of the jejunum. At the time of operation, before opening the abdomen, it was noted that the "tumour" was at a slightly higher level than at the time when I first saw the patient, due, in all probability, to shortening of the omentum in its defensive process. Except for some vomiting of coffee-ground material during the first twenty-four hours after operation, the patient made a good recovery.

My thanks are due to Dr. J. T. Bailey for his kind assistance at the operation, and to Dr. H. Grimshaw, resident medical officer, Stepping Hill Hospital, for giving the anaesthetic.

TEMPORO-SPHENOIDAL ABSCESS.

BY

JAMES ADAM, M.A., M.D.,

SURGEON FOR DISEASES OF EAR, NOSE AND THROAT, GLASGOW ROYAL INFIRMARY.

IT has been suggested by those who saw and were interested in this case of left temporo-sphenoidal abscess that a note of it might be useful.

The main points of interest were: (1) a large perisinus abscess which seemed sufficient to account for the symptoms noted on admission; (2) the extent of the intracranial abscess (there were in fact two)—the bulk of the lobe must have been involved; (3) this was not opened till twelve days after admission and must have gone on enlarging under observation in hospital, yet there were none of the classical signs of brain abscess till within twenty-four hours of its being opened: pulse and temperature were up; there was no complaint of headache or vomiting after admission; no paresis, sensory aphasia, or optic neuritis.

A girl, aged 8, was admitted to Glasgow Royal Infirmary on December 10th, 1921, with a history of discharge from the left ear dating from an attack of scarlet fever eight months previously; chills and pains in the left side of the head had confined her to bed for a fortnight. Examination showed discharge from the left ear, postero-inferior perforation, great tenderness over the mastoid; the temperature was 98.8°, pulse 108. The same day the mastoid was exenterated and a large perisinus abscess opened; pus under considerable pressure exuded from all around the sigmoid and through the mastoid emissary foramen. The sinus was exposed for fully an inch, but seemed healthy; the tegmen was eroded. Next day the temperature was 101°, and for the following four days ranged between 99.5° and 100.5°; the pulse from 96 to 120. The child was listless and obviously ill; the wound remained dry, glazed, and unhealthy. On the seventh and eighth days after admission the temperature kept normal, pulse 96 to 116; the wound looked a little better. On the ninth day the temperature rose suddenly in the afternoon to 103.5°; in the evening it had fallen to 97.5°. I went the following morning expecting to deal with a sinus thrombosis, but the picture was quite other and plain. On the left side there was total paralysis of the third nerve; on the right, facial paresis, weakened hand-grip, becoming more distinct later in the day; ankle clonus; abdominal reflex absent, no Babinski. Eye grounds normal. Cerebration becoming quickly duller.

Operation (at noon) was, in deference to opinion expressed in consultation, limited to completion of radical mastoid operation, removal of whole tegmen (dura seemed sound to appearance and exploration by probe), and lumbar puncture (15 c.cm. clear fluid under pressure, some leucocytes, no organisms). Temperature at 4 p.m. 96.2°, pulse 92; child listless but conscious. At 10 p.m., after trephining an inch above and half an inch behind the posterior meatal wall and enlarging the opening, a knife passed inward and slightly forward to the depth of about half an inch gave vent to stinking gas and about two ounces of pus. Next day, after the cavity had been washed free of stinking pus, a probe used to explore the cavity luckily opened a second abscess on the posterior wall and let out quite half an ounce of pus. For the useless gauze pack employed during the first twelve hours Horsley's concentric tube drain was substituted and retained twelve days, the cavity being gently irrigated once or twice daily with saline. After removal of the tubes gauze was inserted for a few days till the cavity closed.

Sensory aphasia, which doubtless was present on the day the paralysis appeared or earlier but was obscured by the mental dullness, was noted forty-eight hours after operation, but within a week had passed off, as had the other paretic signs, except those due to the third nerve. The pupil reacted slightly on the tenth day after operation, but three months later remained slightly larger than its fellow.

The child, who had seemed to be dying, made a perfect recovery, and from a week after the abscess was the merriest patient in the ward. Whisper was heard with the left ear at 10 feet.

Comment.

The case was probably rather one of slowly spreading encephalitis than one of strictly encapsuled abscess. In view of this and the extent of the suppuration the result is encouraging. Instead of the usual crucial incision a simple slit was made in the dura to avoid hernia, which did not occur, and in spite of the size of the cavity proved, together with irrigation, ample for drainage. The temptation was strong to make a counter opening in the tegmental region, but when there is no obvious track in the dura the result seems to show that the squamous route is preferable because it is clean, can be made efficient when an abscess is found, and comparatively safe when the abscess is missed. Lastly, the case confirms Macewen's dictum that in cases of crossed paralysis the lesion is subcortical when the contralateral paralysis affects the face more and earlier than it does the arm, and the arm more than the leg; whereas, when the lesion is close to the pons the contralateral paralysis is comparatively uniform and simultaneous.

The diagnosis of cerebral abscess is admittedly often difficult; certainly it ought not to be rushed. The following case is an interesting contrast in regard to pathology and treatment. It remained a diagnostic puzzle. Whereas in the preceding case the aphasia was sensory, in this one it was motor, and one of the main points which put abscess out of court.

J. R. was admitted to the infirmary on January 11th, 1921, with a history of discharge from the left ear for twelve years, attacks of giddiness for one month, occipital pain for a fortnight, and aphasia for a week; there had been no sickness or vomiting. Both family and personal history was good; there was no suggestion of syphilis in patient, wife, or children; Wassermann test negative. He continued at work after aphasia started till it became so pronounced that his mates sent him home. He was a bright, intelligent, well-nourished man, understanding all that was said, but having difficulty of utterance, though able after a struggle to make himself understood; he could sometimes spell what he could not articulate, and named objects shown to him. The left ear was stone deaf; meatus blocked by a polyp and pus; there was slight paresis of the face on the right, affecting more the lower muscles; the right grip was feebler than the left. Temperature, pulse, and cerebration were normal. In fundus of left eye veins more congested and disc whiter than on right.

On January 12th a radical mastoid operation was performed; the antrum was large, and without obvious pus; the tympanum was full of granulations, incus absent; the tegmen was unusually thick and quite healthy, as also was the dura. Because of this, and because the cerebral lesion was obviously as far forward as Broca's lobe, the brain was not punctured. Within the following week the cerebral symptoms steadily increased, speech becoming quite unintelligible—even "Yes" and "No" were not properly articulated; agraphia increasing, patient could at first write his name and address, but not occupation; the tongue protruded to the right; he had paresis of face, arm, and leg on the right side; biceps-jerk and knee-jerk were greater on right; the abdominal reflexes were lost on the right. He remained bright and seemingly intelligent, indicating by a nod when his own occupation was mentioned amongst others. On the fifth day from admission both optic discs were red; grey striation of retina round the discs was equal in the two eyes, but in the right there was more obscuration of vessels at the disc edge; later this became more equal (Dr. Garrow).

A month after admission the paralysis was improving, and had passed off in another month. No disturbance of pulse or temperature was noted throughout. The patient at time of writing remains normal, except for loss of hearing in the left ear.

Comment.

The case was certainly not one of lethargic encephalitis, meningitis, or syphilis. Subdural haemorrhage was suggested; I can think of no other diagnosis; but the development, spread over two or three weeks, was strangely slow for haemorrhage. Of doubtful value therapeutically, and perhaps risky because there were no pressure symptoms, a spinal puncture might have helped the diagnosis.

CARBONIC OXIDE IN TOBACCO SMOKE.

BY

PROFESSOR HENRY E. ARMSTRONG, F.R.S.

WHEN recently the carbonic oxide scare was raised in the press, the danger we incur, even in the streets, from the constant discharge of the exhaust gas from bus and motor-car engines was a matter of scarcely joking comment. Some of us, knowing the secrets of combustion, were moved to suggest to tobacco-using friends that they were risky companions. The subject of cigarette smoking was discussed in these columns in November last* by my friend Professor W. E. Dixon, F.R.S. I learn from him that he has regarded the pernicious result of excessive cigarette smoking as an effect of carbonic oxide but that he is inclined to attribute the obvious effects of cigar smoking rather to the influence of nicotine, if not to other basic products of the destructive distillation of the noxious weed.

Apparently the gases from the burning cigar have not been specially examined for carbonic oxide. Discussing the matter with my neighbour, Mr. E. V. Evans, chief chemist to the South Metropolitan Gas Company, we came to the conclusion that it was worth while for once to make a few experiments on combustion of a practical character, to ascertain the extent to which poison-gas manufacture is indulged in by the public; at his invitation I have participated in the work. We advisedly do not call it a research, as the results are sufficiently striking to be of public interest and the work has been done without Government grant.

Sulphuretted hydrogen and prussic acid are both constant products of the smoker's activity, though in very minute proportions. This is easily demonstrated by smoking a cigarette in a glass-tube-holder into which a strip of test paper is first inserted, then a close plug of cotton-wool and finally the cigarette. Acetate of lead paper is blackened after a few whiffs; similarly, after removal of sulphuretted hydrogen, a paper impregnated with a solution of ortho-toluidine in cupric acetate and water—a most delicate test for hydrogen cyanide—rapidly turns blue. The less sensitive picrate and Prussian-blue tests are more slowly effective.

The blood test for carbonic oxide, in our experience, cannot be applied effectively to smoke—something is present which mars the colour change; it can only be used after scrubbing the smoke by means of cotton-wool, fuming sulphuric acid and a concentrated solution of caustic soda.

The following results were obtained by smoking a cigarette or pipe, by attaching it to a gas-sampling bottle and allowing mercury to run out in "puffs."

	"Gold Flake."	"Player's Weights."	"Sylvion" (Virginian).	"Medium Shag" in Pipe.
	%	%	%	%
CO_2	4.50	7.02	4.25	10.15
CO	0.89	1.24	0.97	1.14
O_2	16.20	15.60	16.54	10.53

The oxygen may be taken as a measure of the excess air. Multiplying the values by 5, it appears that about 80 per cent. of air in excess was drawn through the cigarette and only about 50 per cent. through the pipe.

* BRITISH MEDICAL JOURNAL, November 19th, 1921, p. 819 et seq.

A cigar smoked in a similar way gave the following most surprising figures:—

CO_2	13.36 per cent.
CO	5.8 ,,
O_2	5.8 ,,

The amount of air in excess was under 30 per cent., showing that the cigar is a very efficient instrument. Both the amount and the high ratio of carbon monoxide to dioxide

$$\frac{13.36}{5.8} = 2.3$$

are remarkable.

In these experiments the gases were analysed directly in a Bone and Wheeler apparatus. The percentage of monoxide being so small from the cigarette, we deemed it advisable to use Gautier's perhaps more trustworthy method (for small amounts), in which the purified gas is passed over heated iodine pentoxide, the iodine liberated in oxidizing the carbon monoxide being determined by titration. To ascertain the effect of smoking more or less rapidly, the rate at which mercury was run out was varied considerably. The percentages of carbonic oxide thus estimated came out as follows:

	CO
1. Turkish cigarette (smoked normally)	0.72
2. Virginian cigarette (smoked normally)	0.673
,, ,, ,, ,, ...	0.714
,, ,, ,, ,, ...	0.78
3. "Wild Woodbine" cigarette (smoked slowly) ...	0.6
,, ,, ,, (smoked normally)...	0.875
,, ,, ,, (smoked quickly) ...	1.40
4. "Three Nuns" tobacco (bowl of pipe cool, samp'ed shortly after lighting up)	1.14
5. Player's "Tawny" (pipe; beginning of smoke)...	0.9
,, ,, ,, ,, ,, ...	0.7
6. Havana cigar (smoked quickly)	8.13
,, ,, ,, ...	6.0

It is clear from these results that the proportion of carbonic oxide in the smoke will vary according to the rate of smoking. When air is drawn in rapidly the length and temperature of the glowing portion are increased and more of the monoxide is formed. In general, however, a normal sample of cigarette smoke will contain between 0.5 and 1 per cent. of carbon monoxide.

In all these trials the smoking was artificial. In a final series cigars were smoked in the usual manner but the smoke drawn into the mouth was afterwards expelled into a mercury receiver and then analysed. The cigars used were a set specially selected for me by a friend who is a maker. The results in column A of the following table apply to smoke obtained by mercury suction; those in column B represent the effect of normal smoking. X is the ratio of dioxide to monoxide. The high proportion of air in two cases in the B series is to be ascribed, we think, to the mouth not fitting the cigar (a big one) closely. It will be noticed that, in the A series, the old, well-matured cigar seems to have offered a specially free passage to air and that this gave the lowest proportion of carbonic oxide. The irregularities in the results need not be taken too seriously, being doubtless in the main due to the irregular character of the operation of smoking as it was practised in these trials.

Apparently the results are little affected by make or quality; closeness of packing and rate of smoking seem to be the determining factors. In the A series the cigar was only smouldering; in the B series the length of the burning portion was greater and the proportion of monoxide is usually higher. It would seem that the "strong" smoker produces

Comparison of Cigars of Different Quality.

Brand.	Quality.	Age.	Moisture.	A. CO.	A. CO_2.	A. O_2.	A. X.	B. CO.	B. CO_2.	B. O_2.	B. X.
			Per cent.	Per cent.	Per cent.	Per cent.		Per cent.	Per cent.	Per cent.	
British ...	Good	Quite new	8.86	2.31	16.4	4.3	7.1	5.69	14.4	4.4	2.5
British ...	Fairly good	Quite new	11.60	2.65	15.7	4.3	6.0	7.93	14.3	4.4	1.8
British ...	Fair	Somewhat aged	9.52	1.86	9.0	7.9	4.9	5.26	13.5	4.2	2.3
British ...	Common	Fairly old	10.97	2.44	10.2	7.6	4.2	2.22	6.0	11.7	2.7
British ...	High class	Old and well matured	9.80	1.25	5.5	11.4	4.4	2.54	6.6	11.6	2.2
Havana ...	Fairly good	Old	9.77	2.84	9.2	5.5	3.2	5.48	10.5	6.5	1.9
Havana ...	Medium	Old	8.33	4.96	13.9	4.2	2.8	4.52	7.7	8.0	1.7
Havana ...	High class	Old	9.28	2.65	14.7	4.4	5.5	3.91	9.9	7.3	2.6

the greater amount of carbonic oxide by maintaining a longer layer of the cigar red-hot.

It is of interest to compare the proportions of carbonic oxide in straight coal gas, made by simply distilling coal, with that in tobacco smoke.

A cigar of average size was smoked under such conditions that the volume of smoke formed could be measured. Four-fifths only of the cigar was smoked in order to make allowance for the portion of cigar usually discarded. It was found that 0.303 cubic foot of smoke was produced, of which 7 per cent. was carbonic oxide. The quantity of straight coal gas containing an equivalent amount of carbonic oxide is 0.25 cubic foot—that is, 1 cubic foot of straight coal gas contains an amount of carbonic oxide equal to that in the smoke from four cigars; the proportion of carbonic oxide in South Metropolitan gas, it may be added, is about that of average cigar smoke.

As to the effects of smoke, the cigarette smoker often has the habit of inhaling; but as a rule pipe and cigar smokers do not; friends tell me that pipe and cigar smoke are nauseous when inhaled: apparently volatile products of distillation are carried forward much more than in cigarette smoking and these protect the cigar smoker notwithstanding the larger production of carbonic oxide. The blood of the cigarette smoker often shows signs of carbonic oxide absorption. A friend, who is an excessive smoker, is said to have 5 per cent. of his blood out of action; another who is an equally great smoker and inhales constantly shows no sign of absorption. The latter is an exceptionally vigorous person, who eats and drinks freely; apparently his is scarcely a case of tolerance: if carbonic oxide enter his blood either it is swept out without difficulty by gaseous exchange or is worked up in some way. Apparently there is room for further study of the conditions regulating the natural exchange of carbonic oxide for oxygen in the blood. Smoking has its interesting side, even for the non-smoker.

We have to thank Mr. Pickard and Miss Bucknell for the very skilful aid they have given and the special interest they have taken in this little experimental excursion.

OBSERVATIONS ON THE AMOEBICIDAL ACTION OF CONESSINE.

BY

H. C. BROWN, C.I.E., M.B., B.CH.CAMB.,
MAJOR I.M.S. (RET.).

(From the Wellcome Bureau of Scientific Research.)

THE bark and seeds of *Holarrhena antidysenterica* have been held to rank amongst the most important medicines of the Hindu materia medica for many centuries; in fact Garcia de Orta, who wrote in 1563, speaks of their great merit in the treatment of dysentery. The plant is a small deciduous tree found throughout India and Burma, belonging to the Apocynaceae; according to Sir George Watt,[1] it has been confused with another species, *Wrightia tinctoria*, belonging to the same family.

From *Wrightia antidysenterica*, Stenhouse,[2] in 1864, isolated an amorphous base forming amorphous salts. Hains[3] had previously obtained the same alkaloid and described it under the name of "conessine."

The alkaloid conessine is now a commercial product prepared by Merck, and the formula $C_{12}H_{20}N$ is given to it. In the United States *Dispensatory*, nineteenth edition, it is stated that the medicinal properties of this substance have apparently not been investigated.

In 1880 Baboo Rakhal Das Ghose[4] described *Holarrhena antidysenterica* (Wall) as being synonymous with *Wrightia antidysenterica*, and from the seeds he obtained an alkaloid, which was isolated by Baboo Ram Chandra Datta, which the latter called "kurchicine." He found it useful in cases of chronic dysentery, and used it in doses of 2 to 5 grains.

Burn[5] gives an account of the physiological action of conessine, holarrhene, and oxyconessine, and Pyman[6] in 1919 described the chemical properties of holarrhenine and conessine. Apart from the study of the physiological action of the alkaloid by Burn no attempt has apparently been made to study the action upon the causative agents in dysentery.

The remedy is chiefly used in Northern India in the form of an infusion of kurchi, this being the Bengali name for the plant. The efficacy of this infusion in certain cases of dysentery is, in the opinion of those who have used it, little short of miraculous, and it seems strange that although conessine has been isolated for more than half a century the amoebicidal action of this drug has apparently not been tested. I have seen two cases in which its effect was very striking, in one of them dramatic. It may be that, as Burn pointed out, although the alkaloid possesses the properties of a local anaesthetic it cannot be used as such, at any rate by the hypodermic route, owing to the production of a necrotic area at the site of the inoculation; the necrosis is apparently quite independent of secondary contaminating organisms and is produced even with doses of 10 milligrams.

The preparation with which the following experiments were made was in the form of a neutral solution of conessine sulphate, originally isolated by Dr. Pyman from a sample of *Holarrhena congolensis* obtained from the Belgian Congo; a regular supply has been sent to me through the kindness of Dr. Henry, Director of the Wellcome Chemical Research Laboratories.

In the first place an attempt was made to ascertain whether the alkaloid had any specific bactericidal action on bacilli of the dysentery group. It was found that although the drug did exert some specific action *in vitro* such large doses had to be used as to place any chance of cure of bacillary dysentery by this means outside the bounds of probability, and the rest of the investigation was directed to the action of conessine upon the growth of amoebae.

As it was not found possible to obtain suitable material from an acute case of amoebic dysentery with which kittens might have been infected and the strain maintained, the action of the alkaloid was studied upon cultures of free-living amoebae which had been isolated from pond water by Dr. Wenyon; for these cultures, and for his valuable suggestions and guidance, I wish to express my best thanks. The cultures of this strain of amoebae were maintained upon an agar medium (Walker's medium) upon which the amoebae grew luxuriantly at room temperature.

There is a great deal of discrepancy in the published statements as to the results obtained by different observers when studying the amoebicidal action of emetine upon material from the intestinal contents in which *Entamoeba histolytica* was present. For instance, Leonard Rogers[7] states that when a small piece of mucus containing these active amoebae was placed in saline solutions of emetine of the strength of 1 in 10,000 the organism was immediately killed, and that even in a 1 in 100,000 dilution they were rendered inactive and apparently killed after only a few minutes' immersion. Dale and Dobell,[8] however, found that certain of their strains of *Entamoeba histolytica* survived the action of 1 in 1,000, and even 1 in 100 emetine for periods up to one hour. Further, Wenyon and O'Connor[9] showed that amoebae in pus treated with a 6.5 per cent. solution of emetine could remain alive for several minutes.

Of course it is not possible to say that the conditions of the test in each case were exactly comparable, and it appears that the relative differences in the amount of intestinal mucus present may be a variable factor in the experiments. This intestinal mucus is capable of interfering with the action of emetine, as is shown in the following experiments.

Experiment I.

A 1 per cent. solution of conessine sulphate and a 1 per cent. solution of emetine hydrochloride were made. Of these 5 c.cm. was placed in two small centrifuge tubes, then to each tube an equal amount of intestinal mucus was added, the quantity of mucus being approximately 1 c.cm. The mucus was then beaten up for five minutes and the tubes centrifuged for five minutes. From the supernatant fluid varying dilutions were made and then 1 c.cm. of these dilutions was added to 9 c.cm. of the melted agar. These tubes were then autoclaved, the contents poured into Petri dishes, and the surfaces planted with a saline suspension of amoebae.

Emetine Hydrochloride concentration in the Medium.	Bacterial Growth.	Amoebic Growth.	Conessine Sulphate concentration in the Medium.	Bacterial Growth.	Amoebic Growth.	Control.
0.1 %	++	0	0.1 %	++	0	Bacterial growth ++
0.01 %	++	0	0.01 %	++	0	
0.001 %	++	++	0.001 %	++	+	Amoebic growth ++
0.0001 %	++	++	0.0001 %	++	++	

Experiment II.

This experiment was repeated as above, only in this case a four hours' contact was allowed between the mucus and the reagents, with the result shown in the following table.

Emetine.	Bacterial Growth.	Amoebic Growth.	Conessine.	Bacterial Growth.	Amoebic Growth.	Control.
0.1 %	++	+	0.1 %	++	0	
0.01 %	++	++	0.01 %	++	++	Bacterial growth ++
0.001 %	++	++	0.001 %	++	++	Amoebic growth ++
0.0001 %	++	++	0.0001 %	++	++	

From the above two experiments certain deductions can be made. In the first place it is clear that the amoebicidal action of these alkaloids is considerably lessened if the solutions of the alkaloids are brought in contact with intestinal mucus. The time of contact is an important factor, and one sees that after four hours' contact the amoebicidal action of the alkaloids is practically destroyed. Another point here shown is that the conessine is distinctly antagonistic in its action to the growth of amoebae and that this property is not affected by contact with intestinal mucus quite to the same extent as in the case of emetine.

The diminution of the amoebicidal action of these drugs by contact with mucus is better seen when we compare the results of the above two experiments with those obtained by incorporating varying dilutions of the two reagents without any admixture with mucus.

Results without Admixture of Mucus.

Emetine Hydrochloride concentration in the Medium.	Bacterial Growth.	Amoebic Growth.	Conessine Sulphate concentration in the Medium.	Bacterial Growth.	Amoebic Growth.	Control.
0.1 %	+	0	0.1 %	+	0	
0.01 %	++	0	0.01 %	+	0	Bacterial growth ++
0.001 %	++	0	0.001 %	++	0	
0.0001 %	++	0	0.0001 %	++	0	Amoebic growth ++
0.00001 %	++	++	0.00001 %	++	++	

From these experiments it is evident that conessine is, if not actually amoebicidal, at any rate capable of inhibiting the growth of free-living amoebae when planted on media containing even a concentration of 1 in 1 million, and that this property is equal to that of emetine. Further, it is clear that the inhibitory action of these drugs on the growth of the amoebae is not due primarily to a deprivation of food supply of the amoebae by the inhibition of bacterial growth, for it is shown that the amoebic growth is affected before there is any change in the amount of bacterial growth. Another point that is manifest is that the inhibitory action of both emetine and conessine upon the growth of the amoebae is not affected by heat, for the media containing these alkaloids had been subjected to a temperature of 115° C. for twenty minutes in the autoclave. It might be argued that this strain of free-living amoebae was very sensitive to the action of alkaloids in general, and in order to see whether this was the case the inhibitory action of conessine was compared with that of quinine bihydrochloride, with the following result.

Comparison of Conessine and Quinine.

	Conessine Sulphate.				Quinine Bihydrochloride.			
	0.1 %	0.01 %	0.001 %	0.0001 %	0.1 %	0.01 %	0.001 %	0.0001 %
Amoebic growth	0	0	0	++	0	++	++	++
Bacillary growth	0	+	++	++	+	++	++	++

The conditions of the test in this case were identical with those the results of which have been recorded above, with the exception that the medium in this case had a reaction of P_H 7.5 and in the former cases it was P_H 7.9.

It will be noticed that complete inhibition of growth when using a medium of P_H 7.9 occurred in a concentration of 0.0001 per cent., whereas with a medium of P_H 7.5 total inhibition does not occur until a concentration of 0.001 per cent. of conessine is reached. This is interesting in that it agrees with the finding of Acton[10] that the toxicity of the cinchona alkaloids on paramecium varies with the P_H of the culture. They are much more toxic in alkaline than in acid cultures.

Mode of Action of Emetine on Amoebae.

That this cannot be looked upon as due to a direct amoebicidal action is held by Dale and Dobell, who consider that the host must in some way co-operate in the effect.

In order to see whether the serum of a patient receiving large doses of emetine had any action on free-living amoebae, the serum of a man who had received twelve daily doses of bismuth emetine iodide was allowed to interact for varying time limits up to two hours with an equal volume of a saline suspension of free-living amoebae. A control with normal serum was used. After interaction at room temperature a loopful was planted on Walker's medium, but the reading after forty-eight hours showed no difference in the amoebic growth in the case when the emetinized serum was used as compared with that when using normal serum.

Comparative Toxicity of Emetine and Conessine.

Burn (1915) states that comparatively large does of conessine may be given subcutaneously to cats, rabbits, and guinea-pigs without any danger to life, but in every case, even when such a small dose as 10 mg. was given to guinea-pigs, there was considerable local necrosis and induration, although carried out under strictly aseptic precautions. The smallest subcutaneous dose which he found lethal to a 300 gram guinea-pig was 250 mg. This necrosis might possibly have been due to the reaction of the sample used, but when even a neutral solution was employed there was some degree of necrosis when 50 mg. was injected subcutaneously into guinea-pigs. Whether this can be obviated requires further work.

As regards the oral method of administration, one guinea-pig of 600 grams was given 1 c.cm. of a 10 per cent. solution and showed no symptoms, whereas a guinea-pig of 680 grams which received 5 c.cm. of a 10 per cent. solution died in forty-eight minutes, death being preceded by paralysis of the hind limbs. The toxicity of emetine and conessine is shown in the following observations.

Intravenous Administration.

Emetine Hydrochloride (0.1 per cent. solution):
- Mouse 25 grams, 0.1 c.cm. ... No symptoms.
- Mouse 25 grams, 0.3 c.cm. ... Severe symptoms; recovered.
- Mouse 20 grams, 0.3 c.cm. ... Died in two minutes.

Conessine Sulphate (0.1 per cent. solution):
- Mouse 27 grams, 0.4 c.cm. ... No symptoms.
- Mouse 22 grams, 0.4 c.cm. ... Severe symptoms; recovered.
- Mouse 22 grams, 0.45 c.cm. ... Died in about one minute.

Subcutaneous Administration.

Emetine Hydrochloride (1 per cent. solution):
- Mouse 29 grams, 0.1 c.cm. ... No symptoms.
- Mouse 24 grams, 0.3 c.cm. ... Died during night.

Conessine Sulphate (1 per cent. solution):
- Mouse 22 grams, 0.2 c.cm. ... No symptoms.
- Mouse 24 grams, 0.4 c.cm. ... Died during night.

Hence the subcutaneous M.L.D. of conessine for a mouse is approximately 3 mg., and of emetine 2 mg. The intravenous M.L.D. is 0.45 mg. and 0.3 mg. respectively, or, in other words, as far as these observations go emetine is approximately 50 per cent. more toxic than conessine.

SUMMARY.

1. Conessine, an alkaloid having the formula $C_{12}H_{20}N$, which has been isolated from several members of the family of Apocynaceae, is here shown to exert a very strong inhibitory action upon the growth of free-living amoebae; in fact, exactly equal to that of emetine.

2. Infusions of the seeds of these plants have for many years been used with marked success in cases of chronic dysentery.

3. Although when administered subcutaneously conessine produces an area of necrosis at the site of inoculation, it can yet be administered by the mouth or intravenously in suitable doses without producing symptoms.

4. It is approximately 50 per cent. less toxic than emetine.

5. A diminution of the inhibitory action on free-living amoebae of solutions of emetine and conessine which have been in contact with intestinal mucus is shown.

6. The serum of patients receiving full and repeated doses of emetine has apparently no amoebicidal action; hence it is unlikely that the presence of conessine in blood serum could be detected by its effect on amoebae.

REFERENCES.

[1] Watt, Sir George: *The Commercial Products of India*, 1908, p. 640. [2] Stenhouse: *Pharm. Journ.*, 1864, 25, p. 493. [3] Hains: Ibid., 1865, 26, p. 432. [4] Ghose, Baboo Rakhal Das: *Indian Medical Gazette*, 1880, 15, p. 306. [5] Burn, J. H.: *Journ. of Pharmacol.*, 1915, 6, p. 305. [6] Pyman, F. L.: *Transactions of the Chemical Society*, 1919, vol. cxv, p. 163. [7] Rogers, Leonard: BRITISH MEDICAL JOURNAL, 1912, i, p. 1424. [8] Dale, H. H., and Dobell, Clifford: *Journ. Pharmacol. and Exper. Therap.*, 1917, vol. x, p. 399. [9] Wenyon, C. M., and O'Connor, F. W.: *Human Intestinal Protozoa in the Near East*, 1917, p. 114. [10] Acton, H. W.: *Lancet*, 1921, i, p. 126.

A MODIFICATION OF THE OPERATION OF CHOLECYSTENTEROSTOMY.

BY

ANDREW FULLERTON, C.B., C.M.G., F.R.C.S.,

SURGEON, ROYAL VICTORIA HOSPITAL, BELFAST.

WHEN a gall bladder is packed with gall stones, when its walls have lost their elasticity and contractility, are thick, leathery, opaque, and infiltrated with micro-organisms, there is very little doubt that the best procedure is to remove it. In recent years, however, the tendency has been to remove the gall bladder even when the signs of disease in its contents or walls are so slight as to require more than moderate experience in this branch of surgery for their diagnosis.

The removal of the gall bladder is now so frequent that this organ almost rivals the appendix as an object of attack. Its retention in the body may, however, be of great service to the surgeon in facilitating the drainage of the common bile duct when for any reason the flow of bile from the common duct to the duodenum is partially or completely obstructed. The most usual cause is chronic pancreatitis. To relieve the obstruction in such a case the gall bladder has been anastomosed to the stomach, the duodenum, or even to the colon. Although success has attended some of these operations there are certain objections which may be urged against them.

1. The gall bladder and its contents are infected and may remain so. This constitutes a grave danger to the health of the patient.
2. Gall stones may form, or, if they have been removed, may recur.
3. The contents of the stomach, duodenum, or colon may regurgitate into the gall bladder.

These disadvantages may be met, to a large extent, by the following procedure: The gall bladder is opened and cleared of its contents. A light clamp is placed near the neck, and the greater part of the viscus is removed. The small remaining portion is anastomosed to the duodenum, so that when the operation is completed the cystic duct opens into the duodenum without the intervention of any sac which might harbour gall stones or regurgitated intestinal contents. Just enough of the gall bladder is left to enable the anastomosis to be satisfactorily accomplished.

The following case was dealt with on these lines.

Mrs. R., aged 55, seen with Dr. William Monypeny, had suffered for ten years from attacks of pain radiating to the back. These attacks recurred at intervals of a few months. She had lost about 2st. in weight during the last five years. The last attack occurred a few days before her admission to the Royal Victoria Hospital on April 4th, 1922. On this occasion she was jaundiced for the first time.

The patient was spare but not wasted. She complained of pain and tenderness in the epigastrium; the sclerotics were yellow, the urine was bile-stained, and the stools clay-coloured. The temperature rose in the evenings to 99.2° F., and the pulse ranged from 78 to 84. Morphine was required to ease the pain.

Operation, April 10th, 1922. Right rectus incision. The gall bladder was distended and adherent to the colon, its walls were thick and opaque, and gall stones could be felt in its interior. The pancreas from head to tail was firm and hard, almost suggesting growth, but the gland was not fixed to its surroundings. Chronic pancreatitis was diagnosed. The gall bladder was opened and seventy-six gall stones were removed. The common and hepatic ducts were clear. The main part of the gall bladder was removed and the stump was anastomosed to the anterior surface of the first part of the duodenum, using fine catgut for the sutures. Light clamps were used to prevent extravasation and bring the parts into apposition. The abdomen was closed without drainage.

Result.—Jaundice disappeared in a few days, the wound healed by first intention, and the patient left hospital eighteen days after operation quite well. After leaving the hospital she had a bismuth meal, and there is no evidence in the skiagram of any pouch connected with the duodenum.

In this case I was afraid to remove the gall bladder completely on account of the state of the pancreas, and the presence of jaundice, possibly due to the latter. The operation I have described solved the difficulty. Even if further thickening of the pancreas takes place the patient has a safety valve in the cystic duct, and she is, in addition, relieved of the greater part of a much diseased gall bladder.

The patient reported herself on May 29th. She is steadily regaining weight.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

ERYTHEMA NODOSUM ASSOCIATED WITH ACUTE RHEUMATISM.

THE following case seems to me of interest, especially in view of a correspondence which occurred in issues of the BRITISH MEDICAL JOURNAL during November, 1921. The case shows so close an association between erythema nodosum and rheumatism as to suggest that these two conditions are manifestations of one and the same infection.

Miss T., aged 38, was first seen on April 27th, 1922, when she complained of severe pains in the legs, arms, and back, and of sore throat. Typical erythema nodosum was present on both legs and on the right arm around the elbow. The throat was very injected; the heart, except that the first sound was of very poor quality, was normal; the joints, apart from pain on movement, showed nothing abnormal. The temperature was 100.4°.

On the following day both wrists, the right knee, and right ankle were red, swollen, and acutely tender. The temperature had risen to 101°. After thirty-six hours the joints mentioned started to clear up, and the temperature to come down to 99.2°. On May 1st, however, the right elbow became acutely inflamed, and the temperature again rose to 100.4°. By May 5th the active process in the joints was at an end, and the temperature varied between 98° and 99°. At the sites of the original eruption a dull purple stain remained; the throat was normal, and the heart up to May 19th has remained free.

Large doses of salicylates were given from the onset of the illness on April 27th.

A point of some interest is that a brother of the patient suffered with chorea as a child.

Hampstead, N.W. HUGH WETHERBEE.

RECURRENT VESICULAR ERUPTION AFTER INFLUENZA.

W. E. B., an omnibus ticket inspector, a married man of very abstemious habits, was taken ill on January 10th with intense frontal headache, aches and pains in all his limbs and joints, cold "shivers," and a high temperature. His condition was diagnosed as influenza, and a mixture containing sodium salicylate and diaphoretics was prescribed. In the ensuing week he developed a slight degree of tonsillitis, which cleared up in a few days. Otherwise he felt quite well, the influenza having lasted three days only.

From January 14th to 18th he had been having skate for his daily dinner. Other members of the family also partook of the fish, but remained quite well. He had partaken of skate on several occasions previously, but no rash ever developed subsequently. On January 19th there appeared on the anterior aspect of the left wrist a small reddish, itchy patch. This consisted of small red, raised papules about the size of a pin's head. Two days later the patch extended to the palm and fingers, and the right hand was now similarly affected, the wrist, palm, and fingers being involved. Calamine ointment was prescribed. The following day severe pains were felt on the top of the head, and the patient was of the opinion that "something was gathering under the scalp." Next morning, the hands, front and back, were very swollen and red. Intense burning and itchy sensations were felt in the affected areas, and in the course of the day small vesicles formed on the anterior aspects of the palms and wrists of both hands. A day later the vesicles ruptured and there exuded for two days a yellowish-green fluid. At the same time the skin over the inner aspects of both thighs, from the groins to the knees, was very itchy and slightly inflamed. Calamine lotion was freely applied, and the parts were covered with cotton-wool. Mist. alba, ʒss morning and evening, was prescribed.

On January 27th the patient had chicken for dinner, and three hours later an acute vesicular eruption broke out over the entire scalp, the back of the neck, and both ears. The vesicles soon broke down and discharged a yellowish-green fluid. The next day the back, the chest, and the entire abdomen were covered with reddish papules, and the itching was very considerable. The discharge from the affected areas ceased a day later, though the parts remained swollen, burning, and intensely itching. In the ensuing week good progress was made to recovery till February 5th, seven days after the previous attack. The vesicular eruption again

appeared over the same areas. Strict attention had been paid to the diet—two eggs, tapioca pudding, bread-and-butter, and tea, the fare on Sundays being the same as on week-days. On February 12th very severe neuralgia of the right side of the face and head developed. This lasted for eighteen hours, and during this period the vesicular eruption recurred as before on the head, neck, ears, and hands. The next recurrence was on February 19th, the same areas being involved. The fluid discharged on this occasion from the head and neck was roughly estimated at half a pint. On February 27th the headache and eruption returned. The neuralgia was very intense and lasted sixteen hours. Potassium bromide, grains 40, failed to give any relief. The eruption on this occasion was not so severe. The fingers were fissured and discharged a watery fluid. On March 5th the neuralgia recurred, but there was no accompanying eruption. However, the face and body assumed a peculiar yellowish colour. A mixture of arsenic and iron was prescribed and the condition cleared up in two days. The hands are still slightly swollen, and the skin on all the areas which had been affected is exfoliating.

An examination of the white blood cells gives the following percentage: Basophils 3.5, eosinophils 6.0, polymorph leucocytes 54.5, lymphocytes 36.0.

It is to be noted that there have been at intervals of six to eight days six recurrent attacks of a herpetiform character, each lasting about two days. No article in the food taken can be blamed definitely as having been the cause of the undue sensitization. Fish had been cut out of the diet from the time the first eruption occurred, as it was thought that the skate was the causative factor. The fact that the eruption was symmetrical is not in favour of herpes zoster. Therefore the only conclusion, in my opinion, is that the case is probably a toxaemia of influenzal origin.

London, N.W. A. W. PANTON, M.B.

CANCER OF TONGUE: EXCISION OF TONGUE: CANCER OF STOMACH 34 YEARS LATER.

THE following facts are of interest as a minor contribution to the study of malignant disease:

H. T., aged 72, was under my care for several months suffering from vomiting, pain in the epigastric region on swallowing food, and loss of weight. Malignant disease of the lower end of the oesophagus or cardiac end of the stomach was diagnosed, and he was admitted to the Warrington Infirmary on May 2nd, 1922, for the operation of gastrostomy. The operation was performed next day and he died on May 11th.

A *post-mortem* examination was made on May 12th, and the stomach was removed. A cauliflower-like growth, about the size of a Tangerine orange, was found at the lesser curvature, near the opening of the oesophagus. There were no metastatic deposits on the liver. One small white nodule—the only one present—was excised for examination. The report of microscopical examination made by Dr. H. A. Mitchell, of the Runcorn Research Laboratory, was as follows: "Tumour, stomach.—Sections made from this specimen show the structure of an adeno-carcinoma. Nodule, liver.—Sections made from this specimen show the structure of a tuberculoma."

The interesting point about this case is that the patient's tongue was completely excised for epithelioma thirty-four years ago at the Skin and Cancer Hospital, Myrtle Street, Liverpool, by the late Dr. Stopford Taylor. Unfortunately there is no written record available at the hospital, but the secretary, Mr. W. R. Driver, informs me that the present dispenser distinctly remembers the case to be one of epithelioma, and that he was present at the operation. This statement is corroborated by the patient's relatives, who remember clearly that a piece of the tongue was first excised (presumably for microscopical examination) before the major operation was undertaken.

There was no recurrence after the first operation, and the patient lived an active and healthy life for thirty-four years until attacked by the carcinomatous growth of the stomach which ended his life. This growth had no connexion with the growth of the tongue, and was evidently of independent origin.

While epithelioma of the tongue is rare at the age of 38, yet the evidence is fairly conclusive that it was present in this case. This being so, the case goes to show that an attack of cancer cured by operation does not render a patient immune to a new and independent attack in another region of the body later on in life.

Warrington. J. S. MANSON, M.D., D.P.H.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

ULSTER BRANCH.

A CLINICAL meeting of the Ulster Branch of the British Medical Association was held in the King Edward Memorial Hall, adjoining the hospital laboratories, of the Royal Victoria Hospital, Belfast, on June 1st, when the President, Dr. ROBERT REID, occupied the chair.

Dr. CALWELL showed the case of a young man with a vague history of *petit mal*, who had been admitted to hospital suffering from symptoms of brain pressure without localizing signs. A decompressing operation was performed with much general relief and improvement of sight; he then suddenly relapsed and became blind and developed some mental symptoms, depression, great dullness of cerebration, etc. A cystic tumour formed close to the site of operation under the scalp; this was tapped and clear cerebro-spinal fluid was obtained, and he improved—was able to get up and walk about. The cyst had formed several times, and on one occasion 177 c.cm. of fluid was obtained; his sight was fair, but there was some optic atrophy in both eyes, and a slight paresis of opposite side was less marked than before operation.

Dr. MCAFEE showed two charts in Dr. Calwell's wards, one of a fatal case of small white kidney in which the blood urea gradually rose from 160 mg. of urea per 100 c.cm. of blood, to 500 mg., when the patient became comatose and died in a few days; her blood pressure also rose, but not in proportion. Although she had most extensive retinal changes and towards the end was completely blind, she remained perfectly clear in mind till shortly before onset of coma. The urea-concentration test was obtained only once as she vomited the urea; it was only 0.8 per cent. The other chart was that of a man who was admitted for Bright's disease; under treatment the albumin disappeared, the blood pressure, the urea-concentration test, and the blood urea all improved, but never quite to normal. He was retained in hospital for several weeks, and finally discharged as a case probably of incipient cirrhosis, with injunctions to report any illness.

Dr. HOUSTON gave a demonstration in his laboratory of Dreyer and Ward's technique in the Wassermann test for syphilis, showing its reliability, greater sensitiveness, facility of manipulation, and the great advantage of being quantitative, giving a degree of infection from 0 upwards instead of the simple "positive" or "negative."

Dr. RANKIN showed charts illustrating the effect of treatment by salvarsan and by mercury on the Dreyer-Ward and Wassermann reactions. When the Dreyer-Ward method is graphed out, the effect of treatment is very clearly shown as a rapid reduction to normal, instead of the simple "plus" or "negative," with corresponding improvement of symptoms: some cases show a preliminary rise, giving a curve; this rise of curve is apparently not associated with increase of the symptoms.

Dr. TURKINGTON showed some fine examples of the growth of the *Bacillus tuberculosis*, and some microscopic slides; where antiformin had been used few or no bacilli were found, but where simple saline solution had been used bacilli were found in abundance.

Dr. ALFREDA BAKER gave a demonstration of Bloch's method of estimating the coagulability and retractility of the blood (vide *Lancet*, August 7th, 1920). Professor JOHNSTONE showed numerous gynaecological specimens, and Mr. MALCOLM showed several cases of spinal caries in course of treatment. Dr. J. A. SMYTH gave a demonstration of van den Bergh's test for bilirubin in serum; his results had supported the claims of the test. Dr. ROBERT MARSHALL showed a case of syringomyelia of the "Morvan's disease" type, and gave a demonstration of the various points. Dr. BOYD CAMPBELL showed different forms of the malarial parasite. Dr. J. C. ROBB showed ova of *Bilharzia haematobia*.

Mr. FULLERTON showed: (1) A series of cases of cleft palate in children successfully operated on. (2) Two cases of undescended testicle in which the testicle had been replaced in the scrotum. (3) A series of cases of tendon transplantation for deformities due to infantile paralysis. (4) A series of cases illustrating the results of operation for knock-knee, curved tibiae, and curved femora. (5) A series of cases of fracture treated by Thomas's splint. (6) A series of cases illustrating the results of excision of gunshot wounds. (7) A series of pyelograms illustrating the causes of renal pain. (8) A case

of injury to the axillary artery and vein. (9) A patient operated on for an enormous abdominal cyst. (10) A case in which the lower lip had been removed for epithelioma treated by plastic operation.

Mr. IRWIN showed specimens of loose bodies removed from knee-joint, two gall bladders removed for gall stones, a calculus from pelvis of kidney, vesical calculus and enlarged prostate removed from same patient, and a hypernephroma of kidney extending into renal vein; when the vein was slit up the growth was seen projecting into its lumen; the growth was quite soft, and small particles could easily be detached. He also showed: (1) A case of fragilitas ossium with blue sclerotics in a little girl who had had already twelve fractures. The familial nature of the affection was shown by the family tree. (2) A case of a girl with ascites without discoverable cause; the patient had been examined by several medical men, the fluid drawn off, and an exploratory laparotomy performed and an epipoplexy done.

Dr. NORMAN C. GRAHAM gave a demonstration of d'Herelle's "bactériophage" effect on cultures of bacillus Shiga, both in suspension and on plate; this demonstration excited much interest.

Professor MACILWAINE showed a series of electro-cardiograph tracings in seven cases illustrating the effect of quinidine on auricular fibrillation. One case showed the return to normal rhythm without improvement in the patient's general condition; in another, tachycardia of nodal type occurred associated with considerable precordial discomfort; the tachycardia disappeared within thirty-six hours of stopping the drug.

Reports of Societies.

MEASURES AGAINST TUBERCULOSIS.

AT a meeting of the Edinburgh Medico-Chirurgical Society held on June 7th, with the President, Sir ROBERT PHILIP, in the chair, Professor A. CALMETTE, Pasteur Institute of Paris, delivered an address, as we briefly noted last week, on the protection of mankind against tuberculosis.

Professor Calmette said that after his demonstration of the specific character of the tuberculous virus and its inoculability to different animal species, Villemin, finding it difficult to transmit tuberculosis to the dog, the cat, and the sheep, was the first to raise the question whether animals existed which were non-sensitive to this disease. Later, after the discovery of the tubercle bacillus by Koch, it was found that almost all mammalia could be artificially infected, but that a small number of species had the grim privilege of contracting tuberculosis spontaneously, and that others—for example, certain rodents in the Sahara Desert and in the steppes of Southern Russia—were so highly resistant as to be immune even to artificial inoculation. These non-tuberculizable animals were thus naturally resistant. Tubercle bacilli remained within their tissues as inoffensive foreign bodies, being eliminated gradually by way of the natural discharge of cellular waste, although for months they retained their vitality and virulence, and could be traced in the neighbourhood of the point of inoculation; for they were perfectly capable of tuberculizing other susceptible animals such as the guinea-pig. It was the establishment of a tolerance of this kind which must be our aim in the production of artificial immunization. It would be vain to hope to be able in the case of animals susceptible to tuberculous infection to confer the power of digesting tubercle bacilli when animals naturally resistant to the disease cannot do so. The problem, therefore, was how to render the leucocytes and the endothelial cells of the vessels—which enclose the tubercle bacilli but are unable to digest them—non-sensitive to the poisons which the bacilli contain and secrete so that the organism may tolerate them as it can tolerate in most of its tissues the presence of a number of inoffensive foreign bodies such as particles of silica or carbon. When Koch prepared his first tuberculin he believed that this purpose had been attained. Those who were then doing laboratory work would never forget the immense enthusiasm aroused by the announcement nor the cruel disillusionment which followed. A specific cure for tuberculosis had not been found, but Koch had observed a fact of capital importance—namely, that tubercle bacilli, whether living or killed by heat, act very differently according as they are introduced subcutaneously into a tuberculous guinea-pig or into a healthy guinea-pig. While in the case of the healthy guinea-pig they gave rise only after several days to the formation of a nodule which discharges externally, causing an ulcer which may continue till the death of the animal and which led to intense swelling of the neighbouring lymphatic glands, a similar inoculation in the case of the tuberculous guinea-pig produced a small abscess which quickly burst and discharged and cicatrized without swelling of the neighbouring glands. This "phenomenon of Koch," the importance of which from the point of view of immunity to tuberculosis had apparently escaped Koch's attention, afforded evidence of the intolerance of the tuberculized animal to fresh infection. Experiments showed that this intolerance became more and more marked and revealed itself by an effort to expel the bacilli which was more intense and more rapid with each fresh reinfection.

As regards humans, continued Professor Calmette, it was in earliest infancy that household contagion, which was almost inevitable for infants born of phthisical mothers, was most serious and most generally fatal, because it was massive and repeated day by day. After the third year such infection, usually occasioned then by accidental exposure or intermittent contact, was less formidable and produced more often glandular lesions of a benign character. It seemed that for man, as for animals which develop tuberculosis spontaneously, one early and slight inoculation was desirable provided it was not followed by further repeated massive infections; every subject infected in childhood by a very feeble dose of bacilli was rendered less likely to contract acute miliary tuberculosis. Should the individual be exposed later to repeated or massive contagion he would show his intolerance to reinfection by developing chronic tuberculosis or cold abscesses or other local tuberculous lesions, which suppurate readily. Slight infections not repeated tended to be benign in children, while, contrariwise, they were grave in the adult who had remained virgin soil in respect of bacillary implantation. This was why country people who after adolescence had migrated to the city developed so often a serious type of tuberculosis, and also why negro races from Central Africa were so sensitive when transferred to a European country.

Professor Calmette then went on to speak of the difficulties and disappointments associated with attempts to produce artificial immunity, discussing briefly, in this connexion, the work of Behring, Stanley Griffith, Theobald Smith, and Forran. It was difficult to prosecute these attempts at anti-tuberculous vaccination in laboratories and in countries where bacillary infection was so widespread that a given animal could not certainly be protected from accidental contagion. It would be necessary to make the attempt in a country where there were no men, no cattle, nor other tuberculous agents. He proposed the creation of a centre of research in a position as isolated as possible, preferably on the west coast of Africa in the great belts of forest inhabited by large anthropoid apes, especially the chimpanzee. In such a laboratory one could keep the vaccinated animals in a state of semi-liberty, securing for them nourishment and conditions of climate in conformity with their needs. After a more or less prolonged interval it would be possible to test on the spot their resistance to artificial infection, or they might be transferred to Europe, where they would be exposed to natural contagion which so cruelly affected their congeners in menageries. It was meantime our duty to pursue investigations which tended to produce in young animals and in children that particular state of intolerance to reinfection which might result from the early implantation in the organism of a small number of slightly virulent bacilli, or by bacilli which do not produce tuberculous lesions.

The essential aim, Professor Calmette concluded, was not, as some had supposed, exclusion of the possibility of bacillary contagion, but rather the realization of contagion in all human beings, as soon as possible after birth, in a form which was inoffensive and protective for a sufficiently long time against serious infection. The establishment of such resistance on the part of infants ought then to become the immediate object of our constant endeavour. The child must be immunized from his earliest age, first, because in infancy he was most exposed, and further because it was relatively easy to shield him from repeated and massive contagion which irremediably imperilled his life. The practical conclusion which emerged from our present-day knowledge was that efforts should principally be directed towards the protection of childhood. That protection was realized most effectively in the first place by removing the infants of phthisical mothers separately to healthy households in the country, thus ensuring their protection from

infective contact during the first two years of life; next, by the removal of families or larger groups of children from 3 to 13 or 14 to sanitary conditions above suspicion; and, finally, by the constant surveillance of schools, of apprentice workshops, and food supplies, such as milk, which may contain or carry tubercle bacilli. One might hope that later, when knowledge had advanced still farther, it would be possible to confer on babies from the moment of their appearance into the world, through the ingestion of, or inoculation with, a certain number of living but non-tuberculigenous bacilli, the capacity to resist accidental virulent infection. The whole world awaited anxiously such a realization.

Professor JAMES RITCHIE said that tuberculosis was one of a group of diseases in which the explanation of immunity and of recovery was at present not clear. He thought that meantime the idea of instituting immunity by early inoculation should be confined strictly to the medical profession; for the public to imagine that, with this end in view, the consumption of tuberculous milk was justifiable would be very harmful. He thought the geographical and racial distribution of tuberculosis had received insufficient attention.

The PRESIDENT, Professor LORRAIN SMITH, and Professor GULLAND also contributed remarks and criticisms.

RHEUMATOID ARTHRITIS AND ITS TREATMENT.

A MEETING of the West London Medico-Chirurgical Society was held on Friday, June 2nd, with the President, Sir GEORGE LENTHAL CHEATLE, in the chair, when a paper on rheumatoid arthritis was read by Dr. LEONARD DOBSON.

Dr. Dobson began by defining the disease as an acute or chronic disease of the joints, of infective toxic or septic origin, due to specific infection by micro-organisms, mostly of low virulence. The disease commenced usually about middle age, in women the menopause being a favourable time of occurrence. The general picture of a case gave many evidences of auto-toxaemia. Usually there was a local focus of infection. Diseased tonsils, oral sepsis, pyorrhoea, nasal catarrh, intestinal derangements, uterine discharges, and chronic constipation should be carefully searched for. In auto-toxaemia of gastro-intestinal origin, stasis and constipation were important factors; indican and indol in the urine gave evidence of such infection. The tubercle bacillus, gonococcus, and *Spirochaeta pallida* were causes of infection by micro-organisms of low virulence, producing varying symptoms of arthritis. A condition of impaired health and disturbance of the gastro-intestinal functions might pave the way and set up the first stage of a rheumatoid arthritis. Regarding symptoms, in the acute form of the disease pain was a marked feature. Many joints were usually involved and the patients were generally young women and sometimes children. The subacute and chronic forms were by far the most common. The pain in these cases was not so severe, and only one or two joints were at first involved. The progress of such cases was usually one of alternate improvement and relapse—deformities of the joints appeared, pain was more severe, the patients gradually becoming more and more helpless with increasing deformities of the joints affected.

In considering treatment, Dr. Dobson emphasized the necessity of careful search for local foci of infection. He deprecated the existing fashion or craze for wholesale extraction of teeth whenever there was the slightest trace of pyorrhoea or sepsis of the gums. He felt sure that in a large number of cases this was utterly wrong. He considered that pyorrhoea was often a secondary result and not a primary cause of general septic infection. Autogenous vaccine was useful when any local source of infection could be found. Bacteriological examination of the urine and faeces should be made in cases where a local focus could not be discovered. He advocated the treatment by prolonged blistering of the spine, or by thermo-cautery as a substitute. Constipation and stasis must be eradicated. For enteroptosis, of frequent occurrence in advanced middle age, measures must be taken for giving abdominal support by means, in men, of a Curtis belt, or in women of a supporting corset. For constipation he advised 1/2 oz. of liquid paraffin before or after breakfast; at 10 a.m. 1/2 to 1 c.cm. of pituitrin intramuscularly, and twenty minutes later a Plombières douche. Salicylates were of little or no value. Pain should be treated, as it was usually the principal symptom calling for relief. An emulsion of sulphur in olive oil, intramuscularly, was said to be very beneficial when the joints were swollen and painful. Quinine and guaiacum were useful after improvement had set in, and he believed in giving calcium in some form, combined with tonics, fats, and a generous diet. Regarding local treatment he advocated radiant heat or hot-air baths, which gave great relief in many cases, suitable fixation of the limb by means of splints being made as an aim to restore the damaged joint to a state of functional efficiency. For the relief of pain, Bier's rubber bandages might be used. Schnee baths were of great value. For painful joints, salicylate ionization might be tried. Faradization of wasted muscles should invariably be carried out during convalescence. The patient should be prepared to undergo a course of continuous treatment for three or four months, which, if properly carried out, would ensure a considerable measure of success and rheumatoid arthritis would not seem to be the hopeless disease to treat that it appeared to many to be, at present.

In the discussion that followed, Sir WILLIAM WILLCOX was convinced of the infective nature of the condition. He was a strong believer in the Plombières treatment and thought that good results sometimes followed the administration of sour milk.

Dr. SEYMOUR TAYLOR agreed as to septic contamination of the blood by micro-organisms and was convinced that more than one micro-organism was capable of producing the disease. He believed in the Plombières treatment and in the value of blistering.

Dr. KNYVETT GORDON spoke of the lesion in rheumatoid arthritis as a chronic interstitial fibrosis caused in the majority of cases by a slowly acting bacterial infection. Vaccine therapy was indicated and the serum-resisting test should be employed to determine the organisms that were pathogenic. A blood examination was useful, a bacillary infection being characterized by leucopenia with relative lymphocytosis and a coccal infection by leucocytosis with relative polymorph predominance.

Mr. MCADAM ECCLES spoke of the condition of false ankylosis by extra-articular fibrosis and the surgical aspect of such cases.

Other speakers included Drs. RICKARD LLOYD and ERIC DOBSON and Mr. BALDWIN.

CONSERVATIVE LABOUR INDUCTION.

A MEETING of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine was held on June 1st, when the President, Professor HENRY BRIGGS, read a paper on conservative labour induction.

He said that in the treatment of labour in the minor degrees of pelvic contraction or of the equivalent foetal oversize, the first place belonged to labour induction, and in practice there could be no denial of its outstanding merit as the nearest approach to the normal labour. The obstetrical meridian was occupied by well-housed and well-managed normal labour. On its borderland, within the above group, arose exacting appeals to higher obstetrics, to be gradually or promptly fulfilled prior to the adoption or exclusion of induction. A half-hearted faith in clinical investigation sheltered under Caesarean section, while a whole-hearted faith resolutely sought and gathered diagnostic equipment for a more accurate differentiation, and limited Caesarean section. Notoriously disturbing elements in labour prognosis were the uncertainties in the behaviour of a flat pelvis of minor degree, and the surprises they had so far impressed upon clinical discernment and labour management. The generally contracted pelvis, or its equivalent in minor degrees, was a formidable antagonist during full-term labour. It intensified the head-moulding and the expelling forces, increased the suffering, and demonstrated the invaluable benefits of opium against a too hasty or too early forceps application, with the risk of the object lesson of forceps failure, an easy and rare craniotomy, or a conservative Caesarean section. In the interests of the child the practice of induction earlier than the thirty-sixth week was to be discouraged, if possible, as the speaker had said in 1893. Full-term Caesarean section then promised the brighter future it had since shown, and had on two occasions been adopted by himself in the treatment of labour in the major degrees of pelvic contraction. The foetus in the thirty-sixth week or later had reached a period of eligible viability; this became in his practice the workable criterion. The selection of induction—the persistent crux of obstetricians—led beyond an isolated pelvimetry or the latest ruling on the pelvic conjugate. It raised the accoucheur's bimanual estimate of the relative size of the foetal head and the pelvis

to a responsible ante-natal assessment to which average fingers and thumbs had generally proved equal, without or with a judicial allowance for adaptability and compensation within the concerned anatomical structures and physiological functions.

Dr. HERBERT SPENCER said that the paper dealt with induction of labour: he pointed this out as many were apt to confuse this with induction of premature labour, the foetal mortality of which was much higher than when induction was carried out at, near, or beyond term. He had in thirty-five years only known one patient die of infection after induction of premature labour: the case was after a very prolonged labour and the occurrence of high fever and a rigor, operated on by Caesarean section, and died of peritonitis—the only fatal case he had had after Caesarean section for contracted pelvis. He had induced labour in a very large number of cases; one woman had twelve living children, all of which had been induced by the speaker. He agreed with the President that Caesarean section was done too often.

Dr. ANDREWS said that there were two factors which led to the idea that induction of premature labour should be given up. One was that it was often performed too early, on account of the ancient heresy, which was still deeply rooted not only among patients, but also among some medical men, that a seven months' child might live, while an eight months' child had less chance of living. The other factor was that still more patience was necessary in delivery of a premature child than in labour at term, and those who hastened the delivery of a premature infant by use of the forceps were usually disappointed with the result. If induction of premature labour was done at the right time, and the delivery conducted with patience, the results were excellent.

Mr. GORDON LUKER showed a specimen of a uterus removed with a solid ovarian tumour for obstructed labour. The tumour lay in Douglas's pouch and was pushed down into the pelvis by the foetal head. It measured 19 by 9 by 4.5 cm. Caesarean section was decided upon, because the foetus was about fifteen days post-mature and large, its heart beats were becoming more rapid, and because of the mother's age. If the child was born alive it was decided to remove the uterus because of probable infection. The child was extracted in the usual way alive, and the uterus, left tube, and left solid ovarian tumour were removed; a small portion of the cervix was left behind. The patient made an uninterrupted recovery. Histological examination of the tumour showed it to be a solid polygonal-celled scirrhous carcinoma of the ovary.

Dr. HERBERT SPENCER thought the right treatment had been carried out in removing the uterus; he would, however, have preferred total hysterectomy, as it removed the cervix, which was torn and the most likely part to be infected.

Dr. ANDREWS said that if Mr. Luker expected adverse criticism of his treatment of this case he would probably be disappointed. The case did not come into the ordinary category of labour complicated by an ovarian tumour, in which Caesarean section was to be deprecated. The reasons given by Mr. Luker for the course which he adopted—namely, the age of the patient, and the probability of infection during the attempt at delivery by the forceps—would satisfy most people that Mr. Luker was justified in performing the operation of Caesarean hysterectomy.

Mr. GORDON LUKER also read a short communication on carcinoma of the cervix following gonorrhoea cercivitis. He reported the case of a woman, aged 28, the mother of two children, who had a carcinoma of the cervix removed by him. The patient had had a discharge, in which gonococci were found five months previously, and was treated for gonorrhoea with local applications of silver nitrate solution from August until November, 1921, when she was referred to Mr. Luker on account of polypoid warts. He found irregular ulceration of the external os: the edge was undermined and bluish. He decided on partial amputation of the cervix and in doing this found the tissues of the cervix were friable. Examination of the tissue removed showed squamous-celled carcinoma, with much inflammation. The uterus was removed successfully by Wertheim's method. Mr. Luker said that the case seemed to support the theory that cancer might be caused by irritation.

Dr. ARTHUR GILES thought the view that the carcinoma had been brought about by the gonorrhoea or the treatment adopted would be difficult to prove or maintain. He pointed out how rare carcinoma of the cervix was and how common gonorrhoea was in nulliparae. If a causal relation were established carcinoma of the cervix would not be expected to be almost unknown in nulliparae.

Dr. HERBERT SPENCER had seen only two cases of cancer of the cervix and vagina in cases of procidentia. He had published his opinion that there was probably a close connexion between venereal diseases and cancer of the cervix. Mr. Luker's case seemed to be an undoubted squamous-celled carcinoma, but papillomatous growths occurred which closely resembled carcinoma unless the sections were made with great care.

Rebiews.

INFLUENZA.

THE volume edited by Dr. CROOKSHANK[1] cannot fail to interest all students of epidemiology, while its clearly written clinical articles will be of service to practitioners. The first five essays are by the editor and entitled, "Method and Thought," "First Principles of Epidemiology," "Some Historical Conceptions of Influenza," "The History of Epidemic Encephalomyelitis in Relation to Influenza." Dr. Hamer then reviews the phases of influenza in the light of historical and general epidemiological knowledge. Dr. Dwight Lewis of New Haven, Conn., contributes a too brief paper which describes from his own experience and in modern nomenclature the change of a reigning epidemic constitution. In his words: "the various waves of the so-called pandemic of influenza were caused by consecutive and increasing prevalences of correlated diseases due to the activation of carriers of the organisms of these diseases, whether by the influenza bacillus or by the streptococcus." Dr. Robert Donaldson follows with a long and fully documented essay on the bacteriology of influenza; his conclusions are perhaps more emphatic than, but very similar to, those expressed by Sir Frederick Andrewes in his contribution to the report issued by the Ministry of Health. Dr. Adolphe Abrahams contributes an article on the general clinical features and treatment of influenza, Dr. Jelliffe writes on the nervous syndromes, Dr. McHoul deals with ocular affections, while the general surgical, oto-rhinological, and gynaecological aspects are reviewed by Mr. Sidney Boyd, Dr. Lawson Whale, and Dr. Aleck Bourne respectively. Dr. Haldin Davis briefly discusses the skin lesions of influenza, and the volume concludes with an essay by the editor on the theory of influenza.

No disrespect to Dr. Crookshank's very efficient collaborators is implied by the remark that the editor's contributions to the volume will probably attract more attention than theirs, because Dr. Crookshank is more deliberately provocative than are his associates. The discussion he provokes is indeed worth provoking, and, within the limits of a review, we can do no more than note some points suggested by a perusal of the volume. To Dr. Crookshank, as to Charles Darwin, the canon "Natura non facit saltum" is of fundamental importance. "Why," said Darwin, "should not Nature take a sudden leap from structure to structure? On the theory of natural selection, we can clearly understand why she should not; for natural selection acts only by taking advantage of slight successive variations; she can never take a great and sudden leap, but must advance by short and sure, though slow steps." Dr. Crookshank sees in the chronological development of epidemics through the ages an orderly process: he is scornful of those who discover "new diseases" and take no heed of historical inquiries. Dr. Crookshank, as one would expect the secretary of the Historical Section of the Royal Society of Medicine to be, is an enthusiast for historical research. Yet we cannot escape an uncomfortable feeling that, with all his learning, dialectical skill, and eloquence, he has not a very secure command of the historical method. The primary need of an historian is, we think, the power to understand points of view possibly very repugnant to him, an ability to see the other side of a case, and to state that other side well. Dr. Crookshank seems to have very little of this natural gift. The bacteriologist who asserts that such or such an organism is the "cause" of such or such "new" disease may neither be so ignorant nor so foolish as Dr. Crookshank seems to imply, nor in any great need of the editor's homilies on realism. The epidemiological importance of modern bacteriological work on the typhoid and paratyphoid groups would not be in the least diminished if it could be shown that paratyphoid flourished at Thasos; because a man never quotes Hippocrates or Sydenham, it

[1] *Influenza: Essays by Several Authors.* Edited by F. G. Crookshank, M.D.Lond., F.R.C.P. London: W. Heinemann. 1922. (Roy. 8vo, pp. xii + 599. 30s. net.)

does not follow that he despises them. The reader gets a little weary of the reiteration "hic morbus non est novus," and wonders whether the alleged want of novelty of the subject-matter in the least diminishes the value of the bacteriologists' researches.

Even when Dr. Crookshank is criticizing purely epidemiological work, his failure to understand the point of view of those from whom he differs is often remarkable. This appears frequently in his criticism of the Ministry of Health's Report, and sometimes betrays him into definite error. Thus he asserts that "in this Report, the general idea of an epidemic constitution, and the specific idea of an influenzal constitution put forward during the past few years by Dr. Hamer and by the present writer, are implicitly recognized, though without express reference; and it would be affectation to assume that the writers of the Report were not aware of our views when penning their remarks." As three of Dr. Hamer's papers are cited in the second footnote on page 6 of the Report, and a recent paper of Dr. Crookshank's in the footnote on page 17, one wonders what definition of "express reference" is favoured by the really philosophical epidemiologist—as distinct from "bureaucratic investigators," "office epidemiologists," and similar unlearned persons. Another instance of inaccuracy is to characterize certain rather speculative observations in the tenth chapter of the Ministry's Report as the "official theory," although in the first paragraph of the chapter the clear statement is made that it "is intended not to expound any official theory, but to suggest to other epidemiologists trains of thought the pursuit of which may lead to the attainment of important truths, and will at least tend to a clarification of ideas."

An example, not, like these, of failure to be accurate, but of grave misunderstanding, is afforded by Dr. Crookshank's denunciation of the remark that the "recorded history of an epoch which came to an end in December, 1889, in no way prepared us for the subsequent events." What the writers of the Report had in mind, as the pages following the sentence pilloried by Dr. Crookshank clearly show, was the high "endemic" level and rapid "epidemic" fluctuations of what certifying practitioners called influenza after 1889. In fact the account is little more than a documented amplification of Dr. Charles Creighton's remarks. Dr. Creighton wrote: "That which chiefly distinguishes the influenza of the end of the nineteenth century from all other invasions of the disease is the revival of the epidemic in three successive seasons, the first recurrence being more fatal than the original outbreak, and the second recurrence more fatal (in London at least) than the first." He added that the closest scrutiny of the old records discovered no such recurrence and concluded that "history does not appear to supply a parallel case to the four successive influenzas in the period 1889-94, unless we count the seasonal epidemic agues of former 'constitutions' as equivalent to influenzas for the purpose of making out a series."

Those epidemiologists who decline to believe that old medical press cuttings throw any light upon the statistical peculiarities of the post-1889 epoch may be quite wrong, but the case they present is disposed of neither by witticisms ("What is not recorded, or is not known to be recorded, does not officially happen") nor even by extracts from the BRITISH MEDICAL JOURNAL. These are in some sense trivial blemishes, weaknesses of manner rather than matter. But the manner of an historian is of particular importance. The bacteriologist can perhaps afford to be petulant: the evidence upon which he relies can be rapidly tested; the most vituperative statistician publishes evidence which may be analysed by his opponent without excessive expenditure of time and labour. But few have the leisure to verify the accuracy of an historical monograph, and the ordinary reader, if he finds that immediately accessible documents are misrepresented, is apt to look with suspicion on what is predicated of less accessible records.

Dr. Crookshank, we gather, believes that had our profession been properly trained in historical method the events of 1918 would not have come as a surprise, and mentions that he himself publicly predicted that 1918 would be a year of pestilence. We are not quite sure to what extent this claim is made—whether Dr. Crookshank only means that the quality of the epidemiological events of 1918 was predictable, and in fact predicted by himself, or whether he holds that a scholarly use of historical records enabled him to foresee that 1918-19 would be not merely one of the "influenza" years, but actually the greatest year of mortal pestilence since 1348-49. If, as we are inclined to think, the claim is qualitative rather than quantitative, it appears to us that Dr. Crookshank has made out a good case in behalf of his contention; and that he has done so is a service more than counterbalancing the faults which, in our opinion, mar his exposition. We do not think, however, that the scale of an approaching visitation can be predicted without a closer co-ordination of our means of information, and the constructive proposals contained in the essay in the earlier part of the volume—substantially a reprint of a paper Dr. Crookshank read to the Epidemiological Section of the Royal Society of Medicine in 1920—deserve attention and elaboration. We shall look forward to Dr. Crookshank's further development of this side of his thought.

TREATMENT OF CONGENITAL SYPHILIS.

MM. G. LACAPÈRE and P. VALLERY-RADOT have written a small book[2] on the treatment of congenital syphilis. The treatment of syphilis, congenital or acquired, has become complicated in recent years by the introduction of the arsenical compounds, heralded by salvarsan, and the first half of the essay has wisely been devoted to an examination of the various medicinal substances employed in modern treatment. The three great chemical agents are mercury, arsenic, and potassium iodide. In a clear, methodical way the authors take each of these in turn; describe the various preparations and compounds used, and the various methods of administration; and assess the therapeutic value and drawbacks of each. For young infants they regard inunction of mercury as the best as well as the most convenient way of applying this drug; for older children, their choice is more hesitating, with perhaps a preference for mercury biniodide, or the benzoate salt in subcutaneous or intramuscular injections, but they also employ mercury by the mouth, while not seldom using mercurial inunction also. With regard to the arsenical compounds, they approve of three—salvarsan, neosalvarsan, and sulpharsenol. The first they consider the most efficient, but also much the most dangerous; their usual practice seems to be to use neosalvarsan if the condition of the child will permit it, but if not to use the feebler but very safe sulpharsenol. They reserve the use of potassium iodide for the late lesions of the skin, bones, and nervous system. They regard mercury and arsenic as the two essential agents in the treatment, the arsenical compounds having the more immediate and vigorous action, and the mercury following up and completing the cure.

Having described the weapons of war, the authors in the second section give an account of the battle, or rather of the long campaign. For them the treatment of a case of congenital syphilis falls into three stages: "traitement d'urgence," "traitement de fond," "traitement de sécurité." These phrases may be loosely translated as the treatment of the acute manifestations, the radical treatment, and the insurance against relapses and late nervous lesions. As a general rule they advise that these three stages should cover a period of four years, with interposed periods of rest. The method of attack in the first stage varies according to the age of the child and the state of the disease, and is separately described for the newborn infant, for the baby a few weeks old, and for the older child. It is worth noting that, although arsenic is looked upon as the most powerful weapon in the first stage, a preliminary course of mercury is always recommended, especially in young and feeble infants with florid syphilis.

Little is said about diagnosis, which lies outside the scope of the book, and the account of the clinical features of the disease is so imperfect that it might have been omitted with advantage. Apart from that, the complicated subject of congenital syphilis is dealt with in a clear and fairly thorough, if rather condensed, way. A few case histories are included; more would have increased the value and interest of the book.

CAUSE AND TREATMENT OF DIABETES.

ALTHOUGH Colonel WATERS's book, *Diabetes in the Tropics*,[3] is written with special reference to the disease as it occurs in tropical countries, there is nothing in it which cannot be most profitably read by those interested in diabetes in any climate.

---

[2] *Traitement de la Syphilis Hérélitaire et de la Syphilis Infantile Acquise.* Par G. Lacapère et Pierre Vallery-Radot. Paris: A. Maloine et Fils. 1922. (Cr. 8vo, pp. 248. Fr. 10.)

[3] *Diabetes, its Causation and Treatment; with Special Reference to the Tropics.* By Lieut.-Colonel Ernest E. Waters, M.D.Edin., M.R.C.P.Lond. Second edition. Calcutta and Simla: Thacker, Spink, and Co. 1922. (Cr. 8vo, pp. xii + 276. Rs. 10.)

Apart from the fact that the disease is commoner amongst the natives of India, we can see very little to distinguish tropical diabetes from that of temperate climates. An officer serving in India has over his home-staying brethren the advantage that he sees a great many more cases than anyone at home can do.

Here and there we may be puzzled by the strange articles of food mentioned, though most of us became familiarized during the war with "dal" and "ghi" as part of the rations of the Indian troops and labour companies who served with us on the Western front. Allowing for these minor differences, we can recommend this book as one of the completest and handiest guides to the study and treatment of diabetes. The author is under no small obligation to the magnificent researches of Lieut.-Colonel McCay and his collaborators. The method of investigation of cases is admirably described, food values and diet tables are excellently set out, and the details of treatment are clear and easy to follow.

We do not know where the book is on sale in this country, but if it is not readily obtainable here it ought to be.

NOTES ON BOOKS.

Taschenbuch der Therapie,[4] edited by Dr. M. T. SCHNIRER, is a little book which appears to have achieved popularity in Germany, as it is said to be in its eighteenth edition. Under the headings of the different diseases it gives short summaries of methods of treatment, and it then proceeds to indicate the uses and doses of a large variety of drugs arranged in alphabetical order. Short notes on modern therapeutic methods are given, and there is an account of the different German spas and of the waters found there. The book does not on the whole compare very favourably with similar British publications, as most of the summaries are too short to be of much value.

A new edition of the *Michelin Guide to Great Britain*[5] has been issued. It is the most practical guide for the tourist with which we are acquainted, as it contains at a glance the distance from place to place and gives useful indications as to the choice of routes and hotels. One of the good features of the Guide, and the same is true of the companion volume for France, is that it provides plans of a large number of towns, and everyone knows that it is more difficult to get through half a mile of a town than fifty miles of country. We are glad to observe that in this edition maps showing the main roads have been restored, the collection forming an atlas of thirty pages in colours.

[4] *Taschenbuch der Therapie*. Edited by Medizinalrat Dr. M. T. Schnirer. Eighteenth edition. Leipzig: C. Kabitzsch. 1922. (3½ × 6¼; pp. 430. M.120.)

[5] Michelin Tyre Company, Ltd., 81, Fulham Road, London, S.W.3. Price 5s. net. Copies can also, we believe, be obtained at bookstalls.

THE "MENINGIOMAS."

CAVENDISH LECTURE BY PROFESSOR HARVEY CUSHING.

THE Cavendish Lecture of the West London Medico-Chirurgical Society was delivered on June 13th at Kensington Town Hall by Professor HARVEY CUSHING, who took for his subject "Dural endotheliomas," to which he gave the new name of "meningiomas." Sir LENTHAL CHEATLE presided over a large and distinguished gathering.

Professor HARVEY CUSHING said that the group of surgeons (of whom he was one) whose inclinations carried them into neurology felt the need of fresh critical inquiry in many directions. Such information as they had acquired already had come to them falteringly, although enough was now known to enable them to localize and interpret many forms of intracranial disease. It was to a particular variety of intracranial tumour that he wished to call attention, and he wanted also to give it a new name. Designations were useful only in so far as they conjured up a definite picture in the mind, and presently with growing knowledge they outlived their usefulness and had to be superseded. He took an illustration in point from the work of the man after whom that lecture was named. In 1766 Cavendish submitted a paper to the Royal Society on "Factitious airs," and dealt with an hypothetical substance called "phlogiston," which was supposed to account for the phenomena of combustion. Later Priestley spoke of "inflammable air," but during the last century and a half the philosopher had become the scientist, "phlogiston" was forgotten, and "inflammable air" was a term which had lapsed into disuse. It was possible that before another century the apparently stable term "hydrogen" would also disappear, and give place to something more definitive.

The tumours under consideration had masqueraded under many guises. Cruveilhier designated them "cancerous tumours of the meninges," thereby reflecting the pathology of his day, but such terms could not survive the advent of the morbid anatomist armed with microscope and staining reagents. In 1854 Paget confessed his inability satisfactorily to classify the large group of tumours which were less malignant than cancer; he suggested the term "marrow-like tumours," and another term suggested at this period was "fibroblastic tumour." But these names were descriptive merely of degenerative processes. The word "epithelioma" was favoured by some French writers, but was brushed aside by the great authority, Rudolf Virchow, who described the tumours in question as sarcomas of the dura mater. In spite of the tendency of these tumours to invade and absorb bone, it came to be recognized that they were benign lesions, in which case the term "sarcoma" had to be qualified, and later, however qualified, failed to survive. The term "endothelioma" was introduced in Italy, and made its way into other countries, and for many years pathologists had vied with one another in modifying the term "endothelioma" and extending it to a wide range of tumours with such hair-splitting refinements as to produce chaos. When there was such a multiplicity of designations it was well to attempt to rescue and reassemble these growths under a simple caption. It seemed probable that, though attached to the dura, these growths did not arise from the membrane proper, but from the arachnoid, and therefore they should not be called "dural endotheliomas." A more correct appellation would be "arachnoidal mesotheliomas," but that was too clumsy for use, and he thought it better to accept a designation which was non-committal; hence he suggested the term "meningiomas."

These tumours had favoured sites of origin, and although they might differ considerably in their histological picture they were, as a rule, easily recognizable, not only in their gross appearance, but because they were so intimately incorporated at their source with the dura that they appeared to have a dural origin. The time had long gone by when it could be hoped to advance the knowledge of intracranial tumours to any great extent by considering them as a whole. Even in their mechanical and pressure effects they differed widely, and, so far as these meningiomas were concerned, it was notably true that they might attain a huge size without giving rise to any of the so-called cardinal symptoms of tumour, such as headaches. Intracranial tumours were so protean in form, and showed such varied clinical pictures, that the only hope for progress was to particularize on certain groups. There were three ways of treating the material available: by concentrating on tumours of certain pathogenic types whatever their situation, by studying tumours of all types in a given situation, or, best of all, by restricting attention to tumours of a single type in a given situation. That evening he was compelled to pursue the first of these methods and to study the meningiomas as a whole.

The series of intracranial tumour cases which had been compiled by himself and his colleagues had been classified as tumours verified, unverified (but in which the diagnosis was practically certain), and suspect (that is, in which the diagnosis of tumour was presumptive, and its justification remained in some doubt). Out of a series of 751 verified intracranial tumours, 314 (41 per cent.) were gliomas, 159 (21 per cent.) adenomas, including pituitary tumours, and 85 (11 per cent.) meningiomas. The meningiomas, therefore, had a ratio of rather more than one to four to the gliomas or brain tumours proper. Nothing like a complete analysis of these 85 cases was possible within the limits of a single address, and he could only touch upon them in general terms from the point of view of their source and site of predilection.

Professor Cushing then gave descriptions illustrated by lantern slides of a number of cases. His first case, which dated to 1911, was of a large meningeal endothelioma of the right hemisphere, with a point of attachment in the parasphenoidal (longitudinal) sinus region. Its weight was about 130 grams, but this was not exceptional, and he showed later cases in which the weight was over 200 grams, and in one case as much as 246 grams. These tumours might be of very large size without giving any localizable symptoms. In their early work he and his colleagues set out to examine the meninges in all tumour cases, and to study the villi and the endothelial cell nests, also the cerebro-spinal circulation, without realizing that they had been forestalled by Cleland of

Glasgow and others in the suggestion that these tumours were related to the arachnoidal elements rather than to the dural. One thing to be noted was that the villi and cell nests were very difficult to find in the young. They became much more pronounced and numerous in the later decades of life. These tumours were tumours of the adult.

The function of the villi in the tumour formation was vitally important. Experimentally it had been shown that these cells were capable of considerable phagocytic action, and that was the reason why they showed a much greater development in later than in earlier life; they were increasingly called upon to act as phagocytic elements in removing débris from the villi. The tumours arose from these endothelial cell nests of the arachnoidal region; it was only in appearance that they were related to the dura. The villi which they tended to surround projected chiefly into the sinus. The usual place for the tumours to develop was underneath the longitudinal sinus, where villi abounded, and became in later life greatly hypertrophied. Trauma played an important rôle in the onset of these cases; quite 50 per cent. of the patients had a definite history of a blow on the head, and often a scar was to be seen on the scalp directly over the site of the tumour. It seemed possible that the trauma had the effect of stirring the villi or the surrounding endothelial cells into great functional activity. He described and illustrated the appearance seen in these cases, including the bony hyperostosis and unilateral exophthalmos. Upon operative measures he touched only incidentally, but it was sufficiently evident from the illustrations of different stages of the cases that the removal of these large tumours had frequently been brilliantly accomplished.

In conclusion, Professor Cushing said that research on this subject had not got farther than the threshold. For its further development a group of special workers must arise —men trained in neurology and also in the fastidious operative technique which intracranial operations for tumour demanded. The threshold had been reached with halting steps, and with assistance from many quarters. It was a far cry from the piece of flint used in primitive surgery to the circular hand trephine, and again to the electrically driven instrument. Neurological advance had depended not only upon great workers in this specialism, like Jackson and Horsley and Sherrington, but upon a multitude of labourers in other arts and sciences the connexion of which was not at first obvious—upon Michael Faraday and Henry Bessemer, upon Edison and Crookes and Röntgen, upon Lister and Pasteur and Simpson, upon workers with the microscope and in chemistry, and so on in an endless chain. The progress from the days when a piece of flint was drilled into the skull to let out evil spirits to the present time, when a brain tumour could be detected and removed, was merely the result of the adaptation of innumerable fragments of applied knowledge. All arts, like all people, were somehow related if their genealogy were traced back far enough into the past. Therefore he trusted that it might not vex the shade of the old philosopher who had given his name to that lecture that the subject chosen had been one apparently so remote from the scientific pursuits of Henry Cavendish as the study of a particular variety of intracranial tumour.

PREVENTION OF VENEREAL DISEASE.

National Council for Combating Venereal Diseases.

AT the annual meeting of the National Council for Combating Venereal Diseases, held on June 19th, Lord GORELL, who is retiring from the chair, gave a valedictory address. He regretted that pressure of work prevented him from continuing his presidency; he laboured also under the disadvantage of a dual rôle, because he held a Government position, and, the Council being in part subsidized by the Government, its work was necessarily subject to Government criticism. He thought that there was no reason to be dissatisfied with the present position of the Council. A year ago when he addressed the annual meeting a campaign of misrepresentation was proceeding from certain quarters. It would be too much to say that this had now disappeared, but it had certainly lessened in virulence. This was because, in his opinion, the British public was making up its mind on the merits of the situation. The Council had good cause for congratulation in the setting up of Lord Trevethin's Committee of Inquiry, and in passing he would express gratitude to Lord Dawson for his labours in this connexion and for the courtesy with which he had received all the suggestions which the Council had made to him. Lord Gorell believed that this Committee might find a *via media* in which all who were genuinely solicitous for the national welfare could meet and agree. Save in matters of finance, the Council was in a very strong position. Rather more than two years ago, when he was asked to take up the presidency, a well-known medical journalist begged him not to touch the question, because, for one reason, it was purely a medical question. Experience had proved to him that this was quite a misapprehension. The Council acted as a goad to Government departments, especially the Ministry of Health and the Board of Education. The numbers attending the clinics, which were 52,000 in 1918, 98,000 in 1919, and 105,000 in 1920, fell in 1921 to 84,000, and it was permissible to assume that this fall reflected a definite drop in the incidence of the disease. The subject of continuous treatment was much to the fore. The percentage of those giving up treatment before being cured varied in different clinics from 12 up to as much as 70. He referred to the compulsory measures which obtained in the Dominions, the United States, and Scandinavian countries, and quoted some figures from the province of Ontario which showed that out of 638 persons who unjustifiably discontinued treatment 400 were persuaded to return because a system of notification was in vogue. The Council had taken no decision as yet on this question. The Ministry of Health, which had stated that the time was not ripe for any general system of notification, was, he thought, excessively cautious in deprecating discussion of the subject. In conclusion, he begged that harmony might prevail within the Council, and that minorities who failed to gain their point should not break away and thus deprive the Council of their moderating influence.

Sir MALCOLM MORRIS proposed, and Mr. E. B. TURNER seconded, a vote of thanks to Lord Gorell, which was heartily carried. The business meeting of the Council was held in private, but we understand that the successor to Lord Gorell has not as yet been chosen.

Policy of the Society for Prevention of Venereal Disease.

At the recent congress at Plymouth of the Royal Institute of Public Health Mr. Wansey Bayly, honorary secretary of the Society for the Prevention of Venereal Disease, made a communication, putting into precise detail the policy of his society with a view to correcting current misunderstandings. The preamble to his statement was composed by Bishop Welldon, one of the vice-presidents of the society. It stated that the society stood by three main principles: (1) the duty of every good citizen to live a chaste life; (2) the office of medical science to prevent the consequences of sexual immorality; (3) the fact that venereal disease can be prevented by immediate self-disinfection, if such a measure is intelligently applied. It was admitted that disinfection might be occasionally inoperative through misuse or delay, but this fact was not an argument against its efficacy. The society looked with favour upon all curative measures, and approved the institution of venereal clinics. It taught that instruction in methods of self-disinfection should not be refused to male persons who had reached adolescence, to women who desired it, and even to younger persons at the discretion of their parents or guardians. It advocated the propagation of such knowledge as might tend to diminish the disease and its consequences by means of lectures and leaflets. This policy was elaborated under five headings, but, briefly put, it amounted to the instruction of those classes of the public just mentioned—that is, men above the age of 18, women on demand, and younger persons in special cases at the discretion of those responsible for their welfare—in the great importance of self-disinfection as a preventive at the time of exposure to risk, and in the methods of application of such disinfectant; and the ensuring of the sale of the disinfectants required, together with full instructions to such persons, and to such persons only, by means of leaflets supplied with the disinfectants at the time of sale, and by attendants at public conveniences on demand, also of lectures, and through medical officers of venereal clinics and those in charge of naval, military, and industrial units. The society also left itself free to advocate such further steps for the prevention of the disease as might from time to time be deemed advisable by its executive. Mr. Wansey Bayly made a strong appeal to the congress for reconciliation between the two societies concerned in this problem. He said that the principle of immediate self-disinfection was accepted by both, and the point of difference had been reduced to the academic question as to which of several methods of prevention, all valuable, was the most important. He appealed to the National Council to accept immediate self-disinfection as one of the weapons in the antivenereal campaign, because, with such acceptance, every obstacle to cordial co-operation between the two societies would be removed, and the two would work, each along its own lines, but in support of the other, towards the common goal.

British Medical Journal.

SATURDAY, JUNE 24TH, 1922.

OXYGEN AT HIGH ALTITUDES.

THE news in the letter from General Bruce, received by the Mount Everest Committee and published in the *Times* last week, is of the highest interest to physiologists and to the medical profession generally, as well as to mountain climbers and the general public. A height of 27,200 ft. was attained with the help of oxygen, but by far the most interesting and significant fact is that Messrs. Mallory and Norton and Dr. Somervell reached on May 21st a height of 26,800 ft. without using oxygen, and, so far as the physiological difficulties were concerned, felt quite capable of climbing higher. Mr. Mallory's report, which General Bruce transmits, is a thrilling narrative of physical difficulties and dangers overcome, but their bodies had not reached the limit of physiological adaptation, and there was nothing in the narrative to show with any certainty that the limit would be reached at under 29,000 ft., the height of the summit. The height reached was 2,200 ft. greater than that attained in 1909 by the Duke of the Abruzzi and his party, who have hitherto held the record; they also used no oxygen. General Bruce is, however, apparently mistaken in thinking that the Duke experienced any serious physiological difficulties. To quote Dr. Filippi's account, the party made their way "through deep soft snow, to 23,480 and 24,600 ft. without exhaustion, without lowering of moral, without exaggerated difficulty of breathing, palpitation, or irregularity of pulse, and with no symptom of nausea, headache, or the like." It was thus quite an open question as to how much higher men could climb without oxygen; and the remarkable achievement described by Mr. Mallory leaves this question still open at a height of 26,800 ft.

At this height in the Himalayas in summer the barometric pressure is about 290 mm., or 11½ inches, and must be about 270 mm., or slightly under 11 inches, at the summit. An unacclimatized person is already in difficulties at 500 mm. (about 12,000 feet), and is likely to have a severe attack of mountain sickness after a few hours at this altitude. For unacclimatized persons to climb to altitudes corresponding to those reached by the expedition is quite out of the question. In the fateful high balloon ascent from Paris in 1875 the three balloonists lost all power of movement at about 300 mm. They could not even move their arms to take up the oxygen tubes which would have saved them. The balloon continued to rise till the self-recording barometer registered 263 mm.; but only one of the balloonists survived. As Paul Bert was the first to prove by experiment, it is simply the fall in the partial pressure of the atmospheric oxygen that causes all the physiological troubles at high altitudes. If pure oxygen were breathed there would, as he showed, be no physiological trouble at all up to a height of about 50,000 feet.

The factors concerned in acclimatization were very carefully investigated in the Royal Society expedition to Pike's Peak in 1911, and much additional knowledge has accumulated since then. The conclusion drawn from the measurements made on acclimatized persons was that there is not only, as had already been shown, an increase in the breathing and in the percentage of haemoglobin in the blood, but that the lung epithelium is actively secreting oxygen into the blood, thereby rendering it possible for the haemoglobin of the blood to become sufficiently saturated with oxygen. The probability that this occurs had already been indicated by the experiments of the Oxford School on carbon monoxide poisoning, and on the physiological accompaniments of muscular work; and the more recent experiments of Briggs on the respiratory factor in physical fitness have greatly strengthened the conclusions drawn from the Pike's Peak expedition.

Apart from the theory of oxygen secretion the achievements on Mount Everest would be altogether unintelligible, and the more so the more closely the whole of the phenomena of the blood gases and of acclimatization are considered. It is, for instance, well known to mountaineers that a man who is in good physical training is far less liable to mountain sickness than a man not in training. This is at once intelligible if training the lung epithelium in oxygen secretion is one of the main factors in ordinary physical training. In spite, however, of the strength of the evidence in favour of oxygen secretion, there are still a number of physiologists who cling firmly to the old theory that diffusion alone determines the entry of oxygen into the blood passing through the lungs. The controversy is therefore a live one, and the remarkable achievements on Mount Everest are certain to awaken it into renewed vigour.

More detailed reports of the expedition will be awaited with great interest. We almost hope, in the interests of physiology, that no more oxygen than is necessary for safety will be used in further climbs. Possibly, however, the men without the encumbrance of oxygen cylinders will yet outclimb those who carry them. There is nothing in our present knowledge to render such an outcome of the expedition improbable. Had liquid oxygen been available, thus rendering a light oxygen equipment possible, the chances would have been all in favour of the men with the oxygen. But with the relatively heavy equipment actually being carried the chances seem very even. Although the addition of oxygen to the inspired air gets rid of any immediate effects due to want of oxygen, the increased breathing due to additional carbonic acid formed in the muscles owing to the increased weight carried may more than compensate the advantages of the oxygen.

PUBLIC HEALTH IN AMERICA.

IN the JOURNAL of last week there was completed a review by Dr. J. C. McVail of the important jubilee historical volume of the American Public Health Association. The review indicated that a fundamental similarity exists in the health problems of all civilized countries, the chief differences being due to climate, density of population, and the conditions of industry. Stimulus to action came later in America than in this country, because large industrial populations accumulated later, and in the United States the average density cannot even yet be much more than one-tenth of what it is in Britain. But our machinery of government has had an advantage in simplicity of relationship between central and local authority apparently unattainable on the other side of the Atlantic. There, though the National Government does exercise various public health powers, individual States have a large autonomy, and have very diverse views both as to legislation and administration.

For example, want of uniformity in respect of vital statistics is marked. In some places even yet deaths are not recorded, and in Chicago, the second largest city of America, where child welfare is a prominent feature of municipal government and pasteurization of milk is compulsory, registration of births is not required. But

throughout the States progress is being made. Death registration now applies to over three-fourths of the population, and the area of birth records is extending.

Quarantine furnishes an illustration of recent progress in co-ordinative organization. Control was formerly local, and the promiscuous appointment of untrained officers, liable to frequent change owing to political influences, was almost the rule. This system had gradually been got rid of, and national control became complete in 1921. There is a double check on introduction of disease by immigrants, for officers of the United States public health service are stationed at all the chief ports of Europe, and also in the Philippines, China, South America, and the West Indies, so that before a voyage to the United States is begun precautions have been taken in respect alike of vessel, cargo, passengers, and crew. The United States have an extensive land frontier, and inspection stations are maintained along the Mexican border. Such an organization seems beyond criticism now that it is in the hands of the Federal Government.

As on this side, so in America, the first stimulus to sanitary improvement was the threat or occurrence of epidemic disease. In Canada plague and cholera were the influences at work, and when the fear departed preventive action quietened down, to be resumed when danger threatened once more. But throughout the great continent, just as at an earlier period in our own country, urbanization created evil conditions which called for permanent remedial measures, They had for their basis the principle of environmental cleanliness, which in practice meant the removal and prevention of effluvium nuisances and the systematic establishment of communal drainage and water supply. In these matters America followed the lead of Britain, but the leadership would have been reversed had the compelling conditions occurred first in America. Most unfortunately the schemes put into force were incomplete owing to their neglect of town planning and the essentials of healthy housing. That was no doubt inevitable, because of the want of foresight of the municipalities and the inadequacy of their powers, but the failure has left to the public of the present day a deplorable legacy of slums and slum areas in the New World as in the Old. The tragedy of it is that, owing to the great war resulting from German subservience to and complicity in the crimes of an unscrupulous megalomaniac, who boasted himself to be under the special protection of Heaven, civilization, which at last realizes the tremendous necessity of housing reform, appears for the time, in this country at least, to be almost bankrupt of the means wherewith to accomplish it.

In the absence of the guidance which science now affords to all who are in charge of the public health, the early policy of cleanliness, instinctively adopted, justified itself abundantly. Dr. Stephen Smith, the revered founder of the American Public Health Association, and now almost a centenarian, writes that the great achievements of the New York Health Department, working under an Act passed in 1866, were "the underdrainage of the soil, which prevented stagnant water and relieved the city of malaria; the removal of the cellar population to houses in the open air and sunlight; the removal of offensive industries from residential districts to the rivers; and the enforcement of rigid sanitary regulations." It might almost be said, indeed, that the pioneers of public health on both sides of the Atlantic, notwithstanding various errors, were, in the broad outline of their policy, actuated by a kind of inspired empiricism.

Then came the epoch-making work of Pasteur and Lister, and the beginnings of bacteriology, so that Professor Ravenel points out in the Jubilee volume, where he is both editor and contributor, how fortunate the American Association was in the circumstances of its birth. Viewed aright, bacteriology both gave scientific proof of the worth of much that had been done without its aid, and guided into direct and definite channels effort that had hitherto included, besides what was valuable, some procedure that was of no account, whilst at the same time it opened up splendid new spheres of hygienic activity.

So directed and illumined, public health has progressed both on the old lines and the new. In his review Dr. McVail insists that cleanliness has acquired a scientific basis, and that filth removal is as fundamentally important as ever. Purity of air, water, milk, and food has, however, been given a new significance; and general measures for control of infectious diseases have become specialized to meet the discovered causes and conditions of individual maladies.

In modern public health work America has borne a great part. It has investigated and improved the methods of water purification, milk production, and food conservation, so that by preservative ways of dealing with articles of diet of almost every sort the world's available supplies have been much increased; Professor Prescott holds that in the absence of conservation "food prices would be prohibitive, the health of urban communities would be endangered, and starvation would be imminent in our large cities." At the same time the advances made in the science of entomology have been applied in America to the control of insect-borne disease. Dr. Leland Howard, indeed, in an optimistic article, holds it proved "that the tropics may be inhabited by the white race." He believes that the white man's world has been enlarged, and simultaneously his means of subsistence have been increased.

In modern extension of public health work, from environmental to individual hygiene, America again has taken its full share. In respect of tuberculosis and venereal disease, maternity, infant and child welfare, and school medical inspection, it is moving on lines more or less parallel to those followed in this country, though in respect of midwifery it is disappointing to learn from Professor Van Ingen that whilst "many States to-day have laws requiring registration of midwives," yet "few provide for their supervision, and up till recently almost none for their education."

These and some other services are still largely in a rudimentary or experimental stage, and in connexion with them all it would surely be useful if by conference or correspondence there could be a full interchange of views and experiences on questions of principle and practice still unsettled. Certain questions are suggested in the review. With regard to venereal disease, for example, what is thought in America on the rival policies of prevention and early treatment, which divide prominent members of the profession here into two groups, alike sincere and convinced, but in practice opposed? As to infant welfare, it is rather indicated that in America gifts of milk for babies are coming to be considered less satisfactory than education of mothers unaccompanied by material subsidy. A similar question ripe for discussion is that of school meals in their bearing on parental responsibility. There is also the related question of the duty of education authorities to act *in loco parentis* during strikes. It must often be very difficult to know where to draw the line in such circumstances, and advantage would result if the two great English-speaking peoples, equally interested in human progress and following the same general course in promoting it, could compare their methods and results. Whether any such comparison can be made in the housing problem seems doubtful, as the volume is silent on the subject of State or municipal contribution or action, though America shares in the insufficiency of dwelling-houses by which all industrial nations are at present afflicted.

THE MEDICAL OFFICER OF HEALTH FOR MANCHESTER.

AT a meeting of the Manchester City Council on June 14th it was agreed to fix the salary of the new medical officer of health—when an appointment to the present vacancy should be made—at £1,700 a year for the first year, rising by annual increments of £100 to £2,000. According to the *Manchester Guardian*, in whose issue of June 15th a full report appears, Alderman Derwent Simpson, who brought the proposal forward as a recommendation from the Town Hall Committee, said that the post at present vacant would have to be filled, and, since the organized medical profession would not allow any of its members to apply for it at the salary of £1,500 offered, the Committee felt that it must face realities. At the salary originally offered they would not get the kind of man they wanted, nor would a man who accepted the salary have the support of his professional brethren in the city, and that would be a serious handicap to him in his work. An amendment was moved and seconded, that the commencing salary should be £1,500, to be increased to £1,700 in two years' time, and then to £2,000 by annual increments of £100, but the amendment was defeated by 52 votes to 43; a further amendment to delete the provision increasing the salary to £2,000 was also negatived, and the Committee's recommendation was approved. It will be remembered that when the Manchester City Council advertised last January for a medical officer of health in succession to Dr. Niven, a salary of £1,500 a year was offered, without any bonus or any promise of increments. The British Medical Association declined to insert the advertisement in the *British Medical Journal*, in which action it had the support of the Society of Medical Officers of Health and of the *Lancet*. It was pointed out that the offer of such a salary for such a post was a reflection not only upon the public health section of the medical profession, but on the whole profession, and the salary, if accepted, would certainly be used as a precedent by other large cities; in addition, the salary did not compare favourably with the salaries of the other important Corporation officials of Manchester. When the Manchester Corporation realized the strength of the position of the British Medical Association, amicable negotiations were entered into between a subcommittee of the City Council and representatives of the British Medical Association and of the Society of Medical Officers of Health. The result was what might have been expected when sensible men meet and exchange their views over a matter in dispute, and the present reasonable compromise was arrived at. The Manchester City Council is to be congratulated on taking, after some hesitation, the broad view of its responsibilities to the Manchester public. The British Medical Association will now do all that is in its power to enable Manchester to obtain a medical officer of health of the calibre it requires.

ECONOMY AND INFORMATION.

WE notice that the Stationery Office has just issued the Report of the Registrar-General for Scotland at the price of £2 17s. 6d. This, we presume, is a fruit of the "Economy" campaign and an attempt to apply "business" methods to the publication of official documents. A logical consequence would be that the Report of the Registrar-General for England and Wales should be priced at a sum not falling far short of £5. If this course is followed, one of two things must inevitably happen. Either the free distribution of copies must be enormously increased or private citizens will cease to read such publications. We suppose the former alternative may be dismissed and that the Treasury is prepared to face the latter. In our judgement this is one of the grossest blunders yet perpetrated. The Chief Medical Officer of the Ministry of Health in his first report, in speaking of the prevention of disease, wrote: "The State and local authorities may do much, the medical man may do much, but the fulfilment of their purposes cannot be secured apart from an enlightened public opinion and a healthy way of life for the individual." These words commanded the unanimous approval of the medical profession. The Stationery Office's contribution to the enlightenment of public opinion is, it seems, to require the public-spirited citizen to pay five pounds for an obviously fundamental statement of vital facts which had formerly cost him seven shillings. We are indeed rather curious to know how the new official prices have been determined. For instance, does the sum of £2 17s. 6d. for the Scottish report represent the quotient of the total cost of production of the last report divided by the total number circulated? If it does and if a sensible number of private citizens purchased the last report, it will not be surprising if the next issue but one, priced in the same way, soars to £10, while in due course the bulkier English volumes should compete with first editions of the *Compleat Angler* for the dollars of the American collector. No doubt the illustrated papers will publish portraits and biographies of the North Britons whose patriotism has compelled them to expend £2 17s. 6d. on the record of Scotland's vital statistics. Merely from the business side one wonders whether this method, if it be the method adopted, is sound. We do not recollect any suggestion by Sir Eric Geddes's Committee that vital statistics should cease to be collected and the staff of the two General Register Offices disbanded. If statistics are to be collected it follows that somebody is expected to take an interest in the results. It may not even be too speculative to argue that a fair number of public officials *must* familiarize themselves with these results, and that, for this purpose, some copies must be printed. Therefore the cost of putting the document into print must be found. even if not a single private citizen, not even the secretary of an antivivisection society desirous to prove that vaccines have increased the death rate, would buy a copy. One would have supposed that a business man might argue as follows: "The largest item of cost of production must be met in order to enable the Government to do its ordinary business. At what price can I put the document on sale in order to defray the additional expenses of paper, machining and distribution, and, if I am lucky, recoup some of the standing cost of typographical composition?" The answer plainly depends upon the intensity of negative correlation between published price and demand. If the Stationery Office has really acted in this way, the wealth and the enthusiasm for knowledge of the general reader must be greater than we had thought possible. To the medical man what has been done, or is about to be done, is peculiarly exasperating. From the beginning of registration Farr set himself to make the annual reports not only accurate but interesting, and he completely succeeded. His successors loyally followed in his steps. We intend no slight upon those very able public servants, the late Dr. Ogle and Dr. Tatham, when we say that the standard of interest of the annual reports has been raised in the last ten years, and that the story Dr. Stevenson has been able to tell has not infrequently reminded us of the original series. The interest taken in the volumes by the general public has obviously been greater; we may even thank the propagandists who have spread knowledge of them for controversial purposes. That any step should be taken which will diminish that public interest would be unthinkable had it not, in the instance of Scotland, actually been taken. One has heard much in the press of bureaucrats, Whitehall limpets, and such-like evil persons. If they indeed exist, their satisfaction must be great. Secrecy is the impregnable defence of the Tite Barnacle family, and a department the knowledge of whose proceedings can be purchased only at the price of £2 17s. 6d. need fear little criticism. We picture to ourselves the circular letters of a Whitehall department in 1932, framed on the following lines: "I am directed to advert to your communication of the 1st inst. and to inform you that a full account of the Department's proceedings in the matter to which you refer will be found on p. 1 et seq. of the Annual Report, Cd. 221, obtainable from H.M. Stationery Office or through any bookseller for the sum of £50 inclusive of postage."

THE MOUNT EVEREST ACHIEVEMENT.

THE experiences of Mr. Finch and Captain Geoffrey Bruce, who reached 27,200 feet on Mount Everest, together with those of the party consisting of Mr. Morshead, Mr. Mallory, Dr. Somervell, and Mr. Norton, raise physiological problems which we discuss in an article on a previous page. It will be observed that the party which used oxygen only reached a point 400 feet higher than was attained by the party which did not resort to that method. The telegrams received by the Mount Everest Committee and published in the *Times* of June 16th and 17th, show that Finch and Geoffrey Bruce had made some preliminary experiments from the base camp established on the left bank of the East Rongbuk glacier at a height of 19,800 feet. General C. G. Bruce reports that certain alterations "had to be made in the face mask which, in the original design, did not allow the wearer to inhale a sufficient quantity of air. This required much adjustment. However, during numerous little expeditions, including one to the North Col, the full benefit of breathing oxygen in high altitudes was apparent. It appears that even if the oxygen apparatus be temporarily removed from the mouth, alarming and unpleasant symptoms are not experienced." It was apparently during the first week of June that Finch and Geoffrey Bruce made their record; they had camped for two nights at 25,000 feet, an elevation at which the first party had camped three weeks before. This earlier party had made a camp on the North Col, which is apparently about 23,000, and, accompanied by some Nepalese porters, spent a night at 25,000. Eventually, as has been stated, this party pushed on to 26,800. "Ultimately," Mr. Mallory writes, "the power of pushing up depended on lung capacity. The lungs governed the speed, making the pace a miserable crawl." The decision to turn back (soon after 2 p.m.) was determined by the lateness of the day, bad going owing to fresh snow, and the exhaustion of the party. Reading between the lines of Mr. Mallory's enthralling story it seems clear that the condition of all the members of the party was bad, and that, but for the kindness of the weather later in the day, they might never have got down. In addition to the difficulty of breathing, this party suffered much from cold. Even at the base camp on the East Rongbuk glacier (19,800 feet) night temperatures as low as zero (Fahrenheit it is to be presumed) were registered, and at the two upper camps temperatures as low as seven, eight, and nine below zero were common. Mr. Morshead, who had gone up with the others to the 25,000 feet camp, broke down there owing to indisposition, due, it was thought, to a chill, and the three who went on to 26,800 all suffered from frost-bite. This attempt, however, as General Bruce points out, showed that first-class porters could carry oxygen to 25,000 feet without employing it. When details of how the second party fared are received it will be interesting to learn to what extent they were helped by the oxygen apparatus, and whether its advantages made up for the extra weight.

ART IN INDUSTRY.

ON the occasion of the President's reception at the Royal Society of Medicine on June 14th half an hour was spared for a pleasant little disquisition by Dr. T. M. Legge, H.M. Medical Inspector of Factories, on the subject of industry and art. Dr. Legge defined Art as the production of an atmosphere generally though not necessarily beautiful, but always wonderful. To those who had been brought up amid the Gothic traditions of public school and university it was a startling transition to be plunged into industrial life; yet, given imagination in the observer, a factory might well call forth something of the same emotion as a cathedral, and in the utilitarian interior of a great machine shop might be found what corresponded to clerestories and triforia and pillars of the nave. Modern industry with its 100-ton hammers and roaring furnaces had its impressiveness if not its beauty. Dr. Legge, however, as he developed his theme, rather dispraised the factory and exalted the mediaeval craft guilds, where pride in work, leisure in its accomplishment, and a feeling after beauty, as well as honesty in production, were the ideals, with the church taking the place of the trade union, and the patron saint the place of the shop steward. But it was evident that art in industry had not disappeared with the disappearance of the guilds and the decay of the guildhalls, because not a few modern artists had found their inspiration in chimneys rather than in trees, and in smoke rather than in pearly skies. He placed first among them the Belgian sculptor, Constantine Meunier, who managed in his delineations of hard physical toil to suggest the price which had to be paid for it—how the worker at the furnace paid in streaming sweat and posterior cortical cataract, and the worker in the mines in miner's nystagmus and the constant risk of explosion. But there were others who had treated industrial subjects with great feeling, among them Joseph Pennell, Frank Brangwyn, Muirhead Bone, and C. R. Nevinson, the last of whom had managed to suggest industrial fatigue by means of cubism. Dr. Legge concluded by showing with unqualified appreciation the modernist treatment of slag heaps, which made it evident that, properly viewed, the Black Country was as romantic as the Welsh hills. A vote of thanks to Dr. Legge was accorded with great heartiness, at the instance of Sir John Bland-Sutton. During the evening the guests had the opportunity of studying a series of specimens of Hispano-Moresco pottery, illustrating another aspect of art in industry, shown by Mr. Charles Mark. This faience is now very difficult to find, and Mr. Mark, whose collection is one of the finest in existence, is to be congratulated on the success which has attended his efforts as a collector. The ware is of Asiatic origin, and can be traced back to the ninth century. It was manufactured by the Moors in Spain from the fourteenth to the seventeenth century, when the last maker died—and his secret died with him. The feature of the lustrous glaze of the pottery is its metallic iridescence, resembling the hues of certain butterflies. Most of the specimens of the best period are blue, including the Persian blue in Siculo-Arabian pieces—a colour that cannot now be produced. In the degenerating period copper colour was predominant. Majolica ware is supposed to owe its origin to this pottery; and undoubtedly the Italians were very keen collectors of the products of the Moors in Spain. The decorative patterns are various, including in the specimens shown the Christian cross on pieces such as a baptismal font, the Borgia bull on a large plate made for Calixtus III (the only Spanish Pope), heraldic designs, and borders of simulated or mock inscriptions to imitate inscriptions from the Koran. Actual texts from the Koran were never reproduced by the Moors. All the details in the patterns have a meaning. In the collection shown were many drug vases, but, unlike the Spanish jars, none of these are inscribed with the names of medicines. Most of the larger pieces of pottery were evidently intended for decorative purposes, being perforated with two holes for hanging on walls. The largest plate was 20 inches in diameter. The pottery is very brittle and liable to be chipped. The exhibition was most interesting, and the enthusiasm of Mr. Mark for his collection is amply justified. Specimens of modern Royal Lancastrian ware were also exhibited at the meeting, and formed an interesting comparison in glazes.

NUTRITION AND HEALTH.

WE have received an instructive report made to the Public Health Department of Glasgow by the Medical Officer of Health, Dr. A. K. Chalmers, on the food values of diets supplied under the maternity and child welfare scheme. Dr. Chalmers shows that the food values of the diets supplied at the dinner tables to nursing mothers and children were such that there could have been hardly any recipients who experienced a continuous shortage of either protein or fat, the constituents of a diet most likely to be defective in the households of the very poor. The complete diet of these assisted persons was computed to supply 3,109 calories, derived from 86.5 grams of protein, 85.7 grams of fat, and 485.6 grams of carbohydrates. Dr. Chalmers compares with this the dietary of a family consisting of husband, wife, and three children (aged 13, 11, and 5 years), spending on food 19s. 9½d.

weekly. This gave 2,216 calories as the portion of the mother, derived from 74 grams of protein, 46 grams of fat, and 362 grams of carbohydrates. The total yield in this latter diet is probably inadequate, but the balance of proteins and carbohydrates is precisely what has been recommended on good authority. Dr. Chalmers points out that there is a lack of co-ordination in our official food policy. "The contrasts at present existing," he writes, "may be illustrated by a family of seven persons, the youngest an infant of two weeks, where the husband has been out of work for one year and four months, and the total weekly income from relief is 35s. This is 18s. below the scale adopted by the Education Authority, which, for a family of two adults and five children, is assessed as requiring 53s. 2d." A very sensible leading article in the *Glasgow Herald* of June 7th comments upon Dr. Chalmers's memorandum in the following terms: "The medical officer has turned to practical use the opportunity thus offered of considering the actual food values of the meals supplied and of their relationship to the total daily requirements of those participating in them. But he goes further and opens up the whole question of the several responsibilities of the various authorities upon whom the Government has placed responsibilities for feeding. He is evidently not of opinion—and we agree—that this can be satisfactorily answered by three authorities working independently. The difficulty is to define the destitution line, and for this he suggests the amount of food necessary to maintain the body weight at rest. But here is the difficulty. Chronic underfeeding is known only by its result, there is little of a definite nature known as to its variations. It is a new aspect of national need and national obligation and must ultimately find a national solution." This report again raises a question which we have touched on frequently in these columns. We have expressed the opinion that the food problem of the post-war epoch is almost as urgent as that of the dark days of 1917, and that it is imperative to build upon the foundations laid by the Food (War) Committee of the Royal Society. We still know discreditably little about the quantitative side of the subject, and our estimates of the amount of food needed to maintain health are still lamentably vague. The country is passing through a serious industrial crisis; we may fairly hope that the worst is over, but in the present state of international politics we have no assurance that even more serious crises will not recur. It may become urgently necessary to employ our resources with the utmost physiological economy, but if the medical profession is to advise the national or local administrator authoritatively it must possess exact knowledge, which is at present lacking. At one time there was an expectation—which we did not share—that a large central department or institute would be established to promote nutritional research on a large scale. This expectation has long since gone the way of the "homes for heroes" and other dreams of the new heaven and earth which were to follow the downfall of the central empires. We must be content with something less grandiose. We are therefore glad to know that the Medical Research Council has set up a committee to consider what steps should be taken to extend our knowledge and to carry out preliminary inquiries. The membership of this committee is confined to a small number of recognized experts, and includes two of the medical staff of the Ministry of Health. It is obvious that work of this kind, involving both purely scientific and administrative considerations, can only be efficiently performed by persons in intimate relations with the academic and practical sides of the subject; the close liaison which has been established here, as in many other directions, between the Ministry of Health and the Medical Research Council is of happy augury. England lags far behind America with respect to the volume of its contributions to the study of human nutrition, although the subject is far more important to a small island state unable to feed its population from home-grown supplies than to the inhabitants of North America. We do not expect the new committee to solve in a few months, or even years, the problems raised by Dr. Chalmers, but we are of opinion that the task assigned to it is one of the most important entrusted by the Council to any scientific committee.

HARVEIAN SOCIETY.

THE annual dinner of the Harveian Society of London, which took place on June 15th at the Café Royal, with the President, Sir William Willcox, in the chair, was distinguished for the excellence of its after-dinner speeches and for the presence of many eminent legal guests. The loyal toasts having been honoured, "The Harveian Society" was proposed by Dr. J. W. Cock, who sketched the history of the society, which was founded ninety-one years ago. The President responded to the toast and welcomed the legal guests, with whom he had often appeared in court, both for and against. Sir James Galloway proposed the toast of "Kindred Societies," and spoke of William Harvey—"that magnificent old man"—of whose feasts history related several stories. Mr. James Berry responded for the Medical Society of London and Lord Justice Atkin for the Medico-Legal Society. The toast of "The Guests" was proposed by Dr. G. de Bec Turtle, and three delightful speeches, each excellent in its own style, were made in response by Sir Humphry Rolleston, P.R.C.P., Sir Edward Marshall Hall, K.C., and Sir Archibald Bodkin, Director of Public Prosecutions. The evening was brought to a close by the toast of "The Officers of the Society," which was proposed by the President, and Mr. D. C. L. Fitzwilliams responded.

OXFORD OPHTHALMOLOGICAL CONGRESS.

IN our issue of March 4th (p. 365) a note was published of the provisional programme for the next Oxford Ophthalmological Congress, to be held on Thursday, Friday, and Saturday, July 6th, 7th, and 8th, 1922. A copy of the official programme, together with additional information for the use of members has now been sent to us by the honorary secretary, Mr. Bernard Cridland, Salisbury House, Wolverhampton. Accommodation will be provided in Keble College from the evening of Wednesday, July 5th. The Congress will be formally opened on Thursday morning at 10.15 by the Master, Mr Sydney Stephenson; after this a discussion on the significance of retinal haemorrhages will be opened by Dr. C. O. Hawthorne and Mr. P. H. Adams. In the afternoon papers will be read, and the annual dinner will be held in the evening. On Friday morning the Doyne Memorial Lecture will be given by Dr. J. Burdon-Cooper of Bath on the etiology of cataract. This will be followed by papers, and in the afternoon a discussion on methods of operating for cataract will be opened by Sir Anderson Critchett; to it contributions will be made by Dr. Lundsgaard of Copenhagen and Dr. T. Harrison Butler. On Saturday morning papers will be read by Mr. A. S. Percival and Dr. Butler. During the Congress scientific and commercial museums will be opened in the Department of Human Anatomy, and in the former a series of pathological specimens will be shown.

"PHYLLOSAN."

WE have received from the Managing Director of the Chlorophyl and Chemical Corporation, Ltd., a letter expressing his regret that, by inadvertence, in the circular advertising Phyllosan, issued with the forms sent out recently by the editors of the *Medical Directory*, the name of the BRITISH MEDICAL JOURNAL should have been included under the heading of "Authentic evidence of efficiency from the leading medical press of the world." He states that he was absent from England when the leaflet was prepared, and desires to exonerate the proprietors of the *Medical Directory* from any responsibility with regard to the announcement.

DR. GEORGE SCOTT JACKSON, C.B.E., D.S.O., has been appointed a Deputy Lieutenant of the county of Northumberland.

THE Garibaldi Franco-Italian prize offered by the French Surgical Society has been awarded to Dr. F. Rossi, of the University of Bologna, for his recent book on wounds of the thorax.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

The Case of Ronald True.

MR. KENNEDY asked, on June 15th, whether the attention of the Home Secretary had been drawn to the reported statement of Mr. Justice Avory, when charging the Grand Jury at Devon Assizes, that he very much doubted if the recrudescence of crime experienced after the war would continue to abate if the infliction of penalties of the law was to be left to the discretion of experts in Harley Street; and whether, seeing that such a statement indicated the need of a clear definition of the law relating to criminal lunacy, it was proposed to introduce legislation to remove any ground of judicial misunderstanding or divergence of judicial opinion. Mr. Shortt replied that he had seen a newspaper report of the learned judge's remark. As regards the latter part of the question the matter was one for careful consideration, but he was not prepared at present to say that legislation was either necessary or desirable.

Sir Donald Maclean inquired whether the Home Secretary would consult the Leader of the House as to what opportunity would be given to the House to discuss this matter, not merely in relation to the particular case, but on the general question of principle involved. Mr. Shortt said he would consult Mr. Chamberlain. At a later date Sir Donald Maclean pointed out that the subject could not be taken on the estimates, as legislation might be required, and that could not be raised on the estimates. Mr. Chamberlain replied that in the present state of public business he did not see how it would be possible to find a day for supplementary subjects, especially if the House was to rise in anything like good time, having regard to the probability that it would have to meet in the autumn in respect of Irish matters. On a further question, Mr. Chamberlain said he thought it might be possible for the subject to be discussed on a vote in Committee of Supply, provided that no mention were made of legislation.

In reply to another question Mr. Shortt said that since the Court of Criminal Appeal was established in 1908 the sentence of death had been respited and the prisoner removed to Broadmoor after statutory inquiry in eleven cases. He knew of only one case similar to that of True—namely, the case of Townley in 1864—when the prisoner was afterwards certified sane. In that case the sentence of death which had been respited was commuted to one of penal servitude for life, and the man was removed from the asylum to prison. In no recent case had the prisoner been certified sane under Section 3 of the Criminal Lunatics Act, 1884. There was nothing in the law to prevent a man being executed after he had recovered his sanity, but whether it was done was another matter. Mr. Shortt said that in eight of the eleven cases that had occurred since 1908, either the judge or the Court of Criminal Appeal, or both, while satisfied that the verdict of the jury was correct and that the prisoner had been properly found guilty of murder and not insane, in the legal sense, when he committed the crime, nevertheless suggested that it was desirable that further inquiry under the powers vested in the Home Secretary should be made as to the mental condition of the prisoner.

Pension Assessment by Medical Boards.—Mr. C. White, on June 15th, asked whether doctors and other persons employed by the Ministry of Pensions, though not allowed to alter the finding of medical boards, did in a large number of cases send the documents back to the chairmen of medical boards, suggesting that assessments should be changed, and almost invariably recommending a reduction of the assessments and bringing pressure to bear to effect such reduction. Mr. White asked, further, whether the Minister would issue instructions that no assessment by a medical board should be interfered with or altered in any way except by an appeals medical board or some other tribunal where the pensioner could be present or be represented. Mr. Macpherson said he was glad to be able to assure Mr. White that he was misinformed as to the procedure. His department had continually in operation some two hundred medical boards throughout the kingdom, and it did happen on occasion that the medical staff of the Ministry referred back to a board for explanation a case in which the assessment appeared to be either markedly too high or too low in the light of the clinical finding of the board. No pressure was, however, brought to bear on the board, the procedure being based on the free exchange of medical opinion upon questions of doubt or difficulty. The whole procedure of assessment was very carefully examined last year by the departmental committee of inquiry, who concluded their report on the subject with the statement that the last word as to degree of disablement was always with a medical board. Mr. White asked whether it was not the fact that many members of medical boards were making representations—confidential though they might be—to members of Parliament complaining of interference with awards that had been given. Mr. Macpherson replied that Mr. White's statement was quite inaccurate. In case after case the assessment was increased. If Mr. White or any other member had a case to bring to his notice he would be glad to inquire into it. Mr. White rejoined that he would produce evidence. Mr. Cairns inquired if a man had certificates from three medical men saying he was totally disabled by the war, and doctors said he was healthy before he went to the war, and his employer said he had never missed a day's work, how was it that man could not get a pension? Mr. Macpherson replied that the man had the right to appeal to an independent tribunal. Mr. Cairns said that the man had appealed twice.

Treatment for Neurasthenia.—Mr. C. White asked, on June 15th, whether neurological hospitals at Ashurst, Oxford, and others in London were being closed permanently; whether the patients in these hospitals were being sent to army hospitals at Netley and other places where the treatment was quite unsuitable for such cases; and whether in such case the Minister would reconsider the arrangements. Mr. Macpherson replied that the demand for treatment facilities for neurasthenia was, he was glad to say, decreasing, and hospital accommodation was being correspondingly reduced. In-patient treatment for neurasthenia was still being provided at Ministry institutions, of which the Welsh Hospital at Netley (as distinct from the military hospital there) was one; there was no intention of making any other arrangements. He could not say whether or not the Ashurst Hospital was closed.

Condensed Milk.—Sir A. Boscawen stated, on June 15th, that the quantities of sweetened condensed milk, machine-skimmed or separated, imported in April and May of 1921 and 1922 were as follows:

	April. cwts.	May. cwts.
1920	31,795	74,968
1921	66,797	77,669
1922	109,325	115,443

The Minister added that according to his information there had in recent months been a very large reduction in the home manufacture of condensed milk. Sir Alfred Mond, on another question, said he understood that there was agreement amongst a number of witnesses who appeared before the Departmental Committee on Condensed Milk Standards as to the standards which they wished to have fixed. The Committee, in recommending somewhat lower standards, considered it undesirable to cut off a substantial portion of the national supply of the commodity. His own powers in the matter were limited by what was necessary for the prevention of danger arising to public health, and he should therefore not feel justified in fixing any standards which could not be attained generally. He was not prepared to make regulations fixing such standards as were suggested by the trade interests, but he was prepared to make regulations to require appropriate labelling. The Departmental Committee's report would be published if there were any general desire for this to be done, but not otherwise.

The Sale of Cocaine.—Mr. Ramsden, on June 15th, wished to know whether the Home Secretary was aware of the remarks made by the stipendiary magistrate at Marlborough Street police court when he sentenced a prisoner for selling cocaine to the maximum penalty allowed by the present law, and to the rider of the jury who held an inquest on a young girl who had purchased cocaine from some man, and whether the Minister would consider an amendment of the law to increase the maximum penalty. Mr. Shortt responded that he had seen newspaper reports of the cases. The question of amending the law was under consideration.

Water Supply.—Sir A. Mond informed Mr. Gilbert, on June 14th, that at present there was no shortage of water for London, nor, having regard to the available supplies, was the situation likely to become generally serious, even if the drought continued. It was important, however, that the public should exercise all reasonable care. The Minister added as regards the country generally there was no serious shortage, although some places were already in difficulties. The conditions differed greatly, even in neighbouring districts, but the outlook if the drought continues was least satisfactory in the south and south-east. The Ministry was assisting authorities who were, or who were likely to be, in difficulties.

Indian Medical Questions.—Mr. Hogge asked, on June 20th, why the concession of proportionate pension was not given to officers of the Indian Medical Service in permanent civil employment, and why such officers did not receive the same privileges and concessions as had been or might be accorded to other civil officers as a result of the detriment to their prospects and the altered conditions of service resulting from the reform scheme. Earl Winterton said that officers of the Indian Medical Service in permanent civil employment were permitted to retire on permanent pensions if they could not be employed in military duties in which under the terms of their employment they were always liable to recall. He was in communication with the Government of India in regard to the applicability of these conditions to officers who by reason of the length and nature of their civil employment had had a reasonable expectation of continuance therein up to the time of their normal retirement.

Summer Time Bill.—On the second reading of this measure, which came down from the Lords, Mr. Shortt, on June 14th, stated that it was necessary because the power of establishing summer time by Order in Council would cease this year unless there were further legislation. The measure proposed to make the alteration of the clocks for the period from April to September, inclusive, a permanent institution. Mr. Shortt recognized, however, the great objection felt by agriculturists to the shifting of the hours, and he offered to consider in committee a curtailment of the period during which summer time should operate. After considerable debate the Home Secretary said he was willing, not only that the bill should be annual, but that the period of summer time should be reduced at each end by not less than three weeks. The measure was read the second time by 207 votes to 26.

England and Wales.

LONDON'S WATER SUPPLY IN A DRY SUMMER.

DEATH rates have been correlated with density of population and with the water consumption of the large towns, and the results may be briefly summed up in the statement that the death rate increases in direct ratio with the density of population and inversely with the consumption of water. So wide a generalization would require many qualifications before being literally accepted, but the statement, nevertheless, expresses the general truth that an abundant water supply is a health asset of the highest importance to town populations. There was an adage in the army, "A wet camp is a healthy camp," which expresses the same truth, and there is a very proper apprehension, to which the daily press has recently been very much alive, that anything that threatens in any considerable degree the water supply of great cities is to be regarded seriously. Of the great agglomerations of population in this country London is, in this respect, the least well off. Manchester, for instance, and the densely populated area of which it is the centre, have taken care to be much better off. In London, as things are, a curious source of consolation is found in the fact that there is a large margin of what is regarded as wasteful consumption, and a concerted effort to reduce this is observable in the remarks of all our public mentors. Now it is quite true that when there is a scarcity of water misuse and extravagance in its consumption are grave offences, and we do well to discourage and even penalize such wasteful practices. Among these are mentioned leakage in main and service pipes, defective taps and fittings, excessive use of water for personal ablution, washing motor cars, and watering gardens. During the drought of last year efforts to check these were made with more or less success, and economy was pushed even to the extent of reducing or abstaining altogether from street watering and sewer flushing. The rainfall during the first four months of this year was in excess of the average, but the amount in May was only about half the average. Nevertheless there would probably have been no difficulty this year, in spite of the dry June, but for the deficiency resulting from the drought of last year. Meteorology is not yet in a position to prophesy far ahead, and the vagaries of the English climate are notorious. A few weeks hence we may be complaining of Lammas floods, and next year may be unduly dry. Unfortunately the water supply is a case in which averages do not work. The duty of the water authority is to provide a sufficient quantity of water to the population for which it is responsible. It is during prolonged dry weather that street watering and drain and sewer flushing are most necessary. Dust in the streets and foul accumulations in the drains and sewers are among the environmental conditions which produce ill health; even leakage from defective taps helps to flush drains, and economy in water for ablution can be justly advocated only because of a failure to supply what is a supreme civic need. The washing of motor cars achieves something more than a mere aesthetic satisfaction, while the withholding of water from gardens during dry weather inflicts a loss upon London in the destruction of food supplies, which however insignificant in quantity are of importance to a population otherwise dependent upon stale or preserved foodstuffs. If our population is to live in huge communities such as London the aim must be to make the dry-weather supply of water so abundant that it will not be necessary to plead for economy during an exceptionally arid season. It is a paradox that waste of water is then from the health standpoint least wasteful. Some recent references in the newspapers seem to suggest that the old plans for obtaining water for London from Wales may be revived, but we take it that the present financial position puts any such scheme quite out of the question.

LONDON ASSOCIATION OF MEDICAL WOMEN'S FEDERATION.

A dinner of the London Association of the Medical Women's Federation took place on June 13th at the St. Pancras Hotel. Dr. Louisa Martindale was in the chair, and eighty-four members and guests were present. Speaking after dinner the President said that this was actually the first dinner ever given by the London Association of Medical Women's Federation, as before the war there existed only a London Association of Registered Medical Women, and the present association had been formed during the war chiefly owing to the energy of Dr. Jane Walker. Dr. Jane Walker sketched the formation of an international federation or association of medical women, the constitution of which it was hoped to establish at a conference to be held in Geneva next year. Lady Barrett, the new President of the Medical Women's Federation, welcomed the guests, for whom Lady Rhondda and Dr. Carr responded. Between the speeches Dr. Aitken sang several groups of songs, among them some composed by the accompanist, Dr. A. G. Phear.

LONDON HOSPITAL MEDICAL COLLEGE.

The prizes won by students of the London Hospital Medical College during the past session were distributed on June 19th by Mr. T. H. Openshaw, C.B., C.M.G., who is retiring from the post of senior surgeon after more than forty years' service on the staff of the London Hospital. The chair was taken by Mr. W. M. Pryor, chairman of the college board, who was supported, among others, by Viscount Knutsford, Lord Dawson, Professor William Wright (dean), and Mr. E. W. Morris (house governor). After distributing the prizes Mr. Openshaw thanked the college board for inviting him to do so and thus giving him an opportunity to address the students. He was carrying away most pleasant memories from the hospital, which, he said, offered the advantages of a larger surgical practice than any other in the kingdom. It was only by making the most of the great opportunities for obtaining knowledge and skill the hospital afforded that its students could maintain the splendid character the London Hospital had won among the medical institutions of the empire.

Correspondence.

THE INTERSTITIAL GLAND AND SEX PROBLEMS.

SIR,—I am much obliged to your two correspondents, Dr. Douglas Howat and Surgeon Rear-Admiral Marsh Beadnell, for their courteous comments on my paper, "The interstitial gland." Being very little of a biologist, I am not in a position to discuss with the former the interesting points to which he refers. On these matters we seem still to be very much in the domain of theory, so that each of us is at liberty to select the particular hypothesis which seems to him best to fit in with the facts. I cannot personally bring myself to subscribe to the view that maleness resides in one maternal ovary and femaleness in the other. Nature does not seem to have evolved dual organs with this kind of end in view. She did not, for example, adapt one eye for distance and the other for near work.

Rear-Admiral Beadnell's views on the question of homosexuality are what may be described as the orthodox views, very clearly expressed. Like Newman's *Apologia* if you admit the premisses you cannot escape the conclusions. But it is precisely for a revision of these very premisses that I am venturing to appeal to Rear-Admiral Beadnell and other thinking members of the profession. If one holds firmly to the opinion that everything homosexual is necessarily unnatural and vicious, then discussion is clearly useless. I make so bold as to plead for a frank and general recognition of a fact which for the last twenty years has been forcing itself upon my conviction with increasing insistence. It is that there is, in very sooth, such a thing as a third sex. There are certain men who are homosexual, who can no more help being homosexual than they can help the cubits of their stature or the colour of their skin. In no sense of the term can these men be described as vicious. They are for the most part hard-working respectable citizens. Many of them are greatly gifted. Some of them worthily fulfil very high positions in very responsible callings. The majority of them are just as sensitive to the canons of right and wrong as the most uxorious paterfamilias. A large number of them would give all they possess to become heterosexual.

After the age of 40 a medical man receives very intimate confidences in the consulting room, and I feel sure that there must be a very large number of my confrères, equalling my 60 years, who could testify to the truth of the above statements.

I am not denying that homosexual practices are indulged in by the heterosexual from purely vicious motives, and I will gladly countersign any words of condemnation and opprobrium (I am sure they would be vigorous) which Rear-Admiral Beadnell cares to apply to such people. I am, however, no more concerned with them than I am concerned with exhibitionists or with other degenerates who are rightly

kept under control. I am merely contending that homosexuality as a state is so prevalent amongst perfectly respectable people that it is no longer scientifically sound to regard it as altogether pathological; still less is it reasonable to stigmatize it as vicious.

There are certain physical and mental characteristics of this third sex which, to the seeing eye and sensitive ear, are quite unmistakable. There can, I think, be no doubt that these characteristics are determined by a certain admixture of the male and female interstitial glands in the hormonic make-up of the individual, and it seems reasonable to hope that attention to these glands, given in time, may save people from this rather sinister indeterminate state.—I am, etc.,

London, W., June 19th. LEONARD WILLIAMS.

A PULMONARY SIGN IN ACUTE INFECTIONS OF THE BILIARY TRACT.

SIR,—I was very interested in Mr. Wilkie's article, as it confirmed a few of the observations I made some years ago, and published in the *Indian Medical Gazette* in July, 1919. I then pointed out the progressive changes in the lungs, and the alterations in the tonus and level of the diaphragm, in acute abdominal lesions.

Two main factors are responsible for these alterations:

1. The reflex changes produced by the pain caused by the lesion.

2. The mechanical effects of the alteration in the intra-abdominal pressure.

The first produces an increase in the tonus of the antero-lateral abdominal muscles, which are expiratory. This reflexly inhibits the tonus of the antagonistic inspiratory muscles, including the diaphragm. This relaxation explains the diminution in the range of the respiratory movements and the elevation of the diaphragm, in any lesion producing pain or rigidity in the abdominal muscles. If progressive and unilateral the lesion will produce complete absence of respiratory movements on the corresponding side. Accompanying the diminution in the respiratory movements will be found a progressive collapse of the lung, and complete abolition of the former will produce complete collapse of the lung. These facts I discovered by screening and examining various cases, and confirmed during operations on liver abscesses. For further details I refer the reader to the original article.—I am, etc.,

Cardiff, June 16th. D. J. HARRIES.

AN AORTIC MURMUR.

SIR,—In case anyone is interested in the aortic murmur which I described in the JOURNAL of May 13th, I would like to put before you some further information with which Sir Clifford Allbutt was good enough to supply me. He says that he has been familiar with the murmur for half a century and has restored many youths to fields of athletics who had been warned off on this account and that he owed his knowledge of it, and of the muscular mechanism producing it, to his friend the late B. W. Richardson, in whose works somewhere I would find it called the "carpenters' murmur." Writing further in reply to a query from me as to why such a common murmur was not described in textbooks or clinical manuals, he said, "See in Allbutt and Rolleston's *System*, vol. vi, page 510, para. 2, line 3—yet it is only an incidental allusion." He also says I have done good service in drawing attention to this point, but I cannot see how, unless the matter is taken up by authors of standard textbooks or clinical manuals.

Major Moss, writing in the JOURNAL of June 3rd about a "postural" murmur, may be describing the same one, but as he mentions raising of the arms as the essential factor I doubt it.—I am, etc.,

Perth, June 10th. THOMAS LINDSAY.

THE CASE OF MR. F. W. AXHAM.

SIR,—Dr. J. S. Manson and Dr. J. Price Williams must excuse me if I refrain from entering on the controversial issues which they propose and which were expressly excluded from my former letter. My sole object was to point out the, as I think, unfortunate position in which the profession has been placed. Where the responsibility for this position rests is a question for the individual judgement.—I am, etc.,

London, W., June 19th. C. O. HAWTHORNE.

SOCIETY OF APOTHECARIES OF LONDON.

SIR,—As there appears to have been some misapprehension in certain quarters as to the effect of the recent discontinuance of the trading operations of the Society of Apothecaries, I am directed to ask if you will be so good as to allow me to state exactly what has taken place.

The Society has discontinued both its wholesale and retail trade in the manner which has already been announced in the press, but has made no other change whatever. Its work and duties as a medical and surgical licensing body, examining for and conferring the diploma of L.M.S.S.A., and also granting a certificate in dispensing, continue as hitherto, and will be in no way affected by the discontinuance of the Society's trading operations.—I am, etc.,

Apothecaries' Hall, London, E.C.4, June 19th. BINGHAM WATSON, Clerk.

SENIOR SURGEON COMMANDERS, R.N.

SIR,—The retirement scheme for naval officers recently promulgated by the Admiralty only serves to emphasize the injustice under which senior surgeon commanders suffer. Had we been redundant executive, engineer, or paymaster officers we should have had inducements held out in the shape of increased pensions and a lump sum down to retire voluntarily. Without being invidious it can be readily imagined that the least brilliant in their respective spheres accept these inducements with avidity. We, on the other hand, are retired compulsorily, lose several years' full pay and chances of promotion, and get not a penny compensation, my lords evidently thinking that a stereotyped letter of thanks for our "long and zealous service" and an honorary step in our cumbrous rank are sufficient. Both are pretty, but entirely useless, and we thank my lords for nothing.

As a concrete instance of the different conditions of retirement I compared notes with my late captain, a younger man by five years. He retired voluntarily on a pension of £875 and a bonus of £750. I retire compulsorily on £600 and no bonus. My pension is liable to 20 per cent. reduction, and I must also reduce it by commuting to provide capital for a start in civil life—a risky proceeding at an age which experience teaches me quite precludes me from obtaining any public appointment.

I do not grudge the above-mentioned captain his fortune, but we senior surgeon commanders have *never had a chance* to attain captain's rank. All chance was extinguished by our earlier compulsory retirement.

In my earlier years in the service the engineers and paymasters looked to the medical branch for a lead in the conditions of service of the non-executive branches. My later years have seen them climb over our shoulders, and in the process push us into the background, where my lords seem to have every intention of keeping us when it comes to equal treatment.

The engineers in numbers and influence are now almost the equal of the executive; the paymasters through the secretaries have the ear of every admiral in the service; senior surgeon commanders have—the British Medical Association. Hence this letter.—I am, etc.,

June 9th. LATE SURGEON COMMANDER, R.N.

MEDICINE AND THE HUMANITIES.

SIR,—Of the discussion of a medical student's career by the General Medical Council it is difficult to say whether it is tragical or comical. The obsession of examinations and marks, as the sole outfit for life for a member of the medical profession, is amazing, Sir Arthur Chance notwithstanding. What does it matter whether the final examination is taken separately or together? To lead students on for a number of years with a finesse to ultimate rejection is an injustice to them and their parents. Talk of one examiner only being present, why not three? One of them might possess a humanistic education and a considered view. I venture to say there is more of value and in accordance with the spirit of the times in the Hunterian oration of Sir Charters Symonds than in the whole of the discussion. Sir Thomas Browne, Paget, Greenhill, Pye-Smith, Goodhart, and Osler were not mere medical men and surgeons; neither are Sir Thomas Barlow and Sir A. Garrod of our own day. They influenced the characters of the students for a generation. Homer's *Odyssey*, Plutarch's *Lives*, Goethe's *Wilhelm Meister*, or Carlyle's *French Revolution* (even in a translation) for the curriculum, would dye callow minds and give them at least some bent

and basis in life, some glimpse of the "Roman Road" and Arnold's "sweet city with her dreaming spires."—I am, etc.,

London, N.W., June 11th. RICHARD GILLBARD.

*** We are reminded of Sydenham's reply to Sir Richard Blackmore, who, when a student, asked what books he should read for the study of medicine: "Read *Don Quixote*; it is a very good book; I read it myself still."

The Services.

INDIAN MEDICAL SERVICE.

THE annual dinner in London of officers of the Indian Medical Service was held at the Trocadero Restaurant on June 14th. Lieutenant-Colonel John Anderson, C.I.E., was in the chair, and the only guests were representatives of the *British Medical Journal* and the *Lancet*. The officers present numbered 78, as follows:

Major-Generals: Sir R. H. Charles, G.C.V.O., T. Grainger, C.B., G. F. A. Harris, C.S.I., Sir P. Hehir, K.C.I.E., C.B., C.M.G., H. Hendley, C.S.I.

Air-Commodore: D. Munro, C.I.E.

Colonels: C. W. Carr-Calthrop, C.B.E., J. K. Close, J. Crimmin, V.C., C.B., C.I.E., C. R. M. Green, A. J. Macnab, C.B., C.M.G., J. J. Pratt, C. N. C. Wimberley, C.M.G., W. A. Quayle.

Lieutenant-Colonels: H. Ainsworth, A. Alcock, C.I.E., W. G. P. Alpin, O.B.E., Sir W. J. Buchanan, K.C.I.E., W. H. Cadge, O.B.E., J. T. Calvert, C.I.E., D. G. Crawford, L. Hirsch, C.I.E., J. A. Black, R. H. Elliot, S. C. Evans, A. B. Fry, C.I.E., D.S.O., E. V. Hugo, C.M.G., J. G. Hulbert, S. Hunt, H. Kirkpatrick, W. B. Lane, C.I.E., C.B.E., W. H. Leonard, A. E. J. Lister, J. Lloyd-Jones, F. P. Mackie, O.B.E., C. H. L. Meyer, A. Miller, T. R. Mulroney, A. Murphy, O.B.E., S. E. Prall, J. W. F. Rait, Sir L. Rogers, C.I.E., H. Smith, C.I.E., R. Steen, A. Street, T. H. Symons, O.B.E., C. Thomson, M. H. Thornely, W. H. Thornhill, W. Vost, J. H. Tull Walsh, S. P. James, C. Duer, H. J. Walton, D. P. Warliker, H. G. L. Wortabet, A. C. Younan.

Majors: F. A. Barker, O.B.E., J. W. Barnett, B. Gale, W. Gillitt, C.I.E., J. J. Harper-Nelson, O.B.E., M.C., N. H. Hume, H. H. King, A. S. M. Peebles, J. Taylor, D.S.O., W. A. M. Jack, O.B.E.

Captains: B. Fraser Beatson, H. J. M. Cursetjee, D.S.O., S. M. A. Faruki, E. S. Goss, M.C., J. M. R. Hennessy, H. Hingston, J. C. John, O.B.E., P. Savage, P. Verdon, C. A. Wood, M.C.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

AT a congregation held on June 17th the following medical degrees were conferred:

M.B., B.CH.—T. T. B. Watson.
B.CH.—W. J. D. Smyth.

VICTORIA UNIVERSITY OF MANCHESTER.

MR. E. D. TELFORD, M.A., B.C.Camb., F.R.C.S., at present lecturer in Practical Surgery in the University and a member of the honorary staff of the Manchester Royal Infirmary, has been appointed Professor of Systematic Surgery in succession to Professor J. W. Smith, who will vacate the chair in September next.

Mr. E. J. Sidebotham, M.A., M.B.Camb., is retiring from the post of lecturer in Practical Bacteriology and Microscopy and deputy-director of the Public Health Laboratory. The Council, in accepting with regret the resignation, expressed their gratitude to Dr. Sidebotham for his loyal and devoted services to the University, and for the valuable services rendered to the public health department during nearly a quarter of a century and also for the efficient manner in which he conducted its affairs during the illness and after the death of the late Professor Delépine.

Mr. Albert Haworth, M.Sc., M.B., Ch.B., has been appointed assistant lecturer in Chemical Pathology.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE following are the successful candidates at the recent examination for the Primary Fellowship:

D. J. Batterham, R. A. Brews, D. A. Brigg, E. P. Brockman, M. B. S. Button, D. Chamberlain, G. O. Chambers, J. M. Clarke, A. M. Claye, J. J. Coghlan, W. D. Doherty, H. A. Dunlop, W. H. Gervis, C. Gill-Carey, K. H. Gillison, A. Goodwin, J. Gray, E. F. Guy, A. C. Halliwell, A. C. Hampson, H. V. M. Jones, A. C. King, A. J. King, G. King, Marjorie E. Knowles, J. J. Lewinstein, N. L. Lochrane, R. H. Lula, A. C. MacLeod, S. M. Majumdar, S. M. Milner, D. W. C. Northfield, M. A. Paul, V. L. Parmar, E. L. Robert, F. W. Roques, J. S. Rowlands, B. G. Scholefield, W. G. Sears, A. G. Smith, H. J. Taggart, G. B. W. Walker, R. L. Williams, W. R. Williams, H. G. Wimbush, A. J. Wrigley.

THE following are the officers of the Röntgen Society for the session 1922–23: President, Sir Humphry Rolleston, K.C.B., P.R.C.P.; Vice-Presidents, Sir W. H. Bragg, F.R.S., Sir Ernest Rutherford, F.R.S., and Dr. A. E. Barclay; Honorary Treasurer, Mr. Geoffrey Pearce; Honorary Secretaries, Dr. E. A. Owen and Dr. Russell J. Reynolds; Honorary Editor, Dr. W. G. C. Kaye.

Medical News.

MR. H. J. WARING, Dean of the Faculty of Medicine of the University of London, has been elected Vice-Chancellor of the University for 1922–23, in succession to Sir Sydney Russell-Wells.

DR. J. W. MCLEOD, O.B.E., M.B., Ch.B.Glasg., Lecturer in Bacteriology at the University of Leeds, has been appointed the first occupant of the Sir Edward Brotherton Chair of Bacteriology in that university.

AT the annual general meeting of the Royal Society of Medicine, which will be held at 5 p.m. on July 6th, the election of Sir William Hale-White to be president in the room of Sir John Bland-Sutton will be proposed. The annual dinner will be held on the same evening, at 8 p.m., at the Victoria Hotel. Fellows are entitled to bring guests. The charge is 12s. 6d. each, exclusive of wine; the necessary amount, together with the name of any guest, should be sent to the Secretary of the Society, 1, Wimpole Street, W.1, as soon as possible.

WE are informed that Dr. Eric Pritchard has been appointed Medical Director of the Infants Hospital, Vincent Square, Westminster, and that the medical staff of the hospital is to be reorganized and the work widely developed, in order to fulfil the Committee's intention of making the hospital a centre for research and teaching in connexion with infant welfare.

COMMEMORATION DAY at Livingstone College, Leyton, Essex, was held on June 9th, when the Secretary of State for Scotland, the Right Hon. Robert Munro, presided. In summarizing the year's work Dr. Tom Jays, the Principal, said that fifty-one students of eight nationalities, representing twenty-six missionary societies, had attended the college during the vacation course in July and the present session. News from old students, of whom over 600 had gone to the mission field, showed how necessary and valuable the college training was to missionaries in their isolated stations. Mr. Robert Munro said that such a training in medical knowledge as was received at the college was not only proper but essential for men and women who would be situated at distant outposts of the empire, far removed from medical advice and skill. He made an appeal for funds for the college, for it was a tragedy that an institution like that should be crippled and cramped for want of funds. Old students of the college testified to the value of the medical training to missionaries abroad.

THE National Academy of Medicine at Buenos Aires celebrated the centenary of its foundation on April 18th. The rector of the university, Dr. José Arce, presided, and an historical address was delivered by the president of the academy, Dr. E. Canton. Among the announcements made was that an institute of experimental medicine, the first of its kind in South America, had been founded. A prize of a gold medal and 5,000 dollars was awarded to Dr. P. Belou for his stereoscopic atlas of the anatomy of the ear.

A BEAUTIFUL tablet to the members of the 1st Welsh Field Ambulance (R.A.M.C.T.) who fell in the late war was unveiled at Christ Church, Ebbw Vale, on June 10th by Major-General Lord Treowen, C.B., C.M.G. The A.D.M.S. Welsh Division and a number of the old officers and men were present. This unit is now disbanded.

THE annual meeting of the School Medical Group of the Society of Medical Officers of Health will be held on Saturday, June 24th, at 3 p.m., at the society's offices, 1, Upper Montague Street, Russell Square, W.C.

IN a note in last week's JOURNAL (p. 981) on the "Voyage d'Études Médicales" to Bordeaux and the Pyrenees, starting on August 26th, it was stated that applications should be sent to the secretary, Dr. Gerst of Paris. We are now informed that applications should be made to Mademoiselle Blaise, Chef du bureau des stations thermales, Office Français du Tourisme, 56, Haymarket, London, S.W.1.

THE first International Congress of Open-Air Schools, organized by the League for Open-Air Education, will be held at Paris, under the presidency of M. Merlin, Senator for the Loire, from June 24th to 28th. The subscription of 20 francs should be sent to the treasurer, M. H. G. Richter, 72, Rue de Rome, Paris.

DR. P. CHALMERS MITCHELL, F.R.S., has been elected a vice-president of the Cremation Society of England. We are informed also that the Society has been asked to convene a conference of cremation authorities which will probably take place in London early in November next.

THE twelfth edition of Taylor's *Practice of Medicine*, edited by Dr. E. P. Poulton, with the assistance of Dr. C. P. Symonds and Dr. H. W. Barber, physicians to Guy's Hospital, is nearly ready for publication.

Letters, Notes, and Answers.

As, owing to printing difficulties, the JOURNAL *must be sent to press earlier than hitherto, it is essential that communications intended for the current issue should be received by the first post on Tuesday, and lengthy documents on Monday.*

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2630, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2630, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin;* telephone, 4737, Dublin), and of the Scottish Office, 6, Rutland Square, Edinburgh (telegrams: *Associate, Edinburgh;* telephone, 4361, Central).

QUERIES AND ANSWERS.

TREATMENT OF PSORIASIS.

THE following are among the replies received to the inquiry from "A. B. S." published on June 17th (p. 982):

Dr. HENRY WALDO (Clifton, Bristol) writes: I tell patients with psoriasis that it is incurable. It tends entirely to clear up of its own accord, especially if the patient remains in bed, but it always recurs. It has a way of running into pityriasis rubra, and especially after active local treatment. For the case mentioned the daily application of linimentum calaminae B.P. codex allowed to remain on would seem suitable; its slight greasiness is an advantage. A warm bath should be taken once or twice a week with silicated soap and after drying a little olive oil smeared on. Any obstinate patch should be painted with eugallol (pyrogallol mono-acetate), using a bristle brush, and then applying the lin. calaminae over all. Internally parathyroid substance gr. 1/10 (Parke, Davis, and Co.) should be swallowed twice daily; it acts by slightly increasing metabolism and regulating the calcium content of the serum.

Dr. LEONARD J. KIDD (London) writes: In 1913 Leopold-Lévi got excellent and rapid results in obstinate cases of pruriginous psoriasis by giving once a day a cachet containing 3 grains (0.20 gram) of powdered testis. Brisson says the testis is rich in sulphur; and Brown-Séquard long ago found that testicular substance was quite as effective therapeutically in women as in men. Let "A. B. S." stop all other treatment while he tries testicular substance. When benefit follows, it comes usually quickly.

Dr. G. H. WAUGH (Rugby) writes: Let me suggest a simple form of treatment which I have not seen or heard mentioned elsewhere. It is to anoint thoroughly, by gentle massage, all the patches and surrounding skin with glycerin and rose water mixed in equal parts. Thus, for patches on the shin anoint the whole leg; on the forearm anoint from wrist to elbow, and leave the application on, no bandaging being required. This treatment relieves the itching immediately and cures in a few days.

Dr. HALDIN DAVIS (London, W.) writes: In the first place it is evident that the case is now one of acute dermatitis, and should be treated as such, with soothing applications such as zinc cream. Water and watery lotions should be avoided, and the necessary cleansing of the skin should be carried out with olive oil or liquid paraffin. All energetic measures should be laid aside; in fact it is quite possible that the deplorable state in which the patient now finds himself is in part due to the "vigour" of the treatment already practised. As a rule these cases when treated on the lines indicated above do well, and when the inflammation subsides the psoriasis also is found to have disappeared. But it may come back some day.

INCOME TAX.

"J. P." has not in the past claimed the deductions he might have done in connexion with the expense of replacing carriages or motor cars. He has just sold a car for £100 and bought a new car for £450. What can he claim as a professional expense?

*** The only amount legally claimable is the excess of the cost of the car sold over the £100 allowed for it. The fact that he has paid too much income tax in the past does not, unfortunately, affect the amount to be allowed now.

"M. S." has been refused by the local inspector any deduction for subscriptions to the British Medical Association and a local medical society on the ground that those bodies have not entered into the arrangement with the Board of Inland Revenue.

*** In this connexion "M. S." has referred to the note appearing in our issue of April 1st (p. 531). As was explained there, "M. S." can legally claim only that proportion of his subscription which was expended in ways which would render the expenditure allowable for income tax purposes. One practical suggestion is that that proportion would include at least the probable cost of all professional literature supplied gratis, but the only real proof lies in production of the accounts of the association or society showing the total receipts and expenditure—a procedure which may not always be practicable.

LETTERS, NOTES, ETC.

DIAGNOSTIC SHOULDER STRAPS.

MR. M. C. WALSHE (Manager, Mental Nurses Association, 8, Hinde Street, Manchester Square, W.1) writes to call attention to the significance of certain proposals of the Registration Committee of the General Nursing Council. This Committee has suggested that there should be distinctive letters, to be worn on shoulder straps, for all nurses on the general and supplementary parts of the Nursing Register, such as R.M.N. (registered mental nurse) and R.F.N. (registered fever nurse). This correspondent suggests that as soon as the meaning of these symbols becomes generally known a patient recovering from an acute infective fever, who seeks a health re ort accompanied by his nurse, will have the nature of his recent malady revealed to the unsympathetic eyes of the hotel keeper and the other guests, while patients suffering from ailments of a mental or nervous kind will, when accompanied by a uniformed nurse, suffer a like disadvantage. We understand, however, that at the last meeting of the General Nursing Council for England and Wales the question of the distinctive letters to be adopted was referred back to the Registration Committee, so that the whole matter is still under consideration.

MEDICAL GOLFING SOCIETY.

THE summer meeting of the Medical Golfing Society was held on June 8th at Stoke Poges. The meeting was most successful, largely due to the excellent arrangements made and the splendid condition of the course. There were about eighty entries, and the results were as follows:

The *Lancet* Challenge Cup: H. Gillies and P. Kolesar, tied at five up. The Henry Morris Cup and Gold Medal: H. Gillies and P. Kolesar, tied at five up.

Class I.—First and second prizes: H. Gillies and P. Kolesar tied at five up. Best last nine holes: R. H. J. Swan, four up.

Class II.—First prize: W. Jagger, three up. Second prize: H. Davies, two up. Best last nine: A. Eddowes and P. Coffey, one down.

Foursomes.—First prize: E. Grogono and G. C. Welply, one up. Second prize: G. Dawson and P. Kolesar. Sir R. Cruise and F. D. S. Jackson tied at all square.

A FLEA TRAP.

WE find in *La Chronique Médicale* for June an account of a flea trap devised by a French army medical officer. It is only applicable to a barely furnished room, since fleas will not be induced by it to leave comfortable quarters in cushions or rugs. A plate is placed on the floor and some oil poured into it. In order to save the oil water may first be put in the plate and the oil floated on it; then a nightlight is placed in the centre of the oil and lighted. The room must be otherwise completely dark, whereupon, it is said, fleas will be attracted by the flame, and jumping to reach it will fall into the oil and die. In this way, the medical officer from whom we are quoting states, he has caught as many as 500 fleas in a night.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 26, 27, 30, 31, and 32 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 28 and 29.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at pages *255* and *256*.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£ s. d.
Six lines and under	0 9 0
Each additional line	0 1 6
Whole single column (three columns to page) ...	7 10 0
Half single column	3 15 0
Half page	10 0 0
Whole page	20 0 0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Tuesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

BR Nat. Hist.

THE

British Medical Journal.

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

SUPPLEMENT

CONTAINING

CURRENT NOTES ON THE WORK OF THE ASSOCIATION

REPORTS OF CONFERENCES

MEETINGS OF BRANCHES AND DIVISIONS

THE GENERAL MEDICAL COUNCIL

MEDICAL BILLS IN PARLIAMENT

NATIONAL INSURANCE PROCEEDINGS

NAVAL AND MILITARY APPOINTMENTS

CORRESPONDENCE, ETC.

VOLUME I, 1922.

London:

PRINTED AND PUBLISHED AT THE OFFICE OF THE BRITISH MEDICAL ASSOCIATION,
429, STRAND, W.C.

INDEX TO SUPPLEMENT FOR VOLUME I, 1922.

A.

Africa, East: Medical Services, 29, 244, 245—A grievance of, 244—Reduction of local allowance (correspondence with the Colonial Office), 245
Air Force Medical Service, Royal: 7, 16, 56, 63, 68, 96, 104, 108, 123, 179, 199, 227, 255
ALLBUTT, Sir Clifford: Gold Medal of the Association presented to, 49
Approved societies. *See* Insurance
Army, British: Army Medical Service 7, 12, 16, 19, 27, 35, 43, 56, 68
Army, British: Channel Islands Militia, 63
Army, British: Militia, 63, 75, 84, 104, 124, 219, 255
Army, British: Regular Army Reserve of Officers, 12, 19, 75, 104, 108, 124, 179, 199, 255
Army, British: Royal Army Medical Corps, 7, 12, 16, 19, 27, 35, 56, 63, 68, 75, 83, 96, 104, 108, 123, 179, 184, 199, 219, 227, 231, 255—Pay of majors, 58, 61
Army, British: Sanitary Service, 44
Army, British: Special Reserve of Officers, 7, 16, 27, 63, 76, 84, 124 199
Army, British: Territorial Army: D.A.D.M.S., 77, 202—A breach of faith, 77—Royal Army Medical Corps, 8, 16, 20 27, 36, 43, 56 63, 68, 76, 84, 96, 104, 108, 124, 179, 199, 219, 231, 255
Army, British: Territorial Force Reserve, 8, 20, 28, 36 84, 104, 108, 124, 180, 199, 219, 255
Army, British: Yeomanry, 108
Assam Branch: Annual meeting, 175—Election of officers, 175—Duodenal deficiencies, 175—A plea for supplementary systematic teaching of the subordinate medical staff, 175—Formol-gel test for kala azar, 175—Formol-gel test for diagnosis of syphilis, 175
Association, British Medical: Annual Meeting, Glasgow, 1922, 1, 13, 21, 29, 39, 57, 59, 105, 122, 173, 181, 201, 203, 249—Programme, 39, 59, 173, 203, 249—Hotel accommodation, 105, 122, 209—Sports section, 172, 209—Annual exhibition, 201—Sections, 203—Time table, 206—Notification of attendance, 207—Pathological museum, 208—Sports, arrangements for ladies, 209—Conference of secretaries, 229—International bowling match, 229—Day excursions, 245
Association, British Medical: Annual Meeting at Newcastle, 1921, 37—Dinner to Mr. R. J. Willan and Dr. George Hall, 37
Association, British Medical: Annual Meetings, 201
Association, British Medical: Annual reports of Branches and Divisions for 1921, 101
Association, British Medical: Annual Representative Meeting:—Notices of motion, 114, 193, —Provisional agenda, 168
Association, British Medical: Constitution and machinery of, 9
Association, British Medical: Proceedings of Council, 49, 73, 165, 210—Annual report of Council and balance sheet, 125 et seq.—Supplementary report of Council, 202, 233—Election of Council, 210
Association, British Medical: Lectures, 1
Association, British Medical: Lending library, 77
Association, British Medical: Open letter to non-members, 211
Association, British Medical: Oversea Branches at work, 21
Association, British Medical: Scholarships and grants in aid of scientific research, 95, 122, 176, 224
Australia: Plague in, 2, 58—Hospitals policy in Western Australia, 58—War memorial of New South Wales Branch, 58

B.

BADGER, Dr.: Medical aspects of school attendance, 247
Bandages, crêpe, cost of, 67
BANNISTER, J. Bright: Puerperal eclampsia and Caesarean section, 60
BARCLAY, J. Hamilton: Acute intestinal obstruction, 163
Barnstaple Division: Future meetings, 18—Post-graduate courses, 18—Tea, 18—Model rules of organization, 81—Hospital policy, 82—Placenta praevia, 82
BEDDARD, A. P.: Chronic arthritis, 40
Bedford Division: General meeting, 32—*Re* payment for medical certificates for children attending elementary schools, 32—Diagnosis of gastric ulcer (Bryden Glendining), 32
Bedfordshire Local Medical and Panel Committee: Approved societies, 197—Dispensing fee for certain drugs, 197—Range of service, 197
BEGG, A. Clarke: Peptone treatment of asthma, 176
BELL, Robert, disciplinary case of, 213
BENJAFIELD, J. A.: Vaccine therapy especially in relation to rheumatoid arthritis, 248
BENSON P. L.: Insurance medical remuneration, 254
Birmingham Panel Committee, communications, 123
Blackburn: Seven medical men on its town council, 3
Blackpool Division: Annual meeting, 248—Election of officers, 248—Joint meeting with Isle of Man Division, 248—Representative on Representative Body, 248—Annual report of Council, 248
Bradford Division: Annual dinner, 107—The modern treatment of syphilis, 176—Vote of thanks, 176
BRAMWELL, Edwin: Psycho-analysis and psycho-therapy in relation to medical practice, 10, 32
BRISTOWE, Hubert C.: Insurance r muneration in rural practice, 19
British Guiana Branch: Quarterly meeting, 120—Election of officers, 120—Dinner, 120—Clinical meeting, 120—Representatives in the Representative Body, 120—Abdominal filariasis treated with mixed vaccine, 121—Severe case of algid type of malaria, 121—Gumma simulating liver abscess, 121—Liver abscess treated by operation and emetine: recovery, 115—Obstructed hernia, 121—Morris's atropine test for the enteric fevers, 121—Widal test (naked eye) by Dreyer's method, 121—Rosso's methylene-blue test, 121
British Medical Association. *See* Association
Buckinghamshire Division: Fees for lectures to voluntary aid detachments, 121—Wood-Hill Fund, 121—Modern treatment of fractures, 121—Vaccine therapy, especially in relation to rheumatoid arthritis, 248—Representative in Representative Body, 248—Annual report of Council, 248
Bury Division: General meeting, 194—Wood-Hill Fund, 194

C.

Cancer of uterus: Appeal to midwives and nurses in order to promote early recognition of, 61
Central Division: Annual meeting, 194—Election of officers, 194—Annual report, 194—Full-time medical officers, 194
Channel Islands Division: Annual meeting 196—Election of officers, 196
Cheshire (Mid-) Division: Report of Executive Committee, 32—Dangerous Drugs Regulations, 32—Proposed federation scheme of the British Medical Association, 32—Policy and outlook in regard to the tuberculosis problem in Cheshire, 32
Cheshire Local Medical and Panel Committee: Minutes, 197
Chesterfield Division: Post graduate classes, 17—Annual dinner, 60—Address by the Medical Secretary, 60—Representative in Representative Body, 121—Voluntary Hospitals Report, 121
City Division: Divisional dinner-dance, 32, 103—Diagnosis and treatment of certain fractures of the extremities, 60—Election of Representatives, 121—Exhibition of pathological specimens by T. H. G. Shore, 121—Report on Organization of Voluntary Hospitals, 121—Sussex Hospital Scheme, 121—National Insurance Bill, 121—Pensions Medical Boards reduction, 121—Wood-Hill Fund, 121
Civil servants and national insurance, 77
CLEMENSON, F. T.: Nasal obstruction in children, 107
Cleveland Division: Annual dinner, 32—Medical Representation in Parliament Fund, 107—Wood-Hill Fund, 107—The endocrine glands and their interrelationship, 107—Report of Executive Committee on the year's work, 196
Cleveland and Stockton Divisions: Combined meeting, 14—Address by the Medical Secretary, 14
Club, Glasgow Medical Lunch, 3—Address by Scottish Medical Secretary, 114
Colliery surgeons in Fife, 2
Compliment to the Past Chairman of Representative Meetings 197
Conference, Special Panel. *See* Panel
Constipation, causes and treatment of (Arthur F. Hurst) 248
Cornwall, West, Division: Clayden *v.* Wood-Hill, 3—Some fallacies in connexion with the diagnosis and treatment of pulmonary tuberculosis, 3—Tea, 3—Present system of joint business and clinical meetings to continue, 103—Addresses on diathermy, 103 Organization of voluntary hospitals, 121

Correspondence:
Cost of crêpe bandages, 67
Doctors and income tax, 62
Fees and panel patients, 6
Hospitals and the National Provident Scheme, 6
Insurance correspondence. *See* under Insurance
Kynaston, Mr., and the Central Ethical Committee, 255
School medical service, functions of, 67. *See also* Journal index

COUNCIL, GENERAL MEDICAL:
Dental curriculum, 223
Diplomas in public health, 222
Disciplinary cases, 213, 224
Election of committees, 218
Executive Committee's spring meeting, 82
Finance of the Council, 211
President's address, 198
Professional examinations, 212, 221
Restoration to *Register*, 224
Results of qualifying examinations, 223
Revision of the curriculum in medicine, 211
Standing orders, revised, 223

Coventry Division: Annual meeting, 231—Election of officers, 231—Vote of thanks, 231—Annual report of Council, 231
Coventry Local Medical and Panel Committee: New medical certification rules, 7—Prescribed appliances additions to, 7—National Insurance Defence Trust, 67—Provision for insured persons of nursing, hospital, dental, and ophthalmic treatment, 67—Query *re* autogenous vaccine supply, 68
Cox, Alfred: Harley Street and the British Medical Association, 69
Crêpe bandages. *See* Bandages
Crewe, medical inspection of school children at, 172
CROSSMAN, Frank W.: The dispensing capitation fee, 7
Croydon Division: General meeting, 3—Notes of condolence, 3, 60—Address on some skin diseases, — Puerperal eclampsia and Caesarean section, 60—Nasal obstruction in children, 107—Annual meeting, 176—Election of officers, 176—Exhibition of cases, 176

Current Notes:
Annual exhibition, 201
Annual Meeting, Glasgow, 1922, 1, 13, 21, 29, 59, 105, 172, 181, 201—Provisional programme, 59—Hotel accommodation, 105—Sports sections, 172
Annual meetings, 201
Annual reports of Divisions and Branches for 1921, 101
Approved societies and medical benefit, 101, 162
British Medical Association lectures, 1
Bowling match (International) at the Glasgow meeting, 229
Cheshire minutes, 197
Chesterfield Division: Post-graduate courses, 17
Civil servants and national insurance, 77
Clerical and travelling expenses of medical officers of health, 3, 65
Compliment to Past Chairman of Representative Meetings, 197
Conference of representatives of medical staffs of voluntary hospitals, 73

Current Notes (*continued*):
Constitution and machinery of the Association, 9
D.A.D.s M.S. Territorial Force, 77, 202—A breach of faith, 77
Day excursions at the Glasgow Annual Meeting, 245
East African medical services, 29, 244
Ebbw Vale Workmen's Medical Society, 113, 162, 172, 181, 202, 229
EPITOME, 202
Expenditure and income statistics, 9, 58, 106, 197
Fee for notification of infectious diseases, 37, 59
Fees for attendance on soldiers on leave or furlough, 172, 229
Fees for examination of emigrants, 172, 224, 245
Fees, medical, for attendance at maternity and other centres in Scotland, 37
Fees for members of pension boards, 101
Fife colliery surgeons. 2
Fifteen per cent. commission, 1
Glasgow Medical Lunch Club, 3
Harris, R. W., retirement of, from the Ministry of Health, 29
Hawick Maternity and Child Welfare Centre, 93
Hospital policy, 59—Conference in London, 59, 65—Change of place of meeting, 65
Hospital policy in Western Australia, 58
Indexes, half-yearly, 3.
Inquests, payment of travelling expenses in connexion with, 10
Insurance Acts Committee: Dispensing capitation fee, 244
Insurance Bill. 202
Insurance certificate books, 65
Insurance Defence Trust, the National, 22
Insurance: Expenditure and income statistics, 9, 58, 106, 197
Insurance, national, and the Geddes cuts, 73
Insurance pharmacy terms for 1922, 105
Insurance work statistics, 14, 58, 106, 197
Joint action 2
Journal Committee, 202
Kynaston, Dr., and the Central Ethical Committee, 224
Lending Library, 77, 172, 202
Local Pensions Committees, 92
Medical family, a, 58
Medical fees. *See* Fees
Medical inspection of school children at Crewe, 172
Medical men in public life, 3
Medical officer of health for Manchester, 13, 17, 30, 101, 105
Medical officer of health for Stafford. 181
Medical Representation in Parliament Fund, 17
Medical Secretary's tour of the South-Western Branch, 114
Middlemore Prize, 1
Ministry of Pensions medical officers, 65
Newcastle meeting, 37—Dinner to Mr. R. J. Willan and Dr. George Hall, 37
New South Wales Branch war memorial, 58
Ophthalmic benefit, 2
Oversea Branches at work, 21
Panel Conference, Special, 113
Pay of I.M.S. officers in civil employ, 37
Pay of I.M.S. officers, temporary, 77
Pay of Majors R.A.M.C., 58
Plague in Australia, 2, 58
Professional organization, 13
Professional secrecy, 9
Public health officers, exploiting of, Milton and Sittingbourne 229
Remuneration of public health officers, 21
Scholarships and grants in aid of scientific research, 224
Scottish Medical Secretary, address by, 114
Scunthorpe and Frodingham M.O.H., 245
Secretaries' Conference at Glasgow, 229
Stewart Prize, 29
SUPPLEMENT, 202
Supplementary Report of Council, 202
Tasmanian Branch and its struggle with the Government, 2
Travelling allowances to medical witnesses at inquests, 114
Willesden Advisory Medical Committee, 114, 162
Willesden health policy, 22
Willesden municipal elections, 101
Workmen's "schemes" in Glamorganshire and Monmouthshire, 92

D.

Darlington Division: Annual dinner, 10—Discussion on the Report on Organization of Voluntary Hospitals, 81—Expenses of Representative at Representative Meeting, 81—Communications received, 121—Cost of medical benefit, 121—Conference of Panel Committees, 121—Incidental Expenses Fund, 121
DAVIES, Ivor: Cerebellar tumour, 176
Denbigh and Flint Division: Resuscitation of 195—Election of officers, 195—Model rules. 195
Dental Board of the United Kingdom: Regulations, 19, 67—Dental registration, 67—Second session, 183—Chairman's address, 183—Position of ex-service men, 183—Disciplinary cases, 183
Derby Division: Election of officers, 195—Proposed reduction of fees in New Mills and district, 195
Devon North (Barnstaple) Division: Meeting of practitioners of the district, 195—Address by the Medical Secretary, 195 - Annual meeting, 196—Election of officers, 196—Votes of thanks, 196
Doctors and income tax, 62. *See also* Income
Dorset, West, Division: What disability is caused by, and what treatment is required for, uterine displacement? 60—Approved societies and medical benefit, 163—Wood-Hill Fund, 163
Dorset and West Hants Branch: Annual meeting, 194—President's address on sleep and sleeplessness, 194—Travelling allowances and coroners' inquests, 194—Tea, 194
DRURY, Garforth: Insurance dispensing fee, 26
Dundee Panel Committee: Retirement of and presentation to Dr. C. S. Young, 15

E.

East Africa. *See* Africa
EASTHAM, T.: Medical men and their legal difficulties, 60—Medico-legal difficulties, 181
Ebbw Vale Workmen's Medical Society, 113, 162, 172, 181, 202, 229
Education authorities and school medical service, 38, 53. *See also* School
ELMSLIE, R. C: Diagnosis and treatment of certain fractures of the extremities, 60
EPITOME, note on, 202
ESKELL, Bertie Cecil, name to be restored to the *Medical Register*, 224
Essex, Mid-, Division: Election of officers, 65
Exeter Division: Organization of voluntary hospitals, 121
Expenditure and income statistics, 9, 58

F.

FAIRBAIRN, J. S.: What disability is caused by and what treatment is required for uterine displacement? 60
Fee for notification of infectious diseases, 37, 59
Fees for attendance on soldiers on leave or furlough, 172, 229
Fees for examination of emigrants, 172, 224, 245
Fees for medical attendance at maternity and other centres in Scotland, 37
Fees for members of pension boards, 101
Fife Branch: Colliery surgeons, 2
Fife colliery surgeons. *See* Colliery
Fifteen per cent. commission, 1
FLEMMING, Charles E. S.: The maintenance of our hospitals, 177
FOSTER, Dr.: Formol-gel test for kala azar, 175
FOX, Adam: The profession and approved societies, 123
France: Insurance Bill, 83

G.

GARSTANG, T. W. H.: Proposed federation scheme of the British Medical Association, 32
Gateshead Division: Annual meeting, 195—Election of officers, 195—Annual report of executive committee, 195
Geddes cuts and national insurance, 73
Geddes report on national expenditure, 40, 61. *See also* Journal Index
General Medical Council. *See* Council
GEOFFRION, Joseph Ulric, disciplinary case of, 224
German health insurance statistics, 123
GIBSON, J. H.: Cost of crêpe bandages, 67
Glamorganshire, workmen's "schemes" in, 92
Glasgow Eastern Division: Model organization rules, 175—Report of Council, 175—Resolutions for transmission to Annual Representative Meeting, 175
Glasgow Medical Lunch Club, 3, 114
GLENDINING, Bryden: Diagnosis of gastric ulcer, 32
Gloucestershire Panel and Local Medical Committee, views of on medical record cards, 11
GOVER, Frederick Percy Richard, disciplinary case of, 224
GRANT, Geary: Sarcoma of tibia in a haemophilic successfully removed, 176—Patient after operation for talipes equino-valgus, 176
GRAY, A. M. H.: Some skin diseases, 3

H.

Haemorrhage, early concealed accidental (Maslin Jones), 247
HALL, D. G.: Early diagnosis of nervous diseases, 103
HALL, George, dinner to, 37
Harley Street and the British Medical Association (Alfred Cox), 69
HARRIS, R. W., retirement of. 30
HARRISON, Colonel L. W.: The modern treatment of syphilis, 176
Harrogate Division: General meeting, 163—Election of officers, 163—Special meeting, 226—Election of Representative, 226—Annual Report of Council, 226
Harrow Division: Annual meeting, 231—Election of officers, 231
Hastings Division: Organization of voluntary hospitals, 82—Wood-Hill Fund, 82—Hydronephrotic kidney due to tuberculosis, 82—Albuminuria in relation to pregnancy, 82—Dinner, 196—Annual meeting, 196—Election of officers, 196—Votes of thanks, 196—Fees for dental anaesthetics, 196
Hawick Maternity and Child Welfare Centre, 93
HEDLEY, Arthur S.: The mileage "cut," 27
HENNESSY, Thomas: Organization of the medical profession in Ireland, 109
HERMITTE, Dr.: A plea for supplementary systematic teaching of the subordinate medical staff (Assam), 175
Hertfordshire, East, Division: Annual meeting, 248—Election of officers, 248—Report of Council, 248—Hospital policy of the Association, 248
Hertfordshire, West, Division: Appointment of Representative, 107—Organization of voluntary hospitals, 107
Horsham Division: Election of officers, 248—Wood-Hill Fund, 248—Hospital policy of the Association, 248—Reduction of fees, 248
Hospital policy, 57, 65, 225—Conference in London, 57, 65 - Change of place of meeting, 65—Of the Association, 225
Hospital policy in Western Australia, 58
Hospital, Royal Northern, Holloway, annual council of governors, 103—Hospitals and approved societies, 103
Hospitals and approved societies. 103
Hospitals, maintenauce of (Charles E. S. Flemming), 177
Hospitals and municipal clinics, conference of committees of the Association, 79. *See also* Municipal
Hospitals and the National Provident Scheme. 6
Hospitals, voluntary, organization of: Report of Council to the Divisions and Representative Body, 25—Conference of representatives of medical staffs of, 73, 85—Report of the hospitals policy of the Association, 85—The voluntary hospital system, 86—Sources of hospital funds, 87—Categories of patients, 88—Private in patients and outside practitioners, 88—Formation of staff funds, 88—Tenure of office of medical staffs, 91—Representation on boards of management, 92—Cottage hospitals, 92—Procedure, 92—Votes of thanks, 92
HOWE, G. H.: Hydronephrotic kidney due to tuberculosis, 82
HOWELL, Alfred: Progressive lenticular degeneration, 176
Huddersfield Division: Annual golf competition, 196
Hull. *See* Kingston-upon-Hull
Hunter, George, his medical family, 58
HURST, Arthur F.: Causes and treatment of constipation, 248
Hyde Division: Resolutions *re* national insurance matters, 195

I.

Income tax, doctors and, 62
Indexes, the half-yearly, 3
Indian Medical Service, 19, 27, 37, 64, 77, 83, 108, 124—Pay of I.M.S. officers in civil employ, 37—Pay of temporary I.M.S. officers, 77
Infant mortality (T. E. White), 182
Inquests: Payment of travelling expenses in connexion with (North Riding of Yorkshire), 10—Current note on, 114
Insurance Acts Committee: Conference with the Ministry on the medical profession and approved societies, 97—Dispensing capitation fee, 244
Insurance Defence Trust, the National, 22

Insurance, National:
The Bill, 202
Administration: Interdepartmental committee appointed, 43
Approved societies and insurance practitioners, 164
Approved societies and medical benefit, 97, 101, 162, 185—And hospitals, 103—Special conference of representatives of local medical and panel committees, 185
Certificate books, 7, 11, 15, 26, 65
Change of address of National Health Insurance Department, 164
Civil servants and, 77

Insurance, National (*continued*):
CORRESPONDENCE:
Dispensing capitation fee, 7, 11, 26
Emergency police calls, 19
Fees and panel patients, 6
Free choice of doctor, 67
Hospital treatment of insured persons, 178
Hospitals and national provident scheme, 6
Insurance remuneration. *See* Remuneration
Mileage "cut," 27
Mileage grant, 15, 62
Ministry of Health and the friendly societies, 107
Payment for panel patients, 95
Profession and approved societies, 123
Public aspects of medical benefit by approved societies, 227
Remuneration, medical, 254
Remuneration in rural practice, 19
Defence Trust, 22
Deputation to the Ministry of Health, 33
Dispensing capitation fee, 11
Expenditure and income statistics, 9, 58, 106, 197
Finance, 15
French Insurance Bill 83
And the Geddes cuts, 73
Holiday deputies, London scheme for, 178
Hospitals and approved societies, 103
Insurance Bill. *See* Bill
Medical record cards, 11—Views of the Gloucestershire Panel and Local Medical Committee, 11
Mileage grant: Circular from the Ministry of Health, 24
Panel conference, special, 113
Pharmacy terms for 1922, 105
Range of medical service (case before Court of Referees), 63
Sick insurance in Norway, 83
Statistics as to insurance work, 13, 58, 106, 197
Tardy transfers, 83
Workmen's "schemes" in Glamorganshire and Monmouthshire, 92

Insurance practitioners and approved societies, 164. *See also* Insurance
Insurance statistics, German health, 123
Intestinal obstruction, acute (J Hamilton Barclay), 163
Inverness Division: School medical inspection, 195—Annual Report of Council, 195—Election of Representative, 195—Reduction of parliamentary grant to universities, 195
Ireland: Organization of the medical profession in (Thomas Hennessy), 109

J.

Joint action, 2
JOLL, C. A: Modern treatment of fractures, 121
JONES, Maslin: Early concealed accidental haemorrhage, 247
Journal Committee, 202

K.

Kensington Division: Vote of congratulation to Willesden Division, 107—Reduction of pensions fees, 107—Report on the organization of voluntary hospitals, 107
Kent Branch: Annual meeting, 247—Election of officers, 247—President's address, 247
Kingston-upon-Hull Local Medical and Panel Committee: Correspondence *re* approved societies, 123
KYNASTON, John William: Disciplinary case of, 215—And the Central Ethical Committee, 224, 255

L.

Lambeth Division: Injuries to the elbow and their treatment, 176
Lancaster Division: Medical men and their legal difficulties, 60
Lancashire and Cheshire Branch: Annual report of Branch Council, 248—The year's record, 248
Lancashire County Local Medical and Panel Committees: Resolutions *re* a Royal Commission to inquire into the National Health Insurance Acts, 179—Consolidation of all national health insurance under one State-controlled body, 179—Extension of the system of deposit contributors, 179
Leeds Division: Gastro-intestinal movements in health, 231—Movements of the alimentary tract as observed by opaque feeding and *x* rays, 231—Administration of anaesthetics, 231—Exhibition of specimens, 231
Leicester Public Medical Service: Report of Board of Management, 43—Report of the Committee of the Leicester Subdivision of the Union of Medical Practitioners, 43
Leicestershire Insurance Committee and Leicestershire Panel Committee: Case before Court of Referees *re* range of insurance medical service, 63
LEWIS, Percy G.: Nervous exhaustion, 247
Lewisham Division: Address by Assistant Medical Secretary, 3—Address on developments in the insurance medical service, 23—Report of Council on revision of the Constitution of the Association, 81—Division of the Division, 81—Organization of voluntary hospitals, 103—Election of Representative, 103—Infant mortality, 176, 182—Annual meeting, 218—Election of officers, 218
LIGAT, Mr.: Hydronephrotic kidney due to tuberculosis, 82
London Insurance Committee: Administration of medical benefit, 7—Distribution scheme: anaesthetics, 7—Names on prescription forms, 26—Change of doctor, 26—Frivolous certification, 26—Range of medical service, 95—Charges to insured patients, 95
London Local Medical and Panel Committee: Expenditure, 7—Records of attendance, 7, 67—Alleged canvassing, 7—Prescribing in partnership, 26—Complaints by insured persons, 26—Employment of permanent assistants, 26—Willesden health policy, 26—Post-graduate course in general medicine, 63—Limitation of lists, 67—Dispensing of prescriptions, 67—Medical records, 67—"Selection" of insurance practitioners, 67—The profession and the approved societies, 95—Transfer of practices, 95—Pensions and holidays, 95—Deputation to House of Commons, 95
London scheme for holiday deputies, 178
Lothians Division: Annual meeting, 194—Appointment of Representative, 194—Fees for locumtenents, 194—Professional fees, 194

M.

MACAULAY, John C.: The mileage grant, 62
Malaya Branch: Annual meeting, 94—President's address, 94—Annual dinner, 94—History of the Branch, 94—Election of officers, 94
Manchester M.O.H. *See* Medical officer of health
Marylebone Division: "Harley Street and the British Medical Association," 75—Non-Panel Committee of the Association, 163—Nominations to Central Council, 163
Medical aspects of school attendance (Dr. Badger), 247
Medical family, 58
Medical inspection of school children. *See* School
Medical men in public life, 3
Medical officer of health for Manchester, 13, 17, 30, 101, 105
Medical officer of health for Scunthorpe and Frodingham, 245
Medical officer of health for Stafford, 181
Medical officers of health, clerical and travelling expenses of, 3, 65
Medical profession and approved societies, 97. *See also* Insurance Acts Committee
Medical profession in Ireland, organization of (Thomas Hennessy), 109
Medical Representation in Parliament Fund, 17
Medical witnesses at inquests. *See* Inquests
Medico-legal difficulties (T. Eastham), 181
MELROSE, Dr.: Diathermy, 103
Mesopotamian Branch: Meeting at Baghdad, 18—Demonstration on the methods of isolating the Negri bodies from the brains of rabid animals, 18
Middlemore Prize, 1
Middlesex, South, Division: Reduction of medical fees, 163
Monmouthshire, workmen's "schemes" in, 92
MORRIS, J. M.: The encroachment of the public medical officer upon the field of clinical medicine, 176
Motor taxation, 6
MOTT, Sir Frederick: The reproductive organs in relation to mental disease, 75
Municipal Clinics and Hospitals, Conference of Committees of the Association, 79. *See also* Hospitals
MURRAY, Professor: Hyperthyroidism and its treatment, 176
MUSPRATT, Percy K.: Free choice of doctor, 67

N.

Naval Medical Service, Royal, 7, 12, 16, 19, 27, 35, 43, 56, 63, 68, 75, 83, 96, 104, 108, 123, 179, 184, 199, 219, 227, 231, 255
Naval Medical Service, Royal: Royal Naval Volunteer Reserve, 63, 83, 96, 179, 227, 231
Nervous exhaustion (Percy G. Lewis), 247
New South Wales Branch: War memorial, 58
Norfolk Branch: Address by the Medical Secretary, 163—Vote of thanks, 163—Tea, 163
Northamptonshire Division: Election of Representative, 107—Hospital policy, 107—Tari patients, 107
North Devon. *See* Devon
Northern Counties of Scotland Branch: Psychoanalysis and psychotherapy in relation to medical practice, 10
Norway, sick insurance in, 83

O.

Ophthalmic benefit, 2
Orthopaedic clinic (Suffolk), 82

P.

Paget's disease (Dr. Sheldon), 247
Panel Conference, special, 113, 185
PATTERSON, Wells: The endocrine glands and their inter-relationship, 107
Pensions boards medical officers: Deputation to Minister of Pensions, 218
Pensions committees, local, 92
Pensions Ministry, medical officers of, 65
PERKINS, Philip M.: Doctors and income tax, 62
Perth Branch: Medical benefit and approved societies, 121
PEYTON, Dr.: Policy and outlook in regard to the tuberculosis problem in Cheshire, 32
Plague in Australia, 2, 58
Plymouth Division: Address by the Medical Secretary, 176
Portsmouth Division: *Re* applications for an honorary consulting staff to the workhouse infirmary, 40—Chronic arthritis, 40—Supper, 40
Post Office medical officers and the British Medical Association, 78
Presentations, 15, 37
Professional organization, 13
Professional secrecy, 9
Psycho-analysis and psychotherapy in relation to medical practice (Edwin Bramwell), 10
Public health officers, exploiting of, Milton and Sittingbourne, 229
Public health officers, remuneration of, 21

Q.

Queensland Branch: Annual Report of Council, 23—Meetings, 23—Council work, 23—Plague, 23—Museum, 23

R.

RAPER, Professor: Gastro-intestinal movements in health, 231
Reading Division: General meeting, 218—Appointment of Representatives at Annual Meeting, 218
REED, Thomas: Albuminuria in relation to pregnancy, 103
REES, Ferdinand: Hospitals and the National Provident Scheme, 6
Reproductive organs in relation to mental disease (Sir Frederick Mott), 75
Rochdale Division: Organization of voluntary hospitals, 103—Wood-Hill Fund, 103—Annual meeting, 121—Election of officers, 121—Model rules, 121—Medico-legal difficulties, 181—Vote of thanks, 182
ROWDEN, Dr.: Movements of the alimentary tract as observed by opaque feeding and *x* rays, 231
ROWLING, S. T.: Administration of anaesthetics, 231
RYAN, William Joseph, disciplinary case of, 224

S.

St. Helens Division: Annual meeting, 195—Election of officers, 195—Relation of the medical profession to approved societies, 195
Safeguarding of Industries Act, 1921: Joint action by the National Union of Scientific Workers and the British Medical Association, 2
Sanitary Officers Order, 1922, 103

Scarborough Division: Election of officers, 10—Dinner, 10—Manchester M.O.H.'s salary, 32—The clinical application of vaccines and serums, 66—Instructions to Representative, 248—Panel conference, 248
School children, medical inspection of, at Crewe, 172
School medical service, education authorities and, deputation to Minister of Health, 38, 53
School medical service functions of, 67
Scottish Committee: Fees for attendance at maternity and child welfare clinics, 30—Membership of the Association in Scotland, 31—Existing public provision of medical services, 31—Medical examination of railway employees, 31—Election of Direct Representatives, 1922–23, 210, 227
Scottish Medical Secretary, address by, 114
Scunthorpe and Frodingham M.O.H , 245
SHEEN, A. W : Large pigmented papilloma of abdomen, 176—Osteo-chondritis deformans, 176—Acromegaly with bitemporal hemianopsia, 176—Case after colopexy, 176—Charcot's disease of both ankles, 176
Sheffield Division: General meeting to consider the question of hospital policy, 103—Annual meeting, 226—Election of officers, 226—Report of committee, 226
SHELDON, Dr.: Paget's disease, 247
SHORE, T. H. G.: Exhibition of pathological specimens, 121
Sleep and sleeplessness (W. Johnson Smyth), 194
SMITH, Alwyn: Treatment of fractures, 176
SMYTH, W. Johnson: Sleep and sleeplessness, 194
SMYTHE, Dr.: Formol-gel test as applied to the diagnosis of syphilis, 175
South African Committee: The referendum, 31—Remuneration of medical men in Government employ, 31 — Customs dues on laboratory apparatus, 31—Addington Hospital, 31—Provincial tax on medical practitioners, 31—Disciplinary powers, 31—Chartered Society of Massage and Medical Gymnastics, 31—Trained Nurses' Association, 32
South-Eastern Counties Division: Death of Dr. Cullen, 32—Representation in Representative Body, 32—Clayden *v.* Wood-Hill, 32—The scope and limitations of psychotherapy in general practice (Edwin Bramwell), 32—Annual meeting, 175—Election of officers, 175—Instructions to Representative, 175—Policy of the Association, 175
South Wales and Monmouthshire Branch: Clinical meeting, 176—Large pigmented papilloma of the abdomen, 176—Osteo-chondritis deformans, 176—Acromegaly with bitemporal hemianopsia, 176—Case after colopexy, 176—Charcot's disease of both ankles, 176—Sarcoma of tibia in a haemophiliac in which amputation was performed successfully, 176—Patient after operation for talipes equino valgus, 176—Progressive lenticular degeneration, 176—Cerebellar tumour, 176—The encroachment of the public medical officer upon the field of clinical medicine, 176—Work of Johannes Wolaens, 176—Newer applications of chemistry to clinical medicine, 176—Peptone treatment of asthma, 176—Visit to Carreg Cennin Castle, 195—Tea, 195
South-West Wales Division: Treatment of fractures, 176
South-Western Branch: Medical Secretary's tour, 114
Staffordshire Branch: Medical aspects of school attendance, 247—Paget's disease, 247—Early concealed accidental haemorrhage, 247—Fatal post-operative thrombosis and embolism, 247
Staffordshire, South, Division: Address by Deputy Medical Secretary, 10—Terms of service and remuneration, 121—Appointment of Representative, 121, 247—Annual meeting, 247
STARKIE, Richard William, disciplinary case of, 217
STARLING, E. A.: Emergency police calls, 19
STEPHENS, G. Arbour: The work of Johannes Wolaens, 176—Some newer applications of chemistry to clinical medicine, 176
Stewart Prize, 29
Stirling Branch: Annual meeting, 195—Clinical meeting, 195—Tea, 195
Stockton Division: Early diagnosis of nervous diseases, 103—Vote of thanks, 103—Hospital policy, 107 – Scientific meeting, 163 — Acute intestinal obstruction, 163
STOOKES, Dr.: Placenta praevia, 82
Suffolk Branch: Spring meeting, 163—Cancer of the bowel, 163—The biochemistry and treatment of diabetes, 163—Tea, 163
Suffolk, North, Division: Election of Representative, 75—Address by Medical Secretary, 75—Questions relating to the Insurance Act, 75—Dinner, 75
Suffolk, West, Division: Annual meeting, 82—Vaccination fees, 82—Notification fees, 82—National insurance, 82—Annual report of Executive Committee, 82—Election of officers, 82—Modification of rules, 82—Alteration of by-laws, 82—Election of associate member, 82—Orthopaedic clinic, 82—Medical fees for non-insured persons, 82—Division rules, 121—Report on the Organization of Voluntary Hospitals, 121—Reduction of club fees, 121—Golf Challenge Cup, 121
Sunderland Division: Annual meeting, 81—Election of officers, 81
SUPPLEMENT, note on, 202
Surrey Local Medical and Panel Committees: National Insurance Defence Trust, 35—Dispensing capitation fee, 35—Transfer of practices, 35—Communications *re* Geddes reports, 96—Fees, 96—Approved societies, 197
Sussex Branch: Sussex Provident Scheme and Eastbourne hospitals, 94
Sussex, East, Local Medical and Panel Committees: Approved societies, 123—Defence Trust, 123—Method of election of committee, 123
SUTTI, Ian D.: Functions of the school medical service, 67

T.

Tasmanian Branch: Its struggle with the Government, 2
TODD, Alan H.: Injuries to the elbow and their treatment, 176
TODD-WHITE, Arthur T.: Payment for panel patients, 95—The Ministry of Health and the friendly societies, 107
TRAYLEN, C. Leonard: Fees and panel patients, 6
Tynemouth Panel and Local Medical Committee: Provisional agenda of conference, 179—Secrecy of reports, 179

U.

Uterine cancer. *See* Cancer

V.

Vaccine therapy, especially in relation to rheumatoid arthritis (J A. Benjafield), 248
VELLACOTT, H. F.: Diathermy, 103
Voluntary hospitals. *See* Hospitals

W.

Walsall Division: Monthly supper party, 60
Walsall and Lichfield Division: Inaugural meeting, 196—Election of officers, 196
War Office and pay of majors, 61. *See also* Army, British
WARD, Gordon: Hospital treatment of insured persons, 178—Public aspects of control of medical benefit by approved societies, 227
Warwickshire Local Medical and Panel Committee: Resignation and appointments, 75—Dispensing capitation fee, 75—Anaesthetist's fees, 75
WELSH, Robert A.: The dispensing capitation fee, 11
West Bromwich Division: Representative at Representative Meeting, 65—Smethwick members, 65
Westminster Division: Annual meeting, 121—Election of officers, 121—Interstitial glands, 121
Westminster and Holborn Division: Hospitals policy of the Association, 225
WETHERED, Dr.: Some fallacies in connexion with the diagnosis and treatment of pulmonary tuberculosis, 3
WHITE, T. E.: The problem of infant mortality, 176, 182
WILLAN, R. J., dinner and presentation to, 37
Willesden Advisory Medical Committee, 114, 162
Willesden Division: Willesden Urban District Council's health policy, 4, 18, 23, 66, 82, 107—Candidates for the municipal elections, 18, 23—Proposed V.A.D. clinic, 107—Appointment of Representatives, 107
Willesden health policy: Further correspondence between the Willesden Urban District Council and the Willesden Division, 4, 66, 82—Correspondence between the British Medical Association and the Ministry of Health, 14, 22—Medical Advisory Committee, 114, 162
Willesden municipal elections, 101
WILLIAMS-FREEMAN, J. P.: The mileage grant, 15
WILLIAMS, Leonard: Interstitial glands, 121
WILLIS, Edwin Ernest, disciplinary case of, 224
Wiltshire Branch: British Medical Association lecture on causes and treatment of constipation (A. F. Hurst), 248
Worcestershire and Herefordshire Branch: Spring meeting, 176—Hyperthyroidism and its treatment, 176
Workmen's "schemes" in Glamorganshire and Monmouthshire, 92

Y.

Yeomanry. *See* Army, British
York, East, Division: Vote of sympathy, 75—The reproductive organs in relation to mental disease, 75
Yorkshire, North Riding, payment of travelling expenses in connexion with inquests, 10
Yorkshire, West Riding, local medical and panel committee, annual county medical dinner, 179
YOUNG, C. S., presentation to, 15
YOUNG, William, disciplinary case of, 224

Z.

Zanzibar Branch, lantern slides illustrating tropical diseases, 3

Printed and published by the British Medical Association, at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, JANUARY 7TH, 1922.

CONTENTS.

BRITISH MEDICAL ASSOCIATION. PAGE

Current Notes:
B.M.A. Lectures ... 1
Annual Meeting, Glasgow, 1922 ... 1
Middlemore Prize ... 1
Fifteen per Cent. Commission ... 1
Plague in Australia ... 2
The Tasmanian Branch and Its Struggle with the Government ... 2
Joint Action ... 2
Fife Colliery Surgeons ... 2
Ophthalmic Benefit ... 2
Clerical and Travelling Expenses of M.O.H.'s ... 3
Glasgow Medical Lunch Club ... 3
Medical Men in Public Life ... 3
The Half-yearly Indexes ... 3
MEETINGS OF BRANCHES AND DIVISIONS ... 3
Meetings to be held ... 4
Willesden Health Policy ... 4
MOTOR TAXATION ... 6
CORRESPONDENCE:
Hospitals and the National Provident Scheme ... 6
Fees and Panel Patients ... 6
The Dispensing Capitation Fee ... 7
INSURANCE:
Certificate Books ... 7
Local Medical and Panel Committees ... 7
London Insurance Committee ... 7
NAVAL AND MILITARY APPOINTMENTS ... 7
ASSOCIATION INTELLIGENCE AND DIARY ... 8
DIARY OF SOCIETIES AND LECTURES ... 8
APPOINTMENTS ... 8
BIRTHS, MARRIAGES, AND DEATHS ... 8

British Medical Association.

CURRENT NOTES.

B.M.A. Lectures.

During the past year a considerable number of Divisions and Branches availed themselves of the facilities afforded by the Council for British Medical Association lectures, and there is ample evidence that these lectures have been much appreciated. The Council is allocating a sum of £400 out of the ordinary funds of the Association for the provision of these lectures during the present year.

Annual Meeting, Glasgow, 1922.

We publish in the Journal this week an illustrated article on the University of Glasgow, being the second of a series of descriptive and historical articles on Glasgow, which it is hoped will prove of interest to members of the British Medical Association proposing to attend the Annual Meeting next summer. The introductory article appeared in the Journal of December 3rd, 1921. Subsequent articles will include descriptions of the Glasgow Medical School and of the medical institutions of Glasgow. As already announced, the Annual Representative Meeting will begin on Friday, July 21st, and Sir William Macewen, Professor of Surgery in the University, will deliver his presidential address on the evening of Tuesday, July 25th. The sectional meetings for scientific and clinical work will be held, as usual, on the three following days, the mornings being set apart for discussions and the afternoons for clinical and laboratory demonstrations. The sections this year will be 19 in number; of these, 5 will meet on three days, 6 on two days, and the remaining 8 on one day each.

The names of the officers of sections will be published in due course; in the meantime acceptances of the office of President have been received as follows:

Three Day Sections: Medicine, Professor T. K. Munro (Glasgow); Surgery, Professor Alexis Thomson (Edinburgh); Pathology, Professor Robert Muir (Glasgow); Ophthalmology, Mr. A. S. Percival (Newcastle-on-Tyne); Neurology and Psychological Medicine, Dr. George M. Robertson (Edinburgh).

Two Day Sections: Obstetrics and Gynaecology, Professor Ewen J. Maclean (Cardiff); Microbiology (including Bacteriology), Dr. R. M. Buchanan (Glasgow); Diseases of Children, Sir Herbert F. Waterhouse (London); Public Health, Dr. A. K. Chalmers (Glasgow); Physiology, Professor J. A. McWilliam (Aberdeen); Dermatology, Dr. Leslie Roberts (Liverpool).

Single Day Sections: Laryngology, Dr. John McIntyre (Glasgow); Otology, Dr. A. A. Gray (Glasgow); Medical Sociology, Dr. E. R. Fothergill (Brighton); Industrial Diseases and Forensic Medicine, Professor John Glaister (Glasgow); Anaesthetics, Dr. W. J. McCardie (Birmingham); Anatomy, Professor Alexander Macphail (London).

The Local Honorary Secretary of the Annual Meeting is Dr. G. A. Allan, 22, Sandyford Place, Glasgow.

Middlemore Prize.

The Council of the British Medical Association at its meeting on December 14th, 1921, decided to award the Middlemore Prize in 1923 to "that person who is adjudged to have submitted to the Association the best contribution on any ophthalmological subject, whether previously published or not, provided that the contribution shall not have been published or prepared more than three years prior to the date on which applications are receivable in competition for the prize." An advertisement giving full particulars will appear in an early issue of the Journal.

Fifteen Per Cent. Commission.

A member of the British Medical Association practising in South Wales sends us a letter addressed to him by the Chairman of the Sea Bank Hotel and Hydro Limited, a company with offices in Cardiff. The letter, which is dated December 16th, 1921, runs as follows:

Winter Recuperation at Porthcawl.

Dear Sir,

In view of the beneficial qualities of the air at Porthcawl (mild, yet bracing), it is proposed to give special attention to persons seeking a rest and change during or after convalescence, and the directors of the above hotel will be glad to know whether they can look to your co-operation in this matter.

I should be grateful, therefore, if you could see your way to recommend Sea Bank Hotel to any of your patients, in which event there would be payable to you a commission of 15 per cent. on the terms charged.

It is intended, should there be sufficient support for this proposal, to engage a medically trained nurse to be in residence from January 5th next to March 31st following, whose services would be given free to any of your patients whom you may recommend.

The cleanliness, convenience, and comfort of the hotel will, I am sure, commend itself, and particular care would be given to any special dietary.

I shall feel greatly obliged if you will let me know whether the above proposal meets with your approval and support.

I am, dear Sir, yours faithfully,
Signed: T. Herbert Evans.

Our correspondent very properly objects in particular to the suggestion contained in the second paragraph. We were

aware that offers of secret commissions are now and then made to medical practitioners by commercial persons, but we doubt if they are often made with such undisguised directness; for we assume that the fact that such an offer had been made would not be communicated to visitors at the Sea Bank Hotel. Apart from any question of morality or legality, it is little short of insulting to suggest that a medical man would be influenced, in his recommendation of a health resort to a patient, by the offer of commission on the terms charged to that patient at a hotel.

His attention having been drawn to this matter by other members who had received similar letters, the Medical Secretary wrote to Mr. Evans pointing out the impropriety of making such an offer to members of the medical profession. In his reply Mr. Evans states that he had already taken steps to withdraw the offer and apologize to those to whom he made it, with an expression of his deep regret.

Plague in Australia.

In the JOURNAL of December 31st (p. 1125) an account was given of the steps taken to trace the source of the repeated outbreaks of plague in South Africa, and to the methods of dealing with the infected animals. The problem of combating plague has also become a matter of serious moment in Australia, where an epidemic has broken out in Queensland, and the methods employed by the health authorities to cope with the danger have met with considerable criticism. According to the official statement of the Director-General of Health for the Commonwealth a fatal case of plague was reported on August 23rd, 1921, to the State Health Department of Queensland. Rats, which on examination proved to be plague-infected, were subsequently found in produce stores in Brisbane. Measures were taken by the State Health Department during this period to destroy rats in the infected areas, but no public notification was made of the occurrence, and the Commonwealth Health Department was not notified until September 13th, 1921. The Council of the Queensland Branch of the British Medical Association at its meeting on September 23rd determined to take the initiative in endeavouring to ensure co-operation between the medical profession, the health authorities, and the general public in dealing with the plague outbreak. The Public Health Subcommittee of the Branch interviewed the Federal and State health authorities and made suggestions for the isolation and treatment of patients, and for securing the assistance of the medical profession and the public in controlling the outbreak. The State authorities were evidently reluctant to inform the public about the symptoms of plague, on the pretext that this might lead to a scare. According to the *Medical Journal of Australia* (November 19th, 1921, p. 461), the people were assured through the daily press and by other means that the epidemic was far less important than influenza, that the present outbreak was bubonic and not pneumonic plague, and that if people would keep their premises free of rats there would be no further danger. Up to November 5th—the latest date to which our information brings us—the total number of notified cases of plague in human beings in Queensland was fifty-five (including one suspected case) and the deaths numbered twenty-nine, while it appears that infected rats had by that time spread over 1,000 miles of the Queensland coast. Such facts naturally make the position one of far greater urgency than the information given to the public of Australia would lead them to believe. Much of the danger appears to have arisen because, although the Federal Government has the duty of keeping epidemic diseases out of Australia—which as an island continent has an immense advantage over other countries—yet the several State Governments are each responsible for all public health measures within the States. A more intimate co-operation and co-ordination of public health activities, under medical control, would therefore appear to be necessary in Australia.

The Tasmanian Branch and its Struggle with the Government.

Readers of Current Notes and of the report in the SUPPLEMENT of the discussion at the Annual Meeting at Cambridge will remember the situation created in Tasmania by the action of the Tasmanian Government in regard to the hospitals there and its legislative measures specially directed against the Branch of the Association. The object of this legislation was to penalize medical men who refused to meet those doctors to whom the Branch took exception on account of their action in supporting the Government. The Tasmanian Branch was put to considerable expense in fighting the matter, and in June, 1921, the Medico Political Committee of the British Medical Association made a grant of £100 out of the Central Emergency Fund (of which it is the Trustee) as a contribution towards these expenses. The Council of the Association at its meeting on December 14th, 1921, received with great satisfaction the following letter from Dr. Brettingham-Moore, the Honorary Secretary of the Tasmanian Branch:

"I am instructed by unanimous vote at the last Branch meeting to convey the thanks of the Branch for your munificent donation of £100 towards the expenses incurred in our struggle with the Government. Members were as delighted with the spirit prompting the gift as with the gift itself."

Joint Action.

The National Union of Scientific Workers recently asked the British Medical Association to co-operate with it in a deputation to the Minister of Education with a view to inducing the Minister to make recommendations to the Government for the removal of the graver disabilities arising from the Safeguarding of Industries Act, 1921. Under this Act practically all materials for scientific and research workers obtained from other countries are scheduled, with the result that they will cost anything from 33 per cent. to 50 per cent. more; in addition there is considerable delay in delivering the goods owing to Customs regulations. The Council has now appointed Lieut.-Colonel R. H. Elliot, I.M.S.(ret.), and Sir Humphry D. Rolleston, K.C.B., to co-operate with the National Union of Scientific Workers in this matter. Another matter in which the Association was asked to take joint action was in connexion with the appointment of a representative to serve on a standing committee of the National Physical Laboratory, Teddington, to deal with the question of standardization of scientific glassware and kindred problems. The Council has appointed Professor J. S. Haldane, M.D., F.R.S., for this purpose.

Fife Colliery Surgeons.

The following satisfactory arrangements to overcome the position created by the coal strike have been come to between the doctors in the Fife Branch of the British Medical Association and the Fife miners. Owing to the thirteen weeks' stoppage, from April 1st to July 1st, 1921, and the subsequent unemployment, "offtakes" averaged 25 per cent. throughout Fife. Meetings were held between the medical men and the mining members, and the following arrangement for overcoming the difficulty was submitted:

1. The miners employed to pay double offtakes for the thirteen weeks necessary to clear their own arrears, and then for a further period, not to exceed two months, to pay up the arrears of *all* unemployed miners up to the end of February next (the two months had been calculated by an accountant).
2. The doctors to take the responsibility collectively of attending the dependants of all miners, employed or unemployed, to the end of February next.
3. The whole sums so collected to be pooled and divided among the doctors in the proportions as at last fully paid quarter (that is, February, 1921), regard being had to the recent ballots.

All arrears would thus be paid up by the end of February, 1922. The Miners' Board in Dunfermline agreed to the scheme and recommended its adoption by all the branches.

Great credit is due to the Council of the Fife Branch, and in particular its Honorary Secretary, Dr. D. E. Dickson, for the very able way in which the arrangements were carried out. Such an agreement would only have been possible where the arrangements for contract practice with the miners are so highly organized as they are in Scotland.

Ophthalmic Benefit.

In a Current Note on December 10th, 1921 (p. 221) we drew attention to the attempt made by a combination of approved societies, known as the National Insurance Beneficent Society, to secure that members certified by their insurance practitioners as requiring ophthalmic treatment should be attended by ophthalmologists at a small inclusive fee. Certain societies were offering reasonable terms for this work, but the National Insurance Beneficent Society sought to make arrangements with hospitals for ophthalmic treatment at 5s. a case, irrespective of the number of attendances in any one year. At a meeting of ophthalmologists of the North of England, held at Bradford on December 7th, 1921, the following resolutions were unanimously adopted:

1. This meeting approves of the principle that arrangements with approved societies may be entered into by individual ophthalmic surgeons for fees not less than the following:

£1 1s to cover benefit of a completed refraction, or an examination and letter of advice to a general practitioner. £2 2s. to cover minor operations, or a continued treatment for a period not exceeding three months. The sum for major operations to be left to special arrangement between the ophthalmologist and the society.

2. That this meeting is most strongly of the opinion that no arrangements should be made between hospitals and approved societies with regard to the examination and treatment of their members until a definite general policy has been evolved.

Clerical and Travelling Expenses of Medical Officers of Health.

A few years ago it was not uncommon for smaller local authorities to throw on their medical officers of health the duty of paying for clerical assistance and travelling expenses out of an inclusive salary. The principle was strongly fought by the Association, and for the last few years it seemed as if this pernicious system had been dropped. However, the Port Talbot Town Council recently advertised for a medical officer of health. The salary was above the minimum laid down by the Association, and therefore the advertisement was published in the BRITISH MEDICAL JOURNAL. But when it came to the notice of the Medical Secretary at a later date that one of the conditions of appointment was that the medical officer should pay for clerical assistance and travelling expenses out of his salary, steps were at once taken to warn the candidates who had applied for the appointment, and a strong protest was made to the Port Talbot Town Council. It is satisfactory to know that the objectionable condition was deleted from the terms of employment, and it has been agreed that the medical officer of health shall be paid his expenses of locomotion and provided with clerical assistance.

Glasgow Medical Lunch Club.

The Glasgow Medical Lunch Club, of which an account appeared recently in the JOURNAL, meets weekly at Ferguson and Forrester's Restaurant, Buchanan Street, on Thursdays, at 1 p.m. for 1.15 p.m. If a large enough membership is secured every member can choose whether he will become a weekly, fortnightly, or monthly member, as the club will always be there, and his liability is limited to the charge for the lunch which he actually attends. Founded under the auspices of the Glasgow Eastern Division of the British Medical Association, the club has a provisional committee representative of the Glasgow area as a whole. The guest of honour on December 22nd, 1921, was Sir Kennedy Dalziel. Further information may be obtained from the acting secretary, Dr. D. McKail, 2, Morris Place, Monteith Row, Glasgow.

The last weekly meeting of the club was held on December 29th, 1921. Dr. F. W. Martin presided, and Dr. A. K. Chalmers, medical officer of health for the city, was present as the guest of the club. After lunch Dr. Chalmers addressed the members, expressing first his hearty approval of the efforts of the club to enable practitioners to get away for a little from the worries of medical life, and to discuss matters of medical or general interest. He proceeded to emphasize the need for a closer attention on the part of the doctor to the health of children in their earlier years. Many children who are healthy at one year are found, when they reach school age and come under the care of the education authority, to be suffering from disease or trouble of some kind. A valuable aid in this matter would be, he believed, the issue of a monthly bulletin, indicating the diseases which for the time were becoming, or likely to become, prevalent. In this the co-operation of the general practitioner would be essential. Thereafter Dr. Chalmers drew attention to a new medical function, which in the near future will have an important bearing on the industrial life of the country: he referred to what was termed industrial hygiene or industrial fatigue. One firm in Glasgow had already adopted the principle of having all applicants for work tested as to their physical capacity. Under this scheme they had a guiding line in determining whether men or women could work for six, eight, or ten hours per day in any particular occupation. This scheme would play a very important part in industrial disputes, and would form a true basis for industrial employment of all kinds. In this new development medical men should be guides and leaders, and, in applying themselves to this important question, they would exercise the very useful function of forwarding the interests of industry in general, and aid in restoring industry to its proper place in the life of the nation and of the world.

Medical Men in Public Life.

The Town Council of Blackburn is distinguished by having among its members seven medical practitioners, of whom five are members of the local Division of the British Medical Association. The senior in length of service is Alderman Dr. J. T. T. Ramsay, who has served continuously for over twenty-five years, and Councillor Dr. F. J. Greeves is next in seniority, with twenty-one years' service. The other councillors are Dr. J. W. Keighley, Dr. A. A. P. Moffatt, Dr. J. W. M. Jamieson, Dr. P. Prebble, and Dr. C. M. Bradley. In a recent issue of the *Blackburn Times* there appeared a photographic group of those seven medical men, with a record of their services to the municipality.

The Half-Yearly Indexes.

The usual half-yearly indexes to the JOURNAL and to the SUPPLEMENT and EPITOME are now in course of preparation and will shortly be ready for issue. They will, however, not be circulated with all copies of the JOURNAL, but will only be sent to those readers who ask for them. Any reader or subscriber who wishes to have one or all of the indexes can obtain what he wants, post free, by sending a postcard notifying his desire to the Financial Secretary and Business Manager, British Medical Association, 429, Strand, London, W.C.2. Readers wishing to receive the indexes regularly, as published, should intimate this desire.

Meetings of Branches and Divisions.

METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.

A MEETING of the Lewisham Division was held on December 20th, 1921, at Shrublands, Catford Road, Catford, when Dr. G. W. CHARSLEY occupied the chair. Dr. C. COURTENAY LORD, Assistant Medical Secretary, delivered an address on the "Medico-Political Committee and its Work." He explained that the Committee consisted of seventeen members, of whom fourteen were in general practice, and he showed how the Association was able to help both individuals and groups of practitioners in various ways.

SOUTH-WESTERN BRANCH: WEST CORNWALL DIVISION.

A MEETING of the West Cornwall Division was held, by the kind invitation of Dr. Wethered, at Pencaer, Falmouth, on December 13th, 1921, when Dr. H. C. SHARP (Truro) was in the chair. A resolution was unanimously passed expressing the anxiety of members as to the effect of the Clayden *v.* Wood-Hill decision and the hope that the Council of the British Medical Association would take action to protect the interests of the profession. The following resolution was carried unanimously:

> That the Division is of opinion that the Council of the British Medical Association should carefully investigate the effect of the decision in Clayden *v.* Wood-Hill upon the interests of the profession and take steps to protect them if endangered.

Dr. WETHERED read a paper on "Some Fallacies in Connexion with the Diagnosis and Treatment of Pulmonary Tuberculosis." An interesting discussion followed.

Members and visitors were entertained to afternoon tea by Mrs. Wethered. The meeting was entirely successful and well attended. It was decided to hold the next meeting on similar lines at St. Austell about the first week in March.

SURREY BRANCH: CROYDON DIVISION.

A GENERAL meeting of the Croydon Division was held at the Croydon General Hospital on December 21st, 1921, when Mr. G. E. NEWBY, O.B.E., was in the chair.

Votes of condolence were passed on the death of Drs. Horsley and Hugo, and the Secretary was instructed to convey these expressions of sympathy to their relatives.

In the unavoidable absence of Dr. J. Bright Banister, who was to have given an address on obstetrics and gynaecology, Dr. A. M. H. GRAY gave an address on some skin diseases—eczema-streptococcal infections of the skin and ringworms and their treatment. A discussion ensued, in which Drs. REDFERN, PARTRIDGE, COWELL, WAITE, GENGE, and HAMOND took part. Dr. Gray was cordially thanked for his address and for arranging to deliver it at such short notice.

ZANZIBAR BRANCH.

A WELL-ATTENDED meeting of the Zanzibar Branch, at which several visitors from neighbouring protectorates were present, was held at the Health Offices on November 14th, 1921. A series of lantern slides illustrating various tropical diseases was shown. These included slides showing the life-history of mosquitos, the development of filariae in the mosquito, malarial parasites, trypanosomiasis, etc., with photographs of mosquito-breeding pools and insanitary areas. It was pointed out that the slides were used in teaching the elements of hygiene to the native teachers in the Government school, and criticisms were invited. A demonstration of fresh blood specimens showing living filariae was subsequently given.

MEETINGS TO BE HELD.

DORSET AND WEST HANTS BRANCH: WEST DORSET DIVISION.—A meeting of the West Dorset Division will be held on Wednesday, February 1st, 1922, when Dr. J. S. Fairbairn (London) will give a British Medical Association lecture.

DUNDEE BRANCH.—At a meeting of the Dundee Branch to be held on Wednesday, January 11th, 1922, Professor Robert Jardine will give a British Medical Association lecture on "Eclampsia."

ESSEX BRANCH: SOUTH ESSEX DIVISION.—Further meetings of this Division will be held on January 13th, 1922, when there will be a supper at the Hotel Victoria, at 8.15 p.m., and on February 10th, at the same place, at 8.15 p.m., Dr. F. W. Price will read a paper, illustrated by original lantern slides, on "Recent Advances in the Diagnosis, Prognosis, and Treatment of Heart Disease." At the meeting on March 10th, at the Hotel Victoria, at 8.15 p.m., Dr. Hector C. Cameron will discuss the subject of The Child in General Practice; and on April 14th, at 8.15 p.m., there will be a supper at the Hotel Victoria.

MALAYA BRANCH.—The annual meeting of the Malaya Branch will be held in Singapore on Friday, January 27th, 1922. The presidential address will be delivered by Dr. Malcolm Watson, who has selected Quinine and the Quinine Controversy for his subject. Four representatives of the Association will be elected members of the S.S. and F.M.S. Medical Council under the constitution of the Medical Ordinance. Dr. W. J. Dixon will make an appeal on behalf of the Royal Medical Benevolent Fund. The annual dinner will be held in the evening, and the Watson Cup Competition will take place on the following afternoon.

METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.—A meeting of members and non-members will be held at St. Andrew's Parish Hall (Institute behind the Church), High Road, Willesden Green, N.W., on Tuesday, January 17th, at 8.30 p.m. Agenda: Consider (1) reply from Willesden District Council to memorandum and resolutions passed at last meeting of Division (see BRITISH MEDICAL JOURNAL SUPPLEMENT, p. 5); (2) Memorandum No. 2, prepared by executive in reply to above. (3) Steps to be taken in connexion with Willesden municipal election (April 1st, 1922). (4) Means of supporting approved medical candidates. (5) Fill vacancy on executive due to resignation of Dr. Crone. (6) Any other business. Members are requested to attend if they possibly can, and to intimate willingness to subscribe to the Municipal Election Fund.

SURREY BRANCH: KINGSTON-ON-THAMES DIVISION.—A general meeting of the Division will be held at Surbiton Hospital on Tuesday, January 10th, 1922, at 8.45 p.m., when Dr. F. W. Price will give an address on "Recent Advances in the Diagnosis, Prognosis, and Treatment of Heart Disease." The proposed amalgamation with the Richmond and Wimbledon Divisions will be discussed. It is hoped that all members will do their best to attend.

THE WILLESDEN HEALTH POLICY.

WE print below further correspondence which has passed between the Willesden Urban District Council and the Willesden Division of the British Medical Association on the subject of the Municipal Health Services. The letter from the District Council purports to be a considered reply to the memorandum and resolutions recently forwarded to that council by the Division.* As such, the document is hardly convincing. The Division had presented a reasoned criticism of the health policy of the council as set forth in the current report. The matters touched on were broad questions of principle, and the illustrations and applications were drawn directly from the representations addressed to the council in the pages of that report by their responsible medical staff. The general report of the council was impugned on the wider ground of the public good rather than on that of the immediate economic interests of the private practitioners of the district, and whilst the charge of extravagance had its place it was subordinated, and rightly so, to that of inefficiency. It is therefore disappointing to find that the District Council has, for the most part, ignored or failed to understand the general criticisms advanced, and has confined itself to historical statements and affirmations of responsibility for public health which throw no additional light on the situation, and are hardly relevant in the context.

The document does, however, contain one or two items worthy of note if only as evidence of the attitude of the body responsible for the development of the Willesden Public Health Services. Thus we learn that, in the opinion of the council, the efficiency of its preventive work is sufficiently established by the vital statistics for the year 1920–21. Their argument in this respect is based on a general mortality rate of 9.78 per 1,000 and an infant mortality of 65 per 1,000 births, these rates being the lowest recorded for the district. So far, so good; but if the matter is pursued further in the pages of the council's reports, the birth rate amongst the clinic babies, whilst considerably lower than that of the non-clinic babies, shows an increase for the year 1920, whilst the death rate amongst non clinic babies is lower than that for the previous year. The actual figures are as follows:

	Clinic Babies.	Non-clinic Babies.	All Babies.
1918	46.1	161.6	97 0
1919	38.5	110.1	82.8
1920	45.0	76.0	65.0

These figures are not, of course, in themselves sufficient to establish any particular argument as to the Willesden Health Services, but they suggest the desirability of a closer consideration of the argument from statistics than has been thought necessary by the council. Another item of interest is the analysis of admission of maternity cases to the Municipal Hospital during 1920. Here we find that in 18 cases, or something over 4 per cent. of the whole number, no reason for admission was recorded. In a further 19 cases the reason recorded was "because they preferred hospital care." Similar figures for the present year, with its increased bookings of confinements, will be of even greater interest, but these are sufficiently striking in view of the medical superintendent's report on overcrowding and of the intolerable pressure upon the staff of the hospital. The council appears to be quite satisfied as to the advisability of utilizing the Fever Hospital for maternity cases in pursuit of "environmental hygiene." The fact that the analysis shows the reason of reception for as many as 179 cases to be "home conditions" only (in 80 of these cases the family living in only one room) is evidently considered to have no bearing on the desirability of securing the immediate removal of fever cases from equally unfavourable surroundings. The justification of the present arrangements by the absence of any catastrophe up to date is rather like an argument for building on the site of an ammunition dump because there has been no explosion there hitherto. On the other hand, it is satisfactory to learn that the suggestion in the forty-fifth annual report for confining admission to the maternity wards to applicants from certain districts has not been put into force. The most remarkable statement in the letter, however, and one on which further information seems desirable, is that dealing with the adoption of a scale of charges for the services rendered by the municipal clinics. This scale of charges, which we published *in extenso* in the SUPPLEMENT of December 24th, 1921, imposes an annual registration fee of 2s. 6d. on all who utilize the clinics, and further nominal charges in respect of special services in the case of those outside the council's income limit for free treatment. According to the present statement the introduction of this scale has resulted in the relief of overcrowded clinics and overworked clinic staffs to such an extent that the services rendered are now leisured and efficient, both in their preventive and curative aspect, and the staff is now free to undertake the inspection of one age group amongst school children, in accordance with the policy of the Board of Education. Is it to be assumed that the services rendered are not considered by those in easier economic circumstances to be worth the charges made, or is it that the necessitous cases cannot meet the registration fee? Again, is it the preventive work of the clinics or the curative which has been so drastically reduced by the introduction of payment? On these points further enlightenment will be awaited with considerable interest.

For the rest, the letter holds out little hope of a speedy adjustment of the difficulties in the Willesden Urban District, for the District Council, whilst it invites further representations from the Willesden Division, has ignored those already made, and more especially the fundamental provision for the recognition of a Medical Advisory Committee. Meanwhile a new factor has been introduced into the situation by the representations addressed to the Ministry of Health by the Central Council of the British Medical Association (SUPPLEMENT, December 24th, 1921, p. 234). It cannot be too much emphasized that the dispute in Willesden is of national rather than local importance. Circumstances have decreed that the issue shall for the present be raised locally, as in Bradford and Willesden, but local settlements have before now rendered a coherent solution of a national problem difficult if not impossible, and it is of the utmost importance

* See SUPPLEMENT, November 26th, 1921, p. 199, and JOURNAL of same date, p. 908; also SUPPLEMENT, December 24th, 1921, pp. 234 and 255.

that a definite ruling should be obtained from the Ministry of Health without delay. Such a ruling the representations of the Council are designed to secure.

The following is the letter referred to above, which has been addressed by the Clerk of Willesden Urban District Council to the Honorary Secretary, Willesden Division, British Medical Association:

Willesden Urban District Council, Clerk's Department,
December 21st, 1921.

Dear Sir,

The Willesden Urban District Council have given careful consideration to the general criticism of the Willesden Urban District Council Health Policy and resolutions of the British Medical Association, Willesden Division, passed at their meeting in St. Andrew's Church Hall on Tuesday, November 15th, 1921.

2. The Willesden Urban District Council, as the Local Sanitary Authority and Local Education Authority, have certain duties and powers placed upon them under Acts of Parliament, and the health policy of the council is determined in accordance with the provisions of these Acts and the consents or directions of the Government departments concerned.

3. The Willesden Health Authority cannot accept the view of the British Medical Medical Association, Willesden Division, that their function is to deal with the health of the necessitous poor only. The view of the Authority is that they have to safeguard the health and act in the interests of the entire community and not of any particular section.

4. Municipal clinics developed as the result of the medical inspection of school children, amongst whom the medical inspectors appointed reported to the Authority year by year that they found many defective conditions requiring treatment. Children suffering from these defects had, in the majority of cases, not received medical attention, and it was in order to secure the necessary medical attention for conditions hitherto not medically treated that school clinics were established by local authorities in Willesden and elsewhere under Acts of Parliament. The same may be said of maternity and child-welfare clinics—that the cases which attend are cases which, in the absence of such clinics, would, in the majority of cases, not go to a private general practitioner for advice until their health was undermined. The Willesden Urban District Council consider that advice in health and early treatment upon the first manifestations of disease are factors of prime importance in preventive medicine, and they are of opinion that the municipal clinics, in providing these facilities for mothers, and children up to school-leaving age, in respect of whom the council have powers and duties under Acts of Parliament, are carrying out health work of extraordinary national importance not provided for by any other agency, and in respect of which the Government pay half the cost. The clinics, too, provide specialist treatment and, in addition, have a staff of visiting consultants, whose services otherwise would not be generally available for the persons attending.

5. In all the services which they carry out on behalf of the ratepayers of Willesden the council limit their expenditure to the utmost possible extent consistent with efficiency. They are, therefore, anxious and willing to receive any information from the British Medical Association, Willesden Division, by which expenditure may be curtailed, and their health services provided for adequately and economically through other agencies, as suggested in the memorandum under consideration.

6. The Willesden Urban District Council note the statement of the British Medical Association, Willesden Division, that their health policy is opposed to the public interest, and should be glad to learn precisely in what respects the policy is opposed to the interests of the general community, on behalf of whom the Willesden Urban District Council act.

7. The statement of the British Medical Association, Willesden Division, that the present arrangements of the council tend to neglect the preventive aspect of health work for the curative, is not borne out by the vital statistics for the year 1920, on which the criticisms of the British Medical Association, Willesden Division, are based. In that year the death rate was 9.78 per 1,000 of the population, the lowest ever recorded in Willesden, and the infant mortality rate was 65 per 1,000 births, being also the lowest recorded.

8. The British Medical Association, Willesden Division, makes criticisms of the Willesden Municipal Hospital, based on reports to the council by their medical officer of health and medical superintendent. The council are fully aware that the Municipal Hospital is not equipped to the best possible extent to meet all public demands, and the financial circumstances in which the community find themselves to-day prevent the council from taking any material steps towards the complete obliteration of the conditions reported to them by their responsible officials. In all the circumstances the council are of opinion that the best possible use is being made of the hospital accommodation at their disposal for the community of Willesden.

9. The British Medical Association, Willesden Division, appear to consider that the removal of infectious diseases to hospital will stop the spread of epidemics. This statement is not in accordance with the history of scarlet fever and diphtheria since isolation hospitals were established, and in this connexion the Willesden Urban District Council would refer the British Medical Association, Willesden Division, to the report on scarlet fever and diphtheria in Willesden on pp. 148 to 151 of the Forty-fifth Annual Health Report for 1920.

10. The criticisms of the British Medical Association, Willesden Division, with respect to the inability of the council to remove at once all cases of infectious diseases to their hospital, applies equally to London and other districts where scarlet fever is raging as at present. To build a hospital so large that all cases of infectious diseases occurring during epidemic periods would be able to be taken in is not a practical proposition. I would mean in Willesden that at least 200 beds would have to be added to the Municipal Hospital now, and the council are quite unable to contemplate the provision of so large a number of beds for infectious diseases alone.

11. With reference to the statement that 1,113 infectious cases were admitted to the Municipal Hospital during 1920, and 1,495 non-infectious cases, it is to be observed that infectious cases are detained much longer in hospital than non-infectious cases. During the financial year ended March 31st, 1921, infectious cases spent 35,585, and non-infectious cases 23,378 days in hospital. From April 1st, 1921, to December 4th, 1921, infectious cases have spent 33,025 days in hospital, and non-infectious cases 10,177 days in hospital.

12. The council observe the criticisms of the British Medical Association, Willesden Division, as to the admission of maternity cases to a hospital where infectious cases are also admitted. Pavilion "B," which is separate from all other pavilions of the Municipal Hospital, was altered in 1917-18 for the reception of maternity cases, with the knowledge and approval of the Ministry of Health, half the cost of the alterations being paid by the Ministry. The alterations were completed in June, 1918, and from that time, up to December 8th, 1921, 1,089 women have been confined in the Municipal Hospital without a case of any of the common infectious diseases having been contracted in this pavilion.

13. The statement that the admission of maternity cases to a hospital can only be justified on account of the abnormal physical condition of the patient is not one to which the council can subscribe. The council realize that this may be the view of the private general practitioner interested in curative medicine, but in dealing with the subject of health and the prevention of disease the health authority is bound to have regard to environmental hygiene and the conditions under which confinement is to take place at home. The council had prepared for their information, at the end of 1920, a statement of the reasons for the admission of maternity cases to hospital. This statement shows that out of 413 confinement cases admitted to hospital between January 1st and December 12th, 1920, 55 had been sent in on account of the physical condition of the patient, 69 on account of both physical and home conditions, 179 on account of home conditions—in 80 of these cases the family lived in only one room—7 because they were unable to obtain the necessary nursing or domestic help, 27 on account of illegitimacy, 19 because they preferred hospital care, 39 as urgency cases, and in the remaining 18 cases the reasons for admission were not recorded.

14. The council do not limit admission to hospital to certain districts of Willesden.

15. The staff at the clinics, who were overburdened before the introduction on October 1st, 1921, of the scale of charges framed by the council, have, owing to the operation of the charges imposed, now sufficient time in which to deal with their patients and advise them both from the preventive and curative aspects, and, in addition, have some time to spare, which the council propose to utilize in the routine medical inspection of one age group of public elementary school children, in view of the letter of the Board of Education dated October 27th, 1921.

16. The council note that objection is taken to the statement in the Forty-fifth Annual Health Report for 1920, that the Municipal Hospital and clinics have been established much on the lines indicated in the Dawson Report, because whole-time medical officers, and not part-time general practitioners, are employed in the public health services, and because, to the municipal hospital and clinics, the private practitioner has no access. The council would remind the British Medical Association, Willesden Division, that all doctors practising in Willesden were notified on November 1st, 1918, of the arrangements made at the Willesden Municipal Hospital for maternity cases and cases of diseases of children, and that in the circular referred to it is stated that the council's obstetrician and gynaecologist attends the hospital on Tuesday mornings at 9.30, and will be glad to see any medical practitioner concerning any case he may send. A similar circular in January, 1920, notifying doctors practising in Willesden of the extended arrangements for consultations at the Municipal Hospital and clinics, stated the times at which the specialists attended, and that they would be glad to see any mother, or child up to the age of 14 years, referred by a medical practitioner either personally or by letter. From April 1st to December 8th, 1921, out of 445 women and children admitted to the Municipal Hospital, 81 had been sent in by private general practitioners, and in only one or two of these cases have the doctors availed themselves of the facilities for consultations offered by the council.

17. The council would also remind the British Medical Association, Willesden Division, that they received an application on June 1st, 1920, for the medical officer of health to meet representatives of the local British Medical Association, with a view to the discussion of the work of the hospital and clinics, and that they authorized their medical officer of health to meet such representatives. No communication has been made to the council by the British Medical Association, Willesden Division, from that date until the present memorandum, dated November 15th, 1921, was received.

18. The council, however, are quite prepared to consider any scheme which the British Medical Association, Willesden Division, may care to put before them for working in the Willesden Municipal Hospital and clinics. The council reserve to themselves the right to come to the final conclusion thereon, and would inform the British Medical Association, Willesden Division, that any such

scheme requires to be taken into consideration by them from every point of view, including that of the doctors in particular, the community in general, administration and finance.

Yours faithfully,
(Signed) STANLEY W. BALL,
Clerk of the Council.

The following reply has been sent by the Honorary Secretary of the Willesden Division, British Medical Association, to the Clerk of Willesden Urban District Council:

December 29th, 1921.

Dear Sir,

I have to thank you for yours of December 21st—reply of your council to the memorandum and resolutions of the Willesden Division, British Medical Associa ion, passed on November 15th, 1921. This will be placed before the next meeting of the Division. In the meantime I must refer to the seven eenth paragraph of the reply, where it is stated that no communication has been received since an application on June 1st, 1920, for the M.O.H. to meet representatives of the Division.

I am surprised that your M.O.H. has not thought it worth while to report to his council that he had several meetings with the executive of the Division and with the Honorary Secretary, and put forward proposals for employing part-time private practitioners at the clinics instead of whole-time officials as at present. These proposals were carefully considered by the Division. The executive could not recommend the acceptance of the proposals for many reasons which your M.O.H. can explain to the Willesden Council. He is a member of the Division and also of Committees of the Council of the B.M.A. which deal with these matters, so is familiar with the policy of the B.M.A.

Further, on November 17th, 1920, the Honorary Secretary of the Division w ote to your chairman: "The meeting (of the Division) was unanimously of opinion that it is desirable to form, as soon as possible, a Medical Advisory Council as indicated in the Report (Dawson) to assist and advise your council should you feel disposed to seek for assistance in medical matters."

The following reply, dated November 23rd, 1920, was received:

"With regard to the formation of a Local Medical Advisory Council this matter wi l come up for discussion at the Conference (Representatives of the Council, Guardians, Willesden Hospital, and B.M.A.), and in the meantime I have referred that portion of your letter to the Health Committee.—Yours faithfully, W. M. Bolton, Chairman of the Council."

Again, on December 29th, 1920, the following was received:—"The council at its meeting last night adopted the following report of the Health Committee: 'We have deferred consideration of a request from the B.M.A. for the formation of a Local Medical Advisory Committee under the interim Report on the Future Provision of Medical and Allied Services pending the final report of the Conference convened by the Chairman of the Council.'—Yours truly, George F. Buchan, M.O.H."

A minute of the Conference, February 17th, 1920, reads as follows:

"6. The Conference was of opinion that, pending the formation of a statutory body, it should remain in existence as an advisory council to the Willesden Council in matters of health.—W. M. Bolton, Chairman."

The Willesden District Council refused to receive the interim report of the Conference, which has not met since. The doctors are ready and anxious to co-operate with the M.O.H. and the council, and will do so provided the services are conducted as the services are in other places. The first step seems to be the formation of a Local Medical Advisory Council. This is recommended by Lord Dawson and other authorities.

I am, yours sincerely,
WILLIAM PATERSON,
Honorary Secretary, Willesden Division,
British Medical Association.

MOTOR TAXATION.

THE Automobile Association is urging the taxation authorities to take the earliest possible action to extend to the owners of cars with engines constructed in 1913 the statutory concession of a 25 per cent. rebate on taxation; this allowance now only applies to cars the engines of which were built in 1912 or earlier years. It is the view of the Automobile Association that the allowance should be granted from year to year in respect of cars over eight years of age, on the grounds of lesser power and efficiency, greater cost of running, and various other disadvantages associated with the use of these old cars.

To assist in presenting the case for the owners of old cars the Automobile Association asks every motorist *who owns a 1913 car* to send (on a postcard) the following particulars:

(*a*) Name of car.
(*b*) Number of cylinders,
(*c*) Makers' h.p.,
(*d*) Engine number,
(*e*) Name and address of owner

to the Secretary, Automobile Association and Motor Union, Fanum House, Whitcomb Street, London, W.C.2.

Correspondence.

Hospitals and the National Provident Scheme.

SIR,—I do not know whether it is worth while writing a letter on this subject, because you seem to refuse insertion of anything which seems to run contrary to a credo, which begins—"I believe in the voluntary administration of Hospitals by Doctors, and other Persons not responsible to the Citizens of this Mighty Empire."

This letter has only to do with Dr. Gordon Dill's address to the Kensington Division (BRITISH MEDICAL JOURNAL, December 31st, 1921, p. 1119). I rejoice that some general practitioners present had the pluck to speak their minds. There never was a question of more vital importance to the general practitioner. The G.P. is now going to be offered up on the altar of voluntaryism.

Dr. Gordon Dill proposes a voluntary system of insurance against requiring surgical assistance. The old club system was a voluntary insurance against sickness. It was sufficiently successful to prove the necessity for a compulsory system eventually. I maintain that that is exactly what will happen in the case of Dr. Gordon Dill's "National Provident Scheme." I maintain that Dr. Stratford was absolutely right in saying, "This would mean that the G.P. practically ceased to do surgery, the G.P. would become a sort of superior clerk."

Everything at present goes to glorify the hospital and to lower the prestige of the general practitioner. Everything tends to make the general public believe the general practitioner is an ignoramus and that all knowledge resides in the hospital and among the whole-time clinic doctors. The insurance practitioner will be compelled to accept a reduced capitation fee, because all the surgical work is now done by the voluntary hospitals. Perhaps he will be compensated out of the hospital pool, which the honorary members are too proud or brave to touch.

Until bona fide attempts are made to associate all general practitioners with the hospital system of the country, I would strongly recommend them to refuse to do any flag waving to support the present voluntary system, which is so unfair and detrimental to the pecuniary and educational interests of the general practitioner.—I am, etc.,

Helston, Jan. 2nd. FERDINAND REES, M.D.

*** There is no substance in the accusation lightly made by Dr. Ferdinand Rees in his opening sentence. Among many others, we have published criticisms of the voluntary hospital system by Dr. Rees himself.

Fees and Panel Patients.

SIR,—It sometimes happens that a "new patient" comes for advice, and occasionally the patient is too ill to speak for himself, so brings a friend with him. Medicine and advice are given and a fee is paid. All particulars are entered in one's "day-book," and the next patient is admitted. Nothing more is heard of the first patient until he is seen again either at his home or at the doctor's surgery. Subsequently it is discovered that he (the first patient) once had a panel card, but he has made no effort to obtain a new one.

What usually happens in such cases when a patient has recovered is that he then begins to talk matters over with his friends and the officials of the panel, who promptly say, "You must get your money back." He is then told to write to the committee and state his case.

Now it is well known that when a person tries to recover money from a public body he "paints the picture" entirely to suit himself, and, moreover, his memory is "wonderfully good" with regard to details—so much so that he risks "Yes" when he should say "No."

The crux of the situation is this: In answer to the question in the letter from the Insurance Committee to the patient, "Did you inform the doctor that you were an insured person?" the patient is almost sure to say "Yes," but the "Yes" may apply to a time long after he is well!

To my mind the question should be more definite, namely:

"Did you inform the doctor you were an insured person *the first time you consulted him?*" or

"*When, and on what occasion did you inform the doctor that you were an insured person?*"

I fear that the present state of affairs is far from satisfactory for the doctor, who in all innocence takes a fee from and *provides medicine* for those whom he naturally treats as private patients, then to his dismay he receives a letter of complaint from the Insurance Committee.

It is events such as this which make the Insurance Act so ignominious. Of course, one can attend any inquiry by the

Subcommittee and appeal for justice, but this means time and expense, and that is where "the harmless of the Act pinches," for no crime has been committed!—I am, etc.,

Willesden Green, N.W., Dec. 27th, 1921. C. LEONARD TRAYLEN.

The Dispensing Capitation Fee.

SIR,—As Dr. R. A. Walsh points out, the rural practitioner is in no sort of way comparable to the chemist in the matter of dispensing for insurance patients. I have no doubt whatever that the rural insured patient gets far more medicine from his doctor than does the urban patient from his chemist. It is one thing simply to send a bottle for more as the rural patient does when he wants a repetition, and quite another thing to go through the process of first getting the prescription form filled up by the doctor and then taken on to the chemist (and that not on Sundays at all, I believe!). One journey does it in the rural case—a simple matter, and a much easier procedure for the patient, too, with the inevitable result as to the amount of medicine supplied per patient by the rural practitioner as compared with the chemist. Moreover, as is the case with many other rural practitioners I have outlying surgeries to which I send regularly baskets of medicines for distribution, and to which the patients send their empties to be refilled. The cost of carriage both ways to these outlying stations is in the course of the year no inconsiderable amount. Does the urban chemist ever have this expense or take this trouble?

My 1,200 insured patients have consumed 2,400 bottles of medicine alone in the last twelve months. This is taking no account whatever of pills, powders, ointments, cough mixtures, lotions, dressings, bandages, etc. My dispenser has not applied for a reduction in salary but for an increase, which she has had. Rural conditions of practice are totally different from urban, and to compare one with the other has no bearing and is misleading. The rural dispensing capitation fee should be considerably increased and not diminished. I should most certainly decline to dispense under the present conditions for insurance patients if we are asked to accept a reduction.—I am, etc,,

FRANK W. CROSSMAN.

Hambrook, near Bristol, Dec. 19th, 1921.

Insurance.

CERTIFICATE BOOKS.

INSURANCE medical practitioners are asked to note that the price of the *National Health Insurance Acts Certificate Books*, supplied for their use by the British Medical Association, is now 9d. each, and not 6d. as formerly. Applications for the Certificate Books should be addressed to the Financial Secretary, 429, Strand, London, W.C. 2.

LOCAL MEDICAL AND PANEL COMMITTEES.

LONDON.

The Committee's Expenditure.—At the meeting of the London Panel Committee on December 20th an estimate of £3,000 as the administrative expenditure of the committee for 1922 was approved, and it was resolved that application should be made to the Insurance Committee for the allotment of this sum. Just over two-thirds of the amount is in respect of remuneration of the staff.

Records of Attendance.—The section of the committee which has been considering the question of the remuneration of insurance practitioners reported that it had prepared a card on which practitioners might record the total number of visits and attendances and other services to insured persons day by day These cards are to be kept by certain practitioners (mostly members of the committee) who have agreed to co-operate, and the records are to be sent to the secretary at the end of each quarter. The idea is that accurate data will be accumulated by this method, which may be of value in the event of any future inquiry.

Alleged Canvassing.—The London Local Medical Committee has had before it a complaint of alleged canvassing brought by one insurance practitioner against another. The committee, after hearing counsel and evidence on both sides, arrived at the opinion that canvassing had been carried on on behalf of the defendant practitioner and with his knowledge and sanction, and a report of the proceedings has been forwarded to the Minister of Health.

COVENTRY.

AT a meeting of the Coventry Panel and Local Medical Committee on December 6th the Chairman, Dr. W. H. Lowman, reported his attendance at the October Conference convened by the Insurance Acts Committee, and the action of the Conference with regard to the national remuneration rate was endorsed.

The new Medical Certification Rules were discussed, and exception was taken to the addendum, which forbids a final certificate to be issued after the insured person has returned to work. It was felt that the doctor's discretion in the use and adaptation of the final certificate might tend to prolong the period during which the patient might refrain from reporting for "declaring off," and that hardship might also ensue in bona-fide cases. The opinion was generally expressed that there was no appreciable diminution in the pressure exerted by the approved societies through their agents and otherwise for certificates to be given on specific days; and the view was taken that the objects of the Medical Certification Rules had failed to this extent. The Committee voted the sum of £20 as an annual subscription to the National Insurance Defence Trust. In considering the present liabilities of Panel Committees to report periodically to the Insurance Committee where the cost of prescribing of an individual practitioner was found to be in excess of what was required for the adequate treatment of his patient, a resolution was passed to the effect that the Panel Committee would entertain no objection to the transfer of this work to a statutory subcommittee of the Insurance Committee provided the subcommittee comprised a suitable medical majority.

It was decided to represent to the Ministry of Health that zinc oxide plaster should be added to the list of prescribed appliances, and that three- and four-inch open-wove roller bandages should be available in six-yard lengths.

LONDON INSURANCE COMMITTEE.

The Administration of Medical Benefit.—At the first ordinary meeting of the newly constituted Insurance Committee for the County of London, on December 15th, 1921, a letter was read from the Minister of Health thanking the members of the old committee for their services. He wrote that there were evidences at times of attempts to belittle the work of Insurance Committees, but the administration of the arrangements for the medical treatment of practically the whole employed population was no mean task. It was one which, even under normal conditions, would have called for a very big effort, but so far from the conditions having been normal, they had been about as difficult as it was possible to conceive for getting such a huge piece of machinery fairly started. Sir Alfred Mond added that he was very grateful to Insurance Committees for the way in which they had co-operated with his department in the task of administering medical benefit.

Distribution Scheme: Anaesthetics.—The Ministry of Health notified its approval of the decision of the Committee that Clause 2 of the Distribution Scheme should be amended in order to provide for the payment of a fee of 10s. 6d. for the administration of nitrous oxide. The Panel Committee, in dealing with this same clause regarding anaesthetics, had expressed the view that no payment should be made in respect of an anaesthetic administered to an insured person who had been admitted to a hospital which had a selected staff for the purpose of obtaining treatment. This proposal was made in order to avoid a fee being payable in respect of the administration of an anaesthetic to an insured person whose insurance doctor was also a member of the staff of such a hospital. The Insurance Committee concurred with the proposal of the Panel Committee, and the approval of the Minister of Health is therefore to be sought for the amendment of Clause 2 of the Distribution Scheme in this sense.

The *Deutsche medizinische Wochenschrift* recently published statistics pointing to the conclusion that only 3.62 per cent. of the Berlin contract insurance medical practitioners receive more than the "existence-minimum income" from their insurance practices.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

IN the *London Gazette* of December 31st, 1921, containing the list of New Year honours, the promotion of Surgeon Commander Edward T. Meagher to be Surgeon Captain was announced.

Late Surgeon Lieutenant (temporary) N. H. Smith, D.S.C., and J. E. Clark have entered as Surgeon Lieutenants and have been appointed to Haslar Hospital for course.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

Major A. J. Williamson retires on retired pay and is granted the rank of Lieutenant-Colonel.

Temporary Captain F. Dallimore, M.C., relinquishes his commission and retains the rank of Captain.

G. B. Egerton, late Captain R.A.M.C. (S.R.), to be temporary Captain.

Lieutenant (temporary Captain) H. A. Hill to be Captain.

J. D. Leahy M.C., late Captain 4th Royal Irish Fusiliers, Special Reserve, to be Lieutenant, October 21st, 1921 (substituted for notification in the *London Gazette*, October 31st, 1921).

ROYAL AIR FORCE MEDICAL SERVICE.

J. W. Harper is granted a short service commission as Flight Lieutenant with effect from and seniority of December 14th, 1921.

In the *London Gazette* of December 31st, 1921, containing the list of New Year honours the following promotions were announced:

Squadron Leader to be Wing Commander: Henry W. Scott.

Flight Lieutenants to be Squadron Leaders: Robert E. Bell, Gerald S. Marshall, O.B.E., Eric W. Craig, M.C., Robert A. G. Elliott.

Flight Lieutenant to be honorary Squadron Leader: William R. Kemp.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Captain R. MacKinnon to be Major.

Captain B. G. Dowry relinquishes his commission and retains the rank of Captain.

TERRITORIAL ARMY.

ROYAL ARMY MEDICAL CORPS.

The following officers having attained the age limit are retired and retain their rank except wh ther otherwise stated: Lieut.-Colonel D. Smart, V.D., and is granted the rank of Colonel, with permission to wear the prescribed uniform; Majors J. Cameron and T. M. Morton, with permission to wear the prescribed uniform; Captains G. Higginson, J. A. Parsons, and G. H. Gill.

Major O. W. McSheehy, D.S.O., O.B.E., R.A.M.C., vacates the appointment of Adjutant, R.A.M.C. School of Instruction, 1st London Division (T.A.).

The following officers relinquish their commissions and retain their rank except where otherwise stated: Captains A. J. W. Stephen, R. Carswell, G. Whitehead, G. S. Levis (4th Northern General Hospital), D. G. Dingwall.

Captain J. De V. Mather resigns his commission and retains the rank of Captain.

The announcement re arding Captain J. McG. Deuchars, which appeared in the *London Gazette* of November 18th, 1921, is cancelled.

Captain J. McG. Deuchars, T.A.Res., to be Captain.

TERRITORIAL FORCE RESERVE.

ROYAL ARMY MEDICAL CORPS.

Major W. L. Martin, O.B.E., T.D., having attained the age limit, is retired, and retains the rank of Major, with permission to wear the prescribed uniform.

Captain W. L. Griffiths, having attained the age limit, is retired, and is granted the rank of Major.

Captain J. McGregor, having attained the age limit, is retired, and retains the rank of Captain.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 1s. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS and ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London).
MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London).
EDITOR, *British Medical Journal* (Telegrams: Aitology, Westrand, London).
Telephone number for all Departments: Gerrard 2630 (*3 lines*).

SCOTTISH MEDICAL SECRETARY: 6 Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.; 4 61 Central.)
IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

JANUARY.

9 Mon. London: Central Ethical Committee, 2.15 p.m.
10 Tues. London: Whitley Council Subcommittee, 2.15 p.m.
Kingston-on-Thames Division, Surbiton Cottage Hospital, 8.30 p.m.: Address by Dr. F. W. Price on Recent Advances in the Diagnosis, Prognosis, and Treatment of Heart Disease.
11 Wed. London: Post-Graduate Courses Committee, 2.30 p.m.
Dundee Branch: B.M.A. Lecture by Professor Jardine on Eclampsia.
12 Thurs. Cleveland Division, Middlesbrough: Address by the Medical Secretary.
13 Fri. Darlington Division, Greenbank Hospital: Address by the Medical Secretary, 8.30 p.m.
South Essex Division: Supper, Hotel Victoria, 8.15 p.m.
17 Tues. Croydon Division, Croydon General Hospital.—Dr. R. D. Passey, M.C.: Clinical Pathology and Vaccine Therapy, 8.15 p.m.
Lambeth Division, Carlton Club, 375, Coldharbour Lane, S.W.: Address by the Medical Secretary, 9.30 p.m.
London: Naval and Military Committee, 2.30 p.m.
Willesden Division, St. Andrew's Parish Hall, High Road, Willesden Green, N.W., 8.30 p.m.
18 Wed. London: Organization of Medical Students Subcommittee, 2.15 p.m.
South Middlesex Division, St John's Hospital, Twickenham.—8 p.m., General Business; 8.45 p.m., Paper by Dr. Herbert French: A Few small Clinical and Therapeutic Points.
19 Thurs London: Contract Practice Subcommittee, 2.30 p.m.
20 Fri. North of England Branch, Royal Victoria Infirmary, Newcastle-upon-Tyne: Scientific Demonstrations, 2.15 p.m.
24 Tues. London: Organization Committee.
25 Wed. London: Medico-Political Committee, 2.30 p.m.
26 Thurs. London: Insurance Acts Committee, 2.30 p.m.
27 Fri. London: Public Health Committee, 3 p.m.

FEBRUARY.

1 Wed. South Middlesex Division, St. John's Hospital, Twickenham.—8 p.m., Business Meeting; 8.45 p.m., Paper by Dr. H. Batty Shaw: Early Diagnosis of Tuberculosis.
West Dorset Division: B.M.A. Lecture by Dr. J. S. Fairbairn.
7 Tues. Kingston-on-Thames Division, Surbiton Cottage Hospital, 8.30 p.m.: Address by Mr. J. Cunning on Some Conclusions in Abdominal Surgery.
8 Wed. Lancaster Division: B.M.A. Lecture by Dr. T. Eastham, on "Medical Men and their Legal Difficulties."
10 Fri. South Essex Division, Hotel Victoria, 8.15 p.m.: Paper by Dr. F. W. Price on Recent Advances in the Diagnosis, Prognosis, and Treatment of Heart Disease.
17 Fri. Edinburgh Branch: Winter Clinical Meeting and Dinner.
21 Tues. Croydon Division, Croydon General Hospital.—Dr. J. Bright Banister: Obstetrics and Gynaecology, 8.15 p.m.

DIARY OF SOCIETIES AND LECTURES.

HARVEIAN SOCIETY, 11, Chandos Street, W.—Thurs., 8.15 p.m., Annual Meeting. Presidential address by Dr. G. de Bec Turtle on Some Points on Spasm in the Alimentary Tract.

HUNTERIAN SOCIETY, Sion College, Embankment, E.C.—Wed., 9 p.m., Second Hunterian Society Lecture by Mr. W. G. Spencer, F.R.C.S.: Some Local Results of Dental Infection.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.—Mon., 8.30 p.m., Pathological Evening.

ROYAL SOCIETY OF MEDICINE.—*Section of Therapeutics and Pharmacology:* Tues., 4.30 p.m., Informal Meeting: "Tea, Talk, and Tobacco." *Section of Psychiatry:* Tues., 8.30 p.m., Dr. R. G. Rows: Modern Methods in the Treatment of Psychoses. *Section of Neurology:* Thurs., 8.30 p.m., Sir Frederick Mott and Dr. Uno: Changes in the Brain in Surgical Shock. *Clinical Section:* Fri., 5 p.m., Cases. *Section of Ophthalmology:* Fri., 8 p.m., Cases; 8.30 p.m., Mr. M. L. Hepburn: Experience of 150 Trephine Operations for Glaucoma; Mr. H. Neame: Epibulbar Leucoma with Intraocular Involvement.

SOCIETY FOR THE STUDY OF INEBRIETY, 11, Chandos Street, W.—Tues., 4 p.m., Dr. Charles F. Harford: Racial Aspects of Alcoholism, with special reference to the Coloured Races.

POST-GRADUATE COURSES AND LECTURES.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION, Western Infirmary.—Wed., 4.15 p.m., Dr. J. Goodwin Tomkinson: Skin Cases.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.30 p.m., Mr. C. Roberts: Surgery of the Spleen.

MANCHESTER: SALFORD ROYAL HOSPITAL.—Thurs., Dr. Corsar Sturrock: Hypothyroidism.

MANCHESTER: ST. MARY'S HOSPITALS (Whitworth Street West Branch).—Fri., 4.30 p.m., Dr. Donald: Puerperal Sepsis.

ST. JOHN'S HOSPITAL: 49, Leicester Square, W.C.—Thurs., 6 p.m., Chesterfield Lecture by Dr. W. Knowsley Sibley: Electrical Treatments, Diathermy, etc.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Daily, 10 a.m., Ward Visits; 2 p.m., In- and Out-patient Clinics and Operations. Lectures, 5 p.m.—Mon., Dr. A. Saunders: Catarrhal Jaundice. Tues., Mr. D. Davis: Common Throat Affections. Wed., Dr. Simson: Developments in the Management of Labour. Thurs., W. McC. Wanklyn: Small-box Diagnosis in relation to the Practice of General Medicine. Fri., Mr. B. Davis; Chronic Catarrhal Deafness.

APPOINTMENTS.

ADIE, William John, M.B., Ch.B.Edin., M.R.C.P.Lond., Assistant Physician to the National Hospital for the Paralysed and Epileptic, Queen Square, W.C.

COATES, Vincent, M.C., M.A., M.D., B.Ch.Cantab., Visiting Physician (Tropical Diseases), Ministry of Pensions Hospital, Bath; Honorary Physician, Royal Mineral Waters Hospital, Bath.

MARLIN, T., M.D., D.P.H., D.M.R.E., Assistant Electro- and Physio-Therapeutist to the Middlesex Hospital, W.

MORRIS, Rosemary Owen, M.B., Ch.B.Edin., Resident House-Surgeon, Liverpool Stanley Hospital.

RICHARDS, Evan W., M.B., Ch.B.Edin., D.P.H., Medical Officer of Health and Schools Medical Officer for the Borough of Port Talbot.

SOUTHAM, A. H., M.Ch.Oxon., F.R.C.S.Eng., Assistant Surgical Officer, Manchester Royal Infirmary.

WOTHERSPOON, Allan, M.B., Ch.B.Edin., D.P.H., Tuberculosis Medical Officer, Co. Borough of Stoke-on Trent.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

BIRTHS.

GRAHAM MARTIN.—On December 23rd, 1921, at 150, Princes Road, Liverpool, the wife of Dr. J. Graham Martin—of a son.

REES.—On Christmas Eve, at Swanage, Dorset, the wife of W. A. Rees, O.B.E., M.D., F.R.C.S.—of a son.

WALKER.—At Nowshera, India, the wife of Captain W. Walker, M.C., R.A.M.C.—of a daughter.

MARRIAGE.

COYNE—PRENDERGAST.—At St. Joseph's Catholic Church, Neath, Glamorganshire, on December 3rd, Edward Patrick Coyne, M.B., B.Ch., to Kathleen Agnes Prendergast, R.R.C.

DEATHS.

HARDWICKE.—At the Military Hospital, Haifa, Palestine, on December 15th, 1921, Major Lawrence Campbell Vigor Hardwicke, R.A.M.C., younger son of the late John Hardwicke, Esquire of Mellefont, Portishead, Somerset, and grandson of the late John Hardwicke, Esquire, Surgeon, of Worle, Somerset.

KIRK.—Suddenly, on January 1st 1922, at the Manor, Norton-on-Tees, Elizabeth McKirdy, beloved wife of Dr. Thomas J. Kirk, of Norton-on-Tees. Fortified by the rites of Holy Church, R.I.P. Funeral Wednesday, 11 a.m., from St. Mary's Church, Stockton-on-Tees. Requiem Mass 11.30 a.m.

MITCHELL.—Eightlands Road, Dewsbury, December 25th, suddenly and peacefully, in his 61st year, Charles Alfred Mitchell, M.R.C.S., L.R.C.P., beloved husband of Eliza Mitchell. Cremated at Lawnswood, Leeds, December 29th. Remains laid to rest Dewsbury Parish Churchyard.

WILLAN.—Leonard James Willan, M.R.C.S., on Sunday, December 25th, at Oakhurst, Oakhill Road, Sutton, aged 68 years.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, JANUARY 14TH, 1922.

CONTENTS.

BRITISH MEDICAL ASSOCIATION.

Current Notes: PAGE

- PROFESSIONAL SECRECY ... 9
- EXPENDITURE AND INCOME STATISTICS ... 9
- CONSTITUTION AND MACHINERY OF THE ASSOCIATION ... 9
- PAYMENT OF TRAVELLING EXPENSES IN CONNEXION WITH INQUESTS ... 10

MEETINGS OF BRANCHES AND DIVISIONS ... 10
- MEETINGS TO BE HELD ... 10

ASSOCIATION INTELLIGENCE ... 12
DIARY OF THE ASSOCIATION ... 12

PAGE

Association Notices: Table of Dates ... 11

INSURANCE:
- DISPENSING CAPITATION FEE ... 11
- CERTIFICATE BOOKS ... 11
- MEDICAL RECORD CARDS ... 11

CORRESPONDENCE ... 11
NAVAL AND MILITARY APPOINTMENTS ... 12
DIARY OF SOCIETIES AND LECTURES ... 12
APPOINTMENTS ... 12
BIRTHS, MARRIAGES, AND DEATHS ... 12

British Medical Association.

CURRENT NOTES.

Professional Secrecy.

THE subject of professional secrecy was discussed at the annual meetings of the Representative Body at Cambridge in 1920 and at Newcastle last year. It has also attracted much attention outside that body, and has led to a good deal of correspondence, both in the columns of the BRITISH MEDICAL JOURNAL and elsewhere. During the discussion on the subject a desire was expressed that information on the law and practice in this respect in other countries should be made available. Accordingly, in the JOURNAL for this week, Dr. W. A. Brend, who is a barrister as well as a member of the medical profession, has given some particulars with regard to the United States and France, and discussed some of the implications arising. The whole matter of professional secrecy is now under the consideration of the Central Ethical Committee of the Association, which will doubtless report shortly to the Council; the latter will then make a report to the Divisions in order that the matter may be considered by the Representative Meeting. Last July the Representative Body instructed the Council to submit the resolution adopted at Newcastle, quoted by Dr. Brend, to the annual meeting of 1922, with a view to the advisability of this resolution becoming the policy of the Association. The resolution of the Representative Body in 1920, which had special reference to venereal disease, reiterated the opinion that a medical practitioner should not, without his patient's consent, voluntarily disclose information he has obtained from such patient in the exercise of his professional duties. The resolution of last year, which arose out of a discussion of the position with regard to venereal diseases, was in more general terms, and was to the effect that the Association should use all its powers to support a member of the British Medical Association who refuses to divulge, without the patient's consent, information obtained in the exercise of his professional duties, except where it is already provided by Act of Parliament that he must do so.

Expenditure and Income Statistics.

A difficulty which central negotiating bodies often experience in dealing with Government departments upon various questions is lack of statistics, whereas the other side is often fully supplied. This difficulty has been experienced more than once by the Insurance Acts Committee as regards remuneration of insurance practitioners. Upon such occasions—as, for instance, during the 1920 arbitration—when the Committee has appealed to practitioners for information as to their income and expenditure a considerable mass of material has eventually been forthcoming, but in the meantime valuable time has been lost, first in its collection and then in its classification, because practitioners adopt such varied methods of keeping their accounts. With a view to getting over this last difficulty the Association designed and published twelve months ago a *Model Account Book*, copies of which were supplied gratuitously to practitioners who undertook to forward the information entered therein for the confidential use of the Insurance Acts Committee; to others the book is sold for 1s. post free—that is practically at cost price. Full details of the book were given in the SUPPLEMENT of January 22nd, 1921, p. 22.

Practitioners who have been using the book during the past twelve months have expressed the opinion that it is of great value and very simple in use. Application will shortly be made to practitioners using the book to forward the information for tabulation and filing, for which work special arrangements have been made to ensure strict privacy. In no circumstances will the names of practitioners thus supplying information go beyond the knowledge of the clerk dealing with the work; they will not even be communicated to the members of the Committee, and if the information should afterwards be used in negotiations numbers and not names will be used.

In view of the certainty of this information being needed at the termination of the present two years' bargain as to insurance practitioners' remuneration, it is hoped that more practitioners will take advantage of this offer in respect of 1922. Inquiries should be addressed to the Medical Secretary, 429, Strand, W.C.2.

Constitution and Machinery of the Association.

In the SUPPLEMENT of December 24th, 1921, there appeared in full the Report of the Council to the Divisions and Representative Body on the revision of the constitution and machinery of the British Medical Association. A Current Note in the same issue gave a brief outline of the more important features of the report, and explained that these detailed proposals were made by the Council in response to the specific instructions of the Annual Representative Meeting held in Newcastle last July. Additional copies of the SUPPLEMENT of December 24th have now been circulated to the Honorary Secretaries of Divisions and Branches in the United Kingdom, together with a letter by the Medical Secretary indicating certain points in the Report of Council to which special attention should be given. Honorary Secretaries are reminded that it is for the Divisions to say whether they are satisfied that the proposals carry out the instructions, or whether any adjustments are desired. Any amendment by a Division or Branch to the Council's proposals should be in the Medical Secretary's hands not later than April 29th, 1922. All such amendments will be published in the SUPPLEMENT not later than May 20th, in order that they may rank as valid amendments and take effect as such in the Articles and By-laws of the Association, if so decided by the Representative Body at Glasgow next July, and (in the case of Articles) at statutory general meetings of the Association. The Annual Representative Meeting will begin on Friday, July 21st.

Payment of Travelling Expenses in connexion with Inquests: North Riding of Yorkshire.

In the SUPPLEMENT of June 18th, 1921, at page 229, we published a Current Note giving details of the action taken by the British Medical Association to induce county councils to pay the travelling allowances of medical practitioners attending coroners' inquests. We printed at the same time a list of the county councils which had stated that they paid such expenses. The Association has now been informed by the North Riding County Council that that council on October 28th last passed the following resolution:

> That subject, if required, to the sanction of the Ministry of Health, medical practitioners attending to give evidence at inquests be allowed third class railway fare, or, in case trains are not available, a sum not exceeding 9d. per mile each way, in addition to the statutory fee of £1 1s., and that the same travelling allowance be made in any case in which they are called upon by the coroner to make a *post-mortem* examination.

Meetings of Branches and Divisions.

STAFFORDSHIRE BRANCH: SOUTH STAFFORDSHIRE DIVISION.

ON January 5th a dinner was held at the Victoria Hotel, Wolverhampton, at which some thirty medical practitioners were present. Dr. G. C. Anderson (Deputy Medical Secretary), Dr. Ridley Bailey, and Dr. H. G. Dain were the guests of the Wolverhampton Panel Committee.

After the dinner, Dr. F. A. COOKE, Chairman of the Division, introduced Dr. Anderson to the assembly, and Dr. ANDERSON then gave an address on the National Health Insurance Act and the organization of the profession.

Address by Dr. G. C. Anderson.

The alteration of the insurance capitation fee to 9s. 6d. was dealt with by Dr. Anderson, who pointed out that that figure with the two years' guarantee was held to be quite as good as a fee of 10s. without such guarantee, which appeared to be the view held by those present. The 1920 Regulation concerning the sale of panel practices was, in his opinion, the best that could be obtained under present circumstances, and in practice it had been found that the patients had been transferred to the successor's list by the Allocation Committee owing to the impracticability of any other course. The only difference in practice, therefore, between the 1920 and the older Regulation really was that the time allowed to patients in which to exercise their choice of a doctor was now four months instead of fourteen days.

The Collective Bargaining Scheme was lucidly explained, but in Dr. Anderson's opinion the percentage of 80 was too high, since he believed anything over 50 per cent. would cause a breakdown of medical benefit, for no responsible Minister could justify such a depleted service to the House of Commons. He was of opinion that 65 per cent. should be substituted for 80 per cent. in the scheme. The importance of consultants standing in with the general practitioners was emphasized, and the recent attempt of an approved society to obtain treatment for all their ophthalmic cases at a fee of 5s. per annum through a hospital in London, which had been accepted by the board of management without the knowledge of the honorary medical staff, was given as an illustration. In conclusion, Dr. Anderson touched upon the work of the British Medical Association in combating municipalization of the medical services, both private and hospital.

Dr. T. C. CRAIG, Chairman of the Panel Committee, deplored the lack of interest shown by practitioners in the administration connected with their work, and doubted the wisdom of reducing the percentage under the Collective Bargaining Scheme, since the few men who attended meetings were not in a position to legislate for the large number who never attended, and who were not sufficiently disciplined to obey the decisions of their executive, thus markedly differing from the members of trade unions. Dr. F. G. LAYTON (Walsall) asked whether any steps had been or could be taken to have ethical training given to those entering the profession.

Dr. ANDERSON, in reply, pointed out that although the attendances at medical meetings appeared small it compared very favourably with the so-called mass meetings of trade unions where often not more than 40 attended out of a few thousands, and that many trade unions considered the medical organization much superior to their own. In reply to Dr. Layton he said this matter had been taken up by the Association, and that in most schools lectures were given on ethics by teachers in forensic medicine. Unofficial instruction in ethical matters and on the advantages of being a member of the British Medical Association and some defence union were being given in some teaching schools between the final examination and the conferring of qualifications. Dr. Anderson added that in Australia almost every practitioner was a member of the British Medical Association unless there was something against him; he was desirous of seeing the same state of affairs here.

Dr. DAIN (Birmingham), a member of the Insurance Acts Committee, said, with regard to the sale of panel practices, the point should not be overlooked that under the 1920 Regulations the Insurance Committee was responsible for sending notification of the transfer of the practice to all persons on that practitioner's list three times during the four months, a duty which formerly rested upon the vendor, and that recently the notifications of the transfer of a practice in Birmingham had cost the Insurance Committee £45.

The Chairman, Dr. COOKE, proposed a hearty vote of thanks to Dr. Anderson for his address, which he believed everyone present had benefited by; many points on which he had been uncertain had been so simply and clearly put by the Deputy Medical Secretary that no further doubt remained.

Dr. RIDLEY BAILEY, a member of the Insurance Acts Committee, in seconding, drew attention to the enormous amount of work done for the profession by Dr. Cox, Dr. Anderson, and the other members of the central staff, both medical and lay. Unless members were on the Central Committees or the Council, they could have no idea of the strenuous character of the work at 429, Strand, and although he at one time thought they had nice easy jobs, he would not now, with his present knowledge, hold one of their posts at any price.

Dr. ANDERSON, in thanking the meeting, paid a tribute to the zeal of Dr. Cox, and said that although the work was exacting, the whole central staff enjoyed it and their lay workers were of the very best.

NORTHERN COUNTIES OF SCOTLAND BRANCH.

A MEETING of the Branch was held in the Palace Hotel, Inverness, on December 16th, 1921, when Dr. KENNETH GILLIES was in the chair; there was a very good attendance of members. Dr. EDWIN BRAMWELL, Physician, Royal Infirmary, Edinburgh, gave a British Medical Association lecture on "Psycho-analysis and Psychotherapy in relation to Medical Practice." After a short discussion on Dr. Bramwell's paper the hope was expressed by those present that B.M.A. lectures should be given at frequent intervals, as had been done in the case of the Northern Counties of Scotland Branch; it was found that the lectures were a means of bringing members in a wide district like the Northern Counties of Scotland Branch more frequently together. After the lecture thirty members dined together in the Palace Hotel, when a very pleasant evening was spent.

YORKSHIRE BRANCH: SCARBOROUGH DIVISION.

AT a meeting of the Scarborough Division, held on December 14th, 1921, at the Pavilion Hotel, the following office-bearers were elected:

Chairman: Dr. Thornley. *Vice-Chairman:* Dr. Handcock. *Honorary Secretary:* Dr. Chapman. *Representative in Representative Body:* Dr. Candler-Hope. *Deputy Representative:* Dr. Chapman. *Representative on Branch Council:* Dr. Thornley.

The members, with other practitioners and guests, dined at the Pavilion Hotel in the evening.

YORKSHIRE BRANCH: DARLINGTON DIVISION.

THE annual dinner of the Darlington Division was held at the King's Head Hotel on January 4th. Members were allowed to bring each one guest, and most of them took the opportunity of bringing a guest other than a medical man. The result was that the dinner, although primarily of a medical nature, was kept from being too much so. An enjoyable evening was spent in toasts and songs after an excellent repast.

MEETINGS TO BE HELD.

DORSET AND WEST HANTS BRANCH: WEST DORSET DIVISION.—A meeting of the West Dorset Division will be held on Wednesday, February 1st, 1922, when Dr. J. S. Fairbairn (London) will give a British Medical Association lecture.

GLASGOW AND WEST OF SCOTLAND BRANCH: LANARKSHIRE DIVISION.—A meeting of the Lanarkshire Division will be held in St. Enoch Station Hotel, Glasgow, on Wednesday, January 18th, at 3 p.m. This meeting has been specially convened at the request of the Chairman. The Scottish Secretary, Dr. Drever, hopes to be present.

METROPOLITAN COUNTIES BRANCH: LAMBETH DIVISION.—A meeting of the Lambeth Division will be held at Lambeth Carlton Club, 376, Coldharbour Lane, on Tuesday, January 17th, at 9.30 p.m. Dr. Alfred Cox will address the meeting on "What an organization of medical men *can* do and what it *cannot* do."

METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.—A meeting of members and non-members will be held at St. Andrew's Parish Hall (Institute behind the Church), High Road, Willesden Green, N.W., on Tuesday, January 17th, at 8.30 p.m. Agenda: Consider (1) reply from Willesden District Council to memorandum and resolutions passed at last meeting of Division (see BRITISH MEDICAL JOURNAL, SUPPLEMENT, p. 5); (2) Memorandum No. 2, prepared by executive in reply to above. (3) Steps to be taken in connexion with Willesden municipal election (April 1st, 1922). (4) Means of supporting approved medical candidates. (5) Fill vacancy on executive due to resignation of Dr. Crone. (6) Any other business. Members are requested to attend if they possibly can, and to intimate willingness to subscribe to the Municipal Election Fund.

SUSSEX BRANCH: BRIGHTON DIVISION.—A meeting of the Brighton Division will be held at the Children's Hospital on Tuesday, January 17th, at 4 p.m. Agenda: Report of Executive Committee and election of Representative and Deputy Representative. Consideration of Report of Council on revision of British Medical Association constitution and machinery (see SUPPLEMENT, December 24th, p. 237). (Members are requested to bring forward any suggestions for amendments.) Resolution by Dr. Fothergill, which, if carried, will be submitted to the Annual Representative Meeting at Glasgow.

Association Notices.

TABLE OF DATES.

Jan. 31, Tues.	Division Reports for 1921 due to Branch Council and to Head Office on or before this date.
Feb. 11, Sat.	Last day for receipt at Head Office of Nominations, by not less than 3 members, for election of 7 Members of Council for 1922-23 by grouped Oversea Branches.
Feb. 15, Wed.	Council Meeting, 429, Strand, at 10 a.m.
Mar. 15, Wed.	Branch Reports for 1921 due to Head Office on or before this date.
April 1, Sat.	Nomination papers available at Head Office for election of 24 Members of Council for 1922-23, by grouped Home Branches.
April 26, Wed.	Council Meeting, 429, Strand, at 10 a.m.
April 29, Sat.	Last day for receipt at Head Office of Independent Motions for Annual Representative Meeting Agenda.
May 6, Sat.	Annual Report of Council appears in SUPPLEMENT.
May 8, Mon.	Last day for receipt at Head Office of Nominations, by a Division or not less than 3 Members, for election of 24 Members of Council by grouped Home Branches for 1922-23.
May 13, Sat.	Publication in SUPPLEMENT of list of nominations for election of 24 Members of Council by grouped Home Branches for 1922-23.
May 13, Sat.	Voting papers for election of 24 Members of Council by grouped Home Branches posted from Head Office to Members of groups where there are contests.
May 27, Sat.	Last day for receipt at Head Office of voting papers for election of 24 Members of Council by grouped Home Branches. (Where there are contests.)
June 3, Sat.	Publication in SUPPLEMENT of results of Council elections by grouped Home Branches.
June 10, Sat.	Nomination papers available, at Head Office, for election of 12 Members of Council by grouped Home Representatives.
June 14, Wed.	Council Meeting, 429, Strand, at 10 a.m.
June 23, Fri.	Last day for election of Representatives and Deputy-Representatives.
June 24, Sat.	Supplementary Report of Council appears in SUPPLEMENT.
June 30, Fri.	Last day for receipt at Head Office of notification of election of Representatives and Deputy-Representatives.
July 7, Fri.	Last day for receipt at Head Office of Amendments and Riders for Annual Representative Meeting Agenda.
July 21, Fri.	Annual Representative Meeting, Glasgow, 10 a.m.
July 21, Fri.	Nominations for election of 12 Members of Council by grouped Representatives to be received (at Annual Representative Meeting, Glasgow) by this date.

Insurance.

DISPENSING CAPITATION FEE.

As announced in a Current Note in the SUPPLEMENT of December 10th, 1921, representatives of the Insurance Acts Committee early in December met representatives of the Ministry of Health and discussed the dispensing capitation fee with them. The Committee's representatives were informed that it was proposed to make a reduction in the dispensing fee at present paid to chemists which would, it was estimated, reduce the cost of dispensing by chemists to 1s. 9d., and it was this figure that insurance practitioners who dispense their patients' drugs were asked to accept as a capitation fee for dispensing for the next two years. At the same time the Ministry's representatives agreed that dispensing practitioners should be relieved of the cost of supplying malt and cod-liver oil in respect of all their patients, such cost to be charged to the Drug Fund. They also undertook to give sympathetic consideration to any suggestions for additions to the list of specially expensive drugs which would not be covered by the 1s. 9d.

The question of the proposed reduction of the dispensing capitation fee was considered at a joint meeting of the Rural Practitioners and General Purposes Subcommittees on December 16th, and the former Subcommittee afterwards held a meeting to consider the line of action to be adopted. Subsequently Drs. Brackenbury, Williams-Freeman, Wood Locket and Cuming Askin met representatives of the Ministry on December 20th, and placed before them the case against the Ministry's proposal to reduce the fee. This case was published in the form of a memorandum in the SUPPLEMENT of December 31st, at p. 258. Local Medical and Panel Committees will be kept informed of further developments in the matter.

CERTIFICATE BOOKS.

INSURANCE medical practitioners are asked to note that the price of the *National Health Insurance Acts Certificate Books*, supplied for their use by the British Medical Association, is now 9d. each, and not 6d. as formerly. Applications for the Certificate Books should be addressed to the Financial Secretary, 429, Strand, London, W.C. 2.

MEDICAL RECORD CARDS.

VIEWS OF THE GLOUCESTERSHIRE PANEL AND LOCAL MEDICAL COMMITTEE.

WE have received for publication a copy of the following communication, addressed on January 5th, 1922, to the Secretary of the Ministry of Health, and signed by the chairman and honorary secretary on behalf of the County Borough of Gloucester Panel and Local Medical Committee:

The above Committee begs respectfully to ask your Ministry's courteous and serious consideration of the question of the compulsory keeping of Record Cards.

In moderate and large panels, much time, which would otherwise be given to the patient, has to be spent in finding the respective card, and in entering what are, for the most part, quite unnecessary and useless details upon it.

Some relief to this distracting element could, we admit, be afforded by the employment of a clerk, to sort out beforehand the card of each patient visiting the surgery, and for the subsequent entry thereon of visits and other details, but the reduced capitation fee does not permit of this additional expense being incurred.

So far as the interests of the patients are concerned a record would naturally be kept by the medical man of all cases of importance, but the results obtained by Sir James Mackenzie's St. Andrews Institute of Clinical Research show conclusively that the record of early histories of common ailments does not, so far as can be ascertained, assist in the ultimate diagnosis, prognosis, and treatment of individual conditions of disease.

It has been urged officially, as a ground for insisting upon the keeping of such records, that at a conference of representatives of Panel and Local Medical Committees held in London some two years ago, a resolution was unanimously passed to the effect that a complete record of each case from birth to death was advisable. We would, however, point out, apart from its impracticability, that that resolution was proposed towards the end of the session, when many had left and the majority were on the move; it was perfunctorily declared as carried, although very few hands were raised in its support, and it did not, therefore, in any sense represent or express the feelings of panel practitioners generally.

The record of attendances of patients, or of visits to them at their homes, is of no statistical value; nor is it of value in checking the medical man as to the care, or otherwise, he bestows upon his patients. The patient is amply safeguarded in that respect by his ability to transfer his patronage to another doctor, if dissatisfied, twice during the year; or by a special arrangement of transfer between those dates; or, in the case of neglect, by the lodgement of a complaint with the Medical Service Subcommittee.

It is to the interest of the medical man, from every point of view, to manifest care for his patients. The medical record card is of no assistance in securing that end, but, upon the other hand, it is a hindrance to a busy and anxious practitioner in the prosecution of his duties.

Nor can a record of the ailments of, or of the medicines prescribed for, patients be of the slightest statistical, pathological, or therapeutical value in the vast majority of cases. In cases of importance, as already indicated, the practitioner will keep notes in his own interest, as well as that of his patient.

Moreover, if ever these millions of record cards should be collected for statistical valuation, the work and difficulties of tabulation would be so enormous as to render the cost of the undertaking out of all proportion to the benefits, if any. In the interests of economy and taxation, therefore, they would, in our Committee's opinion, be wisely discarded.

We beg to ask that these points (which are but a few of the many reasons which may be urged in their disfavour, and do not include the much discussed and very real objection from the public point of view to the breach of privacy which this method involves) may merit the earnest consideration of your Ministry; and we are hopeful that your Ministry may see their way to decree that the use of Record Cards shall, in future, be left to the *voluntary* wish of each individual medical practitioner.

Correspondence.

The Dispensing Capitation Fee.

SIR,—I think all rural dispensing practitioners should be satisfied with, and will feel grateful for, the clear and comprehensive statements made on their behalf by the Insurance Acts Committee in their letter to the Ministry of Health [1] as reasons why no reduction should be made in their capitation dispensing fee for insurance patients. The picture of what

[1] SUPPLEMENT, December 31st, 1921, p. 258.

dispensing means to us is not in the least overdrawn but a clear statement of fact. I only hope it will turn out to be as good as it reads. Be this as it may, I have every reason to believe a very firm stand will be made by every one of us throughout the country against any reduction in this fee, and I trust no more attempts will be made to compare us with the panel chemist in this regard. There can be no comparison. —I am, etc.,

Felton, Northumberland, Jan. 2nd. ROBT. A. WELSH.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following notifications are announced by the Admiralty:—Surgeon Commanders placed on the retired list with the rank of Surgeon Captain: P. M. May, R. D Jameson, C.M.G., P. H. Boyden, Edwin S. Miller, H. Hunt, J. C. Rowan, C. R. Sheward, J. C. Durston. Surgeon Commanders H. Spicer and H. C. Arathoon have been placed on the retired list. Surgeon Commanders: D G. Addison-Scott to the *Vivid* for R.N. Barracks, J. J. H. Rooney to the *Malaya*, S. Bradbury to the *Capetown*, J. A. Thompson to Yarmouth Hospital, E. A. G. Wilkinson, O.B.E., to the *Cardiff*. Surgeon Lieutenant Commanders: J. D. Murphy to the *Montrose*, A. E. P. Chee eman to the *Pembroke* for R.M. Division, Chatham, I. S. Gabe to the *Verbena* on commissioning, J. M. Horan to the *Diligence*, G. F. B. Page to the *Columbine* for Port Edgar, J. A. O'Flynn to the *Warspite*, G. D. Macintosh to the *Fantome*, A. C. V. Green to the R.M Division, Plymouth. Surgeon Lieutenants: W. J. McB. Allan to the *Ramilles* (temporary), and H. L. Douglas to the *Widgeon*.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

Major F. A. H. Clarke to be temporary Lieutenant-Colonel whilst employed as Assistant Director of Hygiene.

The notifications in the *London Gazette* of July 14th, 1916, and September 7th, 1920, regarding Lieut.-Colonel R. J. W. Mawhinny, are cancelled.

Lieut.-Colonel R J. W. Mawhinny, C.B., to be acting Colonel from December 7th, 1915, to July 11th, 1916.

Major Arthur E. Atkinson, late temporary Captain, to be temporary Major, October 21st, 1921, and to relinquish the rank of Major (substituted for notification in the *London Gazette*, November 11th, 1921).

The following temporary Captains relinquish their commissions and retain the rank of Captain: J. J. Todd, F. E. Johnson, H. S. Campion (on account of ill health).

Temporary Lieutenants to be temporary Captains: C. P. Ruel, R. E. Murphy.

REGULAR ARMY RESERVE OF OFFICERS.

ARMY MEDICAL SERVICE.

The following, having attained the age limit of liability to recall, cease to belong to the Reserve of Officers: Major-General A. A. Sutton, C.B., D.S.O., late R A.M.C.; Colonels G. H. Barefoot, C.B., C.M.G., and F. R. Buswell, C.M.G., late R.A.M.C.

DIARY OF SOCIETIES AND LECTURES.

LONDON DERMATOLOGICAL SOCIETY, 49, Leicester Square, W.C.2.—Tues., 4.30 p.m., Pathological Specimens. Cases. Discussion on Psoriasis to be opened by Dr. W. Griffith.

MEDICO-LEGAL SOCIETY, 11, Chandos Street, W.1.—Tues., 8.30 p.m., Professor Harvey Littlejohn: The Proof of Live Birth in Criminal Cases.

ROYAL COLLEGE OF SURGEONS, Lincoln's Inn Fields, W.C.—Mon., Wed., and Fri., 5 p.m., Hunterian Lectures by Sir Arthur Keith: The Facial Characteristics of Living Races of Mankind.

ROYAL SOCIETY OF MEDICINE.—General Meeting of Fellows, Tues., 5 p.m. *Section of Pathology:* Tues., 8.30 p.m., Sir G. Lenthal Cheatle: Multicentric Origin in a Case of Rodent Ulcer of the Trunk; Mr. J. B. Buxton: Grass Disease and Botulismus; Dr. A. B. Rosher and Dr. H. A. Fielden: Agglutinins for Bacilli of the Salmonella Group; Dr. W. W. C. Topley: Effect of Dispersal during the Early Stages of a Mouse Epidemic. *Section of History of Medicine:* Wed., 5 p.m., Dr. F. P. Wilson: The Plague in Shakespeare's London. *Section of Dermatology:* Thurs., 4.30 p.m., Cases. *Section of Otology:* Fri., 4.45 p.m., Cases; 5 p.m., Demonstration by Mr. R. Scruby of Professor J. H. Fleming's thermionic valve to aid the deaf; Mr. Alexander Tweedy: Research Work in Utrecht on Saccular and Allied Reflexes. *Section of Electro-Therapeutics:* Fri., 8.30 p.m., Discussion on Electrotherapy in Gynaecology to be opened by Dr. Zimmern, followed by Dr. Agnes Savill, Dr. Sloan-Chesser, Dr. C. A. Robinson, Dr. Walter J. Turrell, and others.

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos Street, W.—Thurs., 7.45 p.m., Demonstration; 8.15 p.m., Paper by Dr. E. J. Butler, Director of the Imperial Bureau of Mycology: Some Relations between Vegetable and Human Pathology.

POST-GRADUATE COURSES AND LECTURES.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION, Royal Infirmary.—Wed., 4.15 p.m., Dr. J. M. Cowan: Causes of Death in Chronic Valvular Diseases.

MANCHESTER: ANCOATS HOSPITAL.—Thurs., 4.30 p.m., Dr. W. J. S. Reid: Diagnosis and Treatment of Neuro-syphilis.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.30 p.m., Dr. A. Ramsbottom: Pleural Effusion.

MANCHESTER: ST. MARY'S HOSPITALS, Whitworth Street West Branch.—Fri., 4.30 p.m., Dr. Lapage: Tuberculous Infection and Tuberculous Disease in Infants and Children.

MIDDLESEX HOSPITAL MEDICAL SCHOOL, W.—Fri., 3 p.m., Emeritus Lecture by Sir James Kingston Fowler: Diagnosis.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland Street, W.1.—Daily, In- and Out-patient Attendances; Mon., 5.30 p.m., Lecture by Dr. Moon: Rheumatic Infection of the Heart.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Mon., Tues., Thurs., and Fri., 2 p.m, Out-patient Clinics; Tues. and Fri., 9 a.m., Surgical Operations. Lectures.—Mon. (noon), Dr. Greenfield: Cerebro-spinal Fluid; Mon. and Tues., 3.30 p.m., Dr. Walshe: Afferent Paths in the Nervous System and Effects of Lesions thereon. Thurs., 3.30 p.m., Dr. K. Wilson: Pathogenesis of Involuntary Movements. Fri., 3.30 p.m., Dr. Collier: Vascular Disease of the Nervous System.

NEWCASTLE-UPON-TYNE: NORTH OF ENGLAND BRANCH OF THE BRITISH MEDICAL ASSOCIATION, Royal Victoria Infirmary.—Fri., 2.15 p.m., Mr. A. M. Martin: Congenital Dislocation of the Hip-joint; 2.45 p.m., Mr. J. Hamilton Barclay: Genu Valgum and Rachitic Deformities of the Lower Limb; 3.15 p.m., Dr. A. Parkin: *Bacillus coli* Pyelitis; 3.45 p.m., Tea; 4 p.m., Professor Stuart MacDonald: The Pathology of a Selected Case; 4.30 p.m., Mr. J. S. Arkle: Treatment of Strabismus.

ROYAL INSTITUTE OF PUBLIC HEALTH, 37, Russell Square, W.C.—Wed., 4 p.m., Dr. C. W. Saleeby: Influence of Light and Air in the Prevention and Cure of Tuberculosis.

ST. JOHN'S HOSPITAL, 49, Leicester Square, W.C.—Thurs., 6 p.m., Chesterfield Lecture, by Dr. W. Griffith: Diseases of the Skin Appendages.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Daily, 10 a.m., Ward Visits; 2 p.m., In- and Out-patient Clinics and Operations. Lectures.—Mon., 5 p.m., Dr. A. Saunders: Toxic Jaundice; Tues., 5 p.m., Mr. Tyrrell Gray: Intestinal Obstruction; Wed., 5 p.m., Dr. Simson: Management of Labour; Thurs., 12 noon, Dr. Pinchin: Diseases of the Heart; Fri., 5 p.m., Dr. Burrell: Early Diagnosis of Tubercle of Lung.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 1s. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS and ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London).
MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London).
EDITOR, *British Medical Journal* (Telegrams: Aitology, Westrand, London).
Telephone number for all Departments: Gerrard 2630 (*3 lines*).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.; 4161 Central.)
IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dub.in.)

Diary of the Association.

JANUARY.

13 Fri. Darlington Division, Greenbank Hospital: Address by the Medical Secretary, 8.30 p.m.
South Essex Division: Supper, Hotel Victoria, 8.15 p.m.
17 Tues. Brighton Division: Children's Hospital, 4 p.m.
Croydon Division, Croydon General Hospital.—Dr. R. D. Passey, M.C.: Clinical Pathology and Vaccine Therapy, 8.15 p.m.
Lambeth Division, Carlton Club, 375, Coldharbour Lane, S.W.: Address by the Medical Secretary, 9.30 p.m.
London: Naval and Military Committee, 2.30 p.m.
Willesden Division, St. Andrew's Parish Hall, High Road, Willesden Green, N.W., 8.30 p.m.
18 Wed. Lanarkshire Division, St. Enoch Station Hotel, Glasgow, 3 p.m.
London: Hospitals Committee, Adjourned Meeting, 2.30 p.m.
London: Organization of Medical Students Subcommittee, 2.15 p.m.
South Middlesex Division, St John's Hospital, Twickenham.—8 p.m., General Business; 8.45 p.m., Paper by Dr. Herbert French: A Few small Clinical and Therapeutic Points.
19 Thurs London: Contract Practice Subcommittee, 2.30 p.m.
20 Fri. Glasgow Eastern Division, Bellgrove U.F. Church Hall, Bellgrove Street, 3.30 p.m.
North of England Branch, Royal Victoria Infirmary, Newcastle-upon-Tyne: Scientific Demonstrations, 2.15 p.m.
24 Tues. London: Organization Committee, 2 p.m.
25 Wed. London: Medico-Political Committee, 2.30 p.m.
26 Thurs. London: Insurance Acts Committee, 2.30 p.m.
London: Journal Committee, 2.30 p.m.
27 Fri. London: Public Health Committee, 3 p.m.

FEBRUARY.

1 Wed. London: Finance Committee, 2.30 p.m.
South Middlesex Division, St. John's Hospital, Twickenham.—8 p.m., Business Meeting; 8.45 p.m., Paper by Dr. H. Batty Shaw: Early Diagnosis of Tuberculosis.
West Dorset Division: B.M.A. Lecture by Dr. J. S. Fairbairn.

APPOINTMENTS.

ADAMSON, W. W., M.Sc., M.B., Ch.B.Glasg., D.P.H., Honorary Pathologist to the Royal Infirmary, Hull.

IRVINE-JONES, Charles I., M.B., Ch.Edin., Junior House-Surgeon, Doncaster Royal Infirmary.

JACOBS, Cyril, M.C., M.B., B.S.Durh., Honorary Ophthalmic Surgeon, Manchester Victoria Memorial Jewish Hospital; Oculist, Cheshire Education Committee.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 9*s.*, *which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.*

BIRTH.

ROOKE.—On the 4th inst., at Boscome Cottage, Bournemouth, the wife of A. Basil Rooke, F.R.C.S., of a son.

DEATH.

PIRIE.—At 20, Bonaccord Square, Aberdeen, on 5th January, 1922, William Rattray Pirie, O.B.E., M.A., M.B., aged 53. Interment in Allenvale Cemetery.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, JANUARY 21ST, 1922.

CONTENTS.

BRITISH MEDICAL ASSOCIATION. — PAGE

Current Notes:
- The Medical Officer of Health for Manchester ... 13
- Annual Meeting, Glasgow, 1922 13
- Professional Organization 13
- Statistics as to Insurance Work 14

Meetings of Branches and Divisions 14
- Meetings to be held 14

Association Notices 14
Association Intelligence 16
Diary of the Association 16
Willesden Health Policy 14

Insurance Notes:
- National Insurance Finance 15
- Certificate Books 15
- Presentation to Dr. C. S. Young 15

Correspondence:
- The Mileage Grant. By J. P. Williams-Freeman, M.D. ... 15

Naval and Military Appointments 16
Diary of Societies and Lectures 16
Appointments 16
Births, Marriages, and Deaths 16

British Medical Association.

CURRENT NOTES.

The Medical Officer of Health for Manchester.

The Manchester City Council is advertising for a medical officer of health in succession to Dr. Niven, whose term of office is nearly over. It is offering a salary of £1,500 a year, without any bonus and without any promise of increments, and the British Medical Association declines to insert the advertisement, in which action it has the cordial support of the Society of Medical Officers of Health and of the *Lancet*. It is hardly to be supposed that any candidate who would be considered suitable for what is one of the outstanding public health posts in the kingdom will apply for it in the face of the strong objections held by the medical bodies chiefly concerned. We are informed that the town clerk on appointment receives £2,250, with the prospect of an early rise to £3,000; the engineer receives £3,000, with outside fees; but (as our informant caustically remarks) these officers are dealing with money, while the medical officer of health is only dealing with health. It is essential that all sections of the medical profession should realize that the offer of such a salary for such a post is a reflection not only on the public health section of the medical profession, but on the whole profession, and is, moreover, a menace. The office of medical officer to a city like Manchester may be regarded as one of the prizes of the profession on the public health side. The salary, if accepted, would certainly be used as a precedent by other large cities and by other employers of medical practitioners. If £1,500 is to be regarded as a suitable salary for such an officer the effect on the salaries and remuneration of other medical men and women in other responsible posts can easily be estimated. It is hoped that any medical man who has already applied for the post will withdraw his application at once.

Annual Meeting, Glasgow, 1922.

In a printed letter, inviting members of the Lanarkshire Division to be present at the Divisional meeting this month, the Chairman, Dr. John Lithgow, gives a sketch of the plan and purpose of the Annual Meeting of the British Medical Association to be held in Glasgow next July. In the belief that the information Dr. Lithgow gives will be of interest to members outside his Division, we quote the following extracts:

> It is thirty-four years since the Association last met in Glasgow, and it is expected that more than 2,000 members of our profession will be present from all parts of the world. The meeting will be presided over by Sir William Macewen, F.R.S., C.B., LL.D. Arrangements are being made by the Glasgow and West of Scotland Branch for the scientific meetings, the Representative Meeting, and the meetings of various sections in surgery, medicine, etc. An interesting programme of entertainments and excursions to places of interest is also being drawn up, and it is hoped that the Glasgow meeting will be one of the most successful in the history of the Association.
>
> The Lanarkshire Division is the largest in the West of Scotland Branch, and the third largest in Scotland. The membership, which was 66 in 1904, has now more than doubled, but in the whole county of Lanark there are still more than 150 members of the medical profession who are not members of the British Medical Association. I feel that this is a specially appropriate occasion for increasing the membership, as the meeting is to be held in Glasgow, when we will be meeting our brethren from all over the kingdom, the Overseas Dominions, and from abroad. We must unite to give them a hearty Scottish welcome; many of those who served overseas during the war will have an opportunity of meeting old comrades and extending hospitality to them.

Professional Organization.

The *National Veterinary Journal*, whose editor is Professor Frederick Hobday, C.M.G., publishes this month an editorial article headed "Waken Up!" in which a moral is drawn for the veterinary profession from the growing success and strength of the British Medical Association. Our contemporary, taking as its text a Current Note printed in a recent issue of the SUPPLEMENT, writes as follows:

> "At a recent meeting of the Propaganda Subcommittee of the British Medical Association the report of the Financial Secretary showed that no less than 856 new members had joined the Association between June 21st and October 6th, 1921; 123 members paid arrears of subscription, and 15 resignations were withdrawn. Resignations numbered 88, and there were 70 deaths. The sum total gave a total membership on October 6th, 1921, of 23,634, as compared with 22,798 on June 20th. As stated in the *British Medical Journal*, the official organ of the Association, 'such figures speak for themselves.' It is a worthy example of what can be done in a 'live' profession, and the figures are worthy of comparison as to whether we are in as good a case. True, the medical profession is numerically very much in excess of ours, but proportionately the number of active members is greater, and it ought not to be so.
>
> "Our National Veterinary Association and its official journal ought to be as well supported, proportionately, as is the British Medical Association, and it will be, too, when once the profession has shaken off its apathy. It is entirely our own fault in this, as in other matters, that it is not so, and we have only to refer to the correspondence columns of this issue to see even laymen are not oblivious of the fact; and very often the members of our profession who do the least for their fellow-men make the most complaint. The remedy lies with ourselves, and if we will but act up to our motto, 'Vis Unita Fortior,' and each 'waken up' and put his shoulder to the wheel, we cannot possibly fail to command, every one of us, an income and a social position worthy of a learned profession. . . . Let us then start the year each promising to *do* something for himself and his profession; not forgetting that in our union lies our strength, and that by each federating himself with the parent body and by spreading the knowledge his experience has acquired to his fellow practitioners he is benefiting not only the world in general but himself in particular."

It is gratifying that our Association and its journal should be held up as an example of professional organization. But the good work of 1921 must be pressed forward and consolidated in 1922. Progress stops when complacency sets in.

Statistics as to Insurance Work.

At the outset of the discussions between the Insurance Acts Committee and the Ministry of Health regarding the 1920 capitation fee, the former found of considerable value the statistics of work done which insurance practitioners had supplied to the Medical Secretary.

The need for this information will be equally great when the present capitation fee is reviewed at the end of 1924. Insurance practitioners are therefore requested to forward to the Medical Secretary information under the following heads with respect to 1921:

Name.	Insurance Address.	No. of Insured Persons on List.	No. of Insured Persons Attended during 1921—that is, No. of Patients.	No. of Consultations.	No. of Visits.

Meetings of Branches and Divisions.

NORTH OF ENGLAND BRANCH.

A MEETING of the combined Cleveland and Stockton Divisions was held in the North Riding Infirmary, Middlesbrough, on January 12th. The attendance was slightly disappointing, due doubtless to the prevalent influenza. Mr. W. S. DICKIE, chairman of the Cleveland Division, presided, and the meeting was addressed by Dr. ALFRED COX, Medical Secretary, who took for the title of his address "Is the British Medical Association of any use to the medical profession?" Dr. Cox divided his speech into three sections: (*a*) National Health Insurance; (*b*) the preventive and curative aspects of the public health; (*c*) the relation of the profession to the hospitals. He dealt with these subjects in able fashion, and was listened to with great interest. The subsequent discussion was taken part in by Drs. BROWNLEE, HENRY, LEVICK, LOWE, JACKSON, LYLE, and HOWELL. Dr. COX replied to questions and criticism, which at times threatened to become rather warm, and was accorded a hearty vote of thanks for his kindness in coming to address the meeting.

Association Notices.

MEETING OF COUNCIL.

THE next meeting of Council will be held on Wednesday, February 15th, in the Council Room, 429, Strand, London, W.C.2, at 10 a.m.

BRANCH AND DIVISION MEETINGS TO BE HELD.

DORSET AND WEST HANTS BRANCH: WEST DORSET DIVISION.—A meeting of the West Dorset Division will be held at Dorchester, on Wednesday, February 8th, when Dr. J. S. Fairbairn (London) will give a British Medical Association lecture, entitled "What disability is caused by and what treatment is required for internal displacement?"

EAST YORKS AND NORTH LINCOLN BRANCH: EAST YORKS DIVISION.—A meeting of the East Yorks Division will be held at Hull, on Friday, February 10th, when Sir Frederick Mott, F.R.S., will deliver a British Medical Association lecture on "The reproductive organs in relation to mental disorders."

METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.—A meeting of the Lewisham Division will be held on Tuesday, January 24th, at 8.45 p.m., at Farnboro' House, Kirkdale, Sydenham, S.E.26, when Dr. G. W. Charsley will occupy the chair. Dr. B. A. Richmond will give an address on "Developments of the medical service."

SOUTH MIDLAND BRANCH: BEDFORD DIVISION.—A general meeting of the Bedford Division will be held on Tuesday, January 31st, at the Bedford County Hospital, at 3 p.m. Agenda: Consider Annual Report of Council; discuss the proposed reduction of the Dispensing Capitation Fee; elect Representative and Deputy Representative; consider appeal for the Wood-Hill Fund. Dr. Glendining will read a paper on "The diagnosis and treatment of gastric ulcer."

SUSSEX BRANCH: BRIGHTON DIVISION.—The series of clinical demonstrations arranged by the Brighton Division will be continued at 4 p.m. on Thursdays on the dates and at the hospitals indicated. Tea will be provided at 3.45 p.m. The demonstrations are open to all members of the profession, but those not already members of the Association are invited to make application for membership, the advantages of which are very great. February 16th, County Hospital (cases from special departments); March 16th, Lady Chichester Hospital, New Church Road, Hove; April 20th, County Hospital (medical cases); May 18th, Children's Hospital; June 15th, County Hospital (surgical cases).

WILLESDEN HEALTH POLICY.

THE following correspondence has taken place between the British Medical Association and the Ministry of Health in regard to the medical service instituted by the Willesden Urban District Council. The circular mentioned by Dr. Cox is the leaflet reproduced in full in the SUPPLEMENT of December 24th, 1921, p. 255, and discussed in a leading article in the JOURNAL of November 26th, 1921, p. 908:

19th December, 1921.

Sir,

The Council of the Association, at its meeting on the 14th inst., gave protracted attention to the situation which has recently arisen at Willesden in connexion with the activities of the Willesden Urban District Council. I am directed to send to you a copy of a circular issued by that council and to ask the Ministry to at once take action with regard thereto. In the opinion of the Council the policy outlined in this circular is contrary to the policy laid down by this Association as representing the general body of the profession, against the interests of the public, and would also appear to be directly contrary to the declared policy of the Ministry of Health.

I shall be glad to hear in due course what action the Minister proposes to take.

I am, Sir, your obedient servant,

(Signed) ALFRED COX,
Medical Secretary.

The Secretary,
Ministry of Health, Whitehall, S.W.1.

Ministry of Health, Whitehall, S.W.1,
12th January, 1922.

Sir,

I am directed by the Minister of Health to advert to your letter of the 19th ultimo and enclosure relating to the scale of charges for medical services recently introduced by the Willesden Urban District Council, and to state that the Minister has informed the Council that he is not prepared to agree to the proposed annual registration fee of 2s. 6d., and he has requested the Council to rescind this part of the scheme.

The Minister's view is that no charge should be made for preventive as distinguished from remedial services in connexion with maternity and child welfare—that is, for such services as the visiting of homes by health visitors, attendance of mothers and of children under five at consultation centres, and educational facilities provided at maternity and child welfare centres for expectant and nursing mothers. It is desirable that any mothers and children, and especially the more necessitous, should have the opportunity of profiting by these important services if they so desire.

When, in the administration of the preventive services referred to, mothers and children are found to need further medical advice and treatment, the Minister considers that they should be advised to obtain it from private medical practitioners, and that treatment should be provided by the local authority only for cases in which the parent is unable for sufficient reason to obtain it from a medical practitioner or for ailments which experience shows are not generally treated unless provision is made by the local authority.

I am, Sir, your obedient servant,

(Sgd.) W. A. ROBINSON.

A MEETING of the Willesden Division of the British Medical Association was held on January 17th, when the Willesden Urban District Council's letter of December 21st, 1921 (see SUPPLEMENT, January 7th, 1922, p. 5) received consideration. An animated discussion took place, and a detailed reply to the letter was drawn up. The reply opened by expressing regret that the Willesden Council had not only failed to deal with the general argument set forth in the Division's original memorandum on the subject of the Willesden Public Health Services, but had so far failed to appreciate the Division's meaning in several respects as to reply to several propositions which had not been advanced.

The letter from the Urban District Council was criticized at some length in the BRITISH MEDICAL JOURNAL of January 7th (SUPPLEMENT, p. 4), and the letter from the Willesden Division covers practically the same ground. The Division points out that it was in recognition of the council's position as public health authority for the district, and in the belief that the welfare of the community and the policy of the

Ministry of Health alike demanded the active co-operation of all agencies in the promotion of public health, that it approached the council in the first instance with a criticism of the existing health policy. The letter by the Division proceeds:

In reply to paragraphs 5, 6, and 18, the Divison welcomes the suggestion that it should submit a scheme for working in the council's hospitals and clinics, but would point out that an indispensable preliminary to such co-operation is the creation of an advisory medical council on the lines indicated in the Dawson Report, and that the essential condition of such co-operation will be modification of the existing system in accordance with the principles already laid down. It will be clear to the council that the Division cannot co-operate in the maintenance of a system created without consultation with the local profession and in opposition to the declared policy of the British Medical Association and to the guiding principles laid down by the Ministry of Health and successfully followed elsewhere in the country.

As regards the question of public health, the Division does not desire to enter into correspondence on points of administrative detail within the province of the council's responsible officials. The points at which, in its opinion, the council's present policy is not conducive to the public welfare have already been sufficiently indicated. Should the council desire to raise any specific question as to the matters set forth in the original memorandum the Division will be glad to reply.

Among the suggestions put forward by the Division as possible economies in public health administration, which the council had asked for, is the adoption of the Dumfermline scheme, by which a large amount of treatment of school children could be carried out by the local practitioners at their surgeries or in the children's homes. A simplification of the system of records is also recommended, and it is pointed out that conditions in Willesden hardly justified the expenditure of £6 per birth in regard to maternity work, as against £2 per birth in other comparable districts. The Division, quoting from the report of the Chief Medical Officer of the Board of Education, shows that the Willesden health policy is in direct opposition in many important respects to that outlined in the publications of the Ministry of Health and of the Board of Education. The infant mortality figures, which have already been given in these columns (SUPPLEMENT, January 7th, 1922, p. 4), are emphasized, and the danger of founding statistical arguments upon isolated figures is again pointed out. As regards the municipal hospital and clinics the Division states:

In paragraphs 8 to 14 the council makes certain statements with regard to the utilization of the Municipal Hospital. The Division welcomes the statement that the proposal to limit admission to the hospital to certain districts of Willesden contained in the twenty-fifth annual report has not been carried out, and is glad to learn that the utilization of one block of the hospital for maternity cases has not, so far, led to any fatalities. It is not, however, satisfied that the hospital is being used to the best advantage, or that there is sufficient justification for the exclusion of urgent infectious cases in order to accommodate non-infectious cases and normal maternity cases. For such cases the London hospitals, the Willesden General (Voluntary) Hospital, and the Park Royal Hospital are available, and could be utilized by private practitioners when necessary.

Turning to paragraph 15, the Division is astonished to learn of the position in respect of the council's clinics. It would be glad to know what class of patient has ceased to attend the clinics. If the more necessitous mothers are actually unable to afford the registration fee of 2s. 6d. their exclusion from the benefits of the clinic appears particularly unfortunate. If, on the other hand, the more well-to-do mothers do not consider the treatment obtained at the clinic worth the amount charged, such a result hardly appears to support the council's contention. . . .

Finally (the reply concludes), the Division would like to make it clear that it has not entered into the controversy merely for the sake of controversy, and that its members claim to be as much concerned about the health of the Willesden community as the council is. As doctors they believe they have the knowledge and experience which justifies them in criticizing the methods of the Health Committee. As ratepayers they think they are justified in taking exception to expenditure which, in their opinion, could be avoided without injury to the community—in fact with benefit to it. The Division believes that the duty of the Willesden Urban District Council to safeguard the health of the community would be better carried out if it confined itself to strict and earnest attention to preventive medicine. It has a staff specially trained for that purpose, and the general practitioners in the area are quite willing and able to look after the curative side, both as private practitioners for people who can pay for themselves, or in co-operation with the council for people unable to provide medical treatment without help from the community. As already explained, the first step to cordial co-operation between the council and the doctors in an effort to improve the health of the Willesden public is the establishmeht of a medical advisory council elected by the medical profession of Willesden. It would be the duty of that body to place its opinions on medical matters before the elected representatives of the ratepayers, and it would be the duty of the council to consult the committee on all such matters. The final responsibility for action would, of course, rest with the council.

Insurance.

NATIONAL INSURANCE FINANCE.

THE British Medical Association has been asked by a Local Medical and Panel Committee to arrange for publication in the JOURNAL of a synopsis of Appendix X, published on pages 208 and 209 of the Second Annual Report for 1920–21 of the Ministry of Health. This gives an abstract of cash receipts and payments into the National Health Insurance Fund (England) for the year 1920.

Under the heading of receipts, which amount in total to £26,959,166, the following are the principal items: Balance at December 31st, 1919, £361,110; from sale of Insurance Stamps, £18,831,311; contributions on behalf of seamen, marines, soldiers and airmen, £309,717; Exchequer grants, £6,957,592; Ministry of Pensions towards cost of benefit of invalided seamen, marines, soldiers and airmen, £175,000; interest of investments in securities selected by societies held by Commissioners on behalf of societies, £305,376.

The payments fall short of the receipts by the sum of £936,188. The principal items of expenditure were: Societies for benefits and expenses of administration, £10,264,344; Insurance Committees for medical and sanatorium benefits and expenses of administration, £10,116,617; war bonus allowances to medical practitioners, £52,849; deposit contributors for benefits, etc., £53,284; Navy and Army Insurance Fund, £109,056; payment to married women under Section 22 (8) of National Insurance Act, 1918, £20,290; refund of maternity benefits paid by other Government departments, £9,907; refunds on account of insurance stamps returned to Ministry of Health, £7,064; Exchequer for expenses of administration of Deposit Contributors Fund, Navy and Army Insurance Fund, Exempt Persons Fund, and Approved Societies (Officers) Guarantee Fund (England), £64,669; Ministry of Labour contributions under out-of-work donation scheme (refund), £113,000; contributions to Approved Societies (Officers) Guarantee Fund, £6,788; payments to Special Fund constituted under Section 27 of National Insurance Act, 1918, £125,500; miscellaneous payments issued to societies for investment, £3,048,465; purchase of investments on behalf of societies, £1,068,979; National Debt Commissioners for temporary investment, £850,000; transfers to National Insurance Funds, other countries, £97,154.

CERTIFICATE BOOKS.

INSURANCE medical practitioners are asked to note that the price of the *National Health Insurance Acts Certificate Books*, supplied for their use by the British Medical Association, is now 9d. each, and not 6d. as formerly. Applications for the Certificate Books should be addressed to the Financial Secretary, 429, Strand, London, W.C. 2.

Correspondence.

The Mileage Grant.

SIR,—I have received a number of letters from rural practitioners asking me if I consider the reduction of the mileage grant is in accordance with the Minister's statement on October 11th last, "that the arrangements in force now regarding mileage and things of that kind should remain in force as in the past." May I answer briefly through your columns?

The "arrangements now in force" included a committee then sitting to consider the new statistics and advise upon the assessment for 1921. This committee has now reported, and Mr. Harris's letter to Insurance Committees alludes to its findings. They involve a reduction of the main portion of the fund (ordinary mileage) by some 15 per cent. as compared to 1920, and this, I think, practitioners must accept as no breach of a common-sense interpretation of the Minister's promise.

But the reduction of the special portion for districts of extraordinary difficulty is contrary to the recommendation of the committee, and I cannot myself see how it can be reconciled with the Minister's words.

The whole subject will, however, be considered at the next meeting of the Insurance Acts Committee.—I am, etc.,

Weyhill, January 16th. J. P. WILLIAMS-FREEMAN.

AT a meeting of the Dundee Panel Committee, on December 28th, Dr. C. S. Young, who lately retired from the chairmanship of the Committee, was made the recipient of a handsome silver tea and coffee service, subscribed by present and former members of the Dundee Panel. Dr. G. W. Miller, D.S.O., the present chairman, in handing over the gift, referred to the valuable services rendered to the profession by Dr. Young as chairman of the Committee from its inception until now. Mention was also made of the kindness of Mrs. Young as hostess to the Committee at their frequent meetings. Dr. Young replied appropriately on behalf of Mrs. Young and himself.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following notifications are announced by the Admiralty:—Surgeon Commander A. W. B. Livesay has been placed on the retired list, with the rank of Surgeon Captain; Surgeon Commander L. F. Cope, O.B.E., to the *Marlborough*, on commissioning; Surgeon Lieutenant L. F. Wallace to the *Victory*, additional, for R.N. Hospital.

RMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

Major and Brevet Lieut.-Colonel C. W. Holden, C.M.G., D.S.O., to be temporary Lieutenant-Colonel whilst employed as Assistant Director of Hygiene.

Temporary Captains relinquish their commissions and retain the rank of Captain: R. J. Harris, H. Cardin, I. Ridge-Jones, M.C.

ROYAL AIR FORCE MEDICAL SERVICE.

G. Kinneir is granted a short service commission as a Flying Officer, with effect from, and with seniority of, Dec. 10th, 1921.

Flight Lieutenant R. W. Ryan is granted a short service commission, retaining his present substantive rank and seniority.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Captain C. S. Sandeman to be Major.

Captain D. Mackie, M.C., relinquishes his commission, and is granted the rank of Major.

TERRITORIAL ARMY.

ROYAL ARMY MEDICAL CORPS.

The following officers, having attained the age limit, are retired, and retain their rank except where otherwise stated: Lieut.-Colonels W. Sinclair, T.D., and J. L. Loudon, T.D., with permission to wear the prescribed uniform; Major T. Frankish, T.D., and is granted the rank of Lieutenant-Colonel with permission to wear the prescribed uniform; Majors S. W. Plummer, T.D., D. G. Newton, T.D., D. G. Campbell, T.D., R. Brodie, M.B.E., and J. B. McBride, T.D., with permission to wear the prescribed uniform, E. T. Vint, F. R. Humphreys; Captains W. Smartt, W. Brown, J. M. Benson, A. MacLennan, W. E. Lee, R. H. Shaw, G. H. Rains, C. A. Ensor, J. Muir.

DIARY OF SOCIETIES AND LECTURES.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.—Mon., 8.30 p.m., Papers:—Dr. F. J. Poynton and Dr. J. W. McNee: A Case Resembling Leukaemia, but Presenting Unusual Clinical and Pathological Features, with Specimens and Slides. Mr. T. H. Kellock: A Method of Treating Abscesses. Dr. W. Broadbent: Observations on Heart Disease.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—Mon., Wed., and Fri., 5 p.m., Hunterian Lectures by Sir Arthur Keith: The Facial Characteristics of Living Races of Mankind.

ROYAL SOCIETY OF MEDICINE.—*Section of Odontology:* Mon., 8 p.m., Mr. S. Mummery: Mandibular Sarcoma in an Infant. Mr. Montagu Hopson: Maori Skull of Dental Interest. Mr. Douglas Gabell: Misfit of Dentures due to Vulcanite and some Remedies. *Section of Medicine:* Tues., 5 p.m., Discussion on the Diagnosis of Gastric Ulcer. Speakers: Dr. C. Bolton, Sir Cuthbert Wallace, Dr. Ryffel, Dr. A. E. Barclay, and Dr. W. Gordon. *Social Evening:* Wed., 8.30 p.m., Reception by the President and Lady Bland-Sutton; 9 p.m., Address by Professor Elliot-Smith on the Rhodesian Skull. The Library will be open and various objects of interest will be exhibited. Music, light refreshments, and smoking. All Fellows and their friends are cordially invited; no tickets are required. Fellows who know of Dominion and foreign practitioners visiting this country are asked to send their names and addresses to the Secretary in order that invitations to attend the social evenings may be sent to them. *Section of Urology:* Thurs., 8.30 p.m., Pathological and Clinical Evening: Cases and Specimens. *Section of Study of Disease in Children:* Fri., 4.30 p.m., Cases. *Section of Epidemiology and State Medicine:* Fri., 8 p.m., Paper:—Dr. S. Monckton Copeman, Dr. R. A. O'Brien, Dr. A. J. Eagleton. Mr. A. T. Glenny: Experiences with the Schick Test and Active Immunization against Diphtheria.

POST-GRADUATE COURSES AND LECTURES.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION, Royal Maternity and Women's Hospital.—Wed., 4.15 p.m., Dr. J. H. Martin: Obstetrical Cases.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.30 p.m., Mr. J. H. Ray: General Management of Fractures.

MANCHESTER: ST. MARY'S HOSPITALS, Whitworth Street West Branch.—Fri., 4.30 p.m., Dr. Fothergill: Post-menopause Atrophic Conditions.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland Street, W.1.—Daily, In- and Out-patient Attendances; Mon., 5.30 p.m., Lecture by Dr. Parkinson: Dropsy.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Mon., Tues., Thurs., and Fri., 2 p.m., Out-patient Clinics; Tues. and Fri., 9 a.m., Surgical Operations. Lectures.—Mon. (noon), Dr. Greenfield: Cerebro-spinal Fluid; 3.30 p.m., Dr. Walshe: Afferent Paths and Effects of Lesions thereon. Tues., 3.30 p.m., Dr. Risien Russell: Sciatic Neuritis. Thurs., 3.30 p.m., Dr. Kinnier Wilson: Pathogenesis of Involuntary Movements. Fri., 3.30 p.m., Dr. Collier: Vascular Disease of the Nervous System.

ROYAL INSTITUTE OF PUBLIC HEALTH, 37, Russell Square, W.C.—Wed., 4 p.m., Dr. A. C. Inman: Laboratory Aids to the Diagnosis of Tuberculosis Infection.

SALFORD ROYAL HOSPITAL.—Thurs., 4.30 p.m., Mr. Jefferson: Some Remarks on the Syndrome of Cerebral Compression.

ST. JOHN'S HOSPITAL, 49, Leicester Square, W.C.—Thurs., 6 p.m., Chesterfield Lecture by Dr. W. K. Sibley: Alopecia and its Treatment.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Daily, 10 a.m., Ward Visits; 2 p.m., In- and Out-patient Clinics and Operations. Lectures:—5 p.m., Mon., Dr. A. Saunders: Gall Stones. Tues., Dr. Addison: Tumours of the Breast. Wed., Dr. Burnford: *B. coli* infections. Thurs., Mr. A. Baldwin: Rectal Surgery. Fri., Dr. Burrell: Artificial Pneumothorax.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 1s. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS and ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London).
MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London).
EDITOR, *British Medical Journal* (Telegrams: Aitology, Westrand, London).
Telephone number for all Departments: Gerrard 2630 (*3 lines*).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.; 4361 Central.)
IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

JANUARY.

24 Tues. Lewisham Division, Farnboro' House, Kirkdale, Sydenham, S.E.26, 8.45 p.m.
London: Office Committee, 10.30 a.m.
London: Organization Committee, 2 p.m.
25 Wed. London: Medico-Political Committee, 2.30 p.m.
26 Thurs. London: Insurance Acts Committee, 2.30 p.m.
London: Journal Committee, 2.30 p.m.
Warrington Division, Dinner.
27 Fri. London: Public Health Committee, 3 p.m.
31 Tues. Bedford Division, Bedford County Hospital, 3 p.m.

FEBRUARY.

1 Wed. London: Finance Committee, 2.30 p.m.
Shrewsbury: Welsh Committee.
South Middlesex Division, St. John's Hospital, Twickenham.—8 p.m., Business Meeting; 8.45 p.m., Paper by Dr. H. Batty Shaw: Early Diagnosis of Tuberculosis.
7 Tues. Kingston-on-Thames Division, Surbiton Cottage Hospital, 8.30 p.m.: Address by Mr. J. Cunning on Some Conclusions in Abdominal Surgery.
8 Wed. Chesterfield Division, Dinner.
Lancaster Division: B.M.A. Lecture by Dr. T. Eastham, on "Medical Men and their Legal Difficulties."
West Dorset Division, Dorchester, 2.30 p.m.—B.M.A. Lecture by Dr. J. S. Fairbairn: What disability is caused by and what treatment is required for internal displacement?
10 Fri. East Yorks Division, Hull.—B.M.A. Lecture by Sir Frederick Mott: The Reproductive Organs in Relation to Mental Disorders.
South Essex Division, Hotel Victoria, 8.15 p.m.: Paper by Dr. F. W. Price on Recent Advances in the Diagnosis, Prognosis, and Treatment of Heart Disease.
15 Wed. **Council.**
16 Thurs. North Suffolk Division, Lowestoft: Address by Medical Secretary.
17 Fri. Edinburgh Branch: Winter Clinical Meeting and Dinner.
21 Tues. Croydon Division, Croydon General Hospital.—Dr. J. Bright Banister: Obstetrics and Gynaecology, 8.15 p.m.
22 Wed. Mid-Essex Division, Chelmsford: Address by Medical Secretary.

MARCH.

1 Wed. South Middlesex Division, St. John's Hospital, Twickenham, 8 p.m., Clinical Meeting.
7 Tues. Kingston-on-Thames Division, Surbiton Cottage Hospital, 8.30 p.m.: Address by Dr. Wm. Brown on Psychology and Psychotherapy.

APPOINTMENTS.

HAWORTH, J. K., M.D., M.S.Durh., Medical Superintendent at St. Mary's Hospital, Paddington.

EDINBURGH ROYAL INFIRMARY.—The following resident, etc., appointments have been made:—Resident House-Physician: A. R. Wightman, M.B., Ch.B., to Dr. Chalmers Watson. Resident House-Surgeons: G. Flint, M.B., Ch.B., to Sir David Wallace; D. S. Middleton, M.B., Ch.B., to Professor Thomson; S. C. Alcock, L.R.C.P. and S.E., L.R.F.P. and S.G., to Mr. Scot-Skirving; K. B. Williamson, M.B., Ch.B.; H. Radford Potter, M.B., Ch.B.; and C. Mackay Seward, M.B., Ch.B., to surgical out-patient department, Mr. Pirie Watson. Non-resident House-Surgeon: R. J. O. Taylor, M.B., Ch.B., to Mr. Lees. Clinical Assistants: Miss Dorothy Mitchell, M.B., Ch.B., to Dr. J. S. Fraser; N. S. Whitton, M.B., B.S., and S. Young, M.B., Ch.B.Glasg., to Dr. J. S. Fraser; G. M. Shaw Smith, M.B., Ch.B., D.P.H., to Mr. Lees.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

DEATHS.

LAWRENCE.—On December 9th, Dr. Jas. Lawrence, late of Darlington, passed away at Westward Ho, North Devon, whither he had retired rather more than two years ago.

MARSHALL.—At 1, Douglas Crescent, Edinburgh, on the 12th inst., Elizabeth Mackie, wife of Lieut.-Colonel D. G. Marshall, I.M.S.(ret.).

O'KEEFFE, Thomas Francis, Surgeon Commander R.N.(ret.), December 23rd, 1921, at a nursing home in Richmond, aged 47.

RUTHERFORD.—On January 2nd, at the Royal Infirmary, Manchester, Andrew Adams Rutherford, M.D., LL.D., of Buxton.

Printed and published by the British Medical Association at their Office, No. Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, JANUARY 28TH, 1922.

CONTENTS.

	PAGE
BRITISH MEDICAL ASSOCIATION.	
CURRENT NOTES:	
The Medical Officer of Health for Manchester ...	17
Medical Representation in Parliament Fund	17
Chesterfield Division: Post-Graduate Classes	17
MEETINGS OF BRANCHES AND DIVISIONS	18
Branch and Division Meetings to be held	18
ASSOCIATION NOTICES:	
Table of Dates	18
ASSOCIATION INTELLIGENCE AND DIARY	20
DENTAL BOARD OF THE UNITED KINGDOM: Regulations ...	19
CORRESPONDENCE:	
Emergency Police Calls	19
Insurance Remuneration in Rural Practice	19
NAVAL AND MILITARY APPOINTMENTS	19
DIARY OF SOCIETIES AND LECTURES	20
APPOINTMENTS	20
BIRTHS, MARRIAGES, AND DEATHS	20

British Medical Association.

CURRENT NOTES.

The Medical Officer of Health for Manchester.

THE post of medical officer of health, referred to in a Current Note last week (p. 13), is not the only one with which the Manchester City Council has been having difficulties; last month a controversy arose over the salary of its new town clerk, but that obstacle was overcome, evidently to the satisfaction of all concerned. The salary of the present town clerk is £2,000, but his successor, who is to enter on his new duties on April 1st, is to receive £2,250 a year, rising by annual increments to £3,000. The *Manchester Guardian* considers that "neither Manchester nor the medical profession is cutting a very creditable figure" in the present controversy, and gives figures showing that the medical officer of health stands fifth on the salary list of the Manchester Corporation. Above him are the town clerk, the city electrical engineer, whose salary is £2,500, with an extra £1,000 for supervising the erection of the Partington power station, the chief constable at £2,000, and the director of education at £1,800; the tramways manager receives the same salary as the medical officer of health—namely, £1,500—and a bonus, but there is no bonus in prospect for the new medical officer. It might be supposed that the health of Manchester requires quite as much looking after as its morals, and that a salary equal to that of the chief constable is not inappropriate for its medical officer of health.

"Manchester has been endeavouring to economize in the matter of a new medical officer of health," says the *Manchester Guardian*. No doubt if the city chooses it will be able to appoint a medical officer at its own figure, but it will hardly be for the good of Manchester if its medical officer of health is one whom his colleagues would consider dear at the salary offered. The General Medical Council at its last meeting indicated that the standard for the diploma in public health was going to be raised above even its present high standing. It will hardly be encouraged in its endeavours to do this if the qualifications of a medical officer of health are to be considered by important municipalities to be less worthy of recognition than those of tramway managers, education secretaries (or directors), chief constables, electrical engineers, and town clerks.

Medical Representation in Parliament Fund.

The object of the Medical Representation in Parliament Fund is:

"To ensure the presentation to Parliament of expert medical opinion on matters relating to national health or involving the welfare of the medical profession, and for this purpose (i) to secure a larger representation of the medical profession in Parliament by obtaining suitable medical candidates for Parliament and suitable constituencies, and assisting when necessary by monetary grants such candidates, irrespective of political party; (ii) to help to maintain approved members of Parliament as may be deemed necessary or advisable; (iii) to promote such other parliamentary action as may be thought advisable."

The trustees of the Fund are the Council of the British Medical Association. As stated in the *Annual Handbook* of the Association for 1921–22 the amount of the Trust Fund on August 31st last was £1,133; it is now upwards of £1,550. The third report of the Fund, 1922, has been issued this month as a printed document (*D. 16*, 1921–22) to subscribers, to chairmen and secretaries of Divisions and Branches, to members of Council and Representatives, and to chairmen and secretaries of Panel Committees. The report gives an account of the doings of the trustees since the last report was issued in June, 1920. It contains, moreover, a strong appeal for the support of all those who desire to see in the House of Commons doctors with the experience and ability necessary to enable them to state the views of the members of the medical profession, and particularly of those organized by the British Medical Association. As already announced, Dr. H. B. Brackenbury has been promised the support of the Fund in his candidature for East Walthamstow in the Liberal interest. The statement of receipts and payments issued with the report shows that even without new subscribers the Fund is in a position this year to pay the £300 promised annually towards the support in that constituency of the necessary local political organization, and the sum of £500 promised towards Dr. Brackenbury's election expenses. But without a considerably increased fund there would be risk in supporting the candidature of another medical practitioner, as the Parliamentary Elections Committee of the Association desires to do. The Committee believes that suitable medical men or women representing different political interests could be found who would have a good chance of entering Parliament were they assured a fair amount of financial backing from the members of their own profession. The Association of Panel Committees, the Standing Committee of Group "K," and a number of Panel Committees in various parts of the country have already made contributions. Promises of annual subscriptions, both from committees and individuals are particularly requested.

Chesterfield Division: Post-Graduate Classes.

We are glad to observe that the Chesterfield Division of the British Medical Association has arranged a series of post-graduate classes during February, March and April. They will be given in the Board Room of the Chesterfield Royal Hospital, Holywell House, Chesterfield, on Fridays from 2.30 to 4 p.m. The course will begin on February 3rd, when Professor A. J. Hall of Sheffield will lecture on the diagnosis of organic nervous disease, which he will illustrate by a lantern demonstration, and Dr. Kerr will lecture on early cancer of the larynx. Announcements will appear week by week in the diary printed on the last page of the SUPPLEMENT.

Association Notices.

TABLE OF DATES.

Jan. 31, Tues.	Division Reports for 1921 due to Branch Council and to Head Office on or before this date.
Feb. 11, Sat.	Last day for receipt at Head Office of Nominations, by not less than 3 members, for election of 7 Members of Council for 1922–23 by grouped Oversea Branches.
Feb. 15, Wed.	Council Meeting, 429, Strand, at 10 a.m.
Mar. 15, Wed.	Branch Reports for 1921 due to Head Office on or before this date.
April 1, Sat.	Nomination papers available at Head Office for election of 24 Members of Council for 1922–23, by grouped Home Branches.
April 26, Wed.	Council Meeting, 429, Strand, at 10 a.m.
April 29, Sat.	Last day for receipt at Head Office of Independent Motions for Annual Representative Meeting Agenda.
May 6, Sat.	Annual Report of Council appears in SUPPLEMENT.
May 8, Mon.	Last day for receipt at Head Office of Nominations, by a Division or not less than 3 Members, for election of 24 Members of Council by grouped Home Branches for 1922–23.
May 13, Sat.	Publication in SUPPLEMENT of list of nominations for election of 24 Members of Council by grouped Home Branches for 1922–23.
May 13, Sat.	Voting papers for election of 24 Members of Council by grouped Home Branches posted from Head Office to Members of groups where there are contests.
May 27, Sat.	Last day for receipt at Head Office of voting papers for election of 24 Members of Council by grouped Home Branches. (Where there are contests.)
June 3, Sat.	Publication in SUPPLEMENT of results of Council elections by grouped Home Branches.
June 10, Sat.	Nomination papers available, at Head Office, for election of 12 Members of Council by grouped Home Representatives.
June 14, Wed.	Council Meeting, 429, Strand, at 10 a.m.
June 23, Fri.	Last day for election of Representatives and Deputy-Representatives.
June 24, Sat.	Supplementary Report of Council appears in SUPPLEMENT.
June 30, Fri.	Last day for receipt at Head Office of notification of election of Representatives and Deputy-Representatives.
July 7, Fri.	Last day for receipt at Head Office of Amendments and Riders for Annual Representative Meeting Agenda.
July 21, Fri.	Annual Representative Meeting, Glasgow, 10 a.m.
July 21, Fri.	Nominations for election of 12 Members of Council by grouped Representatives to be received (at Annual Representative Meeting, Glasgow) by this date.

Meetings of Branches and Divisions.

MESOPOTAMIAN BRANCH.

A MOST successful meeting of the Branch largely attended by Services members was held at the Central Laboratory, Baghdad, on December 5th, 1921, when Colonel A. H. MORRIS, C.I.E., C.B.E., D.D.M.S. Force, presided. Lieut.-Colonel A. E. HAMERTON, C.M.G., D.S.O., R.A.M.C., entertained the members and then conducted them round the laboratories and Pasteur Institute of Baghdad, which had recently been started at the instigation of Lieut.-Colonel J. D. Graham, C.I.E., I.M.S., the Director of the Mesopotamian Health Service, to combat rabies which was all too prevalent in the Land of the Two Rivers. Colonel Hamerton, as Director of the Institute, gave a demonstration of the methods of isolating the Negri bodies from the brains of rabid animals, and of preparing and staining smear preparations and sections, and concluded with a most interesting and instructive paper, in which he gave an exhaustive review of rabies and conclusively proved the value of this new institute to Iraq.

METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.

PRACTITIONERS in Harlesden, Church End, Roundwood, and Stonebridge wards of Willesden met at the house of Dr. Auty, vice-chairman of the Division, on January 6th, to appoint four representatives to the committee of these wards which will select candidates for the municipal election in April next. Sixteen out of the twenty-three doctors in these wards were present, and apologies for absence were received from most of the others. The Willesden health services were discussed, and also possible medical candidates for the Urban District Council. The meeting agreed to support medical candidates in every possible way, and a guarantee fund to pay their election expenses was started, two guineas being promised by each doctor present. Drs. Brash, Lock, Paterson, and Watson were appointed to the selection committee.

SOUTH-WESTERN BRANCH: BARNSTAPLE DIVISION.

THE first bi-monthly ordinary meeting of the Barnstaple Division was held at the Imperial Hotel, Barnstaple, on January 4th. In the absence of the Chairman and Vice-Chairman, Dr. JONAS was elected to the chair. Dr. SHAW showed an interesting case and an *x*-ray picture of Schlatter's disease of the knee-joint in a boy.

It was decided that the meetings of the Division should be held at the North Devon Infirmary when circumstances permitted, as it afforded facilities for cases to be shown and that the annual meeting should be held each year in May.

Meetings of the Division have been arranged on Wednesdays, March 1st, May 3rd (annual meeting), July 5th, September 6th, November 1st, 1922, January 3rd and March 7th, 1923. Notices regarding resolutions, papers to be read, cases to be shown, etc., should be sent to the honorary secretary, Dr. Ellis Pearson, The Strand, Bideford, at least a week before the meeting.

On the motion of Dr. TOYE, seconded by Dr. HARPER, it was agreed to hold a discussion on placenta praevia, to be opened by Dr. STOOKES at the meeting on March 1st.

Dr. TOYE gave particulars of the progress made in the organization of the forthcoming post-graduate course, to be held at Barnstaple in 1922.

The members present were entertained to tea by the Barnstaple members.

BRANCH AND DIVISION MEETINGS TO BE HELD.

DORSET AND WEST HANTS BRANCH: WEST DORSET DIVISION.—A meeting of the West Dorset Division will be held (by kind permission of the Committee) at the Dorset County Hospital, Dorchester, on Wednesday, February 8th, when Dr. J. S. Fairbairn (London) will give a British Medical Association lecture, entitled "What disability is caused by and what treatment is required for uterine displacement?"

EDINBURGH BRANCH: SOUTH-EASTERN COUNTIES DIVISION.—A meeting of the Division will be held at the Railway Hotel, Newtown St. Boswells, on Wednesday, February 1st, at 3 o'clock afternoon. The business includes: Appointment of Representative to Representative Body; letter from Scottish Office, British Medical Association; case of Clayden *v.* Wood-Hill; report of Council; annual report and account. 3.45 p.m., address by Dr. Edwin Bramwell on "The scope and limitations of psychotherapy in general practice."

LANCASHIRE AND CHESHIRE BRANCH: MID-CHESHIRE DIVISION.—The annual general meeting of the Mid-Cheshire Division will be held at the Altrincham General Hospital on Sunday, January 29th, 1922, at 4 p.m. Tea will be provided at 3.45 p.m. The agenda includes: Election of (1) Chairman for 1922; (2) Officers and Committee for 1922. Annual Report of the Executive Committee. Treasurer's Report. Discussion of question whether any alteration in the area of the Division is desirable. (Members residing in Lymm, Middlewich, Northwich, Wilmslow, and Winsford are specially requested to attend.) Any other business.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—The Divisional dinner-dance will take place on February 2nd, when it is hoped as many as possible will come and take an evening off from their present strenuous work. Mr. Elmslie's address to the Division will be given on February 10th, at the Royal Northern Hospital, at 9.30 p.m. The next dinner-dance will be held on March 31st; tickets 15s.

METROPOLITAN COUNTIES BRANCH: HAMPSTEAD DIVISION.—A meeting of the Division will be held at the Hampstead General Hospital on Thursday, February 9th, at 8.30 p.m. A paper will be read by Dr. E. W. Goodall, O.B.E., entitled "Some observations on the nervous group of the acute infectious diseases." Coffee. *Note.*—At the Division meeting held on January 12th it was resolved to send a donation from the Hampstead Division to the Wood-Hill Fund. Members are therefore invited to send contributions from 5s. upwards towards the fund to the Honorary Secretary of the Division. All contributions will be acknowledged.

MIDLAND BRANCH: CHESTERFIELD DIVISION.—The annual dinner of the Chesterfield Division will be held at the Falcon Restaurant, Low Pavement, Chesterfield, on Wednesday, February 8th, at 8 p.m. Amongst those present will be: Dr. Wallace Henry, Chairman of Representative Meetings; Major-General Sir Richard Luce, K.C.M.G., C.B., Member of Council; and Dr. Alfred Cox, O.B.E., Medical Secretary. At 9 p.m. Dr. Cox will speak on "How the British Medical Association could be made more useful to the medical profession." Questions will be invited after the address. Any member of the profession welcomed (whether of the British Medical Association or not). Tickets for the dinner, 12s. 6d. without wine, may be obtained from the Honorary Secretary, Dr. Pooler, Stonebrocm, Alfreton.

SOUTHERN BRANCH: PORTSMOUTH DIVISION.—A meeting of the Division, to which all members of the medical profession in Portsmouth and district are invited, will take place on Wednesday, February 1st, at the Corner House, Commercial Road, Portsmouth, at 8 p.m., when a lecture will be given by Dr. A. P. Beddard on "Chronic Arthritis." The meeting will be followed by supper at 9 p.m., tickets 6s., to be obtained at the Corner House either before or at the meeting. The "Minster Singers" will give an entertainment during the evening.

SOUTH MIDLAND BRANCH: BEDFORD DIVISION.—A general meeting of the Bedford Division will be held on Tuesday, January 31st, at the Bedford County Hospital, at 3 p.m. Agenda: Consider Annual Report of Council; discuss the proposed reduction of the Dispensing Capitation Fee; elect Representative and Deputy Representative; consider appeal for the Wood-Hill Fund. Dr. Glendining will read a paper on "The diagnosis and treatment of gastric ulcer."

SUSSEX BRANCH: BRIGHTON DIVISION.—The series of clinical demonstrations arranged by the Brighton Division will be continued at 4 p.m. on Thursdays on the dates and at the hospitals indicated. Tea will be provided at 3.45 p.m. The demonstrations are open to all members of the profession, but those not already members of the Association are invited to make application for membership, the advantages of which are very great. February 16th, County Hospital (cases from special departments); March 16th, Lady Chichester Hospital, New Church Road, Hove; April 20th, County Hospital (medical cases); May 18th, Children's Hospital; June 15th, County Hospital (surgical cases).

DENTAL BOARD OF THE UNITED KINGDOM.

REGULATIONS.

THE first meeting of the newly constituted Dental Board of the United Kingdom was held on December 7th, 8th, and 9th, 1921, at 44, Hallam Street, London, W. An account of the opening of the first session, with a summary of the chairman's address, was given in the SUPPLEMENT of December 17th and 24th, 1921, at pp. 228 and 255.

On the closing day of the session Regulations were adopted by the Board, and these have since been approved by the General Medical Council and by the Privy Council. They have been printed and are issued for publication to-day.*

The Regulations are arranged in twelve chapters. The first deals with the keeping of the *Register*, and the second with the registration, respectively, of graduates or licentiates in dental surgery, or dentistry, under the Dentists Act, 1878, and of persons registered under the Dentists Act, 1921, the latter being in three groups: (1) Those who have been in practice for five of the seven years prior to July 28th, 1921; (2) members of the Incorporated Dental Society; (3) pharmaceutical chemists or chemists and druggists applying to be registered on the ground that immediately before July 28th, 1921, they had a substantial practice in dentistry.

Chapter III deals with dental mechanics intending to submit themselves for examination, in order to register as dentists, by July 28th, 1931; Chapter IV with practitioners for less than five years proposing to pass the prescribed examination by July 28th, 1923. Chapter V lays down the procedure for the prescribed examination and the matters in which candidates will be required to satisfy the examiners that they possess sufficient knowledge. Chapters VI and VII relate to dental companies and their directors; Chapters VIII and IX to the retention of names on the *Register* and disciplinary removal from the *Register*. A schedule to Chapter IX contains rules for the conduct of disciplinary inquiries. Chapters X and XI deal with restoration to the *Register* after disciplinary removal and with removal from the *Register* (non-disciplinary). Chapter XII gives the scale of fees prescribed by the Board.

Forms for dental registration, certificates, confidential reports, statutory declarations, and other statements, are printed in an appendix to the Regulations.

Correspondence.

Emergency Police Calls.

SIR,—After a good deal of correspondence I received to-day a letter from the Clerk to the Kent Standing Joint Committee, stating that—

When in a case of emergency a doctor is called in by an officer of the Kent County Police Force, the Standing Joint Committee will pay the doctor's fee in accordance with the scale specified in your letter of October 12th last, namely: For a day call, 7s. 6d.; for a night call, 10s. 6d.

As the non-payment of fees up till the present time has been the cause of considerable dissatisfaction in the profession in Kent, I wish to make this concession known as widely as possible, and at once.

I would further take the opportunity of impressing upon doctors the necessity of ascertaining that the call is clearly "by an officer of the Kent County Police Force," and not merely by a messenger who says he has been sent by a police officer. It is within my knowledge that several such cases referred to the Branch in the past could not be upheld, as a definite call by a police officer could not be proved.—I am, etc.,

E. A. STARLING,
Honorary Secretary of the Kent Branch,
Tunbridge Wells, Jan. 21st. British Medical Association.

Insurance Remuneration in Rural Practice.

SIR,—When in October last the Conference of Panel Practitioners agreed to the reduction of 1s. 6d. in the capitation fee, it was on the distinct assurance of the Minister of Health that no further reduction would be made for two years, and it was especially mentioned that the mileage would be left for rural practitioners unchanged.

The suggested reduction in the drug capitation fee for rural practitioners comes perilously near a breach of faith.

Since then the Ministry have made another reduction for rural practitioners in the mileage grant. In this county the reduction is from £6,223 to £5,839, and the special grant for inaccessible areas from £625 to £530. It matters not in the least how this alteration has been arrived at, nor by what juggling with figures it has been settled: it is and must remain a breach of faith, which cannot be explained away.

I presume the Ministry thinks it can break faith with the rural practitioner with impunity, since he is the worst paid, hardest worked, and the most difficult class to organize. Or can it be an attempt to treat a recent agreement as a "scrap of paper"? I trust the Insurance Acts Committee will remember this in any future negotitiations with the Ministry of Health.

One point as regards the suggested reduction of capitation for drugs, which seems to have been neglected by the Insurance Acts Committee, is that for rural practitioners there are no overhead charges. The overhead charges in this county for chemists amount to about £450 per annum, made up by the expenses of the pricing bureau and cost of prescription books.—I am, etc.,

HUBERT C. BRISTOWE,
Chairman, Somerset Local Medical and Panel Committee, elected member of Somerset Insurance Committee.
Wrington, Jan. 16th.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following appointments are announced by the Admiralty:—Surgeon Commanders: G. Nunn, O.B.E., to the *Resolution*, H. F. Briggs to the *Crescent* for R.N. Sick Quarters, South Queensferry. Surgeon Lieutenant Commander D. P. H. Pearson to the *Ceanothus*, and to the *Clematis* on arrival.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

The undermentioned Colonels, late R.A.M.C., on completion of four years' service in their present rank, are placed on half pay: H. S. Thurston, C.B., C.M.G., C.B.E., A. E. C. Keble, C.B., C.M.G., D.S.O., G. T. K. Maurice, C.M.G., C.B.E., J. C. B. Statham, C.M.G., C.B.E.

Lieut.-Colonel C. F. Wanhill retires on retired pay.

Temporary Captain M. J. Whelton to be Lieutenant and to be temporary Captain, June 1st, 1920, with seniority, November 14th, 1918 (substituted for notification in the *London Gazette*, August 16th, 1920).

REGULAR ARMY RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel J. W. Jennings, D.S.O., having attained the age limit of liability to recall, ceases to belong to the Reserve of Officers.

INDIAN MEDICAL SERVICE.

The following notifications have been received by the courtesy of the Director-General I.M.S.:

The resignation of the Hon. Major-General W. H. B. Robinson, C.B., K.H.S., of his office of Member of the Council of State has been accepted.

Lieut.-Colonel (temporary Surgeon-General) Sir Richard Havelock Charles, G.C.V.O., to be temporary Major-General, with effect from the date of his appointment as temporary Surgeon-General whilst employed as President of the Medical Board at the India Office.

Lieut.-Colonel F. O'Kinealy, C.I.E., has been appointed chief medical officer to H.R.H. the Prince of Wales in India.

Major H. H. Thorburn, C.I.E., has been posted as Civil Surgeon, Quetta (August 16th, 1921).

The King has approved the resignation of Captain G. B. Harland (September 17th, 1921).

The King has approved the promotion of Captain E. H. V. Hodge to the rank of Major from January 31st, 1921.

The following appointments have been made with effect from the dates indicated:

Lieut.-Colonel H. Ainsworth to be Principal of the Medical College, Lahore, in addition to his own duties as Professor of Ophthalmology, from the date on which he takes over charge from Lieut.-Colonel D. W. Sutherland. Lieut.-Colonel L. J. M. Deas to be Agency Surgeon, Khotah and Jhalawar (October 24th, 1921). Lieut.-Colonel A. A. Gibbs, Officer in Charge, Medical Store Dépôt, Lahore, to officiate as Assistant Director-General, I.M.S. (Stores), vice Lieut.-Colonel H. Ross, with effect from date on which he takes over charge of his duties.

Major R. H. Bott to officiate as Professor of Surgery, King Edward Medical College, Lahore, during the absence of Major H. H. Broome. Major H. Hallilay to hold charge of the duties of the Civil Surgeon, Simla East, in addition to his own duties, during absence on leave of Lieut.-Colonel F. W. Sumner. Major E. C. Hodgson, D.S.O., to officiate as Assistant Director, I.M.S., Sanitary (October 24th, 1921). Major W. E. R. Williams, O.B.E., to officiate as Deputy Assistant Director-General I.M.S. (July 23rd, 1921). Major B. B. Paymaster to be Assistant to the Officer in Charge, Medical Store Dépôt, Madras, temporarily (September 24th, 1920).

Captain H. G. Alexander to officiate as Professor of Anatomy, King Edward Medical College, Lahore, vice Captain P. B. Bharucha. Captain P. B. Bharucha, D.S.O., O.B.E., to officiate as Professor of Operative Surgery, King Edward Medical College, Lahore, vice Major R. H. Bott. Captain Amir Chand to officiate as Professor of Materia Medica, King Edward Medical College, Lahore, during the absence on leave of Major J. J. Harper Nelson September 22nd, 1921). Captain E. S. Goss, M.C., to officiate as Assistant Director-General, I.M.S. Stores, vice Lieut.-Colonel H. Ross, (November 11th, 1921). Captain H. E. Shortt, substantively *pro tempore* to the Bacteriological Department (August 30th, 1921) and to officiate as an Assistant Director, Central Research Institute, Kasauli (October 6th, 1921).

The following officers have been granted combined leave for the periods specified and with effect from the dates indicated:

Lieut.-Colonel H. M. Mackenzie, one year (October 20th, 1921); Major H. H. Broome, 8 months, 15 days (October 1st, 1921), Major E. H. V. Hugo, 1 month, 16 days (October 13th, 1921), Major J. J. H. Nelson, O.B.E., M.C.,

* Regulations of the Dental Board of the United Kingdom. Published at the office of the Board, 44, Hallam Street, Portland Place, London, W.1. Price 2s. 6d., post free 2s. 8d.

8 months, 25 days (September 22nd, 1921), Major R. B. S. Sewell, 1 year, 17 days (September 1st, 1920); Captain H. K. Rowntree, M.C., 9 months (July 23rd, 1921).

The following officers have been granted privilege leave for the periods specified and with effect from the dates indicated:

Lieut.-Colonel F. W. Sumner, 5 months (November 15th, 1921); Major (brevet Lieut.-Colonel) F. A. F. Barnardo, C.I.E., 4 months (November 6th, 1921), Major (temporary Lieut.-Colonel) H. Ross, O.B.E., 6 months (November 11th, 1921).

The undermentioned officers have been permitted to retire from the service, with effect from the dates specified: Major-General P. Carr White, C.B.E., K.H.P. (October 18th, 1921), Colonel A. J. Macnab, C.B., C.M.G. (August 15th, 1921), Brevet Colonel (temporary Colonel) W. Westrop White, C.B., C.M.G.—supernumerary—(August 2nd, 1921), Lieut.-Colonels: J. Stephenson, C.I.E. (September 6th, 1921), F. J. Dewes—supernumerary—(September 12th, 1921), C. D. Dewes (October 6th, 1921), D. H. F. Cowin (September 7th, 1921), S. Browning Smith, C.M.G. (November 12th, 1921), D. C. Kemp (October 22nd, 1921), A. E. Berry (December 1st, 1921), de V. Condon (in consequence of ill health, July 27th, 1921); Major W. S. Patton (August 2nd, 1921); Captain L. Rundall (September 17th, 1921).

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

Major D. F. Todd, T.D., having attained the age limit, is retired, September 30th, 1921, and is granted the rank of Lieutenant-Colonel, with permission to wear the prescribed uniform.

The announcement regarding Major J. Allan, which appeared in the *London Gazette* of November 25th, 1921, is cancelled.

Captain (Brevet Major) C. W. Wirgman resigns his commission and retains his rank.

Captain H. B. Whitehouse, from 1st Southern General Hospital, to be Captain, with precedence as from September 24th, 1915.

The following officers relinquish their commissions and retain their rank, except where otherwise stated: Captains A. L. Yates, M.C., and L. N. Reece, and are granted the rank of Major; Captains J. S. Townley, M.C., W. Robertson, M.C., A. J. Friedlander, W. Appleyard, M. C. Anderson, S. H. Clarke, L. H. H. Boys, A. S. Barnes, 1st Southern General Hospital, and W. J. McCardie, 1st Southern General Hospital.

To be Captains: Captain V. G. Maitland (late R.A.M.C.), with precedence as from December 7th, 1918; Captain W. Gault (late R.A.M.C.), with precedence as from February 7th, 1920; Captain R. B. Smith (late R.A.M.C., S.R.), with precedence as from May 1st, 1918; Captain N. St.J. G. D. Buxton, R. of O., with precedence as from February 7th, 1918. Lieutenant J. A. Paterson, M.C., Lieutenant R. A. Quinn.

TERRITORIAL ARMY RESERVE.

ROYAL ARMY MEDICAL CORPS.

The following officers having attained the age limit are retired, and retain their rank except where otherwise stated: Major (Honorary Surgeon Lieut.-Colonel F. V. Adams, T.D., and Major R. Farquharson, T.D., with permission to wear the prescribed uniform; Captains W. A. L. Jackson, W. Rogers, R. W. Meikle.

Lieut.-Colonel F. E. Fremantle, O.B.E., T.D., from General List, R.A.M.C., to be Lieutenant-Colonel.

Captain F. B. Smith, M.C., from General List, R.A.M.C., to be Captain.

Captains A. S. Barnes and W. J. McCardie, 1st Southern General Hospital, have relinquished their commissions and retain their rank.

DIARY OF SOCIETIES AND LECTURES.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.—Mon., 9 p.m., First Lettsomian Lecture by Sir Leonard Rogers: Amoebic Liver Abscess: its Pathology, Prevention, and Cure.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—Fri., 5 p.m., Hunterian Lecture by Professor Kenneth M. Walker: Nature and Cause of Old Age Enlargement of the Prostate.

ROYAL SOCIETY OF MEDICINE.—*Section of Surgery:* Wed., 5.30 p.m., Mr. H. D. Gillies: Demonstration of Plastic Surgery. *Section of Medicine:* Thurs., 5 p.m., Discussion: The Treatment of Gastric Ulcer. Speakers: Sir W. Hale-White, Sir W. H. Willcox, Sir B. Moynihan, Mr. Sherren, Dr. R. Hutchison, Dr. J. A. Ryle, Mr. A. J. Walton, and Mr. H. J. Paterson. *Section of Laryngology:* Fri., 4 p.m., Cases and Specimens. *Section of Anaesthetics:* Fri., 8.30 p.m., Discussion: The Uses and Limitations of N_2O and O_2 Anaesthesia, to be opened by Dr. A. L. Flemming.

POST-GRADUATE COURSES AND LECTURES.

CHESTERFIELD DIVISION, BRITISH MEDICAL ASSOCIATION, Chesterfield Royal Hospital Board Room, Holywell House.—Fri., 2.30 p.m., Professor Hall: Diagnosis of Organic Nervous Disease, with lantern demonstration; 3.15 p.m., Dr. Kerr: Early Cancer of Larynx.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION, Victoria Infirmary.—Wed., 4.15 p.m., Mr. J. Grant Andrew: Surgical Cases.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—Thurs., 4 p.m., Dr. Frew: Pain in Infancy.

LONDON HOSPITAL MEDICAL COLLEGE, Mile End, E.—Wed., 3.30 p.m., School Clinics and Diseases of Children.

MANCHESTER: ANCOATS HOSPITAL.—Thurs., 4.30 p.m., Mr. Diggle: Causes and Diagnosis of Stridor.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.30 p.m., Mr. E. D. Telford: Diagnosis of Chronic Joint Disease in Children.

MANCHESTER: ST. MARY'S HOSPITALS, Whitworth Street West Branch.—Fri., 4.30 p.m., Dr. Clifford: Albuminuria and Eclampsia.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland Street, W.1.—Daily, In- and Out-patient Attendances; Mon., 5.30 p.m., Lecture by Sir S. Russell-Wells: The Facies in Heart Conditions.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Mon., Tues., Thurs., and Fri., 2 p.m., Out-patient Clinics; Tues. and Fri., 9 a.m., Surgical Operations. Lectures.—Mon. 12 noon, Dr. Greenfield: The Neuron. Mon. and Tues., 3.30 p.m., Dr. James Taylor: Tabes Dorsalis. Wed., 3.30 p.m., Mr. Leslie Paton: Ocular Palsies. Thurs., 3.30 p.m., Dr. Kinnier Wilson: Pathogenesis of Involuntary Movements. Fri., 3.30 p.m., Dr. Collier: Tremor.

ROYAL INSTITUTE OF PUBLIC HEALTH, 37, Russell Square, W.C.—Wed., 4 p.m., Dr. A. S. Griffith: Virulence of Tubercle Bacilli and the Circumstances under which it may vary.

ST. JOHN'S HOSPITAL, 49, Leicester Square, W.C.—Thurs., 6 p.m., Chesterfield Lecture by Dr. J. L. Bunch: Drug Eruptions.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Daily, 10 a.m., Ward Visits; 2 p.m., In- and Out-patient Clinics and Operations. Lectures:—5 p.m., Mon., Dr. A. Saunders: Cirrhosis of Liver. Tues., Dr. Addison: Breast Tumours. Wed., Dr. Burnford: Diagnosis of Infective Diseases. Thurs., Dr. J. S. Goodall: Goitre Hearts. Fri., Mr. MacDonald: Retention of Urine.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 1s. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS and ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London).
MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London).
EDITOR, *British Medical Journal* (Telegrams: Aitology, Westrand, London).
Telephone number for all Departments: Gerrard 2630 (*3 lines*).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.; 4361 Central.)
IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

JANUARY.

27 Fri. London: Public Health Committee, 3 p.m.
29 Sun. Mid-Cheshire Division: Annual General Meeting, Altrincham General Hospital, 4 p.m. Tea, 3.45 p.m.
31 Tues. London: Hospitals Committee, 2 p.m.
Bedford Division, Bedford County Hospital, 3 p.m.

FEBRUARY.

1 Wed. London: Finance Committee, 2.30 p.m.
Portsmouth Division, Corner House, Commercial Road, Portsmouth, 8 p.m. Supper, 9 p.m.
Shrewsbury: Welsh Committee.
South-Eastern Counties, Edinburgh Branch, Railway Hotel, Newtown St. Boswells, 3 p.m. Address by Dr. Edwin Bramwell, 3.45 p.m.
South Middlesex Division, St. John's Hospital, Twickenham.—8 p.m., Business Meeting; 8.45 p.m., Paper by Dr. H. Batty Shaw: Early Diagnosis of Tuberculosis.
3 Fri. Chesterfield Division, Chesterfield Royal Hospital Board Room, Post-Graduate Classes, 2.30 to 4 p.m.
7 Tues. Kingston-on-Thames Division, Surbiton Cottage Hospital, 8.30 p.m.: Address by Mr. J. Cunning on Some Conclusions in Abdominal Surgery.
8 Wed. Chesterfield Division: Annual Dinner, Falcon Restaurant, Low Pavement, Chesterfield, 8 p.m. Address by the Medical Secretary, 9 p.m.
Lancaster Division: B.M.A. Lecture by Dr. T. Eastham, on "Medical Men and their Legal Difficulties."
West Dorset Division, Dorset County Hospital, 2.30 p.m.—B.M.A. Lecture by Dr. J. S. Fairbairn: What disability is caused by and what treatment is required for uterine displacement?
9 Thurs. Hampstead Division: Hampstead General Hospital, 8.30 p.m.
10 Fri. East Yorks Division, Hull.—B.M.A. Lecture by Sir Frederick Mott: The Reproductive Organs in Relation to Mental Disorders.
South Essex Division, Hotel Victoria, 8.15 p.m.: Paper by Dr. F. W. Price on Recent Advances in the Diagnosis, Prognosis, and Treatment of Heart Disease.

APPOINTMENTS.

GARTON, W., M.R.C.S., L.R.C.P., D.M.R.E.Cantab., Assistant Radiologist (Therapeutical) to the Middlesex Hospital.

SOUPER, Hugh R., M.A., M.D.Aberd., Surgeon for Diseases of the Ear, Nose, and Throat, Aberdeen Dispensary and Vaccine Institution, and Aural Surgeon, Aberdeen Education Authority.

THOMPSON, Wm. Hartley, M.R.C.S., L.R.C.P., Certifying Factory Surgeon for the West Bradford District.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 9*s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.*

BIRTHS.

KIRK.—On 21st January, at 22, Westbrook, Darlington, to the wife of Charles J. Kirk, M.B.—a son.

NOALL.—On January 20th, 1922, at Gorse Cottage, Strensall, York, the wife of W. Paynter Noall, M.S., F.R.C.S., of a son.

YOUNG.—On November 8th, at Kuruman, South Africa, to Nora Gwendolen (*née* Logan) and Alfred Ernest Young, M.R.C.S., L.R.C.P.—twin daughters.

MARRIAGE.

FINDLATER—HILL.—At St. Columba's Church, London, on 14th January, 1922, Thomas C. Findlater, M.B., Ch.B., to Ethel, only daughter of D. R. and Mrs. Hill, Bromfield, New Chester Road, New Ferry, Cheshire.

DEATHS.

DAVIES.—On January 18th, at Great House, Llanbister, Pen-y-Bont, Rads., after short illness, William Thomas Davies, M.R.C.S., L.R.C.P., L.S.A., M.D., aged 57 years.

DOUSE.—On January 13th, at The Gables, Farnborough, Kent, Ethel Mary, the beloved wife of J. Freeman Douse, L.R.C.P., etc., aged 47.

OATES.—On Wednesday, the 21st December, 1921, at 5, Langside Avenue, Putney, S.W., Robert Oates, M.B.Aberdeen (1853), L.R.C.S.Edin. (1853), son of George Hibbert Oates of Jamaica, in his 95th year.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, FEBRUARY 4TH, 1922.

CONTENTS.

PAGE

BRITISH MEDICAL ASSOCIATION.

Current Notes:
- ANNUAL MEETING, GLASGOW, 1922 ... 21
- OVERSEA BRANCHES AT WORK ... 21
- REMUNERATION OF PUBLIC HEALTH OFFICERS ... 21
- NATIONAL INSURANCE DEFENCE TRUST ... 22
- WILLESDEN HEALTH POLICY ... 22

ASSOCIATION NOTICES:
- TABLE OF DATES ... 22
- SUGGESTED CHANGES OF AREAS ... 22
- BRANCH AND DIVISION MEETINGS TO BE HELD ... 22

MEETINGS OF BRANCHES AND DIVISIONS ... 23

ASSOCIATION INTELLIGENCE AND DIARY ... 28

PAGE

National Insurance:
- **The Mileage Grant** ... 24
  - MEMORANDUM ON MILEAGE FUND FOR 1921 ... 24
  - LETTER FROM THE MEDICAL SECRETARY TO THE SECRETARY OF THE MINISTRY OF HEALTH ... 24
  - REPORT OF THE DISTRIBUTION COMMITTEE ... 24
- INSURANCE CERTIFICATE BOOKS ... 25
- LONDON PANEL COMMITTEE ... 26
- LONDON INSURANCE COMMITTEE ... 26

CORRESPONDENCE ... 26

NAVAL AND MILITARY APPOINTMENTS ... 27

DIARY OF SOCIETIES AND LECTURES ... 28

BIRTHS, MARRIAGES, AND DEATHS ... 28

British Medical Association.

CURRENT NOTES.

Annual Meeting, Glasgow, 1922.

THE general plan of the Annual Meeting of the British Medical Association, to be held at Glasgow this summer, is now advanced far enough for us to be able to give some fuller information. The Annual Representative Meeting will open on Friday morning, July 21st, and the Representatives' Dinner will be held that evening. Arrangements have also been made for the entertainment of representatives and their wives on the evenings of Saturday, Sunday, and Monday. The statutory Annual General Meeting will be held as usual on the Tuesday afternoon (July 25th), and in the evening the new President, Sir William Macewen, will receive the foreign guests and representatives of Oversea Branches, and deliver his Address to the Association. When the Annual Meeting was held last in Glasgow, thirty-four years ago, under the Presidency of the late Sir William Gairdner, the Address in Surgery was given by Sir William Macewen.

The nineteen scientific sections will meet for discussion on the mornings of Wednesday, Thursday, and Friday, in the various class-rooms of the University, and on each afternoon a series of demonstrations will be arranged under the general direction of Mr. R. H. Parry. The Pathological Museum, to which reference is made in the JOURNAL this week at p. 204, will be open on the Tuesday and succeeding days; it will be housed in the Anatomical Department. Excellent accommodation for the Annual Exhibition of surgical instruments, appliances, foods, drugs, and medical books, has been secured in the Kelvin Hall, where there will also be an exhibition of the various activities of the Glasgow Public Health Department.

The University Union has been granted for use as a club, and the Queen Margaret Union and Burlington House have been reserved for ladies attending the meeting. The Annual Dinner of the Association will be held in the St. Andrew's Halls on the Thursday evening, and the Popular Lecture will be given on the following evening by Professor J. Graham Kerr.

It will suffice at the present time to indicate that the social programme for members and their friends is being drawn up in accordance with the traditions of Scottish hospitality. It includes receptions by the University, by the Civic authorities, and by the Royal Faculty of Physicians and Surgeons, and a number of garden parties and visits to places of interest. Opportunities will be given for members to visit the various hospitals and medical institutions of the city and its neighbourhood. The annual golf competition for the Ulster Cup will be played over the course of the Glasgow Golf Club at Killermont on July 27th, and the cup will be presented to the winner at the Annual Dinner. Saturday has been set apart as usual for excursions. No doubt these will include a cruise round the Firth of Clyde, and trips to the Trossachs, Loch Lomond, and Ayr. An historical and descriptive *Book of Glasgow* is in course of preparation, under the editorial direction of a Publishing Committee.

Oversea Branches at Work.

The Home Divisions and Branches of the Association will have to look to their laurels. Reports are being received by the Council from the Oversea bodies as to their work in the year now closed. Among the first arrivals is a copy of the annual report of the Council of the Queensland Branch. The Branch membership has increased, and ten ordinary and three special meetings were held. The subjects dealt with included the Model Lodge (Friendly Societies) Agreement, the attitude of the Branch towards the Australian Natives' Association, and many clinical subjects; a combined meeting was held with the local Pharmaceutical Society, and there was a Branch dinner. Many interesting papers were read and cases and specimens exhibited, and a lantern and screen have been installed. The Branch Council held eighteen meetings. The Branch appointed a committee to consider the claim for an award by the Queensland Nurses' Association in the Arbitration Court, this committee to work in conjunction with the Australasian Trained Nurses' Association; as a result of these combined efforts the final award was materially better than the original proposal. Action was taken by the Branch in connexion with a number of public health matters, including resolutions urging provision of measures for the prevention of typhoid and other diseases, and prohibition of the use of paint containing lead on verandah railings and other outdoor surfaces exposed to the hands of small children. A permanent Public Health Subcommittee of the Branch has been appointed. With a record of valuable work in 1921, the Malaya Branch sends a copy of the programme of the annual meeting of the Branch to be held in 1922. Among the matters down for consideration are the Branch library, publication of the Branch transactions, many clinical papers, an expedition to various points of medical and sanitary interest in Singapore, a golf competition open free to all members, and a Branch dinner.

Remuneration of Public Health Officers.

Two cases of successful action by the British Medical Association in maintaining its policy as regards remuneration for public health officers have recently occurred in Kent. In December last the borough of Bromley submitted an advertisement for insertion in the BRITISH MEDICAL JOURNAL for an assistant school medical officer, offering a salary of £450 per annum. About the same time the Beckenham Education Authority tendered an advertisement for an officer to an ophthalmic clinic offering 1½ guineas per session, whereas the Association's minimum is 3 guineas. Both advertisements were refused on the ground that the remuneration offered did not come up to the Association's minimum. It is gratifying to be able to record that both these authorities, on learning that the remuneration they were offering did not come up to the standard laid down by the organized body of the medical

profession, displayed a commendable willingness to meet the views of the Association. In each case an amended advertisement offering the Association's minimum salaries was tendered and published. The council of the borough of Bromley and the Beckenham Education Committee are to be congratulated on their evident desire to give fair remuneration to their medical officers.

National Insurance Defence Trust.

The annual Conference of Local Medical and Panel Committees, held in October, 1921, passed the following resolution, on the motion of West Suffolk:

> "That it be an instruction to the Trustees of the National Insurance Defence Trust to again inform all Panel Committees of the annual subscription required from them to put the Trust on a sound footing."

The discussion that ensued showed an increasing sense on the part of members of the Conference of the importance of the Trust, and a greater disposition on the part of some committees, hitherto hostile or indifferent, to recognize their duty towards it. A current circular (M.36, 1921–22) states that recent events have convinced the Insurance Acts Committee that the time is bound to arrive when a large sum of money in defence of the interests of insurance practitioners will be required. Changes have been made in the Regulations and in the remuneration of insurance practitioners which have caused much feeling and resentment, but none of these changes has been felt to be of such importance as to warrant the great bulk of insurance practitioners refusing service. But Government departments are inclined to increase restrictions and to impose their ideas of what is right and proper, and the profession may expect a time to come when the increase of red-tape restrictions, or a desire to economize at the expense of the profession, will so arouse the average practitioner that the majority will be willing at all risks to refuse service unless the objectionable conditions are withdrawn. It may be surmised that at the end of two years the profession may have to make up its mind whether it will make a stand against further encroachments or not. The Insurance Acts Committee believes that a factor which will decide many insurance practitioners as to their action, when that time comes, will be the existence or otherwise of a very substantial fund. The Trustees, therefore, appeal with confidence to every Panel Committee that is not at present fully supporting the Trust to do so. A heavy responsibility rests on such Committees, because their want of support of the Trust may practically condemn insurance practitioners in advance to a permanent policy of inaction, whatever injustices may be inflicted upon them. If, on the other hand, every Committee, beginning with 1922, would pay its quota into the Trust, by the time the period for revision of the capitation fee comes there would be a reserve of about £65,000. With such a sum in hand the Insurance Acts Committee would have much more confidence in recommending a bold course, and many a timid practitioner would be encouraged to throw in his lot with the rest, whereas, in the absence of a substantial fund, he might refuse to do so. As the Trustees are anxious that the subject of this circular should be fully discussed by all Panel Committees, the Medical Secretary will, on request, forward to secretaries as many copies as may be desired for issue to their constituents.

Willesden Health Policy.

The recent correspondence between the British Medical Association and the Minister of Health, in regard to the medical services of the Willesden Urban District Council, was printed in the SUPPLEMENT of January 21st, 1922, p. 14. The honorary secretary of the Willesdon Division of the British Medical Association, Dr. William Paterson, has since addressed a letter to the Ministry of Health pointing out that there was no reference to school children clinics in the Ministry's letter of January 12th. The question was asked by Dr. Paterson whether it would be correct to assume that these clinics were covered in the reply. The following letter has now been received from Sir Arthur Robinson, secretary of the Ministry:

Ministry of Health,
January 23rd, 1922.

Dear Sir,

I had your letter of the 18th of January. The principles laid down in my letter to Dr. Cox apply to school clinics, and the local authority has been so informed by the Board of Education. The documents enclosed with your letter have been laid before the Minister.

Yours very truly,
W. ARTHUR ROBINSON.

Association Notices.

TABLE OF DATES.

Feb. 11, Sat.	Last day for receipt at Head Office of Nominations, by not less than 3 members, for election of 7 Members of Council for 1922–23 by grouped Oversea Branches.
Feb. 15, Wed.	Council Meeting, 429, Strand, at 10 a.m.
Mar. 15, Wed.	Branch Reports for 1921 due to Head Office on or before this date.
April 1, Sat.	Nomination papers available at Head Office for election of 24 Members of Council for 1922–23, by grouped Home Branches.
April 26, Wed.	Council Meeting, 429, Strand, at 10 a.m.
April 29, Sat.	Last day for receipt at Head Office of Independent Motions for Annual Representative Meeting Agenda.
May 6, Sat.	Annual Report of Council appears in SUPPLEMENT.
May 8, Mon.	Last day for receipt at Head Office of Nominations, by a Division or not less than 3 Members, for election of 24 Members of Council by grouped Home Branches for 1922–23.
May 13, Sat.	Publication in SUPPLEMENT of list of nominations for election of 24 Members of Council by grouped Home Branches for 1922–23. Voting papers for election of 24 Members of Council by grouped Home Branches posted from Head Office to Members of groups where there are contests.
May 27, Sat.	Last day for receipt at Head Office of voting papers for election of 24 Members of Council by grouped Home Branches. (Where there are contests.)
June 3, Sat.	Publication in SUPPLEMENT of results of Council elections by grouped Home Branches.
June 10, Sat.	Nomination papers available, at Head Office, for election of 12 Members of Council by grouped Home Representatives.
June 14, Wed.	Council Meeting, 429, Strand, at 10 a.m.
June 23, Fri.	Last day for election of Representatives and Deputy-Representatives.
June 24, Sat.	Supplementary Report of Council appears in SUPPLEMENT.
June 30, Fri.	Last day for receipt at Head Office of notification of election of Representatives and Deputy-Representatives.
July 7, Fri.	Last day for receipt at Head Office of Amendments and Riders for Annual Representative Meeting Agenda.
July 21, Fri.	Annual Representative Meeting, Glasgow, 10 a.m. Nominations for election of 12 Members of Council by grouped Representatives to be received (at Annual Representative Meeting, Glasgow) by this date.

SUGGESTED CHANGES OF AREAS.

Mid, North, and South Staffordshire Divisions of Staffordshire Branch; Derby Division of Midland Branch; Walsall Division of Birmingham Branch.

NOTICE is hereby given to all concerned of the following proposals made by the Mid-Staffordshire Division:

(i) That the County Borough of Burton-on-Trent and the Rural District of Tutbury be transferred from the Mid-Staffordshire Division of the Staffordshire Branch to the Derby Division of the Midland Branch.

(ii) That the area of the existing Walsall Division of the Birmingham Branch (comprising the County Borough and the Rural District of Walsall) be incorporated in the Mid-Staffordshire Division.

(iii) That the Municipal Borough of Stafford, the Urban District of Stone, the Rural Districts of Blore Heath, Gnosall, and Stafford, and those portions of the Rural Districts of Stone and Uttoxeter now within the area of the Mid-Staffordshire Division, be transferred to the North Staffordshire Division.

(iv) That the Urban District of Darlaston be transferred from the area of the South Staffordshire Division to that of the Mid-Staffordshire Division.

Written notice of the proposal has been given to the Divisions and Branches concerned, and the matter will be determined in due course by the Council. Any member affected by the proposed change and objecting thereto is requested to write, giving reasons therefor, to the Medical Secretary, 429, Strand, W.C.2, not later than March 4th, 1922.

BRANCH AND DIVISION MEETINGS TO BE HELD.

BIRMINGHAM BRANCH: COVENTRY DIVISION.—A meeting of the Coventry Division will be held at the Coventry and Warwickshire Hospital on Tuesday, February 7th, at 8.30 p.m. Agenda: Address by Dr. Douglas Heath on "Recent advances in dermatology." Annual report and balance sheet. Correspondence.

DORSET AND WEST HANTS BRANCH: WEST DORSET DIVISION.—A meeting of the West Dorset Division will be held (by kind permission of the Committee) at the Dorset County Hospital, Dorchester, on Wednesday, February 8th, when Dr. J. S. Fairbairn (London) will give a British Medical Association lecture, entitled "What disability is caused by and what treatment is required for uterine displacement?"

EAST YORKS AND NORTH LINCOLN BRANCH: EAST YORKS DIVISION.—A meeting of the East Yorks Division will be held at Hull, on Friday, February 10th, when Sir Frederick Mott, F.R.S., will deliver a British Medical Association lecture on "The reproductive organs in relation to mental disorders."

EDINBURGH BRANCH.—The winter clinical meeting of the Edinburgh Branch will be held in the Royal Infirmary on Friday, February 17th. All members of the profession are cordially invited. The Museum will be open from 11 a.m. Arrangements will be made for holding special clinics during the forenoon. The clinical meeting will be held at 3.30 p.m. Those who have patients, specimens, etc., to show are requested to communicate with Dr. John Eason, 35, Melville Street, not later than February 6th. Dinner at 6.30 p.m. in the Caledonian Station Hotel; morning dress; dinner ticket, 10s. 6d. Members of the Branch are requested to notify the hon. secretaries not later than February 13th whether or not they intend to be present.

METROPOLITAN COUNTIES BRANCH: HAMPSTEAD DIVISION.—A meeting of the Division will be held at the Hampstead General Hospital on Thursday, February 9th, at 8.30 p.m. A paper will be read by Dr. E. W. Goodall, O.B.E., entitled "Some observations on the nervous group of the acute infectious diseases." Coffee. *Note.*—At the Division meeting held on January 12th it was resolved to send a donation from the Hampstead Division to the Wood-Hill Fund. Members are therefore invited to send contributions from 5s. upwards towards the fund to the Honorary Secretary of the Division. All contributions will be acknowledged.

MALAYA BRANCH.—Meetings of the Malaya Branch are held in Singapore on the third Thursday of each month. Members desiring to contribute papers are requested to communicate with the honorary secretary, Dr. J. W. Scharff, care of Port Health Office, Singapore. Arrangements can be made for the exhibition of specimens or cases of interest brought to the meetings.

MIDLAND BRANCH: CHESTERFIELD DIVISION.—The annual dinner of the Chesterfield Division will be held at the Falcon Restaurant, Low Pavement, Chesterfield, on Wednesday, February 8th, at 8 p.m. Amongst those present will be: Dr. Wallace Henry, Chairman of Representative Meetings; Major-General Sir Richard Luce, K.C.M.G., C.B., Member of Council; and Dr. Alfred Cox, O.B.E., Medical Secretary. At 9 p.m. Dr. Cox will speak on "How the British Medical Association could be made more useful to the medical profession." Questions will be invited after the address. Any member of the profession welcomed (whether of the British Medical Association or not). Tickets for the dinner, 12s. 6d. without wine, may be obtained from the Honorary Secretary, Dr. Pooler, Stonebroom, Alfreton.

SURREY BRANCH: KINGSTON-ON-THAMES DIVISION.—A general meeting of the Kingston-on-Thames Division will be held at Surbiton Hospital on Tuesday, February 7th, at 8.45 p.m., when Mr. Joseph Cunning, F.R.C.S., will give an address on "Some Conclusions in Abdominal Surgery."

SUSSEX BRANCH: HASTINGS DIVISION.—A meeting of the Hastings Division will be held at the East Sussex Hospital on Tuesday, February 7th, at 8.30 p.m. (1) A paper will be read by Mr. Douglas Drew on "Modern Treatment of Prolapsus Uteri." (2) Dr. G. Lock, J.P., will give a demonstration of lantern pictures of fractures. (3) An appeal for the Wood-Hill Fund will be made.

Meetings of Branches and Divisions.

QUEENSLAND BRANCH.

THE annual report of the Council of the Queensland Branch for the year ended November 19th, 1921, together with the balance sheet and statement of accounts, has been circulated as a printed document. The membership of the Branch increased slightly, and was 308 at the end of the period under review.

Meetings.

Ten ordinary monthly meetings and three special meetings were held by the Branch, the average attendance being twenty-eight. A clinical meeting was held in May at the Hospital for Sick Children, and another at Ipswich; on each occasion the local members entertained the visitors to dinner. At the July meeting a paper of medico-legal interest was read by a barrister, and in November a combined meeting was held with the Pharmaceutical Society. In all twelve papers were read before the Branch, and many interesting cases and specimens were shown at the various meetings.

A special Branch meeting was called to consider the changes proposed in the model agreement with friendly societies and lodges. Following a decision to raise the scale of fees, a conference was held with the Associated Friendly Societies, and at a subsequent special meeting a schedule of terms was agreed to.

Council Work.

During the year the Council held eighteen meetings; the figures of attendance at Council meetings show a highly creditable record. As in previous years a considerable part of the Council's time was occupied with matters on which its intervention was requested, particularly in respect of country hospitals. It is encouraging to note that such intervention by the Council is becoming more and more effective, and its assistance and advice has on several occasions been invited by hospital committees and others with a view to a satisfactory solution of difficulties.

Plague.

Some reference to the recent outbreak of plague in Queensland was made in a Current Note in the SUPPLEMENT of January 7th, 1922 (p. 2). The Council of the Queensland Branch reports that, recognizing that this is a matter in which the profession should be concerned collectively as well as individually as practitioners, it has, through the Public Health Subcommittee or directly, taken the following action:

1. Interviewed the Minister and from time to time communicated with the Commissioner of Health and the Chief Quarantine Officer, recommending various lines of action.
2. Issued to members in the towns likely to be affected a memorandum dealing with the medical aspects and to the public press a memorandum on the etiological features of the disease as it affects citizens.
3. Accepted the invitation of the Prime Minister that the President of the Branch should represent the medical profession of Queensland at the inter-State conference on plague.

Museum.

Efforts have been made to find a suitable place for the housing of the museum specimens of the Branch; meanwhile the work of mounting goes on. The war museum specimens are being taken over from the University for safe custody until such time as a medical school is established.

METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.

A MEETING of the Lewisham Division was held at Farnboro House, Kirkdale, Sydenham, on January 24th, when Dr. G. W. CHARSLEY occupied the chair.

Dr. B. A. RICHMOND, Regional Medical Officer, gave an address on developments in the insurance medical service. He described the duties of regional medical officers, and showed how they acted as guides and friends to practitioners on the panel. The attitude of the society officials was antagonistic to the doctors, as they did not understand the professional man's point of view. He explained the new certification rules, and gave the reasons which caused them to be introduced.

METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.

A MEETING of the Division was held on January 17th at St. Andrew's Parish Hall, Willesden Green.

Willesden Health Policy.—The meeting considered (*a*) the reply of the Willesden Urban District Council of December 21st, 1921, to the memorandum upon its health policy, approved at the meeting of the Division, and (*b*) the draft reply to the foregoing prepared by the Executive Committee, copies of which had been circulated to every member. After discussion it was resolved that the memorandum be approved and sent to the Willesden Urban District Council, and that copies be forwarded to the head office, the Ministry of Health, and the press. Attention was drawn to (*a*) the recent Memorandum 272, December 29th, 1921, of the Ministry of Health to local authorities, drawing attention to the necessity for economy in the matter of expenditure upon maternity and child welfare work, and (*b*) reply of the Ministry dated January 12th, 1922, to the letter of the Council of December 19th, 1921, upon the Willesden position, both of which appeared in the SUPPLEMENT of January 21st. A further letter, dated January 6th, was received from the clerk to the Willesden Urban District Council, in reply to the letter of the Division, dated December 29th, 1921 (p. 6, SUPPLEMENT, January 7th, 1922), to the effect that the medical officer of health had reported that he had prepared two schemes for discussion with the Division, providing for the entry of local practitioners into this work of the local clinics, and that it now awaited any proposals which the Division might make in accordance with par. 18 of its previous letter of December 21st.

Municipal Elections.—It was reported that at a meeting of the practitioners of Harlesden a committee was appointed for the purpose of selecting medical candidates for the municipal elections, and that a guarantee fund to assist in defraying election expenses of approved medical candidates had been opened. It was decided to approve the action taken and to support the candidature of Drs. Skene, Lock, and Muller. It was left to the Chairman and Honorary Secretary to endeavour to arrange in the various wards meetings of the local practitioners with a view to securing further medical candidates.

Insurance.

THE MILEAGE GRANT.

THE circular letter from the Ministry, dated December, 1921, concerning the Mileage Fund for 1921 and 1922, was considered by the Insurance Acts Committee on Thursday, January 26th. The Committee at the same time had before it a Memorandum which had been drawn up by those members of the Distribution Committee appointed by the Minister of Health who are members of the Insurance Acts Committee. After full consideration of the whole question the Insurance Acts Committee approved the Memorandum and instructed the Medical Secretary to forward a copy to the Ministry with a request that the report of the Distribution Committee should be made public. The Ministry has acceded to this request, and the Report is printed below.

The Insurance Acts Committee is meeting the representatives of the Ministry on Thursday, February 2nd, and as soon as possible thereafter Panel Committees will be advised of the action which the Insurance Acts Committee proposes to take in the matter.

MEMORANDUM ON MILEAGE FUND FOR 1921.

The publication of Mr. Harris's circular foreshadowing a reduction in the Central Mileage Fund for 1921 and 1922, before that of the Report of the Mileage Committee explaining the reasons for the reduction, may be expected to cause some apprehension amongst rural practitioners.

This is especially the case as the statement of Sir Alfred Mond that mileage would not be interfered with has been interpreted to mean that the amount of the fund would remain at £300,000 as it was in 1920. His considered statement was that the principles or basis of assessment of the Mileage Fund would remain the same, and the report of the Committee which was sitting at the time will be found to show that the same methods which led to the *estimation* of £300,000 from the very insufficient data that were available for 1920, now lead by close *calculation* from definite recorded statistics to an assessment at a figure for 1921 lower by somewhere about 15 per cent.

That the Treasury will submit the allowauce of 1s. 1½d. per mile actually travelled to reconsideration for 1923 goes without saying. It is made up of complex considerations of the cost of travelling by different methods and of the value of time; and is moreover a compromise figure, probably too low for the beginning of 1921 and possibly (as costs are falling) too high for the end of 1922. The other basic factor—the total number of miles actually travelled throughout England and Wales in visiting insured persons—may also have to be revised; the twelve months covered by the returns happened to be unusually light as regards work. If the methods of the Committee are sound and the data as accurate as can be obtained the result arrived at must be a fair assessment. The rural practitioner will expect no more, and it may be assumed will accept no less.

The reduction of the "reserved portion" of the Central Fund for special payments to areas of exceptional difficulty does not seem so easy to justify. It is hardly the case that "the basis of assessment of this part of the Fund is directly referable to the basis upon which the main portion of the Fund is calculated." These payments were assessed on special reports of medical Commissioners, who visited each locality and reported upon a variety of conditions, such as mountains, footpaths, impassable roads, tidal estuaries, liability to be snowed up, and so forth. The travelling expenses of a practice in such localities do not vary with the mileage to anything like the same degree as in ordinary districts, and if the reduction of this portion of the Fund is based upon the recommendation of the report considerable criticism may be expected.

LETTER FROM THE MEDICAL SECRETARY TO THE SECRETARY OF THE MINISTRY.

28th January, 1922.

SIR,

Reduction in Mileage Grant.

My letter to you of the 19th inst., asking if it was the intention of the Ministry to publish the Report of the Distribution Committee dealing with the question of mileage, was before the Insurance Acts Committee at its meeting on the 26th inst. The Committee regretted the Ministry had not been able to reply to that letter, as, in its opinion, the matter concerned is one of great urgency.

The feeling of rural practitioners under the Insurance Acts is so intense on this matter, and those practitioners who were put on the Distribution Committee specially to represent rural insurance practitioners are being asked so many questions, and subjected to so much criticism, that the Committee feels it is essential that the Report should be made public. It feels this so strongly that it instructs me to say that, failing the decision of the Ministry to publish the Report or to give us a copy which we may publish, it must reserve its right to publish at any rate that portion of the Report which will show that so far as the "reserve portion" of the Mileage Fund is concerned the promise of the Minister that "the arrangements in force now regarding mileage and things of that kind should remain in force as in the past" has not been adhered to.

If it be possible to furnish a copy of the Report for publication in the BRITISH MEDICAL JOURNAL next week (in which case it should be in my hands not later than Monday next) the Committee will be very grateful. If this be not possible it is hoped that the Minister or his representatives will be prepared to make a statement on the matter to the deputation on Thursday next.

I am, Sir, your obedient servant,

ALFRED COX,
Medical Secretary.

REPORT OF THE DISTRIBUTION COMMITTEE.

TO THE RIGHT HON. SIR ALFRED MOND, BART., M.P.,
MINISTER OF HEALTH.

SIR,

The Committee appointed to advise as to the basis on which and the proportions in which the funds available for the remuneration of insurance practitioners for the treatment of insured persons and for mileage should be distributed amongst the Insurance Committee areas in England and Wales, beg to submit the following Report:

PART I.

DISTRIBUTION OF FUNDS AVAILABLE FOR TREATMENT.

In accordance with the recommendation in paragraph 6 of our report of the 30th December, 1920, we have re-examined the provisional distribution of the Central Practitioners' Fund for 1921, appearing in Appendix I to that report, and submit the revised distribution of the Central Practitioners' Fund for that year which appears in Appendix I to this Report.

The revised apportionment has been prepared on lines practically identical with those adopted in the case of the revised apportionment for the year 1920, the actual data now available in respect of the year 1921 being substituted for the estimates necessarily adopted for the purpose of the provisional apportionment for that year.

In preparing this apportionment allowance has been made, as in the case of the final apportionment for 1920, for the adjustments in the Index Registers which have been made as a result of the Central Clearance operations of the Ministry, to which reference was made in paragraphs 4 and 5 of our report of December 30th, 1920.

The apportionment of the Fund for 1922 has been considered on similar lines to those adopted for the provisional apportionment of the Fund for 1921, and the tables which are set out in Appendix II represent, in our view, the basis on which the respective shares of the several Committees should be calculated.

In the course of the re-examination of the distribution for the year 1921, it was observed that, though in a few areas there were considerable variations in the quarterly counts of the Index Register, on the whole the fluctuations in the Registers consequent on the war disturbances were not nearly so marked as in the year 1920.

We understand, however, that owing to the economic and other disturbing causes it has been found impracticable for the Ministry to make a final determination of the Central Practitioners' Fund for the year 1922 at the present time, and that the assessment of the fund which has just been made is provisional only and will be reviewed towards the end of the year. In these circumstances, and having regard to the fact that some fluctuation in the registers may result from the same causes, we recommend that the distribution for the year 1922, set out in Appendix II to this report, be regarded as provisional and be reviewed towards the end of that year.

PART II.

CENTRAL MILEAGE FUND.

In the second part of our terms of reference we are asked to advise as to the distribution amongst Insurance Committee areas of the funds available for the remuneration of insurance practitioners for mileage.

We also understand that the Ministry would be glad to consider any further recommendations which the Committee may wish to make with regard to the basis on which the Fund itself should be constituted.

Constitution of the Fund.

For the reasons mentioned below the initial assessment of the Fund was necessarily tentative, and the previous deliberations of the Committee were addressed more particularly to the question of the distribution among Committees of the sum available.

In the first Report of the Committee reference was made to the difficulties experienced in making an accurate assessment of the Central Mileage Fund on the slender information then available to the Committee, and paragraphs 33 and 34 of the Report contained a strong recommendation that records, on which a more satisfactory assessment could be based, should be obtained from certain classes of insurance practitioners.

These records, covering roughly the period from May, 1920, to April, 1921, have now been considered by the Committee, together with the returns obtained from Insurance Committees for the purpose of the distribution of the main portion of the Central Mileage Fund for 1920 (as recommended in paragraph 35 of the first Report). The records of travelling have been kept by nearly 750 doctors engaged in rural or semi-urban practice, and show (*a*) the total number of miles travelled by the doctor in the period covered by the records, and (*b*) the total number of visits paid, to insured patients and to uninsured patients respectively, in the same period. The returns obtained for the distribution of the Central Mileage Fund show the aggregate number of insured persons on the lists of doctors claiming mileage who are resident at a distance of more than two miles from the doctor's residence, and also the distribution of this total between the various distances of 2–3, 3–4, etc., miles from the doctor. Other records, in the possession of the Department and furnished by the Department to the Committee, show in addition the total number of insured patients on the list of these doctors, including patients at a distance of less than two miles from the doctor, and provide thus information as to the number of patients within the two miles.

For the purpose of considering the future assessment of the Fund it appears advisable that records of the number of visits paid to insured persons in a period of twelve months should be obtained, for 1921 and subsequent years, from a representative selection of rural doctors, including preferably some of those doctors by whom records on Forms 211/I.C. were kept.

It is clear from the figures of the numbers of insured persons at different distances from the doctor that the sample practices, mentioned in paragraph 28 of the First Report, did not fairly represent the average rural practice, but rather a type of rural practice in which the amount of travelling required was above the normal. Allowance had been made by the Committee for this possibility, but the information now available shows that the allowance made was insufficient, and that in consequence the total number of rural insured persons in England who are resident at a distance of more than two miles from their doctor was over-estimated.

We have proceeded accordingly to a fresh consideration, in the light of the further information before the Committee, of the principles upon which the assessment of the Mileage Fund should be based. The main steps in this assessment are three in number:—

(1) Determination of the payment per mile to be made in respect of (*a*) time spent in travelling, (*b*) costs of travelling.

(2) Determination of the total number of miles travelled in the year by doctors entitled to claim mileage.

(3) The deduction to be made from this total in view of the fact that a certain payment for distance travelled and time spent in travelling is included in the ordinary capitation fee for treatment.

Of these three steps, the first is not affected by the statistics of travelling now available, but it appeared to us desirable to consider afresh the whole process of assessment, in case any alteration of circumstances might have affected the suitability of the rates upon which our previous recommendation was based. After full consideration we concluded that the rates of payment for each mile travelled by a rural practitioner in excess of the travelling which attendance on his patients under urban conditions might require could properly be slightly increased under both heads; and that a payment of 1s. 1½d. for each such additional mile would be a proper compensation for the extra cost of travelling and for the extra time occupied in travelling. Of this total, 7d. represents payment in respect of the additional cost of travelling, and 6½d. represents payment in respect of the additional time occupied in travelling. At an average travelling speed of fifteen miles per hour, the latter figure provides remuneration at the rate of approximately 8s. per hour. This figure is not proposed by the Committee as representing the value of the professional services of a medical practitioner, but is considered as affording a reasonable rate of remuneration in respect of the additional time occupied in travelling.

In dealing with the second stage of the assessment—the estimation of the total number of miles travelled by doctors entitled to claim mileage—we encountered a difficulty which, in our opinion, is inherent in the nature of the problem. The practices of the doctors by whom records of travelling were kept in the course of last year form, in our view, an accurate sample of the rural and semi-rural practice of the country, but it is clear that the average number of miles travelled in the year per insured patient by the doctors by whom these records have been kept is greater than the average number of miles per insured patient travelled in the year by all doctors entitled to claim mileage. This arises from the fact that claims for mileage are made (and can quite properly be made) by doctors the major portions of whose practices are urban in character, but who have made claims in respect of a few insured persons on their lists who reside in areas in respect of which mileage is properly payable. This factor increases unduly the total number of insured persons on the aggregate lists of all doctors claiming mileage, while increasing the total travelling outside urban conditions by comparatively an inappreciable amount. Although the total number of miles travelled in the year for all doctors claiming mileage cannot for this reason be calculated from the number of miles travelled per insured patient by the doctors who have kept records, we are satisfied from an inspection of the figures which we have had before us that a calculation based on the miles travelled per insured patient beyond two miles by the doctors keeping records, the number of units credited to these doctors, and the number of units credited to all doctors claiming mileage, will give, with sufficient accuracy, a measurement of the total travelling done by all such doctors.

Particular attention was given to the question of the proportion of the total travelling done by rural doctors in the course of the year which can properly be considered as additional to the travelling which would be required in connexion with the treatment of the same patients under the conditions of urban practice. As a preliminary step, the number of miles travelled by the doctors engaged in rural or semi-rural practice, in attendance upon their patients within two miles, was estimated. This mileage is clearly dependent upon the average distance from the doctor of the patients within the two mile radius. The figures before us enabled us to determine this average distance with, we are satisfied, substantial accuracy, and as this figure is based on the returns obtained from Committees in respect of all doctors claiming mileage (including those referred to in the previous paragraph whose practices are mainly urban in character), some allowance is thus automatically made for the fact that the patients composing a typical urban practice will on the average be appreciably nearer the residence of the doctor than those patients in a rural practice who are within the two mile radius. After consideration of this aspect of the matter we decided to make a further allowance for this factor, which in our opinion results in such a deduction from the total mileage travelled as represents with sufficient accuracy the amount of travelling which can properly be considered as covered by the ordinary capitation fee.

In this portion also of the assessment it was clear from the figures before us that, owing to the absence of any satisfactory data, we had, in our original assessment of the Central Mileage Fund, made too large a deduction for the travelling covered by the capitation fee—that is, that the number of "additional" miles to be paid for had been underestimated. The effect of this amendment may be roughly illustrated as follows:

[*] The average number of miles travelled per day by each of the doctors by whom records have been kept is about twenty. On the basis on which our original assessment was made, roughly 45 per cent. of this travelling would be considered as covered by the capitation fee for treatment, and roughly 55 per cent. as ranking for payment from the Mileage Fund. The basis now recommended would result in 35 per cent. only of the total being considered as covered by the capitation fee, the residue of 65 per cent. ranking for additional payment.

It should be pointed out that the above figures cannot

properly be interpreted as an estimate of the actual amount of travelling done per day in the average urban practice. The conditions of urban and rural practice differ in so many aspects that the mere subtraction of the daily mileage covered in the average urban practice from that covered in the average rural practice of the same number of patients would not necessarily be an accurate foundation on which to base an estimate of the additional payments to be made to the rural practitioner.

The Committee's Recommendations.

The Committee recommend therefore:

(1) That the total number of miles travelled in the year by practitioners claiming mileage should be estimated from the known figure of the number of miles travelled in the year by the practitioner by whom records have been kept, by comparing the "units" credited to those practitioners with the aggregate of the units credited to all practitioners claiming mileage.

(2) That the deduction to be made from this total mileage in respect of travelling covered by the capitation fee for treatment should be in the proportion shown as the result of the revised basis mentioned in paragraph 20 above [marked with an asterisk].

(3) That the payment made for each of the residual miles, not covered by the ordinary capitation fee, should be at the rate of 1s. 1½d. per mile for the years 1921 and 1922.

Distribution of the Fund.

The records of travelling do not give any definite information as to the equity of the distribution of the main portion of the Fund between Committees, the basis adopted for the year 1920. On the other hand, there is no evidence of inequitable distribution, and it must be borne in mind that, though there are certain obvious disadvantages in the "unit" basis of distribution (in particular, the large amount of detailed work required in the preparation of the necessary returns) it has not yet been found possible to devise any satisfactory alternative system.

We recommend, therefore, that, as sufficient experience of the results of the basis of distribution previously adopted has not been obtained to justify any modification of the method, the distribution of the main portion of the mileage fund pool among Insurance Committees should for the present be made on the basis of the units credited to practitioners in the areas of those Committees in the manner indicated in paragraph 35 of the first report of the Committee, and that for the purpose of this distribution the revised particulars in regard to the units for the several areas, obtained by the Department in the early part of this year, should be adopted for the years 1921 and 1922.

With regard to the portion of the Fund reserved for cases of exceptional difficulty, since the amounts credited for 1920 to the different Committees were based on a direct examination of the areas concerned, there does not appear to be the same necessity for a revision of the amounts allotted for these special cases. We are informed that some additional claims for cases of special inaccessibility have been received by the Department and we consider that these further claims, which are in the aggregate small in proportion to those already considered, should be assessed on the same basis as the special claims submitted for the year 1920.

We have the honour to be, Sir, your obedient Servants,

WOODBURN KIRBY.	HOWELL E. JAMES.
*WILLIAM BAIGENT.	E. LEWYS-LLOYD.
JOHN CHOWN.	T. LINDSAY.
H. GUY DAIN.	G. F. MCCLEARY.
G. S. W. EPPS.	*W. VERNON SHAW.
ROBT. J. FARMAN.	J. P. WILLIAMS-FREEMAN.
W. GILL HODGSON.	*T. WOOD-LOCKET.
	H. JERWOOD, *Secretary.*

November 28th, 1921.

* Dr. Baigent, Dr. Shaw, and Dr. Wood-Locket are members of the Committee for the purpose of the distribution of the Central Mileage Fund only. Their signatures, therefore, relate to Part II of the Report and not to Part I.

INSURANCE CERTIFICATE BOOKS.

MEDICAL practitioners are asked to note that the price of the books of 50 *National Health Insurance Certificates*, published by the British Medical Association, is now 9d. (post free), and not 6d. as formerly. The form of certificate has been altered so as to conform to the form of certificate recently issued by the Ministry of Health. It is intended for use by practitioners when attending insured persons who are not their panel patients, and who are not persons whom they are attending as medical officers of institutions under Section 15 (4) or in virtue of "own arrangements" under Section 15 (3). Applications for the *Certificate Books* should be addressed to the Financial Secretary, 429, Strand, London, W.C. 2.

COUNTY OF LONDON PANEL COMMITTEE.

AT the meeting of the London Panel Committee, on January 24th, two matters relating to the respective functions of the Insurance and Panel Committees were reported. The Insurance Committee has had under consideration the prescribing of two practitioners who practise in partnership. Out of a total of 8,600 prescriptions for mixtures, 3,262 were for one mixture, and the Insurance Committee communicated with the practitioners and asked for an explanation before communicating with the Panel Committee. After some correspondence, the question as between the two committees was put to the Minister of Health, who stated that in a case of this kind it would clearly be convenient if the Insurance Committee would obtain the observations of the Panel Committee before rather than after communicating with the practitioner, and suggested that this course should be adopted in any future cases. The second matter related to complaints by insured persons that the treatment provided by practitioners was not, in their opinion, correct. These complaints were heard by the Medical Service Subcommittee of the Insurance Committee, and this body had asked its medical members for an expression of opinion as to whether the treatment given was in fact suitable for the case. The view of the Panel Committee was that insured persons should not be allowed to make complaints based upon the correctness of diagnosis or treatment, as such questions must be matters of individual professional opinion, and that the Panel Committee's representatives on the Insurance Committee should resist attempts to raise such questions in the subcommittee, and should refuse to place their professional knowledge at the disposal of the subcommittee in such cases.

The Panel Committee considered the general question as to the advisability of practitioners employing permanent assistants, and passed a resolution expressing the opinion that the employment of assistants in suitable cases was to be recommended.

A further resolution had reference to the public health service projected at Willesden, and expressed the view—which the Panel Committee had put forward on previous occasions—that in dealing with the problems at present under discussion at Willesden, the fullest use should be made of general practitioners actually at work in the district.

COUNTY OF LONDON INSURANCE COMMITTEE.

Names on Prescription Forms.—It was reported to the London Insurance Committee on January 26th that the National Insurance auditor had stated that the Christian names or initials of insured persons prescribed for were frequently not furnished upon the prescription forms produced at the audit. Owing to the absence of this information the auditor had been unable in certain cases to identify the persons as being entitled to medical benefit. The Panel Committee was asked to arrange for the publication of a notice drawing the attention of practitioners to the fact that Christian names or initials, and also addresses, should be inserted on prescription forms. The case of any practitioner who persistently fails to comply with this requirement is to be brought to the notice of the Medical Services Subcommittee.

Change of Doctor.—The number of insured persons in the county of London who desired to change their doctor as from January 1st last was 5,040, as against 4,060 in the previous year. The number of insured persons removed from lists at the request of practitioners was 201, and the corresponding figure in 1920 was 207.

Frivolous Certification.—The case came before the Committee of an insurance practitioner who, at the request of a widow issued a certificate stating that her husband—an insured person whom he had been attending—had remained incapable of work up to and including the date of his death, and added the phrase, "and may be fit to resume work elsewhere." It appeared that the practitioner was asked by the widow for a "declaring off" certificate to submit to the approved society, and although he declared that there was no form for such a certificate in case of death, she persisted in her request, and he finally gave her the certificate complained of, adding certain words to show the absurdity of the position. The Medical Services Subcommittee took a grave view of the matter, and recommended that the disapproval of the Committee be conveyed to the practitioner. When the matter came up for discussion in the main Committee it was felt that some stronger course was desirable, and after several members, including two medical representatives, had commented upon the impropriety and callousness displayed by the writing of words so objectionable, it was unanimously resolved to report the case to the Ministry of Health.

Correspondence.

Insurance Dispensing Fee.

SIR,—The Northumberland Panel Committee at its last meeting passed a resolution supporting the dispensing panel practitioners in their opposition to any reduction in the present capitation fee for dispensing.

I add that the rural practitioners in Northumberland feel so strongly over this that it has been intimated to the Panel Committee that they will be prepared to agree upon drastic steps rather than accept reduction.

The Northumberland Panel Committee cordially approved the case for the dispensing practitioner set forth in the SUPPLEMENT of December 31st, 1921, and hope that the rural

practitioners throughout the country will make a strenuous opposition to reduction.

The chemist can buy drugs 15 per cent. cheaper than the doctor, he has fixed hours for dispensing, and very few chemists dispense on Sundays or holidays. The country doctor dispenses at all hours, and generally has to do it late at night after a long day's work. The doctor must see that his patients get their medicines. In Northumberland for generations he has used all sorts of means of getting it sent, such as carriers' carts, rural postmen, school children, etc., and he, the doctor, *has paid for the carriage*. He carries bottles himself daily to his patients, or leaves them at places on the journey to be called for. This is a side of the rural dispensing work of which the chemist sees nothing. But it means much time, attention, and worry to the doctor.

The country practitioner knows that he is under no legal obligation to do all this for insured persons, but he must do it nevertheless. It is an old and time-honoured custom. How otherwise can he give effect to the intention of insurance legislation that the principle should be that his insured patients are to be treated in the same way as his private patients? As a matter of practical working such a custom cannot well be abandoned. The rural insured person gets more medicine from his doctor than does the urban insured person from his chemist, because he gets it more easily. He has not to bother to get a prescription and then go to a chemist, whose shop may be closed, whereas the doctor's house is always open.

The cost of drugs, appliances, and dressings has not fallen sufficiently to warrant a reduction when these grounds and a comparison of drug list prices between 1913 and 1921 are taken into account.

It has been said that where a doctor pays carriage on an insured person's medicine (an 8 oz. bottle now costs 9d. to post, and in 1913 cost 3d.) he should collect it from the patient. This suggestion is wholly impracticable.

The basing of reduction to the doctor upon conditions applying to the chemist should not be admitted by the medical profession. It results in the neglect of many factors important to the medical man which do not exist in the case of the chemist.—I am, etc.,

GARFORTH DRURY,
January 27th. Secretary, Northumberland Panel Committee.

The Mileage "Cut."

SIR,—The blindest and most apathetic panel doctor must now see that recent agreements between the Insurance Acts Committee and the Ministry of Health are no better than Teutonic "scraps of paper." Had we realized the possibility of a breach of faith over the mileage grant, probably the acceptance of a reduction of the capitation fee "for patriotic reasons" would not have been so meekly borne.

The Insurance Acts Committee has undoubtedly done its best, and the panel doctor could have no stronger advocate to plead his cause than Dr. Brackenbury; but all their efforts are futile. The Minister of Health is quite willing to grant interviews—and then do just as he pleases.

I am now convinced that the policy of peaceful persuasion of the Insurance Acts Committee is useless and hopeless, and that the only argument that will appeal to the Government is that of declining to be perpetually bullied, but at the same time I am not sufficiently sanguine to think that the latter policy will ever be adopted by an apathetic profession. In view of the General Election I trust every panel doctor will have sufficient public spirit to publicly confront Coalition candidates with this latest glaring breach of faith. Personally I shall have great satisfaction in doing so, though I have always been a loyal supporter of Coalition policy.—I am, etc.,

Rothbury, Northumberland, Jan. 29th. ARTHUR S. HEDLEY.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following notifications are announced by the Admiralty: Surgeon Commanders N. S. Meiklejohn, D.S.O., to the *Ajax*, A. J. Hewitt to R.N. Hospital, Plymouth, D. G. Addison Scott to the *Yarmouth* and to *Cormorant* on arrival, P. D. Ramsay to the *Yarmouth* on relief, B. S. Robson to the *Vivid* for R.N. Barracks. Surgeon Lieutenant Commander A. E. Malone to the *Antrim* (temporary). Surgeon Lieutenants R. W. Nesbitt to the *Tarantula*, F. M. Rorie to the *Greenwich*.

Surgeon Lieutenant Commander (temporary) A. Craig has been transferred to the permanent list.

Mr. G. S. Rutherford has entered as Surgeon Lieutenant for short service, and has been appointed to the *Victory* for R.N. Hospital, Haslar, for course.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel and Brevet Colonel P. S. Lelean, C.B., C.M.G., retires on retired pay.

Major and Brevet Lieut.-Colonel W. P. MacArthur, D.S.O., O.B.E., relinquishes the acting rank of Lieutenant-Colonel, and has been appointed a Professor at the Royal Army Medical College, vice Lieut.-Colonel J. C. Kennedy.

Major J. Fairbairn retires on retired pay and is granted the rank of Lieutenant-Colonel.

The following Captains relinquish the acting rank of Major: T. V. Oldham, July 26th, 1919, P. J. Ryan, M.C., March 25th, 1921 (substituted for notification in the *London Gazette*, June 27th, 1921).

Temporary Captain E. G. D. Milsom relinquishes his commission, February 6th, 1920, and is granted the rank of Major (substituted for notification in the *London Gazette*, February 27th, 1920).

Temporary Captain G. F. Woodroffe relinquishes his commission and retains the rank of Captain.

To be Captains: Captain E. L. F. Nash, M.C., from R.A.M.C. (S.R.), April 1st, 1919, with seniority June 1st, 1918, and precedence next below D. N. Macleod (substituted for notification in the *London Gazette*, April 11th, 1919). Captain C. H. G. Penny, late R.A.M.C. (S.R.), November 25th, 1919, with seniority, November 24th, 1918 (substituted for notification in the *London Gazette*, November 24th, 1919). Captain W. E. K. Coles, late R.A.M.C., June 18th, 1920, with seniority, June 25th, 1918 (substituted for notification in the *London Gazette*, July 23rd, 1920). Captain D. McVicker, M.C., late temporary Captain, R.A.M.C., July 3rd, 1920, with seniority, November 18th, 1918 and precedence next below L. A. J. Graham (substituted for notification in the *London Gazette*, July 28th, 1920). Lieutenant (temporary Captain) R. A. Anderson, June 16th, 1918, with precedence next below D. S. Martin (substituted for notification in the *London Gazette*, May 24th, 1918). Lieutenant (temporary Captain G. H. Haines, M.C., September 19th, 1918, with precedence next below E. M. Townsend (substituted for notifications in the *London Gazette*, September 5th and October 5th, 1918). Lieutenant (temporary Captain G. T. Gimlette, July 4th, 1919, with precedence next below G. D. Gripper (substituted for notification in the *London Gazette*, July 5th, 1919). Lieutenant (temporary Captain) H. A. Rowell, M.C., August 13th, 1918 (substituted for notification in the *London Gazette*, September 5th, 1918). Captain A. G. G. Thompson from T.F., November 1st, 1919, with seniority, April 23rd, 1918 (substituted for notification in the *London Gazette*, December 4th, 1919). Captain A. K. Forbes M.C., late R.A.M.C., November 14th, 1919, with seniority, December 30th, 1918 (substituted for notification in the *London Gazette*, November 25th, 1919). Captain J. C. Denvir from T.F., December 1st, 1919, with seniority, December 7th, 1918 (substituted for notification in the *London Gazette*, December 20th, 1919). Temporary Captain C. M. Forster, June 1st, 1920, with seniority, July 20th, 1918 (substituted for notification in the *London Gazette*, June 22nd, 1920). Temporary Captain G. Fleming, June 1st, 1920, with seniority, May 16th, 1919, and precedence next below F. A. R. Hacker (substituted for notification in the *London Gazette*, July 6th, 1920). Temporary Captain H. A. Boyle, June 1st, 1920, with seniority, August 14th, 1919 (substituted for notification in the *London Gazette*, June 29th, 1920). Captain H. G. Dressing, M.C., late R.A.M.C., June 5th, 1920, with seniority, March 12th, 1920 (substituted for notification in the *London Gazette*, June 22nd, 1920). Temporary Captain H. S. Moore, July 1st, 1920, with seniority, April 9th, 1919 (substituted for notification in the *London Gazette*, August 17th, 1920. Captain D. Fettes, late temporary Captain, July 14th, 1920, with seniority, January 19th, 1919, and precedence next below A. J. Beveridge (substituted for notification in the *London Gazette*, August 18th, 1920). Temporary Captain (acting Major) J. F. Bourke, M.C., and to retain his acting rank, February 22nd, 1919 (substituted for notification in the *London Gazette*, March 3rd, 1919). Lieutenant (temporary Captain) T. H. Twigg, December 1st, 1919 (substituted for notification in the *London Gazette*, December 30th, 1920). Captain C. C. G. Gibson, late R.A.M.C., June 11th, 1920, with seniority, December 10th, 1919 (substituted for notification in the *London Gazette*, July 8th, 1920). Lieutenants (temporary Captains) D. W. M. Mackenzie and C. V. Macnamara.

INDIAN MEDICAL SERVICE.

The services of the following officers have been placed at the disposal of the Governments specified, with effect from the dates indicated:

Assam.—Major D. L. Graham, O.B.E., and Captain H. L. Batra, M.C., temporarily.

Bengal.—Lieut.-Colonel B. H. Deare.

Bihar and Orissa.—Major R. H. Lee, temporarily, with effect from the date on which he assumes charge of his duties.

Bombay.—Major S. J. Bhathena, temporarily, with effect from the date on which he assumes charge of his duties; Major M. S. Irani (October 5th, 1921).

Burma.—Captain A. S. Khan (temporarily).

Punjab.—Major H. C. Keates (March 23rd, 1920), Brevet Lieut.-Colonel C. A. Gill (January 31st, 1921), and Major R. T. Wells (February 1st, 1921), permanently, Major M. L. Puri, temporarily.

United Provinces.—Lieut.-Colonels: A. W. R. Cochrane (September 9th, 1916), S. A. Harriss (March 25th, 1917), H. W. Illius (October 30th, 1917), A. E. J. Lister, V.H.S. (February 26th, 1918), J. W. D. Megaw (February 1st, 1921). Major (temporary Lieut.-Colonel) H. Ross, O.B.E. (August 24th, 1918—November 11th, 1921). Majors: V. B. Nesfield, ret. (November 11th, 1918), G. A. Jolly (August 26th, 1919), A. Cameron, O.B.E. (April 19th, 1920), H. C. Buckley (April 20th, 1920), J. S. O'Neill, M.C. (July 10th, 1920), M. R. C. MacWatters (October 28th, 1920), C. H. Reinhold, M.C. (November 2nd, 1920), B. E. M. Newland (December 11th, 1920). H. P. Cook (March 9th, 1921), C. H. Barber, D.S.O. (March 19th, 1921), J. F. Boyd (September 1st, 1921), T. D. Murison for employment in Public Health Department (November 6th, 1921).

The services of Captain G. C. Maitra have been placed at the disposal of the governing body of the School of Tropical Medicine and Hygiene, Calcutta, from the date on which he assumes charge of his duties.

The services of Lieut.-Colonel J. N. Walker have been placed at the disposal of the Chief Commissioner, Delhi (October 24th, 1921).

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Captain A. B. S. Drysdale relinquishes his commission and retains the rank of Captain.

Captain H. C. Sinderson is seconded for service under the Iraq Civil Administration, March 27th, 1919.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

Captain T. H. Richmond, O.B.E., to be Major.

Captains relinquish their commissions and retain the rank of Captain: W. Taylor, M.C., H. Watts-Taylor, L. A. Celestin.

To be Captains: Captain R. Wayland Smith (late R.A.M.C.), with precedence as from February 15th, 1918, Captain G. Adam (late R.A.M.C.).

The following officers, having attained the age limit, are retired, September 30th, 1921, and retain their rank, except where otherwise stated: Lieut.-Colonel J. T. Thomas, T.D., with permission to wear the prescribed uniform. Major (Brevet Lieut.-Colonel) H. Skelding, T.D., with permission to wear the prescribed uniform. Majors C. R. Bishop, T.D., G. Wilson, T.D., and A. Price, T.D., with permission to wear the

prescribed uniform. Captain J. G. F. Hosken, and is granted the rank of Major. Captains E. F. Ross, C. M. Mitchell, F. W. Burn, R. U. Moffat, C.M.G., H. F. J. Graves, G. A. Brogden, J. A. Hartley, G. S. Hughes, E. H. Gonin, H. C. Barr, R. L. Thomas, and J. S. Hall.

The following officers relinquish their commissions and retain their rank, except where otherwise stated: Major P. G. Williamson, M.C., and is granted the rank of Lieutenant-Colonel, with permission to wear the prescribed uniform; Captain C. C. Fitzgerald, Captain F. H. C. Watson, and is granted the rank of Major; Major L. P. Gamgee (1st Southern General Hospital).

TERRITORIAL ARMY RESERVE.

ROYAL ARMY MEDICAL CORPS.

Captain N. W. Kidston, from General List, R.A.M.C., to be Major.

Captain R. L. Routledge, having attained the age limit, is retired and retains the rank of Captain.

DIARY OF SOCIETIES AND LECTURES.

HARVEIAN SOCIETY, St. Mary's Hospital, Paddington.—Thurs., 4.30 p.m., Clinical Meeting.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1.—Wed., 9 p.m., Second Lettsomian Lecture by Sir Leonard Rogers: Amoebic Liver Abscess: its Pathology, Prevention and Cure.

MIDDLESEX HOSPITAL MEDICAL SCHOOL, W.1.—Tues., 3 p.m., Emeritus Lecture by Sir John Bland-Sutton: The Choroid Plexuses of the Brain and Psammomas.

RÖNTGEN SOCIETY, Institution of Electrical Engineers, Savoy Place, W.C.—Tues., 8.15 p.m., Papers and Demonstrations of Apparatus.

ROYAL SOCIETY OF MEDICINE.—*Section of Tropical Diseases and Parasitology:* Mon., 8.30 p.m., Dr. J. B. Christopherson: "Blue Bodies" seen in Leishmaniasis. Dr. J. Forest Smith: Amoebic Abscess of Liver. Dr. M. Khalil: Morphology of the Cercaria of *Schistosoma mansoni*. Dr. F. J. Harper: Danger of Bilharziasis in Clearing out Egyptian Canals. *Section of Orthopaedics:* Tues., 4.45 p.m., Special General Meeting: Report of President and Council on the formation of Section of Orthopaedics; 5 p.m., Clinical Meeting; Cases: 5.30 p.m., Opening Address, Mr. Laming Evans (President): Recent Advances in Orthopaedic Surgery; Discussion of Cases. *Section of Pathology.*—National Institute for Medical Research, Mount Vernon, Hampstead, N.W.3, Tues., 8.30 p.m., Dr. J. H. Burn: Pilocarpine and Sweating. Dr. H. H. Dale and Dr. C. H. Kellaway: Anaphylaxis and Anaphylatoxins. Mr. C. Dobell: Specimens of Intestinal Protozoa of Man. Captain S. R. Douglas: (1) Demonstration of *B. diphtheriae* in Tissues; (2) Culture Medium for *B. diphtheriae*. Mr. W. J. Purdy: Sections from Haemochromatosis. *Section of Surgery, Subsection of Proctology:* Wed., 5 p.m., Cases and Specimens. 5.30 p.m., Mr. W. B. Gabriel and Mr. J. P. Lockhart Mummery: Second Primary Carcinoma of Colon. Mr. W. E. Miles: Adenomyoma of Uterus invading Recto-Vaginal Septum and Pelvic Colon. *Section of Neurology:* Thurs., 8.30 p.m., Dr. F. Buzzard: Traumatic and Toxic Ulnar Neuritis. *Clinical Section:* Fri., 5.30 p.m. 5 p.m., Cases. *Section of Ophthalmology:* Fri., 8 p.m., Cases. 8.30 p.m., Miss I. C. Mann: Morphology of Developmental Structures associated with Choroidal Fissure. Dr. H. J. May and Mr. F. A. Williamson-Noble: Choroidal Sarcoma.

POST-GRADUATE COURSES AND LECTURES.

CHESTERFIELD DIVISION, BRITISH MEDICAL ASSOCIATION, Chesterfield Royal Hospital.—Fri., 2.30 to 4 p.m., Professor Connell: Fractures; Dr. Hallam: Skin Diseases in Infancy.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION, Royal Asylum, Gartnavel, Wed., 4.15 p.m., Dr. D. K. Henderson: Mental Cases.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—Thurs., 4 p.m., Dr. Langmead: Anomalous Oedemas.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.30 p.m., Dr. F. Craven Moore: Flatulent Dyspepsia.

MANCHESTER: ST. MARY'S HOSPITALS (Whitworth Street West Branch).—Fri., 4.30 p.m., Dr. Fletcher Shaw: The Toxaemias of Pregnancy.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland Street, W.—Daily, In- and Out-patient Attendances. Mon., 5.30 p.m., Lecture by Dr. Parkinson: Complications of Heart Disease.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Mon., Tues., Thurs., and Fri., 2 p.m., Out-patient Clinics; Tues. and Fri., 9 a.m., Surgical Operations. Lectures.—Mon., 12 noon, Dr. Greenfield: Reactionary Changes in the Central Nervous System; 3.30 p.m., Dr. Aldren Turner: Paraplegia; Tues., 3.30 p.m., Dr. Risien Russell: Disseminated Sclerosis; Wed., 3.30 p.m., Mr. Leslie Paton: Ocular Palsies; Thurs., 3.30 p.m., Dr. Pailey: Muscular Testing by Electrical Methods; Fri., 3.30 p.m., Mr. Sargent: Pituitary Tumours.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Daily, 2.30 p.m., In- and Out-patient Clinics, Operations, etc. Lectures: Mon., 3.30 p.m., Dr. L. Yealland: Examination of the Nervous System—Cranial Nerves. Tues., 2.30 p.m., Dr. J. Metcalfe: *X*-ray Examination in Chest Diseases. Thurs., 4.30 p.m., Mr. H. W. Carson: Intestinal Obstruction.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—5 p.m., Mon., Hunterian Lectures, Professor A. H. Todd: Orthopaedic Aspects of Rheumatoid Arthritis; Wed., Professor A. G. Timbrell Fisher: Pathology and Etiology of Osteo-arthritis; Fri., Professor C. A. Pannett: Hydronephrosis.

ROYAL INSTITUTE OF PUBLIC HEALTH, 37, Russell Square, W.C.—Wed., 4 p.m., Dr. L. Cobbett: The Rôle of the Three Types of Tubercle Bacilli in Human and Animal Tuberculosis.

ST. JOHN'S HOSPITAL, 49, Leicester Square, W.C.—Thurs., 6 p.m., Chesterfield Lecture by Dr. W. Griffith: Skin Eruptions of Syphilis.

ST. MARYLEBONE GENERAL DISPENSARY, 77, Welbeck Street, W.1—Dr. E. Pritchard, Wed., 6 p.m.,: Causes of Infant Mortality; Fri., 6 p.m., How to Conduct an Infant Consultation, etc.

SALFORD ROYAL HOSPITAL.—Thurs., 4.30 p.m., Dr. Bythell: *X*-ray Diagnosis of Chest Lesions with Demonstrations.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Daily, 10 a.m., Ward Visits; 2 p.m., In- and Out-patient Clinics and Operations. Lectures:—5 p.m., Mon., Dr. A. Saunders: Syphilis and Tubercle of the Liver. Tues., Mr. Addison: Tumour of Bone. Wed., Mr. Armour: Practical Surgery. Thurs., Sir J. Collie: Medico-legal Aphorisms. Fri., Mr. MacDonald: Enlarged Prostate.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 1s. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS and ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London).

MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London).

EDITOR, *British Medical Journal* (Telegrams: Aitology, Westrand, London).

Telephone number for all Departments: Gerrard 2630 (*3 lines*).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.; 4361 Central.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

FEBRUARY.

3 Fri. Chesterfield Division, Chesterfield Royal Hospital Board Room, Post-Graduate Classes, 2.30 to 4 p.m.

7 Tues. Coventry Division, Coventry and Warwickshire Hospital, 8.30 p.m.

Hastings Division, East Sussex Hospital, 8.30 p.m.

Kingston-on-Thames Division, Surbiton Cottage Hospital, 8.45 p.m.: Address by Mr. J. Cunning on Some Conclusions in Abdominal Surgery.

8 Wed. Chesterfield Division: Annual Dinner, Falcon Restaurant, Low Pavement, Chesterfield, 8 p.m. Address by the Medical Secretary, 9 p.m.

Lancaster Division: B.M.A. Lecture by Dr. T. Eastham, on "Medical Men and their Legal Difficulties."

West Dorset Division, Dorset County Hospital, 2.30 p.m.—B.M.A. Lecture by Dr. J. S. Fairbairn: What disability is caused by and what treatment is required for uterine displacement?

9 Thurs. Hampstead Division: Hampstead General Hospital, 8.30 p.m.

10 Fri. Chesterfield Division: Chesterfield Royal Hospital.—2.30 to 4 p.m., Post-graduate Classes.

East Yorks Division, Hull.—B.M.A. Lecture by Sir Frederick Mott: The Reproductive Organs in Relation to Mental Disorders.

South Essex Division, Hotel Victoria, 8.15 p.m.: Paper by Dr. F. W. Price on Recent Advances in the Diagnosis, Prognosis, and Treatment of Heart Disease.

APPOINTMENTS.

ANDERSON, A. Greig, M.D.Aberd., Medical Officer to the Morningfield Hospital for Incurables, Aberdeen.

CROLL, W. F., M.D.Aberd., Physician to the Aberdeen Royal Infirmary.

GOUGH, Alfred, Ch.M.Leeds, F.R.C.S., Honorary Surgeon to the Leeds Public Dispensary.

MANCHESTER ROYAL INFIRMARY.—The following appointments have been made:—Assistant Medical Officer: J. D. Byrd, M.R.C.S.Eng., L.R.C.P.Lond. Resident Medical Officer (Barnes Convalescent Hospital): B. L. Lloyd, M.B., Ch.B.Vict. Senior Medical Officer (Central Branch): Miss Margaret B. Martin, M.B., Ch.B.Edin. House-Physicians: V. Chadwick, M.B., Ch.B.Vict., W. E. Powell, M.B., Ch.B.Vict., H. E. Emmett, M.B., Ch.B.Vict., S. Waterworth, M.B., Ch.B.Vict. Senior House-Surgeon (Special Departments): R. Williamson, M.B., Ch.B Vict. Senior House-Surgeons: G. V. Ashcroft, M.B., Ch.B.Vict., L. Potter, M.B., Ch.B.Vict. Junior House-Surgeons: W. L. Martland, M.B., Ch.B.Vict., W. Geraghty, M.B., Ch.B.Vict., N. S. Craig, M.B., Ch.B.Vict., O. M. Duthie, M.B., Ch.B.Vict., G. H. Buckley, M.B., Ch.B.Vict.

SHEFFIELD: JESSOP HOSPITAL FOR WOMEN.—The following residents have been appointed:—C. H. Jaede, M.B., Ch.M.Syd., W. M. MacPhail, M.B., Ch.B.Edin., A. J. Hawes, M.C., M.B., Ch.B.Aberd., D.P.H.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **9s.**, *which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.*

BIRTHS.

ANDERSON.—On January 25th, at 5, Albyn Terrace, Aberdeen, the wife of William Anderson, O.B.E., F.R.C.S.Ed.—of a daughter.

MUSGRAVE WOODMAN.—On 26th January, at 132, Hagley Road, Edgbaston, Birmingham, the wife of E. Musgrave Woodman, M.S., F.R.C.S.—a son.

MARRIAGE.

PATTERSON—FARR.—On the 30th January, at St. Thomas's Church, Portman Square, by the Rev. G. F. Ford, Captain A. F. I. Patterson, D.S.O., R.A.M.C., to Alice Kathleen, eldest daughter of the late J. T. Farr of Staunton Grange, Notts.

DEATHS.

BULLMORE.—On the 17th January, at 12, North Brink, Wisbech, Hilda Maud, the wife of E. A. Bullmore, F.R.C.S.Ed., aged 48.

HOLDER.—On January 22nd, at 50, Holderness Road, Hull, William Holder, M.R.C.S., L.S.A., in his 74th year.

OSBORNE.—January 24th, at the Grove, Old Catton, Norwich, and of Lindville, Cork, Ireland, Cecil A. P. Osborne, F.R.C.S.E., aged 66 years.

PEDLEY.—On the 13th January, at Bridge House, Rangoon, suddenly of heart failure, Thomas Franklin Pedley, M.D., V.D., K.I.H., eldest son of the late George Pedley, of The Haven, Sutton, Surrey, aged 67. (By cable.) R.I.P.

STEWART SMITH.—At Ardestie, Northwood, on January 20th, 1922, Florence, the beloved wife of M. Stewart Smith, M.B., B.S.Lond.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, FEBRUARY 11TH, 1922.

CONTENTS.

	PAGE
BRITISH MEDICAL ASSOCIATION.	
CURRENT NOTES:	
Annual Meeting, Glasgow, 1922	29
Stewart Prize	29
East African Medical Services	29
The Manchester Medical Officer of Health	30
Retirement of Mr. R. W. Harris from the Ministry of Health	30
SCOTTISH COMMITTEE	30
SOUTH AFRICAN COMMITTEE	31
MEETINGS OF BRANCHES AND DIVISIONS	32
ASSOCIATION NOTICES:	
Table of Dates	33
Branch and Division Meetings to be held	33
NATIONAL INSURANCE PROBLEMS. Deputation to the Ministry of Health	33
Dispensing Capitation Fee	34
Mileage	34
Additional Benefits	34
Transfer of Practices, etc.	34
SURREY LOCAL MEDICAL AND PANEL COMMITTEES	35
NAVAL AND MILITARY APPOINTMENTS	35
ASSOCIATION INTELLIGENCE AND DIARY	36
DIARY OF SOCIETIES AND LECTURES	36
APPOINTMENTS	36
BIRTHS, MARRIAGES, AND DEATHS	36

British Medical Association.

CURRENT NOTES.

Annual Meeting, Glasgow, 1922.

In the JOURNAL this week is published the third of a series of illustrated articles giving a descriptive and historical account of Glasgow and its institutions, for the benefit of members and their friends who propose to take part in the Annual Meeting next summer. A brief outline of the provisional programme was given in a Current Note last week. The Representative Meeting (which opens on July 21st) and the Annual General Meeting on July 25th will be held in the Bute Hall of the University of Glasgow; Council meetings will take place in the Randolph Hall of the University. The Scientific Sections will meet in the class-rooms of the University on Wednesday, Thursday and Friday, July 26th, 27th, and 28th, and the Pathological Museum will be arranged in the Anatomical Department. A religious service will be held in Glasgow Cathedral on July 25th, and Mass will be celebrated on July 27th in St. Andrew's Roman Catholic Cathedral. The programme of social events is taking shape under the general direction of Dr. George A. Allan, the Hon. Local General Secretary, and further details will be announced in due course. We mentioned last week that the golf competition for the Ulster Cup will be played over the course of the Glasgow Golf Club at Killermont on July 27th; we now hear that the President of the Golf Club, Professor J. Munro Kerr, M.D., and Mrs. Munro Kerr have offered to entertain 200 members to tea on that occasion.

A slip made in this column last week should be corrected. At the last meeting of the Association in Glasgow, in 1888, the address in surgery was delivered by Sir G. H. B. Macleod, and a special address on "Recent investigations in surgery" was delivered by William Macewen, M.D., now known throughout the world as Sir William Macewen, who will preside over the meeting of 1922.

A series of excellent articles on the history and work of the British Medical Association is now appearing in the *Glasgow Herald* from the pen of its well-informed and judicious medical correspondent. This writer acknowledges his debt to the outline of the medico-political history of the Association printed in the current *Annual Handbook*. It is an open secret that the author of this historical sketch is Mr. Russell Coombe, until lately Chairman of the Organization Committee.

Stewart Prize.

The Stewart Prize is awarded, either in recognition and encouragement of important work already done, or of researches instituted and promising good results, regarding the origin and spread of epidemic disease, or, secondly, to a person (or persons) selected by the Council who is considered exceptionally qualified to undertake and conduct the investigation of such question or questions connected with the subject of epidemic disease as shall appear likely to yield important results. For some considerable time past it has been customary to award the Stewart Prize every two years, and in the ordinary course of events the award would be due during this year. Owing, however, to the reduced income of the fund, consequent upon the higher rate of income tax, it will be impossible to make the award this year. It is hoped that the balance standing at the credit of the fund will be sufficient to enable the prize to be awarded in 1923.

East African Medical Services.

A considerable volume of correspondence between the British Medical Association and the Colonial Office appeared in the SUPPLEMENT last year with reference to the status, pay, and prospects of officers of the Colonial Medical Services. As a result of prolonged negotiations, relations were established between the Association and the Colonial Office by means of which it was anticipated that the Association would in future be in a better position to safeguard medical interests in the Colonies and Protectorates. In the letter from the Association to the Colonial Office published in the SUPPLEMENT of June 4th, 1921, among the questions raised was that of the appointment of temporary medical officers in the East African Medical Services, a matter which had given rise to considerable dissatisfaction among the permanent members of those services. The discussion of this question has been continued with the Colonial Office, both by the Central Office and the Uganda Branch of the British Medical Association. In some of the Protectorates in Eastern Africa the shortage of medical staff had been deplorable, and in a letter addressed to the Colonial Office (SUPPLEMENT, June 4th, 1921, p. 208) the British Medical Association expressed its opinion that the only remedy was fair treatment and conditions of service for the medical staff, and pointed out that the unrest and dissatisfaction in this service was such as to act as a very effective check on recruiting. The Colonial Office evidently recognized that the shortage of medical officers was a matter which ought to be remedied, but the method by which it endeavoured to remedy this shortage was to second R.A.M.C. officers as temporary medical officers in the East African Medical Services on full army pay and allowances (£762 per annum) *plus* £200 per annum. As the five senior medical officers in Uganda averaged twelve and a half years' service each, and their annual pay averaged just over £800 per annum, these appointments were looked upon as an injustice to them. Protests had already been made against the appointment of temporary medical officers at salaries of £700 per annum, with £200 bonus after completing thirty months' service, and these protests were renewed on

the appointment of officers seconded from the R.A.M.C. at an even higher rate of pay. The Uganda Branch of the British Medical Association was unanimously of opinion that suitable candidates for appointments on the permanent staff in the East African colonies were unlikely to come forward while the arrangement for seconding R.A.M.C. officers for temporary service on these terms remained in force, for it was obvious that no medical man of standing would apply for a post in East Africa at £600 per annum while the Colonial Office admitted in this way that it was worth £960. In Nyasaland two R.A.M.C. officers were appointed temporarily to fill vacancies on salaries of £814 and £981 respectively, and it was stated that others were to follow; senior medical officers on the permanent staff in the same area of from ten to fifteen years' service were receiving £700 to £800 per annum. As a result of these representations and the efforts of the British Medical Association, a letter has recently been addressed from the Colonial Office to the Medical Secretary of the Association (January 17th, 1922), stating:

"It has been explained to the Acting Governor that the position in regard to the supply of candidates for appointment to the Colonial Medical Services after the war continued to be difficult, and that in the early part of 1921 the War Office agreed to lend a strictly limited number of Royal Army Medical Corps regular officers for temporary service in East Africa for vacancies which it was desired to fill urgently; that three such officers were appointed, one to Uganda and two to Nyasaland; and that it is not intended that more of these officers should be appointed, as candidates for permanent appointment have recently become available in the ordinary way and difficulty similar to that previously experienced is not now anticipated."

It is a matter for congratulation that the Colonial Office does not intend to appoint any more R.A.M.C. officers, and it may fairly be claimed that the arguments which were put forward by the Uganda Branch of the British Medical Association, together with the representations made by the Central Office, convinced the Colonial Office of the undesirability of the course which had been adopted.

The Manchester Medical Officer of Health.

One of the chief problems which will confront the new medical officer of health for Manchester—whether he be appointed or not under the conditions which up to the present have been approved by the corporation of that city—will be the reorganization of its overlapping medical services. This question has apparently been shelved so far, but it is urgent, and the new medical officer of health will have to face it. According to the *Manchester Guardian* of February 3rd Manchester is served medically by two authorities, the Public Health Committee and the Education Committee; the Port Sanitary Authority is a third. The medical service of the Education Committee gets its grants not through the Board of Education but from the Ministry of Health, for that Ministry now controls the powers conferred by the Public Health Acts, the Lunacy Acts, the Mental Deficiency Acts, and the school medical departments both under the Health Act and the Education (Consolidation) Act, 1921. The London County Council, continues the *Manchester Guardian*, consolidated its health services in 1912, and now seeks wider powers; Liverpool did the same thing about 1908, Bradford in 1913, and Sheffield is considering consolidation. Liverpool has centralized public health, the school medical service, and the port sanitary authority, and it is chiefly with this last body that Manchester might find reorganization difficult, for the port sanitary authority of Manchester is a composite body to which many authorities pay tribute. Salford is closely concerned in the constitution of the latter, and its reorganization would inevitably raise thorny questions of joint municipal government between the city and the ancient borough.

The tackling of such a problem as this necessary reorganization will obviously require qualities in the new medical officer of health beyond those of a mere routine official. It remains, therefore, for the Corporation of Manchester to make up its mind whether it desires to have as its medical officer of health a man of the standing, mentality, and outlook to face the important questions bound up with the future of the health services of the city, or whether it is to be content to have as its medical officer of health the type of man who will be content to accept such an office in face of the unanimous opposition of the organized medical profession to its terms of employment. As has been stated previously, Manchester will almost certainly be able, should the corporation insist, to appoint a medical officer of health with the bare requisite qualifications, in spite of the British Medical Association, the Society of Medical Officers of Health, and the opposition of the medical press. The more that is known about the position that awaits the medical officer in Manchester the more may it be wondered how far desirable for the good of the city such an appointment would be.

Retirement of Mr. R. W. Harris from the Ministry of Health.

The name of Mr. R. W. Harris is very well known to all insurance practitioners, and as Assistant Secretary in charge of the National Health Insurance Medical Benefits Department of the Ministry has necessarily come frequently in contact with the Insurance Acts Committee. It having come to the knowledge of the Committee that Mr. Harris had offered himself as a voluntary sacrifice to "the Geddes axe" and was retiring very shortly, an opportunity was taken on February 2nd, when the Insurance Acts Committee met representatives of the Ministry in conference, to express to Mr. Harris the kindly feelings which the members of the Committee have for him. The chairman (Dr. Brackenbury) said that he desired on behalf of himself and the Committee to say how sincerely they appreciated the manner in which Mr. Harris had dealt with them on those occasions when, in conference with him, they had had to consider National Health Insurance matters. They had come to look upon him not only as a firm and fair-minded administrator but also as a friend, and he desired to record their very great appreciation of his many kindnesses and to express the hope that he would have the best of health in which to enjoy his retirement. Dr. Cox, on behalf of himself and his colleagues, associated himself with this tribute, and said that though often in the course of their duty they had had to disturb Mr. Harris in that atmosphere of ease and serenity which was traditionally associated with the Civil Service, they had always found him an exceedingly courteous opponent when it was his duty to oppose, and very helpful on the numerous occasions on which his advice could properly be given. Above all Mr. Harris had always been a perfectly straight dealer. Mr. Harris, in reply, said that he would carry the words that had been said about him into his retirement with much appreciation. He had been associated with the National Insurance system since the day the 1911 bill was introduced. He had always endeavoured to be fair and straight and would always feel that the most interesting portion of his work in the Civil Service had been that in connexion with National Health Insurance. Sir Arthur Robinson, Secretary of the Ministry, who was in the chair, said that he had listened with great pleasure to what had been said about his colleague, and would certainly pass it on to the Minister. As secretary it was his duty not only to administer the National Insurance system, but to see that it was done with as little avoidable friction as possible, and in that spirit when Mr. Harris went he would endeavour to make such arrangements as would continue the atmosphere of good feeling which had generally prevailed in connexion with National Insurance negotiations. He announced that Mr. L. G. Brock, C.B., Assistant Secretary, would take Mr. Harris's place.

SCOTTISH COMMITTEE.

A MEETING of the Scottish Committee of the British Medical Association was held at 6, Rutland Square, Edinburgh, on Thursday, January 26th, 1922. There were present Dr. R. A. Bolam (Chairman of Council), Dr. W. Snodgrass (Chairman of Scottish Committee), Drs. R. C. Buist, J. Stevens, D. Lawson, F. K. Smith, J. Ritchie, G. W. Miller, J. B. Miller, H. Miller, R. Thin, and J. D. Comrie, with the Scottish Medical Secretary, Dr. J. R. Drever.

It was resolved to appoint Dr. John Patrick, Glasgow, a member of Committee in place of Mr. Grant Andrew, resigned.

Fees for Attendance at Maternity and Child Welfare Clinics.

A reply was submitted from the Board of Health to the letter sent, on behalf of the Committee, asking them to sanction a fee of one guinea per session where such session does not ordinarily exceed one hour's duration. The Board cannot agree to recognize a uniform fee or scale of fees, being of opinion that the fees should not be based solely on the duration of a session. They point out that the fixing of fees is primarily a matter for local settlement.

"But the Board, when it is reported that the sum proposed to be allowed is inadequate to secure an efficient service, are willing

to consider the special circumstances." . . . "I am to add, with regard to the fees at present in operation, that the recent substantial fall in the cost of living represents in effect an increase in these fees."

The Committee noted with satisfaction that the Board have apparently resiled from their former attitude, as expressed in their letter to local authorities, intimating that they were not prepared to approve of a fee in excess of 13s. 4d. per hour. Further, it was reported to the Committee that the fee of one guinea is now being paid in some areas. It was resolved that a reply be sent to the Board pointing out that the fee of one guinea, as fixed by the Committee, bore no relation to alterations in the cost of living, and represented the minimum fee for which practitioners should be expected to undertake work of this sort, and offering to co-operate with the Board in securing an efficient service, provided an adequate fee is paid.

Membership of the Association in Scotland.

It was reported that the canvass of non-members was being taken up heartily by several Divisions, and that others were only prevented from doing so by the present epidemic.

Existing Public Provision of Medical Services.

The Committee considered a report of the Chairman's Sub-committee, giving a detailed account of the powers possessed by local authorities in Scotland for providing medical services. It was resolved to circulate the report to Divisions, and to institute an inquiry into the nature and extent of the provision that is made locally, under the various heads, in each area, with the view to a conference of Scottish Representatives being held to consider the whole question.

Medical Examination of Railway Employees.

The Committee considered the following paragraph from the Award of the National Wages Board on the claims of the Scottish Railways:

"The railway companies shall take steps to ascertain at the time of engagement or as early thereafter as practicable, whether each new entrant to the service is likely to prove an efficient employee from the point of view of physical and mental suitability, in order to prevent as far as possible the necessity for dismissal on these grounds when he reaches the adult age."

It was resolved to recommend to the Council of the Association to consider the conditions under which such medical examination should be conducted.

SOUTH AFRICAN COMMITTEE.

A MEETING of the South African Committee of the British Medical Association was held in Cape Town on October 10th, and continued on October 15th, 1921, with the President, Dr. W. WATKINS-PITCHFORD, in the chair.

The Referendum.—It was resolved:

"That, in view of the fact that the Referendum was contingent upon federation with the British Medical Association, and that the decision on the question of federation has been postponed for another year, this Committee is of the opinion that no steps should be taken towards the formation of a new Association until the question of federation is definitely decided by the parent Association; and that this opinion be communicated to Congress."

Remuneration of Medical Men in Government Employ.—As a sequel to the interview between the Secretary for Public Health and delegates from this Committee on April 1st last, a letter had been received from Dr. J. A. Mitchell, taking exception to the "inaccuracies and ambiguities" in the report of the interview as published in the minutes of this Committee. It was resolved:

"That this Committee regrets that the Secretary for Public Health has had occasion to take exception to the wording of this report, which was published as a bona fide account of the interview."

A letter dated April 4th, 1921, from Dr. Cox, Medical Secretary of the British Medical Association, was read. This letter referred to certain statements with regard to the remuneration of Government medical officers in South Africa, such statements having been made to Dr. Cox by "a member." Dr. Cox asked whether the matter had been considered by this committee, offering, if it should be deemed desirable, the services of the BRITISH MEDICAL JOURNAL to make public comment upon the inadequacy of the official remuneration. Dr. Cox drew special attention to the assertion that medical inspectors were inadequately paid, as compared with officers doing administrative work in the Department of Public Health, or with similar medical appointments in other parts of the world.

After general discussion and detailed inquiry and report by two members of this Committee, it was resolved:

"That a copy of the last minute dealing with this subject (Meeting of March 30th, 1920) should be sent to Dr. Cox, and that he should be informed: (1) That the remuneration of the officers in question has been increased, and that this Committee is informed that all possible efforts are being made to obtain further increases; (2) that this Committee considers that the lowest salary for an appointment requiring special knowledge or qualifications should be £1,000; and (3) that this Committee expresses no opinion as to the propriety or otherwise of paying assistant health officers more or less than inspectors, and considers this matter to be one of departmental concern only, so long as the minimum of £1,000 is adhered to."

It was reported that a deputation from the O.F.S. Union met the Minister of Public Health (Mr. P. Duncan) in Bloemfontein, on August 28th, 1921, to discuss with him the grievances of district surgeons. One of the members of this Committee, Dr. S. M. de Kock, had associated himself, at the request of the President, with this deputation, and had expressed the entire sympathy of this Committee with the movement.

Customs Dues on Laboratory Apparatus.—The attention of the Committee was drawn to the following anomaly in the Customs Regulations:

Surgical instruments are admitted without duty, but microscopes and their accessories, together with all other apparatus required for the diagnosis and study of disease, are heavily taxed. Reference to the official tariff shows that surgical instruments and appliances (Item 188A) fall into Class V—that is, the free class. As microscopes and other apparatus for diagnosis and research are not specifically mentioned, they are automatically relegated to Class VI ("general"), and upon all such articles a charge of 20 per cent. *ad valorem* is made.

The following resolution was passed for submission to Congress, which subsequently unanimously adopted it:

That the attention of the Honourable the Minister of Public Health and of the Commissioner of Customs and Excise be called to the fact that laboratory apparatus, microscopes and their accessories, and all other apparatus and material required for medical diagnosis and research are subject to duty upon entering the Union; whereas surgical instruments are admitted duty-free. And—that an adjustment of this anomaly is requested in the interests of public health.

Addington Hospital.—A request from the Council of the Natal Coastal Branch for advice concerning the propriety of the charging, by Addington Hospital, of fees for surgical operations carried out by salaried officers at the hospital, was received and considered. A letter which had been addressed by the Secretary of the Branch to the Provincial Secretary, Natal (August 22nd, 1921), was read to the meeting. The President stated that he had requested the confidential opinion of Dr. R. P. Mackenzie, of the Johannesburg Hospital, upon the position as disclosed by the Council of the Natal Branch, and Dr. Mackenzie's considered opinion was read to the meeting. The following resolutions were passed:

1. That the Natal Coastal Branch should be advised to press for the following arrangements:
   (*a*) That an honorary visiting staff be appointed to Addington Hospital, Durban, to attend to non-remunerative patients; and
   (*b*) That remunerative patients should be attended by their own medical men.
2. That any steps taken in this direction by the Natal Coastal Branch will have the full support of this Committee.

Provincial Tax upon Medical Practitioners.—It was reported to the Committee that, since its interview with a member of the Cape Provincial Council in April last, the levying of a special impost upon medical men had been given effect to in the form of a taxing ordinance. The memorandum which had been prepared by a member of this Committee for circulation to members of the Cape Provincial Council was now considered by this Committee. It was resolved:

"That, as a protest against a renewal of this impost in the form of a Taxing Ordinance, a suitably modified copy of the Memorandum should be sent to each member of the Cape Provincial Council."

Disciplinary Powers.—Certain correspondence was read between Dr. Campbell Watt and the Medical Secretary, London, respecting enlargement of the disciplinary powers possessed by this Committee. His action, which has led the Medical Secretary to promise to bring the matter up before the Central Ethical Committee, was approved. It was pointed out that no enlargement of powers would become operative before the sanction of the Branches of the British Medical Association in South Africa had been given thereto.

Chartered Society of Massage and Medical Gymnastics.—A letter was presented by a Natal member, signed by seven members of this society (late I.S.T.M., of London), drawing the attention of the medical profession of South Africa to the existence or their society, which was the only one recognized

in Great Britain. The signatories solicited the protection of the profession on the grounds that members of their society are prohibited from treating patients except with medical sanction. They pointed out that, owing to lack of legislation in this country, there are many practitioners of their speciality who treat patients on their own responsibility.

It was resolved:

"That this Committee expresses its sympathy with the aims of the Chartered Society, and that all members of the Council of Public Health should be informed of the desirability of supporting the provision (Clause 32) made in the new Medical Bill for the training and registration of masseurs and masseuses."

Trained Nurses' Association.—A deputation representing the South African Trained Nurses' Association was received by the South African Medical Congress at its second business meeting on October 14th, 1921. The deputation solicited the sympathy and support of the medical profession with regard to the following matters:

(*a*) The undesirability of employing untrained women as nurses and midwives; (*b*) the undesirability of employing midwives in general cases, and of nurses without midwifery training in obstetrical cases; (*c*) the undesirability of training probationers in nursing homes; (*d*) the desirability of increasing the number of personally conducted cases from 5 to 15 for the midwifery certificate of the Colonial Medical Council (of the Cape Province); and (*e*) the undesirability of permitting lady attendants in doctors' and dentists' consulting rooms to wear the uniforms of trained nurses and to be addressed as "sister" or "nurse."

These representations having been remitted by Congress to the Committee, it was resolved that the fullest practical publicity should be given to them with the aid of the medical press.

Meetings of Branches and Divisions.

EDINBURGH BRANCH: SOUTH-EASTERN COUNTIES DIVISION.

AN ordinary meeting of the South-Eastern Counties Division was held on February 1st at Newtown St. Boswells, when Dr. P. J. HENDERSON, Chairman of Division, presided.

The CHAIRMAN made a reference to the severe loss the Division had sustained in the death of Dr. Cullen of St. Boswells; they had lost a most valuable member. Few took a greater interest in the work of the Association, and few were so able to put the work through. The members respected his attainments and high character, and his genial presence would be much missed amongst them. The Secretary, Dr. Oliver, was instructed to convey to Dr. Cullen's widow and family an expression of sympathy. He said that on the suggestion of the Chairman he had sent a wreath on behalf of the Division at the time of the funeral.

On the motion of Dr. SOMERVILLE, seconded by Dr. MCMILLAN, it was agreed that the Representative in Representative Body should be elected at the next meeting of the Division. The Secretary was instructed to construct a card index of all practitioners, and to send cards containing particulars of non-members to members of the Executive Committee and others with a view to each non-member being personally canvassed.

The SECRETARY reported communications received regarding the case Claydon *v.* Wood-Hill, and was instructed to circularize members so that they should have the opportunity of showing their sympathy with Dr. Wood-Hill as a means of expressing their antipathy to such actions against medical practitioners engaged in the honest exercise of their profession.

Dr. EDWIN BRAMWELL, having been introduced by the Chairman, then delivered an address on "The Scope and Limitations of Psychotherapy in General Practice." At the conclusion there was a short discussion, chiefly contributed by Dr. STEELE, who was of opinion that there were few patients admitted to asylums who had not got beyond the stage in which psychotherapy was useful.

At the conclusion of the paper a hearty vote of thanks was, on the motion of the CHAIRMAN, accorded to Dr. Bramwell for his very interesting address.

LANCASHIRE AND CHESHIRE BRANCH: MID-CHESHIRE DIVISION.

THE report of the Executive Committee for the year 1921 states that the work of the Division has been smoothly carried on. The meetings were on the whole well attended, nearly 50 per cent. of the members attending at least one meeting. Matters of importance affecting the Association in general and the Division in particular were discussed and action taken where indicated. The average attendance at each meeting was 13.5, and the number of members who attended at least one meeting was 30. Seven meetings of the Executive Committee were held, with an average attendance of 7.7. Special interest attached to the annual meeting, which was attended by Dr. Alfred Cox, the Medical Secretary, who was accompanied by Dr. T. W. H. Garstang, the Chairman of Representative Body. Dr. Cox delivered an address on "The claims of the British Medical Association on every section of the medical profession."

The Division took active steps to support the ultimately successful opposition of the Association to certain clauses of the Dangerous Drugs Regulations. The Medico-Ethical Association of Manchester having published a tariff of medical fees for the use of its members, the Division discussed it and, with certain reservations, adopted it as a guide.

Dr. T. W. H. Garstang, the Division's Representative, gave an address on April 17th on the proposed federation scheme of the British Medical Association. At the meeting held at Northwich, Dr. Peyton, the county tuberculosis officer, delivered an interesting address on the "Policy and outlook in regard to the tuberculosis problem in Cheshire."

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.

THE second Divisional dinner-dance was held at the Abercorn Rooms, Great Eastern Hotel, on February 2nd. The CHAIRMAN, Dr. C. E. Evans, and his wife, received the guests, numbering between seventy and eighty. A thoroughly enjoyable evening was spent, the dinner being excellent and the dance heartily entered into. It was a financial success. The next dinner-dance—the last of the year—will be held at the same place on Thursday, March 30th, when fancy dress will be optional.

NORTH OF ENGLAND BRANCH: CLEVELAND DIVISION.

THE annual dinner of the Cleveland Division was held in Middlesbrough on February 2nd. Mr. W. S. DICKIE, F.R.C.S., Chairman of the Division, presided, and was supported by the Vicar of Middlesbrough, the Mayor of Middlesbrough, and the Clerk to the North Riding Insurance Committee. Fifty-three members and guests were present and a very enjoyable evening was spent. After an excellent dinner the CHAIRMAN gave the toast of "The King." Dr. BODY proposed "The Town and Trade of Middlesbrough" and the MAYOR suitably replied. The toast of "The Cleveland Division" was proposed by Mr. W. EDWARDS, M.A., in a humorous speech, and the CHAIRMAN, in his reply, effectively countered many of the shafts of wit which had been directed by the proposer against the medical profession. Dr. W. STEEL gave "Sister Professions," the VICAR OF MIDDLESBROUGH responding in a happy speech. Dr. HOWELL proposed "The Guests," on behalf of whom Mr. W. R. BRACKENBURY and Mr. C. POSTGATE replied.

Mr. W. Brett, Mr. C. Mildred, Mr. Sulley, and Dr. W. B. Jones contributed to the harmony of the evening, which was brought to a close by the singing of the National Anthem, followed by "Auld Lang Syne."

SOUTH MIDLAND BRANCH: BEDFORD DIVISION.

A GENERAL meeting of the Bedford Division was held at the Bedford County Hospital on January 31st; Dr. KILHAM ROBERTS being voted to the chair.

The HONORARY SECRETARY reported that the Beds County Education Authority and the Bedford Borough Education Committee had refused to pay for medical certificates for children attending elementary schools. The Luton Borough Education Committee had merely acknowledged receipt of the latter. He further reported that he had been in communication with the Beds County Council with reference to payment of travelling expenses of medical men attending coroners' inquests, and they had appointed a small subcommittee to meet a deputation from the Division to discuss the matter.

The meeting then considered the annual report of Council and resolved:

That this Division approves of the recommendations contained in that report.

The meeting then discussed the proposed reduction in the dispensing capitation fee. It was the feeling of the meeting that the proposed reduction was quite uncalled for, and the following resolution was passed:

That any reduction of the 2s. capitation dispensing fee would be absolutely unfair, and would amount to a distinct breach of faith, and this Division strongly supports the Insurance Acts Committee in any steps they may take in this matter.

The meeting decided to issue an appeal to all members of the Division asking them to support the Wood-Hill fund.

Dr. BRYDEN GLENDINING read an interesting paper on the diagnosis of gastric ulcer, illustrated with numerous *x*-ray plates. He confined himself to the special tests now used. (1) The benzidine test for occult blood in the faeces; (2) chemical analysis of the stomach contents, with special regard to the estimation of free hydrochloric acid, and of the total acidity; (3) the interpretation of *x*-ray photographs. He pointed out the more important characteristic appearances, such as niches, or bud-like protrusions due to the bismuth entering the base of the ulcer; hour-glass contractions, with the distinction between the organic and spasmodic; delayed emptying of the stomach; hypotonus or sagging of the viscus, and altered peristalsis. A hearty vote of thanks was passed to Dr. Glendining for his very instructive paper.

YORKSHIRE BRANCH: SCARBOROUGH DIVISION.

A MEETING of the Scarborough Division was held on January 26th. After the local business had been transacted the rules suggested for adoption by a Division not itself a Branch were discussed and amended, and the Honorary Secretary was instructed to forward a copy for the consideration of the Central Council.

The following resolution was passed unanimously:

The Scarborough Division of the British Medical Association view with grave concern the fact that the city of Manchester are offering a salary of only £1,500 per annum for the post of medical officer of health, and express the hope that no medical officer will apply.

Association Notices.

TABLE OF DATES.

Feb. 11, Sat.	Last day for receipt at Head Office of Nominations, by not less than 3 members, for election of 7 Members of Council for 1922-23 by grouped Oversea Branches.
Feb. 15, Wed.	Council Meeting, 429, Strand, at 10 a.m.
Mar. 15, Wed.	Branch Reports for 1921 due to Head Office on or before this date.
April 1, Sat.	Nomination papers available at Head Office for election of 24 Members of Council for 1922-23, by grouped Home Branches.
April 26, Wed.	Council Meeting, 429, Strand, at 10 a.m.
April 29, Sat.	Last day for receipt at Head Office of Independent Motions for Annual Representative Meeting Agenda as to policy, Articles, or By-laws (By-law 40).
May 6, Sat.	Annual Report of Council appears in Supplement.
May 8, Mon.	Last day for receipt at Head Office of Nominations, by a Division or not less than 3 Members, for election of 24 Members of Council by grouped Home Branches for 1922-23.
May 13, Sat.	Publication in Supplement of list of nominations for election of 24 Members of Council by grouped Home Branches for 1922-23. Voting papers for election of 24 Members of Council by grouped Home Branches posted from Head Office to Members of groups where there are contests.
May 27, Sat.	Last day for receipt at Head Office of voting papers for election of 24 Members of Council by grouped Home Branches. (Where there are contests.)
June 3, Sat.	Publication in Supplement of results of Council elections by grouped Home Branches.
June 10, Sat.	Nomination papers available, at Head Office, for election of 12 Members of Council by grouped Home Representatives.
June 14, Wed.	Council Meeting, 429, Strand, at 10 a.m.
June 23, Fri.	Last day for election of Representatives and Deputy-Representatives.
June 24, Sat.	Supplementary Report of Council appears in Supplement.
June 30, Fri.	Last day for receipt at Head Office of notification of election of Representatives and Deputy-Representatives.
July 7, Fri.	Last day for receipt at Head Office of Amendments and Riders for Annual Representative Meeting Agenda.
July 21, Fri.	Annual Representative Meeting, Glasgow, 10 a.m. Nominations for election of 12 Members of Council by grouped Representatives to be received (at Annual Representative Meeting, Glasgow) by this date.

BRANCH AND DIVISION MEETINGS TO BE HELD.

Edinburgh Branch.—The winter clinical meeting of the Edinburgh Branch will be held in the Royal Infirmary on Friday, February 17th. All members of the profession are cordially invited. The Museum will be open from 11 a.m. Arrangements will be made for holding special clin cs during the forenoon. The clinical meeting will be held at 3.30 p.m. Dinner at 6.30 p.m. in the Caledonian Station Hotel; morning dress; dinner ticket, 10s. 6d. Members of the Branch are requested to notify the hon. secretaries not later than February 13th whether or not they intend to be present.

Essex Branch: Mid-Essex Division.—The Medical Secretary, Dr. Alfred Cox, will speak at the Bell Hotel, Chelmsford, on Wednesday, February 22nd, at 3.30 p.m., on the subject, "How the British Medical Association might be of more use to medical men." Questions will be invited at the end of the address. Non-members as well as members are cordially invited.

Lancashire and Cheshire Branch: Southport Division.—A meeting of the Southport Division will be held on Thursday, February 16th, when a B.M.A. Lecture will be given by Dr. A. Burrows on radium therapy.

Metropolitan Counties Branch: City Division.—A meeting of the City Division will be held at the Royal Northern Hospital, Holloway Road, to-day (Friday, February 10th), at 9.30 p.m. sharp, when Mr. R. C. Elmslie, M.S., F.R.C.S., Surgeon to St. Bartholomew's Hospital and the Royal Orthopaedic Hospital, will deliver a lecture on some practical points in the treatment of fractures. All lady members will be heartily welcomed.

Metropolitan Counties Branch: Westminster Division.—Nominations for the election of Representatives on the Council and Representative Body, and for members of the Executive Committee of the Division, should be sent to the Honorary Secretary, Dr. F. D. Bennett, 18, Savile Row, W.1.

NATIONAL INSURANCE PROBLEMS.

Deputation to the Ministry of Health.

A deputation of the Insurance Acts Committee was received at the Ministry of Health on Thursday, February 2nd, by Sir Arthur Robinson, First Secretary of the Ministry, who was accompanied by Mr. R. W. Harris and Dr. J. Smith Whitaker, Sir Walter Kinnear, Mr. E. J. Strohmenger, and others. The Insurance Acts Committee was represented by Dr. H. B. Brackenbury (chairman), Dr. T. Cuming Askin, M.B.E., Dr. T. Ridley Bailey, Dr. H. S. Beadles, Dr. R. W. Craig, Dr. A. E. Cope, Dr. H. G. Dain, Dr. A. Forbes, Dr. P. V. Fry, Dr. E. A. Gregg, Dr. R. Wallace Henry, Dr. G. B. Hillman, M.B.E., Dr. E. Lewis Lilley, Dr. T. Wood Locket, Dr. H. F. Oldham, M.B.E., Dr. C. H. Panting, Dr. Frank Radcliffe, Dr. Andrew Smith, and Dr. J. P. Williams-Freeman, with the Medical Secretary and the Deputy Medical Secretary.

Sir Arthur Robinson stated that the Minister had received the case forwarded by the Committee (see British Medical Journal Supplement, December 31st, 1921, p. 258), and asked whether the Committee had anything further to add.

Dr. Brackenbury stated that, having regard to the words of the Minister on October 15th, 1921, when dealing with the question of the remuneration of insurance practitioners, which were that "the arrangements in force as regards mileage and things of that kind, should remain in force as in the past," it had been assumed that there would be no reduction in the dispensing capitation fee. Apart from that point, to which the Committee attached great importance, it was felt that the case of a practitioner in an area where there was no chemist should receive generous treatment, as his case differed materially in many respects from that of the chemist.

Sir Arthur Robinson stated that it was necessary first of all to clear up the point as regards the Minister's words on October 15th, as they affected both the dispensing and mileage questions. The Minister regretted extremely that any misunderstanding or misconception existed in the minds of the members of the Committee as to the meaning of his words. The question had been discussed at the Ministry on several occasions as to whether, when the negotiations as to the new capitation fee were entered into, mileage and other things were to be included in one inclusive rate or whether the negotiations should be limited to the question of the reduction of the capitation fee. The Minister had finally decided to confine the negotiations at that stage to the one subject of the reduction of the capitation fee, and the words used were in that sense. The Minister had no thought whatsever that he was giving any pledge that the position as regards mileage and dispensing would remain exactly as at present.

Several representatives of the Committee stated that, so far as they were concerned, when they left the deputation they were firmly under the impression that they knew the worst—that the Minister, in announcing the reduction of the capitation fee, had desired to state that other things would be left alone; and that there was no doubt that the Committee, the October Conference, and insurance practitioners generally, had taken the Minister's words as a declaration of the extent to which there was to be any interference with any kind of remuneration, and that that had been a material factor in the acceptance of the reduced capitation fee.

Dr. Brackenbury said that they were content to rely on the words quoted from the agreed report. These seemed quite clearly to mean something more than that there were to be separate mileage and other funds. They imply that the arrangements for calculating those funds shall remain as before.

The representatives of the Ministry reminded the Committee that the "arrangements" with regard to mileage implied that the report of the Distribution Committee would be awaited before the Minister was in a position to deal with the subject, and that the question of the appropriate capitation fee for drugs was one which, as hitherto, would require to be the subject of separate negotiations after the Minister had considered the representations of the pharmacists in the matter.

Sir Arthur Robinson finally regretted the misunderstanding that had arisen, but expressed the opinion that the words used as set forth in the agreed report were in accordance with the position taken up by the Minister, as stated by him

above. The views of the Committee would, of course, be brought to the notice of the Minister, but it did not appear to him that the matter could be carried any further.

DISPENSING CAPITATION FEE.

Sir ARTHUR ROBINSON stated that the negotiations between the Minister and the pharmacists were still going on, and that until they were carried a little further no useful purpose could be served by discussing the dispensing doctors' position. In any event, no alteration in the present arrangements could now take place on April 1st.

Dr. BRACKENBURY stated that it must be clearly understood that the Insurance Acts Committee did not admit that the position of the dispensing doctor should be governed by the settlement between the Minister and the pharmacists.

MILEAGE.

Dr. Brackenbury stated that it was desired to deal with the mileage question in two portions—namely, ordinary mileage and the "reserved portion," for specially difficult areas. The Committee agreed that the reduction for 1921–22 of the amount available for ordinary mileage was compatible with the statement made by the Minister on October 15th, inasmuch as the distribution of the mileage grant for 1920 had been largely based on assumptions and guesswork, whereas the proposed distribution for 1921–22 was governed mainly by calculations based on returns made from the various areas. But with regard to the "reserved portion," the opinion of the Committee was that the Minister had acted contrary to the promise he had given in October 15th, and against the recommendations of his own Distribution Committee, inasmuch as the latter said in its report dated November 28th, 1921:

"With regard to the portion of the fund reserved for cases of exceptional difficulty, since the amount credited for 1920 to the different committees was based on a direct examination of the areas concerned, there does not appear to be the same necessity for a revision of the amounts allotted for these special cases. We are informed that some additional claims for cases of special inaccessibility have been received by the Department, and we consider that these further claims, which are in the aggregate small in proportion to those already considered, should be assessed on the same basis as the special claims submitted for the year 1920."

The representatives of the Committee urged that, in any event, an explanatory statement should be issued for the information of insurance practitioners, showing much more clearly than did the letter of the Ministry of December 30th to Insurance Committees how the reduction in the total of the ordinary mileage had been arrived at, and that it would be an advantage if such report contained the figures for each area as to number of units, etc.

Memorandum with regard to the Mileage Fund, 1921.

Mr. HARRIS gave the following explanation with regard to the circular letter recently issued by the Ministry of Health, in which the following statement occurs:

"A portion of the Central Mileage Fund has been reserved for making payment in the case of areas of exceptional difficulty, and, as the basis of assessment of this part of the Fund is directly referable to the basis upon which the main portion of the Fund is calculated, the reduction in the main portion of the Fund has been reflected by a corresponding reduction in the reserved portion of the Fund."

In 1920 visits were paid by medical officers of the Ministry to the different areas from which claims had been received for special allowances for mileage in respect of districts of exceptional difficulty. The object of these visits was to report generally upon the special characteristics of the areas concerned, and to endeavour to deal with the claims in accordance with some uniform standard. It soon became clear that the only way to secure this uniformity of standard was to assume, as a basis of measurement, a unit of travelling on an ordinary country road and to reduce the difficulties of the special areas to a certain number of units so that, for example, walking over a footpath, crossing a stream, or covering a specially hilly district, would be regarded as equivalent to 4, 6, or some other number of units. This having been done, and the Distribution Committee having very fully considered the reports so furnished, they were enabled, on the unit plan, to make an assessment of the total number of special units which should be allotted to these areas of exceptional difficulty. The value of the unit having been determined, it was possible to convert the total number of special units into a sum of money which was allotted to the particular area affected.

The Distribution Committee recommended that for the year 1921 the main portion of the Mileage Fund should be calculated upon a basis of 1s. 1½d. a mile for the miles travelled in visiting insured, as distinct from private, patients, making an allowance for the proportion of this travelling which can properly be considered as covered by the ordinary capitation fee.

This sum of 1s. 1½d. produces, on the fuller information available for the year 1921, a Mileage Fund which, when divided by the total number of units representing the main portion of the Mileage Fund, produces a sum of about 1s. 10d. a unit. The value of the unit similarly ascertained in 1920 was 2s. 4d., and it will be seen that the reduction in the value of the unit from 2s. 4d. to approximately 1s, 10d. in the main portion of the Fund would necessarily be reflected by a reduction in the value of the unit in the specially reserved portion of the Fund, although the number of units allotted to each area in regard to the specially reserved portion of the Fund would remain unaffected, as having been determined after a consideration of the reports based upon an inspection of the areas concerned.

ADDITIONAL BENEFITS.

Dr. BRACKENBURY drew attention to the question of the provision of ophthalmic and other benefits now being arranged for by approved societies either directly or through the National Insurance Beneficent Society, and to the inquiry addressed by the Committee to the Ministry on January 28th, 1922, as to whether Section 14 of the National Insurance Act of 1911 did not provide that "all benefits of the nature of medical benefit" should be administered through Insurance Committees, and whether ophthalmic benefit, for example, was not considered to be of the nature of medical benefit.

Sir WALTER KINNEAR stated that according to the legal advisers of the Ministry any society using its surplus funds for direct provision of medical attendance and treatment would be acting against Section 14 of the Act of 1911, but that the additional benefits referred to as now being arranged for by approved societies were monetary payments of part or the whole of the cost of treatment obtained by members themselves, and not the organization of a service for them.

A lengthy discussion then took place, in the course of which representatives of the Committee expressed themselves as being quite unable to accept the view expressed by the Ministry.

It was contended that the question of whether an additional benefit was "of the nature of medical benefit" must depend upon the nature of the service provided and not upon the method of its provision.

Sir WALTER KINNEAR said that with respect to the payment of the whole or part of the cost of optical treatment given as an additional benefit, the Ministry was of opinion that this work should properly be performed by a medical practitioner, and in the model scheme which had been issued for adoption by approved societies they had inserted a clause providing that payments in respect of the cost of optical appliances should only be made on the production of a prescription from a qualified practitioner or a hospital, except where the claim was in respect of the renewal of an appliance. Out of some 410 societies and branches which had adopted the model scheme only 12 had declined to adopt this model clause.

TRANSFER OF PRACTICES.

The discussion of this question had been left at the conference between the Committee and representatives of the Ministry, on November 3rd, 1921, at the point where the Committee undertook to consider the suggestion made by the Ministry that perhaps there was no need for any allocation of insured patients at all, and that, if this was so, possibly no alteration of the Regulations would be necessary.

Dr. BRACKENBURY stated that the Committee was not prepared to recommend the acceptance of this suggestion, but was prepared to discuss with the Ministry a scheme which had been put forward by the Sheffield Panel Committee, without committing itself in advance to approval of that scheme.

It was agreed that the matter should be left to be dealt with in a preliminary way by a small number of representatives from each side.

POSTAGE ON MEDICAL RECORDS.

The Committee was asked for its views on the proposal of the Ministry that Insurance Committees should be authorized to make a small grant towards the expenses of Panel Committees instead of making the trifling payments to individual practitioners involved by the undertaking to allow insurance practitioners the extra cost of postage incurred in the transmission of records. Figures were given to show that the amount of money involved was so trifling as to make the clerical work involved in the transaction look absurd.

Dr. BRACKENBURY stated that though the Committee was not in a position to accept the suggestion it would place the proposal before the next Annual Conference. The Committee feared that the acceptance of any grant by the Panel Committee from the Insurance Committee opened up the possibility of interference by the Insurance Committee in the financial affairs of the Panel Committee.

It was agreed that if the Ministry could so frame the

wording of their present proposal as not to permit of any interference by the Insurance Committee with the Panel Committee's affairs, the suggestion would be favourably recommended to the next Conference by the Insurance Acts Committee.

DISCLOSURE OF NAMES OF PARTIES TO MEDICAL SERVICE SUBCOMMITTEE PROCEEDINGS.

Mr. HARRIS stated that although it had always been within the discretion of Insurance Committees to publish in their minutes the names of medical practitioners and others concerned in Medical Service Subcommittee cases, the Ministry had at the outset advised the Committees in general not to do so, in order that practitioners, etc., should not be unfairly prejudiced. Now, however, that the scheme was working well and considerable experience had been gained by all concerned, it was felt that in the public interest the Insurance Committee should be at liberty to publish the names of those found to be in default in these cases (medical and otherwise) after all rights of appeal had been exhausted.

The Committee promised to consider the proposal.

REPRESENTATION OF INSURANCE PRACTITIONERS ON INSURANCE COMMITTEES.

Dr. BRACKENBURY drew attention to the following resolution of the October Conference:

> Resolved: That this Conference protests against the reduction of direct representation on Insurance Committees.

Representatives of the Ministry stated that the attention of the Ministry had been drawn to certain difficulties which had arisen, particularly in areas where only one direct representative was appointed.

Dr. BRACKENBURY dealt with the difficulties which had arisen in some places in constituting Medical Service and Allocation Subcommittees. The reduction of the personnel of Insurance Committees had occasionally rendered it very difficult indeed to get persons with the necessary qualifications as chairmen and vice-chairmen.

Sir ARTHUR ROBINSON agreed that there were a number of points which needed consideration, and asked the Committee to put its views in the form of a memorandum. The Ministry would do the same as regards the points of difficulty brought to its attention, and the matter could be discussed at a later conference.

PROXY VOTING IN CONNEXION WITH THE ELECTION OF PANEL COMMITTEES.

Dr. BRACKENBURY drew attention to the following Minute of the 1921 Annual Conference, which he understood was viewed favourably by the Ministry:

> Resolved: That proxy voting at the election of Panel Committees should be abolished.

Sir ARTHUR ROBINSON pointed out that Panel Committees need not adopt the system of proxy voting unless they so desired, but Dr. BRACKENBURY stated that the intention of the Conference was that proxy voting should be prohibited.

The representatives of the Ministry agreed to take the matter into consideration with a view to giving effect to the view of the Conference.

LIMITATION OF LISTS.

Dr. BRACKENBURY drew the attention of the Ministry's representatives to the following Minute of the 1921 Conference:

> Resolved: That as regards Article 15(2) of the Medical Benefit Regulations 1920, an Insurance Committee shall, before requiring a practitioner to reduce his list below the limit fixed for the area, take such steps as may be necessary to clear his list of all doubtful cases.

As it was agreed that the above resolution referred to a difficulty which had apparently only arisen in London, and as the representatives of the Ministry stated that the matter had been dealt with, Dr. Brackenbury agreed to ask the London Panel Committee if the difficulty was still being experienced and, if so, the Ministry undertook to take the matter up with the London Panel Committee.

WITHHOLDING OF EXCHEQUER GRANT FROM PRACTITIONERS.

Dr. BRACKENBURY again pressed the point urged in the Committee's letter of January 31st, 1922, that with respect to the withholding by the Ministry of part of the Exchequer grant it was unconstitutional for a higher authority to step in and override machinery set up by the Regulations, and accepted by the profession as a result of negotiations when the Act was introduced.

Sir ARTHUR ROBINSON replied that the constitutional position of the Minister in this matter was unassailable. He was bound, in his public capacity, to withhold the grant if the conditions upon which the grant had been made were not fulfilled. It was he who was finally responsible for the standard of the service given throughout the country. No one but the Minister could secure that a uniform standard was adopted throughout the country, and this could only be done by applying one standard of judgement to cases arising in different areas. He gave instances which showed that very different views were taken by different committees as to the seriousness of certain offences.

Respecting the suggestion that the procedure of the Ministry conflicted with understandings as to the constitution and functions of the Medical Service Subcommittee, arrived at with representatives of the profession before medical benefit was brought into operation, it was pointed out on behalf of the Ministry that the function of the Medical Service Subcommittee had always been, and still was, that of investigating and reporting as to the facts upon which their findings were conclusive. The procedure as regards withholding Exchequer grant in no way conflicted with this function of the Medical Service Subcommittee, since facts were not reinvestigated unless there was an appeal. No steps were taken to consider the withholding of Exchequer grant until the period within which the findings of fact might be so challenged had expired, and the decision of the Minister was based on the findings of fact of the Medical Service Subcommittee, taking into consideration, however, any representations which the practitioner himself might desire to make which did not traverse those findings of fact.

It was also announced that since the October, 1921, Conference the Ministry had always given the Panel Committee the opportunity of sending a representative to be present and to speak at any hearing which might be held at the request of a practitioner under Article 33.

INFLATION OF INDEX REGISTERS: TUBERCULOSIS REGULATIONS: RECORDS.

Dr. BRACKENBURY brought formally before the Ministry Minute 93 of the October conference dealing with the lax and dilatory manner in which some approved societies carried out the requirements of the Regulations in respect of their members who ceased to be insured, and stated that the Committee desired to bring before the Ministry some points in connexion with the Regulations dealing with the treatment of tuberculosis, but would do so at a later date, as its inquiries were not yet completed. He also stated that there were several resolutions of the October conference relating to the question of records, which the Committee would discuss with the Ministry at a later date.

The retirement of Mr. R. W. Harris was then alluded to, and a report of the remarks will be found in a "Current Note" in the present issue.

SURREY LOCAL MEDICAL AND PANEL COMMITTEES.

AT a meeting of the Surrey Panel Committee, held on January 20th, 1922, it was resolved that £200 be forwarded to the National Insurance Defence Trust, and ten guineas to the Medical Representation in Parliament Fund.

Dispensing Capitation Fee.—A cordial vote of thanks was accorded to the members of the Rural Practitioners and the General Purposes Subcommittees of the Insurance Acts Committee for the action they had taken to protect the interests of the rural practitioners in the county, and it was decided to suggest to the Subcommittee that the Ministry be asked to add vaccines and serums to the list of specially expensive drugs which should not be covered by the 1s. 9d. fee.

Transfer of Practices.—The following resolutions were forwarded to the Insurance Acts Committee:

1. "That the Surrey Panel Committee is willing to accept the present regulations as to transfer of practices provided some method be devised to protect the value of the practice on behalf of widows or children in the event of a death vacancy."
2. "That the time of three months before allocation takes place be reduced to one month."

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following notifications are announced by the Admiralty:—Surgeon Commanders: W. N. Batchford to the *Cordelia*; W. H. Hastings to the *Conquest*. Surgeon Lieutenant Commanders: R. J. Inman to the *Ceanothus* for voyage out and to the *Clematis*; A. S. Paterson to the *Marlborough* for passage out and to the *Emperor of India* for return home.

Surgeon Captain C. M. Beadnell has been promoted to the rank of Surgeon Rear Admiral.

Surgeon Lieutenant (short service) T. Madill transferred to permanent list with original seniority of June 13th, 1921.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

The following Lieutenant-Colonels to be temporary Colonels whilst holding special appointments: B. Watts, D.S.O., H. G. Martin, C.M.G., F. F. Carroll, D.S.O., W. P. Gwynn, C.M.G., N. H. Ross, E. T. Inkson, V.C., D.S.O.

Temporary Lieut.-Colonel J Keay, C.B.E., relinquishes his commission and retains the rank of Lieutenant-Colonel.

Major W. S. Crosthwait retires on retired pay.

The following Captains to be temporary Majors: J. C. L. Hingston, from February 25th, 1918, to July 28th, 1919; Brevet Major C. Ryles, O.B.E., from

February 25th, 1918, to July 31st, 1919 (substituted for notification in the *London Gazette* of November 30th, 1921); W. B. Stevenson, from May 20th, 1918, to December 30th, 1920.

Captain J. W. Malcolm, M.C., and Lieutenant (temporary Captain) F. K. Escritt are seconded for service under the Colonial Office.

TERRITORIAL ARMY RESERVE.

Surgeon-Major A. R. Sloddart, T.D., and Surgeon-Major (Brevet Lieut.-Colonel) R. E. Lauder, having attained the age limit, are retired and retain their rank, with permission to wear the prescribed uniform.

ROYAL ARMY MEDICAL CORPS.

The following officers, having attained the age limit, are retired and retain their rank: Majors J. E. Molsom, T.D., and S. Lodge, with permission to wear the prescribed uniform. Captains: A. G. Osborn, M. B. Dawson, G. L. K. Pringle, M.C., A. T. Griffiths. Lieutenant E. C. B. Paul.

Captain J. A. Davies, from General List, R.A.M.C., to be Major.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 1s. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS and ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London).

MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London).

EDITOR, *British Medical Journal* (Telegrams: Aitology, Westrand, London).

Telephone number for all Departments: Gerrard 2630 (*3 lines*).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.; 4361 Central.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

FEBRUARY.

10 Fri. City Division: Royal Northern Hospital, Holloway Road, N.—Lecture by R. C. Elmslie, F.R.C.S., on Some Practical Points in the Treatment of Fractures, 9 30 p.m.

15 Wed. **Council,** 10 a.m.

16 Thurs. North Suffolk Division, Lowestoft: Address by Medical Secretary.
Southport Division: B.M.A. Lecture by Dr. A. Burrows on Radium Therapy.

17 Fri. Chesterfield Division: Chesterfield Royal Hospital.—2.30 to 4 p.m., Post-graduate Classes.
Edinburgh Branch, Winter Clinical Meeting, Royal Infirmary Museum, 11 a.m.; Clinical Meeting, 3.30 p.m.; Dinner, Caledonian Station Hotel, 6 30 p.m.
North of England Branch: Royal Victoria Infirmary, Newcastle-upon-Tyne.—1 to 5 p.m., Scientific Demonstrations.

20 Mon. London: Central Ethical Standing Subcommittee, 2.15 p.m.

21 Tues. Croydon Division, Croydon General Hospital.—Dr. J. Bright Banister: Obstetrics and Gynaecology, 8.15 p.m.

22 Wed. Mid-Essex Division, Bell Hotel, Chelmsford, 3.30 p.m.

DIARY OF SOCIETIES AND LECTURES.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1.—Mon., 8.30 p.m., Lecture (in English) by Professor Henri Hartmann, M.D.Paris, Hon. F.R.C.S.Eng., on Inflammatory Strictures of the Rectum.

ROYAL ANTHROPOLOGICAL INSTITUTE, Royal Society, Burlington House, W.1.—Tues., 8 p.m., Professor G. Elliot Smith: The Brain of Rhodesian Man.

ROYAL SOCIETY OF MEDICINE.—*War Section:* Mon., 5.30 p.m., Lieut.-Colonel C. R. Sylvester-Bradley: Stature in Relation to Physical Fitness. *Section of Therapeutics and Pharmacology:* Tues., 4.30 p.m., Dr. H. H. Dale and Major C. E. White: An Experimental Method of Determining the Therapeutic Efficiency of "914" Preparations. Dr. R. L. Mackenzie Wallis: Tests for Hepatic Insufficiency after Arseno-benzol Treatment. Dr. T. H. G. Shore: Effects of Arseno-benzol Treatment on the Kidney and Liver as seen in Cases in France. *Section of Psychiatry:* Tues., 8.30 p.m., Dr. Helen Boyle: The Ideal Clinic for Treatment of Nervous and Borderland Cases. *Section of History of Medicine:* Wed., 5 p.m., Dr. Charles Singer: Recently Discovered Inscriptions Recording Ancient Cures. Dr. F. G. Crookshank: The "Trousse-galland." Dr. D. Haldin Davis: A Very Early Illustration of a Skin Disease. *Section of Dermatology:* Thurs., 4.30 p.m., Cases. *Section of Otology:* Fri., 4.45 p.m., Cases. *Section of Electro-Therapeutics:* Fri., 8 30 p.m., Mackenzie Davidson Memorial Lecture—Dr. G. W. C. Kaye: Radiology and Physics.

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos Street, W.—Thurs., 8.15 p.m., Paper by Major F. W. Cragg, I.M.S.: Relapsing Fever in India, preceded by a Demonstration at 7.45 p.m.

POST-GRADUATE COURSES AND LECTURES.

CHESTERFIELD DIVISION. B.M.A., Chesterfield Royal Hospital.—Fri., 2.30–4 p.m., Dr. Barnes: Painful Indigestion; Dr. Hay: Indications for Sight Testing.

EDINBURGH ROYAL HOSPITAL FOR SICK CHILDREN.—Thurs., 5 p.m., Dr. C. McNeil: Cases of Wasting in Young Children.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION, Royal Hospital for Sick Children.—Wed., 4.15 p.m., Mr. A. MacLennan and Mr. William Rankin: Surgical Cases.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Thurs., 4 p.m., Dr. Pearson: Vomiting as a Symptom.

MANCHESTER: ANCOATS HOSPITAL.—Thurs., 4.30 p.m., Mr. Hughes: Faecal Fistulae.

MANCHESTER BABIES' HOSPITAL.—Sat., 4 p.m., Dr. Leonard Findlay: Rickets.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.30 p.m., Dr. H. R. Dean: Use of Antiserum.

MANCHESTER: ST. MARY'S HOSPITALS, Whitworth Street West Branch.—Fri., 4.30 p.m., Mr. Morley: Some Common Developmental Anomalies.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland Street, W.1.—Daily, In- and Out-patient Attendances. Lecture, Mon., 5.30 p.m., Dr. Gooda l: Goitre Hearts.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Mon., Tues., Thurs., and Fri., 2 p.m., Out-patient Clinics; Tues. and Fri., 9 a.m., Surgical Operations. Lectures.—Mon., 12 noon., Dr. Greenfield: Paths of Infection of Central Nervous System; 3 30 p.m., Dr. A. Turner: Paraplegia. Tues., 3.30 p.m., Dr. R. Russell: Disseminated Sclerosis. Wed., 3.30 p.m., Mr. L. Paton: Optic Atrophy. Thurs., 3.30 p.m., Dr. Bailey: Electrical Treatment of Nervous Disorders. Fri., 3.30 p.m., Mr. Sargent: Focal Epilepsy.

NORTH OF ENGLAND BRANCH, B.M.A., Royal Victoria Infirmary, Newcastle-upon-Tyne.—Fri., 1 p.m. onwards, Pathological Museum; 2.15 p.m., Mr. G. G Turner: Complications of Gall Stones (lantern demonstration); 2.45 p.m., Mr. R. J. Willan: Tumours of the Testicle; 3.15 p.m., Mr. W. F. Wilson: Some Diseases of the Oesophagus; 3 45 p.m., Tea; 4 p.m., Mr. S. Ritson: Cerebral Tumours; 4.30 p.m., Mr. Hamilton Drummond: Dissemination of Malignant Di ease.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's Hospital, Tottenham, N.15.—Daily, 10 a.m., Ward Visits; 2 p.m., In- and Out-patient Clinics and Operations. Lectures.—Mon., 3.30 p.m., Dr. L. Yealland: Examination of the Motor Nervous System. Tues., 2 30 p.m., Dr. J. Metcalfe: X-ray Examination—Abdominal Diseases. Thurs., 4.30 p.m., Mr. H. W. Carson: Intestinal Obstruction.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—Arris and Gale Lectures, 5 p.m. Mon., Mr. V. Zachary Cope: Nerve Supply of Parietal Peritoneum and the Subperitoneal Tissues. Wed., Dr. F. W. Edridge-Green: New Researches in Colour Vision. Fri., Professor Swale Vincent: A Critical Examination of Current Views on Internal Secretion.

ROYAL INSTITUTE OF PUBLIC HEALTH, 37, Russell Square, W.C.—Wed., 4 p.m., Dr. Marcus S. Paterson: Success and Failure of Sanatorium Treatment.

ST. JOHN'S HOSPITAL, 49, Leicester Square, W.C.—Thurs., 6 p.m., Chesterfield Lecture by Dr. W. Knowsley Sibley: Seborrhoea and Psoriasis.

ST. MARYLEBONE GENERAL DISPENSARY, Welbeck Street, W.1.—Dr Eric Pritchard: Wed., 6 p.m., Breast Feeding; Fri., 6 p.m., Artificial Feeding of Infants.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Municipal Hospital, Ouseley Road, Balham.—Wed., 4 p.m., Dr. Grainger Stewart: Nervous Sequelae of Influenza.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Daily, 10 a.m., Ward Visits; 2 p.m., In- and Out-patient Clinics and Operations. Lectures: 5 p.m., Mon., Dr. A. Saunders: Tumours and Cysts of Liver. Tues., Dr. H. Pritchard: Endocrine Glands. Wed., Mr. D. Armour: Practical Surgery. Thurs., Dr. W. Byam: The Invalid from the Tropics. Fri., Dr. G. Stewart: Nervous Diseases.

APPOINTMENTS.

HARRIS, Marjorie, M.B., Ch.B., Non-Resident House-Surgeon to Dr. A. H. H. Sinclair, Edinburgh Royal Infirmary.

ROBERTSON, A. N., M.D.Edin., M.R.C.P.Lond., Medical Superintendent, Derbyshire County Council Sanatorium, Walton, Chesterfield.

ST. THOMAS'S HOSPITAL.—The following gentlemen have been selected as house officers:—Casualty Officers and Resident Anaesthetists: S. E. Harvey, M.R.C.S., L.R.C.P., C. L. C. Burns, M.R.C.S., L.R.C.P., P. C. Bhandari, M.R.C.S., L.R.C.P., J. G. Drew, B.A.Cantab., M.R.C.S., L.R.C.P., B. W. Williams, M.R.C.S., L.R.C.P., J. F. Hackwood, M.R.C.S., L.R.C.P., C. C. H. Chavasse, M.A., M.B., B.Ch.Oxon., H. N. Witham, M.R.C.S., L.R.C.P. Resident House-Physicians: H. L. Slaughter, M.R.C.S., L.R.C.P., D. McClean, M.R.C.S., L.R.C.P., H. L. Willey, M.A., M.B., B.Ch.Cantab., M.R.C.S., L.R.C.P., K. H. Talferman, M.C., M.A., M.B., B.Ch.Cantab., M.R.C.S., L.R.C.P. Resident House-Physician (for Children): C. K. J. Hamilton, M.C., B.A., M.B., B.Ch.Oxon. Resident House-Surgeons: F. A. Philipps, B.A., M.B., B.Ch.Cantab., E. M. Burrell, M.A., M.B., B.Ch.Cantab., S. Hartley, M.C., B.A.Oxon., M.R.C.S., L.R.C.P., J. Spira, M.R.C.S., L.R.C.P. Resident Orthopaedic House-Surgeon: E. P. Brockman, B.A., M.B., B.Ch.Cantab., M.R.C.S., L.R.C.P. (Ext.). Resident House-Surgeon for Ear, Nose, and Throat: J. C. Churcher, M.R.C.S., L.R.C.P. Obstetric House-Physicians: (Senior) J. D. M. Cardell, M.B., B.S.Lond., M.R.C.S., L.R.C.P., (Junior) G. A. Back, B.A.Cantab., M.R.C.S., L.R.C.P. Ophthalmic House-Surgeons: (Senior) W. A. Low, M.C., M.R.C.S., L.R.C.P. (Ext.), (Junior) S. H. G. Humfrey, B.A.Cantab., M.R.C.S., L.R.C.P. Clinical Assistants: (Throat) J. B. Cavenagh, M.C., M.A., M.B., B.Ch.Oxon. (Ext.), (Ear) W. A. Young, B.A.Oxon., B.Sc.Lond., M.R.C.S., L.R.C.P., (Children's Medical) W. A. Young, B.A.Oxon., B.Sc.Lond., M.R.C.S., L.R.C.P., (Electro-cardiograph) B. T. Parsons-Smith, M.D.Lond.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **9s.**, *which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.*

BIRTH.

CORNELIUS.—On January 5th, at Nursing Home, Bombay, the wife of Captain W. H. Cornelius, R.A.M.C.—a son.

MARRIAGE.

LEWIS—WRIGHT.—On the 31st January, at St. Stephen's Church, Hounslow, by the Rev. R. Dixon Box, Vicar, Harold Warburton Lewis, M.B., B.S., of Redditch, second son of the Rev. J. E. Lewis and Mrs. J. E. Lewis, to Helen Wisbey, only daughter of Mr. and Mrs. A. J. Wright, of Hounslow.

DEATHS.

KINGSFORD.—On January 29th, at Sherwood, Woking, Surrey, after short illness, Bertram Harold Kingsford, M.D.Lond., etc., in his 52nd year.

LENEY.—On February 1st, in the early morning after a short illness, Jessie Marguerite Leney, sister to Dr. Lydia Leney.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, FEBRUARY 18TH, 1922.

CONTENTS.

PAGE

BRITISH MEDICAL ASSOCIATION.

Annual Meeting, Glasgow, 1922: Provisional Programme 39

CURRENT NOTES:

- THE NEWCASTLE MEETING: DINNER TO MR. R. J. WILLAN AND DR. GEORGE HALL 37
- FEE FOR NOTIFICATION OF INFECTIOUS DISEASES 37
- PAY OF I.M.S. OFFICERS IN CIVIL EMPLOY 37
- MEDICAL FEES AT MATERNITY AND OTHER CENTRES IN SCOTLAND 37

ASSOCIATION NOTICES:

- TABLE OF DATES 38
- BRANCH AND DIVISION MEETINGS TO BE HELD 38

EDUCATION AUTHORITIES AND THE SCHOOL MEDICAL SERVICE 38

PAGE

The Geddes Report on National Expenditure 40

MEETINGS OF BRANCHES AND DIVISIONS 40

LEICESTER PUBLIC MEDICAL SERVICE 43

INSURANCE ADMINISTRATION 43

NAVAL AND MILITARY APPOINTMENTS 43

DIARY OF SOCIETIES AND LECTURES 44

ASSOCIATION INTELLIGENCE 44

DIARY OF THE ASSOCIATION 44

APPOINTMENTS 44

BIRTHS, MARRIAGES, AND DEATHS 44

British Medical Association.

CURRENT NOTES.

The Newcastle Meeting.

Dinner to Mr. R. J. Willan and Dr. George Hall.

A VERY enjoyable function took place at the Station Hotel, Newcastle-upon-Tyne, on February 3rd, when Mr. R. J. Willan and Dr. George Hall (respectively Honorary Local General Secretary and Honorary Local Treasurer of the 1921 Annual Meeting of the British Medical Association) were honoured by a complimentary dinner. There was a large attendance, which would have been larger still but for the inclemency of the weather and the influenza epidemic. To the regret of all, Dr. Hall was himself a victim of influenza and unable to be present. The President of the Association, Professor David Drummond, presided, and in the course of the evening, on behalf of numerous subscribers, presented Mr. Willan with a handsome gift in the shape of a grandfather's clock, which bore the following inscription:

> "Presented to R. J. Willan, Esq., M.V.O., O.B.E., M.S., F.R.C.S., in recognition of his invaluable services as Honorary Local General Secretary of the British Medical Association's Annual Meeting, held in Newcastle-upon-Tyne, July, 1921."

Dr. R. A. Bolam (Chairman of Council) proposed the toast of "Our Guests," which was replied to by Mr. Willan, who in doing so reviewed in some detail the activities of the various committees in their efforts to ensure a successful meeting. The result of all these endeavours was, as probably everyone recognizes, an exceptional success, and the Newcastle meeting will long be remembered as a model of organization. Several local members of the profession contributed to the musical programme, and were warmly complimented by Professor Sir Thomas Oliver in proposing a vote of thanks to them. Altogether the evening was a most pleasant one, and will be remembered as one of the most agreeable functions in connexion with the British Medical Association in the neighbourhood.

Fee for Notification of Infectious Diseases.

It is necessary to return once more to the question of the fee for notification of infectious diseases. A correspondent wrote to say that in reply to a letter concerning the correctness of the amounts paid to him the clerk to the urban district council told him that he was mistaken in assuming that the fee was 2s. 6d. The clerk went further than that, and stated that the Order in Council restoring the fee to its pre-war value had been cancelled by a further Order. A letter was accordingly addressed to the Ministry of Health stating that the British Medical Association had good reason for believing that the payment of the restored fee was by no means universal. A copy of the clerk's statement was enclosed, and the Ministry was asked if any steps could be taken to bring about uniformity of action. The reply from the Ministry is as follows: "I am directed by the Minister of Health to state that steps will be taken at an early date to remind local authorities that as from September 1st, 1921, the fee payable to medical practitioners for the notification of cases of infectious disease occurring in their private practice reverted to 2s. 6d."

Pay of I.M.S. Officers in Civil Employ.

The Naval and Military Committee recently had under consideration a statement by an officer in the Indian Medical Service that as recently as February, 1921, not only had the increases in pay to I.M.S. officers in civil employ not been paid, but that he had been told that he was not entitled to the particular sum he had claimed because Army Instruction (India) No. 613 sanctioning the increased rates of pay was published only on August 17th, 1920. The increase in pay to I.M.S. officers in military employment was published in July, 1920, and made retrospective to January 1st, 1920, and there is no doubt that the civil officers should have received their increase from the same date. The Committee felt that this ruling, if allowed to pass unchallenged, cut at the root of the recent concessions which had been gained after so prolonged a struggle, and decided to call the attention of the Secretary of State for India to the matter without delay. Accordingly copies of the correspondence were sent to the India Office, and a reply was received to the effect that the officer appeared to be entitled to the sum claimed, and that the correspondence had been forwarded to the Government of India for disposal. This correspondent now writes to say that he has been informed that his emoluments for the period named will be readjusted in accordance with an Army Instruction (India) which is being issued. It is understood that this readjustment will affect the pay of an appreciable number of I.M.S. officers.

Medical Fees for Attendance at Maternity and other Centres in Scotland.

The Scottish Committee of the British Medical Association has received from the Board of Health a reply to its representation that a fee of £1 1s. per session should be approved in cases where the session does not normally exceed one hour. The Board state that they cannot recognize a uniform fee or scale of fees, and point out that the fixing of the fee is a matter primarily for local settlement between the local authority and the doctor appointed as medical officer to the Centre. When it is reported that the sum proposed to be allowed is inadequate to secure a sufficient service the Board are willing to consider the special circumstances. Bearing in mind that the doctor who undertakes such work is expected to attend regularly at a fixed hour, and that the work is of a special character, the Committee again strongly advises medical practitioners not to accept a fee of less than £1 1s.

Association Notices.

TABLE OF DATES.

Mar. 15, Wed.	Branch Reports for 1921 due to Head Office on or before this date.
April 1, Sat.	Nomination papers available at Head Office for election of 24 Members of Council for 1922–23, by grouped Home Branches.
April 26, Wed.	Council Meeting, 429, Strand, at 10 a.m.
April 29, Sat.	Last day for receipt at Head Office of Independent Motions for Annual Representative Meeting Agenda, as to policy, Articles or By-laws (By-law 40).
May 6, Sat.	Annual Report of Council appears in SUPPLEMENT.
May 8, Mon.	Last day for receipt at Head Office of Nominations, by a Division or not less than 3 Members, for election of 24 Members of Council by grouped Home Branches for 1922–23.
May 13, Sat.	Publication in SUPPLEMENT of list of nominations for election of 24 Members of Council by grouped Home Branches for 1922–23. Voting papers for election of 24 Members of Council by grouped Home Branches posted from Head Office to Members of groups where there are contests.
May 27, Sat.	Last day for receipt at Head Office of voting papers for election of 24 Members of Council by grouped Home Branches. (Where there are contests.)
June 3, Sat.	Publication in SUPPLEMENT of results of Council elections by grouped Home Branches.
June 10, Sat.	Nomination papers available, at Head Office, for election of 12 Members of Council by grouped Home Representatives.
June 14, Wed.	Council Meeting, 429, Strand, at 10 a.m.
June 23, Fri.	Last day for election of Representatives and Deputy-Representatives.
June 24, Sat.	Supplementary Report of Council appears in SUPPLEMENT.
June 30, Fri.	Last day for receipt at Head Office of notification of election of Representatives and Deputy-Representatives.
July 7, Fri.	Last day for receipt at Head Office of Amendments and Riders for Annual Representative Meeting Agenda.
July 21, Fri.	Annual Representative Meeting, Glasgow, 10 a.m.

ALFRED COX,
Medical Secretary.

BRANCH AND DIVISION MEETINGS TO BE HELD.

BATH AND BRISTOL BRANCH.—The fourth general meeting of the Bath and Bristol Branch will be held at the Red House, Bath, on Wednesday, February 22nd, at 8 p.m., when Sir J. Thomson Walker will give an address on Recent Advances in Diagnosis and Treatment in Urinary Surgery. It is proposed that the members of the Branch shall dine together before the meeting, provided a sufficient number express a desire to do so. Members proposing to attend should notify Dr. F. G. Thompson, 28, Circus, Bath, without delay.

ESSEX BRANCH: MID-ESSEX DIVISION.—The Medical Secretary, Dr. Alfred Cox, will speak at the Bell Hotel, Chelmsford, on Wednesday, February 22nd, at 3.30 p.m., on the subject, "How the British Medical Association might be of more use to medical men." Questions will be invited at the end of the address. Non-members as well as members are cordially invited.

METROPOLITAN COUNTIES BRANCH: WESTMINSTER DIVISION.—Nominations for the election of Representatives on the Council and Representative Body, and for members of the Executive Committee of the Division, should be sent to the Honorary Secretary, Dr. F. D. Bennett, 18, Savile Row, W.1.

METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.—A meeting of members and non-members will be held in St. Andrew's Church Hall at 8.30 p.m. on Tuesday, February 21st. Agenda: Meet medical candidates for municipal election (Drs. W. Lock, G. W. R. Skene, D. V. Muller, J. B. Dunning). Proposed V.A.D. clinic in Willesden. Parliamentary election. Revision of British Medical Association constitution, etc. (SUPPLEMENT, December 24th, p. 237).

STAFFORDSHIRE BRANCH.—A meeting of the session will be held at the Swan Hotel, Stafford, on Thursday, February 23rd, at 4 p.m. Agenda: Exhibition of living cases, pathological specimens, etc. Papers: (1) Dementia Praecox, by Dr. Farran-Ridge; (2) Epidemic Encephalitis, by Dr. E. J. Bradley. Lantern demonstration of diseases of stomach, duodenum, bladder, etc., by Mr. F. N. Cookson. Dinner at 6.30 p.m., charge 10s.

YORKSHIRE BRANCH: BRADFORD DIVISION.—A meeting of the Bradford Division will be held at the Great Northern Victoria Hospital on Wednesday, February 22nd, at 8.30 p.m., when Dr. G. C. Anderson, Deputy Medical Secretary, will give an address on The Activities of the British Medical Association; the Advantages of being a Member.

EDUCATION AUTHORITIES AND THE SCHOOL MEDICAL SERVICE.

IN a leading article in the JOURNAL of January 21st (p. 113) it was stated that the British Medical Association and the Society of Medical Officers of Health had asked the Minister of Health to receive a deputation to discuss with him the relation of the Ministry of Health and the Board of Education to the medical inspection and treatment of school children. Sir Alfred Mond is receiving the deputation on Friday morning, February 17th, and an account of the proceedings will appear next week.

The following letter was sent by the British Medical Association on January 28th to the Minister of Health:

It has been brought to the notice of this Association that the Directors of Education are making a strong effort to secure that all the activities of school medical officers shall be supervised by, and under the control of, the chief education officers. The British Medical Association desires in the most emphatic manner to express its opinion to the Minister of Health that this movement, if not stopped, will have the most mischievous effects on the School Medical Service, and through it on the children for whose health the Minister of Health is directly responsible.

Under Section 3 (1) (*d*) of the Ministry of Health Act, 1919, all powers and duties of the Board of Education with respect to the medical inspection and treatment of school children and young persons were transferred to the Ministry of Health from the Board of Education. It is true that by a proviso to that Section the Minister of Health was empowered to make arrangements with the Board of Education "respecting the submission and approval of schemes of local education authorities and the payment of grants to local education authorities so far as such schemes and payment relate to or are in respect of medical inspection and treatment." The Association well remembers the resistance of the then President of the Local Government Board, supported by the President of the Board of Education, to the transfer of the powers relating to medical inspection and treatment of school children from the Education Department to the Ministry of Health. This resistance was met with almost unanimous disapproval on the part of the Committee which was considering the Bill, and the British Medical Association did what it could to strengthen the hands of those members of Parliament who were determined that these medical functions should be put under the care of the Ministry of Health and made part of a great national health system.

It has always been understood that the arrangements made between the Ministry of Health and the Board of Education were temporary, and would be brought to an end as soon as the Ministry was in a position to take the duties over. It was therefore with some concern that the Association found that in the Education Act, 1921, various Sections (16, 18, and 116 (6)) continued the proviso by means of which the Minister of Health is empowered to make arrangements with the Board of Education regarding schemes for the medical inspection and treatment of school children. If nothing else had happened the Association would probably have taken no action, assuming that the reasons which led the Minister to leave these matters temporarily in the hands of the Board of Education still held good. But the Association of Directors and Secretaries for Education has issued a memorandum (no doubt known to the Ministry of Health) on the relations between the School Medical Service and general education administration, in which the most extreme claims for domination over a service which is primarily medical and not educational are made by education officers, and therefore this Association feels that it is time to make a determined protest.

This protest is made because the British Medical Association believes that all the medical services of the country should be co-ordinated and should be directly under the control of the Ministry of Health. It views with concern even a temporary relegation of some of these duties to other Ministries, and in view of the dangers illustrated by what is happening in the Education Medical Service it strongly urges the Minister to take these duties under his direct control at the earliest possible moment. If that moment must for some reasons be deferred, the Association would ask the Minister to make it plain to Education Authorities and to their Administrative Officers that the School Medical Service is a *medical* service, and that the Minister of Health will reserve his right to refuse sanction to schemes which allow the action of Education Officers to affect the proper co-ordination of Medical Services or the efficiency of the School Medical Service as a health service, or to intercept the advice given to an authority by school medical officers.

The Association has been in consultation with the Society of Medical Officers of Health, and both bodies feel so concerned with the dangers of the present situation that they would respectfully request the Minister to meet a joint deputation from the two bodies at an early date.

British Medical Association.

NINETIETH ANNUAL MEETING, GLASGOW, JULY 25th, 26th, 27th, & 28th, 1922.

Patron: HIS MAJESTY THE KING.

President: DAVID DRUMMOND, C.B.E., M.A., M.D., D.C.L., Vice-Chancellor and Professor of the Principles and Practice of Medicine, University of Durham.

President-Elect: Sir WILLIAM MACEWEN, C.B., D.Sc., D.C.L., M.D., F.R.S., Regius Professor of Surgery, University of Glasgow, one of the Honorary Surgeons to H.M. the King in Scotland.

Chairman of Representative Meetings: R. WALLACE HENRY, B.A., M.D.

Chairman of Council: ROBERT ALFRED BOLAM, M.D., M.R.C.P.

Treasurer: GEORGE ERNEST HASLIP, M.D.

PROGRAMME.

The President will give his address to the Association on Tuesday, July 25th, at 8 p.m.

The REPRESENTATIVE MEETING will begin on Friday, July 21st, at 10 a.m., and be continued on the following three week-days.

The STATUTORY ANNUAL GENERAL MEETING will be held on July 25th, at 2 p.m., and the adjourned General Meeting at 8 p.m.

The Annual Dinner of the Association will take place on July 27th, at 7.15 p.m.

The official Religious Service will be held in Glasgow Cathedral on July 25th, at 5.15 p.m., and Mass will be celebrated in St. Andrew's Roman Catholic Cathedral on July 27th, at 9.15 a.m.

The Conference of Secretaries will be held at 2 p.m. on July 26th, and the Secretaries' Dinner will take place in the evening at 6.30.

The Pathological Museum and the Annual Exhibition of surgical instruments and appliances, foods, drugs, and books will open on July 25th.

The Popular Lecture will be delivered by Professor John Graham Kerr, F.R.S., on July 28th, at 7.30 p.m.

Saturday, July 29th, the last day of the meeting, will be set apart for excursions to places of interest in the neighbourhood.

THE SECTIONS.

The Scientific Sections will meet from 10 a.m. to 1 p.m. for papers and discussions. Laboratory and clinical demonstrations in connexion with the work of the Sections will be given in the classrooms of the University on the afternoons of Wednesday, Thursday, and Friday, July 26th, 27th, and 28th.

The following Sections meet on three days—Wednesday, Thursday, and Friday, July 26, 27, and 28.

MEDICINE.

President: Professor THOMAS KIRKPATRICK MONRO, M.D., F.R.F.P.S.

Vice-Presidents: JOHN M. COWAN, M.D., F.R.F.P.S., D.Sc.; Sir ARCHIBALD E. GARROD, K.C.M.G., M.D., F.R.C.P., F.R.S.; GEORGE HALL, C.M.G., M.D., M.R.C.P.; C. O. HAWTHORNE, M.D., F.R.C.P.; JOHN HAY, M.D., F.R.C.P.

Honorary Secretaries: ADAM. PATRICK, M.D., F.R.F.P.S., 16, Buckingham Terrace, Glasgow; H. LETHEBY TIDY, M.D., F.R.C.P., 39, Devonshire Place, London, W.1.

NEUROLOGY AND PSYCHOLOGICAL MEDICINE.

President: GEORGE M. ROBERTSON, M.D., F.R.C.P.Edin.

Vice-Presidents: A. STANLEY BARNES, M.D., F.R.C.P.; C. C. EASTERBROOK, M.D., F.R.C.P.Edin.; J. H. MACDONALD, M.B., F.R.F.P.S.; Sir JAMES PURVES STEWART, K.C.M.G., C.B., M.D., F.R.C.P.

Honorary Secretaries: HILDRED CARLILL, M.D., M.R.C.P., 146, Harley Street, London, W.1; D. K. HENDERSON, M.D., F.R.F.P.S., 17, Whittinghame Drive, Glasgow.

OPHTHALMOLOGY.

President: A. S. PERCIVAL, M.B., M.R.C.S.

Vice-Presidents: A. J. BALLANTYNE, M.D., F.R.F.P.S.; Sir WILLIAM T. LISTER, K.C.M.G., F.R.C.S.; JOHN ROWAN, M.B., F.R.F.P.S.

Honorary Secretaries: PERCIVAL J. HAY, M.D., 350, Glossop Road, Sheffield; W. H. MANSON, M.D., F.R.F.P.S., 17, Royal Terrace, Glasgow.

PATHOLOGY.

President: Professor ROBERT MUIR, M.D., F.R.C.P.Edin., F.R.S.

Vice-Presidents: J. S. C. DOUGLAS, M.D.; Professor JOHN SHAW DUNN, M.D.; ARCHIBALD LEITCH, M.B., Ch.B.; Professor JOHN H. TEACHER, M.D., F.R.F.P.S.

Honorary Secretaries: JOHN ANDERSON, M.B., C.M., "Westerhill," St. Bride's Road, Newlands, Glasgow; ROBERT DONALDSON, M.D., F.R.C.S.Edin., St. George's Hospital, London, S.W.1.

SURGERY.

President: Professor H. ALEXIS THOMSON, C.M.G., M.D.Ed., F.R.C.S.

Vice-Presidents: JAMES BERRY, F.R.C.S.; Sir KENNEDY DALZIEL, M.B., F.R.F.P.S.; A. ERNEST MAYLARD, M.B., F.R.F.P.S.; G. GREY TURNER, M.S., F.R.C.S.; R. J. WILLAN, M.V.O., O.B.E., M.S., F.R.C.S.

Honorary Secretaries: J. A. C. MACEWEN, M.B., F.R.F.P.S., 3, Woodside Crescent, Charing Cross, Glasgow; JOHN PATRICK, M.B., F.R.C.S.Ed., 9, Newton Place, Glasgow; H. S. SOUTTAR, C.B.E., M.Ch., F.R.C.S., 58, Queen Anne Street, London, W.

The following Sections will meet on two days.

DERMATOLOGY.

President: H. LESLIE ROBERTS, M.D., C.M.

Vice-Presidents: A. M. H. GRAY, C.B.E., M.D., F.R.C.P.; G. H. LANCASHIRE, M.D.; Professor J. G. TOMKINSON, M.D.

Honorary Secretaries: WM. HERBERT BROWN, M.D., 20, Park Circus, Glasgow; HALDIN DAVIS, M.B., F.R.C.S., 17, Cavendish Place, London, W.1.

DISEASES OF CHILDREN.

President: Sir HERBERT F. WATERHOUSE, M.D., F.R.C.S.

Vice-Presidents: LEONARD FINDLAY, M.D., F.R.F.P.S.; ROBERT HUTCHISON, M.D., F.R.C.P.; ALEX. MCLENNAN, M.B., C.M.; R. H. A. WHITELOCKE, M.D., F.R.C.S.

Honorary Secretaries: GEOFFREY BOURNE, M.D., M.R.C.P., 150, Harley Street, London, W.1; G. B. FLEMING, M.B.E., M.D., 13, Lynedoch Crescent, Glasgow.

MICROBIOLOGY (INCLUDING BACTERIOLOGY).

President: ROBERT MACNEIL BUCHANAN, M.B., F.R.F.P.S.

Vice-Presidents: JOHN ANDERSON, M.A., B.Sc.; Professor HY. ROY DEAN, M.D., F.R.C.P.; Sir WM. B. LEISHMAN, K.C.M.G., C.B., F.R.S.

Honorary Secretaries: S. PHILLIPS BEDSON, M.D., Lister Institute, Chelsea, London, S.W.; J. L. BROWNLIE, M.D., D.P.H., 28, Hamilton Park Terrace, Glasgow.

OBSTETRICS AND GYNAECOLOGY.

President: Professor EWEN J. MACLEAN, M.D., M.R.C.P.

Vice-Presidents: H. RUSSELL ANDREWS, M.D., F.R.C.P.; Professor J. M. MUNRO KERR, M.D., F.R.F.P.S.; Professor LOUISE MCILROY, M.D., D.Sc.; E. FARQUHAR MURRAY, M.D., F.R.C.S.

Honorary Secretaries: S. J. CAMERON, M.B., F.R.F.P.S., 30, Lynedoch Street, Charing Cross, Glasgow; W. D. MACFARLANE, M.B., F.R.F.P.S., 17, Woodside Crescent, Glasgow; H. G. TAYLOR, M.B., 15, Cavendish Place, London, W.1.

PHYSIOLOGY.

President: Professor J. A. MCWILLIAM, M.D., C.M., F.R.S.

Vice-Presidents: Professor EDWARD MELLANBY, M.D.; Professor D. NOËL PATON, M.D., F.R.C.P., F.R.S.

Honorary Secretaries: GEORGE GRAHAM, M.D., F.R.C.P., 37, Queen Anne Street, London, W.1; W. F. SHANKS, M.B., Ch.B., Physiological Institute, University of Glasgow.

PUBLIC HEALTH.

President: A. K. CHALMERS, M.D., F.R.F.P.S., D.P.H.

Vice-Presidents: R. J. REECE, C.B., M.D., M.R.C.P., D.P.H.; F. E. FREMANTLE, O.B.E., M.P., M.B., F.R.C.P., D.P.H.; HAROLD KERR, O.B.E., M.D., D.P.H.

Honorary Secretaries: R. S. FULLARTON, M.D., F.R.F.P.S., Sanitary Chambers, Glasgow; J. J. PATERSON, M.D., The Guildhall, Maidenhead.

The following Sections will meet each on one day.

ANATOMY.

President: Professor ALEXANDER MACPHAIL, M.B., C.M., F.R.F.P.S.
Vice-Presidents: J. C. BRASH, M.C., M.B., Ch.B.; Professor J. T. WILSON, M.B., F.R.S.
Honorary Secretaries: Professor JAMES BATTERSBY, F.R.C.S., F.R.F.P.S., 616, Great Eastern Road, Glasgow; Professor JOHN GRAHAM, F.R.F.P.S., 351, Renfrew Street, Glasgow.

ANAESTHETICS.

President: W. J. MCCARDIE, M.B., B.Ch.
Vice-Presidents: JAMES PATON BOYD, M.B., F.R.F.P.S.; L. MABEL RENWICK CAMPBELL, M.B., Ch.B.
Honorary Secretaries: H. PRESCOT FAIRLIE, M.D., 19, Bute Gardens, Glasgow; HUBERT PINTO-LEITE, M.R.C.S., L.R.C.P., 24, Fellows Road, South Hampstead, London, N.W.3.

INDUSTRIAL DISEASES AND FORENSIC MEDICINE.

President: Professor JOHN GLAISTER, M.D., F.R.F.P.S., D.P.H., F.R.S.E.
Vice-Presidents: GODFREY CARTER, M.B., M.R.C.P.Edin., D.P.H.; WILLIAM LEDINGHAM RUXTON, M.B.; Sir WILLIAM H. WILLCOX, K.C.I.E., C.B., C.M.G., M.D., F.R.C.P.
Honorary Secretaries: Professor ANDREW ALLISON, M.B., F.R.F.P.S., D.P.H., St. Vincent Park, Paisley Road, W. Ibrox, Glasgow; JAMES R. KERR, C.B.E., Ch.M., The Pilkington Special Hospital, St. Helens, Lancs.

LARYNGOLOGY.

President: JOHN MCINTYRE, M.B., C.M., F.R.F.P.S.
Vice-Presidents: A. BROWN KELLY, M.D., F.R.F.P.S.; Sir STCLAIR THOMSON, M.D., F.R.C.P., F.R.C.S.
Honorary Secretaries: F. F. MUECKE, C.B.E., M.B., F.R.C.S., 36, Cavendish Square, London, W.; W. S. SYME, M.D., F.R.F.P.S., 11, Lynedoch Crescent, Glasgow.

MEDICAL SOCIOLOGY.

President: E. ROWLAND FOTHERGILL, M.B., B.S.
Vice-Presidents: CHARLES E. S. FLEMMING, M.R.C.S., L.R.C.P.; JAMES HUDSON, M.D., C.M.; PETER MACDONALD, M.D.
Honorary Secretaries: ALEX. FORBES, M.B., C.M., Hillsboro' Lodge, Sheffield; DAVID MCKAIL, M.D., F.R.F.P.S., 2, Morris Place, Monteith Row, Glasgow.

OTOLOGY.

President: ALBERT ALEX. GRAY, M.D., F.R.F.P.S.
Vice-Presidents: J. G. CONNAL, M.B., F.R.F.P.S.; W. F. WILSON, M.B.
Honorary Secretaries: F. J. CLEMINSON, M.Ch., F.R.C.S., 32, Harley Street, London, W.1; J. W. LEITCH, M.B., 6, Clairmont Gardens, Charing Cross, Glasgow.

RADIOLOGY.

President: LEONARD A. ROWDEN, M.B., C.M.
Vice-Presidents: E. P. CUMBERBATCH, M.B., M.R.C.P.; JAMES ROBERTSON RIDDELL, F.R.F.P.S.
Honorary Secretaries: F. HERNAMAN-JOHNSON, M.D., 66, Harley Street, London, W.1; D. O. MACGREGOR, M.B., C.M., Langside Cottage, Langside, Glasgow.

TUBERCULOSIS.

President: Sir ROBERT W. PHILIP, M.D., P.R.C.P.Edin., F.R.S.E.
Vice-Presidents: JAMES CROCKET, M.D., D.P.H.; WM. HY. DICKINSON, O.B.E., M.B., D.P.H.
Honorary Secretaries: A. HOPE GOSSE, M.D., M.R.C.P., 75, Harley Street, London, W.; A. S. M. MACGREGOR, O.B.E., M.D., D.P.H., 488, Clarkston Road, Muirend, Cathcart, Glasgow.

Honorary Local General Secretary.
Dr. GEORGE A. ALLEN, 22, Sandyford Place, Glasgow, W.

Meetings of Branches and Divisions.

SOUTHERN BRANCH: PORTSMOUTH DIVISION.

A MEETING of the Portsmouth Division was held on February 1st at the Corner House, Commercial Road, Portsmouth. The question of an advertisement appearing recently in a lay newspaper inviting applications for an Honorary Consulting Staff to the Workhouse Infirmary was discussed, and it was resolved that the policy of the British Medical Association, as laid down by the Annual Representative Meeting of 1908, be adhered to—namely:

"That the Representative Meeting considers that the services of the profession should not be given gratuitously to patients who are maintained by public funds."

Dr. A. P. BEDDARD gave a lecture on chronic arthritis, and many questions were asked afterwards, to which he replied seriatim.
The meeting was followed by a supper. The "Minster Singers" contributed to render the evening enjoyable. The attendance was somewhat curtailed owing to the prevailing influenza.

THE GEDDES REPORT ON NATIONAL EXPENDITURE.

PROPOSALS FOR ECONOMY.

THE First and Second Interim Reports of the Committee on National Expenditure, of which Sir Eric Geddes is chairman, were issued on February 10th. The other members of the Committee are Lord Inchcape, Lord Farringdon, Sir J. Maclay, and Sir Guy Granet.

The terms of reference are "for effecting all possible reductions in expenditure on supply services." The Government departments, in response to a Treasury circular in May last year, have themselves proposed reductions amounting to 75 millions, and the aim of the Geddes Committee is to secure a further reduction of 100 millions. The recommendations in the reports now published would give total reductions of £75,061,875, and there remain to be dealt with 60 votes, representing 100 millions of expenditure and various other matters outstanding. The "cuts" suggested come under the following headings:

	£
Navy	21,000,000
Army	20,000,000
Air	5,500,000
Education	18,000,000*
Health	2,500,000*
War pensions	3,300,000*
Trade group	538,000
Export credits	500,000
Agricultural group	855,000
Police and prisons	1,595,000
General group (24 votes)	102 000
* Additional savings on these Ministries	1,171,875
Total	£75,061,875

THE THREE FIGHTING SERVICES.

The Committee hold that full economy in the fighting services cannot be realized under existing conditions. There is overlapping and duplication throughout. In order fully to realize these economies the three forces must be brought together by the creation of a co-ordinating authority or Ministry of Defence. Complete co-ordination in supply, transport, education and other functions would then be possible. Subject to this suggestion for the future the Committee considered the three fighting services individually.

The Naval Estimates.

In a detailed statement they advise that the Naval Estimates for 1922–23 should be reduced from 81 millions to 60 millions, and that in a subsequent year lower estimates should suffice. The reductions in personnel involved would be 35,000 officers and men. This view is presented without taking into account large savings which might result from the Washington Conference proposals and from a possible reduction in capital and other ships in commission, and consequential saving in the provision of oil. Nor is any account taken of any reduction in pay or allowances which the Government might make, nor of any abnormal increase in the non-effective vote caused by reduction of the personnel transferred to the retired list. The various votes are next examined separately.

Under the heading "Hospital Ships" it is remarked that the Admiralty now have two, *Berbice* and *Maine*; the latter was bought recently, and is now being refitted. Before the war the Admiralty had only one. It is suggested that one or other should be sold.

Under the heading "Medical Establishments" comparative figures are given as follows:

	£
1913–14 audited expenditure	281,382
1921–22 net estimate	720,500
1922–23 net estimate	625,000

The report states that this vote, which does not include the naval medical personnel borne on Vote I, is more than double pre-war in amount, and that it is significant that medical and dental services for the Navy, which must necessarily be composed of men of a high standard of physical efficiency, cost, when the salaries of personnel on Vote I are included, roughly, £12 per head. This appears to the Committee to be an unduly high figure, but they say they have no individual item to comment upon. They hold, however, that in view of the present high costs everything possible should be done to combine the medical facilities on shore of the three fighting services, a matter in which very little has been effected hitherto. The reduced numbers of naval personnel which have been suggested would affect this vote. The Committee deal with the cost of the medical services under the Army Estimates.

The Army Estimates.

The Committee recommend that the Army Estimates for 1922–23 should be reduced from £75,197,800 to £55,000,000, and that in a subsequent year lower estimates should suffice.

The reduction in personnel involved would be 60,000 officers and men, without change in the number employed on foreign service.

The Committee make the following report on the Army Medical Services:

"The establishment of the Royal Army Medical Corps is increased from 4,460, costing £695,000 in 1914–15 to 5,533, costing £1,700,000 in 1922–23. Of the increases of 157 officers and 916 other ranks 94 officers and 168 other ranks are for the new Dental Corps. The remainder are stated to be due to provision for garrisons in Mesopotamia, Palestine, and on the Rhine. The total cost of all Army Medical Services is stated to be as follows:—

	Total Cost.	Per head of British and Colonial Troops.
	£	£ s. d.
1914–15	1,340,000	..... 7 13 8
1921–22	3,979,000	..... 19 12 7

No comparative figures for 1922–23.

These figures are calculated under the new Army Cost Accounting System to cover the whole cost of the Service, including effective and non-effective pay and maintenance of medical staff, the maintenance of hospitals, the purchase of medicines, etc., and the hire of a hospital ship, and it cannot, therefore, be compared strictly with the Naval cost of £12 a head. Making all allowances, however, for this consideration, and the additional expenditure involved by conditions in the Middle East, the cost appears to us to be unduly high. The army had no hospital ship before the war. The navy had one and now has two. The army hospital ship costs £172,000 per annum, and we suggest that combined use of the naval ship should be considered.

In this connexion we desire to state that in our opinion very heavy avoidable expenditure is involved in the maintenance of separate medical services for the Navy, Army, and Air Force. The present position is that the Army and Air Force maintain separate medical corps and nursing services. We are informed that the rates of pay granted to Air Force medical officers in 1918 led to increases being made in army rates beyond those originally recommended by the War Office. Apart from the maintenance of separate services, efforts appear to have been made to avoid overlapping by enabling the Air Force to make use of army hospitals and laboratories and to draw medical stores from army supplies. The Naval and Military Medical Services appear to be entirely separate, and we have received remarkable particulars as regards service hospitals at home and abroad which appear to us to indicate very serious duplication. Abroad separate naval and military hospitals are maintained at Bermuda, Hong Kong, Gibraltar, and Malta. The figures of admission to these hospitals given to us for August and September appear to indicate that at each of these stations one hospital would have provided sufficient accommodation.

At home there are twenty-four army hospitals which have another army hospital within ten miles of them. Apart from this the army and navy have separate hospitals (each having in some cases more than one) in the following areas:—

Army.	*Navy.*
Chatham and Gravesend.	Chatham.
Shorncliffe and Dover.	Deal.
Chichester, Cosham, Gosport, Netley, Hilsey. (*Portsmouth Area.*)	Eastleigh, Forton, Haslar.
Devonport.	Plymouth.
Pembroke Dock.	Pembroke Dock.
Edinburgh.	South Queensferry.

The number of patients in Navy, Army and Air Force hospitals at home on October 21st last, as compared with equipped beds, were as under:—

	Equipped beds.	Patients.
Officers	607	 234
Other ranks	11,249	 5,101

From which it appears that the hospitals are not half used. A unified medical service would yield substantial benefits, but meantime we consider that the War Office should effect a drastic review of the number of army hospitals with a view to their reduction and concentration, and that arrangements should be made between the War Office and Admiralty similar to those which have already been made between the War Office and the Air Ministry, with a view to the avoidance of duplicated provision, by means of the mutual use of army or navy hospitals, whichever course is more economical in any particular area. We think, also, that disabled war pensioners should be admitted into military and naval hospitals indiscriminately, thus effecting a saving in Ministry of Pensions hospital charges."

The Air Force.

The Committee recommend that the Air Force Estimates for 1922–23 should be reduced from £15,500,000 to £10,000,000. This would involve that the Air Units allotted to the navy and army should be lessened by eight and a half squadrons.

The Committee conclude their report on the three fighting services by acknowledging that the suggested reductions would necessarily lead to an increase of the "non-effective" votes. They are of opinion that any such abnormal increase might, in certain circumstances, be regarded as a special charge arising out of the war, and they propose later to put forward their views on this point, and also in regard to such other items as war pensions.

THE SOCIAL SERVICES.

It is remarked that the Provisional Estimates for Government expenditure on social services—namely, education, health, labour, and old age pensions—amounting as they do to £124,000,000, represent nearly four times pre-war expenditure.

Taking into account the sums otherwise raised by the public for the same services—namely, from the rates and by contributions for insurance, the total cost of these social services is stated to have risen from £86,500,000 to £243,500,000 during the period under review. The Committee hold that the development of the Percentage Grant system has materially affected the cost, and suggest that it should be replaced by fixed grants or by grants based upon some definite unit.

Board of Education Estimates.

The Committee make various recommendations to reduce the estimates of the Board of Education for the year 1922–23, from £50,600,000 to £34,500,000, a reduction of £16,100,000, which with the automatic reductions in Scotland would yield £18,000,000. These recommendations include that children should not be taken into State-aided schools until they are 6 years old; that the grants for secondary education and higher education should be restricted; and that teachers should contribute 5 per cent. towards their superannuation pay.

Grants to Universities and Colleges.

Under the above heading the Committee give the following figures:

1913–14. Actual expenditure £481,106 (including £37,483 for non-recurrent grants).
1921–22. Estimate, £2,000,000 (including £500,000 for a non-recurrent grant).
1922–23. Estimate, £1,200,000.

Before 1918–19 annual grants to universities and colleges were provided under many different votes. From that date the expenditure, apart from certain statutory grants to Irish universities, has been collected under a single head. The Treasury now fix the sum to be provided each year, but act on the advice of an independent committee of experts, known as the University Grants Committee, as regards allocation. For the year 1919–20 one million sterling was provided for recurrent grants, and this figure was increased to a million and a half in 1921–22, with an extra half million lump sum non-recurrent to enable universities to improve superannuation provision for their teachers. The Treasury have requested the University Grants Committee to frame their recommendations for 1922–23 so as to bring the expenditure within a total of £1,200,000, being 20 per cent. less than the provision for the current year. The Committee had considered correspondence between the Treasury and the University Grants Committee, in which the latter set out the case for a larger grant. While appreciating the importance of a due measure of State encouragement to universities, which also greatly stimulates local support, the Geddes Committee say that the paramount consideration being national solvency, they recommend that the sum to be provided be £1,200,000, subject to any reduction arising out of Irish changes. They remark that this is two and a half times the pre-war grant.

Ministry of Health Estimates.

The comparative figures given for the Ministry of Health are practically useless because the Ministry was formed in 1919 to take over the duties of the Local Government Board and the work of the National Health Insurance Commission for England and Wales. The Committee acknowledge that strenuous efforts have been made to secure economy and mention that over £3,000,000 has been saved by a restriction of the housing programme and a further £1,000,000 by a reduction in the capitation rate paid the doctors under the Health Insurance scheme. The comparative figures of administration, apart from those of services, are set forth as follows:

	£
1913–14	593,878
1921–22	2,298,748
1922–23	1,564,000
Reduction	731,748=32%

The Committee recommend that the Estimates of the Ministry of Health and National Health Joint Committee for the year 1922–23 should be reduced from £24,269,500 and £350,500 respectively to £22,100,000 in all—this reduction to be apart from any savings on the sale of houses which they advise should be proceeded with vigorously.

Insurance Administration.

The Committee make the following comments on points of detail:

(*a*) Medical Referee Consultants (£100,000). This provision is in respect of thirty-six whole-time doctors and a number of part-time

doctors who deal with appeals by approved societies against recommendations of panel doctors in cases where there is a dispute as to whether a man's health is such as to require sick benefit. They also supervise medical benefit and do a certain amount of general medical work for the Ministry of Health and other departments. The whole-time doctors are on a five years' engagement as from October, 1920. We understand it is hoped to reduce the sum of £100,000 provided under this subhead to £85,000 gross, and to recover from societies £7,500 by way of fees. It appears that the referees are to some extent a luxury. The societies might revert to the old plan of employing their own referees, which would be less expensive to the taxpayer. If this were done the position of these doctors should be examined with a view to ascertaining what it would cost to terminate their engagements and, in the alternative, whether it would be possible to transfer them to any other Government Department which requires whole-time medical staff—for example, the Ministry of Pensions, which has a large temporary staff.

(*b*) *Index Clearance Branch* (£30,000).—The position of this branch, instituted in order to meet an objection on the part of medical practitioners to the manner in which the funds available for medical benefit were distributed among individual practitioners, is under consideration by the Minister with a view to its abolition if possible. Unless very strong reason can be shown for the continuance of this branch at public expense we suggest that it should be discontinued. Such an arrangement is not now found necessary in Scotland.

(*c*) *Public Health Services* (£198,000).—This staff includes the doctors who inspect the various health institutions and whose services are required largely as a result of the State's percentage grant to the local authorities. If our suggestions in the preamble to this part of the Report for replacing percentage grants by some simpler arrangement are adopted considerable reductions in staff should be possible here.

(*d*) *Welsh Board of Health (Cardiff)* (£80,000).—A board of health was set up in Wales, to which some of the Ministry's functions in Wales were delegated. This has led to unnecessary duplication of staff, and we are informed that £40,000 could be saved if the work were transferred to the Ministry in London, and we suggest that this change should be adopted.

Public Health Services.

The Committee give the following table, showing the growth of expenditure under this heading:

	Tuberculosis.	Maternity and Child Welfare.	Venereal Diseases.	Welfare of the Blind.	Port Sanitation.	Total.
	£	£	£	£	£	£
1913-14	117,000	—	—	—	—	117,000
1914-15	172,000	11,000	—	—	—	183,000
1915-16	245,000	41,000	—	—	—	286,000
1916-17	296,000	68,000	—	—	—	364,000
1917-18	361,000	123,000	84,000	—	—	567,000
1918-19	508,000	219,000	144,000	—	—	871,000
1919-20	548,000	512,000	224,000	23,000*	—	1,307,000
1920-21	754,000	800,000	300,000	109,000	67,000	2,030,000
1921-22†	1,202,000‡	1,012,000	404,000	102,000	67,000	2,815,000
1922-23	1,489,000‡	1,162,000	424,000	85,000	50,000	3,210,000

* Part year only.

† Exclusive of non-recurrent expenditure totalling £220,000.

‡ In addition to capital grants of £45,000 in 1921–22 and £360,000 proposed for 1922–23.

It is remarked that with the exception of the grant for the Welfare of the Blind, all these grants are of percentages, and the extremely rapid increase of the expenditure indicates, in their opinion, the danger attaching to the system. It should, they hold, be replaced by a system of block grants. The Ministry of Health, they state, concur that from an administrative point of view it would be a great saving to get rid of the percentage grants basis, but that there is practical difficulty in finding a substitute for it. The Committee suggest that if no more satisfactory unit basis for measuring grant can be reached, the Government should adopt the basis of previous expenditure, at any rate while the present financial stringency continues. The Committee proceed to make the following recommendation:

	Ministry's Proposal.		Committee's Recommendation.
Tuberculosis (maintenance) ...	£1,489,000	.....	£1,202,000
Tuberculosis (capital) ...	360,000	.....	360,000
Maternity and Child Welfare	1,162,000	.....	1,012,000
Venereal Diseases	424,000	.....	424,000
Welfare of the Blind	85,000	.....	85,000
Port Sanitation	50,000	.....	Nil.
	£3,570,000		£3,113,000

The reason for proposing that the Port Sanitation grant should be dropped is that until recently it was entirely borne by the locality. With regard to the other items, the Committee submit that the amounts allocated will not, with falling prices and scrupulous economy, reduce the amount of undeniably valuable work being done. They hold that the grants to local authorities should be given contingently upon there being no reduction in treatment, that they should be subject to review, and they should not be on a percentage basis.

Increase of Insurance Contributions.—The Committee give the comparative figures for insurance as follows:

	£
Expenditure—	
1913-14	3,501,255
Estimate—	
1921-22	8,842,550
1922-23	7,802,000

In reviewing the position of National Insurance, the Committee state that they have been greatly impressed by the fact that very many and costly alterations have been made in the original scheme on which the 1911 Act was based, and that in the main the taxpayer has shouldered the burden. They refer to these matters sectionally:

1. The increase in the cost of medical benefits.
2. The increase of sickness claims of women over the original actuarial estimate, this increase involving a grant in aid of £350,000 a year.
3. The extra provision of £150,000 a year between 1917 and 1921 to the Central Fund.
4. The share by the State in the increase of contributions, together with its acceptance of responsibility for a charge of £350,000 per annum in respect of the old sanatorium benefit.
5. The cost of medical referee consultants and of the index clearance scheme.

The Committee hold that a revision of health insurance finance will be necessary, and that then the points mentioned above will have to be considered. The estimated Exchequer cost of national insurance for Great Britain in the current financial year (included in the total estimates for the Ministry of Health) is £10,500,000. The provisional estimate for 1922–23 is about £9,200,000. This reduction has been largely brought about by a reduction of 1s. 6d. (11s. to 9s. 6d.) in the doctor's capitation fee, as already noted. The Committee consider it is essential that the State's share in the insurance burden should be further diminished. They recommend that the contributions by employers and employed should therefore be increased by a halfpenny a week in each case, the change to be introduced on July 1st. This would admit of the abolition of the Exchequer grant for medical services, and as the increase in contributions is suggested in order to relieve the taxpayer, the Committee advise that these extra contributions should not carry any State grant, which normally is in the proportion of two-ninths.

Employment Exchanges and Unemployment Insurance.—The Committee recommend that the abolition of the employment exchanges and of the Ministry of Labour should be considered, except in so far as the employment exchanges are required for checking payments of unemployment benefits. They advise that a committee of experts should be set up with a view to simplifying the unemployment insurance scheme, amalgamating unemployment and health insurance cards, records, and, as far as possible, administration.

Ministry of Pensions Estimates.

The comparative figures of the estimates of the Ministry of Pensions are given as follows:—

	£
1921-22 net estimate	111,562,666
1922-23 net estimate	96,366,000
Reduction	15,191,666 (or 13.6%)

The Committee state that the greater part of this reduction is due to an over-estimate for the year 1921–22, amounting to £10,500,000. The gross estimate for 1922–23 is analysed as follows:—

	£
Pensions (excluding parents' pensions) ...	67,170,000
Treatment	13,455,000
Parents' pensions	9,230,000
Special Grants Committee and miscellaneous items	789,000
Administration	5,722,000
	96,366,000

The Committee report they cannot suggest a reduction in the provision of £67,170,000 for ordinary pensions until the time fixed for review in April, 1923, when revision will take place on the basis of the ascertained cost of living. They think that the cost of treatment, parents' pensions and administration, can be reduced without inflicting any undue hardship. They recommend, therefore, that the estimate be brought down from £96,366,000 to £93,000,000, a reduction of three and one-third millions.

Dealing with treatment, the Committee recall that a disabled man is entitled to free medical attention when it is certified that he needs it, and if he is deemed unable in consequence to provide for his own support and that of his family, he receives treatment allowance in addition to his pension. It is estimated that in 1922–23—

	£
The cost to the Ministry of providing treatment will be	6,969,000
And the treatment allowances paid will amount to	6,536,000
Making a total estimated expenditure of ...	13,455,000

The number of men under treatment increased between June 30th, 1920, and June 30th, 1921. Over 500,000 individual spells of treatment are given annually, the average length of the spell being sixteen weeks. The Ministry of Pensions are of opinion that the numbers under treatment reached a maximum about June, 1921, and may be expected to decline. The explanations of

the increase between June, 1920, and June, 1921, are (*a*) that there has been a waiting list of men seeking treatment, and (*b*) the scarcity of employment during the last fifteen months.

The methods by which the Committee think that economies are attainable can be briefly summed up.

They find that the accommodation at Ministry hospitals is rather under 14,000 beds, and that the number unoccupied was 2,400. They advise that more rapid progress should be made in reducing this accommodation. There are 11,856 beds in Admiralty and War Office hospitals in this country, and of these 5,335 are filled and 6,571 are unoccupied. Thus in the three departments the taxpayer is providing 25,856 beds, and of that number 9,821 are unoccupied. Immediate steps should be taken to utilize the spare accommodation in naval and military hospitals, thus enabling buildings hired by the Ministry of Pensions to be surrendered. The Committee are not satisfied that the fullest possible use is being made of civil hospitals. It appears that, including cost of accommodation, each patient in a Ministry of Pensions hospital is costing on the average 10s. 11d. a day, whereas the capitation rate of civil hospitals averages 9s. a day. The Committee notes that the Minister proposes to make various reforms in the matter of treatment as and when pensions are made permanent. They suggest that the question of introducing these reforms earlier should be considered, and in particular a strict limitation of home treatment, and it is admittedly unsatisfactory and leads to abuse. Treatment allowances become even more generous when a man is entitled to health insurance benefits, rank allowance, or service pension. In hospital a man receives 40s. a week (the equivalent of full disability allowance) in addition to allowances in respect of his wife and children, and out of this he contributes only 19s. a week towards his maintenance in hospital. The cost of the maintenance averages from 63s. to 76s. 5d. a week.

The Committee further point out that the number of orderlies employed in Ministry hospitals is equivalent to one for six patients, and they submit that patients who are in a condition to do so should do more light work.

The suggested savings would work out as follows per annum:

	£
Allowances reduced by the amounts received for Health Insurance benefits, roughly	1,000,000
Reduction of home treatment by 50 per cent. ...	500,000
Reductions in the allowance to the wife of a man undergoing treatment, so as to make it the same as in the case of the wife of a totally disabled man—that is, 10s. per week	416,000
Increase in the contribution towards maintenance whilst in hospital from 19s. to 24s.	250,000

Having regard to the above suggestions and the further economies which would result from reducing the number of orderlies and making fuller use of naval, military, and civil hospitals, the Committee consider that the sum provided for treatment in 1922–23 might be reduced from £13,455,000 to £11,000,000.

The estimated cost of administration for 1922–23, excluding £1,400,000 for the staffs of hospitals and institutions, which has been included above as part of the cost of "treatment," is made up as follows:

	Salaries and Wages.	Travelling and Incidental Expenses.
Headquarters and regional staffs	£2,690,000	..... £81,000
Medical staffs	1,777,000	 40,000
Local committee staffs	934 000	 200,000
	£5,401,000	..... £321,000

The Committee suggest that the pay of the temporary administrative medical staff of the department, numbering 324, whose average is £972 per annum, requires reconsideration in view of the fall of the cost of living and the reduction recently effected in the emoluments of panel doctors.

Board of Control.

It is recommended that the necessary steps be taken to change this grant from a percentage basis to a *per capita* basis. This applies to England, Wales, and Scotland.

LEICESTER PUBLIC MEDICAL SERVICE.

THE report of the Board of Management of the Leicester Public Medical Service for the year 1921 records the continued success of the work. The Board decided that members of the medical profession who have rendered conspicuous service to the Service shall be eligible to be appointed honorary life members, and that Dr. A. Higgs and Dr. J. E. Waite be so appointed.

The subscribers to the various sections of the Service numbered nearly 40,000, and besides these about 12,000 State insured members of the Friendly Societies are paid for through the Service. The Board has continued the arrangement whereby free medical treatment is provided for the uninsured blind of Leicester, under the care of the Institution for the Welfare of the Blind, the members of the Cripples' Guild, and the Wycliffe Society for Helping the Blind. The number of prescriptions dispensed during 1921 was 185,260; in the previous year it was 185,790.

The arrangement with the Education Committee for accommodation to be provided at the central dispensary for the dental work of the school clinic has been continued. A consulting room at the central dispensary, with waiting room accommodation, has, by arrangement with the Ministry of Health, been provided for the purposes of the Regional Medical Officer; and the Board has again entered into an arrangement with the Leicester Guardians for the dispensing of the necessary medicines for the outdoor sick poor.

The committee of the Leicester Subdivision of the Union of Medical Practitioners, in presenting its report for 1921, states that the scheme for collective locumtenencies during sickness or short absences * was in operation from October 1st, 1920, to March 31st, 1921, and proved very useful. The scheme of collective locumtenencies for the summer holidays inaugurated during 1919 was successfully continued during the period from April 1st to September 30th, 1921. Eighteen doctors took advantage of the scheme.

At a special general meeting in July, it was unanimously resolved that a levy of one farthing per annum, per insured person, on the list of panel practitioners be made, and that of the proceeds £50 be subscribed to the Royal Medical Benevolent Fund and the remainder to such other medical or allied charities as the committee might direct. The levy yielded £107 14s. 4d.

The honorary secretary of both organizations is Dr. W. Moffat Holmes.

INSURANCE ADMINISTRATION.

THE Minister of Health and the Minister of Labour have jointly appointed an inter-departmental committee to consider the relations of health insurance and unemployment insurance, and to investigate the possibility of reducing the total cost of administration by modifying the unemployment insurance scheme, and by amalgamating unemployment and health insurance cards, records, and, as far as possible, administration.

The committee consists of

Sir Alfred W. Watson, Government Actuary (chairman).
Sir W. S. Kinnear.
Mr. E. J. Strohmenger.
Mr. S. P. Vivian (Ministry of Health).
Mr. James Leisham (Scottish Board of Health).
Sir David Shackleton.
Mr. T. W. Phillips.
Mr. F. G. Bowers.
Mr. J. F. G. Price (Ministry of Labour).
Mr. F. Phillips (Treasury).
Mr. A. Henry (Actuary's Department).

The joint secretaries are Mr. J. M. Glen, of the Ministry of Labour, and Mr. A. W. Neville, of the Ministry of Health.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following appointments are announced by the Admiralty:—Surgeon Commanders R. F. Clark to the *Columbine* as Health Officer on staff of Commander-in-Chief, coast of Scotland, and as Medical Transport Officer; S. Bradbury, lent to R.M.A., Eastney; Surgeon Lieutenant Commander E. Cameron to the *Victory* for R N. Barracks, Portsmouth; Surgeon Lieutenants: A. R. McRorie to the *Marlborough*; G. Aubrey to the *Ajax*, and for duty in the *Centurion*.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel J. C. Kennedy to be temporary Colonel whilst specially employed.

Major J. W. Houston, D.S.O., to be temporary Lieutenant-Colonel whilst employed as Assistant Director of Pathology.

Captain O. W. J. Wynne to be temporary Major from February 29th to October 30th, 1920.

The following Captains relinquish the acting rank of Major: Brevet Major A. G. J. MacIlwaine, C.I.E., R. McKinlay, J. M. Macfie, M.C.

The following Captains to be acting Majors: K. L. O'Sullivan from October 29th to November 21st, 1919; H. E. P. Yorke, M.C., from December 6th, 1919, to June 6th, 1920; D. W. John, M.C., from November 18th, 1920, to January 13th, 921.

Captain J. E. Hepper is restored to the establishment.

Lieutenant (temporary Captain) J. C. Coutts to be Captain.

Temporary Captain B. W. Mudd relinquishes his commission and retains the rank of Captain.

TERRITORIAL ARMY.

ROYAL ARMY MEDICAL CORPS.

The following vacate the appointment of Honorary Colonel of the Division shown against their names: Honorary Colonel (Lieut.-General ret. pay) Sir A. Keogh, G.C.B., G.C.V.O., C.H., 2nd London Division. Honorary Colonel T. R. Glynn, West Lancashire Division. Honorary Colonel (Colonel T.F. Res.) de B. Birch, C.B., V.D., West Riding Division. Honorary Colonel Sir J. Williams, Bt., G.C.V.O., Welsh Division. Honorary Colonel Sir T. Clifford Allbutt, K.C.B., F.R.S., East Anglian Division.

The following officers to be honorary Colonels of the Divisions shown against their names: Honorary Major-General Sir B. G. A. Moynihan, K.C.M.G., C.B. (from T.A. Res.), West Riding Division. Honorary Major-

* See SUPPLEMENT, December 24th, 1921, p. 255.

General Sir A. A. Bowlby, K.C.B. K.C.M.G., K.C.V.O. (ret.), South Midland Division. Colonel J. A. Jones, V.D., K.H.S. (ret.), Welsh Division. Colonel J. Griffiths, C.M.G., T.D. (from 1st Eastern General Hospital) East Anglian Division. Colonel J. V. W. Rutherford, V.D. (from T.A. Res.), Northern Division. Lieut.-Colonel A. Thorne, V.D. (ret.), 2nd London Division. Lieut.-Colonel F. J. Knowles, T.D., West Lancashire Division. Lieut.-Colonel Sir W. R. Smith, T.D. (from Sanitary Service), Home Counties Division.

Major D. Mackie, M.C., late R.A.M.C., S.R., to be Captain, with precedence as from April 1st, 1915, and to relinquish the rank of Captain.

The following officers having attained the age limit are retired, and retain their rank except where otherwise stated: Lieut.-Colonels T. F. Dewar, T.D., J. Mill, V.D., and T. H. Openshaw, C.B., C.M.G., and are granted the rank of Colonel with permission to wear the prescribed uniform. Lieut.-Colonel C. E. Douglas, V.D., T.D., with permission to wear the prescribed uniform. Majors A. C. Turner, D.S.O., T.D., J. B. Stevens, T.D., H. Kelly, T.D., J. W. Cook, T.D., and C. Vise, T.D., with permission to wear the prescribed uniform. Captain W. T. Ritchie, O.B.E., and is granted the rank of Major. Captains W. H. Buckley, H. Smith, A. B. Winder, B. G. Ewing, G. B. Pearson, J. H. Churchill, W. H. H. Bennett.

Captain F. M. Halley is seconded under par. 112, T.A. Regulations, April 1st, 1920.

The following officers relinquish their commissions and retain their rank, except where otherwise stated: Lieut.-Colonels H. C. Donald, T.D., and J. R. Harper, C.B.E., T.D. (with permission to wear the prescribed uniform); Majors A. Innes, J. Walker, G. Potts; Captains (Brevet Majors) W. R. Bristow (and is granted the rank of Major), H. Sharpe; Captains G. H. H. Manfield, H. Paterson, J. F. Edmiston, B. Hughes, D.S.O., J. H. Crane, M.B.E., H. Drummond, R. E. T. Tatlow (and are granted the rank of Major), J. Fraser, H. F. L. Hugo, M.C., A. Hamilton, A. C. Ainsley, M.C., J. A. Thomson, A. C. Haddow, L. W. Sparrow, G. Crawshaw, M.C., F. C. Nichols, M.C., A. N. Worsley, L. S. Willox, C. Mearns.

Captain W. R. Collingridge resigns his commission and retains the rank of Captain.

Captain P. D. Warburton (R. of O.) to be Captain with precedence as from March 30th, 1915.

SANITARY SERVICE.

Major (Brevet Lieut.-Colonel) H. F. Horne, T.D., relinquishes his commission, and retains his rank, with permission to wear the prescribed uniform.

Captain A. Davidson (late R.A.M.C.) to be Captain, with precedence as from November 4th, 1919.

DIARY OF SOCIETIES AND LECTURES.

LONDON DERMATOLOGICAL SOCIETY, 49, Leicester Square, W.C.—Tues., 4.30 p.m., Pathological Specimens and Cases. 5.15 p.m., Dr. Knyvett Gordon: Clinical Significance of Histological Examination of the Blood.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.—Mon., 9 p.m., Third Lettsomian Lecture by Sir Leonard Rogers, C.I.E., M.D., F.R.S.: Amoebic Liver Abscess: its Pathology, Prevention, and Cure.

ROYAL SOCIETY OF MEDICINE.—Special General Meeting of Fellows, Tues., 5 p.m. To be followed immediately by a General Meeting for election to Fellowship. *Section of Pathology:* Tues., 8.30 p.m., Dr. M. H. Gordon: Recent Studies of Streptococci. Dr. J. W. Trevan: Apparatus for Measuring Very Small Quantities of Fluid. Dr. J. C. Mottram, Dr. W. Cramer, and Dr. A. H. Drew: Demonstration of Effects of Exposure to Radium and of Withholding of Vitamins on Fat Absorption. Dr. E. H. Kettle: Demonstration of Pathological Specimens. *Section of Balneology and Climatology:* Thurs., 4.30 p.m., Discussion on the Etiology of Gout, to be opened by Dr. R. L. Jones Llewellyn. The members and guests will dine together at 7 p.m. Those intending to be present should notify Dr. C. F. Sonntag, 80A, Belsize Park Gardens, N.W.3, by February 21st. A Clinical Meeting of the Section will be held on Fri., February 24th, at a London Hospital to be announced. *Section of Urology:* Thurs., 8.30 p.m., Professor P. J. Cammidge: Source of the Amylolytic Ferment of the Urine. Dr. G. A. Harrison: Glycosuria in Renal Disorders. *Section of the Study of Disease in Children:* Fri., 4.30 p.m., Cases. 5 p.m., Dr. C. R. Lapage and Dr. W. J. S. Bythell: Tonic and Atonic Hearts in Children. *Section of Epidemiology and State Medicine:* Fri., 8 p.m., Dr. Evelyn D. Brown: Relation between Puerperal Septicaemia and other Infectious Diseases, with Reference to Admission of Maternity Cases into Isolation Hospitals.

POST-GRADUATE COURSES AND LECTURES.

CANCER HOSPITAL, Fulham Road, S.W.—Tues., 4 p.m., Sir Charles Ryall: Cancer of the Tongue. Fri., 4 p.m., Mr. W. E. Miles: Cancer of the Rectum.

CHESTERFIELD DIVISION, BRITISH MEDICAL ASSOCIATION, Chesterfield Royal Hospital.—Fri., 2.30-4 p.m., Professor Mellanby: Diet and Disease; Dr. King: Climacteric Haemorrhages.

EDINBURGH ROYAL HOSPITAL FOR SICK CHILDREN.—Thurs., 5 p.m., Miss Gertrude Heizfeld: Orthopaedics in Infancy.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION, Royal Maternity and Women's Hospital.—Wed., 4.15 p.m., Dr. S. J. Cameron: Obstetrical Cases.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—Thurs., 4 p.m., Mr. Pitts: Dental Aspects of Cleft Palate.

MANCHESTER BABIES' HOSPITAL, Slade Lane, Levenshulme.—Sat., 4 p.m., Dr. Catherine Chisholm: Acute Dyspepsia.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.30 p.m., Dr. E. M. Brockbank: Angina Pectoris.

MANCHESTER: ST. MARY'S HOSPITALS (Whitworth Street West Branch).—Fri., 4.30 p.m., Dr. Lacey: Leucorrhoea.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland Street, W.—Daily, In- and Out-patient Attendances. Mon., 5.30 p.m., Lecture by Dr. Hamill: Aneurysm.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Mon., Tues., Thurs., and Fri., 2 p.m., Out-patient Clinics. Tues. and Fri., 9 a.m., Surgical Operations. *Lectures.*—Mon., 12 noon, Dr. Greenfield: Poliomyelitis and Encephalitis Lethargica. 3.30 p.m., Dr. Adie: Combined Degeneration in the Spinal Cord. Tues., 3.30 p.m., Dr. James Taylor: Ocular and Visual Disturbances in Diseases of the Nervous System. Wed., 3.30 p.m., Mr. L. Paton: Optic Atrophy. Thurs. and Fri., 3.30 p.m., Dr. G. Stewart: Tumours of the Spinal Cord.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Daily, 2.30 p.m., In- and Out-patient Clinics, Operations, etc. *Lectures.*—Mon., 3.30 p.m., Dr. L. Yealland: Examination of the Nervous System—Sensory. Tues., 2.30 p.m., Dr. J. Metcalfe: *X* ray Treatment. Thurs., 4.30 p.m., Mr. H. W. Carson: Intestinal Obstruction.

ROYAL INSTITUTE OF PUBLIC HEALTH, 37, Russell Square, W.C.—Wed., 4 p.m., Dr. P. C. Varrier Jones: Industrial Colonies and Village Settlements for the Consumptive.

ST. JOHN'S HOSPITAL, 49, Leicester Square, W.C.—Thurs., 6 p.m., Chesterfield Lecture by Dr. W. Griffith: Bullous Eruptions.

ST. MARYLEBONE GENERAL DISPENSARY, Welbeck Street, W.—Dr. E. Pritchard: 6 p.m., Wed., Modification of Milk; Fri., Uses of Dried Milk and Patent Foods.

SALFORD ROYAL HOSPITAL.—Thurs., 4.30 p.m., Mr. Smalley: Indications for Operation in Suppurative Diseases of the Middle Ear.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Municipal Hospital, Ouseley Road, Balham.—Wed., 4 p.m., Dr. C. Lakin: A Clinical Demonstration.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Daily, 10 a.m., Ward Visits; 2 p.m., In- and Out-patient Clinics and Operations. *Lectures.*—5 p.m., Mon., Mr. B. Harman: Squint. Tues., Dr. Pritchard: Intravenous Forms of Treatment. Wed., Mr. D. Armour: Practical Surgery. Thurs., Professor E. H. Starling: Compensation and its Failure in Heart Disease. Fri., Dr. G. Stewart: Nervous Diseases.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 1s. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS and ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London).
MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London).
EDITOR, *British Medical Journal* (Telegrams: Aitology, Westrand, London).
Telephone number for all Departments: Gerrard 2630 (*3 lines*).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.; 4361 Central.)
IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

FEBRUARY.

20 Mon. London: Central Ethical Standing Subcommittee, 2.15 p.m.
21 Tues. Croydon Division, Croydon General Hospital.—Dr. J. Bright Banister: Obstetrics and Gynaecology, 8.15 p.m.
Willesden Division: St. Andrew's Church Hall, 8.30 p.m.
22 Wed. Bath and Bristol Branch: Red House, Bath, 8 p.m. Address by Sir J. Thomson Walker: Recent Advances in Diagnosis and Treatment in Urinary Surgery.
Bradford Division: Great Northern Victoria Hotel, 8.30 p.m. Address by Deputy Medical Secretary: The Activities of the British Medical Association; the Advantages of being a Member.
Mid-Essex Division, Bell Hotel, Chelmsford, 3.30 p.m. Address by Medical Secretary.
23 Thurs. Staffordshire Branch, Swan Hotel, Stafford, 4 p.m.
24 Fri. Chesterfield Division: Chesterfield Royal Hospital.—2.30 to 4 p.m., Post-graduate Classes.

MARCH.

1 Wed. London: Welsh Committee, 2.30 p.m.
South Middlesex Division, St. John's Hospital, Twickenham, 8 p.m., Clinical Meeting.
2 Thurs. North Suffolk Division, Lowestoft: Address by Medical Secretary (postponed from February 16th).
7 Tues. Kingston-on-Thames Division, Surbiton Cottage Hospital, 8.30 p.m.: Address by Dr. Wm. Brown on Psychology and Psychotherapy.
Marylebone Division, 8 p.m. Address by Medical Secretary.
8 Wed. London: Propaganda Subcommittee, 2.15 p.m.

APPOINTMENTS.

MACARTHUR, John, M.R.C.S., L.R.C.P., Medical Superintendent, Bracebridge Mental Hospital, Lincoln.

TREVES, F. B., O.B.E., M.B., Medical Referee under the Workmen's Compensation Act, 1906, for County Court Circuit No. 49, and to be attached more particularly to the Margate and Ramsgate County Courts.

HOSPITAL FOR DISEASES OF THE THROAT, Golden Square, W.—Honorary Assistant Surgeons: Bedford Russell, F.R.C.S., and F. C. Ormerod, M.D., F.R.C.S.Edin.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

BIRTHS.

ALLEN.—On February 12th, at 111, Mount Pleasant, Liverpool, to Dr. and Mrs. W. T. D. Allen, a son.

GOODWIN.—On February 9th, at Conyers House, Newcastle-upon-Tyne, the wife of Cecil G. R. Goodwin, L.R.C.P., of a daughter.

WATERHOUSE.—On February 7th, at 25, The Circus, Bath, Mabel, the wife of Dr. Rupert Waterhouse, M.R.C.P., of a son.

DEATH.

WEBSTER.—On Sunday, January 29th, at Heathfield, Sussex, William Frederick Webster, M.R.C.S., L.R.C.P., aged 61.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London

SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, FEBRUARY 25TH, 1922.

CONTENTS.

PAGE

BRITISH MEDICAL ASSOCIATION.

THE ORGANIZATION OF VOLUNTARY HOSPITALS.
Report of Council to the Divisions and Representative Body 45

School Medical Officers and Educational Administration.
DEPUTATION TO THE MINISTER OF HEALTH 53

ASSOCIATION NOTICES:
TABLE OF DATES 48
SUGGESTED CHANGES OF AREAS 43
BRANCH AND DIVISION MEETINGS TO BE HELD 48

ASSOCIATION INTELLIGENCE AND DIARY 56

PAGE

PROCEEDINGS OF COUNCIL:
GOLD MEDAL OF THE ASSOCIATION 49
ORGANIZATION AND PROPAGANDA 49
FINANCE 49
MEDICO-POLITICAL ACTIVITIES 50
THE HOSPITALS POLICY OF THE ASSOCIATION 50
PROFESSIONAL ETHICS.—PUBLIC HEALTH APPOINTMENTS ... 52
NAVAL AND MILITARY.—POST-GRADUATE EDUCATION 52

NAVAL AND MILITARY APPOINTMENTS 56
DIARY OF SOCIETIES AND LECTURES 55
APPOINTMENTS 55
BIRTHS, MARRIAGES, AND DEATHS 55

SPECIAL NOTICE TO MEMBERS.

Every Member is requested to preserve this "Supplement," which contains matters specially referred to Divisions, until the subjects have been discussed by the Division to which he or she belongs.

MATTERS REFERRED TO DIVISIONS.

A Report

ON

THE ORGANIZATION OF VOLUNTARY HOSPITALS,

WITH REFERENCE IN PARTICULAR TO THE RECEPTION OF PAYING PATIENTS.

THE following Report on the Organization of Voluntary Hospitals, particularly as affected by the reception of patients for whom payment is made by contributory scheme or otherwise, is part of the Annual Report of the Council and will be discussed at the Annual Representative Meeting at Glasgow. It is issued early in order that it may be fully considered, and that Divisions which have amendments to suggest may send them in so that they can be considered by the Council, which will deal with them in a further report. The Report, if and when passed by the Representative Body, will become the Hospitals Policy of the Association, and all the influence of the Association will be used to make it operative. The Council therefore hopes that every Division will study the Report critically, and all Division Secretaries have been asked to call an early meeting for this purpose.

NOTE.—*The words in italics between square brackets are proposed to be omitted from existing resolutions. The words underlined are proposed to be introduced. Where a whole paragraph is new it is so indicated.*

I. INTRODUCTION.

1. The requirements of the voluntary hospitals as affected by present day conditions of finance, and the consequential demand made by many of the hospitals for payment from patients for hospital services, has been carefully considered by the Council.

Also numerous contributory schemes for the provision of hospital benefit for certain sections of the community, submitted to the Council for its approval, have been subjected to examination.

2. The voluntary hospitals have grown up upon a general understanding between the subscribers, the Board of Management and the members of the Honorary Medical Staff that both funds and services were placed gratuitously at the disposal of those members of the community unable to pay for adequate medical treatment†; this understanding for gratuitous service was mutual and reciprocal, and the general tendency now existing for the exaction of payment, however small, from the patient, necessarily modifies the original understanding and "fundamentally alters the basis of the relationship between the Honorary Medical Staffs and the subscribers." (A.R.M., 1920; Min. 199.)

3. The Association recognises a dual policy as regards the voluntary hospitals; (a) that the purely charitable side should be continued wherein the whole cost of the maintenance of indigent patients is met by the gratuitous contributions received by the hospital and on whose behalf the services of the honorary medical staffs are given gratuitously; (b) that other patients who are not indigent may be received for treatment at voluntary hospitals when adequate treatment cannot be obtained elsewhere and that for them payment should be received by the hospital either from the patients themselves or on their behalf from the authority or body referring them to the hospital, and that on account of their treatment some method of remuneration of the honorary medical staff should be arranged.

4. In view of the tendency of the State through local and central authorities to require services of the voluntary hospitals it should be provided that in any arrangements for such services the State should pay the full cost to the hospital for such services so that no portion thereof shall be charged to the charitable funds of the hospital, and that the payment so made shall include an amount for the remuneration of the honorary medical staff of the hospital. It is neither just nor expedient for the community to throw upon one section,

†(The term "Medical Treatment" throughout this document includes any and all of those services which can be and are rendered by a registered medical practitioner, namely :—examination whether clinical or laboratory, advice, consultation, and the application of remedies whether medical physical or operative.)

thereof the onus of undertaking, gratuitously, professional work of a responsible character. Services rendered to the State should be remunerated by the State, not only on the grounds of justice to those concerned but also on the grounds of public advantage. Such work could only be requested gratuitously either as an act of charity or as a demand on the services of the citizen. Charity can only be requested on behalf of those who are themselves unable to pay, and the State does not come within this category. Further, there can be no just claim by the State on the gratuitous services of a particular class of citizens which can be rendered only by that particular section, and are not and cannot be demanded from the general body of citizens. (A.R.M., 1910, Min. 346*.)

5. This Report aims at the consolidation of the known policy of the Association with only such modifications as are necessitated by recent developments. Many of the details of policy arising out of the present state of affairs have already been dealt with by the Representative Body. In the following paragraphs such of these decisions or resolutions as are now material are set out with such other recommendations as appear necessary to make a complete statement of the policy of the Association. Existing resolutions of the Representative Body have attached to them the usual reference, and if any alteration in the wording of such a resolution be recommended the reference is starred.

II. The Voluntary Hospital.

6. The [*Representative Body*] Association [*desires to*] records its belief that the voluntary method of administration of the voluntary hospitals of the country is to the advantage of the public, medical science, and the medical profession, and that it should be maintained. (A.R.M., 1921, Min. 213*.)

7. The [*Representative Body*] Association maintains that the essence of the voluntary hospital system is the independent and voluntary management, and that this is [*in no way*] not necessarily related to the conditions of service of the medical staff. (A.R.M., 1921, Min. 239*.)

III.—Sources from which Funds are received by Voluntary Hospitals.

8. **New Para.:** Funds may be received by Hospital Authorities from two sources: (a) gratuitous contributions (*i.e.*, contributions from whatever source to which no such conditions are attached as would involve the obligations of service on the part of the hospital but are charitable contributions to be expended at the discretion of those to whom the management of the hospital is entrusted); and (b) contributions for services rendered or to be rendered (*i.e.*, contributions made either by patients themselves or on their behalf, for hospital benefit).

9. It is undesirable that the voluntary hospitals should be subsidised by the local rating authorities, except in so far as payment is made for the [*examination and the care*] treatment of patients for whom these authorities are responsible. (A.R.M., 1921, Min. 217*.)

10. [*That in the opinion of the A.R.M.*] Gratuitous contributions to hospitals by employers of labour or by employees should not be considered as the payment of premiums [*of*] for insurance against the cost of treatment [*of*] for sickness or accident, nor as entitling the contributors to claim hospital treatment either for themselves or for persons nominated by them, but as charitable contributions to be expended at the discretion of those to whom the management of the hospital is entrusted. (A.R.M., 1909, Min. 159*.)

11. Every patient of a voluntary hospital who is able should make a contribution, during treatment, towards the cost of maintenance and treatment, unless the contributory method of subscription is adopted as essential in industrial areas. [*In view however of the increased cost of maintenance, etc., the Representative Body considers that the contributory rates paid by workmen should be materially increased.*]. (A.R.M., 1921, Min. 225*.)

12. Greatly extended support for voluntary hospitals should be sought from employers and insurance companies, seeing that they benefit largely, both directly and indirectly by the services of the voluntary hospitals. (A.R.M., 1921, Min. 224.)

IV. Contributory Schemes.

13. **New Para.:** It is undesirable that the Association should approve specific contributory schemes for the provision of hospital benefit as such. To do so would imply that the Association had considered and provided against all the possibilities that may arise out of any scheme approved, such as financial stability, sufficiency of hospital accommodation for the area involved and a number of other and related conditions which can only be determined during the actual working of several of these schemes for an extended period. But it is desirable that certain principles should be approved by the Association as applicable to any contributory scheme.

14. **New Para.:** In any schemes for providing hospital benefit by voluntary hospitals, it is undesirable that the hospitals concerned should undertake any insurance risk, *i.e.*, undertake to provide hospital benefit, when required, in return for a periodic payment by an individual or a group of individuals; so that where schemes are set up to provide payment for hospital benefit for specified individuals or groups of individuals, such schemes should be organised not by the hospital, but by some independent body.

15. **New Para.:** The acceptance by voluntary hospitals of an insurance risk under any scheme for the provision of hospital benefits would (a) prejudice the primary consideration in the admission of a patient to hospital, namely, the suitability of the case for admission on medical grounds; and (b) in the event of the actuarial estimates upon which the scale of premiums and benefits are based proving faulty, render the hospitals liable to meet outlays for which there was no financial provision and consequently endanger the purely charitable funds of the hospitals.

16. **New Para.:** In any contributory scheme the presence, limitations, or absence of a contractual obligation for the provision of hospital and additional benefits should be plainly stated to the contributors. Failure to provide such statement is likely to reflect upon the good faith of the hospitals and of the promotors of the scheme.

V. Suitability of Patients for Hospital Treatment.

17. The primary consideration in the admission of a patient to hospital should be the suitability of the case on medical grounds. (A.R.M., 1908, Substance of Mins. 75-85.)

18. Some means of investigation into the circumstances of the applicants for relief, by means of an almoner or other agent, should be employed in all medical charities. (A.R.M., 1908, Substance of Mins. 75-85.)

VI. Categories of Patients for In-Patient Treatment.

19. **New Para.:** Patients admitted to voluntary hospitals should be classed under the following groups: "Free" (Indigent), "Tariff," and "Private":—

(a) *Free (Indigent) Patients.* Those certified by the Almoner or other officer of the hospital as unable to contribute in any way towards their maintenance and treatment.

(b) *Tariff Patients.* Those paying, or for whom is paid, in part or in whole, the tariff cost of maintenance and treatment; this group includes all those paid for by Public Authorities, Approved Societies, Employers of Labour, Insurance Companies, or other bodies, or under any contributory scheme; and

(c) *Private Patients.* Those who pay for special accommodation and who arrange for medical treatment fees independently of the hospital.

VII. Free (Indigent) In-Patients.

20. **New Para.:** Those certified by the Almoner or other officer of the hospital as unable to contribute in any way towards their maintenance and treatment; and for whom hospital benefit is provided by the gratuitous contributions placed at the discretion of the hospital managers and by the gratuitous services of the honorary medical staffs.

21. Cases of obvious destitution or cases already in receipt of poor-law relief, should, after they have been seen once in the casualty or out-patient department, be referred to the poor-law relieving officer, unless they should be retained by the hospital for treatment. But in case of patients referred by poor-law medical officers to hospital for consultation or treatment, payment should be required from the poor-law guardians both for their maintenance and treatment. (A.R.M., 1908, Substance of Mins. 86-104, 121.)

VIII. Tariff In-Patients.

22. When the Board of Management of a voluntary hospital enters into a financial arrangement with an employer of labour, a Public Authority, Approved Society, Insurance Company or any other body, or under a contributory scheme for the reception of patients such arrangements should be [*taken*] considered to cover the full cost of maintenance and treatment [*and a percentage of all such receipts should be passed into a fund which is at the disposal of the Honorary Medical Staff of that hospital*] and should provide as follows:— (A.R.M., 1921, Min. 237*.)

(a) **New Para.:** Payments made for Tariff In-Patients should be for work done based upon a tariff of fees agreed upon from time to time between the contracting parties; such tariff of fees making full allowance for provision of hospital accommodation, maintenance and payment of medical staff.

(b) The accounts of the hospitals should be kept so as to show the [*approximate aggregate*] cost of [*the treatment of such patients including the cost of medical attendance and treatment*] this hospital benefit. (A.R.M., 1917, Min. 197 A(ii)*.)

(c) Inability to pay for adequate treatment as a private patient whether in the hospital or outside [*shall*] should be the consideration for the admission of all tariff patients for hospital treatment. (A.R.M., 1921, Min. 215*.)

(d) **New Para.:** All persons, whether insured under the National Health Insurance Acts or not, whose income from all sources does not exceed the limits of a specified scale should be eligible for hospital benefit on tariff rates. The hospital should reserve its right to challenge admissions.

(The following scale is suggested, subject to economic and local variations:—

CLASS 1.—*Limit of Income* £250.

(a) Single persons over 16 years of age.

(b) Widow or widower without children under 16 years of age.

CLASS 2.—*Limit of Income* £300.

(a) Married couples without children under 16 years of age.

(b) Persons with one dependent under 16 years of age.

CLASS 3.—*Limit of Income* £350.

(a) Married couples with a child or children under 16 years of age.

(b) Persons with more than one dependent under 16 years of age.)

(e) **New Para.:** For those persons whose income places them beyond the agreed specified scale for tariff patients arrangements may be made to receive them as private patients, for the conditions governing which *see* Section IX. below.

(f) **New Para.:** The ordinary hospital routine of admission, transference and discharge of patients should not be modified for tariff patients, nor should any preferential treatment be given to them.

(g) **New Para.:** No tariff patient should be admitted without the recommendation of a private practitioner, except in the case of emergency.

IX. PRIVATE IN-PATIENTS.

23. It is desirable that special accommodation in the nature of a Nursing Home should be provided in connection with voluntary hospitals, for the reception of private patients. (A.R.M., 1908, Substance of Mins. 86-104, 121); and should provide as follows:—

(a) Private patients should be admitted to such special accommodation only on the recommendation of a private practitioner except in cases of emergency. (A.R.M., 1908, Substance of Mins. 86-104.)

(b) It shall be open to a private patient to select any registered medical practitioner as his attendant. (A.R.M., 1908, Substance of Mins. 113-9.)

(c) **New Para.:** The scale of charges for the private patient for maintenance shall be such as fully to cover every cost to the hospital.

(d) Where voluntary hospitals provide accommodation for [*paying*] private patients, no fixed rate of payment for professional services rendered to such patients should be established; the fees so payable to remain, as at present, a matter of arrangement between patient, family physician and consultant. (A.R.M., 1921, Min. 229*.)

X. OUT-PATIENTS.

24. The primary object of the out-patient department should be for consultation. (A.R.M., 1908, substance of Mins. 86-104.)

25. **New Para.:** Only such treatment should be given as cannot consistently with the best interests of the patient be properly undertaken by a general practitioner of ordinary professional competence and skill.

26. All cases not suitable for hospital treatment [*shall*] should be referred in general terms to a medical practitioner, to a public medical service, an approved provident dispensary, or to the relieving officer under the poor law. (A.R.M., 1908, Min. 100.*)

27. **New Para.:** Where arrangements for consultations or specialist services for tariff patients are made under some contributory scheme or otherwise, such arrangements should provide that these services shall be given so far as is possible and consistent with the best interests of the patients by the private practitioner at his consulting rooms or at the patient's own home and not at the Out-patient Department of the voluntary hospital.

28. **New Para.:** Private patients should not be seen or treated at the Out-patient Department of a voluntary hospital except where no other arrangement is practicable, or in case of emergency and in such cases, preceding para. 23 (c) and (d) should govern arrangements.

XI. MEDICAL STAFFS OF VOLUNTARY HOSPITALS.

29. **New Para.:** Full opportunity should be given to private practitioners who possess the necessary qualifications and experience to participate in the work of the voluntary hospitals.

30. **New Para.:** The age limit or tenure of office of members of the honorary medical staffs of voluntary hospitals should, where necessary, be so modified as to allow more and younger practitioners to obtain responsible hospital experience.

31. **New Para.:** When the number of tariff patients of voluntary hospitals increases the medical staffs of such hospitals should be increased to give a greater number of eligible practitioners opportunity of taking part in the work.

32. In considering the eligibility of a practitioner for one of these appointments, the points which would afford indications to which due regard should be given are one or more of the following:—

(a) Special academic or post-graduate study, if combined with some evidence of actual practice of the speciality.

(b) Tenure of hospital and other appointments affording special opportunities for acquiring experience; and

(c) Local professional recognition of competence in a consultative or expert capacity.

(A.R.M., 1920; Doc. 23, para. xxiv.)

XII. FORMATION OF STAFF FUNDS.

33. In the event of decisions being taken which would lead to patients (other than [*paying*] private patients referred to in section IX.) paying, in part or in whole, [*the hospital maintenance fees*] hospital charges either individually or by some contributory method or with the addition of Rate-aid or State-aid, or by a combination of two or more of these methods, such charges should be considered to include payment towards maintenance and treatment and a percentage of all such payments should be passed into a fund which [*can be allocated in any manner which the honorary medical staff may determine*] is at the disposal of the honorary medical staff of that hospital. (A.R.M., 1921, Min. 236*.)

34. When the Board of Management of a voluntary hospital enters into a financial arrangement with a public authority, an employer of labour, approved society, insurance company, or under a contributory scheme or otherwise for the reception of patients, such arrangement should be taken to cover the cost of maintenance and treatment and a percentage of all such receipts should be passed into a fund which is at the disposal of the honorary medical staff of that hospital. (A.R.M., 1921, Min. 237*.)

35. **New Para.:** Income derived from existing assets, endowment funds, etc., and moneys given for the maintenance and treatment of free (indigent) patients are not liable to assessment for medical staff fund purposes, but all other moneys (other than moneys received from private patients referred to in Section IX.) should be liable to such assessment.

36. The honorary medical staffs may find the following suggestions valuable in connection with the disposal of the moneys in the special fund, and accordingly the Association suggests to the hospital staffs concerned that one or more of the following methods of distribution of any moneys in the special fund may be found suitable:—

(a) To the members of the honorary medical staffs for their own personal disposal;

(b) For the assistance of members of the medical staff in connection with research work;

(c) For the purchase of instruments, books, etc., for the use of the medical staff, or for lending to other members of the profession;

(d) For the initiation or development of post-graduate teaching in the institution;

(e) The institution of a local medical benevolent fund, administered by the members of the honorary medical staff, for dealing with necessitous cases; (*e.g.*, widows and children of former colleagues);

(f) Grants to any recognised medical benevolent fund or institution; or

(g) Otherwise as the [*majority of the*] medical staff may decide. (A.R.M., 1917, Min. 197*.)

37. **New Para.:** In cases where members of the staffs of voluntary hospitals attend tariff patients at stated hours under arrangement, they should receive adequate payment upon a time basis.

XIII. RECOGNITION OF LOCAL ADVISORY MEDICAL COMMITTEE.

38. **New Para.:** In every hospital area (*e.g.*, the area of a Voluntary Hospitals Committee), the Association, through its local organisation should form a local advisory medical committee which should be recognised by the authorities concerned, and from which representation should be given upon the Voluntary Hospitals Committee.

XIV. REPRESENTATION ON BOARDS OF MANAGEMENT.

(a) *Medical Representation.*

39. The association of officially recognised representatives of the local medical profession in the promotion and general management of hospitals and other medical charities is desirable in the interests of those institutions as well as of the profession and that for the appointment of such representatives use should be made of the machinery afforded by a Division of the British Medical Association. (A.R.M., 1909, Min. 157).

(b) *Lay Representation.*

40. **New Para.:** Where representation of benefactors, subscribers or contributors to the funds of a voluntary hospital is given on the Board of Management or Governors of the hospital, representation should be distributed so as to secure the representation of each interest in the hospital and so that no single interest should be in a majority. Contributions given with an implicit or explicit obligation of hospital service shall not rank for representation with other benefactions.

XV. CONTRIBUTORY SCHEMES AND ADDITIONAL SERVICES.

41. **New Para.:** No contributory scheme for hospital benefit should be considered satisfactory unless there are arrangements for an adequate Home Nursing and Ambulance Service.

42. **New Para.:** No contributory scheme should be considered complete unless there is provision for the private practitioners' use, for their patients, of Laboratory and X-ray facilities; and in order to protect the scheme in these cases, as also for consultations at the patient's own home, it might be found desirable for the patient to be required to pay some small additional fee for these special services.

XVI. COTTAGE HOSPITALS.

43. As far as possible, every patient in a cottage hospital should have [*has*] the right to be attended by his usual medical attendant. (A.R.M., 1908, Min. 108.*)

44. **New Para.:** The previous provisions contained in this Report are also applicable to cottage hospitals.

XVII. ADMISSION OF CASES IN RECEIPT OF MATERNITY BENEFIT.

45. As it is necessary for the training in midwifery of medical students and pupil midwives that there should be an adequate supply of clinical material available for that purpose, no parturient woman should be refused treatment in the obstetric department of a voluntary hospital or similar institution on the ground that she is eligible for a maternity benefit.

46. Women entitled to a maternity benefit under the National Insurance Acts should not be regarded as eligible for free treatment except on the recommendation of a medical practitioner.

47. All women receiving treatment through the obstetric department of a voluntary hospital, or similar institution, who are entitled to a maternity benefit, [*shall*] should be required to pay such sum to the hospital or institution as shall be determined upon by the governing body.

48. From each sum an amount, to be agreed upon between the governing body and medical staff, [*shall*] should be placed to a special fund, which shall belong to the medical staff. (A.R.M., 1914, Mins. 227-30.)

Association Notices.

TABLE OF DATES.

Mar. 8, Wed.	Council Meeting, 429, Strand, at 11 a.m., to consider the Report of the Central Ethical Committee on Professional Secrecy.
Mar. 15, Wed.	Branch Reports for 1921 due to Head Office on or before this date.
April 1, Sat.	Nomination papers available at Head Office for election of 24 Members of Council for 1922–23, by grouped Home Branches.
April 26, Wed.	Council Meeting, 429, Strand, at 10 a.m.
April 29, Sat.	Last day for receipt at Head Office of Independent Motions for Annual Representative Meeting Agenda, as to policy, Articles or By-laws (By-law 40).
May 6, Sat.	Annual Report of Council appears in SUPPLEMENT.
May 8, Mon.	Last day for receipt at Head Office of Nominations, by a Division or not less than 3 Members, for election of 24 Members of Council by grouped Home Branches for 1922–23.
May 13, Sat.	Publication in SUPPLEMENT of list of nominations for election of 24 Members of Council by grouped Home Branches for 1922–23. Voting papers for election of 24 Members of Council by grouped Home Branches posted from Head Office to Members of groups where there are contests.
May 27, Sat.	Last day for receipt at Head Office of voting papers for election of 24 Members of Council by grouped Home Branches. (Where there are contests.)
June 3, Sat.	Publication in SUPPLEMENT of results of Council elections by grouped Home Branches.
June 10, Sat.	Nomination papers available, at Head Office, for election of 12 Members of Council by grouped Home Representatives.
June 14, Wed.	Council Meeting, 429, Strand, at 10 a.m.
June 23, Fri.	Last day for election of Representatives and Deputy-Representatives.
June 24, Sat.	Supplementary Report of Council appears in SUPPLEMENT.

ALFRED COX,
Medical Secretary.

SUGGESTED CHANGES OF AREAS.

Mid, North, and South Staffordshire Divisions of Staffordshire Branch; Derby Division of Midland Branch; Walsall Division of Birmingham Branch.

IN connexion with the proposals by the Mid-Staffordshire Division as to the above-named Divisions and Branches, published in the BRITISH MEDICAL JOURNAL SUPPLEMENT of February 4th, 1922 (page 22), Notice is hereby given to all concerned of an amendment proposed by the Walsall Division, namely, that the suggested reorganized Mid-Staffordshire Division be known as the Walsall and Lichfield Division.

Written notice of this amendment to the proposals in question is being given to the Divisions and Branches concerned, and the matter will be determined in due course by the Council. Any member affected by the above amendment and objecting thereto is requested to write, giving reasons therefor, to the Medical Secretary, 429, Strand, W.C.2, not later than March 25th.

BRANCH AND DIVISION MEETINGS TO BE HELD.

METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.—A meeting of the Lewisham Division will be held on Tuesday, February 28th, at St. George's Lodge, Catford Hill, S.E.6. Dr. G. W. Charsley will take the chair at 8.45 p.m. Discussion of Report of the Council on the Revision of British Medical Association Constitution and Machinery (SUPPLEMENT, BRITISH MEDICAL JOURNAL, December 24th 1921).

METROPOLITAN COUNTIES BRANCH: NORTH MIDDLESEX DIVISION.—A general meeting of the North Middlesex Division will be held on Wednesday, March 1st, at 3.30 p.m. in the Wortley Hall, Finsbury Park. Agenda: Financial report for 1921; Discussion—(*a*) Treatment centres: their present position and their relations to hospitals and to the private practitioner; (*b*) proposed action of Hornsey Town Council in relation to certain cases of diphtheria; (*c*) professional secrecy. In view of the developments at present taking place in Willesden, Enfield, and elsewhere, it is hoped that members will make an effort to be present at the meeting.

NORTH WALES BRANCH.—The spring meeting of the North Wales Branch will be held at Wrexham on Tuesday, April 4th.

SUFFOLK BRANCH: WEST SUFFOLK DIVISION.—The annual meeting of the West Suffolk Division will be held at the West Suffolk General Hospital, Bury St. Edmunds, on Tuesday, February 28th, at 3 p.m. Agenda: Annual report of Executive Committee; election of officers; amendment of Division rules; alterations in Association's Articles and By-laws (SUPPLEMENT, BRITISH MEDICAL JOURNAL, December 24th, 1921); elect Golf Competition Subcommittee; proposal by Dr. J. S. Hinnell to elect Colonel Openshaw an Associate Member of the Division.

British Medical Association.

PROCEEDINGS OF COUNCIL.

Wednesday, February 15th, 1922.

A MEETING of the Council was held at 429, Strand, London, W.C., on Wednesday, February 15th. Dr. R. A. BOLAM (Chairman of Council) presided, and there were present:

Sir T. Clifford Allbutt (Past President), Dr. R. Wallace Henry (Chairman of Representative Meetings), Dr. G. E. Haslip (Treasurer), Dr. T. Ridley Bailey, Dr. H. S. Beadles, Dr. J. W. Bone, Dr. H. B. Brackenbury, Dr. H. C. Bristowe, Sir W. J. Buchanan, Dr. C. Buttar, Mr. Russell Coombe, Dr. H. G. Dain, Dr. J. Singleton Darling, Lord Dawson of Penn, Dr. James Don, Mr. T. P. Dunhill, Mr. W. McAdam Eccles, Lieut.-Colonel R. H. Elliot, Dr. A. C. Farquharson, M.P., Dr. A. Forbes, Dr. E. R. Fothergill, Dr. T. W. H. Garstang, Dr. T. D. Greenlees, Mr. N. Bishop Harman, Mr. F. S. Heaney, Dr. A. O. Holbeche, Dr. R. Langdon-Down, Dr. David Lawson, Sir Richard Luce, Dr. J. A. Macdonald, Sir William Macpherson, Dr. H. Miller, Dr. R. C. Peacocke, Dr. Frank Radcliffe, Dr. C. E. Robertson, Dr. D. A. Sheahan, Dr. W. Snodgrass, Dr. Stedman, Dr. John Stevens, Dr. Crawford Treasure, Mr. E. B. Turner, Dr. E. O. Turner, and Sir Jenner Verrall.

The late Treasurer.

The Chairman reported the death of Dr. Edwin Rayner, for many years Treasurer of the Association. He expressed the general sorrow at the loss of an old colleague, and his motion that a letter of condolence be forwarded to the family was carried by the members standing.

Gold Medal of the Association.

The Treasurer (Dr. Haslip) moved that the gold medal of the Association be awarded to the Right Hon. Sir T. Clifford Allbutt, K.C.B., M.D., F.R.S., for his long and distinguished services to the profession and the Association, and in commemoration of his five years' presidency of the Association in the time of the great war, 1916–1921. On all the three grounds for which the medal was customarily awarded no more fitting recipient could be found. Alike for his scientific attainments, for the measure in which he had enhanced the honour and dignity of the profession, and for his devoted services to the Association, he richly merited this distinction. Dr. Wallace Henry, in supporting the motion, said that there was one among the many generous aspects of Sir Clifford Allbutt's personality which they in the Association had particularly appreciated. Whenever any of his professional brethren had asked him for assistance, he had taken the utmost personal trouble in order to render it; it was a great help to the Association when individual members knew that they could apply directly to its head and be sure of assistance, even in small concerns. Dr. J. A. Macdonald paid a tribute to Sir Clifford's wide range of knowledge and sympathy, which he had full opportunity of appreciating during the week he spent with him on the occasion of the Cambridge meeting. Mr. Russell Coombe cordially supported the motion in the name, not only of Sir Clifford's university, but of his college (Caius), and also in the name of St. George's Hospital. The Chairman of Council added a few words in further support of the proposal, which was then carried unanimously and with acclamation. It was agreed also that an engrossed testimonial, stating the grounds of the award, should be prepared and presented, together with the medal, at the Glasgow meeting.

Sir Clifford Allbutt, who came in a little later, thanked the Council for the honour which had been done him. He would look upon the Gold Medal as one of the proud distinctions of his life. He only wished he felt himself worthy of it, but perhaps it was good for him to continue with a sense of unworthiness.

Elections.

The custom—which, on account of the war, had been allowed to fall into abeyance—of nominating the outgoing President as Vice-President was restored, and the Council will recommend to the Representative Body that Sir Alexander Ogston (President in 1913–14 and in 1914–16) should be elected a Vice-President.

The Chairman reported that the Queensland and New South Wales Branches, having to elect a successor on the Council to Dr. H. A. Francis, who had resigned, had appointed Sir Jenner Verrall for the remainder of Dr. Francis's term of office. Sir Jenner Verrall was very warmly greeted on returning to the Council chamber. Dr. Stedman also took his seat as representing the Hong Kong and China and Malaya Branches for the remainder of the current year, in place of Dr. Oswald Marriott, who has returned to Hong Kong.

Memorials and Records.

The Council agreed to a recommendation from a special committee that the most suitable form of memorial to members of the Association who had fallen in the war would be a *Book of Honour* to be placed in the Library in which these names would be engrossed, together with a tablet of art bronze or other suitable material in the entrance hall stating where the *Book of Honour* would be found. The committee was empowered to obtain expert opinion and estimates.

It was also agreed that the oak panels of the Council room should be utilized for recording the names of past Presidents of the Association, Chairmen of Council and of Representative Meetings, Treasurers, Editors, and Medical and Financial Secretaries. The Treasurer said that it was not proposed to make this a costly record; the names would simply be painted, not carved.

ORGANIZATION AND PROPAGANDA.

The Office Committee reported upon a suggestion by Dr. Garstang for the better minuting and fuller reporting of the Council meetings. Some of his proposals were agreed to by the Committee, and others were held to be inadvisable. Dr. Garstang said that he found no fault with the decision to turn down some of his proposals, but he desired it to be recorded that his idea was to secure a fuller record in the JOURNAL of the manifold activities of the Council and Committees so as to enlighten the ordinary member of the Association as to the vastness and variety of the work which was going forward.

In order to encourage the visiting of their constituencies by members of Council the Organization Committee recommended, and it was agreed, to allocate a sum of £50 for payment of railway expenses in approved cases when members of Council visited their constituencies (other than for a Branch Council meeting, the expenses of which are defrayed from Branch funds). Power was also given to the executive officers as a body, together with the chairman of committee concerned, or, in emergency, to the Medical Secretary, to order payment of travelling expenses when it seemed desirable that a member of Council or prominent worker for the Association should visit a Division or Branch.

An application by the North of England Branch for a supplementary grant for 1921 was deferred and a grant was made under By-law 23 for the present year, and a similar grant was also awarded to the Yorkshire Branch.

FINANCE OF THE ASSOCIATION.

The Treasurer had a gratifying report to make on the annual balance sheet of the Association. The expenditure for the year ending December 31st had decreased (in rough figures) by £4,500, thanks mainly to the lessened cost of paper, and to the small amount for repairs and decorations as compared with the large sum under this head in 1920; and the income had increased by £26,000, of which £19,000 was accounted for by increase in subscriptions. The cash revenue in 1921 was £109,183, and the cash expenditure £91,618, leaving a credit balance of £17,565. Out of this sum the bank overdraft of £11,962 at the end of 1920 had been paid off.

Some discussion took place on the subject of the annual subscription, one or two members desiring the Finance Committee to give some indication, if at all possible, that there was a likelihood of a reduction in the subscription in the near future. It was pointed out, however, that neither a committee nor a council could bind its successors; moreover, it was desirable that a good reserve fund should be built up before a reduction of subscription was entertained. The recurrence of any crisis like that during the passing of the Insurance Act would tax the ordinary resources of the Association with highly increased administrative costs.

A modification will, however, be suggested to the Representative Body as regards the subscription of service members, the Treasurer moving that the Council take steps to establish a £2 2s. flat rate for all active members of the regular services. While this change would cause immediate monetary loss to the Association, it was likely to lead to an increase of service members in the future; it would be an advantage to have one subscription for all members serving in the Navy, Army, Air Force, and Indian Medical Service. At present some were charged the home rate of subscription, and others the overseas rate, or the reduced rate under By-law 11 *c*. The proposal was agreed to.

Mr. Russell Coombe promised that at the next meeting of the Organization Committee the question of a reduced subscription for scientific workers, engaged in teaching or research solely, should be brought to the stage of a draft by-law, which would be submitted to the Finance Committee.

Annual Meeting.

It was agreed, on an application from the local executive, to subscribe the sum of £1,000 to the Guarantee Fund now being raised in connexion with the Annual Meeting of the Association next July in Glasgow. The Treasurer stated that the Glasgow executive proposed to ask the medical profession in Glasgow and the West of Scotland to subscribe £5,000 to the Guarantee Fund. Some discussion took place on the facilities for the Annual Exhibition of Foods, Drugs, and Appliances. The Treasurer appealed to members to do all they could to make the Exhibition a success, and warmly endorsed a suggestion by Mr. Bishop Harman that Presidents of Sections should take their members over the Exhibition with a view to seeing anything of interest in their specialities. Dr. W. Snodgrass, speaking for the Glasgow executive, said that it had not been possible to secure a hall for the Exhibition within the University itself, but it would be held quite near in a building with excellent facilities for display.

The suggestion was made that a clerk should be trained in the work of preparing year by year for Annual Meetings, to assist the local General Secretary and Committee. This was generally favoured by the Finance Committee, and the matter was remitted by the Council to the Office Committee for further consideration as to the qualifications, salary, and nature of duties required for the post.

BRITISH MEDICAL JOURNAL.

The Chairman of the Journal Committee (Dr. J. A. Macdonald) reported that one of the best-known workers on the subject of vitamins had agreed to test the vitamin efficiency of preparations now being advertised in the *British Medical Journal* in order that no misleading statements as to such efficiency might appear. The Council authorized the preparation of articles based on experiments on the vitamin efficiency of various substances.

The Council sanctioned the increased expenditure involved in adopting an improved device for removing the *Journal* wrappers, and received a report on the subject of the improved quality of the paper used for the *Journal*. Another matter discussed on the report of the Journal Committee was the need for limitation of the length of British Medical Association lectures offered for publication.

MEDICO-POLITICAL ACTIVITIES.

Certain resolutions of the Representative Body relating to fees for medical practitioners called in on the advice of midwives had been considered by the Medico-Political Committee, but the Chairman (Mr. E. B. Turner) reported that, in view of the present zeal for economy on every hand, it was inadvisable to make any effort to raise these fees. There was, however, one matter on which representations might be made to the Ministry of Health. If a second practitioner was called in to give an anaesthetic under such circumstances he was allowed a fee of one guinea, but when the practitioner attending the case had to give the anaesthetic himself there was no such provision. Accordingly, his Committee proposed an alteration in the scale which would enable the fee of one guinea for the administration of the anaesthetic to be paid in any case. The opinion was expressed in the Council, however, that this might appear to countenance the same practitioner, otherwise than in an emergency, administering the anaesthetic and performing the operation, and ultimately the proposal was withdrawn.

Among other matters on which the Medico-Political Committee reported was the case of the Hammersmith Municipal Maternity Hospital, where the Ministry of Health had been pressing for the appointment of a whole-time medical officer, although the arrangements for daily medical inspection had been agreed upon by a rota of general practitioners, and the four doctors attached to the hospital were doing their work to the satisfaction of the local authority. Sir George Newman had received a deputation very sympathetically, and, while pointing out the need for certain safeguards, had approved the present arrangement.

The Committee had also considered the decision of certain municipal bodies to dispense with the services of married medical women, and the payment of women practitioners by the General Post Office on a lower scale than men practitioners for the same work. The Committee had discussed this question with representatives of the Medical Women's Federation, and it was intended to bring the matter before the medical members of Parliament. A deputation had waited on the Post Office authorities with regard to the proposed reduction of the capitation fee of Post Office medical officers, and a very strong protest had been entered, the results of which had yet to appear. Another task of the Committee had been to back up certain teaching bodies in their protest against the proposed reduction in the Government grant to universities, since it was felt that such a reduction might prevent the payment of the salaries which the Association regarded as the minimum for university professors and teachers. The Committee had taken cognizance of the impending change in the medical reference system of the Ministry of Pensions, and had decided to make representations to the Ministry with regard to what it considered a proper sessional basis. Progress was also reported in the matter of joint action between the Association, the Society of Medical Officers of Health, the Medical Women's Federation, and the Committee of Medical Members of the House of Commons.

NATIONAL INSURANCE.

The composition of the Insurance Acts Committee was the subject of some recommendations. The first of these, the Chairman of the Committee (Dr. Brackenbury) said, would enable a considerable grievance to be removed by a simple adjustment. It was evident that the representation of Ireland on the Committee (never very effective in view of the difference between the insurance situation in Ireland and in Great Britain) would become unnecessary in a short time, and therefore it was suggested that the one Irish representative among the six members of the Committee elected by the Representative Meeting should no longer be appointed, and that the number of direct representatives should be raised from eighteen to nineteen. This would enable a more adequate representation to be given to London, which could become a separate group with two members, instead of, as at present, returning one of three members in a group in which adjoining counties and county boroughs were included. A further recommendation was made to remove the awkward technicality whereby under the existing schedule twenty-two members of the Committee variously nominated or qualified were actually elected by the four *ex officio* members of the Committee and the six members elected by the Representative Meeting. To simplify this cumbrous machinery it was proposed that nomination by the various bodies would be equivalent to election, as in practice it had been. A third modification in the procedure aimed at insuring that when co-option of non-panel practitioners was necessary one such co-opted member should be in general practice in an industrial area. All these modifications were agreed to, subject to a reminder by Mr. Russell Coombe that, as regards the second of them particularly, the matter would have to come before the Organization Committee, which would ascertain whether the Solicitor saw any objection to the new procedure. In conclusion, Dr. Brackenbury reported briefly on certain other matters, some of which were in a fluid state.

THE HOSPITALS POLICY OF THE ASSOCIATION.

The Council then considered a report embodying the general policy of the Association in regard to the organization of voluntary hospitals, particularly as affected by the reception of patients for whom payment is made by contributory schemes or otherwise. The Chairman of the Hospitals Committee (Mr. Bishop Harman) said that the introduction of contributory schemes affected fundamentally the principles of hospital administration and the position of honorary medical staffs, and therefore it had been thought useful to consolidate the hospitals policy in one document. This report, when approved by the Council, would go down to the Divisions and afterwards would be presented to the Annual Representative Meeting. For the most part the report contained what had already been approved by Representative Meetings, particularly those of 1921 and 1908, but certain interpolations had been judged necessary in order to meet the changed situation, and certain amendments of phrase to remove any possible ambiguity. Among the introductory paragraphs he desired to add the explicit statement:

> In view of the tendency of the State through local and central authorities to require the services of the voluntary hospitals, it should be provided that in any such arrangements for such services the State should pay the full cost to the hospital of such services (so that no portion thereof shall be charged to the charitable funds of the hospital) and a remuneration for the honorary medical staff of the hospital.

This, he said, was based upon the agreed policy with regard to discharged sailors and soldiers, and he wished to have it inserted that it might govern any similar situation in the future. The paragraph was agreed to.

The Definition of Voluntaryism.

Some discussion arose on the definition of voluntaryism. The report stated the essence of the voluntary hospital system to be the independent and voluntary management of the institution, and added that this was not necessarily related to the conditions of service of the medical staff: a reflection of a resolution adopted at the last Annual Representative Meeting. An amendment was moved by Dr. Brackenbury to include as an additional element in the voluntary system the gratuitous services of honorary medical staffs in the case of indigent patients. This amendment was resisted by Mr. Harman on the ground that it introduced a

complicating element which would broaden the basis of the attack upon voluntaryism; and it was opposed by other members of Council on the ground that large numbers of people who benefited from the gratuitous services of the staff, although unable to pay for maintenance, could not be described as indigent; others, again, thought that anything which took away from the simplicity of the definition was unfortunate. The amendment was lost, and the original wording adopted.

Contributory Schemes.

Another section of the report, which again was mainly a recapitulation of former resolutions, indicated the sources from which funds were received by the voluntary hospitals, and on the suggestion of the Chairman of Council it was agreed to make it clear that the "treatment" to which patients in voluntary hospitals made a contribution included examination and every kind of medical service. Another section which necessitated some new paragraphs was concerned with contributory schemes. It was declared undesirable that the Association should approve specific contributory schemes for the provision of hospital benefit as such, although certain principles should be approved by the Association as applicable to any contributory scheme. One of the recommendations was that any such scheme should be run, not by the hospital, but by an independent body, because hospitals should not undertake any insurance risk; should actuarial estimates prove at fault, hospitals which had undertaken such risk would find themselves required to meet outlays for which they had no financial provision, and this would mean that the purely charitable resources of the hospitals would be endangered. It was agreed, on the suggestion of the Chairman of Council, to make it plain that the possibility of this result was only a second objection, although an important one, and that the first objection was that acceptance of insurance risk would prejudice the primary consideration in the admission of a patient to hospital—namely, the suitability of the case on medical grounds.

Categories of Patients for In-patient Treatment.

A further section of the report defined the categories of patients for in-patient treatment. These were (1) free (indigent); (2) tariff patients, who paid, in part or whole, the cost of maintenance and treatment; and (3) private patients, who paid for special accommodation and arranged for medical fees independently of the hospital. A new paragraph laid it down that the remuneration received for tariff in-patients should be for work done based upon a tariff of fees agreed upon from time to time between the contracting parties. Such tariff of fees should make full allowance for the provision of hospital accommodation, maintenance, and payment of medical staff; the accounts of the hospital should be kept so as to show the cost of this hospital benefit, and inability to pay for adequate treatment as a private patient, whether in or out of hospital, should be the consideration for the admission of all such patients to hospital treatment. Certain income limits were suggested, subject to economic and local variations, to govern eligibility for hospital benefit on tariff rates.

A long discussion took place on the question of private in-patients and the rules which should govern the provision of special accommodation in the nature of a nursing home in connexion with voluntary hospitals. It was agreed that, apart from emergencies, private patients should be admitted to such special accommodation only on the recommendation of a private practitioner. Some objection was raised to the provision that it should be open to a private patient to select any registered medical practitioner as his attendant. It was pointed out that this clause might make it difficult to control occasional unreasonableness on the part of a particular practitioner who attempted something beyond his competence. On the other hand, it was urged that general professional opinion could always be depended on to deal with such a situation. Mr. Harman pointed out that what was proposed was exactly parallel to the policy of the Association in regard to Poor Law institutions, and he hoped that the policy might be carried over to the case of nursing homes in connexion with general hospitals. The paragraph as it stood was then carried by a considerable majority.

Out-patients.

Certain resolutions of the Representative Meeting of 1908 were reaffirmed in the section of the report which dealt with out-patients, with the introduction of some new paragraphs, one of which stated that only such treatment should be given as could not, consistently with the best interests of the patient, be properly undertaken by a general practitioner of ordinary professional competence and skill. Another new paragraph laid it down that where arrangements for consultations or specialist services for patients were made under some contributory scheme or otherwise, such arrangements should provide that those services be given as far as possible by the private practitioner at his consulting-room or at the home of the patient, and not at the out-patient department. Mr. Harman said that this was one of the most important paragraphs in the whole document. If contributory schemes succeeded, the whole of consultative practice might be swept into the out-patient departments of hospitals, and by this paragraph his Committee sought to prevent that from occurring. Mr. Eccles raised the point that this might diminish the number of suitable cases available for the teaching hospitals; but it was pointed out that experience had shown that abundant material was found in the cases sent by practitioners where diagnosis needed reinforcing or was in doubt.

Medical Staffs and Staff Funds.

In a new paragraph in the section dealing with the medical staffs of voluntary hospitals it was urged that the age limit or tenure of office of members of honorary medical staffs should, where necessary, be so modified as to allow more and younger practitioners to obtain responsible hospital experience. The Chairman of the Hospitals Committee pointed out that at present it often happened that men did not reach a position on the staff until middle age, when they were past their first enthusiasm. The new paragraph was approved, and so was a section on the formation of staff funds, based on the resolutions of the last Annual Representative Meeting, but certain modifications, scarcely more than verbal, were made. The principal paragraph, as modified after discussion in Council, read as follows:

> In the event of decisions being taken which would lead to patients (other than private patients) paying, in part or in whole, hospital charges, either individually or by some contributory method, or with the addition of rate-aid or State-aid, or by a combination of two or more of these methods, such charges should be taken to include payment towards maintenance and treatment, and a percentage of all such payments should be passed into a fund which is at the disposal of the honorary medical staff of that hospital.

A further paragraph met the case in which a voluntary hospital entered into a financial arrangement with a public authority, an employer of labour, approved society, or insurance company, or adopted a contributory scheme; it was laid down again that such an arrangement should be taken to cover the cost of maintenance and treatment, and a percentage of all such receipts should be passed similarly into the staff fund.

A long discussion took place on a new paragraph, which stated that income derived from existing assets, endowment funds, and the like, as well as money given for maintenance and treatment of free (indigent) patients, should not be liable to assessment for medical staff fund purposes, but that all other moneys should be liable to such assessment (except, of course, private patients' fees, which are subject to a different arrangement). An alternative form of words was proposed by Dr. Radcliffe: That gratuitous contributions which could not be regarded as payments for services rendered or to which no conditions were attached—that is to say, pure and simple charitable contributions, including grants from industrial organizations and Saturday and Sunday Funds—should not be liable to assessment for medical staff fund purposes, but that all money received by hospitals as payments for services, or conditional upon services, or implying control over services, should be so liable. There was a considerable discussion over this matter, in which various points of view were canvassed, but in the result the alternative motion was lost, and the paragraph as it stood in the report was accepted.

General Administration.

Other paragraphs in the report which elicited less discussion related to the setting up of a local advisory medical committee in every hospital area, formed by the local organization of the Association, and its recognition by the authorities; and the question of medical and lay representatives on boards of management of hospitals. On this last subject a clause was inserted to secure that, when the plan was followed of giving representation on the board of management to subscribers, such representation should not be allowed to swamp all other interests; moreover, that contributions given under an implicit or explicit obligation of hospital service should not rank for representation with other purely charitable benefactions.

The discussion on the report lasted three hours. It was agreed that the report be sent to the Divisions, whose motions in connexion with it might be considered before the issue of the *Supplementary Report of Council*; also that the report should be issued to the British Hospitals Association, with a view to conference between that body and the Hospitals Committee, and that representatives of the British Hospitals Association be invited to attend the Annual Representative Meeting on the occasion of the discussion on hospital policy. A further proposal by Mr. Harman was to summon another conference of honorary medical staffs of the larger voluntary hospitals at an early date. The proposal that only the larger hospitals should be represented at such a conference was contested by Dr. Bone and others, but the difficulty was to decide upon the basis of representation for the several hundreds of small hospitals. Ultimately it was decided that the conference should as far as possible be representative of all hospitals, and it was left to the Chairman of the Hospitals

Committee and the officials of the Association to arrange a system of group representation whereby the interests of the staffs on the smaller institutions might be fully secured.

Municipal Hospitals and Patients' Payments.

The Hospitals Committee brought forward a second document for approval in the shape of a report on the principles and methods which should govern the utilization of the municipal hospitals for civil needs. The Chairman (Mr. Harman) said that this report contained even less new matter than the one just approved. It was simply a statement of the existing policy of the Association, as set out at the Annual Representative Meeting, 1921, with regard to Poor Law infirmaries, adapted, with only a change of words, to municipal hospitals. It was agreed that the principles contained in the report should be recommended for adoption at the forthcoming Representative Meeting as embodying the Association's policy in respect to municipal hospitals.

Lord Dawson was anxious that the report on the subject should go to the Ministry of Health. He believed that, in certain cases where beds in municipal hospitals had been set aside for private patients paying a fee, the right of the practitioner to follow his own patient into hospital had been denied. Therefore he wanted the attention of the Ministry drawn emphatically to the principles of the report, especially the paragraph dealing with the admission of private patients employing their own doctor:

> In municipal hospitals established by the local sanitary authority certain beds should be set aside for private patients paying a fee to be settled by the authority; that where a general practitioner wishes to continue to treat therein patients of his own he should be allowed to do so under the general administrative supervision of the medical superintendent, and that any of those patients should be allowed to call in a consultant from outside, the patient bearing the cost thereof.

It was agreed to send the report to the Ministry of Health and to emphasize this principle.

PROFESSIONAL ETHICS.

The next matter on the agenda was a report from the Central Ethical Committee on professional secrecy. It was evident that this would give rise to a long discussion, and as the hour was 6 p.m. it was decided by a show of hands to leave this matter over and to call a special meeting of Council for March 8th to consider this matter.

The Chairman of the Committee (Dr. R. Langdon-Down) brought forward the question of the newer journalistic methods of advertising whereby articles appear in newspapers which, in the form of indirect advertisement, are likely to attract practice to particular medical men. He said that it was hoped to secure from the General Medical Council some opinion as to this subtle form of advertising. His Committee had been told by the Chairman of Council, who was a member of the General Medical Council, that it was not the practice of the General Medical Council to lay down regulations in general terms, but to deal with individual cases as they arose. Nevertheless, the General Medical Council had issued certain general pronouncements, such as, for instance, with regard to the employment of unqualified assistants and to laxity in certification, and his Committee felt that this was a case in which such a form of action would be most desirable. His Committee wanted to prevent the evil, not to pillory individuals, and a general warning from the General Medical Council would prove effectual. He moved that the Council draw the attention of the General Medical Council to the general question, and urge the Council to make some pronouncement which would have the effect of deterring practitioners from allowing their names to be used in this manner. He added that it was proposed to furnish the General Medical Council with some specific examples of the kind of journalism of which complaint was made.

It was resolved to bring the matter to the attention of the General Medical Council.

The Chairman of the Committee reported that the draft ethical rules of the Natal Coastal Branch had been submitted; they differed in many respects from those approved by the Annual Representative Meeting, 1919, and the opinion of the Solicitor was sought. The Solicitor said that it did not appear to him that the responsibilities of the Association were increased by the Council having given its approval to the rules any more than would be the case if a general authorization were given to the Branch to make such rules as it might think fit. The Committee felt that the rules should be adhered to in all essential particulars. The report was approved.

PUBLIC HEALTH APPOINTMENTS.

The Chairman of the Public Health Committee (Dr. Garstang) said that in considering the Association's present minimum commencing salaries for public health officers it had been pointed out that the salary of a senior venereal diseases officer was put at £50 higher than that of a medical officer of health, and this was an anomaly, because the majority of venereal diseases officers, if not all of them, acted under the instructions of the medical officer of health. Accordingly he brought forward a proposal that the Representative Meeting should be recommended to make the minimum for the medical officer of health £750 per annum, instead of £700. This would go some way towards adjusting the differences in minimum scales which existed between the Association and the Society of Medical Officers of Health. After some discussion the recommendation was referred back to the Committee for further consideration in the light of existing economic conditions.

The Chairman of the Committee also reported that it had been decided to make an attempt to secure the introduction of the Public Health Medical Officers (Superannuation) Bill.

NAVAL AND MILITARY.

It was agreed to submit to the Representative Meeting the name of Surgeon Rear-Admiral Sir Percy Bassett-Smith, K.C.B., C.M.G., R.N.(ret.), for election as representative of the Royal Navy Medical Service on the Council for the period 1922–25.

The Chairman of the Naval and Military Committee (Lieut.-Colonel R. H. Elliot) moved that the question of the pay and emoluments of the heads of the medical departments of the Navy, Army, and Indian Medical Service should be taken up, in view of the fact that such pay and emoluments were less than those of officers of corresponding rank holding similar administrative posts. He indicated what lines of approach would be taken with a view to getting the pay of these officers placed on a more satisfactory basis. His Committee considered it quite unfair that medical men should be worse paid than those holding similar positions in other branches of the same service, especially when it was remembered that some of these other officers—as, for example, engineers—got their professional training in the service itself. The recommendation was agreed to, as was a further proposition referring to the *ad hoc* Committee appointed to consider the question of the expansion of the Army Medical Service in the event of a national emergency, the War Office proposals for Territorial army hospitals.

The question of the earlier compulsory retirement of senior surgeon commanders was brought forward, and Mr. Heaney expressed the view that, in addition to the correspondence with the Admiralty on the subject, the matter should be ventilated again in the JOURNAL. The Chairman of the Committee said that this compulsory retirement was undoubtedly a breach of contract, and the Committee proposed to press the Admiralty for a final decision on a matter which a representative of the Admiralty at an interview had promised to look into.

POST-GRADUATE EDUCATION.

The Chairman of the Post-Graduate Courses Committee (Sir Richard Luce), in moving certain recommendations, said that the demand for post-graduate education in this country was not, perhaps, as great as it should be. Before considering in detail the report of the Athlone Committee, which dealt solely with London, his Committee had felt it desirable to meet the Executive of the Fellowship of Medicine and Post-Graduate Medical Association, and as a result of that conference it was the general feeling that if the difficulties of organizing post-graduate education were to be successfully overcome it would be necessary to establish a central bureau to co-ordinate and develop the existing facilities and to appoint a whole-time medical director in charge. His Committee considered that the movement to provide post-graduate education was so important that the Association should identify itself with and encourage it by financial assistance. But the Association could hardly be expected to lend financial support to the post-graduate movement in London without at the same time extending this support to all the other centres in the kingdom. He moved:

> That post-graduate education is so important that it is worthy of encouragement and financial help from the British Medical Association.

Mr. Bishop Harman proposed to omit the reference to financial help, and to add to the recommendation "and to that end the provision of British Medical Association lectureships should be encouraged to the utmost."

Dr. Buttar said that the question was threefold: Was the movement for post-graduate education worthy of support by the Association? Was it within the power of the Association to give any support? and On what conditions should the support be given? Post-graduate education in this country, while in some respects good, was very deficient in comparison with a place like Vienna, owing chiefly to lack of co-ordination. He opposed Mr. Harman's amendment, thinking it a pity that if the Association was able to render any financial help it should not do so. However desirable the Association lectureships might be, they could not be regarded as altogether meeting the situation.

Mr. Bishop Harman's amendment was lost, but he moved another, simply deleting the words "and financial help" from the Committee's recommendation, and this was carried.

A further recommendation by the Committee asked the Council to recognize that for the time being the organization of a central hospital devoted entirely to the reception of graduates, although an essential element in the full development of the post-graduate scheme in London, was attended with great practical difficulties which neither the British Medical Association nor the medical profession by their unaided efforts could hope to remove. The motion was not adopted. The final recommendation of the Committee was that the Council should concur with the Athlone Committee in the view that a post-graduate medical school should receive substantial financial assistance from the Treasury through the University Grants Committee. To take the place of this Mr. Bishop Harman moved:

> That the British Medical Association should take steps to bring before the Government the urgency of the recognition and encouragement of medical post-graduate education, and that the Government should be urged to require, through the University Grants Committee, that institutions for medical post-graduate education should be specifically recognized as such, and independently of recognition as places of study for higher qualifications or special diplomas, by all universities and colleges receiving Government grants or support for the purposes of medical education.

The amendment, which was seconded by Mr. McAdam Eccles, was carried, so that the effect of the discussion in Council was to amend in essential particulars the policy brought forward by the Post-Graduate Courses Committee, and to negative its further consideration of the other recommendations of the Athlone Committee, which was contingent upon approval being given to these primary proposals.

The reports of the Welsh and Scottish Committees were approved without discussion, save that in the case of the Scottish Committee the Chairman (Dr. Snodgrass) undertook, at the request of the Council, that his Committee should consider and prepare a memorandum on the conduct of medical examinations for entrance into the industrial services in Scotland.

The Council rose at 7 p.m., after a session which, with one short interval, had lasted for nine hours.

SCHOOL MEDICAL OFFICERS AND EDUCATIONAL ADMINISTRATION.

DEPUTATION TO THE MINISTER OF HEALTH.

THE relationship of the School Medical Service to general educational administration, under the circumstances contained in the letter from the British Medical Association to the Minister of Health, published in the SUPPLEMENT of last week (p. 38), was further discussed with the Minister by a deputation which waited upon him on February 17th. In addition to the representatives of the Association, members of the Society of Medical Officers of Health were present, together with two representatives of the Medical Women's Federation.

The deputation was introduced by Dr. R. A. BOLAM (Chairman of Council), and included the following:

Dr. G. A. Auden (School Medical Officer, Birmingham), Dr. T. W. Naylor Barlow (Medical Officer of Health, Wallasey), Dr. H. B. Brackenbury, Dr. J. J. Buchan (Medical Officer of Health and Chief Medical Officer of the Education Committee, Bradford City), Mrs. Dickinson Berry, Dr. Letitia Fairfield, Dr. A. C. Farquharson, M.P., Dr. C. E. S. Flemming, Dr. F. E. Fremantle, M.P., Dr. T. W. H. Garstang, Mr. N. Bishop Harman, Dr. Wallace Henry, Dr. R. A. Lyster (County Medical Officer and Chief Medical Officer of the Education Committee, Hampshire), and Mr. E. B. Turner, together with the Medical Secretary (Dr. Alfred Cox), the Assistant Editor (Dr. N. G. Horner), the Deputy Medical Secretary (Dr. Anderson), and the Assistant Medical Secretary (Dr. Lord).

The Minister of Health (Sir Alfred Mond) was accompanied by:

Lord Onslow (Parliamentary Secretary), Sir Arthur Robinson (First Secretary), Sir George Newman (Chief Medical Officer of the Ministry of Health and of the Board of Education), Dr. Alfred Eichholz (Chief Medical Inspector of the Board of Education), Mr. A. H. Wood (Principal Assistant Secretary of the Board of Education), and Mr. Douglas Veale (Private Secretary).

Mr. E. B. TURNER briefly explained the purpose of the deputation, which asked that the School Medical Service might be in fact, as well as intention, under the Ministry of Health, and more especially that the reports of school medical officers should not be subject to interception and censorship by administrators on the educational side. It had been brought to the notice of the British Medical Association that the directors of education were making a strong effort to secure that all the activities of school medical officers should be supervised by and be under the control of the chief education officers. This movement, if allowed to go on, would have very serious effects on the service.

Dr. R. A. LYSTER spoke of the great economy, both centrally and locally, which could be effected by linking up the School Medical Service with the general health services of the country. Some of his colleagues on the deputation had come prepared to give instances, if necessary, to show the great waste of public money which was going on at the present time owing to the duplication of services. Either, for the same total sum of money a more extended supervision might be afforded, or, for a smaller expenditure than at present, the same amount of service could be given. He was himself in the fortunate position of having been able to secure unification in his own area (Hampshire), and he was convinced that he had saved his local authority many thousands of pounds by such a policy. None of his staff were doing school work exclusively, and the variety of employment ensured a more contented staff. The staff of assistant medical officers attended to all sides of the public health work, including the school work; those who did the school work were not specially labelled; they were all under his control, and during the school holidays they could turn to other tasks in the public health service. The present duplication of buildings and staffs necessitated by dual control was very extravagant; possibly this had not been brought home to the central authorities because a similar lack of cohesion existed in their own household.

Sir A. MOND asked how Dr. Lyster had achieved unification in his own area.

Dr. LYSTER could only say that he had been exceptionally fortunate. In other areas where conditions were less favourable he would expect several years of continual warfare with directors of education. He happened to have had an unusually open-minded committee to deal with, as well as a very reasonable director of education, and he could hardly expect the same thing if he moved into another area.

Sir ALFRED MOND asked what position the local education authority in Dr. Lyster's area took up with regard to his plan. Dr. LYSTER said that the local education authority had accepted it throughout. He was appointed in 1908, and was asked to organize medical inspection, and the authority accepted his contention that this was a medical matter and had nothing to do with education. Sir ALFRED MOND still did not see why the same kind of adjustment was not possible in any area. Dr. LYSTER concluded by urging that it was in the interests of the public health that health administration should be wholly in the hands of those concerned with the medical services.

Dr. G. A. AUDEN said that he could speak as an autonomous school medical officer. He was not in immediate touch with nor under the supervision of the medical officer of health in his district. In his experience there was inevitable overlapping, which, with unity of central and local administration, would be avoided. For example, he had a staff of school nurses, while the medical officer had a staff of health visitors. The initial visits of the health visitors must often be on behalf of the school children who really came under the supervision of his own department. Under duality of control there was duplication of clinics; clinics were established, on the one hand, by the health committee for tuberculosis, infant welfare, and so on, and, on the other hand, clinics were established by the school authority. All these clinics had heavy overhead charges, and much might be saved if there were only one authority to establish them and appoint the staff. The same applied to the duplication of resident institutions. The tuberculosis department of the health authority ran a sanatorium for tuberculous children, and the education authority ran a residential school for the tuberculous and weakly. This overlapping meant avoidable expenditure which would not be called for under unified control. Many school medical officers who entered the service years ago with high aspirations would confess to a feeling of disappointment. They did not feel that they had advanced one step along the road of preventive medicine. Some of their committees were under the tyranny of figures. The School Medical Service tended to become a blind-alley occupation, offering no permanent career. Moreover, the fact that it was a backwater with no egress helped to render it an unpopular service, so that there was an ever-increasing difficulty in obtaining suitable officers.

Sir A. MOND asked whether the whole of the speaker's staff were whole-time officers. Dr. AUDEN said that this was true of all his school medical staff. Sir A. MOND: None of them are ordinary general practitioners? Dr. AUDEN replied that

the services of a certain number of specialists for eye work and so forth were called upon.

Sir A. MOND: I mention that because it is a British Medical Association point that there should be part-time posts for general practitioners.

The MEDICAL SECRETARY: Not for school inspection, Sir.

Dr. AUDEN went on to say that his committee insisted that if, for example, refractions required to be done they must be done by the best ophthalmic surgeon available in the locality, and so on. He added that there were at present 815 whole-time school medical officers, of whom 287 were also medical officers of health, and only 32 occupied an autonomous position like himself. Thus there were 500 assistant school medical officers who had practically no hope of progress so long as they were in this backwater, and having had no other experience of public health work they were not in the running for any other appointment. In reply to a further remark by Sir A. MOND, he urged that from the medical point of view there was no distinction between the child of school age and the child before school age and after, so that it did not seem logical to have two services under different control.

Dr. BRACKENBURY, speaking as a member of the British Medical Association and as one who had had considerable experience of educational administration, said that, given extremely fortunate local conditions, it was possible to get along smoothly under the administrative arrangements as laid down in the Ministry of Health Act. If a local authority was wise it would co-ordinate the medical work of its health and education committees, and in that case, if they had the right spirit, the medical officer of health and the director of education could work together in perfect harmony and to the good of the whole service. But in many cases this co-ordination was unattempted or imperfect, and the characteristics of different modes of administration were not to be reconciled, with resultant overlapping and waste. Unification of all local administration would, of course, be a big thing to undertake, and would require further legislation; it was not to this that the deputation was directing itself, much as it might be desired. The deputation was concerned with what could be done under existing circumstances and with existing machinery. The claim which had been put forward by the Association of Directors and Secretaries for Education, in a memorandum which had been brought to the Minister's attention, was that the directors should have nothing less than domination over a service which was primarily medical and not educational. The claim appeared to be that the service must be wholly under the charge of the education officers, and that the reports of the medical officers must go solely through the chief education officer. This method and spirit would be detrimental to the efficiency of the health services of the country. The deputation regarded the medical inspection and treatment of school children, by whatever means carried out, as primarily a health service, and the views of the health experts—the school medical officer and the medical officer of health, who might or might not be a school medical officer—must have direct access to the controlling authority. It must not be in the power of any education expert to intercept or delay or alter the medical reports.

Sir A. MOND: Have you come to complain of the action of any officials under my authority? As for the directors of education, the local education authorities are their masters.

Dr. BRACKENBURY: If you will assure us of that, and if the action of the Ministry will be directed to making them of no importance, that will meet our point. Dr. Brackenbury went on to read from the memorandum issued by the Association of Directors and Secretaries for Education to the effect that all communications from the school medical officer or his assistants to the schools and all reports to the Education Committee should pass through the chief education officer, and that the Education Committee was at liberty to publish the reports in whatever form and with whatever alterations it saw fit. The activities of the directors of education, if carried out and sanctioned in the manner suggested in the memorandum, would lead to all kinds of local difficulties and inevitably to a great deal of local waste. For smooth and effective administration the School Medical Service must be regarded primarily as a health service, and if in any quarter there was an attack upon the efficiency of the administration, it was to the Ministry of Health as the central authority that the appeal must lie. The whole of the medical services should be co-ordinated, and it was the right of those who were experts in health matters to make their views known to the health authority without interference or obstruction from those whose concern was purely educational.

Dr. FARQUHARSON said that he did not know whether he had correctly gathered from a remark which Sir Alfred Mond had let fall that he (the Minister) did not consider the School Medical Service to be under his control.

Sir A. MOND: I said that the directors of education are not under my control.

Dr. FARQUHARSON referred to Section 3 (1) (*d*) of the Ministry of Health Act, 1919, and reminded the Minister of the circumstances which attended the insertion of the proviso. By an overwhelming majority—an almost unanimous vote—in the Grand Committee of the House an amendment was adopted, in spite of opposition from the then President of the Local Government Board (Dr. Addison) and the President of the Board of Education (Mr. Fisher), to transfer at once—instead of "at some subsequent date"—to the new Ministry the powers and duties of the Board of Education with respect to the medical inspection and treatment of children and young persons; and subsequently on Report stage in the House an amendment was carried, on the motion of Dr. Addison, who had spoken of practical difficulties in the immediate transfer, so that the subsection went on:

> . . . Provided that, for the purpose of facilitating the effective exercise and performance of these powers and duties, the Minister may make arrangements with the Board of Education respecting the submission and approval of schemes of local education authorities and the payment of grants to local education authorities so far as such schemes and payment relate to, or are in respect of, medical inspection and treatment; and the powers and duties of the Minister may under such arrangements be exercised and performed by the Board on his behalf and with his authority under such conditions as he may think fit.

It was the very strong view of the Parliamentary Committee which considered the bill clause by clause that there should be a complete tranference of school children to the Ministry of Health. This proviso, introduced at the Report stage, was very germane to the present argument. It was a compromise, agreed to for the purpose of securing the principle; the particular method was accepted in the belief that the Minister of Health would take full note of the opinion of the Legislature. That proviso gave the Minister of Health a measure of control fully sufficient to secure what the committee had aimed at securing. He suggested, with all respect, that if that proviso had not been made effective by the Minister of the Crown in charge of the health of this country it was a very grave omission, in view of its enormous importance to the State. Its effect was that the Minister might make arrangements with the Board of Education respecting the submission and approval of schemes of local education authorities, and the local education authorities could be called on to submit these schemes. The Minister had thus a control which he might exercise, and if there had been failure to exercise it this was greatly to be deplored.

Sir A. MOND said that he did not controvert all this; his remark had only referred to statements which were attributed to directors of education, and he simply pointed out that the director of education was merely an official of a local authority.

Dr. FARQUHARSON asked whether the Minister had made any arrangements with the Board of Education since the passing of this Act on the lines laid down in the proviso he had quoted. Had any scheme by any local education authority been submitted to the Ministry under the terms of this proviso? He added that he was in entire sympathy with the purpose of the deputation. In the county of Durham, where he had engaged in matters of local government, he had seen something of the waste to which the present system gave rise. The principle of what was now asked for by the deputation had been conceded three years ago by an overwhelming majority in the Legislature, and he for one would do all in his power to see that the will of the Legislature was carried out, irrespective of any distinguished gentleman who might be Minister of Health at the time.

Dr. J. J. BUCHAN said that much of what he might have urged was already in the archives of the Ministry, to which he had put the case as it occurred in Bradford. In Bradford the work had been very arduously done by both the health and the education committees, and during the past nine years much of his own work had been concerned with the prevention of overlapping of one committee by the other. The Ministry had been of great service in preventing overlapping, but had not at all times been able to prevent it. He gave one example of waste, and said that such examples were numerous.

Sir ALFRED MOND said that he would like to have concrete instances in substantiation of the trouble which had been alleged. He felt that on several points the present position was not entirely satisfactory. He was in fullest sympathy with Dr. Auden's statements about the "life sentence" of the school medical officer under the conditions he had described. These were very difficult questions, but it was necessary to get back to the history of this matter. It started in 1907, when a system of joint services—joint co-operation at headquarters at any rate—was worked out. The difficulty appeared to be that it was not easy to get the same co-operation locally as held good centrally. But that was a question for the local authorities. This country enjoyed local self-government. He was always being appealed to to right the mistakes of local authorities. But it was the business of the ratepayers to exercise their power to turn out the authorities at the proper time if they had transgressed. It was not really possible for him to order the complete functioning of the local authorities. No doubt it was very much simpler to have the School Medical Service under the Ministry of Health, but the practical difficulty was that the children had to be examined in the schools. Nobody had suggested any other method of examination than one which involved the entrance of the medical officer into the schools. Therefore it was necessary to have the goodwill of the education authorities and of the teachers, or the service could not run smoothly. Surely there were means of avoiding local friction. At the Ministry, in co-operation with the Board of Education, the whole effort had been to avoid friction and to bring influences to bear upon local authorities to promote co-operation.

Dr. FARQUHARSON said that the absence of friction at headquarters was due to the unification in one distinguished individual (Sir George Newman) of the functions of chief medical officer to the Ministry of Health and chief medical officer to the Board of Education. At the periphery this did not prevail, and where one had a director of education and a medical officer of health pulling different ways it meant a very serious conflict.

Sir A. MOND said that before the method which had been found practicable up to now was abandoned some considerations had to be borne in mind. If all these children could be medically examined without the schools at all, the problem would be simpler, for then, of course, the education authorities would have nothing to do with the matter.

Dr. FARQUHARSON: Nor should they have anything to do with it.

Sir A. MOND: As long as you use the schools you have to co-operate with the teachers and educational administrators.

Dr. AUDEN said that he did not think the teachers would be any less willing to co-operate if the medical officers were the servants of the Health Committee instead of servants of the Education Committee.

Sir A. MOND: The directors of education are said to be hostile, and naturally the teachers have to look after their own interests.

Sir GEORGE NEWMAN: What the Minister wants is evidence in writing of the cases of which you complain.

Dr. LYSTER: You cannot expect a medical officer to make complaints.

Sir G. NEWMAN: But you are doing so.

Dr. LYSTER: Not individually; we are here as a representative body. Dr. Lyster added that while it was true that medical inspection took place in the schools, all the treatment took place outside the schools, and the supervision of the Education Department extended over the places outside the schools where treatment was given.

Sir G. NEWMAN: Your point is that when the child goes to the clinic he is still under the education authority. Is there any practical difficulty in that?

Dr. LYSTER: It has the effect of dividing up preventive medicine into different spheres.

Sir G. NEWMAN: It is eight or ten years ago now that we made arrangements at the Board of Education that the child's attendance at the clinic should be counted as his school time by the education authority. But that does not mean that the child is getting less advantageous treatment.

Dr. BRACKENBURY: What is wanted is for the medical officer of health to be given supreme authority in his own sphere, so that in that sphere he can override the director of education.

Sir. A. MOND: The best thing would be to ask a representative of the Board of Education to say something. Mr. Fisher cannot be here to-day and the Secretary is away owing to illness. It would be better for you to submit certain arguments to him. As far as I am concerned, I should express the strongest opposition to the director of education either overriding the medical officer or censoring documents prepared by him. This is an intolerable thing—(applause)—if it is taking place.

The MEDICAL SECRETARY: It is being done now, Sir.

Sir G. NEWMAN: There are exceptional cases, perhaps, and Dr. Cox will no doubt supply us with the evidence. Dr. Cox said he could not give names, as the men in question would be pilloried. Sir A. MOND asked what, in that case, the deputation would like him to do. Dr. Cox said that the deputation would like the Minister to take such steps as would make every education committee realize that in medical matters the school medical officer ought to have direct access to his authority without anybody intervening.

Dr. LYSTER suggested that the inspectors sent by the Ministry to every district to inquire into the medical inspection and treatment should have power to add to their inquiries the question of the exact position of the medical officers.

Sir A. MOND: That is a practical suggestion.

Dr. FARQUHARSON wished to know, even assuming that twenty cases of definite complaint were forthcoming, what sanctions Sir George Newman could enforce to prevent the thing happening again.

Sir G. NEWMAN said that the grant could be withheld. The position of the Board of Education was clear. It did not agree with the views expressed in the document produced (the memorandum from the Association of Directors and Secretaries for Education). The Board was not going to permit the proposals therein contained to be put into practice.

The MEDICAL SECRETARY said that they were being put into practice.

Sir G. NEWMAN: Then the Minister can do nothing unless he is made aware of specific instances.

The MEDICAL SECRETARY said that at least one case had been put before Sir George Newman, who was always helpful, but, as he was well aware, there was a point beyond which he could not go.

Dr. BRACKENBURY asked whether the Minister would allow cases to be brought to his notice the truth of which would be vouched for without requiring any names to be mentioned.

Sir G. NEWMAN said that they did not want anybody to be penalized, but they must have the full particulars in order to verify them. It was difficult for the Ministry to act if they were not told the area.

Dr. BRACKENBURY: If the facts were accepted as true, even without verification, the Ministry could issue some general order.

Sir G. NEWMAN: If you will give us evidence and indicate the area in which the particular instructions of our circulars have been infringed we will take action.

Dr. FARQUHARSON pressed his question as to whether the proviso in Section 3 (1) (*d*) had been acted upon. Sir A. MOND said that action upon that subsection had been taken continuously; schemes were being put up all the time. It was a matter of everyday practice.

Dr. BRACKENBURY suggested that the Minister of Health should intimate to the Board of Education that he was not prepared to sanction schemes which did not contain a stipulation on this subject. Sir A. MOND said that he was quite willing to explore that possibility.

Dr. FARQUHARSON said that there was no occasion for any demur. The principle of complete separation of medical inspection and treatment from educational administration was decided by the Legislature in March, 1919.

Sir A. MOND: Ministers are left to carry out the statute.

Dr. FARQUHARSON: There you have my sympathy!

Mr. WOOD (of the Board of Education), who was invited to speak, expressed regret that his chief could not be present owing to illness. He was confident that the Board of Education would not agree with the document from the Association of Directors and Secretaries for Education which the deputation had brought to their notice, and would be quite willing to do anything in its power to ensure that such control as was there indicated was not put into effect. He asked that the Board of Education might have, in confidence, any particulars bearing on the point at issue.

Dr. BOLAM thanked the Minister for receiving the deputation, and said that the informal discussion had been of the greatest help. He assured the Minister that there was a great deal of resentment against the manifesto of the directors of education throughout the country among school medical officers, and the Minister's pronouncement of policy would assist matters very much.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following appointments are announced by the Admiralty:—Surgeon Captains E. A. Penfold, D.S.O., to R.N. Hospital, Chatham, E. T. Meagher to the *Vivid* for R.N. Barracks. Surgeon Lieutenant Commanders A. S. Paterson to the *Yarmouth* for voyage home, R. J. Freemantle to the *Malaya*. Surgeon Lieutenant J. H. B. Crosbie to the *Indus*.

ARMY MEDICAL SERVICE.

Colonel A. E. C. Keble, C.B., C.M.G., D.S.O., late R.A.M.C., retires on retired pay, December 26th, 1921 (substituted for notification in the *London Gazette*, January 16th, 1922).

ROYAL ARMY MEDICAL CORPS.

Major and Brevet Lieut.-Colonel J. A. Anderson to be Professor at the Royal Army Medical College, *vice* Lieut.-Colonel and Brevet Colonel P. S. Leleau, C.B., C.M.G.

Major C. Ryles, O.B.E., to be Assistant Professor at the Royal Army Medical College, *vice* Major and Brevet Lieut.-Colonel J. A. Anderson.

Major W. W. Browne, O.B.E., to be temporary Lieutenant-Colonel whilst employed as Assistant Director of Hygiene.

Temporary Major W. L. Cowardin relinquishes his commission and retains the rank of Major.

Captain J. T. Simon to be Major and to remain seconded.

Captain J. S. Sloper, O.B.E., retires, receiving a gratuity.

Temporary Lieutenant B. FitzJ. Haythornthwaite to be temporary Captain.

ROYAL AIR FORCE MEDICAL SERVICE.

T. L. P. Harries is granted a short service commission as a Flight Lieutenant, with effect from and seniority of January 30th.

The following are granted temporary commissions in the ranks stated, with effect from and with seniority of the dates indicated: Flight Lieutenant W. G. Weston, January 30th; Flying Officer T. A. G. Hudson, January 27th.

TERRITORIAL ARMY.

ROYAL ARMY MEDICAL CORPS.

The following officers relinquish their commissions and retain their rank, except where otherwise stated: Major F. K. Smith; Captain F. Clayton, and is granted the rank of Major; Captains E. N. Threlfall, A. G. V. Van Someren, M. H. Barton, M.C., L. E. Hughes, M.C., K. H. Gill, C. B. Hawthorne, A. H. Bell, W. E. Fitzgerald, M.C., T. Higson, W. K. Churchouse, M.C., T. S. Stafford.

Temporary Major W. H. Broad, T.D., from 6th Battalion, the King's Rifles, to be Major, with precedence as from September 22nd, 1918.

DIARY OF SOCIETIES AND LECTURES.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1.—Mon., 8.30 p.m., Discussion: The Treatment of Tuberculous Glands—introduced by Mr. G. Grey Turner, to be followed by Sir Lenthal Cheatle, K.C.B., C.V.O., Mr. W. H. Clayton-Greene, C.B.E., Mr. Warwick James, and Mr. W. G. Howarth.

ROYAL SOCIETY OF MEDICINE.—*Section of Odontology:* Mon., 8 p.m., Clinical Evening. *Section of Medicine:* Tues., 5.30 p.m., Dr. Spriggs and Mr. Marxer: A Review of 61 Cases seeking Relief after Short-circuiting Operations. *Section of Surgery:* Wed., 5.30 p.m., Informal Discussion on Acute Obstruction resulting from Carcinoma of the Colon. *Section of Obstetrics and Gynaecology:* Thurs., 8 p.m., Mr. G. Luker: Silk Suture Removed from Urethra as a Sequel to Caesarean Section; Dr. C. D. Lochrane: Decidual Reaction in Adenomyoma of Vaginal Wall; Dr. R. A. Gibbons: Sterility with Reference to the State. *Section of Laryngology:* Fri., 4 p.m., Cases; 4.45 p.m., Discussion on Treatment of Malignant Growths of the Nasal Accessory Sinuses; to be opened by Mr. E. M. Woodman and Dr. Reginald Morton. Cases, specimens, slides, and photographs will be shown. *Section of Anaesthetics:* Fri., 8.30 p.m., *Annual General Meeting:* Election of Officers and Council for 1922-23. Dr. Z. Mennell: Anaesthesia in Intracranial Surgery.

TUBERCULOSIS SOCIETY, Margaret Street Hospital, W.1.—Mon., 7.30 p.m., General Meeting. Dr. Hernaman-Johnson will demonstrate *x*-ray apparatus and discuss technique and difficulties.

POST-GRADUATE COURSES AND LECTURES.

CANCER HOSPITAL, Fulham Road, S.W.—Tues., 4 p.m., Mr. R. H. J. Swan: Haematuria; Fri., 4 p.m., Mr. C. E. S. Phillips: Some Problems in Radio-physics.

CHESTERFIELD DIVISION, BRITISH MEDICAL ASSOCIATION, Chesterfield Royal Hospital.—Fri., 2.30-4 p.m., Mr. Simpson: Infections of the Kidney; Dr. Mould: Prognosis in Mental Disease.

EDINBURGH ROYAL HOSPITAL FOR SICK CHILDREN.—Thurs., 5 p.m., Dr. Lewis Thatcher: Infant Feeding.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION, Ear, Nose, and Throat Hospital.—Wed., 4.15 p.m.: Ear, Nose, and Throat Cases.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—Thurs., 4 p.m., Dr. Gray: Demonstration of Cases of Skin Diseases.

MANCHESTER: ANCOATS HOSPITAL.—Thurs., 4.30 p.m., Dr. Renshaw: Systematic Examination of Patient Suffering from Effects of a Toxaemic Condition.

MANCHESTER BABIES' HOSPITAL, Slades Lane, Levenshulme.—Sat., 4 p.m., Dr. Dyson: Congenital Syphilis.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.30 p.m., Sir William Milligan: Early Diagnosis and Treatment of Laryngeal Cancer.

MANCHESTER: ST. MARY'S HOSPITALS (Whitworth Street West Branch).—Fri., 4.30 p.m., Dr. Dougal: Labour in Contracted Pelvis.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland Street, W.—Daily, In- and Out-patient Attendances. Mon., 5.30 p.m., Lecture by Sir S. Russell-Wells: The Failing Heart.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Mon., Tues., Thurs., and Fri., 2 p.m., Out-patient Clinics. Tues. and Fri., 9 a.m., Surgical Operations. Mon., 12 noon, Dr. Greenfield: Syphilis of the Nervous System; 3.30 p.m., Dr. R. Reynolds: *X*-ray Demonstration. Tues., 3.30 p.m., Mr. Armour: Surgical Treatment of Spinal Tumours. Wed., 3.30 p.m., Mr. L. Paton: Papilloedema. Thurs., 3.30 p.m., Dr. H. Howell: Neuroses. Fri., 3.30 p.m.: Intracranial Tumours.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Daily, 2.30 p.m., In- and Out-patient Clinics, Operations, etc. *Lectures.*—Mon., 3.30 p.m., Dr. L. Yealland: Examination of the Nervous System—Reflexes. Wed., 4.30 p.m., Mr. Norman Fleming: External Eye Diseases. Fri., 4.30 p.m., Dr. S. C. Shanks: Electrical Reactions of Muscle and Nerve.

ROYAL INSTITUTE OF PUBLIC HEALTH, 37, Russell Square, W.C.—Wed., 4 p.m., Dr. C. E. M. Jones: Surgical Tuberculosis in Children.

ST. JOHN'S HOSPITAL, 49, Leicester Square, W.C.—Thurs., 6 p.m., Chesterfield Lecture by Dr. W. Griffith: Treatment of Skin Diseases.

ST. MARYLEBONE GENERAL DISPENSARY, Welbeck Street, W.—Infant Welfare Course—Dr. E. Pritchard: 6 p.m., Wed., Management of Difficult Cases; Fri., Treatment of Minor Ailments.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Municipal Hospital, Ouseley Road, Balham.—Fri., 4 p.m., Mr. J. Swift Joly: Retention of Urine in Elderly Men.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Daily, 10 a.m., Ward Visits; 2 p.m., In- and Out-patient Clinics and Operations. *Lectures.*—5 p.m., Mon., Mr. Harman: Latent and Paralytic Squint. Tues., Mr. Gray: Intestinal Obstruction. Wed., Mr. Armour: Practical Surgery. Thurs., Colonel Harrison: Modern Treatment of Syphilis. Fri., Dr. Owen: Management of the Premature and Delicate Infant at Birth.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 1s. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS and ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London).
MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London).
EDITOR, *British Medical Journal* (Telegrams: Aitology, Westrand, London).
Telephone number for all Departments: Gerrard 2630 (*3 lines*).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.; 4361 Central.)
IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

FEBRUARY.

28 Tues. Lewisham Division: St. George's Lodge, Catford Hill, S.E.6, 8.45 p.m.
West Suffolk Division: West Suffolk General Hospital, Bury St. Edmunds, 3 p.m.

MARCH.

1 Wed. London: Welsh Committee, 2.30 p.m.
South Middlesex Division, St. John's Hospital, Twickenham, 8 p.m., Clinical Meeting.
North Middlesex Division: Wortley Hall, Finsbury Park, 3.30 p.m.

2 Thurs. North Suffolk Division, Lowestoft: Address by Medical Secretary (postponed from February 16th).

3 Fri. London: Propaganda Subcommittee, 2.15 p.m.
Chesterfield Division: Chesterfield Royal Hospital.—2.30 to 4 p.m., Post-graduate Classes.

7 Tues. Kingston-on-Thames Division: Surbiton Cottage Hospital, 8.30 p.m.: Address by Dr. Wm. Brown on Psychology and Psychotherapy.
Marylebone Division: 8 p.m., Address by Medical Secretary.

8 Wed. **Council:** To Consider the Report of the Central Ethical Committee on Professional Secrecy, 11 a.m.
London: Propaganda Subcommittee, 2.15 p.m.

APPOINTMENTS.

CHETWOOD-AIKEN, K. C., M.B., Honorary Ophthalmic Surgeon to the Taunton and Somerset Hospital.

HIGHAM, J. Parkinson, M.B., B.S Durh., Ophthalmic Specialist Medical Referee under the Workmen's Compensation Act, 1906, for County Court Circuit No. 15.

MOLLIERE, Fred H., M.B., Ch.B.Aberd., Casualty House-Surgeon to the Bristol General Hospital.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **9s.**, *which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.*

BIRTH.

EVANS.—On February 14th, 1922, at 87, Lower Baggott Street, Dublin, the wife of Captain W. S. Evans, R.A.M.C., of a daughter.

MARRIAGE.

FORSYTH—BARNEY.—On February 8th, at Alderney, John Andrew Cairns Forsyth, M.Sc., M.B., F.R.C.S., to Phyllis Honor, daughter of the Rev. John Le Brun and Mrs. Le Brun, The Rectory, Alderney, and widow of the late Lieutenant M. Middleton Barney, R.E.

DEATHS.

GIBSON.—At his residence, The Beeches, Cheadle, Staffs., Wm. Rutherford Gibson, M.D., Ch.B.Glasg., suddenly, on December 23rd, 1921.

WILD.—February 6th, at a nursing home, George Samuel Wild, M.D., of Freshfield and Bootle, in his 65th year.

WRAY.—On the 13th February, at a nursing home in London, Charles Wray, F.R.C.S.Eng., of 36, Victoria Street, S.W., and Bank Chambers, North End, Croydon, aged 63.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, MARCH 4TH, 1922.

CONTENTS.

	PAGE
BRITISH MEDICAL ASSOCIATION.	
Annual Meeting at Glasgow: Provisional Programme	59
Current Notes:	
Fee for Notification of Infectious Diseases	57
Hospital Policy	57
Annual Meeting, Glasgow, 1922	57
Pay of Majors R.A.M.C.	58
Expenditure and Income Statistics	58
Statistics of Insurance Work	58
Plague in Australia	58
New South Wales Branch War Memorial	58
Hospital Policy in Western Australia	58
A Medical Family	58
ASSOCIATION NOTICES:	
Table of Dates	59
Branch and Division Meetings to be held	60
MEETINGS OF BRANCHES AND DIVISIONS	60
The Geddes Report on National Expenditure: Final Report	61
Uterine Cancer: An Appeal to Midwives and Nurses	61
The War Office and Pay of Majors	61
CORRESPONDENCE:	
Doctors and Income Tax	62
The Mileage Grant	62
INSURANCE:	
The Range of Insurance Medical Service	63
London Panel Committee	63
NAVAL AND MILITARY APPOINTMENTS	63
DIARY OF SOCIETIES AND LECTURES	64
ASSOCIATION INTELLIGENCE AND DIARY	64
BIRTHS, MARRIAGES, AND DEATHS	64

British Medical Association.

CURRENT NOTES.

Fee for Notification of Infectious Diseases.

In a Current Note on February 18th we recorded that the Minister of Health, in answer to a letter from the British Medical Association, had undertaken to remind local authorities at an early date that as from September 1st, 1921, the fee payable to medical practitioners for the notification of cases of infectious disease occurring in their private practice reverted to 2s. 6d. We are glad to state that the Minister has promptly given effect to this undertaking. A circular letter, No. 285, dated February 24th, 1922, has been issued by the Ministry to all local authorities (except Poor Law authorities) in England and Wales, reminding them that the provisions of Section 5 (*a*) of the Local Government (Emergency Provisions) Act, 1916, lapsed on the date of the termination of the war as fixed by Order in Council, after which date the notification fee reverted to 2s. 6d. "An Order in Council was issued on the 10th August last fixing the 31st August as the date of the termination of the war, and consequently the fee payable to medical practitioners for the notification of cases of infectious disease occurring in their private practice reverted to 2s. 6d. on the 1st September last, while the fee for the notification of cases occurring in institutions remains at 1s. From the information recently received in this Department it appears that the position in regard to the payment for the notification of cases of infectious disease is not clearly understood by some local authorities, and I am accordingly to draw the attention of your authority to the position as set out above." This, we hope, will finally remove any vestige of doubt still remaining in the mind of the most obtuse local official.

Hospital Policy.

The report on the hospital policy of the British Medical Association, printed in last week's Supplement, is one to which the Council attaches the greatest importance. In a circular, dated February 25th, the Medical Secretary asks the Divisions to consider this report very carefully and to send their criticisms in the form of amendments to him not later than April 12th. These motions will then be considered by the Hospitals Committee and reported to the Council, which in turn will deal with the suggested amendments in a subsequent report. The report, with the amendments, will be one of the chief items of discussion at the Representative Meeting at Glasgow next July. It is to be noted that the report deals with all kinds of hospitals, and that therefore the most rural Divisions as well as the urban Divisions are concerned. Dealing with such delicate questions as the admission of patients to hospitals and payment for attendance thereat, the report affects every general practitioner nearly as much as it affects members of hospital staffs. The report, when adopted, will become the policy of the British Medical Association, and all the influence of the Association will be used to make it operative. It is therefore of the utmost importance that the Divisions should help the Council and the Representative Body to make this statement of policy as sound and explicit as possible.

The report deals with the fundamental questions of what is a voluntary hospital; of the conditions under which all classes of the public should be admitted to hospital; of the terms on which they should be treated at hospital; of the right, under certain conditions, of general practitioners to follow their patients into hospital; of how far the members of the honorary staffs of hospitals are to give their services free; of the new situation caused by the growth of contributory schemes of all kinds; and many other questions of the most vital consequence to the medical profession. In short, in the opinion of the Council, this report is the most important piece of work the Association has dealt with since the introduction of the Insurance Act, for the conclusions arrived at are bound to be the subject of discussion, and possibly difference, with important public bodies. It is necessary, therefore, that the Association should have the advice and guidance of those of its members who are on the staffs of the larger hospitals. Hence the Medical Secretary's circular suggests that each Division should issue a special invitation to the local members of the hospital staffs, whether members of the Association or not, to attend the meeting at which the subject will be debated and state their opinions. The desire of the Council is that all points of view should be put forward and discussed locally.

In the Journal this week will be found a short statement by the Chairman of the Hospitals Committee, and a note on this subject by a general practitioner in a country district. Other expressions of opinion will follow.

Conference in London.

It has been decided to call another conference of representatives of voluntary hospitals throughout England and Wales to discuss the Council's Report on the Hospital Policy of the Association. This conference will, by kind permission of the Royal Society of Medicine, be held in the Robert Barnes Hall, Royal Society of Medicine, 1, Wimpole Street, London, W., on Wednesday, March 22nd, at 11 am. Further particulars will be announced next week.

Annual Meeting, Glasgow, 1922.

We publish in the Supplement this week the provisional programme for the Ninetieth Annual Meeting of the British Medical Association to be held in Glasgow at the close of

next July. In the SUPPLEMENT of February 18th, at p. 39, a list was given of the officers of the various Scientific Sections so far as the arrangements had then gone. The officers of the Section of Tuberculosis have now been completed by the acceptance of the office of Vice-President by Professor S. Lyle Cummins, C.B., C.M.G., M.D., of Cardiff.

Sir William Macewen's Presidential Address will be given on Tuesday evening, July 25th, and the Sections will meet on July 26th, 27th, and 28th.

Pay of Majors R.A.M.C.

At its meeting on June 7th, 1921, the Naval and Military Committee decided to take up with the War Office the question of the pay of majors in the R.A.M.C. The feeling of the Committee was that these officers should be able to count upon some increase in pay during the period between their promotion to major and subsequent promotion to lieutenant-colonel. That such a provision should be made was, in the opinion of the Committee, rendered all the more necessary by a decision of the War Office to retain on the active list for a further period of four years a number of colonels who were due to retire. The Committee felt that its case was strengthened by the fact that a provision exists in the R.A.M.C. (India) which gives an increase after eighteen years' total service—that is, after three years in the rank of major. The final reply of the War Office, which states that the matter has been considered but cannot be pursued further at the present time, has proved a deep disappointment to the Committee, which has informed the War Office that it feels that it would be useless to press the question further in the present financial state of the country, but that it proposes to publish the correspondence which has taken place. The correspondence will be found at page 61.

Expenditure and Income Statistics.

The attention of the medical profession is again drawn to the offer of a gratuitous copy of a model account book to any practitioner undertaking to forward the information entered therein for the confidential use of the Insurance Acts Committee. There can be no doubt that all information under this head ought to be in the possession of the central negotiating body for insurance practitioners (the Insurance Acts Committee), for use at the time of the revision, at the end of 1923, of the present bargain with respect to the insurance capitation fee. Inquiries should be addressed to the Medical Secretary, 429, Strand, W.C.2.

Statistics of Insurance Work.

The attention of insurance practitioners is drawn to the necessity for the Insurance Acts Committee being supplied with statistics as to insurance work done in 1921. Information under the following heads should be sent to the Medical Secretary, 429, Strand, W.C.2.

Name.	Insurance Address.	No. of Insured Persons on List.	No. of Insured Persons Attended during 1921—that is, No. of Patients.	No. of Consultations.	No. of Visits.

Plague in Australia.

The following further information has reached us regarding plague in Australia, to which reference was made in this column on January 7th (p. 2). On November 14th, 1921, a conference of health authorities was held in Sydney for the purpose of discussing bubonic plague and the campaign against it in Australia; in addition to the Director-General of Health and the Chief Quarantine Officer of the Commonwealth, the heads of the Departments of Public Health in the different States of the Commonwealth and representatives of the New South Wales Branch and the Queensland Branch of the British Medical Association were invited to the conference by the Prime Minister; Dr. J. H. L. Cumpston, Director-General of Health of the Commonwealth, was in the chair. After full discussion, a number of important resolutions were adopted, and detailed regulations for dealing with plague infection laid down. Where in the opinion of a medical practitioner any case is one of plague, the State Department of Public Health is provisionally to regard such a case as one of plague, even in the absence of initial bacteriological confirmation; suspicious as well as declared cases are to be reported by practitioners. The conference considered that curative serum was of sufficient value to be used, and that it was important that it should be administered at an early stage of the disease, and in sufficiently large doses. Although sufficient evidence was not available to enable the Conference to speak decisively as to the value of prophylactic inoculation with vaccine against plague, the evidence available favoured its use as an optional measure in those specially exposed to infection. The essential feature, however, of an anti-plague campaign should be the extermination of rodents and not immunization by means of vaccines. The co-operation which was essential between the health authorities and the general practitioner might be specially directed (1) on the part of the profession to ensuring the prompt and willing carrying out of responsibilities laid down by the Health Department, and (2) on the part of the Health Department to ensuring the early diagnosis and treatment of cases of plague, the making of adequate provision for treating cases and for dealing with suspects. The Conference viewed with apprehension the existing situation in Queensland with respect to human plague and rat plague, and recorded its opinion that the epidemiological history of plague in Australia pointed to an extreme likelihood of a serious outbreak among human beings in the early months of the ensuing year or years. The development of an enlightened and active public opinion with reference to the part played by rats and rat fleas in the spread of plague was a factor of outstanding importance to the success of measures for the prevention and eradication of plague.

New South Wales Branch War Memorial.

An extraordinary meeting of the New South Wales Branch of the British Medical Association was held at the British Medical Association Building, Sydney, on December 6th, 1921, for the purpose of unveiling the memorial tablet erected in the library of the Branch to commemorate the names of those members of the medical profession in New South Wales who gave their lives in the great war. The ceremony of unveiling was performed by Dr. Fourness Barrington, President of the Branch, who delivered a eulogium. The following names appear upon the Roll of Honour:

W. R. Aspinall, H. K. Bean, N. W. Broughton, G. R. C. Clarke, J. Davie, J. E. Donaldson, J. F. Flashman, T. J. Frizell, E. L. Giblin, B. D. Gibson, S. M. Graham, J. N. Griffiths, C. C. Hains, C. M. Harris, R. F. Hughes, G. M. Hunt, A. C. A. Jekyll, H. E. Kirkland, W. D. Kirkland, B. H. Mack, G. A. Marshall, F. B. Metcalfe, J. B. Metcalfe, J. L. Niven, B. G. A. Pockley, C. R. A. Pye, A. W. Scot Skirving, R. A. Sillar, M. P. Smith, J. R. Tillett, A. Verge, J. S. Wilson.

Hospitals Policy in Western Australia.

A bill was recently introduced into the Legislative Assembly of Western Australia to ensure that "the provision of public hospitals shall be the concern of the various local governing bodies throughout the State, as well as of the Government." The Western Australian Branch of the British Medical Association has, in view of the drastic changes proposed, taken special action to deal with the provisions of this bill.

A Medical Family.

In the BRITISH MEDICAL JOURNAL of October 1st, 1921, there appeared an obituary notice of a late distinguished member of the British Medical Association, George Hunter, M.D., F.R.C.S., F.R.C.P.Edin., who practised for many years in Linlithgow and subsequently in Edinburgh. It is of interest to note that there are now in the medical profession the following members of the late Dr. George Hunter's family: Dr. James Hunter of Linlithgow, who was elected a member of the Association in 1880, and Dr. Joseph Hunter of Dumfries, a member of the Scottish Committee, nephews of Dr. George Hunter; Dr. A. J. Gordon Hunter, M.C., of Dumfries, son of Dr. James Hunter; and Dr. Gwendolyn G. Davis (*née* Hunter) of Nottingham, and Dr. Elspeth Jamieson Hunter of Linlithgow, daughters of Dr. James Hunter. The wife of Dr. Joseph Hunter is also a member of the profession. A niece of Dr. James Hunter has already begun the study of medicine, and another niece will shortly enter on her career as a medical student. Of the living doctors named, all except one, excluding the two married ladies, are members of the British Medical Association. Dr. Gwendolyn Davis was a member of the Association before her marriage; her husband, Dr. H. Greenshields Davis of Nottingham, is a member. Such a record must be difficult to match. The name of Dr. Elspeth Hunter was added to the *Medical Register* only last December.

Annual Meeting, Glasgow, 1922.

President-elect: Professor Sir WILLIAM MACEWEN, C.B., M.D., F.R.S., D.C.L.

PROVISIONAL PROGRAMME.

THE Headquarters of the Annual Meeting of the British Medical Association in July next will be in the buildings of the University of Glasgow.

MEETINGS OF COUNCIL, REPRESENTATIVE BODY, ETC.

Friday, July 21st.
10 a.m.—Meeting of Representative Body, Bute Hall, University.
7.15 p.m.—Representatives' Dinner, Grand Hotel, Charing Cross.

Saturday, July 22nd.
9.30 a.m.—Representative Meeting, Bute Hall.
8 p.m.—Smoking Concert, Grand Hotel.

Sunday, July 23rd.
Sail to the Firth of Clyde.

Monday, July 24th.
9 a.m.—Council Meeting, Randolph Hall, University.
10 a.m.—Representative Meeting, Bute Hall.
9 p.m.—Music Hall Entertainment, Alhambra.

Tuesday, July 25th.
9.30 a.m.—Representative Meeting, Bute Hall.
2 p.m.—Annual General Meeting, Bute Hall (short session).
5 p.m.—Official Religious Service, Glasgow Cathedral.
8 p.m.—Adjourned General Meeting and President's Address, Bute Hall.

Wednesday, July 26th.
9 a.m.—Council Meeting, Randolph Hall.
2.30 p.m.—Secretaries' Conference, University Union.
6.30 p.m.—Secretaries' Dinner, University Union.

SCIENTIFIC MEETINGS AND EXHIBITIONS.

The Council has approved the following Scientific Sections:

Three Day Sections.—Medicine, Surgery, Pathology, Ophthalmology, Neurology, and Psychological Medicine.

Two-Day Sections.—Obstetrics and Gynaecology, Microbiology (including Bacteriology), Diseases of Children, Public Health, Physiology, Dermatology.

Single-Day Sections.—Laryngology, Otology, Industrial Diseases and Forensic Medicine, Medical Sociology, Radiology, Tuberculosis, Anaesthetics, and Anatomy.

The Sections will meet for papers and discussions in the classrooms of the University on the forenoons of Wednesday, Thursday, and Friday, July 26th, 27th, and 28th, from 10 a.m. till 1 p.m. Clinical and other demonstrations will be arranged for the afternoons of the same days. The names of the officers of Sections were printed in the SUPPLEMENT of February 18th, at p. 39.

The Pathological Museum will be open from July 25th to 28th, inclusive, in the Anatomical Department of the University.

The Annual Exhibition of surgical instruments, electrical appliances, drugs, foods, and books will be on view in the Kelvin Hall from July 25th to 28th inclusive. An exhibition of the public health activities of the Corporation will be open on the same days in the Kelvin Hall, immediately opposite one of the entrances to the University.

GENERAL MEETINGS, SOCIAL AND OTHER FUNCTIONS, AND ENTERTAINMENTS.

Tuesday, July 25th.
2 p.m.—Annual General Meeting, Bute Hall (short session).
5 p.m.—Official Religious Service, Glasgow Cathedral.
8 p.m.—Adjourned General Meeting and President's Address, Bute Hall, University.
Civic Reception by the Lord Provost and Magistrates in the City Chambers, George Square.

Wednesday, July 26th.
Visit to the Consumption Sanatorium, Epileptic Colony, and Quarrier's Homes, Bridge of Weir, and tea at Duchal (Sir Joseph P. Maclay, Bt.), 300 guests.
Visits to hospitals and charabanc trips to places of local interest and public works.
Reception by the Vice-Chancellor and Court of the University in the Bute Hall and Hunterian Museum.

Thursday, July 27th.
Mass, St. Andrew's Cathedral.
Golf Competition for the Ulster Cup at Killermont (Glasgow Golf Club); afternoon tea (Professor and Mrs. J. M. Munro Kerr), 200 guests.
Afternoon trip to Corporation Park at Balloch, Loch Lomond.
Visits to hospitals and charabanc trips to places of local interest and public works, including the Glasgow Waterworks at Mugdock (tea at Craigend, Mr. Harold Yarrow, C.B.E.).
Annual Dinner of the Association, St. Andrew's Halls, Charing Cross.
Music Hall entertainment at Alhambra, 500 guests.
Dancing and whist in St. Andrew's Halls.

Friday, July 28th.
Garden Party at Erskine House (Princess Louise Scottish Hospital for Limbless Sailors and Soldiers), 500 guests.
Visit to John Hunter's birthplace (limited number).
Visits to hospitals and charabanc trips to places of local interest and public works.
Popular Lecture in the Bute Hall by Professor J. Graham Kerr, F.R.S.
Conversazione by Royal Faculty of Physicians and Surgeons.

Saturday, July 29th.
Whole-day Cruise, by special steamer, round the Firth of Clyde and the Lochs.
Trip to Trossachs and Loch Lomond (limited number).
Trip to Ayr and "Land o' Burns" (limited number).

In addition there will be facilities for golf, bowling, and lawn tennis daily. The University Union will be available as a club during the meetings. Charabanc trips have been arranged for ladies in the forenoons, and the Queen Margaret Union and Burlington House, Bath Street, have been specially reserved for their use.

The Honorary Local General Secretary of the Annual Meeting is Dr. GEO. A. ALLAN, The University, Glasgow.

Association Notices.

TABLE OF DATES.

Mar. 8, Wed.	Council Meeting, 429, Strand, at 11 a.m., to consider the Report of the Central Ethical Committee on Professional Secrecy.
Mar. 15, Wed.	Branch Reports for 1921 due to Head Office on or before this date.
April 1, Sat.	Nomination papers available at Head Office for election of 24 Members of Council for 1922–23, by grouped Home Branches.
April 26, Wed.	Council Meeting, 429, Strand, at 10 a.m.
April 29, Sat.	Last day for receipt at Head Office of Independent Motions for Annual Representative Meeting Agenda, as to policy, Articles or By-laws (By-law 40).
May 6, Sat.	Annual Report of Council appears in SUPPLEMENT.
May 8, Mon.	Last day for receipt at Head Office of Nominations, by a Division or not less than 3 Members, for election of 24 Members of Council by grouped Home Branches for 1922–23.
May 13, Sat.	Publication in SUPPLEMENT of list of nominations for election of 24 Members of Council by grouped Home Branches for 1922–23.
	Voting papers for election of 24 Members of Council by grouped Home Branches posted from Head Office to Members of groups where there are contests.
May 27, Sat.	Last day for receipt at Head Office of voting papers for election of 24 Members of Council by grouped Home Branches (where there are contests).
June 3, Sat.	Publication in SUPPLEMENT of results of Council elections by grouped Home Branches.
June 10, Sat.	Nomination papers available, at Head Office, for election of 12 Members of Council by grouped Home Representatives.
June 14, Wed.	Council Meeting, 429, Strand, at 10 a.m.
June 23, Fri.	Last day for election of Representatives and Deputy-Representatives.
June 24, Sat.	Supplementary Report of Council appears in SUPPLEMENT.
June 30, Fri.	Last day for receipt at Head Office of notification of election of Representatives and Deputy-Representatives.
July 7, Fri.	Last day for receipt at Head Office of Amendments and Riders for Annual Representative Meeting Agenda.
July 21, Fri.	Annual Representative Meeting, Glasgow, 10 a.m.
	Nominations for election of 12 Members of Council by grouped Representatives to be received (at Annual Representative Meeting, Glasgow) by this date.

ALFRED COX,
Medical Secretary.

BRANCH AND DIVISION MEETINGS TO BE HELD.

BIRMINGHAM BRANCH: COVENTRY DIVISION.—A meeting of the Coventry Division will be held on Tuesday, March 7th, at the Coventry and Warwickshire Hospital, at 8.30 p.m. Agenda: Cases and specimens; Election of Representative; Discussion of Document A.R.M. 2a, concerning New Articles and By-laws (see SUPPLEMENT, BRITISH MEDICAL JOURNAL, December 24th, 1921).

METROPOLITAN COUNTIES BRANCH: HAMPSTEAD DIVISION.—A clinical meeting of the Hampstead Division will be held at the Hampstead General Hospital on Thursday, March 9th, at 8.30 p.m. Members are invited to bring forward cases and specimens of interest. Coffee will be served.

At the Divisional Meeting held on January 12th it was resolved to send a donation from the Hampstead Division to the Wood-Hill Fund. Members are invited to send contributions from 5s. upwards towards the Fund to the Honorary Secretary of the Division, Dr. Sidney Boyd, 33, Belsize Park Gardens, N.W.3. All contributions will be acknowledged.

NORTH OF ENGLAND BRANCH: DARLINGTON DIVISION.—A meeting of the Darlington Division will be held at Greenbank Hospital on Tuesday, March 7th, at 8.30 p.m., to discuss the Report on Organization of Voluntary Hospitals. The report, as amended by the meeting, will eventually be forwarded to headquarters as the considered opinion of the Division on the matter. Members are requested to attend this important meeting in full, and bring their copies of the report with them.

NORTH WALES BRANCH.—The spring meeting of the North Wales Branch will be held at Wrexham on Tuesday, April 4th.

SURREY BRANCH: KINGSTON-ON-THAMES DIVISION.—A general meeting of the Division will be held at Surbiton Hospital on Tuesday, March 7th, at 8.45 p.m. Dr. William Brown will give an address on "Psychology and Psychotherapy." It is hoped that all members will do their best to attend.

Meetings of Branches and Divisions.

BIRMINGHAM BRANCH: WALSALL DIVISION.

WE are indebted to the honorary secretary, Dr. F. G. Layton, for the following report:

"The Walsall Division is finding its new venture (a monthly supper party) to be a distinct success. The first was held on January 19th, when, in spite of the overwhelming rush caused by the influenza epidemic, there was quite a good attendance. Supper was consumed, affairs of importance (and of no importance) were discussed, lots were drawn in order that the victim (that is, the reader of the paper at the next meeting) might be discovered. As was fitting, the lot fell upon Benjamin, the newest comer to the town. Accordingly on February 16th Benjamin, duly fortified with food and drink, gave a short and entirely convincing account of septic surgery as practised by a regimental M.O. during the Great War. He was extremely interesting. Most instructive of his several clinical yarns was one concerning a soldier whose leg he amputated in the open in pitch darkness with a pair of ordinary tailor's shears. (It is said that the M.O. was known in the regiment as "the Short-legged Scissor Man.") He assured us that he met the man the other day in Birmingham alive and kicking! This story set things going, and other men told us of experiences that seemed almost too wonderful to be true. It was unanimously agreed that a suggestion should be sent to the Head Office to the effect that the new Division which is to be formed of the remains of Mid-Staffs, Walsall, etc., shall be known as "the Walsall and Lichfield Division"; that the Mid-Staffs Division shall disappear, mainly because practically none of the constituents of the new Division live in Mid-Staffordshire."

Dr. Layton wishes it to be known that any member of the British Medical Association will be welcomed at the Divisional monthly supper parties (third Thursday in each month) provided (1) he gives notice of his intention to be present, (2) he is prepared to pay 3s. 6d. for his supper.

DORSET AND WEST HANTS BRANCH: WEST DORSET DIVISION.

A MEETING of the West Dorset Division was held at the County Hospital, Dorchester, on February 8th. Owing to the prevailing epidemic of influenza the attendance was small, and in consequence of the absence of the Honorary Secretary no formal business was transacted. The Chairman (Dr. MACDONALD) offered a hearty welcome to Dr. J. S. Fairbairn, who had journeyed to the West accompanied by a biting east wind to deliver his address on "What disability is caused by, and what treatment is required for, uterine displacement." The address, which was not only interesting but highly practical, covered a wide field, and those present were more than handsomely rewarded for having braved the "elements" under exacting and trying conditions. As evidence of the interest aroused by his address Dr. Fairbairn had the satisfaction of listening to a spirited discussion, as well as answering many questions. The hands of the clock alone saved the lecturer from having to face what promised to develop into an animated debate on the psychology of pain in connexion with the subject matter of his address. The Chairman having thoughtfully arranged for tea, the members enjoyed a delightful half-hour's general talk across the table.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.

A MEETING of the City Division was held at the Royal Northern Hospital on February 10th, when Dr. CUTHBERT DIXON was in the chair.

Mr. R. C. ELMSLIE, Orthopaedic Surgeon to St. Bartholomew's Hospital, gave a most interesting and instructive address, illustrated by diagrams on the blackboard, on the diagnosis and treatment of certain fractures of the extremities, which was listened to with great appreciation by those present, and gave all much food for thought. The address was followed by a discussion. Mr. Elmslie also impressed on the members the imperative necessity (1) of belonging to one or other of the Medical Defence Societies; (2) of taking careful notes of any fracture brought to one for treatment, and dating and signing same; (3) of the universal use of rays in all fractures. The meeting terminated with a hearty vote of thanks to Mr. Elmslie.

MIDLAND BRANCH: CHESTERFIELD DIVISON.

THE annual dinner of the Chesterfield Division was held at the Falcon Restaurant, Chesterfield, on February 8th, and proved a most interesting and successful function. The dinner was presided over by Dr. PECK, Chairman of the Division and President of the Midland Branch, supported by Dr. Wallace Henry, Honorary Secretary, Midland Branch, and Chairman of Representative Meetings; Dr. Cox, O.B.E., Medical Secretary, British Medical Association; Mr. Webber, Honorary Secretary, Notts Division; Major-General Luce, K.C.M.G., C.B., member of the Council; and over thirty other members of the profession. The toast of The King having been proposed by Sir RICHARD LUCE, and responded to by Dr. WALLACE HENRY, that of the Visitors was proposed by Dr. POOLER, Honorary Secretary of the Division, and acknowledged by Mr. WEBBER, F.R.C.S. (Nottingham), and Mr. MOUATT, F.R.C.S. (Sheffield). The toast of the Chairman and Honorary Secretary was proposed by Dr. MCCREA. The following is an informal account of the remainder of the proceedings:

During the evening an address was given by Dr. Cox on "How the British Medical Association could be made more useful to the medical profession." Several medical men, unable to be present at the dinner, managed to arrive in time for Dr. Cox's suggestive and illuminating speech. After the address questions were invited, and some spirited heckling took place after the approved Scottish (or in this case Irish) fashion, from all of which Dr. Cox emerged with his flag still flying. Amongst the questions raised were the reduction of the capitation fee, the Willesden medical clinics, the salaries and over-abundance of assistant medical officers of health, methods of increasing our membership, etc. Dr. Cox suggested that one way to increase our membership would be for the hospital staffs to bring the claims of the British Medical Association before their students, but in a speech packed with *mots* of the genuine Scottish order Mr. MOUATT retorted that he really could not be expected to "push the British Medical Association into an acute abdomen." This was the only occasion on which Dr. Cox was seen to wilt under the storm. "A really enjoyable and useful evening" was the unanimous verdict. The hecklers, of course, thoroughly enjoyed themselves, and even the "heckled" said he had had a good time.

NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH: LANCASTER DIVISION.

AT the last meeting of the Lancaster Division Dr. T. EASTHAM, barrister-at-law, gave an address on "Medical men and their legal difficulties." Dividing his subject into two parts, the medical man as witness and the medical man as defendant, he remarked that he had a large experience of the former, a much smaller experience of the latter, and none at all of the doctor as plaintiff. In giving evidence it behoved the doctor to ensure command of his facts by some preparation beforehand. A cross-examining barrister, seeking to weaken the doctor's evidence, might incidentally injure his professional reputation in the eyes of the laity if he made it appear that the doctor was not well up in some branch of his subject. In the interests of his client the doctor should be prepared to give his evidence in such a manner that it carried its full weight. Accurate notes should be taken at the time of each examination of any case likely to involve litigation. He gave instances where accuracy in noting such points as the place of examination had materially assisted in the arrival at a just verdict. After dealing with technical matters, such as the use of notes by a witness, the speaker turned to the difficulties of the medical man as defendant. Suggestions were given by attention to which doctors might avoid finding themselves in that position. They were, for example, advised to insure themselves as car-owners against third-party risks, and to scrutinize their car insurance policies carefully. The question of charges of negligence against the doctor was interestingly discussed, and members were shown the necessity of remembering that such charges are tried by laymen and the need for avoiding the appearance of carelessness. Commissions of inquiry under the National Insurance Acts resulting in removal of doctors from the panel were also discussed, and a number of examples of such cases quoted.

At the close of the lecture questions were invited, and an interesting discussion took place on points raised by individual members. The lecturer was heartily thanked for his clear and informative discourse.

SURREY BRANCH: CROYDON DIVISION.

A MEETING of the Croydon Division was held at the Croydon General Hospital on February 21st, when Mr. G. NEWBY, O.B.E., F.R.C.S., was in the chair. A vote of condolence was passed on the death of Mr. C. Wray, a former Chairman of the Division, and for many years a member of the Executive Committee.

It was decided to hold the annual dinner on April 25th or 26th, the exact date to be arranged by the Chairman and Secretary.

Dr. J. BRIGHT BANNISTER gave an address on puerperal eclampsia and Caesarean section, which was followed by a discussion. The address was greatly appreciated by all present. A cordial vote of thanks was accorded to Dr. Bannister for his address.

UTERINE CANCER.

IN May, 1909, the Council of the British Medical Association, in circumstances detailed in an article on p. 361 of the JOURNAL this week, issued the following appeal to midwives and nurses, calling their attention to the early symptoms of cancer of the uterus, especially of cancer of the cervix, and urging the importance of recommending the woman immediately to consult a medical practitioner.

AN APPEAL TO MIDWIVES AND NURSES IN ORDER TO PROMOTE THE EARLY RECOGNITION OF CANCER IN THE WOMB.

Cancer of the womb is a very common and fatal disease in women, but *it can be cured by operation when it is recognized early*. A woman sometimes tells a nurse or midwife her ailments before she speaks to a doctor, and the nurse or midwife has then an opportunity of aiding our crusade against this terrible disease.

Cancer may occur at any age, and in a woman who looks quite well and who may have no pain, no wasting, no foul discharge, and no profuse bleeding.

To wait for pain, wasting, foul discharge, or profuse bleeding is to throw away the chance of successful treatment.

The early signs of cancer of the womb are:

1. *Bleeding*, which occurs after the change of life.
2. *Bleeding* after sexual intercourse, or after a vaginal douche.
3. *Bleeding*, slight or abundant, even in young women, if occurring between the usual monthly periods, and especially when accompanied by a bad-smelling or watery blood-tinged discharge.
4. *Thin watery discharge* occurring at any age.

The nurse or midwife who is told by a patient that she has any of these symptoms should insist upon her seeing a medical practitioner in order that an examination may be made without delay. By doing so she will often help to save a valuable life, and will bring credit to herself and to her calling.

THE WAR OFFICE AND PAY OF MAJORS.

THE following is the correspondence referred to in the Current Note on page 58 which has taken place between the War Office and the British Medical Association on the subject of the pay of Majors R.A.M.C. The question was first raised in a letter to the War Office, dated July 26th, 1921, in which the following passage occurs:

"... As regards Majors, there is no provision for increase in pay from the time at which they have completed fifteen years' service until they are promoted to Lieutenant-Colonel. The rate of promotion is slow, and will be still more so in view of the recent Army Order which contemplates retaining Colonels on the active list after they have had four years' service in the rank, and therefore a Major will remain on a fixed rate of pay for a long time with very little hope of increase, and this at a time when, if married and with children, he has to face a very great increase in his expenditure. It appears that Majors in India get an increase at eighteen years, and it is hoped that some provision will be made whereby an increase of pay can be given between fifteen years' service and the date of promotion to Lieutenant-Colonel."

The reply of the War Office, dated August 10th, 1921, stated:

"I am commanded by the Army Council to acquaint you that the question of the pay of officers of the Royal Army Medical Corps has received their fullest consideration, and the cases of the Director-General and the Major to which you refer have not been overlooked. They regret that they are unable to hold out any hope of the existing rates being varied."

On October 17th the Naval and Military Committee of the Association wrote expressing much regret that the War Office held out no hope that the existing rates of pay of Majors R.A.M.C. would be varied. The letter continued:

"The feeling of grievance amongst officers of the R.A.M.C. is at this moment intense in consequence of the decision to delay their promotion to Lieutenant-Colonel's rank by retaining Colonels on the full-pay list after completing four years in the rank. The present state of affairs bears very heavily on officers who have families to educate because the decision comes at a time when they had expected increased emoluments in the ordinary course of events. The Committee has carefully considered the grounds for this grievance, and is satisfied that it is intimately connected with the fact that a Major receives no increase of pay after fifteen years' service until he has been promoted to the rank of Lieutenant-Colonel, which, in the present circumstances, he sees no prospect of attaining until he has served twenty-three years or longer. Consequently premature resignations, detrimental to the Service, are likely to occur because officers will be strongly tempted to try to obtain better conditions of living by entering into civil practice. Formerly Majors were promoted automatically after twenty years' service, and thus had an increase of emoluments then. It is true that when a fixed establishment of Lieutenant-Colonels was introduced, and promotion to the rank was made only when a vacancy occurred, Majors had frequently to wait twenty-three years or more before reaching the rank of Lieutenant-Colonel; but they did not then suffer loss of pay, since they were given an increase at twenty years' service. It is the combination of loss of pay and loss of promotion that is giving rise to the present dissatisfaction. The Committee would point out that the Indian Government has recognized the need for, and has granted, an increase of pay to Majors R.A.M.C. serving in India after eighteen years' service. The Naval and Military Committee urges, therefore, in the strongest manner possible, that the decision to grant no increase of pay after fifteen years' service until promotion to the rank of Lieutenant-Colonel be reconsidered. The Committee feels that it is its duty to press this matter in the interests of the Service. Medical men are less likely to enter the R.A.M.C. if there is a widely prevalent source of dissatisfaction such as this, which affects men in the comparatively early years of their service, and which is freely discussed by those officers whom the students meet at the post-graduate and other hospital courses. You will understand the difficulties that the Association finds in dealing with the many who seek advice from it as to the adoption of the army as a career. It is for this reason that the Association again presses the matter on your attention."

The War Office wrote on October 27th to acknowledge this letter. It stated that the matter therein referred to was receiving consideration, and a reply would be furnished as early as possible. A further letter from the War Office, dated December 30th, 1921, stated that the Army Council had considered the question of giving an additional increase of pay in the rank of Major, Royal Army Medical Corps, "but they regret that at the present moment it is not possible to pursue the matter further."

THE GEDDES REPORT ON NATIONAL EXPENDITURE.

FINAL RECOMMENDATIONS.*

THE Third Report of the Geddes Committee on National Expenditure was issued on February 24th. It deals with services amounting to £102,500,000 (excluding Army and Air Force expenditure in the Middle East) and recommends reduction to the amount of £8,782,300. Including a further reduction of £3,000,000 in the estimates for war pensions since the first report, the grand total of reductions recommended in all three reports is £86,844,175 as against the £100,000,000 asked for. In order to make the further economies necessary, the Committee invite attention to a reduction (1) in naval expenditure, as a result of the Washington Conference; (2) in naval expenditure, under the heading oil stocks and oil storage; (3) in military expenditure, upon review of the foreign garrisons abroad. The fall in the cost of living since the estimates were prepared is also touched upon as offering the possibility of additional saving—though agreements, contracts, and purchases will cause difficulty in the full realization of this fall.

Only a few of the services considered in this Third Report have particular interest for our readers.

Under the Home Office Vote reference is made to the anthrax disinfecting station established at Liverpool for disinfecting certain classes of wool which was described in the BRITISH MEDICAL JOURNAL of December 3rd, 1921, p. 952. It was opened in 1921, and the estimate is that the financial year will show a deficit on working expenses of £5,705. The results of the experiment are being awaited by foreign countries, and if successful will, it is hoped, lead to an international agreement. The recommendation is that the station should be maintained for four months, when its closure should be considered or it should be made self-supporting.

SCOTTISH BOARD OF HEALTH.

The figures for three years compared by the Committee are as follows:

	£
1913-14 audited expenditure	652,392
1921-22 net estimate	3,375,939
1922-23 provisional net estimate	2,397,359

It is pointed out that the audited expenditure for the year 1913-14 referred only to the money provided by Parliament for the salaries and expenses of the National Health Insurance Commission (Scotland), the Local Government Board for Scotland, and the Highlands and Islands (Medical Services) Board, and for services administered by those departments. The estimates for 1921-22 and for 1922-23

* A summary of the recommendations in the First and Second Interim Reports of the Committee was given in the SUPPLEMENT of February 18th, 1922, at p. 40.

referred, of course, to the Scottish Board of Health established on July 1st, 1919, with the power formerly assigned to the Local Government Board for Scotland and to the Scottish Insurance Commission; afterwards this body took over the powers of the Highlands and Islands (Medical Services) Board and certain powers of the Scottish Education Department and of the Privy Council.

The Scottish Board of Health, in the light of the recommendations made for the (English) Ministry of Health, revised its provisional estimate, with the result that a reduction of 53 per cent. as compared with the estimate of 1921–22 was effected.

Public Health Services.—Under this heading are included grants for various services as in the case of the Ministry of Health. The following table shows the current expenditure:

1. Description of Service.	2. Estimated Scottish Grants in 1921/22.	3. Scottish Board of Health Provisional Estimate, 1922/23.	4. Scottish Board of Health Revised Estimate, 1922/23.	5. Committee's Recommendations for 1922/23.	6. Scottish Proportion, viz., 11/80ths of what Committee have recommended for England and Wales.
	£	£	£	£	£
Tuberculosis (Maintenance)	299,000	344,000	280,000	269,000	165,000
Tuberculosis (Capital)—					
1. Sinking Fund	62,224	68,440	68,440	68,440	49,000
2. Grant	—	—	24,000	Nil	
Maternity and Child Welfare	100,000	111,000	120,000	120,000	143,000
Venereal Diseases	46,000	63,000	65,000	65,000	58,000
Welfare of the Blind	10,000	16,000	14,000	14,000	12,000
Port Sanitation...	7,000	7,000	7,000	Nil	Nil
Total ...	534,224	609,440	578,440	576,440	427,000

Although figures are presented to show what the Scottish proportional expenditure would work out on the English basis, the Committee acknowledges that local circumstances and the amount of progress made in recent years differ, and therefore each service should be dealt with individually.

Tuberculosis (Maintenance and Capital).—The Committee notes that the total provision, actual and prospective, of beds in England and Wales for the treatment of tuberculosis is 22,750, and that the comparable figure for Scotland would be 4,688. The English figures represent a drastic reduction of the provision agreed upon between the Treasury and the Ministry of Health in February, 1921. The Scottish Board of Health, on the other hand, appears to have made no corresponding reduction. It is admitted that tuberculosis is more prevalent in Scotland than in England and Wales, and consequently the Treasury allowed a more generous margin to Scotland; but the actual number of beds available in Scotland is higher than the Treasury contemplated. The Committee recommends that the grant for Scottish tuberculosis maintenance should be limited to £269,000, which is the latest estimate of the expenditure in 1921–22 (excluding non-recurrent items), and this is much more than the grant would be on the proportionate basis of England and Wales.

A provision of £24,000 is asked for in the revised estimate in respect of capital expenditure on sanatoriums. The Committee, however, point out that under the Finance Act, 1911, a sum of £1,500,000 was earmarked for sanatorium capital grants in the Consolidated Fund. Of this sum Scotland's share amounted to £152,000. Scotland still has in hand sufficient to meet such capital expenditure on sanatoriums as is likely to be incurred in 1921–22 and 1922–23. In the circumstances the Committee recommends that the Scottish Board of Health should meet its capital expenditure out of the balance it has in hand, and that the additional grant of £24,000 should be withheld.

Other Services.—The Committee recommends that three other grants as under should be allowed:

	£
Maternity and child welfare	120,000
Venereal diseases	65,000
Welfare of the blind	14,000

Port Sanitation.—As in the case of a similar item in the Ministry of Health estimates, the Committee suggest that the Exchequer grant of £7,000 should cease, the whole expense to be borne by the locality, as formerly obtained.

Constitution of the Board.—The Scottish Board is made up of six paid members—namely, a chairman, one ordinary member, two medical members, one legal member, and one woman member, with salaries ranging from £1,000 to £1,800 per annum, together with bonus in all cases. The Committee states it is not sufficiently acquainted with the duties of the Board to be able to make a recommendation, but that it has been suggested that the present membership might be reduced to three—namely, a chairman and two other administrative members. Any such change would require amendment of the Scottish Board of Health Act, 1919. But the Committee suggests that the matter should be dealt with.

Conclusion.—The reductions recommended by the Committee, in addition to the £826,925 proposed by the Scottish Board in conformity with the suggestion for the Ministry of Health, come to £42,000. The total reduction thus suggested on the provisional estimate is £868,925, to bring down the estimate to £1,528,474.

SCIENTIFIC INVESTIGATION VOTES.

The provisional estimate for 1922–23 is £200,423. The largest item is the grant of £130,000 to the Medical Research Council. The Committee, being assured that the work of this Council in preventive medical research produces very substantial economies in administrative services falling on other departments, and the prevention and combating of disease and the alleviation of physical disability being a matter of such vital concern from an economic as well as from a humanitarian point of view, does not feel justified in recommending any reduction of the grant-in-aid of medical research conducted by a body of selected specialists.

Registrar-General's Offices.

The Committee is of opinion that the organization of the registration services for both the offices for England and for Scotland, and the present scale of fees, should be revised, so that the whole service may be self-supporting. The ultimate saving to England would, it is reckoned, be £150,000 to the Exchequer and the local rates. Meanwhile, they recommend that the fees for postal searches should be increased so as to produce an additional revenue for England, reducing the estimated loss by £3,600.

State Management of Liquor Traffic.

A short review is given of the experiment at Carlisle, Gretna, Cromarty Firth, and Enfield Lock, in State management of liquor traffic, and it is reported that the Home Office proposes, subject to further consideration as regards the Enfield Lock area, to continue all the existing schemes. Without entering into the political or social reasons for the experiment, but in view of the results so far obtained and of the risk of loss in future years, the continuance of this enterprise as a State undertaking does not appear to the Committee likely to afford any special financial advantage to the taxpayer. They do not think that a further expenditure contemplated to complete the State monopoly in the Carlisle area should, in the present financial circumstances, be incurred.

Correspondence.

Doctors and Income Tax.

SIR,—Is it not time that the Government promised a reduction in income tax? The cost of living is steadily falling, which means that the expenses of Government departments in materials and in labour should be falling, and the Government have reduced the remuneration of panel practitioners by 1s. 6d. in every 11s.—nearly 3.3 shillings in the £1.

I know that our profession has not great political influence, but cannot help feeling that if the matter were put on the agenda at Divisional and Branch meetings, and perhaps some resolution passed as follows:

> That in the opinion of this meeting, in view of the decreasing cost of living, materials, and labour, and the reduction in National Insurance capitation fee, the British Medical Association might call upon the Government substantially to reduce the Income Tax,

other associations might be induced to follow suit, and a good result follow.

The 6s. in the £1 is worth much more now than 6s. in purchasing value.—I am, etc.,

Tunbridge Wells, Feb. 11th. PHILIP M. PERKINS.

The Mileage Grant.

SIR,—I wish to point out that the statistics on which the Ministry of Health has based the new mileage grant (which means a 40 per cent. reduction for Northamptonshire) were gathered during one of the healthiest twelve months (April, 1920, to April, 1921) on record.

The mileage was very much greater for 1918 and 1919, and, judging so far, will be again for 1922. Consequently the mileage grant based on such statistics is quite inadequate and greatly to the detriment of rural practitioners.—I am, etc., JOHN C. MACAULAY, M.B.

Yardley Hastings, Northants, Feb. 13th.

Insurance.

THE RANGE OF INSURANCE MEDICAL SERVICE.

A COURT of Referees, consisting of Mr. E. H. Tindal Atkinson, Dr. Alexander Forbes, and Dr. J. H. Thompson, was appointed by the Minister of Health to decide a question arising under Article 35 of the National Health Insurance (Medical Benefit) Regulations, 1920, between the Leicestershire Insurance Committee and the Leicestershire Local Medical Committee, and the hearing took place on December 15th, 1921, at the office of the Leicestershire Insurance Committee. The inquiry in the case was held upon the question as to whether the excision of a papillomatous tumour was within the range of medical service within the meaning of Regulation 35 of the Medical Benefit Regulations of 1920.

A panel practitioner removed by operation under a local anaesthetic from the back of an insured person a papillomatous tumour of the size of a jargonelle pear. The tumour was not malignant, but had been growing in size, and was giving rise to irritation of the skin from its position under the clothes of the back. The operation involved the removal of a portion of sound skin with consequent haemorrhage and five or six sutures. The patient was originally informed by his doctor that the case was properly one for hospital removal, but the patient himself objected to this form of treatment and requested the doctor to undertake the operation and to charge a fee for same. The fee charged was one guinea, which, apart from any question arising under the regulations, was of an obviously moderate character. The Insurance Committee of Leicestershire took the view that this operation was one which could consistently with the best interest of the patient be properly undertaken by a general practitioner of ordinary professional competence and skill. The Local Medical Committee of Leicestershire having regard to all the circumstances of the case disagreed with the foregoing view, and the disagreement between the two Committees resulted in the holding of the inquiry. Dr. Pratt, on behalf of the Insurance Committee, pointed out that before the inquiry the Local Medical Committee had not furnished any satisfactory particulars of the basis of the contentions involved in the affirmative case, which, as indicated above, must be put forward by that Committee. He further urged that in fact the particular operation should be and was within the ordinary range of medical service having regard to the standard of skill prevailing in the district. Dr. Logan, on behalf of the Local Medical Committee, contended that the doctor in fact possessed special skill as being one of two out of twelve practitioners in the district who alone were in the habit of performing operations of a degree of difficulty similar to that of the operation in question. He suggested that if such a degree of skill were proved it would so reflect on the character of the particular operation as to render it outside the ordinary range, but he very frankly disclaimed the contention that this particular operation was on general grounds one of great or special difficulty.

While giving due weight to Dr. Logan's contention, the referees were of opinion that it would be a dangerous principle (*a*) to admit that a standard of skill can be arrived at by considering the number of practitioners in a district who either undertake or refrain from operations of a particular degree of difficulty, (*b*) to measure the difficulty of the operation, or to classify the same, by a standard so set up. And in this aspect of the case they were bound to take into account that the district in which this operation was performed is of a kind in which a fairly high standard of skill in minor operations may be expected from, and attributed to, the general practitioner therein. Taking into account the whole of the facts, both from the medical and legal points of view, the opinion was expressed that the Local Medical Committee failed to prove that this operation was outside the range of ordinary medical service in this district. Such a finding rendered it unnecessary to discuss the question of the special skill of the practitioner. But in fairness to the doctor, it was added (*a*) that in the circumstances of the case no reflection rested upon him in relation to his conduct as between himself and his patient, and (*b*) that his qualifications and experience were of such a kind as to attribute to him a high standard of skill in such operations as were undertaken by a general practitioner.

In the result the contention of the Insurance Committee succeeded. Apart from the question of principle indicated above the finding of the referees was strictly confined to the particular operation in question, and in their opinion it was not only inadvisable but impossible to attempt a classification of operations which might or might not be within the range of medical service as laid down in Regulation 35.

LONDON PANEL COMMITTEE.

ACCORDING to the *London Panel Committee Gazette*, a very successful post-graduate course in general medicine, at Charing Cross Hospital, was completed on December 15th, 1921. It is hoped that a further course may be arranged to start at the end of April. Intending members are asked to notify, at an early date, their desire to join this course. Courses in general surgery, clinical pathology, and midwifery and gynaecology, at Charing Cross Hospital, can be arranged at the same time, if not less than fifteen practitioners express a desire for post-graduate teaching in these subjects. The Metropolitan Asylums Board will also arrange for post-graduate courses of instruction in the diagnosis and treatment of fevers and diphtheria. These courses also will commence at the end of April. Fees for the courses at Charing Cross Hospital are £3 3s. (twelve lecture demonstrations with cases), and for the courses at the Metropolitan Asylums Board Fever Hospitals are £1 12s. (six lecture demonstrations with cases). All fees are payable in advance to the Secretary of the Panel Committee, Dr. R. J. Farman, Staple House, 51, Chancery Lane, W.C. 2.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following appointments are announced by the Admiralty: Surgeon Commander R. F. MacMahon to the *Yarmouth*, Surgeon Lieutenant Commanders R. A. Brown to the *Excellent*, O. D. Brownfield, O.B.E., to the *Victory* for R.M.A., Eastney, Surgeon Lieutenants J. C. Brown to the *Tiger*, F. H. Vey to the *Vernon*.

ROYAL NAVAL VOLUNTEER RESERVE.

Entered as Surgeon Lieutenants: G. E. Mullins, December 23rd, 1921, with seniority of January 17th, 1921, and attached to the Bristol Division; late temporary Surgeon Lieutenant H. O. Martin, with seniority, November 11th, 1917, and attached to the Clyde Division.

ROYAL ARMY MEDICAL CORPS.

The following Colonels (late R.A.M.C.) to be Major-Generals: G. S. McLoughlin, C.M.G., D.S.O., vice Major-General J. J. Gerrard, C.B., C.M.G., K.H.P. (placed on half pay). W. W. O. Beveridge, C.B., C.B.E., D.S.O., K.H.P., and to be supernumerary, vice Major-General J. J. Russell, C.B. (ret. pay). O. L. Robinson, C.B., C.M.G., K.H.P., vice Major-General W. W. O. Beveridge, C.B., C.B.E., D.S.O., K.H.P. (supernumerary).

Major-General Sir G. D. Bourke, K.C.M.G., C.B. (ret. pay), is appointed Colonel Commandant, vice Surgeon-General (ranking as Major-General) Sir F. W. Trevor, K.C.S.I., C.B. (ret. pay).

Colonel G. T. K. Maurice, C.M.G., C.B.E., late R.A.M.C., retires on retired pay, December 26th, 1921 (substituted for notification in the *London Gazette* of January 16th, 1922).

Lieut.-Colonel E. W. W. Cochrane, D.S.O., retires on retired pay, and is granted the rank of Colonel.

Major R. J. Cahill, D.S.O., relinquishes the temporary rank of Lieutenant-Colonel March 18th, 1920 (substituted for notification in the *London Gazette*, December 19th, 1921).

Major T. E. Harty, D.S.O., retires on retired pay, and is granted the rank of Lieutenant-Colonel.

Captain E. F. W. Mackenzie, O.B.E., M.C., relinquishes the temporary rank of Major on ceasing to be specially employed.

Captain P. A. With is seconded for service under the Civil Administration of Mesopotamia, April 1st, 1 19 (substituted for notification in the *London Gazette*, April 12th, 1920).

Temporary Captain E. C. Lindsey relinquishes his commission and retains the rank of Captain.

The following officers relinquish their commissions and retain their ranks: Temporary Captain J. G. Shaw, Temporary Lieutenant M. H. Carleton.

ROYAL AIR FORCE MEDICAL SERVICE.

T. M. Walker is granted a temporary commission as a Flight Lieutenant with effect from and seniority of February 9th.

Flight Lieutenant William Bernard Wilson is dismissed the service by sentence of a general court-martial, February 10th.

TERRITORIAL ARMY.

ROYAL ARMY MEDICAL CORPS.

The following Lieutenant-Colonels to command the General Hospital shown against their names, June 1st, 1921: F. E. A. Webb, O.B.E., T.D., from 2nd Eastern General Hospital to 1st Eastern General Hospital. H. Collinson, C.B., C.M.G., D.S.O., from General List to 2nd Northern General Hospital. D. J. Graham, O.B.E., 2nd Scottish General Hospital.

The following to be Lieutenant-Colonels and to command the General Hospitals shown against their names, June 1st, 1921: Captain H. J. Walker, from General List, 2nd Eastern General Hospital. Captain (Brevet Major) A. H. Gosse, 3rd London General Hospital. Major G. N. Biggs, 4th London General Hospital. Major (Brevet Lieut.-Colonel) G. S. Jackson, C.B.E., D.S.O., T.D., from Northumbrian Fusiliers, 1st Northern General Hospital. Captain (Brevet Major) R. C. Dun, from General List, 1st Western General Hospital. Major J. H. Ray, 2nd Western General Hospital. Major (Brevet Lieut.-Colonel) E. J. Mac'ean, 3rd Western General Hospital. Major D. Shannon from General List, 4th Scottish General Hospital.

The following officers relinquish their commissions and retain their rank, except where otherwise stated:—Majors: S. Martyn, O.B.E. (with permission to wear the prescribed uniform), H. R. Moxon. J. McHoul, H. D. Davis. Captains: G. E. Nash. A. W. Stott, and A. Radford, M.C. (and are granted the rank of Major), H. D. McCrossan, T. A. Fisher, H. L. Munro, F. Roberts, W. J. Phillips, F. N. Walsh, L. G. Pearson.

The following officers, having attained the age limit, are retired, and retain their rank except where otherwise stated: Major J. F. Crombie, D.S.O., T.D., and is granted the rank of Lieutenant-Colonel with permission to wear the prescribed uniform. Majors J. M. Cadell and G. W. McIntosh, T.D., with permission to wear the prescribed uniform. Captains R. V. C. Ash, M.C., and D. C. Bremner, and are granted the rank of Major. Captains A. A. Gunn, J. Lilwall-Cormac, T. W. Cole, J. Livingston.

Major J. G. McCutcheon resigns his commission and retains the rank of Major.

Captain P. W. Maclagan, M.C. (late R.A.M.C.), to be Captain, with precedence as from February 15th, 1918.

Captain J. Morham resigns his commission and retains the rank of Captain.

Lieutenant S. McNaughton to be Captain.

MILITIA.

ROYAL ARMY MEDICAL CORPS.

The following officers relinquish their commissions: Lieut.-Colonel J. Clarke, and retains the rank of Lieutenant-Colonel. Major R. J. Stirling, and retains the rank of Major.

Captain K. B. MacGlashan to be Major.

CHANNEL ISLANDS MILITIA.

The following officers relinquish their commissions: Surgeon Lieut.-Colonel W. Falla, and is granted the honorary rank of Surgeon-Colonel. Surgeon-Major A. C. Stamberg, O.B.E., and is granted the honorary rank of Surgeon Lieutenant-Colonel, with permission to wear the prescribed uniform. Surgeon-Captain C. A. Bois, and is granted the honorary rank of Surgeon-Major, with permission to wear the prescribed uniform. Surgeon-Captains H. J. Shone and C. N. Le Brocq, who retain their rank, with permission to wear the prescribed uniform.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Captains G. H. Stevenson, O.B.E., M.C., and E. S. B. Hamilton, M.C., to be Majors.

INDIAN MEDICAL SERVICE.

Major-General Sir William Rice Edwards, K.C.I.E., C.B., C.M.G., K.H.P., has been appointed as an official Member of the Council of State, India.

Colonel Bhola Nauth, C.I.E., appointed Honorary Physician to the King, Indian Military Forces, vice Major-General P. Carr-White, C.B.E. (retired).

The following are appointed Honorary Surgeons to the King, Indian Military Forces: Colonel J. K. Close, vice Honorary Colonel Sir W. R. Hooper, K.C.S.I. (deceased); Colonel W. G. Pridmore, C.M.G., vice Surgeon-Major-General P. S. Turnbull (deceased).

Major H. W. Pierpont, O.B.E., has been granted privilege leave for one month (December 8th, 1921).

Lieut.-Colonel L. J. M. Deas appointed to hold visiting medical charge of the office of the Agency Surgeon, Eastern Rajputana States, in addition to his own duties as Agency Surgeon, Kotah and Jhalawar (October 24th, 1921).

Major E. H. V. Hodge, an Agency Surgeon, has been posted as Civil Surgeon, Dera Ismail Khan (November 30th, 1921).

The services of Major J. C. G. Kunhardt of the Bacteriological Department have been placed temporarily at the disposal of the Government of Burmah for employment as Assistant Director, Pasteur Institute, Rangoon, with effect from date on which he assumes charge of appointment.

Subject to his Majesty's approval, the following officers have been permitted to retire from the service: Lieut.-Colonels de Vere Candon (July 27th, 1921), C. H. James, C.I.E. (October 17th, 1921).

Captain F. R. Smith appointed Quarantine Medical Officer, Bushire, and to hold subcharge of the Residency Dispensary, Bushire (December 5th, 1921).

Major W. J. Simpson, an officiating Agency Surgeon, has been granted special war leave for sixty days, combined with privilege leave and furlough for six months (October 30th, 1921).

Major L. H. L. Mackenzie has been appointed to officiate as an Agency Surgeon and posted to Gilgit (October 30th, 1921).

The services of Major A. D. Stewart, M.B., have been placed at the disposal of the Government of Bengal.

The services of Major E. S. Phipson, D.S.O., have been placed temporarily at the disposal of the Chief Commissioner, Delhi, for appointment as Assistant Health Officer, Imperial City and Notified Area, Delhi.

The services of Lieut.-Colonel H. B. Foster have been placed at the disposal of the Government of Bengal, with effect from March 18th, 1921.

Lieut.-Colonel G. McIver C. Smith, C.M.G., has been permitted to retire from the service (September 17th, 1921).

The services of Major H. Ross, O.B.E., Medical Officer, Kabul Mission, have been replaced at the disposal of the Home Department, Government of India (October 29th, 1921).

Major A. N. Dickson, M.C., has been posted Agency Surgeon, Tochi, Medical Officer, Northern Waziristan, Militia and Civil Surgeon, Bannu (December 20th, 1921).

DIARY OF SOCIETIES AND LECTURES.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.—Thurs., 5 p.m., Milroy Lecture by Dr. Major Greenwood: The Influence of Industrial Employment on General Health.

ROYAL SOCIETY OF MEDICINE.—*Section of Tropical Diseases and Parasitology:* Mon., 8 p.m., Dr. Castellani, Dr. Douglas, and Dr. Thomson: Tonsillomycosis; Professor Leiper, Dr. M. Kalil, and Mrs. Philpot: Hookworm in Cornwall. *Section of Orthopaedics:* Tues., 5 p.m., Discussion on the Use of Remedial Exercises as Applied to Scoliosis. Mr. McCrae Aitken, Mr. E. B. Clayton, Dr. Barrie Lambert, Mr. P. B. Roth, Dr. Timberg, and Dr. C. Westman will take part in the discussion. *Section of Pathology:* University College Hospital, Gower Street, W.C.1, Tues., 8.30 p.m., Dr. W. S. Lazarus-Barlow: Further Attempts at the Experimental Production of Carcinoma by Means of Radium; Dr. D. Embleton and Dr. F. H. Teale: Intestinal Infection; Dr. C. Dukes: Absorption of Ferments by Bacteria; Dr. J. W. McNee: Specimens of Influenzal Pulmonary Infection; Dr. A. E. Boycott and Dr. C. Price-Jones: Restoratives of Blood Volume after Haemorrhage and Anaesthesia. *Social Evening*, Wed., 8.30 p.m., Reception by the President and Lady Bland-Sutton; 9 p.m., Address by Mr. James Sherren on "Sailing Ships and the Men who Sailed Them" (illustrated). The Library will be open, and various objects of interest will be exhibited. Music, light refreshments, and smoking. No tickets are required. Fellows who know of Dominion and foreign practitioners visiting this country are asked to send their names and addresses to the Secretary, so that invitations to the Social Evening may be sent. *Section of Neurology:* Thurs., 8 p.m., Discussion on Decerebrate Rigidity and Spasticity, to be opened by Dr. F. M. R. Walshe and Dr. G. Riddoch. *Clinical Section:* Fri., 5 p.m., Cases; 5.30 p.m., Professor H. Maclean and Dr. Isaac Jones: Production of Lactic Acid in Stomach Diseases. *Section of Ophthalmology:* Fri., 8 p.m., Cases; 8.30 p.m., Mr. P. G. Doyne: Coloured Vision; Mr. R. Affleck Greeves: A Series of Sympathizing Eyes, examined Microscopically.

POST-GRADUATE COURSES AND LECTURES.

CANCER HOSPITAL, Fulham Road, S.W.—Tues., 4 p.m., Mr. C. Rowntree: Cancer of the Breast. Fri., 4 p.m., Dr. Knox: Radiation in the Treatment of Cancer.

CHESTERFIELD DIVISION, BRITISH MEDICAL ASSOCIATION, Chesterfield Royal Hospital.—Fri., 2.30-4 p.m., Dr. Naish: Auricular Fibrillation (with lantern demonstration); Mr. Cuff: Common Diseases of the Breast.

EDINBURGH ROYAL HOSPITAL FOR SICK CHILDREN.—Thurs., 5 p.m., Dr. J. S. Fowler: Certain Habits and Minor Neuroses in Children.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION, Western Infirmary.—Wed., 4.15 p.m., Professor Monro and Sir Kennedy Dalziel: Medical and Surgical Cases.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Thurs., 4 p.m., Dr. Cockayne: Jaundice in Infants.

MANCHESTER BABIES' HOSPITAL, Slades Lane, Levenshulme.—Sat., 4 p.m., Dr. Nesta Perry: Dentition.

MANCHESTER: ST. MARY'S HOSPITALS (Whitworth Street, West Branch).—Fri., 4.30 p.m., Dr. Ward: Defects of Growth in Childhood.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.30 p.m., Mr. A. H. Burgess: Symptomless Haematuria.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland Street, W.1.—Daily, In- and Out-patient Attendances. Mon., 5.30 p.m., Lecture by Dr. Hamill: Cardiovascular Neuroses.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Mon., Tues., Thurs., and Fri., 2 p.m., Out-patient Clinics. Tues. and Fri., 9 a.m., Surgical Operations. Mon., 12 noon, Dr. Greenfield: Syphilis of the Nervous System; 3.30 p.m., Dr. Aldren Turner: Demonstration of Cases. Tues., 3.30 p.m., Mr. Armour: Surgical Treatment of Tumours of the Spinal Cord. Wed., 3.30 p.m., Mr. L. Paton: Papilloedema. Thurs., 3.30 p.m., Dr. Howell: Hysteria. Fri., 3.30 p.m., Dr. Adie: Intracranial Tumours.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Daily, 2.30 p.m., In- and Out-patient Clinics, Operations, etc. *Lectures.*—Mon., 3.30 p.m., Dr. L. Yealland: Examination of the Nervous System—Positive Signs of Hysteria. Wed., 4.30 p.m., Mr. N. Fleming: Eye Emergencies. Fri., 4.30 p.m., Dr. S. C. Shanks: Electro-Therapeutics, Ionization, Galvanism, Faradism.

ROYAL INSTITUTE OF PUBLIC HEALTH, 37, Russell Square, W.C.—Wed., 4 p.m., Dr. S. Lyle Cummins: Clinical Differences in the Courses of Tuberculosis seen in various age groups and races.

ST. MARYLEBONE GENERAL DISPENSARY, 77, Welbeck Street, W.1.—Dr. E. Pritchard: Infant Welfare Course. 6 p.m., Wed., Tuberculous and Syphilitic Mothers and their Children; Fri., Rickets.

SALFORD ROYAL HOSPITAL.—Thurs., 4.30 p.m., Dr. Addis: Dysmenorrhoea.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Hospital, Ouseley Road, Balham.—Thurs., 4 p.m., Dr. H. W. Barber: Demonstration of Skin Diseases.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Daily, 10 a.m., Ward Visits; 2 p.m., In- and Out-patient Clinics and Operations. *Lectures.*—5 p.m., Mon., Dr. S. Pinchin: Pulmonary Neoplasms. Tues., Dr. Pernet: Diagnosis of Syphilitic and Non-syphilitic Rashes. Wed., Mr. Armour: Practical Surgery. Thurs., Sir W. Hale-White: Haematemesis. Fri., Dr. Owen: Management of the Premature and Delicate Infant at Birth.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 1s. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS and ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London).
MEDICAL SECRETARY (Telegrams: Mediseera, Westrand, London).
EDITOR, *British Medical Journal* (Telegrams: Aitology, Westrand, London).
Telephone number for all Departments: Gerrard 2630 (*3 lines*).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)
IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

MARCH.

7 Tues. Coventry Division: Coventry and Warwickshire Hospital, 8.30 p.m.
Kingston-on-Thames Division: Surbiton Cottage Hospital, 8.30 p.m., Address by Dr. Wm. Brown on Psychology and Psychotherapy.
Marylebone Division: 8 p.m., Address by Medical Secretary.
Surrey Branch: Surbiton Hospital, 8.45 p.m.

8 Wed. **Adjourned Council Meeting:** To consider the Report of the Central Ethical Committee on Professional Secrecy, 11 a.m.

9 Thurs. London: Public Medical Service Subcommittee, 2.30 p.m.
Hampstead Division: Hampstead General Hospital, 8.30 p.m.

10 Fri. London: Insurance Acts Committee, Subcommittee *re* Tuberculosis Regulations, 2.30 p.m.
London: Post Office Medical Officers' Subcommittee, 2.15 p.m.
South Essex Division: Hotel Victoria, Southend-on-Sea, 8.15 p.m.—Paper by Dr. Hector C. Cameron on The Child in General Practice.

15 Wed. London: Organization of Medical Students Subcommittee, 2.15 p.m.
Nottingham Division: B.M.A. Lecture by Mr. Frank Kidd: The Value of Pyelography in the Diagnosis of Urinary Diseases.

16 Thurs. London: Insurance Acts Committee, 2.30 p.m.

17 Fri. Chesterfield Division: Chesterfield Royal Hospital, 2.30 to 4 p.m., Post-Graduate Classes.

21 Tues. Croydon Division: Croydon General Hospital.—Mr. F. J. Cleminson: Diseases of Nose and Throat, with special reference to Children, 8.15 p.m.
London: Contract Practice Subcommittee, 2.30 p.m.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **9s.**, *which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.*

BIRTH.

GOOD.—On February 26th, at the Hurst, Albert Road, Harborne, Birmingham, the wife of J. Percy Good, M.D., a daughter.

MARRIAGE.

OLDERSHAW—POWER.—At Liverpool, on February 22nd, George Francis Oldershaw, M.D., of Liverpool, to Margaret Teevan, daughter of Frances Mary and the late Christopher Edward Power, of Castlenau, Barnes, S.W.

DEATHS.

HUTCHISON.—At his residence, 128, Ashburnham Road, Hastings, on February 24th, George Wright Hutchison, M.D. Aberd. and M.R.C.P. Edin., J.P. for Oxfordshire, in the 75th year of his age, formerly of Chipping Norton, Oxon., eldest and only surviving son of the late Very Rev. George Hutchison, D.D., of Banchory Ternan, Kincardineshire. R.I.P.

TURNER.—On February 23rd, at 10, Castle Street, Hereford, Thomas Turner, J.P., F.R.C.S.Eng., aged 91.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, MARCH 11TH, 1922.

CONTENTS.

PAGE

BRITISH MEDICAL ASSOCIATION.

CURRENT NOTES:
- Hospital Policy: Conference of Representatives of Voluntary Hospitals ... 65
- Ministry of Pensions Medical Officers ... 65
- Clerical and Travelling Expenses of Medical Officers of Health ... 65
- Insurance Certificate Books ... 65

MEETINGS OF BRANCHES AND DIVISIONS ... 65

ASSOCIATION NOTICES ... 66

WILLESDEN HEALTH POLICY ... 66

DENTAL BOARD OF THE UNITED KINGDOM ... 67

CORRESPONDENCE ... 67

LOCAL MEDICAL AND PANEL COMMITTEES ... 67

NAVAL AND MILITARY APPOINTMENTS ... 68

DIARY OF SOCIETIES AND LECTURES ... 68

ASSOCIATION INTELLIGENCE AND DIARY ... 68

BIRTHS, MARRIAGES, AND DEATHS ... 63

British Medical Association.

CURRENT NOTES.

Hospital Policy: Conference of Representatives of Voluntary Hospitals.

Change of Place of Meeting.

With reference to the Current Note published in last week's Supplement, attention is directed to the fact that, in view of the number of representatives of medical staffs of voluntary hospitals invited to the Conference, it has been found necessary to engage a larger hall. The Conference on March 22nd, 1922, will accordingly be held in the Wigmore Hall, 36, Wigmore Street, London, W.1. A preliminary notice and invitation has been issued to the medical staffs of all hospitals in England and Wales, and the basis of representation has been fixed as one representative for hospitals of 100 beds or less and two representatives for hospitals of over 100 beds. It is urged that medical staffs should seriously consider the report on hospital policy which has been issued with the preliminary notice. It was published in the Supplement to the British Medical Journal of February 25th. Medical staffs are asked to forward to the Medical Secretary of the Association the names of their representatives at the Conference, and any motions or amendments for consideration, so as to reach the office of the Association not later than the first post on Tuesday, March 14th, 1922. No representative will be admitted without a ticket of admission, which will be obtainable from the Medical Secretary of the Association, 429, Strand, W.C.2.

Ministry of Pensions Medical Officers.

In March, 1921, the whole-time medical officers of the Ministry of Pensions secured an agreement with the Ministry as to their salaries. They had for some time been pressing either for bonuses such as had been given to other temporary civil servants, or for an increased fixed salary. The result was that the Ministry declined to give bonuses, but made agreements, either for four years or for six months, at salaries which ranged between £800 and £1,200 a year. The medical officers quite naturally assumed that, bonuses having been refused and a fixed salary given, they were safe for four years or for six months as the case might be, but they have recently been called upon to undergo a reduction of their salaries. It is understood that they have met the Minister by deputation, and he has agreed that there shall be no change for the next six months, but that at the end of that time the position shall be reconsidered. The ordinary person finds a difficulty in understanding why people who so recently got what they believed to be a definite agreement should be called upon to undergo a reduction either now or in six months' time. But apparently Government departments are not bound by considerations which affect an ordinary employer, and it looks as if they were able to override the law of contract as generally understood. The action of the Minister will be watched not only by the medical officers concerned but by all those who still have some regard for the honourable observance of an understanding once reached.

Clerical and Travelling Expenses of Medical Officers of Health.

In a Current Note under this heading in the Supplement of January 7th it was pointed out that the Port Talbot Town Council had been advertising for a medical officer of health, and that one of the conditions of appointment was that he should pay for clerical assistance and travelling expenses out of his salary. Steps were taken which resulted in the withdrawal of this condition, but it is understood that several appointments are likely to be made shortly in which the appointing authorities intend to try to throw the payment of official expenses on the holder of the appointment. This is a thoroughly bad principle. It may lead either to the officer cutting down his travelling expenses and correspondence or other official expenses to a point which may be incompatible with efficiency, or, if he is a conscientious man, it may lead to encroachments upon his salary to a point which is not fair to himself. It should be made perfectly clear that, so far as the British Medical Journal is concerned, no advertisements will knowingly be accepted in which the remuneration is a gross salary out of which the medical officer is expected to pay any official expenses. The Medical Secretary will be glad to be informed of any appointment pending in which such conditions are likely to be offered.

Insurance Certificate Books.

Medical practitioners are asked to note that the price of the books of 50 *National Health Insurance Certificates*, published by the British Medical Association, is now 9d. (post free), and not 6d. as formerly. The form of certificate has been altered so as to conform to the form of certificate recently issued by the Ministry of Health. It is intended for use by practitioners when attending insured persons who are not their panel patients, and who are not persons whom they are attending as medical officers of institutions under Section 15 (4) or in virtue of "own arrangements" under Section 15 (3). Applications for the *Certificate Books* should be addressed to the Financial Secretary, 429, Strand, London, W.C.2.

Meetings of Branches and Divisions.

BIRMINGHAM BRANCH: WEST BROMWICH DIVISION.

A meeting of the West Bromwich Division was held on February 23rd. Dr. Stocks having intimated that he will be unable to attend the Annual Representative Meeting at Glasgow, Dr. L. A. Dingley was appointed to fill his place. The question of the suggested separation of the Smethwick members was again discussed. It was arranged that the subject be brought up at the next meeting of the Smethwick Panel Committee in order to get the views of the Smethwick members themselves.

ESSEX BRANCH: MID-ESSEX DIVISION.

A meeting of the Mid-Essex Division was held at Chelmsford on February 22nd. The following officers were elected:

Chairman: Dr. P. T. Spencer-Phillips. *Vice-Chairman:* Dr. H. Reynolds Brown. *Honorary Secretary, Treasurer, and Representative on Branch Council:* Dr. H. G. L. Haynes.

The meeting, which was attended by members and visitors from all parts of Essex, afterwards listened with considerable interest to an address from Dr. Cox, the Medical Secretary. An interesting discussion was subsequently held on several points of importance.

METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.

A MEETING of the Willesden Division was held at St. Andrew's Parish Hall, N.W., on February 21st. The Honorary Secretary stated that the correspondence between the Division and the Urban District Council had been laid before the Minister of Health. A letter from the local Urban District Council was read, which stated that the memorandum of the Division (adopted at the last meeting) as to the health services question would be submitted to the Health Committee in due course: 36 copies of the memorandum were asked for and had been supplied.

A letter from the Medical Practitioners' Union was read asking for the advice of the local profession with respect to the health policy of the local Urban District Council prior to a deputation from that body waiting upon the council. The Honorary Secretary stated that a deputation of the Medical Practitioners' Union, consisting of Drs. Ward, Gregg, and Welply, had attended at his house before waiting upon the local town council, and had an interview with the chairman of the Division, Dr. Skene, and Drs. Lock, T. Smith, and himself, when an interesting discussion had taken place; the Union representatives said that they would not claim at the interview to represent the local medical profession.

The Chairman and Honorary Secretary were appointed to attend (by invitation) a meeting of the North Middlesex Division on March 1st, for a discussion on the question of treatment centres.

A report was received by the Secretary: (i) that Dr. Sturridge had been invited by the local branch of the Red Cross Society to attend a meeting in connexion with the establishment of a V.A.D. clinic and orthopaedic centre for children; (ii) that he had advised Dr. Sturridge to attend the meeting; and (iii) that subsequently the president of the local Red Cross Branch had discussed the question with him, when he had deprecated any action being taken in the matter. The Honorary Secretary's action was approved.

YORKSHIRE BRANCH: SCARBOROUGH DIVISION.

AN ordinary meeting of the Scarborough Division was held at the Pavilion Hotel on March 2nd.

Dr. SINCLAIR MILLER, D.S.O., M.C. (Clinical Laboratory, Harrogate), read a very interesting paper entitled "The clinical application of vaccines and serums." A lengthy discussion of some of the most important points in the paper ensued, in which Drs. THORNLEY, SALTER, WIGHTMAN (Scalby), CUFF, SIMPSON (Harrogate), DICK, FERGUSON, and ROBERTSON took part.

On the motion of the Chairman, Dr. THORNLEY, seconded by the Vice-Chairman, Dr. HANDCOCK, a hearty vote of thanks was accorded to Dr. Miller for his paper.

Association Notices.

TABLE OF DATES.

Mar. 15, Wed.	Branch Reports for 1921 due to Head Office on or before this date.
April 1, Sat.	Nomination papers available at Head Office for election of 24 Members of Council for 1922–23, by grouped Home Branches.
April 26, Wed.	Council Meeting, 429, Strand, at 10 a.m.
April 29, Sat.	Last day for receipt at Head Office of Independent Motions for Annual Representative Meeting Agenda, as to policy, Articles, or By-laws (By-law 40).
May 6, Sat.	Annual Report of Council appears in SUPPLEMENT.
May 8, Mon.	Last day for receipt at Head Office of Nominations, by a Division or not less than 3 Members, for election of 24 Members of Council by grouped Home Branches for 1922–23.
May 13, Sat.	Publication in SUPPLEMENT of list of nominations for election of 24 Members of Council by grouped Home Branches for 1922–23.
	Voting papers for election of 24 Members of Council by grouped Home Branches posted from Head Office to Members of groups where there are contests.
May 27, Sat.	Last day for receipt at Head Office of voting papers for election of 24 Members of Council by grouped Home Branches (where there are contests).
June 3, Sat.	Publication in SUPPLEMENT of results of Council elections by grouped Home Branches.
June 10, Sat.	Nomination papers available, at Head Office, for election of 12 Members of Council by grouped Home Representatives.
June 14, Wed.	Council Meeting, 429, Strand, at 10 a.m.
June 23, Fri.	Last day for election of Representatives and Deputy-Representatives.
June 24, Sat.	Supplementary Report of Council appears in SUPPLEMENT.
June 30, Fri.	Last day for receipt at Head Office of notification of election of Representatives and Deputy-Representatives.
July 7, Fri.	Last day for receipt at Head Office of Amendments and Riders for Annual Representative Meeting Agenda.

ALFRED COX,
Medical Secretary.

ELECTION OF MEMBERS OF COUNCIL BY BRANCHES OUTSIDE THE UNITED KINGDOM.

THE following is the result of the election of Members of Council for 1922–23 (unless otherwise stated) by Branches outside the United Kingdom, only one nomination being received in each group:

Mr. T. P. DUNHILL, C.M.G., London. South Australian, Tasmanian, Victorian, and Western Australian Branches.

Sir JENNER VERRALL, LL.D., Leatherhead (*elected in place of Dr. H. A. Francis, resigned—for years 1921–23*). New South Wales and Queensland Branches.

Dr. DAVID EWART (*elected for years 1920–23*). New Zealand Branch.

No nomination. Barbados, Bermuda, British Guiana, Grenada, Halifax (Nova Scotia), Jamaica, Leeward Islands, Montreal, St. John (New Brunswick), Saskatchewan, Toronto, and Trinidad and Tobago Branches.

Lieut.-Colonel R. H. ELLIOT, I.M.S. (ret.), London. Assam, Baluchistan, Bombay, Burma, Ceylon, Hyderabad and Central Provinces, Punjab, and South Indian and Madras Branches.

Dr. NOEL CLARKE, Singapore. Hong Kong and China, and Malaya Branches.

Dr. T. DUNCAN GREENLEES, Fordingbridge, Hants (*for years 1922–25*). Border (South Africa), Cape of Good Hope (Eastern), Cape of Good Hope (Western), East Africa, Egyptian, Gibraltar, Griqualand West, Malta, Natal Coastal, Natal Inland, Nyasaland, Orange Free State and Basutoland, Pretoria, Rhodesia, Uganda, and Witwatersrand Branches.

BRANCH AND DIVISION MEETINGS TO BE HELD.

LANCASHIRE AND CHESHIRE BRANCH: SOUTHPORT DIVISION.—The B.M.A. Lecture by Dr. A. Burrows on "Radium Therapy," postponed from February 16th, will be delivered on Thursday, March 23rd.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—The next Divisional meeting will be held at the Metropolitan Hospital on Friday, March 17th, at 9.30 p.m., when Mr. G. T. Loughborough, Surgeon-in-Charge of *X*-ray Department, will give an address on "The *X*-ray Examination of the Stomach," illustrated by lantern slides and skiagrams.

METROPOLITAN COUNTIES BRANCH: WESTMINSTER AND HOLBORN DIVISION.—The annual general meeting of the Division will be held at the Trocadero Restaurant on Thursday, April 6th, at 8.45 p.m. The meeting will be preceded by dinner at 7.30 p.m. At 9 p.m. Dr. Leonard Williams will read a paper on Interstitial Glands, and a discussion will follow. Members and non-members are cordially invited to dinner, or the meeting, and are requested to communicate with the Honorary Secretary, Dr. F. D. Bennett, 18, Savile Row, W.1.

NORTH OF ENGLAND BRANCH: NEWCASTLE-UPON-TYNE DIVISION.—A meeting of the Newcastle-upon-Tyne Division will be held at the Medical Institute, 7, Windsor Terrace, on Tuesday, March 14th, at 8.30 p.m. Agenda: Appointment of Representatives for Annual Representative Meeting. Discussion on "The Organization of Voluntary Hospitals," to be opened by Mr. F. C. Pybus and Dr. James Hudson. If time permits the evening will terminate with an informal social gathering, at which light refreshments may be obtained.

NORTH WALES BRANCH.—The spring meeting of the North Wales Branch will be held at Wrexham on Tuesday, April 4th.

SUFFOLK BRANCH: SOUTH SUFFOLK DIVISION.—The annual general meeting of the South Suffolk Division will be held at the Crown and Anchor Hotel, Ipswich, on Friday, March 24th, at 3.30 p.m. Agenda: Election of Officers. Hospital Policy. (*A*) Communication from the Medical Secretary enclosing A.R.M. 2 (*b*) SUPPLEMENT to the BRITISH MEDICAL JOURNAL, February 25th, 1922, containing Report of Council on the Organization of Voluntary Hospitals, and the reception of paying patients. (Members are requested to bring SUPPLEMENT to the meeting.) (*B*) Report from the Medical Staff of the East Suffolk and Ipswich Hospital on this matter. Scheme for collective arrangements for locumtenencies (see SUPPLEMENT, December 24th, 1921).

WORCESTERSHIRE AND HEREFORDSHIRE BRANCH.—A meeting of the Worcestershire and Herefordshire Branch will be held at Great Malvern on Thursday, April 27th, when a B.M.A. Lecture will be given by Professor G. R. Murray on a subject connected with internal secretions.

WILLESDEN HEALTH POLICY.

THE following communication has been received by the Honorary Secretary of the Willesden Division of the British Medical Association from the Clerk of the Willesden Urban District Council:

"I am directed to acknowledge receipt of your letter dated 18th January, 1922, enclosing a further memorandum on the Willesden health service. The Council note that the British Medical Association, Willesden Division, while welcoming the suggestion, do not take advantage of the offer of the Council, contained in paragraph 18 of their letter of the 21st December, 1921, to consider any scheme which the British Medical Association, Willesden Division, may care to put before them for working the Willesden Municipal Hospital and Clinics. In the absence of such alternative proposals the Council beg to inform the Division that they have nothing to add to the previous communications."

DENTAL BOARD OF THE UNITED KINGDOM.

AT the last meeting of the Dental Board of the United Kingdom, held at 44, Hallam Street, W., on February 14th, 1922, with the Right Hon. F. D. ACLAND in the chair, a communication was read from the Privy Council notifying approval of the *Regulations* adopted by the Board on December 9th last, under Section 7 of the Dentists Act, 1921. The letter ended as follows:

"As regards Chapter 5 of the *Regulations*—'The Prescribed Examination'—I am to take this opportunity of stating that their Lordships would deprecate the enforcement of any higher standard of qualification than is absolutely necessary for the protection of the public."

The Office Site Committee reported that the lease of the ground for the Board's new office had been signed, the site cleared, an architect appointed, and the building placed in the hands of a firm of builders.

The Board considered the steps to be taken to provide lectures and instruction, on the lines of post-graduate study, for those who have obtained, or are desirous of obtaining, registration without the possession of a recognized qualification; and the Examination Committee was asked to consider the matter and report.

Dental Registration.

The Registrar, Mr. NORMAN KING, made a report on the procedure adopted for dealing with applications for registration according to the several classes of applicants. The applications for forms in the various categories had be n approximately as follows:

For tho-e in practice for five years	3,093
Members of Incorporated Dental Society	1,700
Pharmaceutical chemists, etc.	307
Dental mechanics	356
Those in practice for less than five years	119
Companies	20
Directors	23

The demand for copies of the *Regulations* had been large, and more than 1,500 were sold, realizing upwards of £195.

In response to a suggestion by the British Dental Association the Board resolved that the names of all applicants for registration under Clause 3 of the Dentists Act be published before a certificate is issued.

The appointment of an Assistant Registrar was approved, and the audited accounts of the Dental Fund for the year 1921 were passed.

Correspondence.

Free Choice of Doctor.

SIR,—One of our cardinal points at the time of the Insurance Act fight was free choice of doctor. This seems an opportune moment to suggest that the profession should ask that the insured person should be at liberty to change his doctor at any time; the machinery is already in existence—he would merely have to hand his card to any doctor who was willing to accept him, irrespective of the fact that he might be on the list of a neighbouring practitioner. To meet the case of a patient who was already ill it might be arranged that a transfer of a given number of units—say the value of eight quarterly capitation fees—should be made from the list of one doctor to that of the other. It would be only fair to allow an appeal by either doctor in the event of any individual case proving markedly unfair; probably, in the vast majority of cases, the fixed sum would be accepted without demur, but if it were not the case might be settled by the Panel Committee, unless, of course, the two doctors were able to agree to a modified fee. This arrangement would automatically remove 90 per cent. of all complaints of inattention on the part of the patient and put panel patients in exactly the same position as private patients, avoiding much of the irritation caused at present by the proceedings of Medical Service Subcommittees.—I am, etc.,

West Drayton, Feb. 28th. PERCY K. MUSPRATT.

Functions of the School Medical Service.

SIR,—Before the British Medical Association commits itself by advocating the transfer of the School Medical Service from the control of the education authorities to that of the public health authorities it would be as well to consider the arguments that are likely to be directed against this policy.

As against the demand for the integration of all the "health services" there is the equally logical plea for the unification of organizations dealing with the welfare of children. Any economies effected by the first policy in preventing medical overlap, etc., will be farcical if this involves the provision of a substitute for the present education organization (upon which, in present circumstances, devolves so many administrative and supervisory duties in connexion with the School Medical Service). This great and growing machinery has such possibilities as a hygienic agency that its artificial separation from all medical functions seems hard to justify.

Apart from general and administrative questions, however, it is at least arguable that medicine has a great and useful function within the sphere of education proper—that is, as an auxiliary (and hence subordinate) to culture. The promotion of social and mental health—efficiency, stability, and happiness—is a medico-psychological task, but one utterly outside the present scope of the public health services. On the other hand, it is a professed objective of education, with which it has natural affinities and in separation from which it cannot hopefully be pursued. Whatever proportion of the present functions and personnel of the School Medical Service should ultimately be transferred to the control of the Health Ministry, a residue which might be called medico-educational must retain its present status.—I am, etc.,

Glasgow, W., Feb. 28th. IAN D. SUTTIE, M.B., F.R.F.P.S.G.

Cost of Crêpe Bandages.

SIR,—Recently my patients have been complaining of the price charged by chemists for crêpe bandages.

To-day I was informed that the retail cash price for a cotton crêpe bandage 3 in. wide by 6 yards long is 3s., the amount of material in the bandage being exactly half a square yard. Perhaps some of your readers in the districts where this material is woven could find out what is the real cost of production. Surely someone must be making enormous profits.—I am, etc.,

Aldershot, March 2nd. J. H. GIBSON.

INSURANCE.

LOCAL MEDICAL AND PANEL COMMITTEES.

LONDON.

Limitation of Lists.—Some discussion has arisen between the London Insurance Committee and the Panel Committee on the number of persons for whose treatment a practitioner may accept responsibility under the allocation scheme. It is pointed out by the Insurance Committee that under Clause 6 (vi) of the scheme, which indicates the procedure to be followed in determining whether the numbers on the practitioners' lists conform to the limits fixed by the previous provisions of the clause, it is possible in exceptional cases for a practitioner to have more than 3,000 insured persons on his list. This occurs when the value of the capitation fee falls below the standard value, as it did in London during the last quarter of 1921. The Insurance Committee proposes to press for an amendment of the allocation scheme so that it shall not be at variance with the Medical Benefit Regulations. The Panel Committee, on the other hand, takes a different view as to the effect of the subclause, and at its last meeting passed a resolution affirming the substantial fairness of the clause as a means of computing the number of insured persons on a practitioner's list.

Dispensing of Prescriptions.—The Panel Committee has decided to call the attention of the Ministry of Health to the failure of many chemists in London to display a notice outside their place of business when it is not open stating at what other places in the neighbourhood it is possible to obtain drugs and appliances and at what hours. Many cases have also been reported to the Committee of difficulty in getting prescriptions dispensed near to the closing hour, and the Committee passed a resolution to the effect that it was desirable that a chemist should not refuse to dispense on the same day any prescription presented to him within the hours during which his shop was open.

Medical Records.—The Committee passed a resolution expressing the view that in cases where forms of medical records are returned to the Insurance Committee by reason of the insured persons not being entitled to benefit, such records should be preserved, and if the title to benefit is re-established the original record should be forwarded to the practitioner on whose list the person's name is included, so that he may have the advantage of the records of previous illnesses. It was stated that it is the custom in such cases for a fresh form of medical record to be issued to the practitioner on subsequent reinstatement.

"Selection" of Insurance Practitioners.—The Chairman of the Medical Services Subcommittee of the London Insurance Committee (Mr. David Davis) is reported recently to have expressed the opinion at a public meeting that the process by which a doctor became an insurance practitioner was too easy, and that he would like to see a selection committee appointed in each area to consider applications from practitioners for admission to the medical list. At the Panel Committee a resolution was proposed to direct the attention of the Ministry of Health to the address in question, on the ground that the remarks were not consistent with the impartiality which the chairman of a Medical Services Subcommittee should preserve. After some discussion, however, the resolution was lost.

COVENTRY.

AT a meeting of the Coventry Panel and Local Medical Committee on March 1st, the Chairman (Dr. W. H. Lowman) presiding, a thorough consideration was given to the contents of the recent circular issued by the National Insurance Defence Trust, and it was resolved to ask each insurance practitioner in the area for authority for the current voluntary levy to be increased to a penny capitation fee in all, in order to enable the Panel Committee to make an annual contribution of the proceeds of a halfpenny capitation levy towards the purposes of the Trust, this action to be subject to the consent of two-thirds of the local practitioners.

A resolution was unanimously adopted strongly urging that the provision for insured persons of nursing, hospital, dental, and

ophthalmic treatment is undoubtedly of the nature of medical benefits within the spirit of Section 14 of the 1911 Insurance Act, and asking accordingly that arrangements for the administration of such additional benefits should be made in the locality by and through the Insurance Committee, as opposed to the present undesirable and chaotic arrangements.

A query having been received from a local insurance practitioner as to whether autogenous vaccines could be ordered if desired, led to a thorough examination of the position. It was unanimously agreed to reply that an autogenous vaccine might be ordered for an insured patient if his medical attendant considered this necessary for adequate treatment and was prepared to justify his action to the Panel Committee. It was also agreed that in the case of a borough such vaccines should be obtained through the agency of a panel chemist and paid for in the normal course of the monthly chemists' settlement.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following appointments are announced by the Admiralty: Surgeon Lieutenant Commander E. S. Mellor to the *Merlin*, Surgeon Lieutenant J. E. Clark to the *Campbell*. To be Lieutenants: D. F. McGregor and A. de B. Joyce, and appointed to Haslar Hospital for course.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel J. C. Kennedy to be temporary Colonel whilst specially employed, January 3rd, 1922 (substituted for notification in the *London Gazette*, February 8th, 1922).

Lieut.-Colonel and Brevet Colonel R. S. Hannay, C.M.G., D.S.O., to be temporary Colonel, *vice* Lieut.-Colonel and Brevet Colonel H. G. Martin, C.M.G.

The following officers are restored to the establishment; Major H. S. Dickson, from the half-pay list, with precedence next below Major G. F. Dawson, M.C., Captain G. D'R. Carr, M.C.

Captain C. L. Balkwill retires, receiving a gratuity.

Temporary Captain J. H. Porter, M.C., relinquishes the acting rank of Major, October 1st, 1918 (substituted for notification in the *London Gazette*, March 22nd, 1919).

Temporary Captains relinquish their commissions and retain the rank of Captain: O. T. J. C. de H. Clayre, R. Stephens.

Lieutenant (temporary Captain) F. K. Escritt to be Captain.

ROYAL AIR FORCE MEDICAL SERVICE.

A. C. Ransford is granted a temporary commission as a Flight Lieutenant with effect from and with seniority of February 13th, 1922.

TERRITORIAL ARMY RESERVE.

ROYAL ARMY MEDICAL CORPS.

Major E. Gray, having attained the age limit, is retired and retains the rank of Major with permission to wear the prescribed uniform.

Captains R. W. Simpson, W. Bain, I. D. Stubbs, and D. P. H. Gardiner relinquish their commissions and retain the rank of Captain.

The following officers, having attained the age limit, are retired and retain their ranks: Major D. E. Dickson (with permission to wear the prescribed uniform), Captains J. B. Smith, A. L. McCully, J. Aitken.

DIARY OF SOCIETIES AND LECTURES.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1.—Mon., 8.30 p.m., Discussion on the Differential Diagnosis of the Common Exanthemata, to be opened by Dr. E. W. Goodall, and followed by Sir John Broadbent, Dr. J. Rolleston, Dr. F. Foord Caiger, Dr. Frederic Thomson, Dr. A. Cameron, and others.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.—Tues. and Thurs., 5 p.m., Milroy Lectures by Dr. Major Greenwood: The Influence of Industrial Employment on General Health.

ROYAL SOCIETY OF MEDICINE.—*Section of War:* Mon., 5.30 p.m., Squadron Leader H. E. Whittingham, R.A.F.: Sandfly Fever in Malta. *Section of Therapeutics and Pharmacology:* Pharmacological Laboratory, University College, Gower Street, W.C.1, Tues., 4.30 p.m., Demonstration by Dr. C. V. Anrep: Experimentation on Conditional Reflexes. *Section of Psychiatry:* Tues., 8.30 p.m., Adjourned Discussion: The Ideal Clinic for Nervous and Borderland Cases. *Section of History of Medicine:* Wed., 5 p.m., Dr. Herbert R. Spencer: Obstetrical Works of Scipione Mercurio. Paper.—Mr. F. Homer: A Short History of Bonesetting. *Section of Dermatology:* Thurs., 4.30 p.m., Cases; 8.30 p.m., Dr. J. Darier (Paris): Des cancers épithéliaux de la peau. Dr. Darier will be entertained to luncheon at the Trocadero Restaurant at 1 p.m. Tickets 7s. 6d. exclusive of wine. Members proposing to attend should notify Dr. Barber, 7, Devonshire Place, W., at once. *Section of Otology:* Fri., 4.45 p.m., Cases. *Section of Electro-Therapeutics:* Fri., 8.30 p.m., Discussion on Pathological Changes Produced in Subjects Rendered Unconscious by Electric Shock and the Treatment, to be opened by Dr. Morison Legge, and followed by Dr. Goodman Levy and Prof. MacWilliam.

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE, Royal Army Medical College, Millbank, S.W.—Laboratory meeting, Thurs., 8.15 p.m., Demonstrations by Lieut.-Colonel H. M. Perry, Lieut.-Colonel W. P. MacArthur, Major J. A. Manifold, Major S. Elliott, Lieut.-Colonel Clayton Lane, Major H. C. Brown, and Dr. H. M. Woodcock.

POST-GRADUATE COURSES AND LECTURES.

CANCER HOSPITAL, Fulham Road, S.W.—Tues., 4 p.m., Dr. Leitch: Experimental Production of Cancer. Fri., 4 p.m., Mr. P. P. Cole: The Cold Cautery Treatment.

CHESTERFIELD DIVISION, BRITISH MEDICAL ASSOCIATION, Chesterfield Royal Hospital.—Fri., 2.30 to 4 p.m., Dr. Yates: Neurasthenia; Dr. Wilkinson: Symptoms of Danger in Ear Cases.

EDINBURGH ROYAL HOSPITAL FOR SICK CHILDREN.—Thurs., 5 p.m., Mr. J. Fraser: Modern Methods of Treatment of Bone and Joint Tuberculosis.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION, Royal Maternity and Women's Hospital.—Wed., 4.15 p.m., Dr. J. H. Martin: Obstetrical Cases.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Thurs., 4 p.m., Mr. H. T. Gray: Intestinal Obstruction.

MANCHESTER BABIES' HOSPITAL, Slade Lane, Levenshulme.—Sat., 4 p.m., Dr. Chisholm: Malnutrition.

MANCHESTER: ANCOATS HOSPITAL.—Thurs., 4.30 p.m., Dr. Stirling: Iritis and Glaucoma.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.30 p.m., Dr. T. H. Oliver: Diabetes.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland Street, W.1.—Daily, In- and Out-patient Attendances. Mon., 5.30 p.m., Lecture by Dr. Price: The Heart in Relation to Life Assurance.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Mon., Tues., Thurs., and Fri., 2 p.m., Out-patient Clinics. Tues. and Fri., 9 a.m., Surgical Operations. *Lectures.*—Mon., 12 noon, Dr. Greenfield: Neuropathology. Tues. and Fri., 3.30 p.m., Dr. Saunders: Cranial Nerve Lesions. Thurs., 3.30 p.m., Dr. Howell: Hysteria.

NORTH OF ENGLAND BRANCH, BRITISH MEDICAL ASSOCIATION, Durham County Hospital.—Fri., 2.15 p.m., Scientific Demonstrations.

ROYAL INSTITUTE OF PUBLIC HEALTH, 37, Russell Square, W.C.—Wed., 4 p.m., Dr. W. H. Dickinson: Organization and Conduct of Tuberculosis Dispensary Work.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Hospital, Ouseley Road, Balham.—Thurs., 4 p.m., Mr. Zachary Cope: A Demonstration Lecture on Common Sprains and Their Treatment.

ST. MARYLEBONE GENERAL DISPENSARY, 77, Welbeck Street, W.1.—Dr. E. Pritchard: Infant Welfare Course, 6 p.m., Wed., The Feeding of Children between 9 Months and 2 Years; Fri., Dietetic Treatment of Young Children in Certain Common Complaints.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Daily, 10 a.m., Ward Visits; 2 p.m., In- and Out-patient Clinics and Operations. *Lectures.*—5 p.m., Mon., Dr. S. Pinchin: Fibrosis of Lung. Tues., Dr. G. Pernet: Affections of the Scalp, Syphilitic and otherwise. Wed., Mr. MacDonald: Retention of Urine. Thurs., Sir Clifford Allbutt: Angina Pectoris (lecture open to all medical practitioners). Fri., Mr. Simmonds: Osteomyelitis and Its After-effects.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 1s. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS and ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London).

MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London).

EDITOR, *British Medical Journal* (Telegrams: Aitology, Westrand, London).

Telephone number for all Departments: Gerrard 2630 (*3 lines*).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

MARCH.

14 Tues. Newcastle-on-Tyne Division, Medical Institute, 7, Windsor Terrace, 8.30 p.m.

15 Wed. London: Organization of Medical Students Subcommittee, 2.15 p.m.
Nottingham Division: B.M.A. Lecture by Mr. Frank Kidd: The Value of Pyelography in the Diagnosis of Urinary Diseases.

16 Thurs. London: Joint Meeting of Hospitals, Medico-Political, Public Health and Ministry of Health Committees, 2 p.m.

17 Fri. Chesterfield Division: Chesterfield Royal Hospital, 2.30 to 4 p.m., Post-Graduate Class.
City Division: Metropolitan Hospital, 9.30 p.m.
North of England Branch: Durham County Hospital, 2.15 p.m., Scientific Demonstrations.

21 Tues. Croydon Division: Croydon General Hospital.—Mr. F. J. Cleminson: Diseases of Nose and Throat, with special reference to Children, 8.15 p.m.
London: Contract Practice Subcommittee, 2.30 p.m.

22 Wed. Conference of Representatives of Voluntary Hospitals in England and Wales, in the Wigmore Hall, Wigmore Street, London, W.1, 11 a.m.

23 Thurs. London: Maternity and Child Welfare Subcommittee, 2.30 p.m.
Southport Division: B.M.A. Lecture by Dr. A. Burrows on Radium-therapy, postponed from February 16th.

24 Fri. London: Public Health Committee, 3 p.m.
South Suffolk Division, Crown and Anchor Hotel, Ipswich, 3.30 p.m.

APPOINTMENTS.

HIGHAM, J. Parkinson, M.B., B.S.Durh., Consulting Ophthalmic Surgeon to the Holgate and Broomlands Hospitals, Middlesbrough.

MANCHESTER ROYAL INFIRMARY.—Assistant Medical Officer (Central Branch): Miss Isobel M. M. Aitken, M.B., Ch.B., D.P.H. Assistant Surgical Officers (Central Branch): W. R. Douglas, M.C., M.B., Ch.B., F.R.C.S.; E. E. Hughes, M.B., Ch.M., F.R.C.S. Junior House-Surgeon (Specials Department): J. W. Smith, M.B., Ch.B.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 9*s.*, *which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.*

MARRIAGE.

GRIFFITH-WILLIAMS—GILLETT.—On February 28th, at St. Andrew's Church, Colton, by the Rev. H. S. Clarke, Rector, Arthur Griffith-Williams, M.R.C.S., L.R.C.P., of Mattishall, Norfolk, only son of the late William Henry Griffith-Williams, L.R.C.S., L.R.C.P., and grandson of the late George Griffith-Williams, Vicar of Penbryn, Cardiganshire, to Dorothy Isobel Gillett, of the Old Hall, Colton, Norfolk, second daughter of the late Robert Howard Gillett, of Halvergate.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, MARCH 18TH, 1922.

CONTENTS.

PAGE

Harley Street and the British Medical Association: An Appreciation and an Indictment. By ALFRED COX, O.B.E., M.B. 69

CURRENT NOTES:
CONFERENCE OF REPRESENTATIVES OF MEDICAL STAFFS OF VOLUNTARY HOSPITALS 73
NATIONAL INSURANCE AND THE GEDDES CUTS 73

ASSOCIATION NOTICES:
TABLE OF DATES 74
SUGGESTED CHANGES OF AREA 74
BRANCH AND DIVISION MEETINGS TO BE HELD 74

PAGE

Proceedings of Council: SPECIAL MEETING ON PROFESSIONAL SECRECY 73
MEETINGS OF BRANCHES AND DIVISIONS 75
WARWICKSHIRE LOCAL MEDICAL AND PANEL COMMITTEE 75
NAVAL AND MILITARY APPOINTMENTS 75
DIARY OF SOCIETIES AND LECTURES 75
ASSOCIATION INTELLIGENCE AND DIARY 75
APPOINTMENTS 76
BIRTHS, MARRIAGES AND DEATHS 75

HARLEY STREET AND THE BRITISH MEDICAL ASSOCIATION:

*AN APPRECIATION AND AN INDICTMENT.**

BY

ALFRED COX, O.B.E., HON.M.A., M.B.

I AM afraid that by the force of circumstances I shall be compelled to appear in a somewhat ungracious rôle on this my first official visit to the Marylebone Division. Much of what I shall say must needs be in the way of reproach, which will seem misapplied when directed, as it must necessarily be, to those who by their very presence show that they are not indifferent about the matters of which I am to speak. Will you please, therefore, regard what I say (with the exception, of course, of the appreciation) as addressed mainly to the other fellow, who, let us hope, will read what is said of him, both of good and ill, when this address is printed in the BRITISH MEDICAL JOURNAL.

By the lapse of years and by the recognition of the medical profession and of the public the British Medical Association has become an institution. As such it is, of course, a legitimate subject for generalized and particular grumbling. It subserves this very useful purpose for the medical profession, just as do the Government, the Civil Service, the income tax, or the weather for the ordinary citizen, the War Office for the soldier, the Royal Academy for the artist. It is one of my privileges to sit at the receipt of custom, so to speak, of many of the grumbles at the British Medical Association, and to deal with them *secundum artem*. I call it a privilege because it is often the means of introducing an element of humour into a fairly strenuous life, which needs all the light relief it can get. I do not pretend to have counted up all the different grievances against the Association —their name is legion—but there are two specially prominent categories: first that the Association is dominated by the consultant; secondly, that being a purely general practitioner affair it is no use to consultants. Besides the disadvantage of being mutually destructive, these theories have the drawback of being both untrue, as may easily be proved by anybody who will take the smallest trouble to verify the facts.

The main object of this address is to state my belief, before an audience which is eminently competent to refute, to endorse, or to modify it, that, taken as a class, whatever may be the reason, the denizens of Harley Street (by which topographical term you will please allow me for brevity's sake to refer to those members of the medical profession who are consultants and specialists, whether in London or elsewhere) do not take their proper part in the direction of the policy of the British Medical Association, and are not therefore pulling their weight in the professional boat.

Before giving my reasons for what I admit to be a serious charge against the section of the profession concerned, let me state why I consider that work done for the British Medical Association is work done for the profession, and, therefore, that a man who does less than his fair share for the British Medical Asscciation is lacking in his duty to the profession. Briefly stated, my contention is that the British Medical Association is the only body through which the British medical profession can express its corporate feelings, views, and opinions, on all matters which affect all sections of the profession. I know of important, ancient, and valuable corporations which can speak for some sections of it; but I know of none, except our Association, which even aspires to ascertain and express the opinion of the whole.

The Association was formed to promote the medical and allied sciences and to maintain the honour and interests of the medical profession—the whole profession. If for very obvious reasons much of its work has always had a more direct interest for general practitioners—who are after all the bulk of the profession—its ninety years of history show that it has nobly lived up to the objects for which it was founded, and has provided the only common platform open to every section of the profession and for every variety of that profession's work.

The first great task undertaken by the Association was the passing of the Medical Act of 1858, and this and its complement, the Act of 1886, together form the charter of the medical profession. Before the passing of these Acts there was chaos: the status of the medical practitioner was exceedingly vague, and the consultant and specialist, as we now know them, could not exist. A man could practise every branch of the profession on a qualification in either medicine or surgery alone; the examinations of the various corporations and universities varied greatly in value, and there was no recognized standard for them; there was no central authority for the control of the profession, and no registration of qualifications. The Medical Acts made the mob of medical practitioners into a medical profession, and the British Medical Association was mainly responsible for the Medical Acts.

My own strong belief is that the organization of any calling must in the long run justify or condemn itself by the extent to which it helps or fails to help to make its members more useful members of the community in the sphere to which they have been called, and I think the British Medical Association can stand that test as well as most professional organizations. It has always kept the promotion of the medical and allied sciences well to the front, with the sound instinct that only by doing so could it attain that influence with the public and with public authorities which would

* A paper read before the Marylebone Division on March 7th, 1922.

make it able to carry out its second great object—the protection of the interests of the medical profession.

The great growth of societies which deal exclusively with the purely professional side of medical affairs has tended perhaps to push the scientific work done by the Association rather into the background. But there is room for all agencies of the kind, and nobody who surveys the immense amount of good scientific work which has been done and is being done all over the country by our Branches and Divisions need feel in the least ashamed of our record on this side of our work. Our Annual Meeting still holds its own as the chief occasion of the year on which those who wish to do so may lay their work before audiences representative of all kinds of practitioners from all over the country. I am prepared to say, on the strength of the opinions of those much better qualified than I am to judge, that the scientific programmes of the meetings at London in 1919, Cambridge in 1920, and Newcastle in 1921, were equal to those of any past years.

During the last sixty or seventy years there have been few medical men of eminence who have not been associated in some way with the work of the Association. The Branch of which Marylebone is a Division can boast among its presidents the names of Quain, Russell Reynolds, Fergusson, MacCormac, Pavy, Butlin, Taylor; and among those who on more than one occasion have been proud to lay their views and achievements before our Association at its Annual Meetings you will find the names of Stokes, Paget, Lister, Gairdner, Osler, Allbutt, and many others of the great names of the profession. And may I remind you that our Association was among the first bodies to recognize that the promise of the budding scientist may often be lost if he does not get a little encouragement of a solid nature in the early days? Sir Henry Butlin, in his address as President of the Association in 1910, reminded us that in the seventies, when there was less talk of original research than now and still less financial help for it, the Association came to the rescue of those young men "who were glad to seek occupation and perhaps fame" in original research. Since 1873 the Association has spent nearly £40,000 on its science scholarships and grants, and the list of the scholars and grantees is one of which the Association is very proud.

The Association has also on many occasions organized and financed special investigations, such as those on vaccination, chloroform, myxoedema, operative treatment of fractures, etc. And our most recent development in the way of post-graduation lectures deserves the serious attention and hearty encouragement of Harley Street. During the last two years we have induced eminent lecturers to speak to our Divisions and Branches on the subjects of which they are masters. We have paid them a modest fee for so doing, have used our machinery to get audiences for them, and are by this effort bringing a most practical form of post-graduation teaching to the very door of our members all over the country. This development of our work is only in its infancy.

Our JOURNAL is another branch of the Association's work of which we are very proud. No progressive denizen of Harley Street can afford not to read it, and I think I can safely say that there is not one who is not glad to secure that publicity for his views and work which our JOURNAL can give him to a much greater extent than any other medical journal in the empire.

The worldwide nature of our Association should also appeal to all members of the profession who value the solidarity of the British race and the contribution of our profession towards it. The British Medical Association has its branches practically wherever two or three British doctors are gathered together. In some of the dominions the Association is very strong, much stronger indeed than at home; in the smaller dependencies it supplies a link with home which is greatly cherished by our far-away brethren and by us.

I could enumerate many other points to prove that the Association gives at least as much as it asks even to those (if such there be) who are totally uninterested in the struggles of the rank and file of the profession, whether for remuneration, for status, or for liberty to carry on their work without undue interference by others. The great characteristic of the British Medical Association is that it refuses to divorce the purely professional side from the business side of the doctor's life, believing that in the interests of the profession as a whole it is necessary to have a body which deals with both aspects and keeps a proper balance between them. And our trouble with Harley Street is that it contains people who either refuse to belong to the Association at all, or decline to take an active part in its work, because they say we are nowadays taken up too much with the "maintenance of the honour and interests of the medical profession." They are not particularly concerned (they think) in the maintenance of the "interests" of the profession, though not without a proper regard, of course, to their own; and if you can induce them to speak quite plainly, as I have sometimes had the luck to do, they will tell you that all this talk about remuneration, these bargainings with the Government, with local authorities, with bodies of workmen, with the governing bodies of hospitals, etc., are to their mind sordid affairs, which tend to lower the dignity and reputation of the profession. This is an attitude which would be entirely laudable in an ideal world pervaded by the austere atmosphere of Harley Street, but those who are not wilfully blind must realize that, unfortunate though it may be, our profession has its politics, its economic questions, its struggle for existence as a profession, and somebody has to handle these affairs. If you admit that, you admit the claim of the British Medical Association on every section of the profession, for there is no other body which is even trying to do this work for the profession as a whole—including Harley Street.

And remember that this idea that the profession is degenerating into a trade, and losing caste by talking about the business matters which affect it, is nearly as old as the profession itself. I was strongly reminded of the old joke about *Punch* not being as good as it used to be when I came across the following lines from Garth's *Dispensary*, printed in 1699:

> "How sickening Physick hangs her pensive head
> And what was once a Science, now's a Trade."

The medical profession, like every other calling in this very complicated modern world, is compelled to face very serious economic and political problems. It cannot evade them. They lie at the very roots of our existence. A discontented profession, an impoverished profession, a profession which is unsettled and spending more than a fair share of its time in protecting its status and liberty, cannot possibly do its best work for the public. And we cannot put up a partition between the scientific and the business sides of our profession and allow the Harley Street man on one side to get on with his work of trying to cure patients or discover the causes of disease, while people of a more vulgar or more robust type are engaged on the other side with those business affairs which will not be denied. The two things will persist in getting in each other's way whatever you may do. It is possible for a man to delude himself into thinking that he is a more refined and spiritual being if he affect to despise these things. But the plain man's opinion is that the man who deliberately shirks his share of the rough-and-tumble is not doing the fair thing by the others. My indictment is that, for reasons which I now propose to examine more in detail, the only body which can claim, however imperfectly, to represent the whole profession in all its aspects, and the only body which is handling these very important business quesions, is not getting the services of many of the most influential men and women in our profession, and that the medical profession has a right to complain. *Noblesse oblige.*

Reasons for Abstention from the Work of the Association.

The Harley Street man is, to do him justice, generally willing to take a part in the purely professional side of our work, though naturally if he is not a member we rather shrink from asking him to do so, for his non-membership may be due to general disapproval of the British Medical Association and all its works, even its attempts to promote the medical and allied sciences. But I think it is clear that, leaving aside cold-blooded lack of *esprit de corps* and sheer indifference, abstention from membership of the Association altogether, and lukewarmness in connexion with it, are generally due to dislike of "medical politics." As my case is that Harley Street ought not to feel superior to medical politics both because it is very interesting and very important, and because Harley Street cannot really afford to take that line, let us consider what medical politics is. The dictionary defines politics as "the science or art of government," but as applied to our profession I do not know that you can do better than the definition in our Memorandum of Association—namely, "the maintenance of the honour and interests of the medical profession"—or, in other words, the conduct of the domestic economy of the profession and its relations to the community as a whole and to various sections of it.

The most respectable reason for abstention from any connexion with medical politics is that such work is uncongenial or actually distasteful, or that the claims of other professional work leave no time for participation in work for which the objector feels he has no aptitude. I could put up quite a plausible case on these lines if I were a Harley Street man, and I believe I could make my arguments fairly convincing—to other people: but not to my own conscience. If "every man is a debtor to his profession," as Bacon said, the profession has a right to expect that the fame and influence gained by a man in strictly scientific or purely professional pursuits should be placed at the disposal of the profession for other purposes. There is such a thing as professional patriotism, and just as at all times, and more especially in emergencies, the citizen feels that his country has a claim on him, so a man's profession has a claim on him, and the claim varies according to the man's capacity. Not all are called upon for the great sacrifices which the keen medical politician readily makes. From the man who has no special taste or aptitude that way less is expected. But to my mind every doctor is called upon to "do his bit," and the fact that he finds it distasteful does not seem a very good reason for abstention, if my analogy with patriotism is sound.

There are many occasions on which the mere presence of these eminent professional men and women on a deputation, or on a platform at a meeting, or in a committee, might be of the greatest service to the rank and file or to some other section of the profession. It is useless to plead that they have no time for such work. It is easier for the consultant to arrange his work than for busy general practitioners, but *they* manage to find the time; at least the best of them do. There is no man so absorbed in science or in the making of a living as to be unable to give an occasional hour to the politics of his profession. Men of the highest scientific eminence have found it possible to do so, and are doing so now. And, besides eminent members of the profession are liable to be a positive danger to its interests when their ignorance of what is going on in the rank and file is taken advantage of by politicians and other public men who ask their opinion. I have known grievous injury done to the interests of men engaged, for example, in National Health Insurance work by the *obiter dicta* or post-prandial remarks of members of our profession who, however eminent, have no real knowledge of this work. A little time given to medical politics would make their opinions on such matters of some value to those who seek them, and to the profession as a whole.

The very detachment of the Harley Street man from many of the problems of the rank and file gives him a special value in the counsels of the Association, if he is content to take a little trouble to understand the point of view of his colleagues in a different sphere. The scientific acumen, the general culture, the knowledge of human nature which make the successful scientific investigator or the successful physician and surgeon, should make his advice particularly useful in the problems of medical politics, if he possesses what Lord Morley called "the sovereign quality of throwing his mind into joint stock in the hour of deliberation." But the experience of the struggle which took place at the inception of the National Insurance Act shows that the man, however eminent in other spheres, who merely plunges in for the love of a fight, or because his general political instincts are aroused, or even out of a sense of duty to his profession, may do more harm than good unless he is prepared to bring into the common pool not only his pugnacity and sympathy, but the same science and judgement and patience that he uses when he discusses other problems. For the real difficulty in politics, medical and general, is, as a rule, "not nearly so much the discovery of what is best to be done as of what is the nearest approximation to it which, men and things being what they are, has any chance, first, of getting accepted, and secondly, of proving workable and lasting."

Another reason for abstention from the politics of our profession which is not often openly avowed, but is not at all uncommon in Harley Street, is a feeling of superiority combined with a disdain of the rough-and-tumble inseparable from a democratic body such as ours—in other words, snobbishness. To such as are afflicted by this form of conceit I can only say that the political work of the profession, like general politics, cannot be done in kid gloves. In America we are told that a great many of the best people despise politics, and the result is Tammany and the professional politician. I see no likelihood of such a fate befalling British medical politics, but the risk is one that should not be lost sight of; and I may respectfully suggest to the superior ones that what was not beneath the dignity of a Butlin, a Radcliffe Crocker, an Andrew Clark, or a Horsley (to mention only a few former denizens of Harley Street who not long ago took a very active part in our work), is not really beneath their dignity. I do not suggest that they will be likely to agree with *all* the Association does. I never knew anybody who did. But a healthy division of opinion and the exchange of lively personalities, within reason, are the very salt of life. They have an invigorating effect, if taken in moderation, unequalled by any form of sport I know, and far and away superior to any tonic known to the *Pharmacopoeia*.

A third and more specious reason often given for non-participation in our work is that medical politics does not particularly concern Harley Street, and may well be left to those whom it does concern. Let us assume for a moment that consultants and specialists have no problems affecting their pocket, or their status, or their susceptibilities, in which an organization such as ours could be of any help. Would not this be an excellent reason why such specially favoured individuals should *not* hold aloof? They must at any rate be supposed to have some regard for the reputation and status of the profession as a whole. Here is an association which already comprises over half of the total *Medical Register*, over 60 per cent. of the practising members of the profession, and probably nearer 80 per cent. of the active members, by which I mean those who take an interest in the politics of the profession. It is going on with its work day after day in every part of the world. It is recognized by Governments and by local authorities in this and other British countries as the one great medical organization which can speak for the British profession as a whole. Whether a doctor belongs to it or not he is inevitably implicated in its doings, for the public and the Government are always influenced by an organized body, and are apt to ignore those who remain outside. Such a body is evidently capable of doing an immense amount of good, or harm, to the reputation of the profession for which it speaks. Its operations cannot be negligible. I find it very difficult to understand the psychology of a doctor who, realizing all this, deliberately makes up his mind to live, move, and practise his profession as if such a body did not exist. One can understand the man who is content to let others do the work and to give them his blessing and his subscription, and stand aside. But the kind of man I have been describing is much more likely to be among that bitter ineffectual band which, though unable or unwilling to contribute a single constructive idea to medical politics, never has a good word to say for the body which *has* to face the problems.

But the assumption that the medico-political work of the Association is of no direct concern to Harley Street is entirely unwarranted. There are, it is true, a few very eminent and distinguished persons whose scientific and professional position is such that for them there are no economic questions, and they need take no thought for the morrow. But these are just the men who generally have a high sense of professional patriotism and who give much more than lip service to the dictum that "every man is a debtor to his profession."

But how few consultants and specialists there are who are above these economic and political questions! The economic struggle may in Harley Street be better disguised than it is in humbler quarters, but it is there all the same. Sir Andrew Clark told Osler that he had striven ten years for bread, ten for bread-and-butter, and twenty for cakes and ale. The majority never get beyond the bread-and-butter stage, and there are not a few who always have to put up with margarine. How many whole-time medical professors and teachers can say that the recent dislocation of values has not seriously affected their domestic budget and made them conscious of their economic helplessness as individuals? How many members of hospital staffs can pretend that the rapidly changing position of the voluntary hospitals is not a serious problem for them? And which of our consultants and specialists (especially the younger of them) who have given any attention to the developments of the National Health Insurance system of this country does not realize that the introduction of that system signalized a revolution in medical practice which is bound to affect him and his class sooner or later? I select these points for the purpose of bringing home to Harley Street that we are all members of one body; that there are no water-tight compartments in our profession; that Harley Street cannot afford to be indifferent to what is being done in these and similar

matters, but that whether it is indifferent or not the British Medical Association is working at them, intends to go on working at them, and that the people who stand aloof will find themselves pledged, implicated, and committed by the action of the British Medical Association almost as much as its members. The moral I leave Harley Street to draw.

Harley Street and the Hospital Question.

It is not the fault of the British Medical Association if Harley Street does not know that the future of the voluntary hospitals and of the staffs of those hospitals is in the melting pot. During the past three years we have kept this question constantly to the front, and at the present moment our members and all hospital staffs have before them a consolidated statement of the proposed policy of the Association concerning hospitals of all kinds which has been hammered out with immense labour, mainly by hospital men. I have no doubt that this Division will respond to the call made to it more than to any other Division to tell the Association what hospital men and women think about our proposals, and to do all in its power to guide the Association aright on this very difficult question. In a long report, full of interest to every doctor, the main question for Harley Street is, What is going to be the relation of the hospital staff to the voluntary hospitals when the majority of the patients in those hospitals are, to a greater or less extent, paying patients, or when the hospitals are financed mainly by contributions from people who expect and demand a *quid pro quo?* Will Harley Street still continue its honorary services just as if the patients were, as of old, poor people who could not pay and could get nobody to pay for them? The question is a very serious one, and from the answer to it arise many other questions which must be answered soon. The tendency for Harley Street, up to the present, has been rather to bury its head in the sand and wait for something to turn up. Nothing will turn up except confusion unless our Association can work out an acceptable policy. Nobody else is tackling the question. I have seen no attempt by the Royal Colleges to give a lead in an eminently difficult medico-political problem which gravely affects their Fellows and Members. The Association realizes that the way in which this question is solved will affect the whole profession, but it will particularly and most quickly affect Harley Street. Can we on this occasion expect to get from that quarter that knowledge and experience which only it possesses? And can we rely upon its influence and efforts to press forward the policy when we have decided what it is to be? We are most anxious to have this help, and we know we can always rely upon the faithful few; but, whether Harley Street as a whole rises to the occasion or not, it is important that everybody should realize that the Association must go on, not only trying to solve the problems, but pressing upon hospital authorities and on all whom it may concern the conclusions it arrives at, with such help as it may get from outside. There never was an occasion on which consultants and specialists could less justify an attitude of aloofness, or superiority, or indifference.

Harley Street and National Health Insurance.

The fact that the introduction of the National Insurance system was the beginning of a revolution in medical practice, and therefore was a matter of concern to the whole profession, has not escaped the more public spirited part of Harley Street. Indeed in the earlier years of the war some of them took part, with representatives of insurance practitioners and of the Ministry of Health, in certain round-table conferences which contemplated extensions of the system that, if carried out, would have involved consultants, specialists, and laboratory workers very extensively, especially the juniors. The National Health Insurance system gave to some 14,000,000 inhabitants of this country the right to the domiciliary attendance of a general practitioner, and, but for the war, there is no doubt that long before this they would have had access to those additional services which are necessary to provide a complete medical service—institutional treatment, nursing, and consultant and specialist services, including laboratory facilities. Under the provision whereby approved societies are enabled out of their savings to provide additional benefits many insured persons are now receiving dental treatment, and arrangements are being made for optical benefit. While some societies are dealing direct with ophthalmologists, others are arranging for the exploitation of the ophthalmic surgeons on certain hospital staffs, or alternatively for getting their work done by opticians. I will not go into the ways in which the British Medical Association is dealing with this latest development, except to say that the incident has shown how destitute Harley Street is of any machinery for the prevention of its own exploitation, unless the British Medical Association comes to the rescue—as of course it is glad to do.

The history of National Health Insurance in its relation to the medical profession shows (1) that without a strong organization the profession would have been hopelessly exploited either by the approved societies or by the State, or both; (2) that with a strong organization it has fairly well held its own, though constant vigilance is required; (3) that though the general practitioner has up to quite recently been the only practitioner *directly* concerned, the ophthalmologist is now being drawn into its ambit, and other consultants and specialists will certainly follow. At the present time the economic condition of the country prevents those great extensions of the system which would require the services of all classes of consultants, but the time is only postponed. It is impossible to believe that the country, when it regains an approximately normal condition, will be content with a system open to criticism of various kinds, but to no criticism so obvious as that it is incomplete. At any time steps may be taken which will influence the future interests of Harley Street, and some of them may be taken quite insidiously—in fact, are being taken. It will therefore pay consultants to keep their eye on this question and to insist on having a determining voice in the conditions on which they will consent to give their services. But even if Harley Street could be certain of remaining permanently outside the ambit of the Insurance Acts, it cannot separate itself from the rest of the profession, for the reputation of the profession as a whole depends in large measure on the general practitioner, and a majority of general practitioners, certainly a vast majority of those in industrial areas, are now doing this work. As Osler said of the general practitioner, in his essay on *Chauvinism in Medicine*, "He is the standard by which we are all measured. What he is we are; and the estimate of the profession in the eyes of the public is their estimate of him. A well-trained sensible doctor is one of the most valuable assets of a community, worth to-day, as in Homer's time, many another man." Harley Street cannot help being involved, and, anyhow, *Noblesse oblige.*

I have delivered myself freely, as I thought was my duty. If I have appeared to be too censorious, put it down to my keen desire to bring home to Harley Street my firm conviction that it is doing itself much less than justice in keeping aloof from the Association, as so many of its inhabitants are doing, and that in so far as they refrain from casting their weight on the side of the angels—that is, on the side of the British Medical Association—they are depriving the profession of much that the profession has a right to expect. I would like to end this section of my remarks with a grave warning from one we all love and admire—the Grand Old Man of British Medicine, our ex-President, Sir Clifford Allbutt. In a letter to me a short time ago, speaking of the great satisfaction he had had out of his long connexion with our Association, and his regret that he must "yield to a gradual detachment from it by the lapse of office and the burden of years," he goes on to make an assertion which is very striking coming from him. He says: "The Association is *the great thing* in Medicine. It is the bulwark of the general practitioner, who, much undermined as he is by bureaucratic machinations, is nevertheless *the profession*—the profession of which some others of us, if not without our uses, are but instruments. If the specialists of our profession do not stand in with the rank and file, and work earnestly with them in organization as well as in science and art, we shall be defeated in detail and as a body decay."

The Debt of the British Medical Association to Harley Street.

But he would indeed be an unimaginative churl who, in the heart of Harley Street, could finish such an address as this without making it plain that his chiding had been done much more in sorrow than in anger. What would the Association have been without the teachers and the consultants? We might have been an exclusively general practitioner association, but if we had we should have been much the poorer in achievement, in outlook, in influence. And we should not have had any right to such a name as ours. The goodwill, the influence, the intellect, the time and the money, of many famous consultants have been placed freely at our disposal, and I wish I had the time and the opportunity to try to acknowledge, however feebly, the debt we owe them. It is impossible, however, for I am further hampered by the

objection to mentioning the names of those still happily with us. That would be invidious. But nobody knows so well as I do how much the Association, and particularly the general practitioner section of it, owes to consultants and teachers all over the country. There are few areas in which some of them are not the natural and acknowledged leaders in the Association. There are many in which busy and eminent men have been worth their weight in gold to the general practitioners in their rightful struggles against improper conditions of medical work. In London there are busy consultants and teachers who can always be relied upon if we require their services and who set no bounds to their devotion to our Association. Some of them are here. But whether here or not I hope they will accept this heartfelt tribute to their work which I voice on behalf of our Association as a whole. They have their reward in the trust and gratitude of thousands of members of their profession whom they have never seen.

But no objection to the use of individual names applies, alas! to the names of Wheelhouse, Foster, Cousins, Saundby, Andrew Clark, Edmund Owen, Butlin, Crocker, and Horsley. Nobody who knows the history of the Association as I have known it for the last twenty-five years could fail to testify, whenever he had a suitable opportunity, that these men, amongst many others of the consultant class who could be named, did work without which the Association would be very much poorer. It seems fitting that I should mention one whose death was recorded only this morning. Benjamin Moore, a scientist of no ordinary distinction, amid the calls of a very busy life, found time to take part in much of our work that had no particular bearing on his own position in the profession. Besides serving for years on our Science Committee and taking his part in the Sections of our Annual Meetings, he served for two years as a Representative in our Representative Meeting, and thoroughly enjoyed it. Though not himself a practitioner, he was a fine specimen of the best kind of "Harley Street man"—public-spirited, enthusiastic, varied in his interests, ready always to do his share, and more.

It is a pleasure and a privilege for me, whose whole training and traditions are those of general practice, to stand here and testify to the work which such men did, not for any advantage that they themselves were likely to reap, for from the merely worldly point of view it would have paid them better to look after their own personal affairs; not for the special benefit of their own section of the profession, but for the general good of the profession to which they were so proud to belong. The British Medical Association needs more of them. We are a great Association, with a great history and great possibilities. Whether we shall go on developing on great, broad, public-spirited lines or degenerate into a mere self-protective professional union, which only incidentally does some scientific work, depends to a great extent on how far we can draw upon the public spirit, the statesmanship, and the unselfish work of the best brains and best hearts in all ranks of our profession. We look confidently to Harley Street for its contribution.

British Medical Association.

CURRENT NOTES.

Conference of Representatives of Medical Staffs of Voluntary Hospitals.

IN compliance with numerous requests, arrangements have been made to issue admission cards at the door of the Hall in which this Conference is to be held, to representatives of medical staffs who have been unable to obtain their cards beforehand. It is to be hoped, however, that all those who are in a position to intimate to the Medical Secretary that they have been appointed will do so beforehand, in order that the agenda as well as the admission card may be forwarded to them. The Conference will take place on Wednesday, March 22nd, at the Wigmore Hall, 36, Wigmore Street, London, W.1, commencing at 11 a.m. Sir James Galloway, K.B.E., C.B., senior physician to Charing Cross Hospital, has kindly consented to take the chair.

National Insurance and the Geddes Cuts.

Those who read what has been said in the columns of the JOURNAL about this subject doubtless noted the strong hint that was given that the shouldering by approved societies of various financial burdens previously borne by the Government was a matter of considerable importance to insurance medical practitioners. The subject has been receiving the serious attention of the head office of the Association, which is already in possession of a considerable amount of information bearing on it. But it was felt that it would be useless to make any communication to the Panel Committees until this information was much more complete. The Insurance Acts Committee has been trying to arrange a deputation to the Ministry of Health for the last three weeks, but owing to the changes in the office caused by the resignation of Mr. Harris and the succession of Mr. Brock, together with the illness of Dr. Smith Whitaker, it has been found impossible to arrange for the interview before March 30th. When the interview does take place the question of the position of insurance practitioners *vis-à-vis* the approved societies under the new arrangements will be the first and most important matter for discussion, and the Panel Committees will be informed of the results of the discussion as soon as possible. In the meantime the Medical Practitioners' Union, in a letter that appears to convey a calculated impression of panic, has asked Panel Committees to send representatives to a conference on April 6th at which this matter will be discussed. The Medical Secretary of the British Medical Association has addressed a letter to Panel Committees informing them that it is impossible at the present time to hold any useful conference until information is more complete; that when such a conference can usefully be held it will be called by the Insurance Acts Committee; and that in the meantime, remembering that the Insurance Acts Committee is definitely recognized by the Panel Committees and by the Ministry as the mouthpiece of the former, they should not take part in any conference called under other auspices, as, apart from other considerations, the information before such a conference would be bound to be inaccurate and incomplete, and its results might be very misleading.

PROCEEDINGS OF COUNCIL.

Wednesday, March 8th, 1922.

A SPECIAL meeting of the Council was held at 429, Strand, London, W.C., on Wednesday, March 8th. Dr. R. A. BOLAM was in the chair, and there were present:

Dr. T. Ridley Bailey, Dr. J. W. Bone, Dr. H. B. Brackenbury, Dr. H. C. Bristowe, Dr. C. Buttar, Mr. Russell Coombe, Dr. H. G. Dain, Lord Dawson of Penn, Dr. James Don, Dr. C. E. Douglas, Mr. W. McAdam Eccles, Dr. A. Forbes, Dr. E. R. Fothergill, Dr. T. W. H. Garstang, Mr. N. Bishop Harman, Dr. R. Wallace Henry (Chairman of Representative Meetings), Dr. David Lawson, Dr. J. A. Macdonald, Dr. S. Morton Mackenzie, Major-General Sir W. G. Macpherson, Dr. Hugh Miller, Mr. A. W. Nuthall, Dr. Frank Radcliffe, Dr. D. A. Sheahan, Dr. W. Snodgrass, Dr. John Stevens, Dr. W. Crawford Treasure, Mr. E. B. Turner, Dr. E. O. Turner, and Sir T. Jenner Verrall.

PROFESSIONAL SECRECY.

This meeting was called to consider the subject of professional secrecy, which was on the agenda of the ordinary Council Meeting of February 15th, but was not then reached in time to admit of adequate discussion. The subject was brought forward at the instance of the Central Ethical Committee, to which the relevant minutes of the Annual Representative Meeting at Newcastle in 1921 had been referred. The resolution adopted at Newcastle was:

> That the Association use all its power to support a member of the British Medical Association who refuses to divulge, without the patient's consent, information obtained in the exercise of his professional duties, except where it is already provided by Act of Parliament that he must do so.

A further resolution of the Representative Meeting instructed the Council to act on this minute and to submit it to the next Representative Meeting, with a view to considering the advisability of such a resolution becoming the policy of the Association.

Further discussion was asked for in Council in order that a well-defined issue might be submitted to the Glasgow Meeting; that the question of the precise conditions and extent of the Association's support might be fully explored; and that any apparent dissonance between the Newcastle resolution and that adopted at Cambridge in the previous year might be cleared up. In the Cambridge resolution the Representative Body reiterated its opinion that a medical practitioner should not, without his patient's consent, voluntarily disclose information which he had obtained from such patient in the exercise of his professional duties. The resolution of 1921 went farther, and laid it down that the Association should use all its power to support a member who refused to divulge.

A detailed and comprehensive report giving the history and bearings of the situation was presented by the Central

Ethical Committee, and there followed a long discussion in Council, at the end of which the whole matter was again remitted to the Central Ethical Committee for further consideration, particularly as regards the conditions and extent of the support to be given by the Association. At the suggestion of the Chairman of the Committee the following members of Council who had taken part in the discussion were co-opted for the purpose of this reference: Dr. H. G. Dain, Lord Dawson of Penn, Dr. E. R. Fothergill, Dr. J. A. Macdonald, Mr. E. B. Turner, Sir Jenner Verrall, together with Dr. C. Buttar and Dr. T. W. H. Garstang in reserve, in case any of those nominated were unable to act.

Other Business.

The only other matter raised in the Council was with regard to the address delivered by the Medical Secretary before the Marylebone Division on the previous evening on the subject of consultants and the Association (printed in this week's SUPPLEMENT). Mr. HARMAN said that the feeling of the meeting was that this valuable paper should, after its publication, be reprinted as a pamphlet and issued to non-members, especially consultants and specialists. This was agreed to.

Association Notices.

TABLE OF DATES.

April 1, Sat.	Nomination papers available at Head Office for election of 24 Members of Council for 1922–23, by grouped Home Branches.
April 26, Wed.	Council Meeting, 429, Strand, at 10 a.m.
April 29, Sat.	Last day for receipt at Head Office of Independent Motions for Annual Representative Meeting Agenda, as to policy, Articles, or By-laws (By-law 40).
May 6, Sat.	Annual Report of Council appears in SUPPLEMENT.
May 8, Mon.	Last day for receipt at Head Office of Nominations, by a Division or not less than 3 Members, for election of 24 Members of Council by grouped Home Branches for 1922–23.
May 13, Sat.	Publication in SUPPLEMENT of list of nominations for election of 24 Members of Council by grouped Home Branches for 1922–23.
	Voting papers for election of 24 Members of Council by grouped Home Branches posted from Head Office to Members of groups where there are contests.
May 27, Sat.	Last day for receipt at Head Office of voting papers for election of 24 Members of Council by grouped Home Branches (where there are contests).
June 3, Sat.	Publication in SUPPLEMENT of results of Council elections by grouped Home Branches.
June 10, Sat.	Nomination papers available, at Head Office, for election of 12 Members of Council by grouped Home Representatives.
June 14, Wed.	Council Meeting, 429, Strand, at 10 a.m.
June 23, Fri.	Last day for election of Representatives and Deputy-Representatives.
June 24, Sat.	Supplementary Report of Council appears in SUPPLEMENT.
June 30, Fri.	Last day for receipt at Head Office of notification of election of Representatives and Deputy-Representatives.
July 7, Fri.	Last day for receipt at Head Office of Amendments and Riders for Annual Representative Meeting Agenda.
July 21, Fri.	Annual Representative Meeting, Glasgow, 10 a.m.
	Nominations for election of 12 Members of Council by grouped Representatives to be received (at Annual Representative Meeting, Glasgow) by this date.

ALFRED COX, *Medical Secretary.*

SUGGESTED CHANGES OF AREA.

Amalgamation of East Norfolk and Great Yarmouth Divisions.

NOTICE is hereby given to all concerned of a proposal made by the East Norfolk and Great Yarmouth Divisions of the Norfolk Branch that the two Divisions be amalgamated to form one East Norfolk Division.

The matter will be determined in due course by the Council. Any member affected by the proposed change and objecting thereto is requested to write, giving reasons therefor, to the Medical Secretary, 429, Strand, W.C.2, not later than April 18th, 1922.

BRANCH AND DIVISION MEETINGS TO BE HELD.

SUSSEX BRANCH: BRIGHTON DIVISION.—The Brighton Division will hold a supper on Thursday, March 23rd, at 8.15 p.m., at the Old Ship Hotel, Brighton. The price is 4s. 6d. (exclusive of wines); morning dress. It is hoped that members will make a special effort to attend, as the officers are anxious to make this a success, and to arrange friendly gatherings of members. Mr. H. D. Roberts will be the guest of the Division, and will give a short address on Dr. Russell and his connexion with Brighton in the eighteenth century, to be followed by informal discussion.

A joint meeting of the Brighton Division and the Brighton and District Section of the Southern Counties Branch of the British Dental Association will be held in the Assembly Hall, Steine House, Brighton, on Thursday, March 30th, at 8.15 p.m. Dr. L. A. Parry will read a paper entitled "Some points on the medical aspects of dental treatment in childhood."

BATH AND BRISTOL BRANCH: BATH DIVISION.—A meeting of the Bath Division will be held in the Board Room of the Royal United Hospital on Tuesday, March 21st, at 4.30 p.m. Business: Report on the Hospital Policy of the Association. In view of the great importance to the profession of the matters dealt with in the Council's report it is hoped that as many members as possible will attend.

EAST YORK AND NORTH LINCOLN BRANCH: EAST YORK DIVISION.—The annual dinner of the Division will be held in the Royal Station Hotel, Hull, on Friday, April 21st, at 8 p.m. prompt. The Chairman's guest will be Mr. C. A. R. Nitch, M.S., F.R.C.S., Surgeon, St. Thomas's Hospital. Tickets, 12s. 6d. each, may be obtained from the Secretary or from any member of the Executive Committee.

LANCASHIRE AND CHESHIRE BRANCH: SOUTHPORT DIVISION.—The B.M.A. Lecture by Dr. A. Burrows on "Radium Therapy," postponed from February 16th, will be delivered at Rowantree's Café, Lord Street, Southport, on Thursday, March 23rd, at 8.30 p.m.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—The following meetings have been arranged by the City Division: Wednesday, March 22nd, 3.30 for 3.45 p.m., Queen's Hospital for Children, Hackney Road; special children's afternoon by the staff. Thursday, March 30th, dinner-dance, Abercorn Rooms; dancing to 1 a.m. Friday, April 7th, Metropolitan Hospital, general meeting, 9.15 p.m.; discussion of Hospitals Report (BRITISH MEDICAL JOURNAL SUPPLEMENT, February 25th, 1922); pathological specimens, Dr. T. W. G. Shore, pathologist, St. Bartholomew's Hospital. Friday, May 5th, Royal Northern Hospital, clinical meeting; paper by Dr. Philip Hamill. Friday, June 16th, annual general meeting. July (second week), general meeting.

METROPOLITAN COUNTIES BRANCH: WESTMINSTER AND HOLBORN DIVISION.—The annual general meeting of the Division will be held at the Trocadero Restaurant on Thursday, April 6th, at 8.45 p.m. The meeting will be preceded by dinner at 7.30 p.m. At 9 p.m. Dr. Leonard Williams will read a paper on Interstitial Glands, and a discussion will follow. Members and non-members are cordially invited to dinner, or the meeting, and are requested to communicate with the Honorary Secretary, Dr. F. D. Bennett, 18, Savile Row, W.1.

METROPOLITAN COUNTIES BRANCH, WILLESDEN DIVISION.—A meeting of members and non-members of the Willesden Division will be held at St. Andrew's Parish Hall (institute behind church), High Road, Willesden Green, N.W., at 8.30 p.m. on Tuesday, March 21st. Agenda: Letter from Willesden Urban District Council and reply; invitation from Willesden Labour Party; nominations for Representative and Deputy for Annual Representative Meeting at Glasgow; nominations for British Medical Association Council election; arrange for assisting candidates for municipal election on Saturday, April 1st; consider Hospital Policy of the British Medical Association (see SUPPLEMENT, BRITISH MEDICAL JOURNAL, February 25th); any other business.

MIDLAND BRANCH: CHESTERFIELD DIVISION.—A general meeting of the Division will be held at the Hospital Board Room, Chesterfield, on Wednesday, March 29th, at 3 p.m. Report on Hospital Policy (members are requested to bring with them the SUPPLEMENT of February 25th, 1922); election of Representative; general.

NORFOLK BRANCH.—A meeting of the Norfolk Branch will be held at the Norfolk and Norwich Hospital, Norwich, on Thursday, April 27th, at 3 p.m., when an address on the Hospital Policy of the British Medical Association will be given by the Medical Secretary.

NORFOLK BRANCH: NORWICH DIVISION.—A meeting of the Norwich Division will be held in the Medical Library on Saturday, March 18th, at 8.45 p.m. Agenda: Business connected with coroner's verdicts; Report on British Medical Association Hospital Policy (SUPPLEMENT, February 25th); any other business.

NORTH OF ENGLAND BRANCH: DARLINGTON DIVISION.—A meeting of the Darlington Division will be held at Greenbank Hospital on Thursday, March 23rd, at 8.30 p.m. Dr. George Hall of Newcastle will give an address on "Early diagnosis of nervous diseases." A large attendance is hoped for.

NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH.—A meeting of the Branch will be held on Wednesday afternoon, April 5th, at the Furness Abbey Hotel, Barrow. The Secretary will be pleased to hear from members willing to show interesting cases or specimens. A fuller notice will be sent to members before the meeting.

NORTH WALES BRANCH.—The spring meeting of the North Wales Branch will be held at Wrexham on Tuesday, April 4th.

SHROPSHIRE AND MID-WALES BRANCH.—A general meeting of the Branch will be held at the Royal Salop Infirmary on Tuesday, March 21st, at 3.30 p.m., when the President, Dr. Hodges, will take the chair. There will be a Council meeting at 3 p.m. By kind invitation of the President, tea will be provided. Agenda: Minutes of the last meeting; election of new members; consider Report on the Organization of Voluntary Hospitals, with particular reference to the reception of paying patients (SUPPLEMENT, February 25th, 1922); general business.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: NORTH GLAMORGAN AND BRECKNOCK DIVISION.—A meeting of the North Glamorgan and Brecknock Division will be held at the New Inn, Pontypridd, on Thursday, March 23rd, 1922, at 2.45 p.m.

SUFFOLK BRANCH: SOUTH SUFFOLK DIVISION.—The annual general meeting of the South Suffolk Division will be held at the Crown and Anchor Hotel, Ipswich, on Friday, March 24th, at 3.30 p.m. Agenda: Election of Officers. Hospital Policy. (*A*) Communication from the Medical Secretary enclosing A.R.M. 2 (*b*) SUPPLEMENT to the BRITISH MEDICAL JOURNAL, February 25th, 1922, containing Report of Council on the Organization of Voluntary Hospitals, and the reception of paying patients. (Members are requested to bring SUPPLEMENT to the meeting.) (*B*) Report from the Medical Staff of the East Suffolk and Ipswich Hospital on this matter. Scheme for collective arrangements for locumtenencies (see SUPPLEMENT, December 24th, 1921).

WORCESTERSHIRE AND HEREFORDSHIRE BRANCH.—A meeting of the Worcestershire and Herefordshire Branch will be held at Great Malvern on Thursday, April 27th, when a B.M.A. Lecture will be given by Professor G. R. Murray on a subject connected with internal secretions.

Meetings of Branches and Divisions.

METROPOLITAN COUNTIES BRANCH: MARYLEBONE DIVISION.

A MEETING of the Marylebone Division was held on March 7th, with Dr. A. BLACKHALL-MORISON, Chairman of Division, in the chair, and some twenty members were present.

Dr. ALFRED COX, the Medical Secretary of the Association, read a paper entitled "Harley Street and the British Medical Association: an Appreciation and an Indictment," which appears in full in this week's SUPPLEMENT.

The paper was very well received, and a most interesting discussion took place, in which the CHAIRMAN, Drs. C. O. HAWTHORNE, C. G. D. MORIER, JAMES METCALFE, F. J. POYNTON, T. P. BEDDOES, PERCY SPURGIN (Honorary Secretary of the Division), and Messrs. MCADAM ECCLES and BISHOP HARMAN took part.

The CHAIRMAN moved a vote of thanks to Dr. Cox, which was carried very heartily.

EAST YORK AND NORTH LINCOLN BRANCH: EAST YORK DIVISION.

AN ordinary monthly meeting of the East York Division was held at the Hull Royal Infirmary on February 10th, when Dr. H. L. EVANS was in the chair.

Before calling on Sir Frederick Mott to deliver his lecture the CHAIRMAN made sympathetic reference to the death of Dr. Wm. Holder, J.P., who for more than forty years was an active member of the profession and Association, during which time he had carried on an extensive practice in the city of Hull. In the year 1908–9 he had the twofold honour of serving as Chairman of the East York Division and President of the East York and North Lincoln Branch of the British Medical Association. On the motion of the CHAIRMAN the Secretary was instructed to convey this vote of sympathy to the widow and the surviving members of Dr. Holder's family.

Sir FREDERICK MOTT then delivered his lecture on "The Reproductive Organs in Relation to Mental Disease." The lecture was profusely illustrated with lantern slides and blackboard diagrams. He dealt principally with insanity related to adolescence and the menopause, with the subsequent condition of dementia praecox, to which latter category he said one-third of all cases of insanity belong. He urged the importance of recognizing the hereditary nature of this condition and the tendency there was in Nature to end or mend a bad hereditary stock, and this was brought about through the decreased nuclear activity of the germ and sperm cells.

On the motion of Dr. ANDERSON (Willerby Asylum), seconded by Dr. HARDING (East Riding Asylum), a vote of thanks was unanimously accorded to Sir Frederick Mott for his instructive and interesting lecture. Sir FREDERICK MOTT suitably replied. The lecture will shortly be published *in extenso* in the BRITISH MEDICAL JOURNAL.

This is the second occasion on which this Division has availed itself of the opportunities afforded by the official lecturers of the Association. In each case the meeting has been a great success, and the lectures of Dr. Spilsbury and Sir Frederick Mott were greatly appreciated.

SUFFOLK BRANCH: NORTH SUFFOLK DIVISION.

A MEETING of the North Suffolk Division was held at the Lowestoft Hospital on March 2nd, when Dr. MULLOCK was in the chair. There was a very good attendance. Dr. Evans was elected Representative for the Glasgow meeting in July. Dr. ALFRED COX (Medical Secretary of the Association) gave an address on "Problems for the Medical Profession." At the outset he laid great stress on the importance of the work and activity of the Divisions. The present hospital problem was reviewed at considerable length, and Dr. Cox urged that very careful consideration should be given by all medical men to the Report on the Organization of Voluntary Hospitals published in the SUPPLEMENT for February 25th, for the recommendations of the Divisions would be considered by the Representative Meeting, and the hospital policy of the Association thereby determined.

Several questions relating to the Insurance Act were discussed, and the great need for solidarity in the ranks of the profession was strongly impressed on those present in view of possible eventualities at the end of the existing two years' agreement with the Ministry of Health. Dr. COX replied to a number of questions after the close of his address, for which he was awarded a hearty vote of thanks.

A very successful dinner was held at the Royal Hotel in the evening under the presidency of Dr. H. M. EVANS, and Dr. COX replied to the toast of the British Medical Association.

Insurance.

WARWICKSHIRE LOCAL MEDICAL AND PANEL COMMITTEE.

AT a meeting of the Warwickshire Panel and Local Medical Committee at Coventry on February 23rd the chairman, Dr. H. Tibbits, received a hearty vote of congratulation on attaining to the mayoralty of the borough of Warwick. The resignation of Dr. J. H. Stormont, a member of long standing, who has now removed to Worthing, was received with great regret. Dr. C. T. Lunn, of Olton, was appointed his successor to represent the Committee on Group F, Standing Joint Committee.

The negotiations with regard to the dispensing capitation fee were reported, and a resolution was adopted protesting in the strongest terms against any reduction or reconsideration of the fee until the end of 1923, the resolution adding that, in the Committee's opinion, this was still insufficient to reimburse dispensing doctors for their work and expenses in this connexion.

In discussing the report of the Insurance Acts Committee's interview with the Minister of Health the following resolution was unanimously adopted:

> That this Committee strongly urge that nursing, hospital, optical, and dental benefits, being undoubtedly of the nature of medical benefits within the spirit of Section 14 of the 1911 Insurance Act, should be administered by and through Insurance Committees.

After discussion it was agreed by a unanimous vote to make an annual levy, on all practitioners giving the necessary authority, of a halfpenny capitation fee for the support of the National Insurance Defence Trust. At the same time the Committee came to an understanding that the matter would be reconsidered if it were found that the majority of other committees not at present supporting the Trust still remain outside.

Upon the long outstanding question of reimbursement of anaesthetists' fees, where services within the scope of medical benefit have been provided by insurance practitioners in a local cottage hospital, the meeting arrived, by a majority, at the decision that they were not prepared to recommend the repayment of these costs, on the ground that the administration of the cottage hospital did not differ in principle from that of an ordinary voluntary hospital. It was urged on one side that, although technically the cottage hospital possessed an honorary staff, in practice every insurance practitioner in the locality was a member of such staff and had access to the hospital. On the other hand, the institution received certain subscriptions and donations for its upkeep, and the majority of the Committee felt that to endorse the payment of fees for anaesthetics given in these circumstances would be to open the door to claims being sent in for similar services where the insurance practitioner performed the service in a general hospital.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following appointments are announced by the Admiralty: Surgeon Commanders W. C. B. Smith to the *Woolwich*, L. M. Morris, O.B.E., to the *Vindictive* for voyage out and home. Surgeon Lieutenant Commanders D. P. H. Pearson to the *Ganges*, additional for R.N. Sick Quarters, Shotley, J. Kirker to the *Fitzroy*. Surgeon Lieutenants F. G. Hunt to the *Beaufort*, L. F. Wallace to the *Flinders*, G. S. Rutherford to the *Kellett*.

ROYAL ARMY MEDICAL CORPS.

Major N. E. Dunkerton, D.S.O., to be temporary Lieutenant-Colonel whilst specially employed.

The following officers relinquish their commissions:—Temporary Captains and retain the rank of Captain: T. W. Mason, T. M. Walker, C. R. H. Crawford, A. R. Owst, R. W. D. Hewson, J. C. Bawden, H. W. Street. Temporary Lieutenant J. M. Semple, and retains the rank of Lieutenant.

REGULAR ARMY RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Major and Brevet Lieut.-Colonel H. J. Parry, C.B.E., D.S.O., having attained the age limit of liability to recall, ceases to belong to the Reserve of Officers.

MILITIA.

ROYAL ARMY MEDICAL CORPS.

Captain V. R. Smith relinquishes his commission and retains the rank of Captain.

TERRITORIAL ARMY.

ROYAL ARMY MEDICAL CORPS.

The following to be Lieutenant-Colonels and to command the General Hospitals shown against their names: Major F. G. Proudfoot from General List, 3rd Southern General Hospital; Captain R. Waterhouse from General List, 4th Southern General Hospital; Major E. J. D. Taylor, 5th Southern General Hospital.

Major R. B. Rutherford, M.C. (late R.A.M.C.), to be Captain, with precedence as from February 13th, 1918, and relinquishes the rank of Major.

The following officers, having attained the age limit, are retired, and retain their rank, except where otherwise stated: Majors F. N. Grinling and A. Roberts (with permission to wear the prescribed uniform), A. L. S. Tuke, M.C., S. English, Captains T. J. Thomson, A. F. Wilson, M.C., O. L. Scarborough, E. O. Libbey.

The following officers relinquish their commissions and retain their rank except where otherwise stated: Major J. M. Duncan, O.B.E., T.D. (with permission to wear the prescribed uniform). Captains G. R. Rickett, O.B.E., L. M. Ladell, K. J. T. Keer, R. B. D. Hird (1st Southern General Hospital), J. L. M. Symns (and is granted the rank of Major), J. Simson, C. C. Robinson, G. S. Melvin, A. B. Pettigrew.

To be Captains: Captain D. J. Bedford (late R.A.M.C.), with precedence as from August 21st, 1919, J. T. Kyle (late R.A.M.C.), with precedence as from February 23rd, 1919.

1st Southern General Hospital.—Captain F. Barnes, having attained the age limit, is retired, and retains the rank of Captain.

4th Southern General Hospital.—Major R. Coombe, having attained the age limit, is retired, and retains the rank of Major.

2nd Western General Hospital.—Captain F. C. Moore, having attained the age limit, is retired, and retains the rank of Captain.

Sanitary Service.—Lieut.-Colonel Sir W. R. Smith, T.D., having attained the age limit, is retired, and retains the rank of Lieutenant Colonel, with permission to wear the prescribed uniform.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Major J. S. Swain having attained the age limit is retired, September 30th, 1921, and retains the rank of Major, with permission to wear the prescribed uniform.

DIARY OF SOCIETIES AND LECTURES.

HARVEIAN SOCIETY OF LONDON, Town Hall, Harrow Road, W.—Thurs., 8.30 p.m., Discussion on Albuminuria in Pregnancy, to be opened by Mr. A. Bourne, followed by Dr. McKenzie Wallis, Dr. Morley Fletcher, Dr. Amand Routh, and Dr. Simms.

LONDON DERMATOLOGICAL SOCIETY, 49, Leicester Square, W.C.2.—Tues., 4.30 p.m., Specimens and Cases.

RÖNTGEN SOCIETY, Institution of Electrical Engineers, Savoy Place, W.C.—Tues., 8.15 p.m., Silvanus Thompson Memorial Lecture by Sir Oliver Lodge: Magnetism and the Ether.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.—Tues. and Thurs., 5 p.m., Goulstonian Lectures by Dr. A. Feiling: On the Interpretation of Symptoms in Disease of the Central Nervous System.

ROYAL SOCIETY OF MEDICINE.—Tues., 5 p.m.. General Meeting of Fellows, Ballot for Election to the Fellowship. *Section of Pathology.*—Bland-Sutton Institute of Pathology, Middlesex Hospital, W.1., Tues., 8.30 p.m., Dr. E. C. Dodds: Diastase Reaction in Rickets. Dr. P. Lazarus-Barlow, Dr. Warwick James, and Prof. D. J. McIntosh: Investigation into the Origin of Dental Caries. Prof. McIntosh: Influenza and Gastric Influenza. Demonstration of Pathological Specimens. *Section of Surgery, Subsection of Proctology.*—Wed., 5 p.m., Discussion: The After-results of Colectomy (Partial and Complete) Performed for Colon Stasis, to be opened by Sir Berkeley Moynihan, Sir Arthur Keith, and Dr. Arthur F. Hurst, to be followed by Dr. Victor Pauchet (Paris), by invitation, Sir Arbuthnot Lane, Mr. W. E. Miles, Mr. J. P. Lockhart-Mummery, and Mr. Hamilton Drummond. The annual dinner of the Subsection will be held at 8.15 p.m. at Oddenino's Restaurant. *Section of Study of Disease in Children:* Fri., 4.30 p.m., Cases. *Section of Epidemiology and State Medicine.*—Fri., 8 p.m., Dr. J. Brownlee and Dr. M. Young: Epidemiology of Summer Diarrhoea.

POST-GRADUATE COURSES AND LECTURES.

CANCER HOSPITAL, Fulham Road, S.W.—Tues., 4 p.m., Mr. C. Joll: Tumours of the Thyroid Gland. Fri., 4 p.m., Dr. Wyard: Treatment of Inoperable Cancer.

CHESTERFIELD DIVISION, BRITISH MEDICAL ASSOCIATION, Chesterfield Royal Hospital.—Fri., 2.30 p.m., Professor Phillips: Puerperal Pyrexia. 3.15 p.m., Dr. Nutt: Radiography of the Chest, with lantern demonstration.

EDINBURGH ROYAL HOSPITAL FOR SICK CHILDREN.—Thurs., 5 p.m., Dr. C. McNeil: Fibrosis of the Lung in Children.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION, Royal Infirmary (Ward B.W.).—Wed., 4.15 p.m., Dr. D. Watson: Venereal Disease in the Male.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Thurs., Mr. P. G. Doyne: Amaurosis in Infants.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.30 p.m., Dr. A. E. Barclay: Recent Advances in *X*-ray Treatment.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland Street, W.1.—Daily, In- and Out-patient Attendances. Mon., 5.30 p.m., Lecture by Dr. Parsons-Smith: The Slow Pulse.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Mon., Tues., Thurs., and Fri., 2 p.m., Out-patient Clinics. Tues. and Fri., 9 a.m., Surgical Operations. *Lectures.*—Mon., 12 noon, Dr. Greenfield: Tumours of the Brain and Spinal Cord. Tues., 3.30 p.m., Dr. Saunders: Myasthenia Gravis. Thurs., 3.30 p.m., Dr. G. Stewart: Disorders of Pituitary Body. Fri., 3.30 p.m., Demonstration of Fraenkel's Exercises.

ROYAL INSTITUTE OF PUBLIC HEALTH, 37, Russell Square, W.C.—Wed., 4 p.m., Mr. Andrew J. Morland: The Helio-Alpine Treatment of Surgical Tuberculosis.

SALFORD ROYAL HOSPITAL.—Thurs., 4.30 p.m., Dr. Jenkins: The Scope of Vaccine Therapy, its Value and its Limitations.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Hospital, Ouseley Road, Balham.—Tues., 4 p.m., Mr. L. G. Phillips: Diagnosis and Treatment of Difficult Cases of Irregular Menstruation.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Daily, 10 a.m., Ward Visits; 2 p.m., In- and Out-patient Clinics and Operations.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 1s. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS and ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London).
MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London).
EDITOR, *British Medical Journal* (Telegrams: Aitology, Westrand, London).
Telephone number for all Departments: Gerrard 2630 (*3 lines*).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)
IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

MARCH.

18 Sat. Norwich Division: Medical Library, 8.45 p.m.
21 Tues. Bath Division: Royal United Hospital, 4.30 p.m.
Croydon Division: Croydon General Hospital.—Mr. F. J. Cleminson: Diseases of Nose and Throat, with special reference to Children, 8.15 p.m.
Willesden Division: St. Andrew's Parish Hall, High Road, Willesden Green, N.W., 8.30 p.m.
Shropshire and Mid-Wales Branch: Royal Salop Infirmary, 3.30 p.m.
London: Contract Practice Subcommittee, 2.30 p.m.
22 Wed. Conference of Medical Representatives of Voluntary Hospitals in England and Wales, in the Wigmore Hall, Wigmore Street, London, W.1, 11 a.m.
City Division, Queen's Hospital for Children, Hackney Road, E.2., 3.30 p.m.
23 Thurs. London: Maternity and Child Welfare Subcommittee, 2.30 p.m.
Brighton Division: Supper, Old Ship Hotel, Brighton, 8.15 p.m.
Darlington Division: Greenbank Hospital, Address by Dr. George Hall on Early Diagnosis of Nervous Disease, 8.30 p.m.
North Glamorgan and Brecknock Division, New Inn, Pontypridd, 2.45 p.m.
Southport Division: Rowantree's Café, Lord Street: B.M.A. Lecture by Dr. A. Burrows on Radium-therapy, 8.30 p.m.
24 Fri. London: Public Health Committee, 3 p.m.
Chesterfield Division: Chesterfield Royal Hospital, 2.30 to 4 p.m., Post-Graduate Class.
South Suffolk Division, Crown and Anchor Hotel, Ipswich, 3.30 p.m.
28 Tues. London: Grants Subcommittee, 2.30 p.m.
29 Wed. London: Dominions Committee, 2.30 p.m.
Chesterfield Division: Hospital Board Room, Chesterfield, 3 p.m.
30 Thurs. London: Conference of Insurance Acts Committee with Representatives of Ministry of Health, at 11.15, at Ministry of Health, Whitehall.
Brighton Division: Joint Meeting with Brighton and District Section of the Southern Counties Branch of the British Dental Association, Assembly Hall, Steine House, Brighton, 8.15 p.m.
City Division, Dinner-Dance, Abercorn Rooms.
31 Fri. London: Central Ethical Committee, 2.15 p.m.

APPOINTMENTS.

BAILEY, Hamilton, F.R.C.S.Eng., Surgical Registrar to the London Hospital.

GARVIE, Beatrice, L.R.C.P. and S.Edin., L.R.F.P.S.Glas., D.P.H.Sheffield, Assistant Medical Officer of Health, Metropolitan Borough of Islington.

HEWAT, A. Middleton, M.D.Edin., D.P.H., Medical Officer of Health for the Metropolitan Borough of Fulham.

WARBURTON, R. D., M.R.C.S.Eng., L.R.C.P.Lond., D.P.H.Sheffield, Assistant Surgeon, West of England Eye Infirmary, Exeter.

WORDLEY, E., M.C., M.B., B.C.Camb., M.R.C.P.Lond., Honorary Pathologist to South Devon and East Cornwall Hospital, Plymouth.

BURNLEY VICTORIA HOSPITAL.—Honorary Physicians: J. Gibson, M.D., D.P.H., H. D. Haworth, M.D., D.P.H.

ROYAL NORTHERN HOSPITAL, Holloway Road, N.—Physician (with charge of out-patients), W. R. Reynell, M.A., M.D., M.R.C.P.; Anaesthetist, H. G. Broadbridge, M.B., B.S.Lond.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **9s.**, *which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.*

BIRTHS.

GRAY.—At Dorchester Road, Weymouth, on March 8th, to Joan (*née* Ferguson), wife of Adam Gray, M.D., a son.

ROBERTS.—On February 28th, at Cwm House, Castle Street, Worcester, the wife of B. H. St.Clair Roberts, M.R.C.S., L.R.C.P., of a son.

DEATHS.

HEPPENSTALL.—Clement Hoyle Heppenstall, M.D.London, Captain I.M.S. Killed by outlaws near Mohammet Khel, N.W.F., India, on December 11th, 1921.

MONTAGUE.—On March 10th, at 39, Victoria Road, Retford, Arthur John Helm Montague, M.D.Dunelm., M.R.C.S.Eng., L.R.C.P.Lond., in his 61st year.

VANN.—At 9, Ravensworth Terrace, Durham, on the 4th inst. (very suddenly), Catharine Gertrude, dearly-loved wife of A. M. Vann, M.R.C.S.Eng.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, MARCH 25TH, 1922.

CONTENTS.

PAGE

BRITISH MEDICAL ASSOCIATION.

The British Medical Asociation and Post Office Medical Officers ... 78
Municipal Clinics and Hospitals: CONFERENCE OF COMMITTEES OF THE ASSOCIATION ... 79

CURRENT NOTES:
D.A.D.M.S. TERRITORIAL FORCE: A BREACH OF FAITH ... 77
PAY OF TEMPORARY I.M.S. OFFICERS ... 77
CIVIL SERVANTS AND NATIONAL INSURANCE ... 77
LENDING LIBRARY ... 77

ASSOCIATION NOTICES:
TABLE OF DATES ... 81
BRANCH AND DIVISION MEETINGS TO BE HELD ... 81
MEETINGS OF BRANCHES AND DIVISIONS ... 81
WILLESDEN HEALTH POLICY ... 82
GENERAL MEDICAL COUNCIL: EXECUTIVE COMMITTEE ... 82

INSURANCE NOTES:
TARDY TRANSFERS ... 83
A FRENCH INSURANCE BILL ... 83
SICK INSURANCE IN NORWAY ... 83

NAVAL AND MILITARY APPOINTMENTS ... 83
DIARY OF SOCIETIES AND LECTURES ... 84
ASSOCIATION INTELLIGENCE AND DIARY ... 84
APPOINTMENTS ... 84
BIRTHS, MARRIAGES AND DEATHS ... 84

British Medical Association.

CURRENT NOTES.

D.A.D.M.S. Territorial Force: A Breach of Faith.

THE treatment meted out to the Deputy Assistant Directors of Medical Services in the Territorial Force, which was referred to in the JOURNAL of March 11th at p. 406, appears to involve a distinct breach of faith on the part of the War Office unless there is to be some offer of compensation, which up to now has not been mentioned. These appointments were made in April, 1920, and were stated in the advertisement to be for four years. Paragraph 60 of the Territorial Force Regulations is as follows:

"The tenure of Commands and Staff Appointments by Regular Officers on the Active or Retired List or by Officers of the Territorial Force will be for 4 years unless extended under special circumstances."

In a letter addressed to applicants giving particulars as to salary, the statement was made, "The appointment will be for four years." On February 28th, 1922, the War Office issued a letter to all the officers holding the appointment to the effect that the Army Council had decided "in view of the present need for economy to abolish the appointments of Deputy Assistant Director of Medical Services of Territorial Divisions as from March 1st, 1922." The letter went on to say that the officers now holding the appointments would be at liberty to relinquish them as soon as they had handed over their duties, but that "in no case will payment be allowed after 30.4.22."

It appears that this arbitrary action affects some twelve Territorial medical officers, all of whom, we believe, served with distinction during the war. They had, of course, made all their arrangements for four years' tenure of office, and most of them had to incur considerable expense in so doing. Up to the present time no suggestion has been made that the Government recognizes any necessity for compensation. The matter has been placed before the Medical Committee of the House of Commons; it will be dealt with specially by Lieut.-Colonel F. E. Fremantle, and every possible step will be taken to get the Government to realize that, though the country is anxious for economies, it is not prepared to justify breaches of faith which, setting aside the obligation of honour to adhere to an undertaking given, would, if made by an ordinary employer, certainly bring him into a court of law.

Pay of Temporary I.M.S. Officers.

Early this year the British Medical Association drew the attention of the India Office to the rate of pay of temporary officers in the Indian Medical Service. According to information received these officers were still being paid at the same rate as when they joined in 1914—namely, Rs. 550 per mensem. It appeared that, as a consequence of the fall in the value of the rupee, these officers, particularly those serving out of India, were at a disadvantage. The Association therefore asked that their case should receive sympathetic consideration. The India Office, in reply, states that a revision of the pay of all temporary Indian officers of the Indian Medical Service has recently been approved by the Secretary of State in Council.

"Under it," the letter continues, "officers are granted Rs. 500 per mensem for the first, Rs. 550 for the second and third, and Rs. 600 per mensem (on promotion to captain) for the fourth and subsequent years of service, together with, in every case, overseas allowance of Rs. 150 per mensem when serving beyond Indian limits as defined in A.R.I. Vol. X. Officers already in the service on temporary contracts have been given the option of accepting the new terms or of demobilization on the expiration of their existing contracts. In the event of their accepting the terms they retain their existing rank, and are paid on the new scale according to the length of their service." The letter adds that, "with the exception of the small number of European officers recruited under the Special Contract of 1920, or during 1919, the whole of the 357 officers now holding temporary commissions in the Indian Medical Service appear to be Indians, and 50 per cent. of that number are, so far as can be seen from the Army List, on service in India."

Civil Servants and National Insurance.

A circular has been issued by the Ministry of Health to local authorities dealing with the question of the bonus payable to civil servants, which affects also the position under the National Health Insurance Act of civil servants employed otherwise than by way of manual labour, whose remuneration temporarily exceeds the rate of £250 per annum by reason of the bonus. It is stated that the average cost of living figure for the purpose of revision of Civil Service bonus will be 105 for the period beginning on March 1st, and that accordingly the bonus payable to permanent civil servants on wages and salaries not exceeding £500 a year will be reduced by 5 26ths, and the same will apply to higher salaries with certain provisos. Civil servants employed otherwise than by way of manual labour whose rate of remuneration, it is now calculated, will not exceed £250 a year will be treated as insurable as from March 1st.

Lending Library.

The Librarian will be glad to assist members of the Association in the selection of works to be sent them by post, in accordance with the arrangements for borrowing books that are notified each week on the last page of the SUPPLEMENT.

THE BRITISH MEDICAL ASSOCIATION AND POST OFFICE MEDICAL OFFICERS.

IMPORTANT ANNOUNCEMENT.

FROM time to time the negotiations which the Association has been carrying on with the Postmaster-General in regard to postal medical officers have been reported in these columns. These matters have now reached a stage at which it is possible to announce important concessions, though, unfortunately, these have to be coupled with a reduction of the capitation fee from 13s. to 11s. 6d., which was first intimated in a letter from the Secretary to the Post Office of November 21st, 1921.

History of the Negotiations.

It will be remembered that for some years the efforts of the Association to support the interests of its members who are postal medical officers were frustrated by the fact that an Association of British Postal Medical Officers was in existence, though it was not possible to ascertain whether it was operative. Attempts to co-operate with this body having been repulsed the Association set out to establish its position with the Postmaster-General, and having convinced him, by means of a deputation and otherwise, that it could claim to represent over 2,000 postal medical officers, the Postmaster-General on October 19th, 1921, extended official recognition to the Association on the following conditions: That a body consisting mainly of postal medical officers should be set up to consider, and where necessary put forward, representations in regard to matters affecting the official interests of these officers, and that this body would be guided in its deliberations and representations by the views of the general body of postal medical officers which would be ascertained through the committees or secretaries of the Divisions of the Association or, when necessary in an urgent matter, by direct consultation of medical officers by letter from headquarters. The Association had no difficulty in giving these assurances, and since that time it has had every assistance from the authorities, coupled with a courtesy and consideration in its interviews with Mr. Raven, the Second Secretary of the Post Office, which have greatly facilitated business. The Post Office Medical Officers Subcommittee of the Medico-Political Committee consists of Mr. E. B. Turner (Chairman of the parent Committee), and Drs. T. L. Bunting (Newcastle-on-Tyne), F. A. L. Burges (Birmingham), E. C. Daniel (Epsom), W. E. Hills (Hampstead), Stanley Hodgson (Salford), A. O. Holbeche (Malvern, *Chairman*), Morton Mackenzie (Dorking), A. Tennyson Smith (Orpington), Crawford Treasure (Cardiff). Mr. Turner is the only member of the Subcommittee who is not a postal medical officer.

It is a matter of simple justice to say that the credit for the formation of this Subcommittee and for the active part the Association has recently taken in postal medical affairs is very largely due to the persistence and energy of Dr. Crawford Treasure.

Reduction of Capitation Rate.

On November 21st the following letter was received from the G.P.O.:

"I am directed by the Postmaster-General to inform you that he understands that a reduction of the capitation fee of doctors on the National Health Insurance panels from 11s. to 9s. 6d. is to take effect on the 1st of January next, and the question of the amount of the Post Office capitation fee, at present 13s., therefore arises.

"As you are probably aware, the Post Office capitation fee, to cover treatment and supply of drugs, was formerly 8s. 6d. It was raised to 9s. 6d. from 1st July, 1918, and to 10s. 6d. from 1st January, 1919; and it was raised again from the 1st January, 1920, to 13s., to correspond with the fee paid to panel doctors. In view of the impending reduction of the panel fee the Postmaster-General regrets that he feels obliged to propose a corresponding reduction in the Post Office capitation fee—namely, from 13s. to 11s. 6d.—to take effect from the first January next; but before any announcement is made he affords this opportunity to the British Medical Association to offer any observations it may wish."

On receiving this the Subcommittee met, and on December 16th the following reply was sent to the Postmaster-General, in which reasons are adduced why reductions made in the remuneration of the insurance practitioner should not necessarily be followed by reductions in the remuneration of the postal medical officer:

The Standing Post Office Medical Officers Subcommittee of this Association met on Friday last for the purpose of considering your letter of November 21st, 1921, in which it is proposed to reduce the capitation fee payable in respect of attendance on Post Office employees, and I have been instructed to lay before you the following reasons why the existing fee should not be reduced.

In the first place the Subcommittee is of opinion that the services rendered by the Post Office medical officer are not strictly comparable to those of the insurance practitioner. It contends that the duties of the former are more onerous, and in support of these contentions adduces the following facts:

1. In addition to giving medical attendance and medicine, the Post Office medical officer is called upon to furnish a number of reports on established officers and to advise as to their suitability for certain duties and as to whether they are likely to be fit for further service or not. Reports on accidents, on cases of tuberculosis and telegraphist's cramp, and for purposes of superannuation are also required. Furthermore, there has been an increase in the number and nature of reports and the correspondence entailed thereby in recent years.

2. The Post Office medical officer has to keep a journal and furnish an annual report on the health of the staff, and also keep a special book with a detailed record of all examinations. He has to furnish reports on offices and suboffices, make sanitary visits, and examine contacts, duties which involve a considerable amount of time and work. Surprise visits also have to be made in certain cases, and these may necessitate consultation with the medical attendant who is not a Post Office medical officer. Such services are not required of the insurance practitioner, who has no such reports to make and whose record cards are comparatively simple.

3. Careful examinations have to be made in respect of cycling duties. These examinations are more searching than formerly, and are definitely specified as part of the duties covered by the capitation fee. (Vide Post Office Medical Officers' Manual, Appendix 2, para. 3.)

4. The direct relation which the Post Office medical officer has to the Postmaster-General, as representing the employers, is a distinct addition to his duties as compared with the less direct relation of the insurance practitioner to the Insurance Committee.

Secondly, the Subcommittee is strongly of opinion that a considerable increase in the pre-war fee of 8s. 6d. was long overdue, quite apart from any consideration due to the war.

If it is argued that the increase in the National Health Insurance fee was accepted as a pattern for raising Post Office remuneration and therefore it should be accepted when it works the other way, the Subcommittee would reply that it is unable to believe that Post Office medical officers would have failed to obtain a substantial increase in their remuneration long before this, even if there had been no lead given by the Insurance Act administrators.

The case for an increase was, in its opinion, overwhelming, and it should have been granted some years ago. The Subcommittee trusts that the Postmaster-General will hesitate before taking a step which will be strongly felt by the service, the members of which are not desirous of shirking their duties as citizens, but feel that the reduction is not justified because the increase was due, irrespective of any increase in the cost of living.

The Subcommittee would be glad of an opportunity of elaborating these points by means of a small deputation if such a suggestion meets with the approval of the Postmaster-General.

In the meantime appeals were made to postal medical officers in Current Notes asking for additional information which could be used on their behalf, and there was a good response.

The deputation was received on December 29th, 1921, when the whole situation was thoroughly discussed and every point was put forward that was believed to support the case against reduction of the capitation fee. The representatives of the Post Office contested these arguments, of course, but Mr. Raven ended by saying that he recognized the force of some of them, that they would be reported to the Postmaster-General, and that it might be necessary to ask the deputation to attend again. On February 20th the Subcommittee received the following letter:

Remuneration of Post Office Medical Officers.

I am directed by the Postmaster-General to inform you that the representations made by the deputation which attended at this office on the 29th December have received consideration, and after very careful inquiry into the circumstances the Postmaster-General regrets that he is unable to find any ground for modifying the proposal to effect a reduction in the capitation fee similar to that already authorized in the case of the doctors on the National Health Insurance panels—that is, a reduction of 1s. 6d. as from 1st January last. Detailed information which has been obtained since the deputation attended in regard to the work performed by Post Office medical officers and the remuneration received shows that even after the proposed reduction has been made Post Office medical officers will still be liberally remunerated for the services rendered.

The Postmaster-General would like to make it clear that the reason for reducing the capitation fee is primarily the reduction in the cost of living. As you are probably aware, the cost of living figure rose at the peak to approximately 170 per cent. above the pre-war figure but has now fallen to approximately 90 per cent. The successive temporary increases that were granted to medical officers were granted to meet the increased cost of living; and now that this cost has dropped so substantially the Postmaster-General considers it only equitable from the point of view of the taxpayer that there should be a corresponding reduction in the fee. The fact that the fees to panel doctors were reduced on January 1st is the occasion rather than the cause of the proposed reduction in the fees of the Post Office medical officers, and should not be construed as meaning that the work of a Post Office medical officer is regarded as largely identical with that of a panel doctor.

A comparison between the functions of the two cannot readily be made, but the position appears to the Postmaster-General to be that while on the one hand it is true that Post Office medical officers have responsibilities and duties from which panel doctors are free, on the other hand the general standard of health amongst the Post Office staff is unquestionably higher than amongst insured persons, and consequently the amount of medical attendance required by, say, 100 Post Office servants may reasonably be expected to be less than that required by 100 insured persons. In this connexion it should be borne in mind that, apart from disabled men (as to whom see later in this letter), Post Office servants are picked lives, that they are practically assured of a permanent career with a pension at the end, and are not subject therefore to unemployment and other vicissitudes of industrial life likely to be inimical to health, and that if their health does break down permanently, and in any case on or not long after reaching the age of 60, they are removed from the medical officer's capitation list.

It was suggested by the deputation that the duties of medical officers had become much more onerous in recent years, but the Postmaster-General finds difficulty in accepting this contention. It may be pointed out that last year a concession, which has no doubt saved the medical officers a fair amount of work, was made to the staff under which they are not required to furnish a medical certificate in respect of a single day of sick absence. The reference was perhaps mainly to attendance on disabled men. The Postmaster-General is ready to agree that the policy of employing these men has no doubt added to the work of medical officers, but the reports he has received suggest that the additional work, while considerable at first, owing to its novelty, has now to a large extent subsided. In any case, the proportion of disabled men to the rest of the staff is comparatively small.

For the reasons stated, and having regard to the urgent need of economy in public expenditure, the Postmaster-General regrets that he cannot see his way to waive any part of the proposed reduction of 1s. 6d. in the capitation fee; but if this reduction is enforced he would be prepared to give an undertaking that no further reduction will be enforced before the end of 1923. He would add also that he recognizes there is some hardship to medical officers involved in the present arrangements for attendance on itinerants and on emergency (pink certificate) cases. As you are aware, the payment for such attendance is 2s. 6d. a visit, subject to a half-yearly maximum in each patient's case of the amount of the capitation fee. If some concession in respect of this matter would assist a settlement of the whole question of remuneration of medical officers, he would be pleased to arrange a further interview in this office.

He would be glad to receive an early reply from the Association to this letter.

The Subcommittee thereupon arranged to attend at the General Post Office on March 10th. Dr. Holbeche (the Chairman) and Mr. Turner were unavoidably prevented from being present, but the Subcommittee was represented by Dr. Crawford Treasure (acting temporarily in the chair), Drs. Bunting, Burges, Daniel, Hills, Hodgson, and Morton Mackenzie, with the Medical Secretary; and the Post Office by Mr. C. Raven, C.B. (Second Secretary), Sir Henry Banbury, K.C.B. (Comptroller and Accountant-General), Mr. W. T. Leach (Assistant Secretary), and Mr. C. L. K. Peel.

Great disappointment was expressed by the deputation at the Postmaster-General's decision to persist in the reduction of the capitation fee; but it was pointed out that as the matter had been *sub judice* since November the intention to bring the reduction into force as from January 1st would hardly be fair, and Mr. Raven at once declared his willingness to date the reduction from April 1st and to give an undertaking that there should be no further reduction before the end of 1923.

Itinerants.

A long discussion then took place on the question of itinerants, which is a very long-standing and outstanding grievance with postal medical officers, and had been broached at the previous interview. It was pointed out that the present method of dealing with these postal servants was illogical and unfair, as it departed from the insurance principle, or rather cast the burden of insurance on the doctor. Mr. Raven and his colleagues declared themselves convinced on this point, and, after an offer to pay 3s. a visit with a maximum of 12s. per quarter, finally abandoned the maximum altogether in favour of a fee per attendance. They could not promise to pay mileage in addition, as by far the greater number of itinerants would be living in the doctor's area, but where the question did arise acutely, as it might do in some remote districts, it would be considered sympathetically.

Pink Certificates.

The position of the persons holding pink certificates was fully discussed, and Mr. Raven made the offer which will be found in the official letter below.

Medical Examination Forms and Examination of Boy Messengers.

The deputation drew attention to the unnecessary complexity of the form for medical examination of candidates for the Post Office, and to the recent tendency to add to it. Compared with remuneration for work of a similar character the fee for the examination and report (which included any succeeding reports that might be needed) was declared to be very poor. It was asked either that the fee should be raised or the examination and the report simplified.

It was also suggested by the deputation that the medical examination of boy messengers should be carried out by Post Office medical officers, seeing that the medical officers would have to attend to them and to examine them later if they continued in the service.

Mr. Raven intimated that these two points had better be discussed between the chief medical officer to the Post Office and a small deputation from the Subcommittee, and this was agreed to.

The following is the letter which has since been received conveying the formal decision of the Postmaster-General:

Remuneration of Post Office Medical Officers.

I am directed by the Postmaster-General to forward the following statement of the revised scale of remuneration of Post Office medical officers, in confirmation of the verbal proposals made to the deputation from the British Medical Association which attended at this office on the 10th inst.

Capitation Fee.—The present annual fee of 13s. will be reduced to 11s. 6d. as from the 1st April, 1922. No further alteration will be made till the end of 1923, when the matter will be again reviewed.

"*Itinerant*" *Fees.*—The present scale of 2s. 6d. an attendance with a half-yearly maximum of 13s. per case will be replaced by a payment of 3s. per attendance; and the maximum payment per case will be withdrawn.

Emergency (Pink Certificate) Fees.—The present scale, which is the same as that for itinerants, will be replaced by a payment of 3s. per attendance with a maximum payment per case of 12s. per quarter. As explained to the deputation, the retention of a maximum payment in these cases is held to be justified by the consideration that the Post Office is already making payment, either in capitation fees or in the salaries of the Headquarter Medical Staff, in respect of the medical attendance of the officers who are attended under this scheme. As in the case of the capitation fees, these scales will not be subject to modification before the end of 1923, when the position will be reviewed.

The Postmaster-General will be glad to receive your written confirmation at an early date, and an announcement will then be made to medical officers.

As regards other matters mentioned by the deputation I am to say that inquiry will be made into the suggestion that a number of engineering workmen who are treated as itinerants for purposes of medical attendance should properly be placed on capitation lists. The other points mentioned related mainly to procedure in connexion with the medical examination of candidates for appointment, and it was agreed that the Association would appoint a Subcommittee of Medical Officers to discuss these matters with the Chief Medical Officer and representatives of the secretariat. Arrangements for a meeting will be made as soon as convenient to you.

The Subcommittee has, on behalf of the postal medical officers who are members of the Association, accepted these terms. Being postal medical officers themselves, the members of the Subcommittee were naturally reluctant to accept the reduction in the capitation fee, but in present circumstances saw no hope of resisting it. On the other hand, the Subcommittee considers the settlement of the itinerant grievance on such a satisfactory basis and the new conditions as regards "pink tickets" to be distinct gains, news of which the Subcommittee believes will be received with satisfaction by all postal medical officers.

A further announcement will be made as soon as possible after the remaining questions have been discussed with the Principal Medical Officer.

MUNICIPAL CLINICS AND HOSPITALS.

CONFERENCE OF COMMITTEES OF THE ASSOCIATION.

THE resumed conference of the Medico-Political, Public Health, Hospitals, and late Ministry of Health Committees of the Association took place in the Council Room on March 16th, when further consideration was given to a memorandum on the general question of municipal clinics and hospitals and the relation thereto of medical officers employed by municipal authorities and of private practitioners. Dr. R. A. BOLAM, Chairman of Council, presided, and certain members of the Society of Medical Officers of Health were again present by invitation.

Inspection and Treatment of School Children.

At the previous sitting of the Conference, on December 7th, the subject was concluded so far as it related to the medical inspection and treatment of school children and to maternity and child welfare clinics; but an opportunity was now given to consider how far the Memorandum, which had been redrafted as a report of Council to the Divisions and the Representative Body, embodied the views which had found favour at the previous meetings.

Dr. J. BUCHAN pointed out what appeared to him to be a contradiction—in that in one part of the Memorandum the opinion was expressed that all inspection of school children should, wherever possible, be carried out by whole-time medical officers, and in another that clinical work should, wherever possible, be carried out through the agency of private practitioners. He pointed out that treatment, as well as inspection, bound the officer to attend at certain hours, and it seemed reasonable that whichever system was preferable in the case of inspection, whether whole-time or part-time service, should be carried over into the arrangements for treatment.

The CHAIRMAN pointed out that a different set of officers for medical treatment would impose a check upon the first inspection; and Mr. BISHOP HARMAN said that inspection necessitated conformity to the regular system of school hours and discipline; moreover, inspection, unlike treatment, was scarcely in a line with the general practitioner's daily experience, and was best done by whole-time officers. The original decision of the Conference on this point was confirmed by a very large majority.

Later on Dr. H. B. BRACKENBURY, who had not been present at this discussion, said that the statement that inspection should, wherever possible, be carried out by whole-time officers could not be taken to be the policy of the Council or the Representative Body, for the possibility of medical inspection being done by private practitioners had never been so definitely ruled out. The CHAIRMAN decided that the resolution, already confirmed, must stand, and Dr. BRACKENBURY said that he would raise the point when the report came before the Council.

Maternity and Child Welfare Clinics.

Dr. E. R. FOTHERGILL suggested that the agency by which the work of maternity and child welfare clinics could best be done should be more closely defined. Dr. F. E. WYNNE was of opinion that the statement that no medical treatment should be given at the centre would place some members in a difficult position. He was reminded, however, that the centre was distinct from the clinic, and that the object of the centre was educational, preventive, and advisory. Some discussion turned on the meaning of "preventive" in this connexion, and on the suggestion of Sir JENNER VERRALL it was decided to make the phrase run, "The object of maternity and child welfare clinics should be educational and advisory, and therefore preventive."

It was also agreed to recast the paragraphs so as to differentiate more clearly between the centre and the clinic.

Municipal Hospitals.

The concluding portion of the report, which dealt with municipal hospitals, and which had not previously been considered, was then taken. The first paragraphs provided that in any contemplated application by a local sanitary authority of the Public Health Act, 1875, to establish additional hospital accommodation, the question should be related to existing hospital accommodation so as to obviate duplication or competition, and that representatives of medical practitioners in the area for which the additional accommodation was proposed should be invited to consult with and advise the representatives of the local sanitary authority in the formulation of the scheme, the representatives of practitioners to be selected through the local organization of the Association. Mr. BISHOP HARMAN said that there was no need to include voluntary hospitals in this provision, because in any expansion of voluntary accommodation there was always adequate preliminary conference; the King's Fund, for instance, took measures to control hospital development in London.

Dr. BUCHAN thought that the Association should lay down more specific rules for the formation of a local medical advisory council, and should set out its functions. Dr. BRACKENBURY and Dr. RADCLIFFE and others pointed out that until there was a reform of local government it was not possible to set up such committees in every area without great overlapping and confusion, but there was no objection to stating the desire of the Association to see the local profession consulted. The paragraphs were agreed to.

Mr. BISHOP HARMAN introduced another paragraph urging that in municipal hospitals certain beds should be set aside for private patients paying a fee, that where a general practitioner was requested to continue to treat his own patients therein he should be allowed to do so under the general administrative supervision of the medical superintendent, and that any of these patients should be allowed to call in a consultant from outside, the patient bearing the cost. He said that the staff in a municipal hospital was usually very small in relation to the number of beds; the conditions were quite different in this respect from those obtaining in voluntary hospitals. It was very desirable to see a more generous method of work established in such institutions, and the admission of private patients would add to the prestige of the hospital. Fever hospitals, of course, were excluded. Inquiries had been made of the Association of Medical Superintendents, and that association had agreed to the principle, though expressing no opinion as to its practicability. Dr. E. H. SNELL thought the proposal rather premature; paying wards in municipal hospitals were a long way off.

The paragraph was agreed to, as were further paragraphs relating to inclusive charges for maintenance, the doctor to be paid by private arrangement; the charging of extra comforts as such to the patient, and the ensuring of the administrative supervision of the medical superintendent over all medical attendance by private practitioners on their own patients in hospitals. The proposition was also agreed to that municipal hospitals as far as practicable should be utilized for medical education.

On a further paragraph:

In any hospital maintained by a local authority for general cases provision should be made for wards on the lines of the suggested primary health centre, as outlined in the Consultative Council's report for the reception of private patients admitted on the recommendation of their own practitioner, who should be allowed to attend these patients in such wards,

Dr. BRACKENBURY observed that different interpretations had been given as to the lines of the suggested primary health centre, as outlined in the Consultative Council's report. Was it necessary to the scheme now being elaborated that it should be stated that these patients must be provided for in separate wards? In almost all cases that might prove the most practicable arrangement, but there was no necessity to fix it in a proposition if this involved reference to another report (that of the Consultative Council) for which they had no responsibility. Mr. BISHOP HARMAN thought that the paragraph should stand, if only as a reminder of the Consultative Council's report. Dr. BUCHAN described some administrative difficulties which would attend the carrying out of the proposal. Dr. SANDERS and other members suggested the deletion of the paragraph, but on a show of hands it was decided that the paragraph should stand.

A further paragraph proposed that municipal hospitals should be controlled by an *ad hoc* committee, on which there should be a small but definite medical representation, nominated by members of the local profession.

Dr. BRACKENBURY said that the public health committee of a local authority should be made a statutory committee of a composite character with co-opted members nominated by professions and organizations interested in public health. To appoint a committee to deal with a municipal hospital as apart from all other health questions was not, he thought, a policy that would work. Dr. H. G. DAIN said that the committee on which they were asking for representation was the hospital subcommittee of the public health committee; at present it was out of the question to ask for this representation on the public health committee itself.

Dr. BUCHAN questioned the wisdom of selecting as members of the committee medical men who were not on the staff of the hospital. Mr. BISHOP HARMAN thought that Dr. Buchan's objection did not hold good. If there was an *ad hoc* committee it was certain that the medical officer of health would be included. He had never known a hospital committee on which there were not representatives of the staff in some form or other.

The paragraph was agreed to, and further paragraphs, passed without discussion, laid it down that the normal method of admission to a municipal hospital should be on the recommendation of a general practitioner, and that, except for the treatment of private patients, the normal medical staff of any municipal hospital should be a combination of the whole-time resident staff or a part-time selected staff with part-time specialists, the last being called in by the medical superintendent as and when necessary. It was agreed also that the report should be sent forward to the Council as a report of the Conference.

Dr. BUCHAN wished that the report be referred also to the Society of Medical Officers of Health. The CHAIRMAN pointed out that this was a conference of four committees of the Association, and included in the membership of these committees were a number of medical officers of health, so that the report had already received consideration from the medical officers' point of view. Moreover, the report had to go forward quickly in order to be dealt with at the Representative Meeting.

Dr. BUCHAN said that he had attended the Conference by invitation, and had been overwhelmingly outvoted. He thought the document was inconsistent from beginning to end, and that it did not represent a coherent policy.

The CHAIRMAN repeated that the document embodied only the views of the four committees, but in the minutes of the proceedings Dr. Buchan's name had been duly recorded as the proposer of a number of amendments.

The Conference then concluded.

Association Notices.

TABLE OF DATES.

April 1, Sat.	Nomination papers available at Head Office for election of 24 Members of Council for 1922-23, by grouped Home Branches.
April 26, Wed.	Council Meeting, 429, Strand, at 10 a.m.
April 29, Sat.	Last day for receipt at Head Office of Independent Motions for Annual Representative Meeting Agenda, as to policy, Articles, or By-laws (By-law 40).
May 6, Sat.	Annual Report of Council appears in SUPPLEMENT.
May 8, Mon.	Last day for receipt at Head Office of Nominations, by a Division or not less than 3 Members, for election of 24 Members of Council by grouped Home Branches for 1922-23.
May 13, Sat.	Publication in SUPPLEMENT of list of nominations for election of 24 Members of Council by grouped Home Branches for 1922-23.
	Voting papers for election of 24 Members of Council by grouped Home Branches posted from Head Office to Members of groups where there are contests.
May 27, Sat.	Last day for receipt at Head Office of voting papers for election of 24 Members of Council by grouped Home Branches (where there are contests).
June 3, Sat.	Publication in SUPPLEMENT of results of Council elections by grouped Home Branches.
June 10, Sat.	Nomination papers available, at Head Office, for election of 12 Members of Council by grouped Home Representatives.
June 14, Wed.	Council Meeting, 429, Strand, at 10 a.m.
June 23, Fri.	Last day for election of Representatives and Deputy-Representatives.
June 24, Sat.	Supplementary Report of Council appears in SUPPLEMENT.
June 30, Fri.	Last day for receipt at Head Office of notification of election of Representatives and Deputy-Representatives.
July 7, Fri.	Last day for receipt at Head Office of Amendments and Riders for Annual Representative Meeting Agenda.
July 21, Fri.	Annual Representative Meeting, Glasgow, 10 a.m.
	Nominations for election of 12 Members of Council by grouped Representatives to be received (at Annual Representative Meeting, Glasgow) by this date.

ALFRED COX, *Medical Secretary.*

BRANCH AND DIVISION MEETINGS TO BE HELD.

BORDER COUNTIES BRANCH.—A general meeting of the Border Counties Branch will be held at the Dumfries and Galloway Royal Infirmary on March 31st at 3 p.m. The Branch Council will meet at 2.45 p.m. Agenda will be posted to members.

EAST YORK AND NORTH LINCOLN BRANCH: EAST YORK DIVISION.—The annual dinner of the Division will be held in the Royal Station Hotel, Hull, on Friday, April 21st, at 8 p.m. prompt. The Chairman's guest will be Mr. C. A. R. Nitch, M.S., F.R.C.S., Surgeon, St. Thomas's Hospital. Tickets, 12s. 6d. each, may be obtained from the Secretary or from any member of the Executive Committee.

MALAYA BRANCH.—Meetings of the Malaya Branch have been arranged to be held in the Singapore Garden Club on the third Thursday in each month at 9 p.m., and will be preceded by a dinner (optional) at 8 p.m. Members willing to contribute papers are requested to communicate with the Honorary Secretary, who will also make arrangements for the exhibition of specimens or cases of interest.

METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.—A meeting of members and non-members, including staffs of Lewisham hospitals, will be held on Tuesday, March 28th, at 8.45 p.m., at the South-Eastern Hospital for Children, Sydenham, S.E.26. Dr. G. W. Charsley will occupy the chair. Agenda: Discussion of hospital policy and Report on the Organization of Voluntary Hospitals; Election of Representative and Deputy Representative of the Division; Any other business.

METROPOLITAN COUNTIES BRANCH: WESTMINSTER AND HOLBORN DIVISION.—The annual general meeting of the Division will be held at the Trocadero Restaurant on Thursday, April 6th, at 8.45 p.m. The meeting will be preceded by dinner at 7.30 p.m. At 9 p.m. Dr. Leonard Williams will read a paper on Interstitial Glands, and a discussion will follow. Members and non-members are cordially invited to dinner, or the meeting, and are requested to communicate with the Honorary Secretary, Dr. F. D. Bennett, 18, Savile Row, W.1.

MIDLAND BRANCH: CHESTERFIELD DIVISION.—A general meeting of the Division will be held at the Hospital Board Room, Chesterfield, on Wednesday, March 29th, at 3 p.m. Agenda: Report on Hospital Policy (members are requested to bring with them the SUPPLEMENT of February 25th, 1922); Election of Representative; General.

NORFOLK BRANCH.—A meeting of the Norfolk Branch will be held at the Norfolk and Norwich Hospital, Norwich, on Thursday, April 27th, at 3 p.m., when an address on the Hospital Policy of the British Medical Association will be given by the Medical Secretary.

NORTH OF ENGLAND BRANCH: CLEVELAND DIVISION.—A meeting of the Cleveland Division will be held at the North Riding Infirmary on Thursday, March 30th, at 8.30 p.m., when Dr. Wells Patterson (Newcastle-on-Tyne) will give an address on the Endocrine Glands and their Inter-relationship.

NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH.—A meeting of the Branch will be held on Wednesday afternoon, April 5th, at the Furness Abbey Hotel, Barrow. The Secretary will be pleased to hear from members willing to show interesting cases or specimens. A fuller notice will be sent to members before the meeting.

NORTH WALES BRANCH.—The spring meeting of the North Wales Branch will be held at Wrexham on Tuesday, April 4th.

SOUTH MIDLAND BRANCH: BEDFORD DIVISION.—A general meeting of the Bedford Division will be held at the Bedford County Hospital on Tuesday, April 4th, at 3 p.m. Agendum: To discuss the Report on the Organization of Voluntary Hospitals. Members are requested to bring with them the SUPPLEMENT of February 25th.

SUSSEX BRANCH: BRIGHTON DIVISION.—A joint meeting of the Brighton Division and the Brighton and District Section of the Southern Counties Branch of the British Dental Association will be held in the Assembly Hall, Steine House, Brighton, on Thursday, March 30th, at 8.15 p.m. Dr. L. A. Parry will read a paper entitled "Some points on the medical aspects of dental treatment in childhood."

WORCESTERSHIRE AND HEREFORDSHIRE BRANCH.—A meeting of the Worcestershire and Herefordshire Branch will be held at Great Malvern on Thursday, April 27th, when a British Medical Association Lecture will be given by Professor G. R. Murray on a subject connected with internal secretions.

YORKSHIRE BRANCH: HUDDERSFIELD DIVISION.—A meeting of the Huddersfield Division will be held at the Huddersfield Royal Infirmary on Wednesday, March 29th, at 8 p.m. Agenda: (1) Annual report for 1921; (2) Report on social functions; (3) Election of Representative and Deputy; (4) Debate on voluntary hospitals policy. Members are requested to bring with them the SUPPLEMENT of February 25th, and it is hoped there will be a large attendance to discuss Item 4.

YORKSHIRE BRANCH: SHEFFIELD DIVISION.—A general meeting of the Sheffield Division will be held at the Church House, St. James Street, Sheffield, on Friday, March 31st, at 8.30 p.m. Agenda: Report of Council on Hospital Organization (SUPPLEMENT, February 25th); Representation in Parliament Fund; Report on Practitioners' Mutual Help Scheme.

Meetings of Branches and Divisions.

METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.

A MEETING of the Lewisham Division was held at St. George's Lodge, Catford Hill, S.E.6, on February 28th, when Dr. G. W. CHARSLEY was in the chair.

The report of the Council on the Revision of the Constitution and Machinery of the Association was considered and unanimously recommended for adoption. It was suggested that a club room might be opened at the Association building in the Strand, so that members could meet to talk and smoke, and that the room be kept open later than the reading room is now.

On the motion of Dr. ARNOLD, seconded by Dr. WHITE, it was resolved that the Lewisham Division be divided into two, East and West Lewisham, according to the parliamentary boundaries.

NORTH OF ENGLAND BRANCH: DARLINGTON DIVISION.

A MEETING of the Darlington Division was held at Greenbank Hospital on March 8th. The report on Organization of Voluntary Hospitals was fully discussed, and the Hon. Secretary was instructed to send the report with the necessary amendments to headquarters as the opinion of the Division on the matter. It was decided, following the suggestion of a recent correspondent in the JOURNAL, that the hospital should be asked to furnish each practitioner with a brief form giving the diagnosis, treatment, prognosis, and hints as to future treatment, when a patient was discharged from hospital. Instructions were given to circularize the members regarding a levy for the formation of a fund to be used for the Secretary's incidental expenses and the expenses of the Division's representative to the annual meeting at Glasgow.

NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.

THE annual general meeting of the Sunderland Division was held on February 28th, when the following officers were elected for the ensuing year:

Chairman: Dr. W. G. Thomson. *Vice-Chairman:* Dr. R. Gordon Bell. *Honorary Secretary and Treasurer:* Dr. H. Boyd Cuningham. *Representative in Representative Body:* Dr. R. Gordon Bell.

SOUTH-WESTERN BRANCH: BARNSTAPLE DIVISION.

THE ordinary bi-monthly meeting of the Barnstaple Division was held at the North Devon Infirmary on March 1st, when the chair was taken by Dr. JONAS.

The suggested model rules of organization were discussed,

certain suggestions adopted, and the further discussion postponed to a future meeting.

May 3rd was suggested as a most suitable date for the visit to the Division of a member of the central staff of the Association.

In view of the importance of the question of hospital policy the Honorary Secretary was instructed to call a special meeting of the Division for March 29th to consider it.

Dr. STOOKES opened a discussion on placenta praevia, in which all the members present joined; the meeting ended with a hearty vote of thanks to Dr. Stookes for the able way in which he had introduced the subject.

SUFFOLK BRANCH: WEST SUFFOLK DIVISION.

THE annual meeting of the Division was held at the West Suffolk General Hospital, Bury St. Edmunds, on February 28th, when Dr. F. R. BARWELL (chairman) presided.

A letter in regard to vaccination fees having been read from the Assistant Medical Secretary it was arranged to call a meeting of the public vaccinators of the district with a view to fixing a uniform mileage fee.

The Secretary read a letter which had been sent to all clerks of urban and rural district councils in regard to notification fees, together with two replies which had been received.

In connexion with items dealt with in the monthly circular letters from the Medical Secretary, members were urged to make returns to headquarters of statistics of expenditure and income in connexion with the working of the National Insurance Acts. Copies of the statements on the Dangerous Drugs Act, reprinted from the SUPPLEMENT of August 27th, 1921, were circulated among those present at the meeting.

The annual report of the Executive Committee and the balance sheet were read, and on the motion of Dr. STIFF, seconded by Dr. TROTTER, were accepted. The following officers were elected:

Chairman: Dr. H. H. Stiff. *Vice-Chairman:* Dr. F. R. Barwell. *Honorary Secretary and Treasurer:* Dr. B. E. A. Batt. *Representative in Representative Body:* Dr. B. E. A. Batt. *Deputy Representative:* Dr. E. C. Hardwicke or Dr. O. R. M. Wood (provisionally).

A hearty vote of thanks was accorded to Dr. F. R. Barwell for his services during the past year.

Various modifications in the rules of the Division were agreed upon and a copy of the proposed modified rules was directed to be issued to every member ten days before the special meeting was to be called for their adoption.

The alterations in the articles and by-laws of the Association published in the SUPPLEMENT, December 24th, 1921, were outlined and approved *en bloc*.

Colonel T. H. Openshaw, C.B., C.M.G., was elected an associate member of the Division.

Orthopaedic Clinic.—The SECRETARY reported that in regard to the salary of the surgeon in charge of the Orthopaedic Clinic at the West Suffolk General Hospital, which treats cases for the County Council, the opinion of the Hospitals Committee of the Association was that this should be not less than £300 per annum. This figure had been accepted by the persons concerned as reasonable, but Colonel Openshaw had agreed that in view of his frequent presence in Bury St. Edmunds for work in connexion with discharged soldiers and sailors the sum of £200 would, in his particular case, be adequate. This sum had, in fact, been paid and Colonel Openshaw has returned the cheque to the Committee of the West Suffolk General Hospital as a donation.

A letter was read from the Secretary of the local branch of an approved society requesting that the medical fees for non-insured club members might be reduced as from January 1st, 1922, to the following figures: Adult members, 10s. per annum; juvenile members, 5s. per annum. It was decided to refer the letter to headquarters and bring up the matter for discussion at the next meeting of the Division.

SUSSEX BRANCH: HASTINGS DIVISION.

A MEETING of the Hastings Division was held in the East Sussex Hospital on March 7th. On the suggestion of Dr. LARKIN it was resolved to hold a special meeting at the Eversfield Hotel on March 28th, at 3.30 p.m., to consider the Report of the Council on the Organization of Voluntary Hospitals, and to ask Dr. Muir Smith of Eastbourne to address the meeting, to which all local members of the profession should be invited.

The HONORARY SECRETARY reported that the Division's donation towards the Wood-Hill Fund amounted to £11.

Dr. G. H. HOWE and Mr. LIGAT exhibited a hydronephrotic kidney due to tuberculosis of the vesical opening of the ureter. Dr. THOMAS REED read a paper on albuminuria in relation to pregnancy, which was full of practical interest and promoted useful discussion, and he was cordially thanked for a very good paper.

WILLESDEN HEALTH POLICY.

THE following letter has been addressed by the Honorary Secretary of the Willesden Division, British Medical Association, to the clerk of the Willesden Urban District Council:

In reply to the Willesden Urban District Council's letter of the 1st March, I am instructed to state that, in the opinion of the Willesden Division of the British Medical Association, no effective scheme for co-operation can be formulated except after conference between the parties concerned. It is not fair to suggest that a body which has no access to many of the sources of information open to the council should produce any cut-and-dried scheme. The Division wants to hear and discuss all sides of the problem before it formulates any scheme. For this reason the Division, in its letter of 29th December, 1921, suggested the creation of an Advisory Medical Council. It was hoped that joint discussion of the position by the Health Committee and such a council might eventually result in the production of a scheme satisfactory alike to the Urban District Council and the Willesden medical practitioners, and conducive to the best interests of the public. As no reply to this suggestion has been received, I am instructed to submit for the consideration of the council the subjoined statement of the basis upon which the Willesden Division of the British Medical Association is prepared to co-operate in the work of the municipal health services:

1. *Advisory Medical Council.*—Recognition by the council of an advisory medical body, to be elected by the medical practitioners of Willesden and consulted by the Health Committee on all matters affecting the municipal medical services. The modification of the existing service to stand referred to this body in the first instance. The District Council, of course, to have the final decision.

2. *Municipal Hospital.*—To be restored to its original use as an isolation hospital—other cases to be provided for by arrangement with other institutions.

3. *School Children.*—Routine inspection of all age groups, as prescribed by the Board of Education, to be carried out in addition to such special inspections as may be determined. All defects other than those in cleanliness, clothing, and footgear, and such special conditions as may be determined, to be referred for treatment to the family doctor, who shall have the right, if he thinks that the best course in the interests of his patient, to refer the case to be dealt with through the school service. The cost of treatment through the school service to be recovered from the parent in all but necessitous cases.

4. *Maternity and Child Welfare.*—The activities of the Centres to be confined in the first instance to preventive work, in accordance with the instructions of the Ministry of Health. Such work to be gratuitous. Cases requiring treatment to be dealt with on the method indicated above in connexion with the treatment of school children.

5. *Staff.*—Specialist services to be carried on as at present by the Council's part-time specialists. Medical inspection of school children to be carried on for the present by the Council's whole-time medical staff. Vacancies in the Clinics to be filled by advertisement, and local practitioners (part-time) to have the preference.

GENERAL MEDICAL COUNCIL.

EXECUTIVE COMMITTEE.

AT the ordinary spring meeting of the Executive Committee of the General Medical Council, when Sir DONALD MACALISTER, President, was in the chair, the report on the receipts and expenditure of the Council and Branch Councils was submitted by the President and approved.

Reciprocal Arrangements.

Several matters were considered relating to reciprocal arrangements with foreign countries and British dominions. A communication was received from the Privy Council enclosing a dispatch from the British ambassador at Madrid in which he asked whether, in view of pending legislation in Spain, he should approach the Spanish Government with a view to obtaining its assent to the meeting of an international technical commission to discuss on what grounds reciprocity might be established between the two countries. The committee agreed that such a commission was unnecessary, and that all that was required might be done through the Spanish embassy in London. The ambassador at Brussels had forwarded to the Privy Council a note from the Belgian Minister for Foreign Affairs stating that the Belgian Academy of Medicine had been invited by the Belgian Government to give its views on the renewal of the agreement with regard to reciprocity. Another communication was from the Colonial Office, transmitting a copy of an Act recently passed in South Australia, which prescribes that no registration fee shall be payable by a person already registered in a country forming part of his Majesty's dominions if there are reciprocal arrangements. The Act also provides for the conviction of a practitioner guilty of advertising, and the committee recorded its satisfaction at this provision. A draft of the bill which it is proposed to introduce into the Parliament of the Union of South Africa, setting up one Council and one Register for the Union, was considered and called for no comment.

Instruction in Midwifery.

The Committee received a communication from the University of Madras stating that the recommendations of the Faculty of Medicine for the amendment of the medical regulations so as to meet the requirements of the Council with regard to the teaching of midwifery had been adopted, with

a slight modification, by the Senate. A communication on the same subject was received from the University of Bombay. It was agreed to postpone consideration pending the return from India of Dr. Norman Walker, a member of the Council, who will report upon the facilities for instruction in midwifery in India.

Correction of the Register.

The REGISTRAR reported that the systematic correction of the *Register* had been continued; a very large number of corrections had been received, and many practitioners whose addresses had been lost were traced by a careful search in books of reference, by advertisements in the medical journals, and by assistance given by the British Medical Association from its records. The names of 510 practitioners had been removed, as a result of this revision, under Section 14 of the Medical Act (which provides that a name may be erased if no answer is received within six months of a communication from the Registrar), and the Committee agreed to the restoration of thirty-five names which had previously been erased under this section.

Standing Orders.

The Committee considered certain proposals for new standing orders of Council, but the alterations were of form rather than of substance. One amendment provides that when a change of name is made in the *Register* the name already registered shall be retained unless the Council otherwise directs. The Penal Cases Committee, instead of being merely advisory to the President, is to be given definite responsibilities. The orders for inspection and visitation of examinations are to be revised so as to provide for the inclusion of examinations for the D.P.H. or for dental qualifications.

The Finance of the Council.

The committee had before it the balance sheet of the General and Branch Councils for 1921, from which it appeared that the expenditure of the General Medical Council was £7,786 and the special receipts £3,371. The expenditure on the visitation and inspection of examinations amounted to £1,764. The sum of £1,765 was received for fees on 353 colonial and foreign qualifications.

Dental Matters.

The Dental Executive Committee, which met on the same day, had for its chief business the consideration of the issue of a warning notice which had been suggested by the Dental Board. The proposed notice was approved, but has not yet been published. From the tables of accounts submitted to the committee it appears that the Dental Registration Fund received last year 373 registration fees, amounting to £1,405.

Dental Board of the United Kingdom.

On March 7th certain amended regulations of the Dental Board of the United Kingdom were approved by the General Medical Council, and on the following day by the Privy Council. The amendments principally relate to the procedure for registration, under the Dentists Act, 1921, of members of the Incorporated Dental Society and pharmaceutical chemists or chemists and druggists. After references are completed to the satisfaction of the Registrar, he is required to issue a public notice of the application, and if no objection is received within one calendar month the applicant receives the certificate of registration on payment of the prescribed fee. In the case of an objection the Registration Committee will, if a prima facie case is made out, prepare a report and recommendation to the Board.

Insurance.

TARDY TRANSFERS.

THE following extracts are taken from the *National Insurance Gazette* of March 18th:

Why will some practitioners delay quite unreasonably the return of medical records? Is it a petty way of showing their disagreement with the keeping of the records? In nearly every area there are occasional doctors from whom the records cannot be obtained. Meanwhile the doctor who last accepted the patient awaits the arrival of the record. The Leicestershire Committee has brought the circumstances of two doctors' methods before the Service Subcommittee. Three applications and a special letter pointing out the seriousness of the matter had been sent to one doctor. The communications being ignored, the chairman of the Medical Benefit Subcommittee and the clerk called upon the doctor. The committee have now decided to report the matter to the Ministry of Health, on the grounds that such infringement tends to inefficiency of the medical service in the area. The second doctor, although he had required more applications, had eventually returned the required records and had promised to forward promptly in future, so the committee decided to take no action beyond a warning to the practitioner that further neglect might necessitate a penalty. . . .

There is no doubt that if the system of transferring records as the patient changes his area or doctor is to be properly carried out, doctors will have to take up their part in the work and do it promptly. There is not the slightest excuse for not doing so, and any doctor who adopts methods of dealing at once with records and other details will find that his work is considerably lessened and that his mind is not burdened with the feeling of worry which accompanies procrastination.

A FRENCH INSURANCE BILL.

A BILL has been presented in the French Chamber of Deputies to provide for the extension of an organized compulsory sickness and old age insurance system throughout France. While Alsace and Lorraine were a part of the German empire they were included in the insurance scheme in force there, but nothing of the kind existed in France. The extension of the scheme to the rest of France has been advocated, but many protests have been made against the adoption of the bill by many French medical men. Dr. Legrand, of Mulhouse (Alsace), states that medical practitioners who have moved to Alsace or Lorraine from other parts of France are almost unanimous in their condemnation of the German system as they see it working.

SICK INSURANCE IN NORWAY.

THE income limit for compulsory insurance against sickness in Norway has recently been raised from 3,000 to 6,000 crowns. The insured person pays six-tenths of the premium, the employer and the commune each one-tenth, and the State two-tenths. The insured person chooses his own medical attendant, and the medical practitioners are paid "for work done"—that is, by the number of consultations and visits. This insurance scheme has now been in existence for ten years, and legislation is now being discussed to allow all with an income of less than 6,000 crowns to participate in it whether they are employed or not, thus extending it, for instance, to small farmers.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following announcements are notified by the Admiralty: Surgeon Commanders J. H. Fergusson to the *Iron Duke*, additional and as Fleet Medical Officer, Mediterranean Station, on arrival; A. I. Sheldon to Portsmouth Dockyard; Surgeon Lieutenant Commander S. W. Grimwade, O.B.E., to the *Despatch*, J. G. Boal to the *Lychnis*, on commissioning for voyage to Bombay, and to the *Cairo* on arrival.

ROYAL NAVAL VOLUNTEER RESERVE.

Late Surgeon Lieutenants entered as Surgeon Lieutenants: J. M. McC. Wright, January 17th, with seniority of that date, and attached to the Mersey Division, W. J. Payne, January 26th, with seniority of that date, and attached to the Clyde Division.

ROYAL ARMY MEDICAL CORPS.

Major-General J. J. Gerrard, C.B., C.M.G., K.H.P., late R.A.M.C., retires on retired pay, January 27th, 1922 (substituted for notification in the *London Gazette*: January 30th, 1922).

Captain A. F. I. Patterson, D.S.O., to be Acting Major from April 1st, 1920, to February 20th, 1921.

Captain G. H. Barry is seconded for service with the Egyptian army.

Lieutenant (temporary Captain) D. C. Bowie to be Captain.

INDIAN MEDICAL SERVICE.

The services of Brevet Major T. J. Carey Evans, M.C., have been placed at the disposal of the Government of India in the Army Department (April 22nd, 1921).

The following promotions are announced:—To be Colonels: Lieut.-Colonel R. G. Turner, C.M.G., D.S.O., vice Colonel A. J. Macnab, C.B., C.M.G., Bengal (retired) (August 15th, 1921), tenure of appointment to reckon from October 19th, 1921; Lieut.-Colonel V. B. Bennett, vice Major-General J. B. Smith, C.B., K.H.P., absorbed in the authorized establishment of Major-Generals (October 18th, 1921), tenure of appointment to reckon from October 20th, 1921; Major-General J. B. Smith, C.B., K.H.P., has been absorbed in the authorized establishment of Major-Generals (October 18th, 1921), vice Major-General P. Carr-White, C.B.E., K.H.P. (retired); Colonel C. H. Bowle Evans, C.M.G., C.B.E., has been absorbed in the authorized establishment of Colonels (July 1st, 1921), vice Colonel C. Milne, O.B.E., Bengal (retired).

Lieut.-Colonel S. Anderson has been permitted to retire from the service (January 20th, 1922), and Captain A. H. Brown has been transferred to the temporary non-effective list (November 22nd, 1921).

To be Captains: H. H. Elliot, H. Williamson.

To be Lieutenants: H. Donovan, C. A. Kirton.

Lieut.-Colonel A. G. McKendrick is retired, and retains his rank (December 15th, 1921).

The services of Captain N. S. Jatar, D.S.O., have been placed temporarily at the disposal of the Government of the Central Provinces for employment in the Jail Department (January 21st, 1922).

Lieut.-Colonel H. M. Mackenzie, I.M.S., has been confirmed in the appointment of Professor of Pathology, King Edward Medical College (November 12th, 1921).

Captains to be Majors: F. J. Kolapore, E. G. Kennedy, A. L. Sheppard, J. A. A. Kernahan (Brevet Major), M. L. C. Irvine, J. V. Macdonald, M.C. (Brevet Major), G. L. Duncan (Acting Lieutenant-Colonel), Anath Nath Palit, H. A. H. Robson, C. G. Howlett.

Lieut.-Colonel H. R. Nutt, M.D., F.R.C.S., has been confirmed in the appointment of Professor of Surgery, King George's Medical College, Lucknow, August 31st, 1921.

Majors to be Lieut.-Colonels: F. A. F. Barnardo, C.I.E., C.B.E. (Bt. Lieut.-Colonel), J. McPherson, G. D. Franklin, O.B.E., C. A. Gourlay,

D.S.O., W. C. Ross, R. A. Lloyd, D.S.O. (Bt. Lieut.-Colonel), J. C. G. Kuuhardt, E. A. Walker, L. Cook, L. B. Scott, G. I. Davys, A. J. V. Betts, F. E. Wilson, B. B. Paymaster, N. W. Macworth (Bt. Lieut.-Colonel), H. Ross, O.B.E., J. Forrest, L. Hirsch, C.I.E., E. C. C. Maunsell, J. W. Illius, J. P. Cameron (January 25th), A. W. Greig, T. W. Harley (January 29th).

Lieut.-Colonel N. P. Sinha (retd.), who was re-employed, has been permitted to revert to the retired list (January 10th).

The following officers have been permitted to retire from the service: Lieut.-Colonels H. S. Wood (January 23th), H. Kirkpatrick (January 30th).

TERRITORIAL ARMY.

ROYAL ARMY MEDICAL CORPS.

The following to be honorary Colonels to the Divisions shown against their names, February 13th, 1922 (substituted for that which appeared in the *London Gazette*, February 13th, 1922): Hon. Major-General Sir B. G. A. Moynihan, K.C.M.G., C.B. (retired), West Riding Division, Colonel J. Griffiths, C.M.G., T.D. (retired), East Anglian Division, Colonel J. V. W. Rutherford, V.D. (retired), Northern Division, Lieut.-Colonel F. J. Knowles, T.D. (retired), West Lancs. Division, Lieut.-Colonel Sir W. R. Smith, T.D. (retired), Home Counties Division.

Lieut.-Colonel D. L. Hamilton, T.D., having attained the age limit, is retired, and retains the rank of Lieutenant-Colonel, with permission to wear the prescribed uniform.

The following officers relinquish their commissions and retain their rank, except where otherwise stated: Major E. L. Anderson, T.D. (with permission to wear the prescribed uniform), Captains J. E. Turle, A. H. T. Andrew, A. C. Watkin (and is granted the rank of Major), Captain G. Torrance, M.C.

Captain A. H. Norris, M.C., having attained the age limit, is retired and retains the rank of Captain.

1st Eastern General Hospital: Colonel J. Griffiths, C.M.G., T.D., having attained the age limit, is retired, and retains the rank of Colonel, with permission to wear the prescribed uniform.

TERRITORIAL ARMY RESERVE.

ROYAL ARMY MEDICAL CORPS.

The following officers having attained the age limit are retired and retain their ranks: Colonel J. V. W. Rutherford, V.D., Lieut.-Colonel F. J. Knowles, T.D. (with permission to wear the prescribed uniform), Major (Honorary Major-General) Sir B. G. A. Moynihan, K.C.M.G., C.B.

Major H. A. Rudyard, T.D., from General List, to be Lieutenant-Colonel.

To be Majors: Major A. Coleridge (T.F.Res.), and Captains R. D. Langdale-Kelham and H. T. Jones from General List.

Major J. S. Swain, having attained the age limit, is retired, September 30th, 1921, and retains the rank of Major, with permission to wear the prescribed uniform.

Captain (Brevet Major) G. Patton from General List to be Captain and Brevet Major.

MILITIA.

ROYAL ARMY MEDICAL CORPS.

Captain D. Macfadyen, M.C., to be Major.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Captain W. H. L. McCarthy, M.C., relinquishes the acting rank of Lieutenant Colonel on ceasing to command No. 2 Field Ambulance, July 3rd, 1917 (substituted for the notification in the *London Gazette*, September 6th, 1917).

DIARY OF SOCIETIES AND LECTURES.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.—Tues., 5 p.m., Goulstonian Lecture by Dr. A. Feiling: On the Interpretation of Symptoms in Disease of the Central Nervous System. Thurs., 5 p.m., Lumleian Lecture by Dr. Hector Mackenzie: Diseases of the Thyroid Gland.

ROYAL SOCIETY OF MEDICINE.—*Section of Odontology*: Mon., 8 p.m., Mr. A. Livingston: The Experimental Production of Arthritis. *Section of Medicine*: Tues., 5.30 p.m., Dr. Oliver Heath: Natural Cure of a Common Cold; Dr. T. Izod Bennett and Dr. Dodds: Disorders of Secretion in the Upper Alimentary Tract. *Section of Urology*: Thurs., 8.30 p.m., Exhibition of Cases and Pathological Specimens; Mr. Kenneth M. Walker: Renal Infections.

MEDICO-LEGAL SOCIETY, 1, Wimpole Street, W.1.—Tues., 8.15 p.m., Adjourned Discussion on Professional Secrecy.

TUBERCULOSIS SOCIETY. Margaret Street Hospital, Margaret Street, W.1.—Mon., 7.30 p.m., Address by the President on the Place of Pulmonary Tuberculosis amongst the Acute Fevers; Discussion on the Supervision of London Tuberculosis Dispensaries by L.C.C. Clinical Officers; Report on the Conference of Public Health Medical Officers held at the British Medical Association on March 14th.

POST-GRADUATE COURSES AND LECTURES.

CANCER HOSPITAL, Fulham Road, S.W.—Tues., 4 p.m., Dr. Rice-Oxley: Methods of Anaesthesia.

CHESTERFIELD DIVISION, BRITISH MEDICAL ASSOCIATION, Chesterfield Royal Hospital.—Fri., 2.30 p.m., Professor Douglas: Diphtheria, the Schick Test and Active Immunity; 3.15 p.m., Mr. Finch: Pre- and Post-operative Treatment of Enlarged Prostate.

EDINBURGH ROYAL HOSPITAL FOR SICK CHILDREN.—Thurs., 5 p.m., Dr. N. S. Carmichael: Acetonaemia.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION, Lock Hospital (41, Rotten Row).—Wed., 4.15 p.m., Dr. Madeline Archibald: Venereal Disease in the Female.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—Thurs., 4 p.m., Dr. Heald: Physical Effects of Respiratory Exercises.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.30 p.m., Mr. J. Morley: Some Types of Intestinal Obstruction.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland Street, W.—Daily, In-and Out-patient Attendances. Mon., 5.30 p.m.: Lecture on Tachycardia by Dr. Parsons-Smith.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Hospital, Ousel'ey Road, Balham.—Wed., 4 p.m., Dr. Stanley Wyard: Pathological Demonstration.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Daily, 10 a.m., Ward Visits; 2 p.m., In- and Out-patient Clinics and Operations.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 1s. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS and ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London).
MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London).
EDITOR, *British Medical Journal* (Telegrams: Aitology, Westrand, London).
Telephone number for all Departments: Gerrard 2630 (*3 lines*).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)
IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

MARCH.

24 Fri. London: Public Health Committee, 3 p.m.
28 Tues. London: Grants Subcommittee, 2.30 p.m.
Lewisham Division: South-Eastern Hospital for Children, Sydenham, S.E., 8.45 p.m.
29 Wed. Chesterfield Division: Hospital Board Room, Chesterfield, 3 p.m.
Huddersfield Division: Huddersfield Royal Infirmary, 8 p.m.
30 Thurs. London: Conference of Insurance Acts Committee with Representatives of Ministry of Health, at 11.15, at Ministry of Health, Whitehall.
Brighton Division: Joint Meeting with Brighton and District Section of the Southern Counties Branch of the British Dental Association, Assembly Hall, Steine House, Brighton, 8.15 p.m.
City Division, Dinner-Dance, Abercorn Rooms.
Cleveland Division: North Riding Infirmary, address by Dr. Wells Patterson on the Endocrine Glands and their Interrelationship, 8.30 p.m.
31 Fri. London: Central Ethical Committee, 2.15 p.m.
Border Counties Branch: Dumfries and Galloway Royal Infirmary, 3 p.m.; Branch Council, 4.45 p.m.
Chesterfield Division: Chesterfield Royal Hospital, 2.30–4 p.m., Post-Graduate Class.
Sheffield Division: Church House, St. James Street, Sheffield, 8.30 p.m.

APRIL.

4 Tues. London: Organization Committee.
Bedford Division: Bedford County Hospital, 3 p.m.
North Wales Branch: Spring Meeting, Wrexham.
5 Wed. London: Medico-Political Committee, 2.30 p.m.
North Lancashire and South Westmorland Branch: Furness Abbey Hotel, Barrow.
6 Thurs. Westminster and Holborn Division: Annual Meeting, Trocadero Restaurant. Dinner, 7.30 p.m.; Meeting, 8.45 p.m. Address on Interstitial Glands by Dr. Leonard Williams, 9 p.m.
7 Fri. London: Dominions Committee, 2.30 p.m.
City Division, Metropolitan Hospital, Kingsland Road, E.8, 9.15 p.m.
12 Wed. London: Finance Committee, 2.30 p.m.
19 Wed. Croydon Division, Croydon General Hospital: 3.30 p.m.; Annual General Meeting, followed by Clinical Meeting.
London: Hospitals Committee, 2.30 p.m.
21 Fri. East York Division: Annual Dinner, Royal Station Hotel, 8 p.m.
26 Wed. **Council**, 10 a.m.
27 Thurs. Norfolk Branch: Norfolk and Norwich Hospital, Norwich. Address by Medical Secretary on Hospital Policy of British Medical Association, 3 p.m.
Worcestershire and Herefordshire Branch, Great Malvern: British Medical Association Lecture by Prof. G. R. Murray on some subject connected with internal secretions.
28 Fri. London: Propaganda Subcommittee, 2.15 p.m.

MAY.

5 Fri. City Division, Royal Northern Hospital, Holloway Road, N.7.

APPOINTMENTS.

BUCHANAN, J. V., M.B., Ch.B.Edin., Certifying Factory Surgeon for Shaw (Lancs) District, vice A. V. Davies, O.B.E., M.B., Ch.B.Vict., resigned.

EDWARDS, Frank H., M.B., Ch.B., M.R.C.S., L.R.C.P., House-Surgeon, Royal Salop Infirmary, Shrewsbury.

GALLETLY, A., M.B., Ch.B.Edin., Assistant Resident Medical Officer, Queen Charlotte's Lying-In Hospital, Marylebone Road, N.W.

HANNAY, Mary B., M.D.Glasg., Pathologist to the Royal Alexandra Infirmary, Paisley.

JACKSON, J. L., M.B., Ch.B.Belf., Medical Superintendent, Knowle Mental Hospital, Fareham, Hants.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

BIRTH.

DAVIS.—At 10, Coates Crescent, Edinburgh, on March 8th, the wife (*née* Gwendolyn G. Hunter, M.B., Ch.B.) of Dr. H. Greenshields Davis, Nottingham—a son.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, APRIL 1ST, 1922.

CONTENTS.

	PAGE
Conference of Representatives of Medical Staffs of Voluntary Hospitals:	
THE REPORT ON THE HOSPITALS POLICY OF THE ASSOCIATION	85
THE VOLUNTARY HOSPITAL SYSTEM	86
SOURCES OF HOSPITAL FUNDS	87
PRIVATE PATIENTS AND OUTSIDE PRACTITIONERS	88
FORMATION OF STAFF FUNDS	88
TENURE OF OFFICE OF MEDICAL STAFFS	91
CURRENT NOTES:	
LOCAL PENSIONS COMMITTEES	92
WORKMEN'S "SCHEMES" IN GLAMORGANSHIRE AND MONMOUTHSHIRE	92
HAWICK MATERNITY AND CHILD WELFARE CENTRE	93
ASSOCIATION NOTICES:	
TABLE OF DATES	93
CHANGES OF AREAS	93
BRANCH AND DIVISION MEETINGS TO BE HELD	93
Scholarships and Grants in Aid of Scientific Research	95
MEETINGS OF BRANCHES AND DIVISIONS	94
CORRESPONDENCE:	
PAYMENT FOR PANEL PATIENTS	95
INSURANCE NOTES:	
LONDON PANEL COMMITTEE	95
LONDON INSURANCE COMMITTEE	95
SURREY PANEL COMMITTEE	96
NAVAL AND MILITARY APPOINTMENTS	96
DIARY OF SOCIETIES AND LECTURES	96
ASSOCIATION INTELLIGENCE AND DIARY	96
APPOINTMENTS	96
BIRTHS, MARRIAGES AND DEATHS	96

CONFERENCE OF REPRESENTATIVES OF THE MEDICAL STAFFS OF VOLUNTARY HOSPITALS.

Wednesday, March 22nd, 1922.

A LARGELY attended Conference of representatives of honorary medical staffs of voluntary hospitals in England and Wales, summoned by the British Medical Association, was held at Wigmore Hall, London, on March 22nd. The basis of representation was two representatives for each hospital of more than 100 beds and one representative for each hospital of fewer than 100 beds.

Amongst the chief London hospitals the following were represented at the Conference:

Charing Cross Hospital.
Dreadnought Hospital, Greenwich.
Hampstead General and North-West London Hospital.
Hospital for Sick Children, Great Ormond Street.
King's College Hospital.
London Hospital.
Royal Free Hospital, Gray's Inn Road.
Royal London Ophthalmic Hospital.
St. Bartholomew's Hospital.
St. George's Hospital.
St. Mary's Hospital.
St. Thomas's Hospital.
University College Hospital.
West London Hospital.

A number of other London hospitals were represented also.

Among the provincial hospitals represented were:

Ashton-under-Lyne District Infirmary.
Royal United Hospital and Royal Mineral Water Hospital, Bath.
Royal Victoria and West Hants Hospital, Bournemouth.
Bradford Royal Infirmary.
Royal Sussex County Hospital, Brighton.
Bristol Royal Infirmary.
West Suffolk General Hospital, Bury St. Edmund's.
Addenbrooke's Hospital, Cambridge.
Cumberland Infirmary, Carlisle.
Chesterfield and North Derbyshire Hospital.
Royal West Sussex Hospital, Chichester.
Essex County Hospital, Colchester.
Coventry and Warwickshire Hospital, Coventry.
Croydon General Hospital.
Derby Royal Infirmary.
Gloucester Royal Infirmary and Eye Institution.
Halifax Royal Infirmary.
Huddersfield Royal Infirmary.
Leicester Royal Infirmary and Children's Hospital.
Lincoln County Hospital.
David Lewis Northern Hospital, Liverpool.
Stanley Hospital, Liverpool.
Macclesfield General Infirmary.
West Kent General Hospital, Maidstone.
Royal Victory Infirmary, Newcastle-upon-Tyne.
Norfolk and Norwich Hospital, Norwich.
Oldham Royal Infirmary.
Radcliffe Infirmary and County Hospital, Oxford.
South Devon and East Cornwall Hospital, Plymouth.
Preston Royal Infirmary.
Royal Berkshire Hospital, Reading.
St. Bartholomew's Hospital, Rochester.
Salford Royal Hospital.
Sheffield Royal Hospital and Annexe.
Sheffield Royal Infirmary.
Royal Salop Infirmary, Shrewsbury.
Southport Infirmary.
North Staffordshire Infirmary, Stoke-on-Trent.
Sunderland Royal Infirmary.
West Bromwich and District Hospital.
Weymouth and District Hospital.
County Hospital, York.

Although the representatives of the larger hospitals were in a considerable majority, yet there were also a number of representatives typical of smaller hospitals throughout the country.

The chair was taken by Sir JAMES GALLOWAY, K.B.E., C.B., senior physician, Charing Cross Hospital, who was supported by Dr. R. A. BOLAM (Chairman of Council) and Mr. BISHOP HARMAN (Chairman of Hospitals Committee). The basis of discussion was the report on the hospitals policy of the Association, which was approved by the Council on February 15th for submission to the Annual Representative Meeting, and published in the SUPPLEMENT of February 25th.

THE REPORT ON THE HOSPITALS POLICY OF THE ASSOCIATION.

The CHAIRMAN, after welcoming the representatives, particularly those from the provinces, reminded them of the reasons for summoning the Conference. A similar Conference, held in December, 1920, was very useful in eliciting the opinions of hospital staffs and showing what differences of

practice prevailed in the various parts of the country so far as the organization and administration of hospitals were concerned. At the close of that Conference a resolution was carried affirming that the questions discussed had been by no means solved as yet, and asking the British Medical Association to authorize its Hospitals Committee to call a similar Conference when it seemed desirable. The matters which had occupied the Conference of 1920 had been frequently under discussion since in the Council and in the Hospitals Committee, as well as locally all over the country, and the Hospitals Committee thought that the time had now arrived for calling a second Conference to consider matters which were advancing a step further towards resolution. The report of the Council on the hospitals policy of the Association would be taken as the guide to discussion, but he reminded the representatives that largely it embodied what had been already very thoroughly discussed at the previous Conference as well as subsequently.

Mr. BISHOP HARMAN, in moving that this report be received, said that the conditions gave no ground to pessimism. He believed in the future of the voluntary hospitals. Owing to the diversity of hospital administration in different parts of the country, the Hospitals Committee had found it difficult to arrive at the greatest common measure which should fit all the conditions, and in presenting the report he would quote the Pauline injunction, "Look not every man on his own things, but every man also on the things of others." There were propositions in the document which would have no interest for some representatives, and might even be foreign to their hospital experience, but he asked them to believe that they fitted the conditions of some of their colleagues in other parts of the country. The report contained nearly fifty propositions, but many of them were very old and familiar; its backbone consisted of the resolutions passed by the Conference in 1920; they formed the substance of the evidence given by the Association before the Cave Commission, and were accepted by the Annual Representative Meeting in 1921 by an overwhelming majority. The newer propositions were largely consequent upon the introduction of contributory schemes.

Dr. B. E. A. BATT (West Suffolk General Hospital) spoke against the reception of the report. He thought that the Conference should maintain that payment of the honorary medical staff in any form was incompatible with the maintenance of the voluntary system, and that payment by or on behalf of patients (other than private patients) for a part or the whole of their maintenance did not necessitate any payment to the honorary medical staff. The Conference should give a clear decision on this point before proceeding to any other business. The voluntary hospital was bound up with the honorary position of its staff, and payment of the staff would hasten the end of the voluntary system. The report was attempting the impossible by endeavouring to reconcile principles mutually incompatible—the voluntary principle on the one hand, and payment to the staff on the other. If the staff was paid in any shape or form it could not be described as honorary. It would be better for them to cling to the voluntary system and to remain honorary members of the staff, even if they did a certain amount of State work for nothing. He regarded the satisfactory establishment of a staff fund as impracticable, and, moreover, if such a fund was established it would greatly prejudice their position in the event of future negotiations with the Government as to the remuneration of hospital staffs for State work. In that case they would be in a worse position than if they had remained honorary.

The CHAIRMAN ruled that the question of staff funds must keep its allotted place later in the agenda, but he would see that time was given for the most adequate discussion.

The reception of the report was then agreed to almost without dissent, and Mr. BISHOP HARMAN moved the approval of the introductory paragraphs.

Dr. C. O. HAWTHORNE (Hampstead General and North-West London Hospital) said that although these paragraphs were presented in a guileless fashion and under the innocent heading of an introduction they enunciated principles which were of vital importance in connexion with the matters to be discussed. He instanced the statement that the relation between the honorary medical staff and the subscribers had been fundamentally altered by the increase in the number of paying patients; also the implication that part of the sums received for paying patients should be transferred to a medical staff fund. He wanted the Conference to be aware that by passing these paragraphs it gave away the principle on these matters. Dr. Hawthorne suggested that the introductory paragraphs should be postponed until after the body of the report had been dealt with.

This suggestion was accepted.

The Voluntary Hospital System.

The Conference accepted without dissent the proposition that the voluntary method of administration of the voluntary hospitals of the country was to the advantage of the public, medical science, and the medical profession, and that it should be maintained. A long debate ensued on the further proposition:

> The Association maintains that the essence of the voluntary hospital system is the independent and voluntary management, and that this is not necessarily related to the conditions of service of the medical staff.

Mr. BISHOP HARMAN maintained that the one thing which was distinctive of the voluntary hospital was independent and voluntary management.

Dr. A. LYNDON (Haslemere and District Cottage Hospital) thought that the absence of State and municipal control should be emphasized by admitting certain words to this effect into the definition, and his proposition to insert such words was seconded by Dr. A. BLACKHALL-MORISON, but was criticized by other representatives, who thought that trouble might arise from such a definition, and on being put to the vote the amendment was lost.

Dr. HAWTHORNE said that the paragraph in the report was an attempt on the part of the Committee to import a new meaning into an old phrase, which was an awkward undertaking, and likely to lead to confusion and embarrassment, more especially when the authority of the body which advanced this definition was not universally accepted. This question had to be considered, not merely by members of the profession, but by the lay public, which used the term "voluntary hospital" with a significance differing from that given to it by the Committee. Consequently the discussions which took place between medical men on the one hand and lay managers and subscribers on the other must become perplexed. The more exact description of a voluntary hospital would be a hospital supported by voluntary contributions, and from the voluntary principle in respect to contributions such consequences followed as the vesting of the management in the hands of persons representing the contributors. These persons gave their time and expert knowledge voluntarily, even as the contributors gave their money, while the medical profession undertook honorary service for those unable to pay adequate medical fees. The voluntary hospital, therefore, included, not only the one principle of voluntary management to which Mr. Bishop Harman wished to confine it, but two others—namely, voluntary contributions, and honorary medical service. He hoped that all three features—management, contributions, and medical service—would be included in any definition to which the Conference gave its endorsement. To take only the one principle given in this proposition might be fallacious, because there were hospitals to-day managed by voluntary committees which no one would think of calling voluntary hospitals. He moved, as an amendment:

> That in the opinion of this Conference the voluntary hospital system implies: (1) that the hospitals included therein are supported mainly by voluntary contributions; (2) that each is managed by an independent and voluntary committee representing the subscribers; and (3) that each provides gratuitous services for persons unable to pay fees for adequate medical treatment.

Mr. K. W. MONSARRAT (Northern Hospital, Liverpool) seconded. The paragraph as it stood was neither correct historically, nor did it represent the views and opinions of honorary medical staffs to-day. He did not believe that medical men were any less willing to-day to give their services to the poor community than were their fathers, and if any definition as to what was the essence of the voluntary system was to be adopted by that Conference it should emphasize the gratuitous services of the medical staff for those unable to pay for adequate treatment.

Dr. ASTLEY CLARKE (Leicester Royal Infirmary), who opposed the amendment, contested the view that the management of the voluntary hospital was always necessarily voluntary. In Leicester and in other industrial areas certain trade union representatives were paid by their trade unions for the time they gave to service on hospital committees.

Dr. G. C. GARRATT (Royal West Sussex Hospital) supported the amendment. The statement that certain administrators

in Leicester were paid seemed to him to knock the bottom out of the definition in the report, that the essence of the voluntary system was voluntary management. Whatever might be thought about the various proposals before the meeting, there was no doubt that they would greatly increase the labours of boards of management. The proposal from the Hospitals Committee simply amounted to this, that the staff would have to go to the board of management and say, "We have decided to be paid for our services, and you have got to find the money. We mean to do no more voluntary work, or very little, but you, gentlemen, will have to put your backs into it and work doubly hard, and you must not touch a penny of the money you collect, because the essence of the whole system is that you are to be unpaid."

Dr. STANLEY WYARD (Victoria Hospital for Children) urged that the bottom was equally knocked out of the argument that a voluntary medical staff was the essence of a voluntary hospital. At the hospital which he represented all the medical staff received an honorarium, and the same was true of many voluntary hospitals in London. The whole point at issue was not whether the staffs should give voluntary and free treatment to indigent patients, but whether a person who did pay part or all of his maintenance should pay something to his doctor as well.

Dr. J. A. NIXON (Bristol Royal Infirmary) said that at both the Royal Infirmary and the General Hospital at Bristol the staffs had made new agreements with their committees of management, who had accepted without question the principle that the gratuitous services of the staff were offered on behalf of those people only who could not afford to pay more than their rate of maintenance. In the case of people who were in a position to do more than this, and of people payments for whom were made by public authorities, approved societies, and so forth, the committees of management saw no objection whatever to a proportion of that payment going to the medical staffs. It was not accurate history to suppose that hospital staffs had always been unpaid. If gratuitous services of the staff were taken as the sign of the voluntary hospital, they would have to ask the representatives of St. Bartholomew's to withdraw from the Conference, because they had never been unpaid. The innovation of gratuitous services had really had a harsh effect upon young men who wished to come upon a hospital staff. If it was desired to have a free choice of promising young men, the principle of wholly gratuitous services must not be insisted upon.

Mr. H. S. SOUTTAR (London Hospital) strongly opposed the amendment. There were persons who, irrespective of their economic position, could not obtain adequate medical and nursing service except within the wards of a hospital. At the present time one of the most wealthy men in London was being treated in the London Hospital, simply because he was unable to obtain adequate service outside the walls of the hospital. Should such a man be treated for nothing? He would regard such a suggestion as an insult. The fact was that medical and surgical service had become increasingly complex, elaborate, and expensive. The number of those unable to pay for adequate medical service outside the walls of an institution was increasing, and if such an amendment as this were carried the profession of the future might have no private patients at all.

Dr. W. WEBSTER (North Staffordshire Infirmary) said that, no matter what the past history of hospitals might have been, at the present time there were changes taking place in the character of the ordinary hospital population. This was partly the result of the expensiveness of diagnosis and treatment, and partly of the passing away of the idea that the hospitals were only for the very poor. The public were demanding hospital facilities which in the vast majority of cases they were unable to pay for fully, and therefore hospitals were subjected everywhere to a species of "abuse." They were now expected to apply complicated methods of diagnosis and treatment in the case of patients who formerly were examined and treated by their private practitioner, and on this account hospital expenditure had grown enormously.

Dr. R. A. BOLAM appealed to the Conference not to support Dr. Hawthorne's amendment, but to leave intact what had been very carefully considered in Committee and Council as a statement of the voluntary hospital principle. It was of no use reiterating certain conditions when the facts of the case throughout the country showed that those conditions had disappeared, never to return. He was aware of representatives in that Conference whose hospitals were no longer supported by what could properly be called voluntary contributions, and who if the amendment were carried must go out into the wilderness. There were hospitals represented which were supported by contributions, not voluntary, but given with the expectation of service in return. The essential matter to be considered was as to the management of the hospitals and staffs by a body which was responsible to public opinion. He hoped that the principle of independent and voluntary management would be retained. Moreover, if the conditions of the service of the medical staffs were made the test of voluntaryism, matters would be greatly complicated, because all over the country staffs were serving under unlike conditions, some giving their services gratuitously, others receiving an honorarium, and others again a salary. If, however, there was a type of management which kept the hospital freely ventilated by public opinion, and particularly if there was a school attached, so that the staff was subject to its stimulating criticism, there was a state of affairs which was well worth preserving for the good of the community.

Mr. H. J. WARING (St. Bartholomew's) said that he did not think it possible for anyone to formulate at the present time a reasonable definition of a voluntary hospital. In one part of the country a voluntary hospital meant one thing and in another part a different thing. It would be wise to drop the attempt at definition. Even support by voluntary contributions would not furnish a universal test, because some hospitals were supported mainly by endowments. The best thing to do was to omit the term "voluntary" and speak of a "public" hospital.

Mr. BISHOP HARMAN, in reply to this last point, said that the term "public hospital" would include all the hospitals maintained by the State. The word "voluntary" must be taken as it stood. Its meaning changed from time to time. At present the thing that marked out the voluntary hospital was independence of State or municipal control. He believed that to accept Dr. Hawthorne's amendment would be a mistake in tactics. The smaller the target the harder it was for the opponent to hit, but the target set up by Dr. Hawthorne was so large that anybody could hit it. He believed that the conditions of the service of the staff had no effect upon the essence of the voluntary hospital system.

Dr. HAWTHORNE said that they had had from the platform some striking illustrations of the confusion which could overwhelm even logical minds over the meaning of the term "voluntary." Dr. Bolam had said that an action was not voluntary when a fair remuneration was received for it. He had yet to learn that if he had a ton of coal at Newcastle, and was offered £5 for it, his action in selling it would be involuntary, and it would not surely be less voluntary if services were given in return.

Dr. Hawthorne's amendment was lost by a very large majority, and the paragraph as it stood in the report was then agreed to.

Dr. GORDON WARD (Sevenoaks Children's Hospital for Hip Disease) moved as a rider:

> That this Conference records its opinion that nothing held to be implied by the voluntary principle should conflict with the principle that the management of hospitals should be in the hands of those who provide the means for their maintenance or operate to prevent adequate remuneration for administrative or medical services rendered.

He thought that some such amplification of the clause in the original paragraph, "not necessarily related to the conditions of service," was called for.

Mr. BISHOP HARMAN said that the point made by the mover was already embodied in the report, and urged that the report should not be overloaded.

The rider was lost.

Sources of Hospital Funds.

The paragraphs of the report dealing with the sources from which funds are received by voluntary hospitals were agreed to almost without comment, save for the paragraph which proposed that, apart from contributory methods, every patient of a voluntary hospital who was able to do so should make a contribution towards the cost of maintenance and treatment.

Dr. H. MORLEY FLETCHER (St. Bartholomew's) proposed the deletion of the words "and treatment." Throughout their own discussions at St. Bartholomew's they had wished to make it perfectly clear that no sum paid for maintenance was to be regarded as payment for treatment. It should be made plain that the professional services of the staff were not paid for when a patient subscribed an amount sufficient to cover his hospital maintenance.

Mr. H. L. JOYCE (Royal Berkshire Hospital, Reading) seconded. The staff of his own hospital was of opinion that the policy of taking money from patients for treatment was not acceptable unless they paid an amount larger than the cost of maintenance, and patients who could afford to pay a larger amount should be private patients.

The proposal to delete the words was lost, and the whole section was then agreed to. The sections following, dealing with contributory schemes and with the suitability of patients for hospital treatment, were also agreed to without discussion.

Categories of Patients.

Mr. BISHOP HARMAN moved the definition of categories of patients for in-patient treatment as "Free" (Indigent), "Tariff," and "Private."

Dr. G. O. LAMBERT (Royal Berkshire Hospital, Reading) proposed to introduce another category—namely, "public patients," whose tariff cost of maintenance and treatment was paid for by public authorities, approved societies, and other public or private bodies, as distinct from "tariff patients," who paid in part or whole the tariff cost of maintenance, these including patients under a contributory scheme. As his colleague, Mr. Joyce, had already stated, their staff did not feel that they should accept any payment for patients who did not pay enough to cover something in the way of treatment, in addition to maintenance.

Mr. JOYCE seconded the amendment revising the classification to admit of public patients, paid for by various bodies; payment for the medical staff might well be accepted from such bodies even in a voluntary hospital.

After some further discussion it was resolved to postpone this matter until after the Conference had come to a decision on the formation of staff funds. On the paragraphs referring to "free (indigent) patients," Dr. HAWTHORNE moved the omission of the word "indigent," which suggested that the hospitals were established for persons without visible means of subsistence. Indigent people were, rightly, in the care of the State, and the Poor Law infirmaries existed for them. The word "free," in his opinion, was quite sufficient.

The amendment, which was seconded by Mr. H. J. PATERSON (London Temperance Hospital), was lost by a small majority, and a similar amendment, to substitute the word "necessitous" for "indigent," was also lost, after it had been pointed out that the proposed word had a technical meaning under the Poor Law.

Private In-patients and Outside Practitioners.

On the clauses of the report dealing with private in-patients several representatives spoke against the proposal that it should be open to a private patient who entered a nursing home in connexion with a voluntary hospital to select any registered medical practitioner as his attendant.

Dr. H. H. DU BOULAY (Weymouth and District Hospital) urged that omission. It would often be difficult and sometimes almost impossible in a small hospital with nursing home attached to arrange for outside practitioners to come in and attend their own patients.

Mr. H. J. WARING (St. Bartholomew's) said that it had been found in the past that a good deal of abuse arose when a private nursing institution attached to a hospital was open to any private practitioner. He had seen the private nursing home not only in this country but in the States and on the Continent, and in the light of this experience he thought it would be a very retrograde step to include in the proposal this arrangement for the entrance of the private practitioner.

Mr. F. J. S. HEANEY (Stanley Hospital, Liverpool) said that there were two sides to the question of the admission of the outside practitioner. Certainly there should be a right of entrance if such nursing homes were to be established widely over the country, but that raised complications, and he thought that the whole section might with advantage be cut out of the report. It did not seem to be essential to the general scheme of hospital administration which the report envisaged.

Dr. EVANS (Devon County Hospital) said that under the proposed arrangement practitioners might have to be admitted whose methods of work and practice might not commend themselves to the more honourable members of the profession, and this would create friction.

Dr. R. H. DIX (Sunderland Royal Infirmary) said that under the provision suggested practitioners might come in and attempt to do things which were undesirable. He did not see how the proposal could be harmonized with the later recommendations of the report dealing with medical staffs of voluntary hospitals.

Mr. E. H. E. STACK (Bristol Royal Infirmary) pointed out certain other administrative difficulties which would arise if the proposal were accepted. Practitioners would be called into the hospital to do even the smallest operations.

Mr. H. S. SOUTTAR (London Hospital) said that at first he had taken up the position of previous speakers. It was easy to imagine a case taken into a nursing home and some improper treatment carried out. But what was proposed was to give the general practitioner an opportunity of treating his patient to the best of his ability, and if the patient chose an incompetent practitioner, that was his affair. They ought not to prevent the general practitioner from having the best "tools" at his disposal. It was obvious that a satisfactory nursing institution could best be provided and controlled in connexion with a hospital, but if the general practitioner were not allowed the opportunities now proposed the result would be that the patient would be nursed in an inferior nursing home, and instead of preventing the practitioner from doing what they considered he ought not to do, they would be compelling him to do it under inferior conditions.

Dr. G. C. GARRATT (Royal West Sussex Hospital) said that the administration of a small hospital would be upset if all sorts of people were coming in at all hours. He did not agree with Mr. Souttar in thinking that the best "tools" should be provided for all and sundry. A careless or uninstructed person might come in and do irreparable damage to, say, an *x*-ray outfit.

Other representatives urged that in their own cases the proposal was administratively impossible, and one representative desired, not that the clause in question should be taken out, but that it should be replaced by a direct negative, otherwise the question as to the entrance of the private practitioner would be left undecided and different institutions would make different arrangements.

Dr. BOLAM thought that, notwithstanding this many-sided criticism, there was something to be said for a resolution which would allow competent persons who did not happen to be on the hospital staff the right of access to what, after all, was just a nursing home attached to a hospital. It had to be remembered that what was in question here was not the hospital itself, but an annexe, which it was hoped would reach a higher level of efficiency because it was within the sphere of hospital influence. He believed that the great majority of general practitioners would not attempt to do anything that was beyond their competence. (Hear, hear.) They would be sensible of the atmosphere of the nursing home, the presence of the house staff and the trained nurses, and generally the spirit of efficiency which belonged to the staff of a voluntary hospital, and all this would provide the very greatest safeguards against any abuse. It would be an educative experience, and he did not believe that it would be attended by the perils which had been suggested. These points had been put forward forcibly by men who were most responsible for guiding the general policy of the profession, and it was important that the general body of the profession should have its sympathies enlisted.

Mr. BISHOP HARMAN said that it would be unfortunate if this proposal fell through, and therefore to go some way to meet objections he suggested that instead of saying, "It shall be open to a private patient . . ." they should say, "It should be open . . ." ("No.") It must not be forgotten that this related only to special accommodation in a nursing home in connexion with a voluntary hospital, and not to accommodation in the hospital itself.

An amendment to leave out from Section IX of the report, clause (*b*), "It shall be open to a private patient to select any registered medical practitioner as his attendant," which was proposed by Dr. H. H. DU BOULAY and seconded by Mr. H. J. WARING, was then put to the meeting and carried. The further discussion of the section was adjourned to a later stage of the Conference as the hour had arrived at which, on the promise of the Chairman, the question of the formation of staff funds was to be taken.

Formation of Staff Funds.

Mr. BISHOP HARMAN moved paragraph 33 of the report, which read:

> In the event of decisions being taken which would lead to patients (other than private patients referred to in Section IX) paying, in part or in whole, hospital charges either individually or by some contributory method, or with the addition of rate-aid or State-aid, or by a combination of two or more of

these methods, such charges should be considered to include payment towards maintenance and treatment, and a percentage of all such payments should be passed into a fund which is at the disposal of the honorary medical staff of that hospital.

He said that this resolution had been presented to the Conference in 1920, when it was debated keenly and carried unanimously. Since that date it had been subjected to criticisms in the Divisions of the Association and elsewhere. It was a crucial motion. The conditions of hospitals had been altered by the reception of patients who paid either in part or whole. Hospitals were treating patients who were able to pay something at least towards the treatment they received. These patients did not regard themselves as paying merely for maintenance in an institution or for nursing service and so forth; they went to receive treatment by a doctor, and they thought that they were paying for the doctor. It was conceivable that, with changes in social and economic conditions, more and more people who were able to pay would wish to go into the voluntary hospitals, and the only alternative to admitting them was to reduce the voluntary hospitals until they only provided for the indigent persons who were left. These patients were not charity patients, but partly or wholly paying patients, and therefore a portion of their contribution should be earmarked for the services of the staff. It would be a disastrous thing if, ten years hence, it was found that the majority of patients were paying for all else that they received, while the services of the medical staff were entirely left out of account. The percentage indicated in the paragraph might be a mere token transfer—something analogous to a peppercorn rent—from the responsible authorities of the hospital to a staff fund, but it would save the position for the future.

Mr. J. L. JOYCE (Royal Berkshire Hospital) moved an amendment deleting the paragraph. The great objection to it was that it mixed up the policy of taking money from the State and public bodies with the taking of payment from patients who paid a small contribution towards maintenance.

Dr. ASTLEY CLARKE (Leicester) pressed for the acceptance of the paragraph. It was very difficult to know where to draw the line between maintenance and treatment. If no payment was to be received for any patient the position would be logical. A good deal of water had flowed under the bridges since 1920. In Leicester an amicable settlement had been reached; so soon as the medical staff, of which he was a member, got to close quarters with the lay members of the board of management no difficulty was found in persuading them of the propriety of the views the staff put forward. It was arranged that in the case of any money received from State or rate contributions the staff should receive a fairly large percentage, that contributions from voluntary societies and semi-philanthropic organizations should be subject to half that original percentage, and that Hospital Saturday Fund contributions should be subject to one-quarter. In Leicester the Saturday Fund made it a point that there was to be no almoner to criticize any who came into the hospital by that arrangement, and an out-of-pocket fee for this last category was to be given to each individual member of the staff concerned. The important thing was that the staff fund principle had been accepted.

Dr. W. COLLIER (Radcliffe Infirmary, Oxford) spoke in favour of the deletion of the paragraph. He believed that such a course was necessary to the success of a contributory scheme. He was quite sure that the voluntary hospitals of this country were not going to get anything out of the poor under a contributory scheme unless they told them quite frankly that the medical staffs of the hospitals were doing the work gratuitously. In Oxford the people were told plainly that under the contributory scheme they had no contract with them. His own hospital had benefited greatly by the contributory scheme; before the scheme was brought forward it was about as badly off as any voluntary hospital in the kingdom, and by early in 1920 had sold out the greater part of its assets. It would not have been able to continue unless a scheme had been adopted. The honorary medical staff was quite prepared to carry on under the old conditions a work in which they gloried.

Dr. F. W. COLLINSON (Preston) pointed out that the conditions in Oxford might be very different from those obtaining in industrial centres. At Preston, under a contributory scheme carried out very vigorously by an excellent secretary, they were able to pay their way, but the fact was that the main part of the population would presently be within that contributory scheme, and if under a contributory scheme these people were to pay nothing for treatment, he did not know how the younger men who devoted themselves to medicine and surgery were going to make an income. In Preston they had come to the conclusion that where people paid trifling sums a week these ought to go entirely to maintenance, but where patients had incomes above a certain figure something ought to be taken as a direct fee to members of the staff. The figures were a matter of arrangement. Experience had shown that such patients were quite ready to pay some fee to the surgeon or physician. The medical staff expected—and the infirmary board agreed—to have a certain percentage of the funds derived from public authorities for work in connexion with venereal diseases and other matters. In a place like Preston it would be an extremely serious thing if every person who contributed twopence or threepence a week regarded himself as a subject for free treatment at a hospital. These people well understood that in that sum they were paying nothing to the doctor.

Mr. H. J. WARING said that the matter had been gone into very thoroughly at St. Bartholomew's. Certain small payments were made by patients, but it was made clear by posters and notices that the payments made were solely for maintenance. All the payments made, either by in-patients or out-patients, were made solely towards the working cost of the hospital. The medical staff refused to take any part of the money collected in that way. Under regulations made by the Charity Commissioners the maximum charge at St. Bartholomew's for in-patients could not exceed 2 guineas a week. He thought it unfortunate that this paragraph lumped together free or indigent patients and those who were partially or entirely paid for by public bodies or by some institution. He urged that these two propositions be separated.

Dr. G. W. DAVIS (Sidcup Cottage Hospital) supported the retention of the paragraph. It had been borne in upon him strongly recently that there was a very large proportion of cases for which doctors received no payment, and this seriously affected their general income. Every doctor knew how many patients came to him and for one reason or another wanted to be treated without giving any remuneration. There seemed to be no logical reason why those whom they would charge outside the hospital should not be charged something when in their own interests they entered the wards.

Mr. H. S. SOUTTAR (London Hospital) hoped the paragraph would be passed as it stood. It was quite time that this question was faced clearly. The working classes did not want their charity. They wanted to be treated as a business proposition. When patients came to the hospital and paid sixpence for medicine, though the corridors might be papered with notices, they believed that they were paying their sixpences to see the doctor. Time after time it was said by patients at the London Hospital, "I can see the doctor here for sixpence, and I have got to pay a shilling outside!" If a patient could not afford to pay anything, he was treated for nothing. The difficulty arose in the case of the man who was unable to pay the whole cost; so far as he paid he was not the recipient of charity, and as far as he received free treatment he was the recipient of charity. The medical profession should be put on a business basis.

The amendment to delete the paragraph was regarded as not in order, seeing that it was open to those who supported it merely to vote against the paragraph; but a further amendment was taken that when the payment by a tariff patient was not more than sufficient for maintenance no percentage should be received by the staff of the hospital. This was moved by Mr. G. C. F. ROBINSON (South Devon and East Cornwall Hospital), who pointed out that if a hard-and-fast rule were made that a certain percentage went to the staff fund it was quite possible that the hospital would lose unfairly. He wished to dissociate tariff patients from private patients and from those paid for by authorities of various kinds. Dr. G. R. ANDERSON (Southport Infirmary) seconded the amendment.

Dr. G. C. GARRATT (Royal West Sussex Hospital, Chichester) agreed with Mr. Robinson. Where a patient paid nothing at all or half a crown a week up to a sum sufficient to pay for bare maintenance, but not for treatment or nursing, nothing should go into the staff fund from that patient. If he paid part of the cost of treatment, or the whole cost, in addition to maintenance, either individually or by some contributory method, a percentage should be passed into the fund. That seemed to be the logical position. Those who could only pay for maintenance would be the thrifty poor for whose benefit the hospital had to provide. The matter had been thoroughly threshed out with his own board, and it

was agreed that the payments made by any patient who paid for more than maintenance, but not sufficient to go into the private class, should be subject to a percentage for the staff fund. This plan, at any rate, was likely to be more acceptable to lay boards, and if the staff had to climb down it had not to climb down so far. His proposal was to rule out of the tariff class those who were able to pay only their bare maintenance, and to take a percentage on all payments by patients above this level.

Dr. I. G. MODLIN (Sunderland, Monkwearmouth, and Southwick General Hospital) thought that if the proposals were to be carried out faithfully some elasticity must be provided to suit different conditions in different places; he believed that such elasticity was given in the original paragraph, and would be lessened by the amendment.

Dr. C. O. HAWTHORNE said that Mr. Souttar wished to make medicine a business, yet some of them were brought up to believe that it was a profession. But how could they pretend to be carrying on a business if they asked for subsidies from members of the public? The effect of the standard which Mr. Souttar had set up became evident in his references to himself, for he told them that he had attained the dignity of a "sixpenny doctor" at the London Hospital, and that he came into competition with neighbours in Whitechapel who charged a shilling. (Laughter.) To lay it down that whenever a patient was able to maintain himself something must be taken from him to pay the medical practitioner was to set up a standard for the man in general practice, who also must order his affairs in accordance with strict business principle. Here came in a conflict with the traditions in which most of them had been brought up. He was surprised that from the "oligarchy" on the platform they had not received any response to the appeal made by Mr. Waring, for that really brought them to the heart of the controversy. In the paragraph under discussion there were mixed up various patients who stood on different footings. What were they to say with regard to patients who from their own savings or from collections among their friends managed to pay for their maintenance, or perhaps not even so much as that? Was a percentage to be deducted in such cases? The form in which the paragraph was presented prevented the meeting from coming to a clear decision on that subject. He himself was quite against such a payment.

Dr. F. RADCLIFFE (Oldham Royal Infirmary) said that if the cost of a patient to a hospital was £3 a week, and the patient paid £2, from which the medical staff asked that a deduction might be made of 20 per cent. for the staff fund, the 8s. would actually not come out of the £2 which the patient paid, but would be added to the £1 which the hospital was already losing on his account.

Dr. WYATT thought that if a patient could afford to pay something towards his upkeep he could afford to pay something towards his medical attendance.

Dr. I. W. JOHNSON said that as a member of the Hospitals Committee he had consistently opposed this motion so far as it concerned patients who only paid in part. But his views had gradually changed, and he now stood as a late but a thoroughly confirmed convert to the principle contained in this paragraph of the report. As things were at present, it was very disagreeable to many to think of participating in the 5s. or 10s. which might be paid for maintenance, but they had to look to the future. It was just possible that the friendly societies would utilize the services of the infirmaries more and more, and make large contributions for the treatment of their members. If this principle were waived—he did not care what the percentage was—in a very short time they would regret it, because they would be treating as indigent patients the members of the friendly societies.

Dr. R. A. BOLAM, speaking as a representative of the Royal Victoria Infirmary, Newcastle, said that his hospital had perhaps the longest experience in the country of mass contributions from the artisan population—not a pauper population, nor one which desired to be pauperized. Those who felt that the taking of a percentage of whatever sum a person was able to contribute individually in time of illness or by small contributions during health was undesirable or wrong if used for the purposes of a staff fund, should at least consider the feelings of those people who gave to the utmost of their capacity, and who wished to feel that they were doing something in the way of paying for their treatment as well. Those who had had experience of the organization of mass contributions found—and would find increasingly as the years went on—that the money was widely regarded as being given for hospital services, not maintenance alone. Whatever notices might be displayed at the hospital, the feeling would never be eradicated that the money given, whether by small contributions during health or to the amount of £1 or £2 a week during stay in hospital, was given for hospital services without discrimination. There need be no fear for benevolent contributions. There was ample outlet for these in the extension of hospital facilities. It would be found that the working classes would pay for their hospital maintenance and would also make an acknowledgement—not full payment of course—of the service of the medical staff. It might seem hard to surcharge the payments of those who could scarcely afford maintenance, but was it not equally hard that those who could almost pay the usual fee as well should also be surcharged? If a well-to-do person, who could well afford a nursing-home fee, were knocked down in the street and taken to the hospital the amount of his gratitude to that institution would not be measured by the fees which he would have paid in a nursing home or the fees he would have paid his surgeon privately. The great majority were content with an acknowledgement which if worked out in terms of maintenance would barely cover the cost. He hoped that a small surcharge would be made on all such contributions in order to preserve the independence of the contributor as well as to preserve the right of the staff to say that at any particular moment they would refuse to treat without payment a certain section of the people of a different class or income limit, who might be brought in under any scheme. If any staff did not care to accept the payment there was an easy way out of the difficulty: the money could be taken and then given back as a contribution to the hospital.

Mr. MURRAY BLIGH (Northern Hospital, Liverpool) said that the meeting was engaged in constructing a cart-wheel out of spokes of unequal length, and no spoke was more clumsy than this. It was impossible to legislate on this point in such a way as to satisfy the whole country. The staff of his own hospital disapproved of the idea of taking any proportion of the money given to the hospital for treatment, because they felt that it meant giving up the title they treasured most, that of "honorary." If this resolution were carried many would no longer be able to claim that proud title. It was hardly fair to give the impression that a large proportion of those who benefited by treatment in hospitals thought that the staff was paid. His experience was that such people did appreciate what the term "honorary" meant. He supported the South Devon and Cornwall amendment.

Mr. BISHOP HARMAN said that Dr. Hawthorne had spoken of the paragraph as the work of an oligarchy on the platform. He was sure that Dr. Hawthorne did not mean anything offensive, but the charge was not true; the paragraph was the work of a member on the floor. At the Conference in 1920 it was adopted, and, according to the report of the proceedings in the JOURNAL, the Leicester resolution at the close was carried unanimously. Mention had been made of differences in various parts of the country, and it had to be recognized that the greatest movement was in the industrial North. But it had got down to Leicester, and would be in London soon. If they sold the position now they would have greater difficulty in recovering it later on. The resolution did not compel them to take what they did not want. As to the complaint from Liverpool that they would lose the title of "honorary," surely an "honorary" officer meant an officer who took an honorarium. (Laughter.) It did not matter what was the form of the honorarium. They need not, however, quibble over words. The whole position must be considered, and he hoped that those who lived in more favoured places, like serene Chichester, would have regard to those whose sphere was among the teeming industrial masses and who had accepted this principle. He urged the Conference to accept the paragraph, which was the motion originally passed unanimously at the last Conference.

Dr. HAWTHORNE remarked that if there was any suggestion of offence in the word "oligarchy" he would withdraw it, but he really meant it as a compliment to the gentlemen sitting at the table who had power to modify resolutions.

The amendment—

> That when the payment by a tariff patient is not more than sufficient for maintenance no percentage should be taken by the staff of the hospital—

was lost by a very large majority.

The original paragraph in the report (Section XII, paragraph 33) was then put to the meeting. There voted:

In favour	...	...	85
Against	...	...	28

Mr. WARING, who had asked that the figures might be taken, asked also how far the Conference was representative, and whether any of those who voted did not represent any hospital.

Dr. BOLAM said that he believed two or three members of the Hospitals Committee who were not representatives had voted, but that was all. He himself was there as a representative of a hospital. He rather thought that the large hospitals bulked more largely in the representation, because, although invitations had been issued to the smaller hospitals as well as the larger, it was the smaller generally which had not been able to send representatives.

Mr. C. E. MARRIOTT (Leicester Royal Infirmary) moved that whilst the matter of payment on a percentage basis was under consideration, and pending its settlement, an honorarium should be paid to the members of honorary medical staffs. Dr. I. G. MODLIN pointed out that such a motion could only be a pious opinion, and it was lost by a very large majority.

Dr. F. RADCLIFFE proposed a verbal change in one of the remaining paragraphs. He wanted the term "gratuitous contributions" to be substituted for "moneys given for the maintenance and treatment of free patients," as part of the income not liable for assessment for medical staff fund purposes. Mr. BISHOP HARMAN pointed out that this was legislation by reference, for if this were carried it would become necessary immediately to find out what gratuitous contributions were. The amendment was lost. The remaining paragraphs in the section of the report dealing with the formation of staff funds were adopted.

Categories of Patients.

The three categories of patients set out in the report—namely, "free" (indigent), "tariff," and "private"—were agreed to. Amendments from the Royal Berkshire Hospital and the Royal West Sussex Hospital were withdrawn.

The section of the report which dealt with tariff in-patients, including the income scale, was approved without discussion, and the section on private in-patients, which had already been partially discussed and amended, came up for further consideration. Mr. F. J. S. HEANEY spoke against the section as a whole, pointing out that if the staffs of voluntary hospitals were to have a monopoly of the nursing homes throughout the country the whole section would fall to the ground. An amendment was moved on behalf of York County Hospital that in any district where satisfactory and sufficient nursing homes were in existence it was undesirable that the hospital should take any steps to compete with them. Dr. W. A. EVELYN, in moving this amendment, said that in York there were up-to-date nursing homes which had been in existence for many years and had done very good work. To build additional nursing homes in connexion with hospitals would have a very unfortunate effect on those already in existence, and in York any such development was deprecated.

Mr. BISHOP HARMAN believed that nursing-home accommodation in this country was inadequate and behind that existing in others. Good nursing homes would be glad to connect themselves up with the voluntary hospitals.

The York amendment, which was taken as a rider, was lost, and the whole section on private in-patients, with the exception of Clause (b), "It shall be open to a private patient to select any registered medical practitioner as his attendant," which had already been negatived, was approved by a large majority.

Out-patients.

Mr. BISHOP HARMAN said that of the five paragraphs under "Out-Patients," the one that needed closest examination was that which provided that where arrangements for consultations or specialist services for tariff patients were made under some contributory scheme or otherwise, such arrangements should provide that these services shall be given as far as possible by the private practitioner at his consulting rooms or the patient's home, and not in the out-patient department. He described what had been done under a scheme, endorsed by the British Medical Association, for providing optical benefit outside any hospital for members of one of the friendly societies; it had worked with the most perfect satisfaction to all parties. On the other hand, one of the wealthiest combines among the friendly societies, when desiring to give optical benefit to its members, went to a hospital in London and offered to give 5s. a year for each patient referred, and the hospital accepted that unconscionable bargain. The procedure outlined in this paragraph was aimed at the prevention of any such bargain.

The section, including this paragraph, was then approved unanimously.

Tenure of Office of Medical Staffs.

Mr. BISHOP HARMAN then moved the next paragraph of the report, which urged, among other matters, that the tenure of office of members of honorary staffs should, when necessary, be so modified as to allow more and younger practitioners to obtain responsible hospital experience. It was far better to have men on the staffs while their youthful enthusiasm still persisted.

Mr. G. C. F. ROBINSON said that it seemed to the staff at his hospital (South Devon and East Cornwall) that these paragraphs involved dictation to the hospital committee. Most hopitals had a quinquennial election and an age limit. Mr. K. W. MONSARRAT said that this appeared to be an attempt to get a uniform system of election and staffing. It was very much better that the question of staffing should be left to the local committees, unless there was some definite reason for interfering with their arrangements. Any hospital staff could persuade its committee to appoint the right men to the hospital.

Dr. T. SANSOME (West Bromwich Hospital) pointed out that one or two men might come into a town and attempt to get a new hospital appointment by canvassing the board. It was not desirable, of course, to make the hospital staff a close corporation, but it should not be made too large.

Dr. BOLAM asked whether there was anything in these paragraphs which traversed the rules carried out in all hospitals which were well managed. There was nothing in them, he thought, to which members of a hospital staff could not agree. It was no use blinking the fact that there were hospitals where the age limit or tenure of office was so extraordinary that there could be no particular progress unless death removed the first occupant.

Dr. HAWTHORNE supported this section of the report. It was not suggested that these arrangements were to be compulsory on any board of management, but surely those who represented the staff had a right to set out their views. Mr. Bishop Harman did not feel as he (Dr. Hawthorne) the impending doom of those who had attained seniority, and, of course, the point must not be pressed too hard, for they did not want to lose the seniors from the hospital so long as they had not reached the stage of the "lean and slippered pantaloon." But the provision of more opportunity for younger members was desirable. Some of them knew what it meant to spend ten or twenty years in out-patient work without any authority over beds in the hospital. From conversations he had had with younger men he gathered that they would not stand this position any longer. He thought that justice was on their side. He would not say that the younger men should have a large number of beds or the full opportunities of their seniors, but reasonable opportunities should come to the younger men at an early date.

The first paragraph of the section—

> Full opportunity should be given to private practitioners who possess the necessary qualifications and experience to participate in the work of voluntary hospitals—

was not approved by the Conference.

The second paragraph—

> The age limit or tenure of office of members of the honorary medical staffs of voluntary hospitals should, where necessary, be so modified as to allow more and younger practitioners to obtain responsible hospital experience—

was agreed to, but the third was lost by a small majority:

> When the number of tariff patients of voluntary hospitals increases the medical staffs of such hospitals should be increased to give a greater number of eligible practitioners opportunity of taking part in the work.

On the final paragraph—

> In considering the eligibility of a practitioner for one of these appointments, the points which would afford indications to which due regard should be given are one or more of the following:
>
> (*a*) Special academic or post-graduate study, if combined with some evidence of actual practice of the speciality;
>
> (*b*) Tenure of hospital and other appointments affording special opportunities for acquiring experience; and
>
> (*c*) Local professional recognition of competence in a consultative or expert capacity—

Mr. MCADAM ECCLES said that it was consequent upon the previous one, and must fall with it; but Mr. BISHOP HARMAN pointed out that it would also qualify the second paragraph,

which had been carried. He made a strong appeal for agreement to the section as a whole, minus the two paragraphs which had been negatived. The propositions were framed with an eye upon the future. They were really useful, and promised a satisfactory working arrangement. The paragraph was agreed to.

The section as amended was then approved.

The paragraph recommending the formation by the Association, through its local organization, of a local advisory medical committee from which representation should be given on the voluntary hospitals committee, was agreed to after some questions on the functions of local medical committees, which, Dr. Modlin maintained, were more representative than any committees set up by the Divisional organization of the Association. Mr. Bishop Harman said that in London at any rate the local medical committee was the panel committee, and did not represent the whole profession.

Representation on Boards of Management.

Mr. Bishop Harman, in moving the paragraphs in this section, said that with regard to lay representation, it was recommended that there should be a fairly even distribution among the various parties—benefactors, subscribers, and contributors—so that no single interest should have a majority. In reply to Dr. Gordon Ward, who put the case of a hospital the major part of whose upkeep was supplied by one particular body, he said that some scheme of proportional representation must be set up to prevent monopoly by any one section.

Dr. Bolam said that the important provision in this section was that which provided that contributions given with an obligation of hospital service should not rank for representation with other benefactions.

The paragraphs were agreed to. The section dealing with contributory schemes and additional services was next taken.

Mr. Bishop Harman explained that the ideal scheme should be independent of the hospital. It should provide its contributors with benefits on certain terms arranged between the scheme and the hospital, and should also make home nursing and ambulance provision.

The first paragraph was agreed to, but on the second being put to the Conference Dr. Modlin proposed and Dr. Nixon seconded that the section as a whole should be referred back, without any expression of opinion, to the Committee. The reference back was agreed to.

Cottage Hospitals.

Mr. Bishop Harman suggested an addition to the second paragraph of this section, making it read :

The previous provisions contained in this report are also applicable to cottage hospitals, except in so far as Section IX (Private In-patients) requires the provision of special accommodation for private patients, who may in the case of cottage hospitals be accommodated in ordinary beds where suitable.

Dr. Tennyson Smith pleaded that the Conference could not be said to represent cottage hospitals; therefore to pass a resolution stating what should apply to cottage hospitals would almost amount to a farce. He asked that the motion might be referred back. Perhaps the Association could see its way to call a special conference of cottage hospital representatives.

Mr. Bishop Harman said that as the hour was late he would take back this section and also the final section on maternity benefit, which latter was a point of detail not material to the scheme.

Procedure.

The introductory paragraphs of the report, which had been deferred until the body of the document had been considered, were next taken, and Mr. Bishop Harman said that none of the paragraphs required modification in view of any resolution passed that day.

A question arising as to what would happen to the resolutions of the Conference,

Dr. Bolam said that the Council had sent this report to all the Divisions of the Association. The Council would in due course receive from the Divisions suggestions for amendment, and these would be considered together with the resolutions of the Conference. Then the whole matter would be placed before the Annual Representative Meeting in Glasgow, when it was hoped that a definite policy, generally acceptable, would be decided on. After this the Association might approach the governing bodies of the hospitals and get them to agree also on the main points. He could not pledge the Council or the Representative Meeting that it would accept any or all of the recommendations of the Divisions or of the Conference. The members of voluntary hospital staffs were represented in all the Divisions, and could make their voice adequately heard there. They were also well represented in the Representative Meeting. Full weight would, of course, be given to any suggestions from the Conference.

The introductory paragraphs of the report were then approved.

Votes of Thanks.

Mr. McAdam Eccles proposed, and Dr. Tyson seconded, a vote of thanks to the Chairman, which was accorded with hearty applause.

Sir James Galloway said that it did them all good to meet together in such conferences. It was their only chance of consulting on important principles of hospital administration.

Dr. Hawthorne, as the representatives were leaving, proposed a vote of thanks to the British Medical Association for calling the Conference. The Association's wise policy was to bring together all sections of the profession in order that all their contributions might be put into the common stock, and the courtesy shown in bringing this report before the representatives of the staffs in this way was much appreciated.

The motion was carried with applause, and the proceedings then terminated.

British Medical Association.

CURRENT NOTES.

Local Pensions Committees.

On February 21st, by instruction of the Council, the Medical Secretary wrote to the Secretary of the Ministry of Pensions alluding to the fact that new local Pensions Committees were about to be started and that the medical profession had been represented in the past on these committees. It was asked that some assurance should be given that this representation would be continued in the future. To this the following reply has been received, dated March 20th, 1922:

"I am directed by the Minister of Pensions to advert to your letter of the 21st ultimo regarding the representation of the medical profession on the new War Pension Committees to be constituted under the War Pensions Act, 1921.

"I am to state that Mr. Macpherson has fully appreciated in the past the work which has been performed on some of the existing Local War Pension Committees by members of the medical profession, who have willingly rendered valuable service to the work of the Ministry. Your Association will appreciate that the composition of Local War Pension Committees is expressly defined in Section 2 of the War Pensions Act, 1921, and that the medical profession, as such, could not be given representation. I am further to point out that the new committees will not have administrative control of the arrangements for medical treatment (as Local War Pension Committees have had in the past) since these will in future fall under the direct charge of the Ministry.

"At the same time I am to say that Mr. Macpherson has every wish that members of the medical profession who have been good enough to give active assistance in the work of Local War Pension Committees in the past should be appointed to membership of the new War Pension Committees if they are willing to give their assistance to the Ministry. Any such cases will receive full consideration, since, by the terms of the War Pensions Act, 1921, priority of consideration is to be given to suitable members of the existing Local Committees."

Workmen's "Schemes" in Glamorganshire and Monmouthshire.

The Insurance Committees of Glamorganshire and Monmouthshire have been notorious for the action they have taken in regard to workmen's medical "schemes" in their respective counties. So far as is known, they are the only Insurance Committees which have so stretched Section 15 (3) of the National Insurance Act of 1911 as to sanction wholesale contracting out by new schemes which are a colourable imitation of the approved institution which the Act recognized in Section 15 (4). Advantage has been taken by workmen's committees in these two counties of this lax disposition on the part of the Insurance Committees to secure the handing over to the "schemes" of moneys under the Insurance Acts instead of to individual doctors in accordance with the usual system. The objections of the great majority of the profession to these schemes are too well known to need further emphasis here, but during the past ten years there has been in South Wales a succession of schemes, mostly short-lived, frequently in financial embarrassment, and always unable to obtain the services of medical men who are unwilling to run counter to the strong

objections of the medical profession as represented by the British Medical Association. Apparently the Insurance Committees are beginning to see that many of these schemes are no credit to them, and are now disposed to look at them with a much more critical eye. We are informed that this attitude is growing in Glamorganshire, and we are glad to note that at the February meeting of the Monmouthshire Insurance Committee the application of the Oakdale Medical Society to be approved under Section 15 (3) of the 1911 Act was refused, as the Committee considered that the existing arrangements for the provision of medical benefit in the district were quite adequate.

The Panel Committee for Monmouthshire and the representatives of the profession on the Insurance Committee are to be congratulated on the fact that their persistent objection to these schemes is bearing fruit and that it is now beginning to be recognized that those objections have been made in the interests of insured persons.

Hawick Maternity and Child Welfare Centre.

The work of this centre has hitherto been carried on by the local practitioners acting in turn, the fee paid being 13s. 4d. an hour. Some time ago the practitioners intimated to the local authority that they would not continue to do the work unless they were paid the minimum fee recommended by the Scottish Committee—namely, 1 guinea per session. The authority was willing to pay this, but the Board of Health refused to sanction anything in excess of 13s. 4d. an hour. Later the Board offered to sanction payment of a yearly sum for the whole work. This sum would yield more than the 13s. 4d. an hour previously offered, but less than £1 1s. per session, and the practitioners refused it. As no doctor either in the town or surrounding district could be persuaded to accept the terms offered the clinic has been closed.

Association Notices.

TABLE OF DATES.

April 1, Sat.	Nomination papers available at Head Office for election of 24 Members of Council for 1922–23, by grouped Home Branches.
April 26, Wed.	Council Meeting, 429, Strand, at 10 a.m.
April 29, Sat.	Last day for receipt at Head Office of Independent Motions for Annual Representative Meeting Agenda, as to policy, Articles, or By-laws (By-law 40).
May 6, Sat.	Annual Report of Council appears in Supplement.
May 8, Mon.	Last day for receipt at Head Office of Nominations, by a Division or not less than 3 Members, for election of 24 Members of Council by grouped Home Branches for 1922–23.
May 13, Sat.	Publication in Supplement of list of nominations for election of 24 Members of Council by grouped Home Branches for 1922–23.
	Voting papers for election of 24 Members of Council by grouped Home Branches posted from Head Office to Members of groups where there are contests.
May 27, Sat.	Last day for receipt at Head Office of voting papers for election of 24 Members of Council by grouped Home Branches (where there are contests).
June 3, Sat.	Publication in Supplement of results of Council elections by grouped Home Branches.
June 10, Sat.	Nomination papers available, at Head Office, for election of 12 Members of Council by grouped Home Representatives.
June 14, Wed.	Council Meeting, 429, Strand, at 10 a.m.
June 23, Fri.	Last day for election of Representatives and Deputy-Representatives.
June 24, Sat.	Supplementary Report of Council appears in Supplement.
June 30, Fri.	Last day for receipt at Head Office of notification of election of Representatives and Deputy-Representatives.
July 7, Fri.	Last day for receipt at Head Office of Amendments and Riders for Annual Representative Meeting Agenda.
July 21, Fri.	Annual Representative Meeting, Glasgow, 10 a.m.
	Nominations for election of 12 Members of Council by grouped Representatives to be received (at Annual Representative Meeting, Glasgow) by this date.

Alfred Cox, *Medical Secretary.*

CHANGES OF AREAS.

Mid, North, and South Staffordshire Divisions of Staffordshire Branch; Derby Division of Midland Branch; Walsall Division of Birmingham Branch.

The following changes have been made by the Council, and take effect on April 1st, 1922:

(i) That the Walsall Division of the Birmingham Branch and the Mid-Staffordshire Division of the Staffordshire Branch be discontinued, and that there be substituted therefor a new "Walsall and Lichfield Division" of the Staffordshire Branch with area as follows: The Municipal Borough of Lichfield, the County Borough of Walsall, the Urban Districts of Rugeley, Cannock, Brownhills, and Darlaston, the Rural Districts of Lichfield and Walsall, and that portion of the Cannock Rural District N. of Watling Street.

(ii) That the County Borough of Burton-on-Trent and the Rural District of Tutbury be transferred from the Mid-Staffordshire Division of the Staffordshire Branch to the Derby Division of the Midland Branch.

(iii) That the Municipal Borough of Stafford, the Urban District of Stone, the Rural Districts of Blore Heath, Gnosall, and Stafford, and those portions of the Rural Districts of Stone and Uttoxeter formerly within the area of the Mid-Staffordshire Division, be transferred to the North Staffordshire Division.

(iv) That the Urban District of Darlaston be transferred from the area of the South Staffordshire Division to that of the new Walsall and Lichfield Division.

BRANCH AND DIVISION MEETINGS TO BE HELD.

Birmingham Branch: Coventry Division.—A meeting of the Coventry Division will be held at the Coventry and Warwickshire Hospital on Tuesday, April 4th, at 8.30 p.m. Agenda: Dr. L. G. Parsons will read a paper on Pyloric Stenosis of Infants. Discussion on the Report on the Organization of Voluntary Hospitals (Supplement of February 25th).

East York and North Lincoln Branch: East York Division.—The annual dinner of the Division will be held in the Royal Station Hotel, Hull, on Friday, April 21st, at 8 p.m. prompt. The Chairman's guest will be Mr. C. A. R. Nitch, M.S., F.R.C.S., Surgeon, St. Thomas's Hospital. Tickets, 12s. 6d. each, may be obtained from the Secretary or from any member of the Executive Committee.

Lancashire and Cheshire Branch: Mid-Cheshire Division.—An ordinary meeting of the Mid-Cheshire Division will be held on Sunday, April 2nd, at 4 p.m., in the board room of the Altrincham General Hospital. Tea will be served at 3.45 p.m. Agenda: Discussion on the proposed policy with regard to the organization of voluntary hospitals. Any other business.

Metropolitan Counties Branch: City Division.—A general meeting of the City Division will be held on Friday, April 7th, at the Metropolitan Hospital, Kingsland Road, at 9.15 p.m. Agenda: (*a*) Election of Representatives in Representative Body. (*b*) Discussion on the Report on the Organization of Voluntary Hospitals with reference in particular to the reception of paying patients (Supplement, February 25th). (*c*) Pathological Specimens, with clinical notes by Dr. T. H. G. Shore, Pathologist, St. Bartholomew's Hospital.

Metropolitan Counties Branch: Hampstead Division.—A Divisional meeting will be held at the Hampstead General Hospital on Thursday, April 6th, at 8.30 p.m. A discussion will take place on the Report of the Council on the Hospitals Policy of the Association (vide Supplement, British Medical Journal, February 25th).

Metropolitan Counties Branch: Kensington Division.—A meeting of the Kensington Division will take place in Kensington Town Hall on Wednesday, April 5th, at 5 p.m., to discuss the Report on the Organization of Voluntary Hospitals. Members are requested to bring with them the Supplement of February 25th.

Metropolitan Counties Branch: Westminster and Holborn Division.—The annual general meeting of the Division will be held at the Trocadero Restaurant on Thursday, April 6th, at 8.45 p.m. The meeting will be preceded by dinner at 7.30 p.m. At 9 p.m. Dr. Leonard Williams will read a paper on Interstitial Glands, and a discussion will follow. Members and non-members are cordially invited to dinner, or the meeting, and are requested to communicate with the Honorary Secretary, Dr. F. D. Bennett, 18, Savile Row, W.1.

Midland Branch: Kesteven Division.—A meeting of the Kesteven Division will be held at the residence of the Chairman (Dr. T. P. Greenwood), 36, St. Mary's Street, Stamford, on Wednesday, April 5th, at 2.30 p.m. Business: To consider a report on the Organization of Voluntary Hospitals (vide British Medical Journal Supplement, February 25th, 1922). Informal discussion as to the activity of the Division. Any suggestions to make the meetings more attractive will be welcomed. Nominations for office for the Annual Meeting. The Chairman invites members to lunch at his house, at 1.30 p.m., before the meeting on April 5th. He will be glad if those who intend to come will send him a postcard not later than April 1st.

NORFOLK BRANCH.—A meeting of the Norfolk Branch will be held at the Norfolk and Norwich Hospital, Norwich, on Thursday, April 27th, at 3 p.m., when an address will be given by the Medical Secretary.

NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH.—An ordinary meeting of the Branch will be held at the Furness Abbey Hotel on April 5th, at 3 p.m. Agenda:—Dr. Alexander: A short paper, entitled "A Plea for Earlier Diagnosis of Glaucoma." Drs. Allan, Ware, and Carson: Blood Films and Pathological Specimens. Dr. R. Fawcitt: (*a*) Patient with Sprengel's Shoulder; (*b*) Case of Aniridia. Dr. Johnston: Brief notes of a case of Puerperal Eclampsia without Albuminuria. Dr. Milligan: Dental Radiographs. Dr. Reed: Case of Congenital Deformity due to Lymphat c Abnormality. Dr. Rutherford: Cases. Some congenital eye conditions—(*a*) Persistent Hyaloid Artery; (*b*) Coloboma in two generations; (*c*) Sclerophthalmia, three brothers; (*d*) Congenital Staphyloma. Dr. Livingston: A case of a child operated on for Meningocele. Clayden *v.* Wood-Hill Fund. New rules. Grouping of Branches. A Branch Council meeting will be held at 2.45. Tea will be provided at 4.30 p.m.

NORTH WALES BRANCH.—The spring meeting of the Branch will be held at the Wynnstay Hotel, Wrexham, on Tuesday, April 4th, at 2 p.m. Agenda: To receive the report of the Branch Council. To receive a deputation from the Committee of the Welsh National School of Medicine Appeal for £100,000. The following papers will be read:—Dr. John Hay (Liverpool): "Disorderly Action of the Heart: its Recognition" (with lantern demonstration). Dr. Hugh E. Jones (Liverpool): "Nystagmus, mainly miners', and labyrinthine." Dr. J. C. Davies (Rhos): "A Fatal Case of Gonorrhoea." Dr. Day (Rhyl): "An Unusual Case of Lung Injury." Clinical cases will be shown by Dr. H. Drinkwater (Wrexham) and Dr. J. C. Davies (Rhos). Dr. E. Lloyd-Owen (Criccieth) will move a resolution of public abattoirs and humane slaughtering, and also call attention to the "Lloyd-Owen Skeleton Scheme of Annual Health Reports." The Branch Council will meet at 1 p.m.

SOUTH MIDLAND BRANCH: BEDFORD DIVISION.—A general meeting of the Bedford Division will be held at the Bedford County Hospital on Tuesday, April 4th, at 3 p.m. Agendum: To discuss the Report on the Organization of Voluntary Hospitals. Members are requested to bring with them the SUPPLEMENT of February 25th.

SOUTH WESTERN BRANCH.—An intermediate meeting of the Branch will be held at Barnstaple on Thursday, April 20th. Members desirous of bringing forward cases or specimens are requested to notify Mr. F. A. Roper, Honorary Secretary, by April 10th.

SURREY BRANCH: KINGSTON-ON-THAMES DIVISION.—A special meeting of the Kingston-on-Thames Division will be held on Tuesday, April 4th, at Surbiton Hospital, at 8.45 p.m., to consider the Report on the Organization of Voluntary Hospitals (SUPPLEMENT to BRITISH MEDICAL JOURNAL, February 25th).

SUSSEX BRANCH: BRIGHTON DIVISION.—A meeting of the Brighton Division will take place on Wednesday, April 5th, at 8.30 p.m., at the Children's Hospital. Agenda: (*a*) Report of Executive Committee. (*b*) Report of Council on the Hospital Policy of the Association.

SUSSEX BRANCH: HASTINGS DIVISION.—A meeting of the Hastings Division will be held at the Eversfield Hotel, St. Leonards, on Tuesday, April 4th, at 8.30 p.m., when Dr. James Neal, General Secretary of the Medical Defence Union, will give an address on medical defence work. The Committee hopes that members will make a special effort to be present.

WORCESTERSHIRE AND HEREFORDSHIRE BRANCH.—The spring meeting of the Worcestershire and Herefordshire Branch will be held at Great Malvern Hospital on Thursday, April 27th, at 3 p.m., when a British Medical Association lecture will be given by Professor Murray (Manchester) on "Hyperthyroidism and its Treatment."

Meetings of Branches and Divisions.

MALAYA BRANCH.

THE annual meeting of the Malaya Branch of the British Medical Association was held at Singapore on January 27th. In his report the Honorary Secretary, Dr. SCHARFF, said that the membership of the Branch at present was 217. The medical library owned by the Branch, consisting of over 200 volumes, was to be handed over to the principal of the medical school for incorporation with the large medical library that the Government proposed to purchase for the use of the medical school for the medical profession generally in Malaya. Dr. HORN, director of medical and sanitary services in Malaya, spoke with reference to the Fifth Congress of the Far Eastern Association of Tropical Medicine, which is to be held at the invitation of the Government at Singapore in 1923. He expressed the hope that a large meeting would take place, with medical representatives of all parts of the East, and that the Government would provide funds for the purpose. He appealed to the members of the Malaya Branch to help in furthering the successful issue of this international congress.

President's Address.

The PRESIDENT, in his address, said that at the present time, when the Government and people of Malaya were almost overwhelmed by a financial crisis of unprecedented extent and severity, numerous suggestions had been made to ameliorate the situation. Some suggested, especially in regard to the rubber industry, that without restriction of output prosperity might be long in returning, and that organization was necessary to hasten recovery; others said that economy in production was the cure. Others, again, counselled patience, saying that Malaya was suffering merely from the world-wide depression, and that recovery would come when the depression passed away. In his own opinion there were two weak points in the economy of Malaya, the first being the fact that her labour was mainly alien and imported, and the second that the country could not feed her people. He believed that until Malaya had her own people fed from her own soil her prosperity was precarious. To allow her labour supply and her food supply to remain in the hands of others was to exhibit a childlike trust in the altruism of other countries, which seemed hardly to be justified by recent history. Malaya had great natural riches, abundant sunshine and rain, a rich agricultural soil, and great mineral wealth; but these were of comparatively little value to her people, too few in number to harvest either the surface or the depths of the soil. The full development of Malaya awaited the creation of an abundant, prosperous, and healthy population, bred on her soil and fed from her land and seas. He pointed out that Malaya could not, however, be "filled with labour," as the expression went, until the death rate was lowered. The preventable diseases were many in the country, some 20,000 lives being lost from malaria alone in the Federated Malay States in 1919, while tuberculosis, beri-beri, ankylostomiasis, dysentery, venereal diseases, and many infantile complaints were far too common and were all of them preventable. The more recent study of tropical diseases and medical zoology had thrown a flood of light on how tropical diseases were spread, and suggested new means of controlling them. Great changes in the organization of the medical profession were in progress to the end of the prevention of disease, but progress was possible only if the different branches of the profession remembered that they were all members of one body, working together for the common weal.

The annual dinner took place in the evening, when the Hon. Dr. D. J. GALLOWAY, Vice-President of the Branch, entertained the members to dinner at the Europe Hotel. In proposing the toast of the Malaya Branch, Dr. SCHARFF gave an account of its history, which necessarily included a summary of the history of the parent Association, and of the medical profession antecedent to its inception.

He said that the status of medical men before 1832 must awaken an unbounded sense of astonishment in the present age, when the whole world paid homage to the great achievements of their past and present leaders, although in former days there were a certain number of medical men who occupied honoured places in the kingdom, and were associated with the greatest men in every sphere of human activity. Early in the eighteenth century a court of law decided that a surgeon was an inferior tradesman, and included him in a section in which was found reference to "mechanics and dissolute fellows." The present status in the medical profession was traceable to the efforts of Dr. Hastings (afterwards Sir Charles Hastings), who, in 1832, founded at Worcester the Provincial Medical and Surgical Association, the direct ancestor of the British Medical Association, which was actually so named in 1856. The Straits Medical Association, the immediate forerunner of the present Malaya Branch, was organized in Singapore in 1890, at a time when less than twenty qualified medical men were practising in the city. Dr. D. J. Galloway was one of its founders and its first president, and among the subjects of discussion at early meetings were many which still came up from time to time. It was surprising to note, from the transactions of the society, that among the cases of death occurring at that time at Singapore was an average of six coolies a year killed by tigers—a contrast indeed with the present day. In January, 1894, the Straits Medical Association was affiliated with the British Medical Association, and Dr. Galloway was again the first president. Since then the title of the society had been the Malaya Branch of the British Medical Association, and it was their endeavour to make the work of their Association as complete a mirror as possible of medical practice in Malaya. The Branch had been associated with every Medical Act passed through the Legislative Council; it was instrumental in the passing of the Medical Registration Ordinance of the colony and the Federated Malay States, and a recent amendment provided for representatives from the Branch upon its Council.

The following office-bearers were elected for the year 1922:

President: Dr. W. Fletcher. *President-elect:* Dr. G. H. K. Macalister. *Vice-Presidents:* Dr. E. A. Elder (Singapore), Dr. G. B. McHutchison (Federated Malay States), Dr. J. Sharp (Penang). *Honorary Secretary and Acting Honorary Treasurer:* Dr. J. W. Scharff. *Representatives in Straits and F.M.S. Medical Council:* Drs. J. A. R. Glinnie and J. M. Forsyth (Straits Settlements), Drs. Malcolm Watson and A. R. Wellington (Federated Malay States). *Representative in Representative Body:* The Hon. Dr. D. J. Galloway. *Deputy Representative:* Dr. Noel L. Clarke. *Representative on King Edward VII Medical School Council:* Dr. Cheong Chu Hai.

An abstract of the scientific papers read at the annual meeting of the Branch will be published in an early issue.

SUSSEX BRANCH.

AT the last meeting of the Sussex Branch Council the following resolution was adopted:

That the Sussex Branch Council of the British Medical Association requests the Committee and the Advisory Medical Committee of the Sussex Provident Scheme for hospital and specialized medical services to refrain from accepting for membership any person residing in the area of the Eastbourne Division until the Eastbourne hospitals have agreed to co-operate in the scheme.

SCHOLARSHIPS AND GRANTS IN AID OF SCIENTIFIC RESEARCH.

SCHOLARSHIPS.

The Council of the British Medical Association is prepared to receive applications for Research Scholarships as follows:

1. An Ernest Hart Memorial Scholarship, of the value of £200 per annum, for the study of some subject in the department of State Medicine.
2. Three Research Scholarships, each of the value of £150 per annum, for research into some subject relating to the Causation, Prevention, or Treatment of Disease.

Each scholarship is tenable for one year, commencing on October 1st, 1922. A Scholar may be reappointed for not more than two additional terms.

The Conditions of the award of Scholarships are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, 429, Strand, London, W.C.2.

GRANTS.

The Council of the British Medical Association is also prepared to receive applications for Grants for the assistance of Research into the Causation, Treatment, or Prevention of Disease. Preference will be given, other things being equal, to members of the medical profession, and to applicants who propose as subjects of investigation problems directly related to practical medicine.

The Conditions of the award of Grants are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, 429, Strand, London, W.C.2.

Applications.

Applications for Scholarships and Grants for the year 1922–23 *must be made not later than Saturday, June 24th, 1922*, in the prescribed form, a copy of which will be supplied by the Medical Secretary on application.

Each application should be accompanied by testimonials, including a recommendation from the head of the laboratory, if any, in which the applicant proposes to work, setting out the fitness of the candidate to conduct such work, and the probable value of the work to be undertaken. This is not intended, however, to prevent applications for Grants in aid of work which need not be performed in a recognized laboratory.

Correspondence.

Payment for Panel Patients.

Sir,—There seems some probability that in a year or two's time we shall again get our remuneration for panel patients reduced. The reason we claim a higher rate of pay than under the old clubs is not made enough of—namely, the people on the panel are not of necessity poor people; the son or daughter of wealthy parents, if he or she is over 16 years of age, has to be on the panel. Why should we place our services at the disposal of these people for 365 days in the year for a paltry 9s. 6d.? Is it fair to the men who follow us to allow the profession to be valued at so low a figure? It is a business transaction and not a charity, and the matter should be treated from a business point of view. The medical man of the twentieth century is a very different person from the general practitioner of early Victorian days, who was probably well paid if he made £600 to £700 a year. All this insurance payment is based on the old income; the ordinary medical man of to-day is worth at least £2,000 a year; we have added tenfold to our knowledge of diseases and their treatment; the ordinary general practitioner of to-day knows more medicine and surgery than any two "specialists" in Harley Street did in 1850. The public must expect to pay more: we must drop this humble attitude and put our true value forward.

How many great men are lost to our profession every year because our remuneration is so poor! Is the man who has had a brilliant career at a public school and afterwards at the university attracted by the idea of being at the beck and call of a Tom, Dick, or Harry for 9s. 6d. a year? Yet if there is one profession which needs the best, the very best, men in it it is the medical. If the Insurance Act were placed on a proper footing I believe it could be made the greatest Act ever passed by a British Parliament, but the public must learn that they cannot get a good article without paying for it. The health of the community has never been so well looked after as it has since the Act came in. The death rate amongst panel patients is not half that amongst private patients when the medical man does his duty; the reason is obvious.

One great mistake made is in making everlasting alterations at frequent intervals instead of recasting portions of the Act every five years. These alterations worry the doctor and his patients: the former never knows what will happen next, what he is going to be paid, what new duties will be foisted on him. We have to be on the *qui vive* to see we are not imposed upon by the patients, the insurance companies, and the committees; this everlasting battle is alien to the ordinary medical man, who wishes to make a living peacefully amongst his fellow men; we want our patients to be our friends, and it is not possible to build up this friendship on panel work unless we are treated better.

I might in conclusion ask, Is there any reason why we should be paid the same for people under 60 as over? The idea that the average person over 60 only requires 9s. 6d. worth of medical attendance per annum is absurd. I am of opinion that a fair rate of payment for people under 60 would be 13s. 6d., and over 60 years of age 20s. I trust my views will awaken some little pride in our great profession and help it to cease grovelling.—I am, etc.,

Leytonstone, March 23rd. Arthur T. Todd-White.

Insurance.

LONDON PANEL COMMITTEE.

The Profession and the Approved Societies.—At the meeting of the London Panel Committee on March 21st the Chairman (Dr. H. J. Cardale) introduced the subject of the profession and the approved societies. The proposals of the Consultative Council of Approved Societies were that all State expenditure on national health insurance, with certain exceptions, should be defrayed, until the end of 1923, from the accumulated surpluses of approved societies. This proposal had been accepted by the Government, and legislation to give effect to it was being drafted. One of the cardinal points set forth by the British Medical Association in 1912 to govern the terms under which the medical profession was prepared to accept service was that approved societies should not control medical benefit. The new proposal would mean that the approved societies became the chief paymasters of the doctors. He referred to the statements of Mr. P. Rockliff, a prominent official of an approved society, to the effect that the approved societies expected to be able to control the capitation fee paid to doctors. The proper body to bring the views of the profession before the Government was the Conference of Local Medical and Panel Committees. On his (Dr. Cardale's) initiative a circular had been issued calling upon other panel committees to join with the London Committee in requesting the summoning of a special conference. It was too early yet to give the result of this summons, but about ten committees so far had responded. The action of the Chairman was approved, and it was agreed to ask Dr. Addison (to whom, the Chairman said, they owed their freedom from friendly society control) to receive a deputation. It was agreed that the proportionate expenses of holding any conference called by the Insurance Acts Committee should be paid from subscriptions obtained from London insurance practitioners, but the consideration of a contribution to the National Insurance Defence Trust was postponed.

Transfer of Practices.—The Committee considered the scheme of the Sheffield Panel Committee for transfer of practices, but registered its objection to a clause whereby in the case of death or withdrawal from practice the practitioner or his executors might nominate a successor, such nomination to be considered by the Allocation Committee and, if approved, the successor to take over the responsibility shown by the total number on the deceased or withdrawing practitioner's list. It was considered that this would give undue power to the Allocation Committee, and an alternative arrangement was suggested.

Pensions and Holidays.—The Committee allocated a sum of £150 for the preparation of a suitable scheme for the provision of pensions for practitioners on the panel, and also approved a scheme which a subcommittee had drawn up for collective arrangements for locum tenencies during the holiday season.

[The *Daily Telegraph* of March 28th states that a deputation of representatives of London panel doctors had an interview on March 27th with the Medical and University Committee of the House of Commons, to urge the appointment of a Royal Commission or other competent body to inquire into the future working of the National Insurance Acts.]

LONDON INSURANCE COMMITTEE.

Range of Medical Service.—At the meeting of the London Insurance Committee, on March 23rd, it was reported that a practitioner had, as required under the terms of service, informed the Committee that he had charged a fee to an insured person in respect of a blood examination on the ground that this service did not fall within the scope of medical benefit. The opinion of the Local Medical Committee was that a complete blood examination did not fall into the category of services which could, consistently with the best interests of the patient, be properly undertaken by a general practitioner of ordinary professional competence and skill. Another practitioner had charged a fee to one of his insured patients for an examination of her eyes and correction of refraction in the case of mixed astigmatism, involving the use of the ophthalmoscope. In this case also the Local Medical Committee was of opinion that the services rendered by the practitioner did not fall within the scope of medical benefit. In a third case, however, in which a practitioner had charged a fee for urethral irrigation for gonorrhœa and anterior urethritis, the Local Medical Committee took the view that the service did fall within the stated category.

Charges to Insured Patients.—The Committee had before it a report on the case of a practitioner who had already been found to have committed a breach of the terms of service by rendering an account of £5 8s. for treatment and medicine. The matter had

been referred to the Minister of Health, to whom the practitioner had also made representations, and the Minister's decision was that a sum of £15 must be withheld from the Exchequer grant payable to the Committee for 1922 (the sum to be recoverable from the practitioner by deduction from his remuneration). A letter which had been addressed to the practitioner by the Minister of Health stated that the occasions on which it was permissible for an insurance practitioner to charge fees to an insured person were very few, and in case of doubt the terms provided for the charge to be made by way of deposit. "The presumption is, therefore [the letter continued], that a practitioner is not entitled to charge fees to an insured person in any case where it is not contended that the service rendered is outside the doctor's obligations under his terms of service. The Minister regards any such breach of the terms of service as a serious offence, and in every way detrimental to the interests of insured persons, and the insurance medical service generally."

SURREY PANEL COMMITTEE.

AT a meeting of the Surrey Panel Committee, on March 17th, communications were read from the London Panel Committee, the Medical Practitioners' Union, and from the Medical Secretary, British Medical Association, on the subject of the situation arising out of the economies effected by the Ministry of Health as a result of the Geddes Report, whereby the Treasury grant of 2s. 6d. payable to panel practitioners will, until December 31st, 1923, be paid by the approved societies out of their accumulated funds, instead of by the Treasury, as at present. The following resolution was carried:

> That the Surrey Panel Committee do not support the London Panel Committee in their demand for the calling of an immediate conference of panel committees, but request the Insurance Acts Committee to call the conference within seven days of their interview with the Ministry of Health on March 30th.

The Panel Committee agreed with the recommendations of the Scrutiny Subcommittee that the following fees be disallowed on the ground that the operations performed were not part of medical benefit: Anaesthetic fees for (1) lumbar colostomy, (2) appendicectomy. Fee for operation (temporary resident account) of removal of parovarian cyst.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following announcements are notified by the Admiralty: Surgeon Commanders R. J. G. Parnell to the *Victory*, additional, for R.N. Barracks (temporary): C. T. Baxter and A. R. H. Skey to the *President*, additional, for three months' hospital course.

Surgeon Lieutenant G. E. Heath has been promoted to the rank of Surgeon Lieutenant Commander.

ROYAL NAVAL VOLUNTEER RESERVE.

Late Surgeon Probationer G. F. Abercrombie entered as Surgeon Lieutenant from March 1st, with seniority of that date and attached to the London Division.

ROYAL ARMY MEDICAL CORPS.

Captains J. H. Baird and P. R. O'R. Phillips are seconded for service with the Egyptain Army.

Temporary Captain S. A. McClintock relinquishes the temporary rank of Major.

Captain C. W. Sparks, M.C., retires, receiving a gratuity.

The following officers relinquish their commissions: Temporary Captain and Brevet Major E. A. Aldridge, M.C., and retains the brevet rank of Major. Temporary Captain J. A. Pringle, and retains the rank of Captain.

ROYAL AIR FORCE MEDICAL SERVICE.

J. C. T. Fiddes is granted a short service commission as a Flight Lieutenant, with effect from and with seniority of March 6th.

Squadron Leader R. L. Roe relinquishes his short service commission on account of ill health, and is permitted to retain the rank of Major.

TERRITORIAL ARMY.

ROYAL ARMY MEDICAL CORPS.

Captain R. Bruce resigns his commission, and retains the rank of Captain.

The following officers relinquish their commissions, and retain their rank except where otherwise stated: Lieut.-Colonel S. A. Coad; Major J. Ward, C.M.G., D.S.O., and to be granted the rank of Lieutenant-Colonel: Captains T. P. Caverhill and J. S. McConnachie, M.C., and are granted the rank of Major; Captains J. Anderson, (Brevet Major) A. D. Griffith, C. G. Strachan, M.C., E. Donaldson, J. B. Foubister, A. Leitch, J. Cowan, G. G. Wray.

Supernumerary for Service with O.T.C.—Captain J. C. Robb (late R.A.M.C.) to be Captain, for service with Belfast University Contingent, Senior Division, with precedence as from July 25th, 1918.

DIARY OF SOCIETIES AND LECTURES.

RÖNTGEN SOCIETY, Institution of Civil Engineers, Savoy Place, W.C.—Tues., 8.15 p.m., Major K. Edgcumbe: Electrical Measuring Instruments commonly employed by Radiologists.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.—Tues. and Thurs., 5 p.m., Lumleian Lecture by Dr. Hector Mackenzie: Diseases of the Thyroid Gland.

ROYAL SOCIETY OF MEDICINE.—*Section of Tropical Diseases and Parasitology.*—Mon., 8.30 p.m., Colonel Wilkinson, I.M.S.: Notes on Two Cases reported as Yellow Fever. Dr. L. E. Napier: Report on the Treatment of Ten Cases of Kala-azar by Sodium Acetyl-para-aminophenyl-stibiate ("Stibenyl"). Professor R. T. Leiper: (*a*) Sparganum in Man in Africa; (*b*) Note on Nomenclature of certain Helminth Parasites of Man. Dr. M. Khalil: The Earliest Account of Pellagra in Egypt. *Section of Orthopaedics:* Tues., 5 p.m., Cases. *Section of Pathology.*—Tues., 8.30 p.m., Annual General Meeting: Election of Officers and Council for Session 1922-23. Sir G. Lenthal Cheatle: Whole Sections of Obstructive Prostate Glands. Dr. M. Cowan: Colony Variations of Streptococcus in relation to Virulence. Dr. A. Fleming and Dr. V. D. Allison: Lytic Action of Body Fluids and Tissues on Bacteria. Dr. R. A. O'Brien, Dr. A. J. Eagleton, Mr. A. T. Glenny, Dr. C. C. Okell, and Miss E. M. Baxter: Experiences with the Schick Test. *Section of Surgery.*—Wed., 5.30 p.m., Mr. C. Max Page and Mr. G. Perkins: Some Points in the Technique of Bone-grafting. *Section of Obstetrics and Gynaecology.*—Thurs., 8 p.m., Dr. Archibald Leitch: The Extension of Carcinoma of the Cervix and the Vagina (illustrated). Dr. W. Fletcher Shaw: Treatment of Uterine Fibroids. Dr. C. L. V. de Wesselow and Mr. J. M. Wyatt: Chemical Observations on the Toxaemias of Pregnancy.

POST-GRADUATE COURSES AND LECTURES.

CHESTERFIELD DIVISION, BRITISH MEDICAL ASSOCIATION, Chesterfield Royal Hospital.—Fri., 2.30 p.m., Dr. Skinner: Blood Transfusion (with lantern demonstration); 3.15 p.m., Mr. G. Wilson: Some Common Orthopaedic Conditions.

EDINBURGH ROYAL HOSPITAL FOR SICK CHILDREN.—Thurs., 5 p.m., Dr. D. Guthrie: Middle Ear Suppuration in Childhood.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION, Royal Samaritan Hospital for Women.—Wed., 4.15 p.m., Dr. W. D. Macfarlane: Gynaecological Cases.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.30 p.m., Dr. A. H. Holmes: Demonstration of Heart Cases.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland Street, W.—Daily, In- and Out-patient Attendances. Mon., 5.30 p.m., Lecture by Dr. Parsons-Smith: Tachycardia.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Daily, 10 a.m., Ward Visits; 2 p.m., In- and Out-patient Clinics and Operations.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 1s. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS and ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London).

MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London).

EDITOR, *British Medical Journal* (Telegrams: Aitology, Westrand, London).

Telephone number for all Departments: Gerrard 2630 (*3 lines*).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

APRIL.

2 Sun. Mid-Cheshire Division, Altrincham General Hospital, 4 p.m.

4 Tues. London: Organization Committee, 2.15 p.m.
Bedford Division: Bedford County Hospital, 3 p.m.
Coventry Division, Coventry and Warwickshire Hospital, 8 30 p.m.
Hastings Division, Eversfield Hotel, St. Leonards, 8.30 p.m.
Kingston-on-Thames Division, Special Meeting, Surbiton Hospital, 8.45 p.m.
North Wales Branch, Wynnstay Hotel, Wrexham, 2 p.m.; Branch Council, 1 p.m.

5 Wed. London: Medico-Political Committee, 2.30 p.m.
Brighton Division, Children's Hospital, 8,30 p.m.
Kensington Division, Kensington Town Hall, 5 p.m.
Kesteven Division, 36, St. Mary's Street, Stamford, 2.30 p.m. Lunch 1 30 p.m.
North Lancashire and South Westmorland Branch: Furness Abbey Hotel, 3 p.m. Branch Council Meeting, 2.45 p.m. Tea 4.30 p.m.

6 Thurs, Westminster and Holborn Division: Annual Meeting, Trocadero Restaurant. Dinner, 7.30 p.m.; Meeting, 8.45 p.m. Address on Interstitial Glands by Dr. Leonard Williams, 9 p.m.
Hampstead Division, Hampstead General Hospital, 8.30 p.m.

7 Fri. London: Dominions Committee, 2.30 p.m.
Chesterfield Division, Chesterfield Royal Hospital Post-Graduate Class, 2.30–4 p.m.
City Division, Metropolitan Hospital, Kingsland Road, E., 9.15 p.m.

APPOINTMENTS.

MANCHESTER: ANCOATS HOSPITAL.—Resident Surgical Officer: P. G. McEvedy, M.B., B.S.Lond., F.R.C.S.Eng. Resident Medical Officer: Miss Phyllis M. Congdon, M.B., Ch.B.Vict. House-Surgeon: J. A. Panton, M.D., Ch.B.Vict. Medical Registrar: E. Gleaves, M.B., Ch.B.Vict. Pathological Registrar: R. S. Paterson, M.B., Ch.B.Vict.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **9s.**, *which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.*

BIRTH.

LAVERY.—At St. Margaret's Nursing Home, 4, Park Gate, Glasgow, on 15th March, the wife of Wm. J. B. Lavery, M.B., Ch.B., 154, Renfrew Street, a son.

DEATH.

ASHFORD.—On February 21st, Edwin Charles Ashford, L.R.C.S., M.R.C.P.Edin., of "The Moorlands," Bath and Middlezoy, Somerset, in his 84th year.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, APRIL 8TH, 1922.

CONTENTS.

	PAGE
The Medical Profession and Approved Societies	97
CURRENT NOTES:	
The Medical Officer of Health for Manchester	101
Annual Reports of Divisions and Branches for 1921	101
Approved Societies and Medical Benefit	101
Willesden Municipal Elections	101
Fees for Members of Pension Boards	101
SCHOLARSHIPS AND GRANTS IN AID OF SCIENTIFIC RESEARCH	102
ASSOCIATION NOTICES:	
Table of Dates	102
Changes of Areas	102
Branch and Division Meetings to be held	102
MEETINGS OF BRANCHES AND DIVISIONS	102
INSURANCE:	
Hospitals and Approved Societies	103
SANITARY OFFICERS ORDER: Medical Officers of Health and Sanitary Inspectors in England and Wales	103
NAVAL AND MILITARY APPOINTMENTS	104
DIARY OF SOCIETIES AND LECTURES	104
ASSOCIATION INTELLIGENCE AND DIARY	104
APPOINTMENTS	104
BIRTHS, MARRIAGES AND DEATHS	104

THE MEDICAL PROFESSION AND APPROVED SOCIETIES.

Conference between the Insurance Acts Committee and the Ministry of Health.

The Insurance Acts Committee, under the chairmanship of Dr. H. B. Brackenbury, met at the Ministry of Health on March 30th to confer with representatives of the Ministry on matters affecting insurance practice, and in the first place on the position of the approved societies in relation to the profession and to medical benefit. The Ministry of Health was represented by Sir Arthur Robinson, K.C.B., First Secretary, Mr. L. G. Brock, C.B., Assistant Secretary, and Dr. J. Smith Whitaker, Senior Medical Officer.

The following members of the Insurance Acts Committee were present: Dr. H. B. Brackenbury (Chairman), Dr. R. Wallace Henry (Chairman of Representative Meetings), Dr. R. A. Bolam (Chairman of Council), Dr. T. Cuming Askin, M.B.E., Dr. T. Ridley Bailey, Dr. H. S. Beadles, Dr. A. E. Cope, Dr. H. G. Dain, Dr. M. Dewar, Dr. A. Forbes, Dr. P. V. Fry, Dr. E. A. Gregg, Dr. G. B. Hillman, M.B.E., Dr. Herbert Jones, Dr. E. Lewis Lilley, Dr. T. Wood Locket, Dr. H. F. Oldham, M.B.E., Dr. C. J. Palmer, Dr. C. H. Panting, Dr. F. Radcliffe, Dr. Mabel Ramsay, Dr. A. Smith, Dr. D. Lyon Stevenson, Dr. W. E. Thomas, and Dr. J. P. Williams-Freeman.

Sir Arthur Robinson, at the outset, read the following statement:

> The Committee on National Expenditure recommended that the Exchequer should be relieved *inter alia* of the special grants, amounting approximately to £1,700,000 per annum, towards the cost of medical benefit in excess of the statutory proportion of two-ninths and of the cost of the regional medical officers so far as this is not already met from the societies' funds. The Committee proposed that the required amount should be provided by increasing the present contribution, but when this was discussed with the representatives of the approved societies they were strongly of opinion that in the present conditions of employment, existing contributions could not be increased without undue hardship to the insured population, and they therefore offered to agree to the additional charges being made up to the end of 1923 from the reserved surplus and the contingency funds of the societies. The Government proposes to accept this offer. I understand the particular point to be raised on the present occasion is the extent to which, if at all, the new arrangement will affect the present system of administering medical benefit. On this it may be said at once that for the remainder of the period covered by the new bill (that is, from April 1st, 1922, to December 31st, 1923) the machinery of administering medical benefit will remain absolutely unchanged. But in return for accepting these new charges the approved societies have made it clear that they intend to claim a voice in the negotiations with the medical profession both in regard to the capitation rates and the conditions of service after the expiry of the present agreement at the end of 1923. In view of the extent of the societies' contribution to the cost of medical benefit under the new scheme, it is difficult to contest their right to be represented in any future negotiations with the profession. But this must not be taken to mean that in future the final decision as to the terms of service and the rate of remuneration will rest with the approved societies. While the societies are in equity entitled to claim to be consulted in regard to any future negotiation, the responsibility for the maintenance of an adequate medical service must rest with the Minister.

Dr. Brackenbury: It is with the latter part of your statement, Sir Arthur, that we are most concerned. The exact financial arrangements, whether by means of a Treasury grant or the use of approved societies' funds from past surpluses or future increased contributions, do not in themselves interest us. It is certain implications of which we have to take note. You have used two phrases which we were sorry to hear:

> "They [the societies] intend to claim a voice in the negotiations with the medical profession, both in regard to the capitation rates and the conditions of service," and "It is difficult [for the Ministry] to contest their right."

If those phrases remain as they are, and that difficulty in contesting their right is not overcome, it is only fair to say that the situation, so far as the profession is concerned, will be extremely serious. (Hear, hear.) It is true that any new arrangement based on these conditions cannot become operative until after the end of 1923, but the profession has to think ahead, and the Ministry, and I expect the approved societies also, would prefer to know where we stand. The position is that this will have to go forward for full discussion by the Committee, and from that to a conference,

which I think should represent not only insurance practitioners but the whole profession, because the situation affects the professional status generally.

Sir A. ROBINSON: Did you understand exactly the meaning of my statement?

Dr. BRACKENBURY: I understood the admission that you could not contest the right of the approved societies.

Sir A. ROBINSON: It is not a case of giving the approved societies a final voice in the matter. It is a question of consulting them, as well as the profession; the final decision to rest with the Minister.

Dr. BRACKENBURY: You rule out direct negotiations between the profession and the societies?

Sir A. ROBINSON: Certainly; the negotiations with the profession will be carried on by the Minister in the future as in the past.

Dr. BRACKENBURY: Then how does the situation, as you have put it, differ from the present? The approved societies intend to claim something which, I take it, they have not got already.

Sir A. ROBINSON: Let me take you back to the settlement of last year. On that occasion there was nothing in the nature of direct and formal consultation with the approved societies. Of course, one had some idea of their views, but there was no formal consultation. When the next settlement comes there will be such formal consultation. That is the position.

Dr. BRACKENBURY: Does that mean that whereas last year the approved societies made it known to the Minister, without any formal conference, that in their opinion the 9s. 6d. capitation fee was too high, in future their opinion will be argued in direct conference?

Sir A. ROBINSON: In future approved societies will have a claim to express their views to the Minister as to what the terms should be.

Dr. BRACKENBURY: Of course, we agree that the public has a perfect right to bring its opinion to bear upon the Ministry, and the approved societies represent an important section of the public.

Sir A. ROBINSON: They are putting up a large sum of money, or at least the money is coming through them, and they represent insured persons.

Dr. BRACKENBURY: No, sir, we contest that. We never have regarded the officials of approved societies or the representatives of those societies in Insurance Committees as being really representative of the insured population. Technically, I agree, they are representative, but in actual fact I go so far as to say that the insurance practitioners represent the opinions of ordinary insured persons more closely than do those officials.

Sir A. ROBINSON: Are we not arguing about words?

Dr. BRACKENBURY: No, we are trying to elucidate the situation. If the representatives of approved societies, by reason of the fact that this money comes through their particular channel, are to claim in future to be a third party in negotiations, it raises a question of extreme seriousness.

Sir A. ROBINSON: But the Minister maintains the right to settle the terms directly with the profession. As I understand it, the negotiations will take place between the profession and the Ministry exactly as in the past. The financial situation is different, but as you know the State contribution [the two-ninths] still stands.

Dr. BRACKENBURY: Then I take it that, in 1923, we should go to the Minister and negotiate as to the terms for 1924, and the only difference would be that we should go knowing that there had been or was to be a conference between the Minister and the approved societies on the matter of remuneration and conditions of service?

Sir A. ROBINSON: That is so.

Dr. BRACKENBURY: The approved societies claim that prerogative because of this increased contribution?

Sir A. ROBINSON: The Minister has conceded the claim, but having no inner knowledge of the counsels of the societies I cannot speak as to their motives.

Dr. BRACKENBURY: The Minister has not only accepted the contribution, but the claim which goes along with it?

Sir A. ROBINSON: That they be consulted.

The MEDICAL SECRETARY (Dr. Alfred Cox): Does that really differ from the former situation? I was always under the impression that the Ministry did as a matter of fact put up to the approved societies' representatives in some shape or form—recently through the Consultative Council of Approved Societies—what was going forward.

Sir A. ROBINSON: Under the negotiations as carried on hitherto there has been no formal consultation with approved societies. The views of this or that approved society might be known, but there was no formal consultation. Now there will be such consultation.

The MEDICAL SECRETARY: Then you do not mean that we ourselves have got to do any bargaining with the approved societies? I can conceive the possibility of the Minister wanting to settle the terms by having the two parties meet together in conference with him. That is a form of negotiation we could not accept.

Dr. BRACKENBURY: Supposing next year the Minister negotiated with us on a capitation fee which we will call x, and then found after conference with the approved societies that in their opinion the fee ought to be y. The Minister might then say, "Well, the best thing for you to do is to meet together. Let us have a joint conference and negotiate as three parties instead of two." I do not believe the medical profession would accept that situation.

Sir A. ROBINSON: I want to get the views of the profession quite clearly in my mind. The profession will not treat with the approved societies at all?

Dr. BRACKENBURY: Not as negotiating parties.

Sir A. ROBINSON: The profession will not meet them under any circumstances?

Dr. BRACKENBURY: That, of course, is for our Conference to say, but so far as I can say at present, that would be the view of the profession, in regard to meeting them as negotiators.

Sir A. ROBINSON: I want that to be quite clear, for the Minister's information.

Dr. E. A. GREGG: That refers to remuneration; I should be sorry for it to be said that we as a profession would not meet the approved societies on other matters.

Sir A. ROBINSON: With regard to remuneration, then, under no circumstances will the profession meet the approved societies?

Dr. BRACKENBURY: On remuneration and terms of service. With regard to improvement of the service, we are perfectly ready to meet with anybody and everybody who can suggest means of making the service better. But we cannot consent to negotiate with the approved societies on remuneration and terms of service.

Sir A. ROBINSON: Can you deal with the improvement of the service without reference to the question of remuneration?

The MEDICAL SECRETARY: We had some conferences with representatives of the Ministry and other people which went on for quite a long time and in which the conditions of service were discussed, and money was never mentioned.

Dr. SMITH WHITAKER: But surely that all led up to a revision of remuneration. Was it not in the minds of those conferring that there would be some readjustment of remuneration at the end?

Dr. BRACKENBURY: There are conditions of service which obviously would affect remuneration, but there are many which would not affect it.

Sir A. ROBINSON: What conditions—certification, for instance?

Dr. SMITH WHITAKER: I wonder how many rules of certification there are which could be altered without altering the time and labour demanded of the doctor.

Dr. BRACKENBURY: I want to make it quite clear that as at present advised any tripartite consultation could not be acceptable. That being so, there is the alternative that the Ministry of Health should first have a consultation with us, and then with the approved societies, and then another consultation with us, and so on, the result of the previous consultation in each case to be placed before the other body. In that case I can conceive that the approved societies might say, "Unless this condition is granted—unless the remuneration is y and not x—we shall decline to put up the money," and the Treasury in consequence will have to pay more than was anticipated.

Sir A. ROBINSON: I should like to remind you that there is a thing called medical benefit which has to be carried on.

Dr. BRACKENBURY: Medical benefit cannot be carried on except with the co-operation of the doctor.

Sir A. ROBINSON: As I have said, the final decision rests with the Minister. The Minister has power to settle this matter, and I do not think it is reasonable to tie his hands. I am speaking in this matter rather from the point of view of a person without direct experience of past controversies, and, to put it quite frankly, it seems to me that the best way of improving the medical service would be for you on this side, and the approved societies on the other, to get closer together.

Dr. BRACKENBURY: I want to draw the distinction between a general conference with reference to improvements in the service and a conference which determines the regulations which are to be our terms of service. With regard to the former, let it be as free and full as may be thought desirable, but the latter must be kept between the profession and the representatives of the State.

Sir A. ROBINSON: Then I have it quite clearly that the medical profession objects to meeting the societies at any stage of the negotiations in respect to remuneration and conditions of service.

Dr. BRACKENBURY: That is our present feeling, subject to the decision of a conference.

Sir A. ROBINSON: I simply want to make the situation perfectly clear. I have my own views about it. I think you are making a mistake.

Dr. BRACKENBURY: Our reason for this attitude is that we do not want to give the slightest countenance to the suggestion that the societies are in any degree our employers. (Hear, hear.)

Sir A. ROBINSON: The insurance service is governed by statute.

The MEDICAL SECRETARY: If, Sir, you had that knowledge of the past history of this controversy which you admit you have not got—and the lack of which makes you all the more valuable in some respects (laughter), though it may be a disadvantage in others—you would realize that this was the pivot of our fight in 1911. Ministers come and Ministers go, but we know from what we have seen of the approved societies that if you give them an inch they will take an ell, and we are not prepared to give them that inch. This is a State service, and it is likely to be a more dignified and a better service because it is a State service. If you transform it into a big approved society medical club you will ruin it.

Sir A. ROBINSON: But when you carry your contention further and say that you will not even be in the same room as representatives of the approved societies I think you are making a mistake.

Dr. GREGG: This matter comes up as a claim from the approved societies. The initiative is not on the side of the Minister. It might be described as a patriotic sacrifice of some money on the part of the approved societies. But it comes all the more badly that such a claim should be made, because the medical profession has recently itself made a patriotic sacrifice without asking for anything in return. The medical profession made a sacrifice of something it badly needed, whereas the societies are making a relatively small sacrifice, not of money which is their own, but of trust money; yet on the strength of that they make a claim for return on what ought to be regarded as a patriotic action.

Sir A. ROBINSON: I think in fairness it ought to be said that although the societies have at the moment large accrued surpluses, they are going through a difficult time, and they have got an extremely difficult time ahead of them.

Dr. BRACKENBURY: We do not wish to interfere with any negotiations between the Government and the societies as to the proportions in which each should contribute to this financial arrangement, but we do want to maintain the position that our remuneration and terms of service shall be purely and simply a matter of negotiation between the Minister and ourselves.

Sir A. ROBINSON: I think that in recording your view that you do not wish to have the approved societies enter at all into the negotiations you are making a mistake. But your view will be put before the Minister.

Dr. BRACKENBURY: At the moment, I understand, the Minister has not said more than that it is difficult to contest the claim of the approved societies to a voice in the negotiations.

Sir A. ROBINSON: What the Minister has said is that the societies must be consulted.

Dr. BRACKENBURY: We do not contest the Minister's right to consult anybody he pleases.

Dr. F. RADCLIFFE: Judging by what has happened in industrial disputes, it might be diplomatic to keep parties apart.

Sir A. ROBINSON: I have had parties to negotiations in separate rooms myself, and the thing to be done was always to bring them together at the psychological moment, but I found difficulty in deciding which was the psychological moment.

The MEDICAL SECRETARY: I do not wish the impression to go out from this Conference that we have taken up a discourteous attitude to the approved societies or have spoken of them in any derogatory way whatever. (Hear, hear.) I have had occasion to consult leaders of the approved societies in the past, and shall have it in the future; I am on very friendly terms with some of their leaders, and I hope always to be so. It is only necessary to make it plain that when negotiating on terms of service we prefer to carry on the negotiation directly with the Government.

Dr. BRACKENBURY: It should clearly be recorded that we are quite ready to meet and enter into general conference with the approved societies as to the general conditions on which the service can be carried on, and matters of that kind. But we cannot agree to negotiate on remuneration and regulations with anyone but the Ministry.

The conference then turned to the consideration of other matters on the agenda.

Dispensing Capitation Fee: Transfer of Practices.

The first matter was the dispensing capitation fee, but Sir A. ROBINSON said that he could make no definite statement that morning, for the negotiations with chemists had taken longer than was anticipated. The transfer of practices was next taken. This question was left after the conference between the Committee and the Ministry's representatives on November 3rd at a point at which the Committee undertook to consider the suggestion made by the Ministry's representatives as to whether there was any need for an assignment *en masse* at all.

Dr. BRACKENBURY made a suggestion that the actual transfer of patients' names from one list to another should be abandoned altogether and a method employed of transferring a credit to the incoming practitioner for a specific period of time, adjustable quarter by quarter. This might be done, not primarily by alteration of the Regulation, but by the addition of a clause to the distribution scheme in the different areas, when the Panel Committee wished such a clause to be put in, to the effect that the credit of the withdrawing or deceased practitioner should be transferred to the incoming practitioner for a certain period. The period should not be less than a year. The only thing that would then remain to be considered would be the possible allocation of the remnant who had still refrained at the end of the period from choosing a fresh doctor; possibly this remnant would be so small that the Minister would feel that there was no occasion for the work of the Allocation Subcommittee.

Dr. SMITH WHITAKER said that theoretically, seeing that the whole of the money had to go to the doctors of the area, its division as between the doctors was mainly their own concern, though not entirely, for it was conceivable that there might be such inequity of division as would have a prejudicial effect on the insured persons or some section of them. But one of the difficulties which had to be examined in the light of any proposal was that arising from the creation of an expectation. The trouble in the 1919 regulations arose from the 1912 regulations, which were held to have created such an expectation. That was a matter which would have to be watched in considering any new arrangement. He suggested that the details of any scheme had better be considered by a smaller body. Accordingly it was agreed that a few members of the Committee should meet representatives of the Ministry on this subject within a few days.

Representation on Insurance Committees.

Dr. SMITH WHITAKER said that this matter, as discussed at the last interview, bore upon two points: the reduction of the number of direct representatives of the medical profession on the Insurance Committees, and the difficulty in some cases of finding suitable chairmen for the allocation and other service subcommittees. The difficulty about increasing the number of direct representatives of the medical profession in the case of the small committees was that if, as the Insurance Acts Committee had suggested, the profession was given two direct representatives on a committee of twenty, and no other change was made, there would be altogether four practitioners on such a committee, and an increase of the medical representation to one-fifth, which might raise difficulties. It was a possible solution that the Ministry might forgo the medical representative on a small committee, thus leaving room for another direct representative of the medical profession, and instead of the Ministry appointing a medical representative it might appoint a layman, endeavouring to choose a person who would fulfil the requisite qualifications as chairman of a subcommittee.

Dr. BRACKENBURY thought that this would be a happy solution in the case of a small committee, but it did not meet the case of the larger committees, where sometimes there was difficulty in finding subcommittee chairmen.

Dr. WHITAKER said that the suggestion was made in the previous interview that there should be power to appoint as chairman of a subcommittee a person who was not a member of the main committee, but he thought that this course had obvious disadvantages, because in that case the chairman of the subcommittee could not present or defend his recommendations before the full committee.

Sir A. ROBINSON said that he would like to try the plan suggested by Dr. Whitaker in the case of the small committees, but so far as the large committees were concerned he wished to consider the matter more closely. Mr. BROCK said that the Ministry's experience was that any real difficulty arose only in the small committees.

Medical Records.

A discussion then took place on the form of medical records. Dr. BRACKENBURY said that the contention of the Committee was that columns "A" and "V" ought not to be compulsory. Dr. SMITH WHITAKER said that it had been clear from the beginning that these columns were of no particular advantage to the profession; such advantage as they had was for the Ministry. He would not claim that the columns were absolutely vital to the continuance of the insurance service—many things in the regulations were not vital—but certainly they were very valuable, and he was not at all satisfied as to the case for their non-continuance. It was true that the Scottish Board of Health did not regard them as important, but there were reasons why what was not important from the point of view of the Scottish Board might yet be important from the point of view of the Ministry of Health, and it might even be unnecessary for the Scottish Board to carry out a particular procedure because the experience of the Ministry of Health in carrying it out was available.

After some further discussion, Dr. WHITAKER stated that in the opinion of the Ministry the time had not yet come when this matter should be reopened, and that they were

therefore not prepared to agree to the request of the Conference that the entries in columns "A" and "V" should cease to be compulsory, but that the question would be reconsidered after a longer experience in working.

On the method of transmission of records Dr. BRACKENBURY pointed out certain unsatisfactory features of the existing system, and suggested that secrecy would be sufficiently preserved or even better preserved if the forms could be sent in a special type of envelope recognizable from the outside and dealt with only by specially selected confidential clerks in the offices of Insurance Committees.

Dr. SMITH WHITAKER asked if, supposing the Minister substituted another system, the Committee would defend him against any attacks in the profession on the ground that he was relaxing the rule of secrecy, and Dr. BRACKENBURY replied that certainly the Committee would defend him if the system were adopted on its initiative.

Sir A. ROBINSON said that he was prepared to consider this proposition, but he could not give an immediate answer.

Notice as to Amendment of Terms of Service.

Dr. BRACKENBURY, in introducing this subject, said that the position had worked out differently from what was understood by the negotiating body when it gave its consent to the wording of the regulations. It appeared now that by an "Order" of the Minister the terms of service and remuneration could be varied at any moment. The view of the profession was that there should be at least three months' notice. The negotiating body had imagined that an Order of the Minister must mean something quite special, but it appeared that it might describe any act of the Minister.

Dr. SMITH WHITAKER argued that different things must not be confused: there were, in the first place, the regulations; then an Order in Council, which was a very formal proceeding, and also an Act of Parliament, which required considerable time to bring into effect; in addition there was something which was called an Order of the Minister, but so far as he knew very few things could be done, under the regulations, by such an Order. He doubted whether the expression covered much more than the rate of remuneration. Variations in the conditions of service would, in nine cases out of ten, involve alterations in the regulations. The protection of the individual practitioner, so far as changes in the regulations were concerned, did not lie in the amount of notice he received, but in the undertaking which was given to the Committee which represented his interests. If the rate of remuneration was fixed by regulation or by Act of Parliament they would agree that there could be no complaint as to notice. The Committee complained that the particular matter under consideration happened to be one of those things not covered by Act of Parliament or regulation—although, so far as he knew, theoretically there was no reason why it should not be—but by an Order. What difference of principle was there?

Dr. BRACKENBURY pointed out that he and his colleagues had not previously conceived that there was such a thing as an Order of the Minister which covered anything a Minister chose to do, and was not subject to three months' notice. They accepted the position with regard to the regulations because they relied on the undertaking of the Minister that the negotiating body should be consulted. But they had received no such assurance with regard to what might be done under an Order. If such an assurance were forthcoming it would satisfy him.

Dr. WHITAKER gathered that if the Committee had the same assurance of prior consultation before an Order was made as it had in regard to the regulations, and which had in practice been observed with regard to Acts of Parliament, it would meet the case. Then what had been done in the past might be taken as some indication of what was likely to be done in the future. On an occasion which they all remembered, although the Minister had given no previous undertaking to consult with the Committee, he did in fact so consult, exactly as he would have done in the case of a proposed change in the regulations.

Dr. DAIN said that the procedure under regulations, like that in the case of an Act of Parliament, gave sufficient interval for the individual practitioner to consider his course of action; but it was rather disconcerting to have immediate changes brought about by Order. It was not the central negotiating body which was concerned, but the practitioner who required a space of time for consideration.

Sir A. ROBINSON said that he would like to have legal opinion on the definition of an Order. His impression was that, in this sphere, an Order was restricted to the question of remuneration. Mr. BROCK added that the Minister certainly could not revoke a regulation by Order.

Dr. BRACKENBURY said that it would satisfy the Committee if the powers covered by an Order were defined, and the assurance were given that the same procedure would be followed as in the case of alterations in the regulations.

Sir A. ROBINSON replied that the practice of consultation was now well established. He wanted a legal definition before saying what powers were possible under an Order, and he promised to obtain and communicate the definition to the Committee.

Assistants.

The question of assistants was discussed in view of any possible need for altered regulations to safeguard the position of a principal. Dr. BRACKENBURY said that there was of course a contract between the principal and the assistant, with which the insurance system, as such, had little to do, and which would go some way as a safeguard. But if the assistant's name were on the list he was given the rights of an insurance practitioner to accept insured persons, and when he left the service of the principal the position might be gravely disadvantageous to the latter.

Dr. SMITH WHITAKER pointed out that the principal on engaging his assistant could make his terms. There was the statutory right of the assistant to go on the medical list if he chose, but the principal might insist that the assistant should not exercise his right to undertake the treatment of insured persons in his own name, quite independently of whether his name was on the list. A contract, if properly drawn up, would furnish ample safeguards for the principal. Of course, if the assistant were allowed to have insured persons on his list it opened the door to possible trouble. His appearance on the list as an assistant meant that he was a permanent deputy. He was a person who went on the list without accepting any responsibility for the treatment of insured patients save as the deputy for another practitioner. If the assistant broke his agreement the principal had his remedy.

Dr. BRACKENBURY said that an insurance committee would have no option but to recognize the assistant who had names on his own account on the list as the person responsible for the treatment of those insured persons.

Dr. WHITAKER said that the difficulty that the assistant might break his contract was no greater than the primary difficulty, from which there was no escape, that the assistant could not legally be deprived of his statutory right to go on the list. In reply to a suggestion that there might be a variation of the agreement with the Insurance Committee to meet the case of an assistant, he said that it was doubtful whether the Insurance Committee or the Ministry could interfere—even if it were expedient—between principal and assistant. None of the arguments advanced seemed sufficient to justify a variation of the regulations; for no result had been shown which a principal could achieve by such variation which he could not equally achieve by a properly drawn agreement. A promise was given to have certain legal points looked into—namely, the precise responsibility of an assistant going on the panel, and thus rendering himself liable to have insured persons allocated to him, while the agreement with his principal prevented him from undertaking insurance practice on his own account; also the value of an agreement when put in by a principal, whose assistant had acted improperly, in any issue with the Insurance Committee.

Proxy Voting.

On the abolition of proxy voting in the election of Panel Committees, which was the subject of a resolution of the 1921 Conference, Dr. WHITAKER said that in his view no regulation was needed; it was purely a question of asking Panel Committees to amend their schemes. The Ministry might undertake not to approve fresh schemes in which proxy voting was admitted, but he was uncertain whether it had power to withdraw approval already given. As the new schemes came along they were being sent back for amendment in the direction indicated.

Treatment of Insured Persons in Hospitals.

Dr. BRACKENBURY said that the responsibility of insurance practitioners for the treatment of insured persons in hospitals was a question which had given the Committee a considerable amount of trouble. It had laid down five limitations on the right of insured persons in institutions to treatment by insurance practitioners.

Sir A. ROBINSON said that he acquiesced in three of these limitations—namely:

That the service in question must be a service within the practitioner's contract.

That the institution must be one to which every practitioner has a right of access for the purpose of attending his own patients.

That the institution is situated within the area for which the practitioner has undertaken to attend the insured person.

With regard to another limitation—

That there must be no restriction imposed in connexion with any such institution upon the choice of anaesthetist—

he thought that it needed some closer definition.

Dr. BRACKENBURY agreed that this paragraph was too wide,

and must be recast with a view to restricting it to cases requiring an anaesthetic.

On the final paragraph—

That the arrangements should not apply to temporary residents or to emergencies in hospitals, and should not apply merely for certification purposes in convalescent homes—

Dr. Whitaker said that this opened up a large question which perhaps the small committee already appointed might usefully consider.

This course was agreed to.

Final Settlement for 1921.

Dr. Brackenbury said that there had been some difficulty with regard to the final settlement for 1921 in applying accurately the formula for the constitution of the central pool, owing to the prevailing unemployment. In the compilation of the original formula an actuary appointed by the Committee consulted with the Government actuary, and assured the Committee that he was perfectly satisfied as to the correctness of the formula. He asked that the actuary might now be informed of any modification and have an opportunity of assuring the Committee as to its correctness.

Mr. Brock said that there was a practical difficulty in applying the formula to post-war conditions. He felt sure the Government actuary would be quite prepared to meet the Committee's actuary and explain the adjustments which had been made.

Procedure of Inquiry Committee.

Mr. Brock brought to the notice of the Committee an Article which it was proposed to add after Article 61 of the principal regulations:

Notwithstanding anything in this Part of these Regulations, where the representation, or in the case of an Inquiry instituted by the Minister the statement of facts and grounds, is based solely on an allegation that the practitioner has been convicted of a criminal offence and the practitioner admits the truth of such allegation, the Inquiry Committee may, with the consent of the practitioner, dispense with an oral inquiry and report to the Minister upon such documentary evidence as may be submitted to them.

Dr. Brackenbury pointed out that a practitioner might admit the truth of the allegation that he had been convicted and yet dispute the propriety of the conviction, but Mr. Brock said that that was met by the words "with the consent of the practitioner."

The Conference, which had lasted for two hours, then concluded.

British Medical Association.

CURRENT NOTES.

The Medical Officer of Health for Manchester.

On the invitation of the chairman of the Town Hall Committee of the Manchester Corporation representatives of the British Medical Association and of the Society of Medical Officers of Health are meeting a special subcommittee appointed to deal with the question of the appointment of a Medical Officer of Health, on Friday, April 7th, at the Town Hall, Manchester. The representatives of the Association are: the Chairman of Representative Meetings (Dr. R. Wallace Henry); the Chairman of Council (Dr. R. A. Bolam); the Chairman of the Public Health Committee (Dr. T. W. H. Garstang); and the Medical Secretary; with the following representatives of the Manchester Division: Alderman Dr. Chapman (Chairman), Dr. R. A. Goodfellow, Sir William Milligan, and Dr. R. G. McGowan (Honorary Secretary). The representatives of the Society of Medical Officers of Health are: Dr. W. J. Howarth (President), Professor H. R. Kenwood (past President), Dr. G. F. Buchan (Chairman of Salaries Committee), and Mr. G. S. Elliston (Executive Secretary).

Annual Reports of Divisions and Branches for 1921.

The annual reports of the Divisions and Branches of the Association have recently been considered by the Grants Subcommittee, which observed with great satisfaction that the number of bodies reporting in proper time is this year considerably greater than in former years, a notable fact being that nearly all the Home Branches have reported. The Council will thus be able to deal, at its meeting this month, with the question of the grants for 1922 to these Branches. The reports indicate a year of healthy activity on the part of the Divisions and Branches. Several have held as many as fifteen meetings.

Approved Societies and Medical Benefit.

There will be found in the Supplement this week the considered statement read out by Sir Arthur Robinson, Permanent Secretary to the Ministry of Health, on the above question at the Conference between the Insurance Acts Committee and the representatives of the Ministry on March 30th, together with a full report of the discussion which ensued. That report shows that the Insurance Acts Committee made it quite plain that in its opinion insurance practitioners would not be prepared to accept any alteration in the existing arrangement. At present the negotiations as regards terms of service and remuneration are carried on directly between representatives of the profession and the Ministry, without the interposition of any third party. The Committee at the same time told the representatives of the Ministry that the profession would be open at any time to consider with the approved societies, or anybody else concerned, any suggestions for improving the service.

After meeting the representatives of the Ministry, the Committee met on the same afternoon and unanimously passed the following resolution, which has been sent to Sir Arthur Robinson:

> "While welcoming the co-operation of all those interested in the development of the best possible medical service for insured persons, the Insurance Acts Committee is of opinion that the profession should insist upon the continuance of the system of negotiating the actual terms of contract of service which has prevailed since the coming into force of the National Health Insurance system—that is, direct negotiations between the Government and the profession without the intervention of any third party."

A Special Conference of Representatives of Local Medical and Panel Committees will be held on May 18th next for the purpose of considering this matter, and Panel Committees are being requested to meet and instruct their representatives whether they do or do not approve of the principle laid down by the Insurance Acts Committee in the above resolution, which will be the main question to be discussed at the Special Conference.

Willesden Municipal Elections.

The recent municipal elections at Willesden have a special interest for the medical profession, for the leading—if not the only—matter of contention between the parties was the health policy which was being pursued by the Willesden Urban District Council. The Willesden Division of the British Medical Association has taken, as is well known, a strong line in regard to this policy, and has suggested important modifications which were desirable both in the interests of public health and of municipal economy. The opinion of the medical profession with regard to the health policy of the Urban District Council was supported by the local ratepayers' associations, and in addition to the other candidates supported by these associations three local medical practitioners stood as candidates for the Urban District Council—Dr. G. W. R. Skene, Dr. W. Lock, and Dr. D. V. Muller. The elections have resulted in a triumph for the policy put forward by the Willesden Division of the British Medical Association as opposed to the existing policy of the Urban District Council. Ten seats were gained, and only three lost, by the adherents of the former policy, who now hold 25 of the 33 seats on the council. In nine of the eleven wards in Willesden contested elections were held; Willesden Green and Cricklewood returned all of the three opponents of the Council's policy who stood there, while only in South Kilburn and Stonebridge were all of the ratepayers' associations' candidates defeated. Dr. Skene and Dr. Lock were returned at the head of their respective polls. The Willesden Division, and particularly the indefatigable honorary secretary, Dr. Paterson, must be congratulated on the result of their educational efforts with regard to municipal health policy in their district.

Fees for Members of Pension Boards.

We understand that the sessional fees payable to chairmen and members of Pension Medical Boards are to be reduced from April 18th as follows:

	Present Rate.	New Rate.
Chairmen	£1 16 9	£1 11 6
Ordinary members	£1 11 6	£1 6 3

As sessions are supposed to last two and a half hours this rate of payment seems very inadequate, and medical practitioners who are doing pension work are requested at once to get into touch with the Honorary Secretaries of the British Medical Association Divisions, who are anxious to know what their views are.

SCHOLARSHIPS AND GRANTS IN AID OF SCIENTIFIC RESEARCH.

SCHOLARSHIPS.

THE Council of the British Medical Association is prepared to receive applications for Research Scholarships as follows:

1. An ERNEST HART MEMORIAL SCHOLARSHIP, of the value of £200 per annum, for the study of some subject in the department of State Medicine.

2. THREE RESEARCH SCHOLARSHIPS, each of the value of £150 per annum, for research into some subject relating to the Causation, Prevention, or Treatment of Disease.

Each scholarship is tenable for one year, commencing on October 1st, 1922. A Scholar may be reappointed for not more than two additional terms.

The Conditions of the award of Scholarships are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, 429, Strand, London, W.C.2.

GRANTS.

The Council of the British Medical Association is also prepared to receive applications for Grants for the assistance of Research into the Causation, Treatment, or Prevention of Disease. Preference will be given, other things being equal, to members of the medical profession, and to applicants who propose as subjects of investigation problems directly related to practical medicine.

The Conditions of the award of Grants are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, 429, Strand, London, W.C.2.

Applications.

Applications for Scholarships and Grants for the year 1922–23 *must be made not later than Saturday, June 24th, 1922*, in the prescribed form, a copy of which will be supplied by the Medical Secretary on application.

Each application should be accompanied by testimonials, including a recommendation from the head of the laboratory, if any, in which the applicant proposes to work, setting out the fitness of the candidate to conduct such work, and the probable value of the work to be undertaken. This is not intended, however, to prevent applications for Grants in aid of work which need not be performed in a recognized laboratory.

Association Notices.

TABLE OF DATES.

April 26, Wed.	Council Meeting, 429, Strand, at 10 a.m.
April 29, Sat.	Last day for receipt at Head Office of Independent Motions for Annual Representative Meeting Agenda, as to policy, Articles, or By-laws (By-law 40).
May 6, Sat.	Annual Report of Council appears in SUPPLEMENT.
May 8, Mon.	Last day for receipt at Head Office of Nominations, by a Division or not less than 3 Members, for election of 24 Members of Council by grouped Home Branches for 1922-23.
May 13, Sat.	Publication in SUPPLEMENT of list of nominations for election of 24 Members of Council by grouped Home Branches for 1922-23.
	Voting papers for election of 24 Members of Council by grouped Home Branches posted from Head Office to Members of groups where there are contests.
May 27, Sat.	Last day for receipt at Head Office of voting papers for election of 24 Members of Council by grouped Home Branches (where there are contests).
June 3, Sat.	Publication in SUPPLEMENT of results of Council elections by grouped Home Branches.
June 10, Sat.	Nomination papers available, at Head Office, for election of 12 Members of Council by grouped Home Representatives.
June 14, Wed.	Council Meeting, 429, Strand, at 10 a.m.
June 23, Fri.	Last day for election of Representatives and Deputy Representatives.
June 24, Sat.	Supplementary Report of Council appears in SUPPLEMENT.
June 30, Fri.	Last day for receipt at Head Office of notification of election of Representatives and Deputy Representatives.
July 7, Fri.	Last day for receipt at Head Office of Amendments and Riders for Annual Representative Meeting Agenda.
July 21, Fri.	Annual Representative Meeting, Glasgow, 10 a.m.
	Nominations for election of 12 Members of Council by grouped Representatives to be received (at Annual Representative Meeting, Glasgow) by this date.

ALFRED COX, *Medical Secretary.*

CHANGES OF AREAS.

Proposed North Bengal Branch.

NOTICE is hereby given to all concerned of a proposal, made by members of the Association in the area, for formation of a North Bengal Branch of the Association, of area somewhat as follows: The eastern boundary to be formed by Sankosh River, from the Bhutan border southwards as far as Chikliguri (included), the Branch area to extend westward to include Jalpaiguri, and north-westward to include Darjeeling, its western boundary being formed by a line drawn due southwards from Sandakphu Mountain to Thakurganj (included).

BRANCH AND DIVISION MEETINGS TO BE HELD.

EAST YORK AND NORTH LINCOLN BRANCH: EAST YORK DIVISION.—The annual dinner of the Division will be held in the Royal Station Hotel, Hull, on Friday, April 21st, at 8 p.m. prompt. The Chairman's guest will be Mr. C. A. R. Nitch, M.S., F.R.C.S., Surgeon, St. Thomas's Hospital. Tickets, 12s. 6d. each, may be obtained from the Secretary or from any member of the Executive Committee.

GLASGOW AND WEST OF SCOTLAND BRANCH: GLASGOW EASTERN DIVISION.—The annual meeting of the Glasgow Eastern Division will be held in the Bellgrove U.F. Church Halls, Bellgrove Street, on Wednesday, April 12th, at 4.15 p.m. Agenda: Honorary Secretary's and Treasurer's reports for 1921; election of office bearers for 1922-23; report on organization of voluntary hospitals (SUPPLEMENTS of February 25th and April 1st).

METROPOLITAN COUNTIES BRANCH: CAMBERWELL DIVISION.—A meeting of the Camberwell Division will be held at the Camberwell Infirmary, Brunswick Square, at 9 p.m., on Wednesday, April 26th. The report of the Council on the organization of voluntary hospitals (SUPPLEMENT, February 25th) will be discussed; also the question of professional secrecy and other important matters.

A further meeting of the Division will be held on Wednesday, May 17th, at the Camberwell Infirmary, at 9 p.m., when a lecture on "The diagnosis of pyorrhoea alveolaris in its relation to general disease" (with lantern) will be given by Mr. F. N. Doubleday, M.R.C.S., L.D.S. (Guy's Hospital).

METROPOLITAN COUNTIES BRANCH: EAST HERTFORDSHIRE DIVISION.—A special meeting of the Division will be held at 3 p.m. on Wednesday, April 12th, at the County Hospital, Hertford, to discuss the report on the organization of voluntary hospitals (SUPPLEMENT, February 25th), with reference in particular to the reception of paying patients. The report, which when adopted will become the policy of the Association, affects every general practitioner nearly as much as it does members of hospital staffs. This is the most important matter which the Association has had to handle since the Insurance Bill was introduced. A full debate is desired. Dr. G. C. Anderson, Deputy Medical Secretary, will speak on the report and answer questions. All non-members, especially those on hospital staffs, are cordially invited. Tea will be provided at 1s. a head. The other items on the agenda include: Maternity and child welfare work; operations for tonsils and adenoids; refraction work; the Wood-Hill fund.

NORFOLK BRANCH.—A meeting of the Norfolk Branch will be held at the Norfolk and Norwich Hospital, Norwich, on Thursday, April 27th, at 3 p.m., when an address will be given by the Medical Secretary.

NORFOLK BRANCH: NORWICH DIVISION.—A special meeting of the Norwich Division will be held in the Medical Library to-day (Saturday, April 8th) at 8.45 p.m. Agendum: Club rates. The Executive Committee recommend that the juvenile rate shall be 10s. for each of the first two children and 8s. for each remaining child.

SOUTH-WESTERN BRANCH.—An intermediate meeting of the Branch will be held at Barnstaple on Thursday, April 20th. Members desirous of bringing forward cases or specimens are requested to notify Mr. F. A. Roper, Honorary Secretary, by April 10th.

SURREY BRANCH: CROYDON DIVISION.—The annual general meeting of the Croydon Division will be held at the Croydon General Hospital on Wednesday, April 19th, at 3.30 p.m. Agenda: Report and balance sheet; election of officers; other business. After the general meeting a clinical meeting will take place, with Dr. Genge in the chair. The exhibits will include medical and surgical cases, specimens, models, radiograms, drawings, photographs, and instruments. Members willing to exhibit are requested to inform the Honorary Secretary not later than April 13th. The annual dinner will be held at the Greyhound Hotel, Croydon, on Tuesday, April 25th, at 8 p.m. Price 7s. 6d. (exclusive of wines). It is hoped that all members who possibly can will attend this dinner and thus ensure its success. Early intimation to the Honorary Secretary, Dr. C. G. C. Scudamore, 117, Whitehorse Road, Croydon, will greatly facilitate the arrangements.

WORCESTERSHIRE AND HEREFORDSHIRE BRANCH.—The spring meeting of the Worcestershire and Herefordshire Branch will be held at Great Malvern Hospital on Thursday, April 27th, at 3 p.m., when a British Medical Association lecture will be given by Professor Murray (Manchester) on "Hyperthyroidism and its treatment."

Meetings of Branches and Divisions.

Lancashire and Cheshire Branch: Rochdale Division.
A meeting of the Rochdale Division was held in the Town Hall, Rochdale, on March 29th, when Dr. Bateman was in the chair.

The report on the organization of voluntary hospitals was discussed and agreed upon. The Chairman introduced the Wood-Hill Fund, and it was agreed that a subscription list be opened, and everyone present gave a guinea towards it; several of the members present promised to interview those absent concerning the fund.

Metropolitan Counties Branch: City Division.
The final dance of the season was held at the Abercorn Rooms on March 30th, and was attended by between 90 and 100 members and friends. The majority of those present wore fancy dress, which added greatly to the merriment of the occasion. A most enjoyable evening was spent. The dinner was excellent and dancing was carried on vigorously until 1.30 a.m. The Honorary Secretary, Dr. W. E. A. Worley, in closing his report adds: One finds that now that *esprit de corps* is becoming more general these social functions are financially successful and eagerly sought after.

Metropolitan Counties Branch: Lewisham Division.
A meeting of the Lewisham Division was held on March 28th at the South-Eastern Hospital for Children, Sydenham, with Dr. G. W. Charsley in the chair. The report on the organization of voluntary hospitals was considered and agreed to. Dr. T. E. White was elected Representative of the Division in the Representative Body, and Dr. J. Gilchrist Deputy Representative.

North of England Branch: Stockton Division.
A meeting of the Stockton Division was held on March 17th, when Dr. D. G. Hall, C.M.G. (Newcastle-upon-Tyne), delivered a very interesting lecture on the early diagnosis of nervous diseases. The lecture was illustrated by lantern slides and was much appreciated by those present. On the motion of Dr. Merson, seconded by Dr. George Hall (Stockton), a hearty vote of thanks was unanimously accorded to the lecturer for his address.

South-Western Branch: West Cornwall Division.
A meeting of the West Cornwall Division was held at St. Austell on March 7th, when Dr. H. C. Sharp presided. It was resolved to invite the Medical Secretary to address a meeting of the Division and the local profession.

It was decided to continue the present system of joint business and clinical meetings. Addresses on diathermy were given by Mr. H. F. Vellacott and Dr. Melrose, Radiologist, South Devon and East Cornwall Hospital, Plymouth. Dr. Gilchrist of St. Austell acted as host.

Yorkshire Branch: Sheffield Division.
A general meeting of the Sheffield Division, called to consider the report of Council on hospital policy, was held at the Church House, Sheffield, on March 31st, when Dr. Caiger presided. The hospital staffs were well represented, and a very interesting discussion took place. While some of the proposals in the report were the subject of considerable criticism, as a whole it was approved. The principle of the Medical Staff Fund (Par. 33) was agreed to, but the opinion was generally expressed that it was undesirable to put it in operation locally at the present time. It was, however, thought important that the principle should be approved in view of future eventualities.

The principle of income limit and the figures suggested in paragraph 22 were also accepted. It was resolved, on the motion of Dr. Yates, seconded by Mr. Finch, to advise the addition of the following words to paragraph 23 (*b*): "Subject to the approval of the hospital authority"—and that with this alteration the paragraph be agreed to.

It was also resolved, on the motion of Dr. Forbes, seconded by Mr. Miles Phillips, to suggest as an amendment that the following be added as an additional paragraph to Section XI:

> "That it is desirable that the staff of each hospital should have attached to their committee a representative of the general practitioners as liaison officer, who could keep the staff informed as to opinion in the profession generally, outside the hospital."

Insurance.

HOSPITALS AND APPROVED SOCIETIES.

At the annual council of Governors of the Royal Northern Hospital, Holloway (formerly the Great Northern Central Hospital), on March 28th Mr. Stuart de la Rue (Chairman of the Finance Committee) said that at one time they had great hopes they would get a considerable proportion of the surplus of £8,000,000 which was in the hands of the approved societies. It was only fair that the hospitals should have a substantial part of that surplus, because it really was created and obtained for the approved societies very largely by the work done for their members by the hospitals. The hospitals kept their people well, and in the meantime the approved societies retained the money. The Royal Northern Hospital's hopes had not been realized, and the total amount received last year was four guineas, which did not seem much out of eight millions. Another grievance against the approved societies was that they had undertaken now in certain cases to pay a guinea a week when their people were admitted to hospital. That sounded very well so far as it went, but attached to it was a condition that they would only give that guinea providing the patient himself contributed nothing, and as the cost was over four pounds, and as a great many patients could pay more than one guinea, it was not entirely an asset to the hospital.

SANITARY OFFICERS ORDER.

Medical Officers of Health and Sanitary Inspectors in England and Wales.

The Minister of Health has made an Order, to be known as the Sanitary Officers Order, 1922, relating to the appointment, tenure of office, and salary of medical officers of health and sanitary inspectors in England and Wales. It revokes all existing orders relating to these officers, but without prejudice to any rights or liabilities already acquired or incurred under previous orders. The new Order re-enacts such of the provisions of former orders as it appears desirable to preserve, with the modifications necessitated by the change in practice regarding the M.O.H.'s Annual Report (specified in Circular 269 of December 28th, 1921), and by the coming into operation of the Public Health (Officers) Act, 1921.

The Order takes effect from April 1st, 1922; it affects medical officers of health appointed by county councils, local sanitary authorities, and port sanitary authorities. It consists of twenty-one articles, divided into four parts, the second of which concerns medical officers of health alone.

Article 5, relating to qualifications, is as follows:

> A person shall not be qualified to be hereafter appointed or reappointed as a medical officer of health of any district or combination of districts, unless, in addition to the qualifications prescribed by any statute, he is also either registered in the medical register as the holder of a diploma in sanitary science, public health, or State medicine, or has had not less than three years' previous experience of the duties of a medical officer of health.

An accompanying circular (No. 299) states that the Minister recognizes that in small districts it may not always be possible for the authority to obtain the services of an officer thus qualified, and he reserves to himself, in Article 21 of the Order, the right to dispense with this requirement. He expects local authorities, however, to make every endeavour to appoint a specially qualified medical officer, and he will only be prepared to waive the requirement when it is clearly shown that the authority could not comply with it.

Articles 6 and 7 provide that the appointment of an M.O.H. shall be subject to the approval of the Minister, and that when a vacancy has occurred or is impending the clerk to the Authority shall forthwith report the fact to the Minister, stating the cause. Article 8 requires the submission to the Minister of a statement of particulars relating to the appointment before the appointment is made. It provides also for the notification of vacancies by an advertisement in the press. The circular states that this latter requirement will be deemed to be satisfied if the appointment is advertised in the medical or local government press, "and such an advertisement will as a rule attract a wider selection of candidates." Since the tenure of office of an M.O.H. giving his whole time to public duties is governed by the Public Health (Officers) Act, 1921, local authorities need not in appointing such officer specify the term for which he is appointed. Under Article 10 an M.O.H. not giving his whole time to public duties must be appointed in the first place for a term ending on March 31st next following the date of appointment. On the expiration of that term he will continue in office from year to year, subject to the provisions of the Order, unless the authority give him three months' prior notice to determine his appointment, such notice to expire on March 31st in any year. A local authority may suspend an M.O.H., and shall in such case at once report this (together with the cause thereof) to the Minister; if he directs that such suspension shall determine, the officer shall forthwith resume his duties. An M.O.H. must agree to give at least one month's prior notice before resigning his office. The salary paid to him must be approved by the Minister, with whose approval, moreover, a reasonable gratuity may be paid to the M.O.H. on account of extraordinary services performed by him, or other unforeseen or special circumstances connected with his duties or the necessities of his district.

The article (No. 14) relating to the duties of an M.O.H. has been considerably curtailed, and the Minister has in preparation a memorandum on this matter. The provisions of the Order, except as regards qualifications and duties, do not apply to temporary appointments, nor to a deputy M.O.H. For temporary arrangements the sanction of the Minister should be obtained, and his approval is required to the appointment of a deputy for an M.O.H.

Copies of the Order (No. 276 of 1922) may be purchased through any bookseller, or direct from H.M. Stationery Office, price 2d. Further reference to it is made in the Journal at p. 575.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following announcements are notified by the Admiralty: Surgeon Commanders C. A. G. Phipps to *Lucia*, E. B. Kenny to the *Victory* for R.N. Barracks, H. R. H. Denny to the Cape of Good Hope Hospital, J. MacDonald to the R N. Hospital, Bermuda. Surgeon Lieut. Commander G. D. G. Fergusson to the *Excellent* for course. Surgeon Lieutenant J. C. Brown to the *Gedetia* temporary.

Surgeon Lieut. Commander S. W. Grimwade, O.B.E., has been promoted to the rank of Surgeon Commander.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel H. P. W. Barrow, C.M.G., D.S.O., O.B.E., V.H.S., to be temporary Colonel whilst specially employed.

Major V. T. Carruthers retires receiving a gratuity.

Captain W. A. Frost, O.B.E., to be temporary Major whilst employed as Deputy Assistant Director of Pathology, Straits Settlements.

Captain C. B. Hogg, half-pay list, late R.A.M.C., retires on retired pay on account of ill health.

Lieutenant (temporary Captain) C. A. Whitfield to be Captain.

The following officers relinquish their commissions:—Temporary Captains and retain the rank of Captain: E. C. Tatam, D. J. Jones, J. Potter, M.C., E. Tanton, T. L. Kenion, T. F. Wilson.

ROYAL AIR FORCE MEDICAL SERVICE.

Flight Lieutenant D. Le Bas is granted a short service commission, retaining his present substantive rank and seniority.

REGULAR ARMY RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel S. H. Fairrie, having attained the age limit of liability to recall, ceases to belong to the Reserve of Officers.

MILITIA.

ROYAL ARMY MEDICAL CORPS.

Captain C. M. Page, D.S.O., to be Major.

Major S. J. Steward, D.S.O., resigns his commission and retains the rank of Major.

TERRITORIAL ARMY.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel H. K. Dawson, D.S.O., resigns his commission and retains the rank of Lieutenant-Colonel.

Captain T. Carnwath, D.S.O., resigns his commission and retains the rank of Captain.

Captain J. C. McKenzie, having attained the age limit, is retired, and retains the rank of Captain.

The following officers relinquish their commissions and retain their rank: Major J. D. Wells, O.B.E., Captains C. G. Skinner, K. V. Smith, R. W. A. Salmond, O.B.E., A. N. G. Jeans, J. H. Rawlinson, R. P. Stewart, J. P. Thierens, C. E. Williams.

2nd Scottish General Hospital.—Major F. D. Boyd, C.B., C.M.G., having attained the age limit, is retired, and is granted the rank of Colonel.

3rd Southern General Hospital.—Captain A. J. Drew is restored to the establishment.

Sanitary Companies.—Captain A. E. Evans from General List to be Major and to command 8th (London) Sanitary Company; Captain W. C. Gunn from General List to be Major and to command 5th (Scottish) Sanitary Company, October 6th, 1921 (substituted for notification published in the *London Gazette*, October 24th, 1921); Captain H. N. Goode, M.C., from General List to be Major and to command 6th (Northern) Sanitary Company, July 28th, 1921 (substituted for notification published in the *London Gazette*, October 24th, 1921).

TERRITORIAL ARMY RESERVE.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel T. Forrest, T.D., from General List, to be Lieutenant-Colonel.

Captain H. D. Levick, having attained the age limit, is retired, and retains the rank of Captain.

Captain A. C. M. Savege, from the General List, to be Captain.

APPOINTMENTS.

LEVIN, Joseph J., M.B., Ch.B.Edin., Extra Honorary Visiting Surgeon, General Hospital, Johannesburg, Transvaal.

MORRELL, R. A., M.R.C.S., L.R.C.P.Lond., Honorary Medical Officer *X* Ray and Electrical Department, Sheffield Royal Hospital, vice W. H. Nutt, M.D., resigned.

SMELLIE, James M., M.D.Edin., Medical Registrar to the Queen's Hospital, Birmingham.

WARBURTON, P. D., M.R.C.S., L.R.C.P.Lond., D.P.H.Sheffield, Assistant Surgeon, West of England Eye Infirmary, Exeter.

CERTIFYING FACTORY SURGEONS.—R. P. H. Blackstock, L.R.C.P.and S. Edin., L.R.F.P.S.Glasg., for the Dalkeith District. P. Howie, M.B., C.M., for the Aberdeen District.

EDINBURGH ROYAL INFIRMARY.—The following appointments have been made:—Resident House-Physicians: J. C. Mackay, M.B., Ch.B., to Professor Gulland (six months); A. T. Sloan, M.B., Ch.B., to Professor Boyd (six months); P. K. Walker, M.B., Ch.B., to Dr. Fleming (six months); H. Radford Potter, M.B., Ch.B., to Dr. Bramwell (six months); J. S. Fulton, M.B., Ch.B., to Professor Meakins (six months); G. D. Steven, M.B., Ch.B., to Dr. Matthew (six months). Resident House-Surgeons: A. MacPherson, L.R.C.S.E., L.R.C.P.E., L.R.F.P.and S.G., to Sir James Hodsdon (six months); K. J. Caird, M.B., Ch.B., to Mr. Miles (six months); N. S. Craig, M.B., Ch.B., to Mr. Dowden (six months); D. S. Middleton, M.B., Ch.B., to Professor Sir Harold J. Stiles (six months); J. A. Douglas, M.B., Ch.B., to Dr. Haig Ferguson (six months); A. R. Wightman, M.B., Ch.B., to Dr. Wm. Fordyce (six months); G. J. Alexander, M.B., Ch.B., surgical (three months); C. S. Nimmo, M.B., Ch.B., Out-patient Department, per Mr. Pirie Watson (three months). Non-resident House-Surgeon: W. P. S. Johnson, M.D., D.P.H., to Mr. Lees (three months). Clinical Assistants: J. Milne, M.B., Ch.B., to Dr. A. H. H. Sinclair (three months); Miss Jane W. Macdonald, M.B., Ch.B., to Dr. J. D. Lithgow (three months); C. G. Lambie, M.B., Ch.B., M.R.C.P., to Professor Meakins (six months); H. E. Arbuckle, M.D., F.R.C.S.E., D.P.H., to Mr. Lees (three months).

DIARY OF SOCIETIES AND LECTURES.

CHELSEA CLINICAL SOCIETY, St. George's Hospital Medical School, Hyde Park Corner, S.W.1.—Paper by Professor J. Barcroft, C.B.E., M.A., F.R.S.: The Physiology of Life in the Andes.

ROYAL SOCIETY OF MEDICINE.—Tues., 5 p.m., General Meeting of Fellows. Ballot for election to Fellowship. *Section of Therapeutics and Pharmacology.*—Tues., 4.30 p.m., Annual General Meeting: Election of Officers and Council. *Section of Psychiatry.*—Tues., 8.30 p.m., Dr. Bedford Pierce (President): "Recovery," to be followed by a discussion.

POST-GRADUATE COURSES AND LECTURES.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION, Eye Infirmary.—Wed., 4.15 p.m., Eye Cases.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.30 p.m., Dr. E. B. Leech: Recent Work on the Actions of Common Drugs.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland Street, W.1.—Daily, In- and Out-patient Attendances; Mon., 5.30 p.m., Lecture by Dr. Weir: Some Results of Cardiac Disease.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Daily, 10 a.m., Ward Visits; 2 p.m., In- and Out-patient Clinics and Operations.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 1s. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS and ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London).
MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London).
EDITOR, *British Medical Journal* (Telegrams: Aitology, Westrand, London).
Telephone number for all Departments: Gerrard 2630 (*3 lines*).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.; 4361 Central.)
IRISH MEDICAL SECRETARY: 16, South Frederick-Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

APRIL.

8 Sat. Norwich Division: Special Meeting, Medical Library, 8.45 p.m.
11 Tues. London: Central Ethical Committee, 12 noon.
London: Professional Secrecy Committee, 2.15 p.m.
12 Wed. London: Finance Committee, 2.30 p.m.
London: Parliamentary Elections Committee, 4.30 p.m.
Glasgow Eastern Division: Annual Meeting, Bellgrove U.F. Church Halls, Bellgrove Street, 4.15 p.m.
19 Wed. London: Hospitals Committee, 2.30 p.m.
Croydon Division: Croydon General Hospital, 3.30 p.m.; Annual General Meeting, followed by Clinical Meeting.
20 Thurs. South-Western Branch, Barnstaple.
21 Fri. East York Division: Annual Dinner, Royal Station Hotel, 8 p.m.
25 Tues. Croydon Division: Annual Dinner, Greyhound Hotel, Croydon, 8 p.m.
26 Wed. **Council**, 10 a.m.
Camberwell Division: Camberwell Infirmary, Brunswick Square, 9 p.m.
27 Thurs. Norfolk Branch: Norfolk and Norwich Hospital, Norwich. Address by Medical Secretary, 3 p.m.
Worcestershire and Herefordshire Branch, Great Malvern Hospital: British Medical Association Lecture by Professor Murray on Hyperthyroidism and its Treatment, 3 p.m.
28 Fri. London: Propaganda Subcommittee, 2.15 p.m.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

BIRTH.

PARSONS.—On March 20th, at 15, Market Place, Grantham, to the wife of Dr. G. P. N. Parsons, M.B., B.Ch.Cantab., a son.

MARRIAGE.

EGLINTON—MARLEY.—On Wednesday, April 5th, at the Wesleyan Church, Minehead, by the Rev. Alfred Hoad, John Henry Cox Eglinton, son of the late Dr. G. W. Eglinton and the late Mrs. Eglinton, of Street, Somerset, with Alverda Pugh Marley, second daughter of J. B. Marley, Esq., and Mrs. Marley, of Cartref, Minehead.

DEATHS.

HIGGS.—On April 2nd, at Beaconsfield House, Dudley, Thomas Frederic Higgs, M.D., J.P., in his 87th year. Funeral on Thursday at Netherton Parish Church, at 3 o'clock.

HOPKINS.—On March 31st, suddenly, while travelling, Percy Stanley Hopkins, L.M.S.S.A.Lond., "The White House," Westcliff-on-Sea, aged 45.

LAMBIE.—On March 26th, at Park Avenue, Mansfield, John Lambie, M.D., D.P.H., Medical Officer of Health, Borough of Mansfield, during the past nine years, aged 44 years. Funeral Thursday, March 30th, St. Peter's Church, 1.30 p.m. Friends please accept this, the only intimation.

WILLAN.—On March 23rd, at Melton Mowbray, George Thomas Willan, M.R.C.S., L.S.A., aged 80 years.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, APRIL 15TH, 1922.

CONTENTS.

BRITISH MEDICAL ASSOCIATION.

	PAGE
CURRENT NOTES:	
The Medical Officer of Health for Manchester	105
Glasgow Meeting: Hotel Accommodation	105
Insurance Pharmacy Terms for 1922	105
Expenditure and Income Statistics	106
Statistics of Insurance Work	105
ASSOCIATION NOTICES:	
Table of Dates	106
Branch and Division Meetings to be held	105
MEETINGS OF BRANCHES AND DIVISIONS	107
CORRESPONDENCE:	
The Ministry of Health and the Friendly Societies	107
NAVAL AND MILITARY APPOINTMENTS	103
DIARY OF SOCIETIES AND LECTURES	108
ASSOCIATION INTELLIGENCE AND DIARY	103
APPOINTMENTS	108
BIRTHS, MARRIAGES AND DEATHS	108

British Medical Association.

CURRENT NOTES.

The Medical Officer of Health for Manchester.

As announced in the SUPPLEMENT of April 8th, page 101, representatives of the British Medical Association and of the Society of Medical Officers of Health met a special subcommittee of the Town Hall Committee of the Manchester Corporation on April 7th to consider the objections of the two medical bodies to the proposed appointment of a medical officer of health for Manchester at a salary of £1,500 a year. All the representatives mentioned in the Current Note last week were present, except that Dr. R. A. Lyster took the place of Dr. G. F. Buchan as a representative of the Society of Medical Officers of Health. The medical representatives met in the forenoon to consider the line of action to be taken. In addition to the four representatives of the Manchester Division, Alderman Chapman (Chairman), Dr. R. G. McGowan (Secretary), Dr. T. A. Goodfellow, and Sir William Milligan, there also attended Councillor Dr. R. N. Marshall and Councillor Dr. C. H. S. Redmond. Afterwards all the medical representatives were most hospitably entertained to luncheon by the Town Hall Committee, and there were present Alderman Derwent Simpson, chairman of the committee, Sir Charles Behrens, vice-chairman, the Deputy Lord Mayor, Alderman Kay, with other members of the committee. After luncheon Alderman Simpson gave a cordial welcome to the medical representatives, and expressed a strong hope that the deliberations afterwards would be productive of a result which should be satisfactory both to the profession and to the city of Manchester. Dr. Bolam, on behalf of the British Medical Association, and Dr. Howarth, on behalf of the Society of Medical Officers of Health, expressed the thanks of the visitors for the hospitality that had been shown them, and promised that no effort would be wanting on their part to bring the dispute to an early, satisfactory, and friendly termination.

Later a conference took place at which the whole matter was thoroughly discussed for about two and a half hours, and finally the representatives of the medical profession laid certain proposals before the subcommittee, which Alderman Simpson promised to place before his committee, and through it before the Council.

Glasgow Meeting: Hotel Accommodation.

While Glasgow is a most hospitable city, it is singularly ill equipped with hotels. This deficiency, as one may easily understand, is the result of the extraordinary industrial development of the city — few authorities are known to have advocated Glasgow as a health or pleasure resort. There is a considerable number of small hotels which cater almost exclusively for the commercial class, and which have seldom an empty room. The managers of these hotels are really unable to reserve or promise rooms for the end of July. The larger hotels are practically only the "railway" hotels. At the Clyde resorts and the more accessible inland health centres there are some very good hotels and hydropathics. The availability of these is to some extent impaired by the fact that the latter part of July contains the city of Glasgow annual holiday week, at which time these institutions will contain a large number of migrated Glasgow citizens.

While no ultimate difficulty is anticipated in housing the members who will attend the Annual Meeting in July, it has not been found possible at this stage to publish an adequate list of private lodgings. Such a list will appear in May. As a preliminary measure a list is published below of the most convenient hotels in the city itself, with their charges. As fairly complete arrangements have been made for the pleasant absorption of the hours of the visitors during the days and evenings, prices have been quoted for accommodation and breakfast only. In all cases, luncheons are advertised at 3s. 6d. to 4s. 6d., and dinners from 6s. to 7s. 6d. Intending visitors are strongly recommended to engage their hotel accommodation at the earliest possible moment.

	Bedroom and Breakfast.
Central Station Hotel (Caledonian Railway)	12/- to 15/6
North British Station Hotel	12/6 to 14/-
St. Enoch Station (G. and S.W. Railway)	From 11/-
Grand Hotel, Charing Cross	10/- to 10/6
Green's Private Hotel, Woodlands Terrace	10/6
Claremont Private Hotel, Claremont Terrace	15/6
More's Private Hotel, India Street	From 9/6
Bath Hotel, 152, Bath Street	8/6

In our issue of April 22nd it is hoped to publish a list of the hotels and hydropathics in the immediate vicinity, with a note of their distances from the city and their probable train services. The Chairman of the Hotels and Lodgings Committee is Professor J. M. Munro Kerr, and the Honorary Secretary, Dr. James Hendry, 4, Clifton Place, Glasgow, W. (Telephone, Charing 1260.)

Insurance Pharmacy Terms for 1922.

The *Pharmaceutical Journal* of April 8th reproduces a letter from the Ministry of Health to the Retail Pharmacists' Union in regard to the terms of service for chemists supplying drugs and appliances to insured persons. Our contemporary describes this an "ultimatum to panel chemists," and anticipates that it will create acute disappointment and intense dissatisfaction. The letter reminds the committee of the union that the various increases in the dispensing fees were granted mainly on account of the abnormal conditions arising from the war. In view of the rapid fall in the cost of living which has taken place since the last revision of the scale it appears to the Minister that the proposed reduction in the remuneration of insurance pharmacists is fully warranted by the altered economic position, and that it is not incommensurate with the reductions which have been made in the remuneration of insurance medical practitioners and generally in the public and municipal services. He maintains his opinion that a reduction of 1d. on each item in the dispensing scale is fully justified. On and after May 1st, 1922, the rate for compound liquid medicaments (excluding preparations specified in the table of drug prices and proprietary preparations) will be reduced to 5d. per

prescription, and the rates in respect of the remaining items in the dispensing fee scale will, in like manner, be reduced by 1d. per prescription. Where the prescription directs that the medicaments shall be supplied in two or more containers, a special charge of 2d. for each additional container may be allowed. Commenting on this letter, the *Pharmaceutical Journal* observes that "if panel chemists refuse to accept the new terms their only course is an organized withdrawal from the service. But it is questionable, having regard to all the circumstances, whether this is a favourable time to have recourse to that drastic alternative."

Expenditure and Income Statistics.

The attention of the medical profession is again drawn to the offer of a gratuitous copy of a model account book to any practitioner undertaking to forward the information entered therein for the confidential use of the Insurance Acts Committee. There can be no doubt that all information under this head ought to be in the possession of the central negotiating body for insurance practitioners (the Insurance Acts Committee), for use at the time of the revision, at the end of 1923, of the present bargain with respect to the insurance capitation fee. Inquiries should be addressed to the Medical Secretary, 429, Strand, W.C.2.

Statistics of Insurance Work.

Insurance practitioners are reminded of the necessity for the Insurance Acts Committee to be supplied with statistics of insurance work done in 1921. Information under the following heads should be sent to the Medical Secretary, 429, Strand, W.C.2.

Name.	Insurance Address.	No. of Insured Persons on List.	No. of Insured Persons Attended during 1921—that is, No. of Patients.	No. of Consultations.	No. of Visits.

Association Notices.

TABLE OF DATES.

April 26, Wed. Council Meeting, 429, Strand, at 10 a.m.

April 29, Sat. Last day for receipt at Head Office of Independent Motions for Annual Representative Meeting Agenda, as to policy, Articles, or By-laws (By-law 40).

May 6, Sat. Annual Report of Council appears in SUPPLEMENT.

May 8, Mon. Last day for receipt at Head Office of Nominations, by a Division or not less than 3 Members, for election of 24 Members of Council by grouped Home Branches for 1922–23.

May 13, Sat. Publication in SUPPLEMENT of list of nominations for election of 24 Members of Council by grouped Home Branches for 1922–23.

Voting papers for election of 24 Members of Council by grouped Home Branches posted from Head Office to Members of groups where there are contests.

May 27, Sat. Last day for receipt at Head Office of voting papers for election of 24 Members of Council by grouped Home Branches (where there are contests).

June 3, Sat. Publication in SUPPLEMENT of results of Council elections by grouped Home Branches.

June 10, Sat. Nomination papers available, at Head Office, for election of 12 Members of Council by grouped Home Representatives.

June 14, Wed. Council Meeting, 429, Strand, at 10 a.m.

June 23, Fri. Last day for election of Representatives and Deputy Representatives.

June 24, Sat. Supplementary Report of Council appears in SUPPLEMENT.

June 30, Fri. Last day for receipt at Head Office of notification of election of Representatives and Deputy Representatives.

July 7, Fri. Last day for receipt at Head Office of Amendments and Riders for Annual Representative Meeting Agenda.

July 21, Fri. Annual Representative Meeting, Glasgow, 10 a.m.

Nominations for election of 12 Members of Council by grouped Representatives to be received (at Annual Representative Meeting, Glasgow) by this date.

ALFRED COX, *Medical Secretary.*

BRANCH AND DIVISION MEETINGS TO BE HELD

EAST YORK AND NORTH LINCOLN BRANCH: EAST YORK DIVISION.—The annual dinner of the Division will be held in the Royal Station Hotel, Hull, on Friday, April 21st, at 8 p.m. prompt. The Chairman's guest will be Mr. C. A. R. Nitch, M.S., F.R.C.S., Surgeon, St. Thomas's Hospital. Tickets, 12s. 6d. each, may be obtained from the Secretary or from any member of the Executive Committee.

EDINBURGH BRANCH: SOUTH-EASTERN COUNTIES DIVISION.—The annual meeting of the South-Eastern Counties Division will be held in the Railway Hotel, Newtown St. Boswells, at 3.15 p.m., on Wednesday, May 3rd. Business: Election of officers; annual report of Executive Committee; instructions to Representative, particularly as regards hospital question; Hawick Maternity Centre, resolution under Ethical By-laws as to professional conduct; any other competent business. A meeting of the Executive Committee will be held at 3 p.m. at the same place on the same day.

METROPOLITAN COUNTIES BRANCH: CAMBERWELL DIVISION.—The annual general meeting of the Camberwell Division will be held at the Camberwell Infirmary, Brunswick Square, at 9 p.m., on Friday, April 28th, for instruction of the representatives. The report of the Council on the organization of voluntary hospitals (SUPPLEMENT, February 25th) will be discussed; also the question of professional secrecy and other important matters.

A further meeting of the Division will be held on Wednesday, May 17th, at the Camberwell Infirmary, at 9 p.m., when a lecture on "The diagnosis of pyorrhoea alveolaris in its relation to general disease" (with lantern) will be given by Mr. F. N. Doubleday, M.R.C.S., L.D.S. (Guy's Hospital).

METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.—The annual meeting of the Willesden Division will be held at St. Andrew's Parish Hall (Institute behind Church), High Road, Willesden Green, on Tuesday, April 18th, at 8.30 p.m. Agenda: Election of officers, Representatives on Branch Council, Executive and Ethical Committees; receive annual report; consider hospital policy of the British Medical Association; reduction of fees for members of pension boards; matters arising out of municipal election.

NORFOLK BRANCH.—A meeting of the Norfolk Branch will be held at the Norfolk and Norwich Hospital, Norwich, on Thursday, April 27th, at 3 p.m., when an address will be given by the Medical Secretary.

NORTH OF ENGLAND BRANCH: DARLINGTON DIVISION.—A meeting of the Darlington Division will be held at Greenbank Hospital on Thursday, April 20th, at 8.30 p.m., when Mr. F. C. Pybus, M.S., F.R.C.S., will give an address on surgery of childhood.

NORTH OF ENGLAND BRANCH: STOCKTON DIVISION.—A scientific meeting of the Stockton Division will be held in the Stockton and Thornaby Hospital on Friday, April 21st, at 8.30 p.m., when Mr. J. Hamilton Barclay, M.S., F.R.C.S. (Newcastle-on-Tyne) will give a lecture on "Acute intestinal obstruction." A large attendance is hoped for, and members of the neighbouring Divisions are invited and will be cordially welcomed.

NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.—A meeting of the Sunderland Division will be held at 48, John Street, on Tuesday, April 25th, at 8.15 p.m. Business: To consider the standing resolutions of the Division and the suggested changes recommended by the special subcommittee and approved of by the Executive Committee for adoption by the Division.

Standing Resolutions.

1. The minimum fee for midwifery cases shall be two guineas. This resolution need not apply to colliery cases.
2. One shilling per fortnight shall be the minimum rate for family club practices. This shall include all members of the family under 16 years of age.
3. One guinea shall be the minimum fee for making a report in workmen's compensation cases. The resident staff of the charitable institutions shall only supply such reports with the consent of the honorary medical officer in charge of the case.
4. Three shillings and sixpence shall be the minimum fee for vaccination.
5. No member shall act as medical officer to any society or association which administers medical benefits.
6. Certificates for insured persons to obtain their benefits under National Insurance Acts shall be given free. All other certificates shall be charged at least 1s. each.
7. Medical certificates shall not be supplied in the case of children attending elementary schools.
8. Candidates for entrance to approved societies or other similar bodies shall be charged a fee of not less than 3s. 6d. for examination and the certificate.
9. No fee less than two guineas to be charged in any midwifery case.
10. The midwifery fee includes subsequent attendance for not more than fourteen days.
11. Where a house in the midwifery tariff list is tenemented a reduction may be made in the fees.

Report of Hospital Subcommittee. Other business.

SOUTH-WESTERN BRANCH.—An intermediate meeting of the Branch will be held at Barnstaple on Thursday, April 20th. Members desirous of bringing forward cases or specimens are requested to notify Mr. F. A. Roper, Honorary Secretary, by April 10th.

SURREY BRANCH: CROYDON DIVISION.—The annual general meeting of the Croydon Division will be held at the Croydon General Hospital on Wednesday, April 19th, at 3.30 p.m. Agenda: Report and balance sheet; election of officers; other business. After the general meeting a clinical meeting will take place, with

Dr. Genge in the chair. The exhibits will include medical and surgical cases, specimens, models, radiograms, drawings, photographs, and instruments. Members willing to exhibit are requested to inform the Honorary Secretary not later than April 13th. The annual dinner will be held at the Greyhound Hotel, Croydon, on Tuesday, April 25th, at 8 p.m. Price 7s. 6d. exclusive of wines). It is hoped that all members who possibly can will attend this dinner and thus ensure its success. Early intimation to the Honorary Secretary, Dr. C. G. C. Scudamore, 117, Whitehorse Road, Croydon, will greatly facilitate the arrangements.

WORCESTERSHIRE AND HEREFORDSHIRE BRANCH.—The spring meeting of the Worcestershire and Herefordshire Branch will be held at Great Malvern Hospital on Thursday, April 27th, at 3 p.m., when a British Medical Association lecture will be given by Professor Murray (Manchester) on "Hyperthyroidism and its treatment."

Meetings of Branches and Divisions.

METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.

A MEETING of the Kensington Division was held in Kensington Town Hall on April 5th, when Dr. WALTER E. FRY was in the chair.

On the motion of Dr. W. E. FRY, a vote of congratulation was unanimously accorded to the Willesden Division on their successful fight with their borough council.

After discussion the following resolution was, on the motion of Mr. HOWARD STRATFORD, seconded by Dr. H. A. GILLESPIE, passed unanimously:

> "That the Kensington Division strongly disapprove of the proposed reduction in the sessional fees paid to chairmen and members of the Ministry of Pensions Medical Boards, and consider that they should remain as at present."

The CHAIRMAN introduced a discussion on the "Report on the Organization of Voluntary Hospitals" (SUPPLEMENT, BRITISH MEDICAL JOURNAL, February 25th, 1922). The report was gone through section by section, and was generally approved. No amendments were submitted.

Dr. CHARLES BUTTAR was unanimously nominated for a seat on the Council.

METROPOLITAN COUNTIES BRANCH: WEST HERTFORDSHIRE DIVISION.

AT a meeting of the West Hertfordshire Division held on April 5th it was decided to support, at the Annual Representative Meeting in Glasgow, the policy of the Association as outlined in report on the organization of voluntary hospitals. Dr. Hall (Watford) was appointed the Representative of the Division.

METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.

A MEETING of members and non-members was held at St. Andrew's Parish Hall, Willesden Green, N.W., on March 21st.

The HONORARY SECRETARY reported correspondence and further interview with the President of the local branch of the Red Cross Society and the County Organizer with respect to the proposed establishment of a V.A.D. clinic and orthopaedic centre for Harlesden, and that he had suggested to the officials of the society that they should visit the V.A.D. clinic at Kensington. The communication, dated March 1st, 1922, from the Willesden U.D.C. (printed in the SUPPLEMENT of March 11th) was also reported. A draft reply was then considered, and after discussion it was resolved that this be forwarded to the Willesden Town Council, and that copies thereof be sent to the head office and the lay press.

In reply to a suggestion by the Willesden Labour Party for a public debate on the administration of the Public Health Acts in Willesden, the Honorary Secretary was instructed to state that the Division was of opinion that no useful purpose would be served by a public debate, but that it was always ready to meet representatives of the Labour Party on any health matter.

Dr. W. Paterson and Dr. Scott were appointed Representative and Deputy Representative respectively for the Annual Representative Meeting at Glasgow. Further consideration of the hospital policy of the Association as contained in the SUPPLEMENT of February 25th was postponed until the next meeting.

NORTH OF ENGLAND BRANCH: CLEVELAND DIVISION.

A BUSINESS meeting of the Cleveland Division was held at Middlesbrough on March 17th. Some discussion took place on the request for subscriptions to the Medical Representation in Parliament Fund, and the following resolution was carried *nem. con.*:

> That, in view of the great importance of public health in its national sense, as recognized by the recent establishment of a Ministry of Health, this Division approves of the principle of medical representation in Parliament, and recommends the financial support of medical candidates through this fund.

It was decided to take no divisional action on the request for subscriptions to the Wood-Hill Fund, but to leave the matter to the inclination of members privately. Discussion was then directed to the report on voluntary hospital organization. A number of amendments were agreed to, and the meeting adjourned owing to the lateness of the hour. The discussion was renewed on March 25th, when the remainder of the report was carefully considered, and certain amendments were ordered to be sent up to the Council.

At a meeting of the Division, held in the North Riding Infirmary on March 30th, under the presidency of Dr. W. S. DICKIE, chairman of the Division, Dr. WELLS PATTERSON (Newcastle-on-Tyne) gave an interesting address on the endocrine glands and their interrelationship. There was a very large attendance, including several members from the neighbouring Stockton Division. Dr. Patterson, in his address, dealt with each gland in turn and then with their various combinations. The discussion was opened by the CHAIRMAN, followed by Drs. HOWELL, INKSTER, HENRY, WILLIAMS, BROWNLEE, and others. Dr. PATTERSON, in his reply, dealt with the points raised and questions asked. At the close of the meeting a hearty vote of thanks was, on the motion of Dr. DICKIE, accorded Dr. Patterson for his most interesting address.

NORTH OF ENGLAND BRANCH: STOCKTON DIVISION.

TWO meetings of the Stockton Division were held on March 31st and April 7th, when the Council's Report on Hospital Policy was discussed. The greater part of the report was agreed to, but several amendments were suggested. Paragraph 33 was not agreed to. The report was considered on broad lines, but local conditions obtaining were considered in particular.

SOUTH MIDLAND BRANCH: NORTHAMPTONSHIRE DIVISION.

A MEETING of the Northamptonshire Division was held on March 29th. Dr. D. G. Greenfield (Rushden) was elected representative and Dr. D. Stone (Northampton), deputy representative in the Representative Body. The Report of the Council on voluntary hospitals was discussed, and a number of amendments suggested. The rest of the report was agreed to unless found to be counter to those amendments. The meeting, which was overwhelmingly composed of general practitioners, appeared to be strongly of opinion that tariff patients should pay the full cost of maintenance and treatment, and that no deduction should be made for staff funds in other instances.

SURREY BRANCH: CROYDON DIVISION.

A MEETING of the Croydon Division was held at the General Hospital on March 21st, when Mr. G. E. NEWBY, C.B.E., F.R.C.S., was in the chair. An address was given by Mr. F. T. CLEMENSON, M.Ch., F.R.C.S., on nasal obstruction in children. This was followed by a discussion in which the CHAIRMAN, Drs. CORNELL, RICHARDS, REDFERN, PINKERTON, PARTRIDGE, and HAMMOND took part. Mr. Clemenson was heartily thanked for his address.

The winter session will close with a clinical meeting after the annual meeting on Wednesday, April 19th, and a dinner on Tuesday, April 25th.

Since October, monthly meetings have been held, and addresses have been given on various subjects of interest to the general practitioner. The result of these meetings have more than realized the expectation of the Committee and they will endeavour to arrange similar meetings next year. Each meeting has been well attended and has caused interest and discussion.

YORKSHIRE BRANCH: BRADFORD DIVISION.

THE annual dinner of the Bradford Division of the British Medical Association was held on March 30th, when ninety-six guests sat down to dinner, with Dr. T. JASON WOOD in the chair. The health of the guests was proposed by the CHAIRMAN, and replied to by Archdeacon STANTON JONES, and by Mr. J. G. HUTCHINSON, the city coroner. The toast of the Bradford Division of the British Medical Association was proposed by the LORD MAYOR OF BRADFORD, and Dr. MANKNELL replied.

Correspondence.

The Ministry of Health and the Friendly Societies.

SIR,—There is some talk of the Friendly Societies "having the right to be represented in any future negotiations with the medical profession" on the ground that they will contribute more towards medical benefit.

I deny that right. The approved societies do not pay one penny for medical benefit which they have not received from the public. It may be true that the societies will make less profit under the new arrangements, but that does not give them any "right" to dictate to the Ministry of Health.

What is the use of the nation having a Ministry of Health if one section of the public—for its own financial benefit—is to dictate how it, the Ministry, shall conduct its business? After all, the Friendly Societies are only the collectors of the public's insurance money.

The Insurance Act is a national one, not the property of a few companies, and so it must be administered entirely by the nation's representative, the Minister of Public Health. The army is a national one: I have yet to learn that the various regiments in it dictate to the Minister of State for War and tell him how to conduct the business the nation has placed in his hands.

The approved societies should have the right with the British Medical Association and other bodies to lay their views before the Ministry of Health, but they have no right or justification to be connected with the Ministry in an official capacity; they are servants only of that Ministry.—I am, etc.,

Leytonstone, April 3rd. ARTHUR T. TODD-WHITE.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following notifications are announced by the Admiralty:—Surgeon Captain R. A. Ross to R.N. Hospital, Chatham; Surgeon Commander C. J. Aveling to the *Vernon*; Surgeon Lieut. Commander G. E. Heath to R.N. Hospital, Plymouth; Surgeon Lieutenant S. R. Johnston to the *Greenwich*.

Surgeon Lieutenant E. B. Kelley has been promoted to the rank of Surgeon Lieutenant Commander.

ROYAL ARMY MEDICAL CORPS.

Captain H. S. Blackmore to be temporary Major from February 25th to June 23rd, 1918.

Captain J. Stephenson, M.C., is placed on the half-pay list on account of ill health.

The following officers relinquish their commissions:—Temporary Captains and retain the rank of Captain: V. Ker-Seymer (on ceasing to be employed), G. S. Livingston, T. E. Amyot, W. Astin, W. Cooper, M.C., H. Slater, W. J. G. Gayton, G. Walker, J. R. Rygate.

ROYAL AIR FORCE MEDICAL SERVICE.

V. R. Smith is granted a short-service commission as a Flight Lieutenant, with effect from, and seniority of, March 18th.

Flight Lieutenant S. E. Duff resigns his short-service commission, and is permitted to retain the rank of Captain.

INDIAN MEDICAL SERVICE.

Major J. H. Horne has been granted combined leave for twelve months from September 10th, 1921.

The services of Lieut.-Colonel A. B. Fry, C.I.E., D.S.O., have been placed at the disposal of the Government of Bengal (February 22nd, 1922).

Major S. R. Christophers, C.I.E., O.B.E., Assistant Director, Central Research Institute, Kasauli, has been granted leave on average pay for nine months and twelve days, with effect from March 1st, 1922, or any subsequent date from which he avails himself of the leave.

Captains to be Majors (January 30th): C. Newcomb, H. E. Shortt, D. M. Taylor.

Colonel R. Heard, V.H.S., has been appointed to be Inspector-General of Civil Hospitals and Prisons, Assam, from the date on which he assumes charge of his duties.

Lieut.-Colonel R. H. Price has been permitted to retire from the service, with effect from February 13th.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Captain H. D. Wright to be temporary Major from March 3rd to May 17th, 1918, and from June 24th to August 12th, 1918.

TERRITORIAL ARMY.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel J. Young, T.D., having attained the age limit, is retired, September 30th, 1921, and is granted the rank of Colonel with permission to wear the prescribed uniform.

Major J. H. Stephen, D.S.O., T.D., from General List, to be Lieutenant-Colonel.

Major J. M. Smith, M.C., resigns his commission and retains the rank of Major.

Major T. J. Faulder having attained the age limit is retired, and retains the rank of Major.

Captain L. Colledge resigns his commission and retains the rank of Captain.

The following officers relinquish their commissions and retain their rank, except where otherwise stated: Major J. L. Brownridge, O. R. Ennion, B. E. Potter. Captain A. W. B. Loudon, and is granted the rank of Lieutenant-Colonel. Captains, and are granted the rank of Major: E. Babst, M. Brennan, E. N. Butler, M.B.E., L. West. Captains W. J. Wilkinson, J. Humphrey, G. E. Martin, E. N. Aubrey, J. R. Bulman, W. T. Crawford, F. J. Davidson, V. T. Ellwood, H. F. G. Hall, J. J. Hummel, G. H. Harper-Smith, G. Johnston, J. D. Jones, W. K. Legassick, D. F. Macrae, R. J. R. Mecredy, S. K. McKee, D. F. Terrens, N. R. Williamson, H. Whitaker, M.C.

YEOMANRY.

Norfolk: Surgeon-Major J. F. Gordon-Dill, T.D., having attained the age limit, is retired and retains the rank of Surgeon-Major, with permission to wear the prescribed uniform.

TERRITORIAL ARMY RESERVE.

ROYAL ARMY MEDICAL CORPS.

Captain T. W. Morcom-Harneis, having attained the age limit, is retired September 30th, 1921, and retains the rank of Captain.

Captains C. J. Fox and M. Coplans, O.B.E., D.S.O., from General List, to be Majors.

Captain J. P. Kinlock, from General List, to be Captain.

DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.—*Section of History of Medicine:* Wed., 5 p.m., Mr. V. G. Plarr: Some Account of the Roll of Fellows of the Royal College of Surgeons of England (1843-1922). *Section of Odontology:* Mon., 8 p.m., Mr. J. Howard Mummery: Dental Disease in Ancient Egypt. Mr. Evelyn Sprawson: (1) Case of Multiple Follicular Odontomes (Dentigerous Cysts) in the Mandible. (2) The Extra Cusp commonly found on the Antero-internal Aspect of the Maxillary First Permanent Molar. *Section of Medicine:* Tues., 5 p.m., Clinical Meeting at the Middlesex Hospital, W.1. *Section of Urology:* Thurs., 8.30 p.m., Discussion on Tests of Renal Function, to be reopened by Mr. Jocelyn Swan, followed by Sir J. Thomson Walker, Dr. Geoffrey Evans, Dr. G. A. Harrison, Mr. S. G. Macdonald, Dr. J. R. Marrack, Mr. G. E. Neligan, Mr. Kenneth M. Walker, Mr. R. Ogier Ward. *Section of Study of Disease in Children:* Fri., 4.30 p.m., Cases; 5 p.m., Presidential Address by Sir Robert Jones. *Section of Epidemiology:* Fri., 8 p.m., Dr. F. Dittmar: Outbreaks of Enteric Fever associated with Carrier Cases. *Section of Otology:* Sat., 12 noon, Wyvern Hotel, Leicester; 2 p.m., Meeting at Infirmary: Cases.

POST-GRADUATE COURSES AND LECTURES.

CHESTERFIELD DIVISION, BRITISH MEDICAL ASSOCIATION, Chesterfield Royal Hospital.—Fri., 2.30 p.m., Mr. Pooley: Eye Conditions associated with Bodily Disorders; 3.15 p.m., Mr. F. Wilson: Injuries in the Region of the Elbow-joint (with lantern demonstration).

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION, Victoria Infirmary.—Wed., 4.15 p.m., Dr. W. H. Brown: Skin Cases.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Mon., 2.30 p.m., Dr. Saunders: Medical Wards. Tues., 10 a.m., Dr. Robinson: Gynaecological Operations and Wards. Wed., 2 p.m., Dr. Owen: Medical Out-patients. Thurs., 2 p.m., Mr. Armour: Operations. Fri., 2 p.m., Mr. Sinclair: Surgical Out-patients. Sat., 10 a.m., Mr. Banks-Davis: Operations—Throat, Nose, and Ear.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 1s. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS and ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London).

MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London).

EDITOR, *British Medical Journal* (Telegrams: Aitology, Westrand, London).

Telephone number for all Departments: Gerrard 2630 (*3 lines*).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

APRIL.

18 Tues. Willesden Division Annual Meeting, St. Andrew's Parish Hall, High Road, Willesden Green, 8.30 p.m.

19 Wed. London: Hospitals Committee, 2.30 p.m.
Croydon Division: Croydon General Hospital, 3.30 p.m.; Annual General Meeting, followed by Clinical Meeting.

20 Thurs. Darlington Division, Greenbank Hospital. Address by Mr. F. C. Pybus on Surgery of Childhood, 8.30 p.m.
South-Western Branch, Barnstaple.

21 Fri. London: Standing Subcommittee of Central Ethical Committee, 2.30 p.m.
East York Division: Annual Dinner, Royal Station Hotel, 8 p.m.
Stockton Division Scientific Meeting, Stockton and Thornaby Hospital, Lecture by Mr. J. Hamilton Barclay on Acute Intestinal Obstruction, 8.30 p.m.

25 Tues. Croydon Division: Annual Dinner, Greyhound Hotel, Croydon, 8 p.m.
Sunderland Division, 48, John Street, 8.15 p.m.

26 Wed. **Council**, 10 a.m.

27 Thurs. Norfolk Branch: Norfolk and Norwich Hospital, Norwich. Address by Medical Secretary, 3 p.m.
Worcestershire and Herefordshire Branch, Great Malvern Hospital: British Medical Association Lecture by Professor Murray on Hyperthyroidism and its Treatment, 3 p.m.

28 Fri. London: Propaganda Subcommittee, 2.15 p.m.
Camberwell Division: Camberwell Infirmary, Brunswick Square, 9 p.m.

MAY.

3 Wed. Edinburgh Branch: South-Eastern Counties Division Annual Meeting, Railway Hotel, Newtown St. Boswells, 3.15 p.m. Executive Committee, 3 p.m.

5 Fri. City Division, Royal Northern Hospital, Holloway Road, N.7.

12 Fri. London: Insurance Acts Committee, 2.30 p.m.

17 Wed. Camberwell Division, Camberwell Infirmary. Lecture by Mr. F. N. Doubleday, M.R.C.S., L.D.S., on the Diagnosis of Pyorrhoea Alveolaris in its Relation to General Disease, 9 p.m.

18 Thurs. London: Conference of Representatives of Local Medical and Panel Committees at Central Hall, Westminster. Principal item of business: Approved Societies and Control of Medical Benefit.

APPOINTMENTS.

LISTER, Lieut.-Colonel A. E. J., M.B., B.S.Lond., F.R.C.S.Eng., I.M.S.(ret.), Honorary Assistant Surgeon to the Western Ophthalmic Hospital, London.

PATERSON, Donald, B.A., M.B., Ch.B., M.R.C.P., Physician to Out-patients at the Hospital for Sick Children, Great Ormond Street, London, W.C.

EDINBURGH ROYAL INFIRMARY.—The following appointments have been made:—Resident House-Physician: J. M. Black, M.B., Ch.B., to Dr. Rainy (six months). Resident House-Surgeon: C. Stewart, M.B., Ch.B., to Mr. Pirie Watson, S.O.P.D. (three months). Non-resident House-Surgeons: S. Young, M.B., Ch.B.Glasg., to Dr. J. S. Fraser (three months); Miss Dorothy Mitchell, M.B., Ch.B., to Dr. J. D. Lithgow (six months). Clinical Assistants: W. J. Gibson, M.B., Ch.B., to Dr. J. S. Fraser (three months); Miss Elizabeth S. Forbes, M.B., Ch.B., to Dr. J. D. Lithgow (three months); Miss Agnes G. Brough, M.B., Ch.B., to Dr. J. D. Lithgow (three months); Miss Flora MacDonald, M.B., Ch.B., to Dr. Paterson (three months).

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 9*s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.*

BIRTH.

WADDY.—On 28th March, 1922, at 23, Woodhead Road, Berry Brow, Huddersfield, to Dr. and Mrs. S. H. Waddy—a daughter.

MARRIAGE.

McMICHAEL—CRAWFORD.—At the George A. Clark Town Hall, Paisley, on 4th April, by the Rev. C. J. T. Merrylees, M.A., assisted by the Rev. Horace Govan, M.A., Dr. George V. T. McMichael, Medical Officer of Health, Paisley, to Isa, daughter of William Crawford, J.P., Alma, Potterhill, Paisley.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, APRIL 22ND, 1922.

ORGANIZATION OF THE MEDICAL PROFESSION IN IRELAND.*

BY
THOMAS HENNESSY, F.R.C.S.I., D.P.H.,
IRISH MEDICAL SECRETARY, BRITISH MEDICAL ASSOCIATION; PRESIDENT OF THE SECTION OF STATE MEDICINE, ROYAL ACADEMY OF MEDICINE IN IRELAND.

THE want of efficient organization of the Irish medical profession is frequently deplored by many of its members. A well-organized profession should be able to command satisfactory conditions of medical service for its members and to safeguard the public interests. Such a medical service would be bound to react very favourably on the quality of the medical services rendered to the people, and thus the public would owe a great deal to a well-organized profession.

At the present moment, and at all times, the medical profession in Ireland, owing to many causes, is very indifferently organized and quite unequal to protect and to promote its most vital interests, with results which, primarily unsatisfactory to itself, are none the less injurious to the people of the country, inasmuch as the Irish medical services, for their main purposes, are a full half-century behind the times. The causes for this very undesirable state of affairs are generally well known to the too limited number of the profession who have concerned themselves with medical politics. Their recognition, however, is of little value while there is, from any cause, hesitation in stating them publicly and bringing their unfortunate results face to face with those of the profession and the public who are mainly responsible. In dealing with this subject I shall take the risk of being as candid as I can, as I feel if I were to act otherwise I should fail in my object, as well as waste the time of the Section of State Medicine. In the circumstances much of what I say will possibly, at the time and place, appear irrelevant, but I hope to show its bearing before I am finished.

It is frequently stated that as many as 50 per cent. of the Irish profession have no direct interest in medical politics. This view has but little foundation. All sections of the profession, especially in Ireland, are interdependent, and each should therefore take an interest and do its part towards the well-being of the whole. There are, however, in Ireland, and elsewhere, too many members of the medical profession who (judging from their attitude) do not admit this proposition, and give little or no assistance to any organization concerned with the promotion of the interests of their profession. There are, indeed, many with a very direct interest in medical politics who, while sharing the benefits won by the organizations, refuse to join them and audaciously state, in opposition to facts, "they are no good."

In the circumstances I must try (1) to show if we are to be saved from the faults inherent in ourselves and from an unworthy individualism that there is, at the moment, a very urgent necessity for the organization of the Irish medical profession; and (2) that the existing medical organizations, even with their shortcomings, deserve better support from the profession than they receive.

Supply and Demand.

It is mainly owing to the lack of effective organization that the ratio of supply to demand still regulates generally the value of medical services. All the important skilled trades have, through their unions, taken the precaution, by limiting the number of apprentices in the different crafts, that the ratio of supply to demand will not, at least in times of normal employment, be out of due proportion, and thus such trades are safeguarded from the exploitation of more skilled hands than are required. In the medical profession there is no effective means of regulating the ratio that should exist between supply and demand, and the resulting excess of doctors over the requirements of our medical system is detrimental both to the profession and to the public.

One of Ireland's greatest industries is the manufacture of doctors. In support of this statement it is only necessary to mention that fully 80 per cent. of the doctors newly qualified in Ireland are for export. In the past such an excess of Irish doctors over the openings for them in the Irish medical services and in Irish private practice was not very serious as they found a scope for their professional activities in England and in the dominions. This outlet, however, for the Irish plethora of medical men is fast coming to a close owing to the medical schools in those countries being now able to provide sufficient medical practitioners for their national requirements. It may be urged that the knowledge of this fact, which the medical schools do not proclaim, will remedy the trouble by limiting the number of medical students. It is doubtful if it will in Ireland. The traditional liking of the Irish for learning and the learned professions, and the determination to make a success, even in the commercial sense, of our Irish universities and their different schools are factors, in this respect, that must be reckoned with. Perhaps with the main view of helping the universities innumerable scholarships, exhibitions, and grants have been provided for those bodies, with the result that a large proportion of the medical students of to-day are receiving their professional training at the public expense. Formerly the provision of scholarships, etc., was justified in the public interest as they made opportunities for young people with limited or no means, but possessed of intellectual capacities above the average, which when developed might be expected to confer substantial benefits on mankind. Nowadays scholarships and such aids are for the most part founded as attractions to the different competing universities. Moreover, they are so numerous that they may be obtained and retained by any student with a half-way intellect and something more than average industry.

If the medical schools of the universities and the licensing bodies were so controlled by the General Medical Council—and it has the necessary powers—that they could not so hurriedly place their output of doctors in the market they would do much better for the public by providing them with a more finished medical practitioner. The training of the present-day newly qualified doctors has the same main drawbacks that it had twenty years ago. They undertake practice with considerable theoretical knowledge and more experience of laboratory methods than heretofore. The number, however, who never set a fracture, reduced a dislocation, nor put on a midwifery forceps is as big as in the olden times. This appalling lack of practical training is an injustice upon an unsuspecting public and, as many of us must have had reason to admit, calamitous in its consequences. To remedy matters in this respect provision should be made that no newly qualified doctor should be allowed to undertake independent general practice until he has done one year of post-graduate work following immediately after qualification. The curriculum for this year should be entirely practical and consist of work generally and likely to be met with in everyday practice. Obstacles to the adoption of this course can be raised, but they should not be unsurmountable where the lives of the public are at stake.

The addition of one year for practical work, whilst safeguarding the public, will, owing to the additional expense involved, lessen the number of doctors and help to regulate within proper limits the ratio of supply to demand, and to rid us of the present unemployment question in the medical profession. Overcrowding in the profession in present circumstances leads to an undesirable competition and interferes with professional independence. To keep the wolf from the door, behind which are sometimes his young helpless children, the hard-pressed doctor, in addition to other things, must humour and minister to the disordered imagination of his neurotic patients. If he dare to be candid—even sympathetically candid—he is almost sure to lose these patients, and occasionally their more normal relatives and the income derived from all of them. Such patients will find their way to another doctor in whom the moral professional sense, perhaps never very high, has become blunted owing to the stress of an undue competition. He panders to them,

* Read in the Section of State Medicine, Royal Academy of Medicine in Ireland, January 13th, 1922.

and somehow cannot resist being the more obsequious to them when he knows they have fallen foul of a colleague because he treated them as an honourable and conscientious doctor should. The patients in their imagined sense of injury make up their minds to be pleased with their latest doctor, and frequently become seized with an uncontrollable desire to become well so that they might feel the ecstasy of circulating broadcast that their former doctor knew nothing about their ailments, and if they had not gone to a doctor who at least realized the commercial value of being "all things to all people," they would be now reposing in their graves or urns.

It is owing to these conditions of medical practice that not a few able but conscientious doctors go under. The picture I have been drawing for you is not overcoloured. The importance of realizing its existence, even if it only applies to a comparatively small proportion of the profession, is that the number in many areas is sufficiently large to make it very difficult for conscientious doctors to discharge honourably and efficiently their duties to their patients.

The Need for Effective Organization.

All I have said regarding those matters would be irrelevant if I did not believe that an efficient medical organization would counteract them. A medical organization that would, in the narrow sense, limit its activities to advancing our material interests would fall far short of what it should be. To make it possible for the profession to practise their calling conscientiously and honourably, in their own and the public interests, should be the first aim of a medical organization that would hope to command the confidence and support of the profession as a whole. I will, when outlining a medical organization, make some suggestions with regard to a statutory body that would regulate the conduct of certain members of the profession who are at most times ready to degrade it in pursuit of their own sordid interests. This class, in a sense, is much more reprehensible than those who bring discredit on the profession through their being the helpless victims of inherent moral infirmities.

I have claimed that the existing medical organizations in Ireland deserve, on the merits, better support from the Irish medical profession. There are close on 1,000 medical practitioners engaged in the Irish Poor Law medical services. The medico-political activities of all Irish medical organizations have been in the past mainly concerned with the improvement of the status of Irish Poor Law medical officials. In addition to the Poor Law medical practitioners, there are not more than 300 other Irish medical practitioners for whom the medical organizations could, in the limited sense, render any substantial benefits. The effective membership of any one of the two medical organizations in Ireland (Irish Medical Association and British Medical Association) in recent years rarely exceeded 600. The two associations taken together have a membership of about 800 out of some 2,400 doctors more or less engaged in medical practice in Ireland; that is, more than two-thirds of the Irish medical profession are not members of any medical association, or, in other words, two-thirds of the Irish profession decline to join any medical association, notwithstanding that they have been repeatedly invited to do so.

When members of the associations in Ireland deduct the cost of their journals the contributions towards their medico-political and other activities are small, and compare very unfavourably with the money paid by other workers to their trade unions. In addition to the journals supplied by the associations and their medico-political activities, there are connected with both associations insurance agencies through which members receive substantial reductions in the premiums for their different insurances. Arrangements can be made by which a member selects his own insurance company and receives—on account of his membership—the usual reductions. In this way the members of the associations receive reductions in their policy premiums, which are frequently three or four times more than their annual subscriptions to the associations. There are, however, members and non-members who view with suspicion the insurance agencies connected with the associations, and cannot understand how they can get better terms through them than by insuring direct with the principal offices. The reductions are effected by the offices of the associations acting as unpaid agents for the insurance companies and thus securing for the members terms less by the agents' fees which they should otherwise pay.

Regarding Irish medico-political activities in recent years, there were over sixty Irish Poor Law unions visited within the past three years by the officials of the medical organizations, and it was mainly owing to their efforts, with the co-operation of the local medical men, that the salaries of the Poor Law medical officers in those unions have been increased by from 80 to 150 per cent. The example of those unions was very helpful in other parts of the country where there was no direct representation made by the associations. Nevertheless, less than 40 per cent. of the Poor Law medical officers are members of any association, and the majority of them have never given as much as one five-shilling piece to any organization concerned with the furthering of their interests. The minority, however, includes a good proportion of members who subscribe from £3 to £5 per annum to the medical organizations. Those members are, from a worldly point of view, nothing better off than their defaulting colleagues, but, unlike the latter, they wish to mark their appreciation of the services rendered to them by the medical organizations. That there are so many defaulters in the Irish medical profession can only be accounted for by the total absence of anything like a healthy public medical opinion. The great strength of the organized trades is the existence of a public opinion that would not tolerate for one day the shirking experienced in the medical organizations. With the trades equal gains must be met by equal efforts. Individual freedom is very precious, but when it takes the form of an individual licence which permits some persons to profit by other people's efforts there can be nothing said for it.

Anyhow, owing to the unrepresentative character of our medical associations in Ireland, even when acting conjointly, it became necessary, if only in the interests of members of the medical organizations, to form, as far back as nine years ago, the Irish Medical Committee. That body is indisputably representative, and is regarded as such by all the departments of the State concerned with the administration of medical affairs. Its representative constitution, however, rests upon the fact that all medical practitioners are free to have a voice in its policy, and that voice, if it is their wish, costs them nothing, and there is unfailing evidence, for the most part, that they wish it to cost them nothing. Any funds which have been subscribed for the Irish Medical Committee come, with few exceptions, from the members of the associations. The Irish Medical Committee, owing to its accepted representative character by Government departments, has necessarily done in recent years a very large amount of medico-political work. Though indispensable it could not exist, owing to the lack of funds, only that the Irish Medical Association and the British Medical Association put at its disposal their secretaries, who discharged their duties in an honorary capacity. If the Irish Medical Association and the Irish Office of the British Medical Association did nothing else, this would justify their existence and should command for them sufficient financial support from the Irish profession to make those associations self-supporting, as well as to put them in a position to undertake work on a more comprehensive scale for the profession.

The fact, however, is that the Irish Medical Association is compelled from want of funds to limit its usefulness to meet its very moderate expenses. The British Medical Association, when opening its Irish offices, with myself as whole-time Irish Medical Secretary, possibly expected it would be self-supporting, but it has never been anything of the kind.

Medical Future of Ireland.

Now we are on the eve—indeed in some respects we are in the midst—of far-reaching medical changes in Ireland. Is the Irish medical profession, with regard to organization, in a position to make its voice felt in the public interest and in its own respecting the reforms which are taking place and about to come? It is not, and that such is the case can only be expected from a profession which seems, in spite of every effort, determined, for one or more reasons, not to be organized. What can be done?

The first thing necessary is that the big majority of the Irish medical profession who are outside existing organizations should hold converse for half an hour with their consciences. This introspection may (though I am not too sanguine that it will) have the result that Irish medical men, more or less as a body, will take leave of a self-centred and absorbing individualism, and a discreditable apathy which is too often pleaded as an extenuation, though a more offensive description would more accurately place such an excuse in its proper light. To join a medical association, with the punctual payment of subscriptions, is far from being everything, though,

in one respect, essential if good and needed work is to be done. A man must be determined to live up to the rules and ideals of his association and, by example and other influences, to get others to do the same. To do those things there is no need to be a superman. It only requires sufficient common sense to anticipate that it will prove to be the best and safest policy in the long run, and the only way, in the practice of medicine, to attain a soul-comforting happiness and a sufficiency of the material things which are indispensable to life.

There has been for many years amongst medical leaders in Ireland a genuine desire to have one medical body which would act as the mouthpiece and executive of the Irish profession. There is no general wish to wipe out any of the existing bodies in Ireland, as they all have served worthy purposes in their time. A medical association to meet the needs of the Irish medical practitioners must have two sides—the scientific and the medico-political. The medical outlook of any member of the Irish profession is not so narrow as to entertain the belief that it is possible to have a distinctively Irish association in its scientific side. Medical science—like all other sciences—has no territorial or national limitations. Moreover, the production of a weekly Irish medical journal is obviously—particularly in the commercial aspect—an impossibility. Medical practitioners who desire to keep abreast with the knowledge of their profession will make provision for a weekly medical journal.

The 1919 Scheme for Unification.

In 1919 a meeting of medical delegates, fully representative of the Irish profession, considered the pressing necessity there was for one self-supporting medical organization in Ireland. This meeting directed the appointment of a joint committee which had for its basis the following mandate: To consider the question of uniting the Irish medical profession in one representative organization and the best method of attaining that object. The Joint Organization Committee was subsequently appointed in accordance with the instructions of the meeting of delegates, and consisted of five members of the Irish Medical Association, five members of the Irish Committee of the British Medical Association, and five members of the Irish Committee. The recommendations of the Organization Committee were unanimous and were arranged under the following headings:

1. One medical body for all Ireland.
2. The name of the medical body to be the Irish Medical Union or Association.
3. The members of the Irish Medical Union or Association to be honorary members of the British Medical Association with the following privileges:
   (*a*) Attendance at scientific meetings of the British Medical Association, including the Annual Meeting.
   (*b*) The British Medical Journal—with Irish news—in the form of a periodical Irish supplement.
   (*c*) The right to be enrolled as an ordinary member of the British Medical Association on taking up residence in Great Britain or the Colonies.
   (*d*) Representation, without the right of voting, at the Annual Representative Meeting of the British Medical Association, and two representatives on the Council of the British Medical Association.
   (*e*) Participation in scientific grants.
4. Arrangements for the payment *per capita* for the privileges requested.
5. The new Irish medical body to take over the finances of its own central offices and Branch and Divisional expenses. The annual subscription for the new Irish medical body was fixed at £3 3s. per annum.
6. The medico-political policy of the Irish profession to be decided by representative meetings summoned under the auspices of the Irish Medical Union or Association.

Though this scheme was drafted only a little over two years ago, much in the meantime has happened in Ireland that may affect its successful working. The scheme was meant to apply to an unpartitioned Ireland, and in these circumstances a meeting of all-Ireland delegates approved the scheme. The scheme, however, in accordance with the instruction of the meeting of delegates, was not submitted for final approval by means of a referendum to the Irish profession. The referendum contemplated by the meeting of delegates was to have the matter referred to local meetings convened for that and other purposes. A postal referendum for most medical purposes invariably proved a failure in Ireland owing to the prevalence of a real or affected apathy.

As you probably noticed, one of the unavoidable recommendations of the Organization Committee is that the new Irish medical body should be responsible for the expenditure of its central offices, branches, and divisions. The Committee also recommended that the Secretary of the Irish Medical Association and the Irish Medical Secretary of the British Medical Association be continued at their present salaries as the secretarial staff of the new Irish medical organization. There is no doubt but both of those officials would find plenty of work to do in the new body, but from a too long personal experience of the finances that may be expected from Irish medical sources, I have no delusions with regard to them and their future possibilities, and I am certain that one, if not both, secretaries would draw blank on pay day.

Besides, as the result of my own disagreeable experiences in canvassing for new members and my efforts to maintain the membership of my Association, even with my now narrowed outlook owing to age and other conditions, I should at once, if asked, decline to accept office under the new body or any other body depending for its funds on Irish medical resources. I would be very glad to do its work, even in an honorary capacity if I could afford it, but I have enough of ordinary self-respect left to decline to be under the necessity of begging to get paid a salary for which I felt I had given a fair good return. I have no desire in this matter to obtrude the personal element, but it is unavoidable if earnest and liberal members of the Irish medical profession are to realize the obstacles they will encounter in forming a much needed unified medical organization in Ireland. However, my experience with Irish medical bodies is only that of my predecessors in office, one of whom is still owed—and will be owed—a portion of the salary he well earned; another, now dead, whose work was honorary, advanced out of his moderate resources a considerable sum of money to meet the expenses of the Irish medical organization. Again, there are not a few members of Irish Medical Committees who, to attend meetings of those bodies, have to travel at their own expense long journeys to Dublin. During such absence in the interests of their colleagues, those same colleagues show their appreciation of the sacrifices of their representatives by taking over their practice and the fees that go with it. No other organized bodies in Ireland, even those of the humblest wage-earners, work on such unprincipled lines.

A Statutory Medical Body for Ireland.

I hope I have made the Section realize the very unsatisfactory condition of medical politics and medical organization in Ireland, as well as the difficulties placed in the way of the big majority of the profession whose ambition is to practise their calling honourably and conscientiously. I believe, however, that any medical organization, though fairly efficient, will not influence much for the better the actions of a certain proportion of the profession, especially if it has no other corrective at its disposal beyond the moral philosophy of an ethical subcommittee of a medical association. It should not be beyond the properly directed influence of the Irish medical profession to get the new Irish Government to establish a statutory Irish medical body with penal powers similar to the Incorporated Law Society in Ireland and the General Medical Council—but on a more comprehensive scale—for the regulation of the professional conduct of Irish medical practitioners. In the public interest this body is an absolute necessity if unsuspecting people are to be saved from the unscrupulous doctor, who, frequently in a mixed spirit of vanity, malignancy, and commercialism, tries to score off a medical colleague who, sometimes in difficult circumstances, is ably and honestly acting in the best interests of his patient.

If a successful doctor succeeds on strictly honourable lines he, all the surer, brings upon himself the hatred and excites the envy of a certain type of professional rival. The heads of State departments concerned with medical administration in Ireland know how difficult it is for honourable members of the profession to discharge conscientiously their official medical duties in the face of the methods of a limited number of the undesirables of our profession, and they would be glad to support the medical profession in their demand for a statutory medical body, with ample penal powers, for the regulation of professional conduct in the practice of medicine.

When introducing my subject I stated that if we were to do any good I should treat medical affairs as they exist in our Irish profession, but they are nothing worse than they are elsewhere. It is not, nevertheless, an extravagant description to call the medical profession great and noble in spite of its inevitable misfortune to have amongst its members a certain proportion of men whose temperaments are entirely unsuited to an avocation that is continually making unstinted calls on the highest traits of humanity.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

EDINBURGH BRANCH: SOUTH-EASTERN COUNTIES DIVISION.—The annual meeting of the South-Eastern Counties Division will be held in the Railway Hotel, Newtown St. Boswells, at 3.15 p.m., on Wednesday, May 3rd. Business: Election of officers; annual report of Executive Committee; instructions to Representative, particularly as regards hospital question; Hawick Maternity Centre, resolution under Ethical By-laws as to professional conduct; any other competent business. A meeting of the Executive Committee will be held at 3 p.m. at the same place on the same day.

FIFE BRANCH.—The last clinical meeting for this winter will be held in the Station Hotel, Kirkcaldy, on Thursday, April 27th, at 4 p.m., when Dr. Edwin Bramwell, M.D., Edinburgh, will address the meeting on psycho-analysis in general practice. Thereafter a dinner will be held at 5.45 p.m. prompt, when it is expected that all the lecturers during the winter will be present as guests of the Branch. Dinner ticket, 8s. Morning dress.

ESSEX BRANCH: SOUTH ESSEX DIVISION.—A flag whist drive for members and their families will be held at Boots' Café, High Street, Southend-on-Sea, on Friday, April 21st, at 8.15 p.m., in substitution of the supper announced for April 4th. This is the first time that ladies have been invited to any of the Division's functions, and it is hoped that there will be a large attendance. Tickets 4s. each. Prizes and light refreshments will be provided.

METROPOLITAN COUNTIES BRANCH: CAMBERWELL DIVISION.—The annual general meeting of the Camberwell Division will be held at the Camberwell Infirmary, Brunswick Square, at 9 p.m., on Friday, April 28th, for instruction of the representatives. The report of the Council on the organization of voluntary hospitals (SUPPLEMENT, February 25th) will be discussed; also the question of professional secrecy and other important matters.

METROPOLITAN COUNTIES BRANCH: LAMBETH DIVISION.—A meeting of the Lambeth Division will be held at Lambeth Carlton Club, 376, Coldharbour Lane, Brixton, on April 26th, at 9.30 p.m., when Mr. Alan A. Todd, M.S., F.R.C.S., will read a paper on "Injuries about the elbow and their treatment," which will be illustrated with lantern slides. Any member of the British Medical Association is cordially invited.

METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.—A meeting of the Lewisham Division will be held on Tuesday, April 25th, at 8.45 p.m., at 326, Brownhill Road, Catford, S.E.6, when Dr. G. W. Charsley will occupy the chair. Dr. J. E. White will open a discussion on "The problem of infant mortality."

METROPOLITAN COUNTIES BRANCH: MARYLEBONE DIVISION.—An ordinary meeting of the Marylebone Division will be held at 11, Chandos Street, at 5.30 p.m., on Wednesday, April 26th. Agenda: Notices of motion by Dr. C. O. Hawthorne and by Dr. Blackhall-Morison. Nomination of Representatives to Central Council. Report on hospital policy.

NORFOLK BRANCH.—A meeting of the Norfolk Branch will be held at the Norfolk and Norwich Hospital, on Thursday, April 27th, at 3 p.m. Dr. Alfred Cox, O.B.E., will give an address on "Some Commonplaces of Medical Organization, together with Remarks on the B.M.A. Policy as regards Hospitals and Approved Societies." 4.15 p.m., afternoon tea.

NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.—A meeting of the Sunderland Division will be held at 48, John Street, on Tuesday, April 25th, at 8.15 p.m. Business: To consider the standing resolutions of the Division and the suggested changes recommended by the special subcommittee and approved of by the Executive Committee for adoption by the Division, as published in last week's SUPPLEMENT. Report of Hospital Subcommittee. Other business. The annual dinner of the Sunderland Division will be held in the Grand Hotel, Bridge Street, Sunderland, on Friday, April 28th, at 7.15 p.m., when Dr. W. G. Thompson will preside. Tickets (exclusive of wines) 15s. each. Applications for tickets should be sent to Dr. H. Boyd Cunningham, 13, Ward Terrace, Sunderland, not later than April 24th.

SURREY BRANCH: GUILDFORD DIVISION.—A clinical meeting of the Division will be held at the Royal Surrey County Hospital, Guildford, on Thursday, April 27th, at 4.30 p.m. (tea, 4.15 p.m.). Dr. H. Charles Cameron will read a paper entitled "Children in general practice."

WILTSHIRE BRANCH.—A meeting of the Wiltshire Branch will be held at the Town Hall, Trowbridge (to-day) Saturday, April 22nd, at 3 p.m. Agenda: To consider the report of the County Medical Service Committee on Hospital Service. To consider and answer questions received from the Wilts Voluntary Hospitals Committee. Nomination of Council. To consider a proposal to contribute to the Wood-Hill Fund. Matters of great importance to all members of the profession will be discussed, and it is hoped that all members will make an effort to attend.

WORCESTERSHIRE AND HEREFORDSHIRE BRANCH.—The spring meeting of the Worcestershire and Herefordshire Branch will be held at Great Malvern Hospital on Thursday, April 27th, at 3 p.m., when a British Medical Association lecture will be given by Professor Murray (Manchester) on "Hyperthyroidism and its treatment."

DIARY OF SOCIETIES AND LECTURES.

HUNTERIAN SOCIETY, Sion College, The Embankment, E.C.4.—Wed., 9 p.m., Annual General Meeting.

ILLUMINATING ENGINEERING SOCIETY, Society of Arts, John Street, Adelphi, W.C.—Thurs., 8 p.m., Discussion: The Use of Light in Hospitals.

LONDON DERMATOLOGICAL SOCIETY, 49, Leicester Square, W.C.2.—Tues., 4.30 p.m., Agenda: Pathological Specimens and Cases; 5.15 p.m., Dr. R. Prosser White: Syphilis and Marriage.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—Demonstrations:—5 p.m., Mon., Professor Shattock: Specimens Illustrating Repair; Fri., Sir Arthur Keith: Forms of Inguinal Hernia.

TUBERCULOSIS SOCIETY, Margaret Street Hospital, Margaret Street, W.1.—Mon., 7.30 p.m., Discussion on the Therapeutics of Tuberculosis.

POST-GRADUATE COURSES AND LECTURES.

CHESTERFIELD DIVISION, BRITISH MEDICAL ASSOCIATION, Chesterfield Royal Hospital.—Fri., 2.30 p.m., Mr. Mount: Intestinal Obstruction; 3.15 p.m., Professor Leathes: Practical Methods of Testing Renal Efficiency.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION, Royal Infirmary.—Wed., 4.15 p.m., Mr. John Patrick: Surgical Cases.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.30 p.m., Dr. W. E. Fothergill: Scope of Modern Gynaecological Surgery.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Mon., 2 p.m., Dr. Grainger Stewart: Wards. Tues. 2 p.m., Dr. Scott Finchin: Out-patients. Wed., 2 p.m., Dr. Morton: *X*-ray Department. Thurs., 2 p.m., Mr. MacDonald: Out-patients. Fri., 2.15 p.m., Mr. Addison: Operations. Sat., 2 p.m., Mr. Simmonds: Out-patients.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 1s. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS and ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London).
MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London).
EDITOR, *British Medical Journal* (Telegrams: Aitology, Westrand, London).
Telephone number for all Departments: Gerrard 2630 (*3 lines*).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)
IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

APRIL.

22 Sat. Wiltshire Branch, Town Hall, Trowbridge, 3 p.m.
25 Tues. Croydon Division: Annual Dinner, Greyhound Hotel, Croydon, 8 p.m.
Lewisham Division, 326, Brownhill Road, Catford, S.E.6, 8.45 p.m.
Sunderland Division, 48, John Street, 8.15 p.m.
26 Wed. **Council**, 10 a.m.
Lambeth Division, Lambeth Carlton Club, 376, Coldharbour Lane, Brixton, 9.30 p.m.
Marylebone Division, 11, Chandos Street, W., 5.30 p.m.
27 Thurs. Fife Branch: Clinical Meeting, Station Hotel, Kirkcaldy, 4 p.m. Dinner, 5.45 p.m.
Guildford Division: Clinical meeting, Surrey County Hospital, Guildford, 4.30 p.m.
Norfolk Branch: Norfolk and Norwich Hospital, Norwich. Address by Medical Secretary on Some Commonplaces of Medical Organization, together with Remarks on the B.M.A. Policy as regards Hospitals and Approved Societies, 3 p.m.
Worcestershire and Herefordshire Branch, Great Malvern Hospital: British Medical Association Lecture by Professor Murray on Hyperthyroidism and its Treatment, 3 p.m.
28 Fri. London: Propaganda Subcommittee, 2.15 p.m.
Camberwell Division: Camberwell Infirmary, Brunswick Square, 9 p.m.
Sunderland Division: Annual Dinner, Grand Hotel, Bridge Street, Sunderland, 7.45 p.m.

APPOINTMENTS.

CONNELL, O. G., M.C., L.R.C.S. and P.I., Medical Superintendent to the Norfolk County Mental Hospital, Thorpe, Norwich, vice Lieut.-Colonel D. G. Thomson, C.B.E., M.D. (ret.).

MINKLESTONE, Hyman, M.B., Ch.B.Shef., House-Surgeon to the London Male Lock Hospital, 91, Dean Street, Soho, W.1.

HUTCHINSON, Richard C., M.D., Medical Superintendent, Royal National Hospital for Consumption, Ventnor.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 9*s.*, *which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.*

BIRTH.

LEEMAN.—On 8th April, 1922, at 212, Osmaston Road, Derby, to Dr. and Mrs. P. G. Leeman—a son.

DEATH.

BLIGH.—On the 13th April, at Liverpool, Alexander Murray Bligh, M.R.C.S., aged 88.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, APRIL 29TH, 1922.

CONTENTS.

PAGE

BRITISH MEDICAL ASSOCIATION.

Notices of Motion by Divisions for the Annual Representative Meeting at Glasgow 114

Current Notes:

EBBW VALE WORKMEN'S MEDICAL SOCIETY 113
SPECIAL PANEL CONFERENCE 113
THE MEDICAL SECRETARY'S TOUR OF THE SOUTH-WESTERN BRANCH 114
ADDRESS BY THE SCOTTISH MEDICAL SECRETARY 114
TRAVELLING ALLOWANCES TO MEDICAL WITNESSES AT INQUESTS 114
WILLESDEN HEALTH POLICY 114

ASSOCIATION NOTICES:

TABLE OF DATES 120
CHANGES OF AREAS 120
BRANCH AND DIVISION MEETINGS TO BE HELD 120

MEETINGS OF BRANCHES AND DIVISIONS 120

PAGE

Annual Meeting, 1922: Hotel Accommodation in the Vicinity of Glasgow 122

SCHOLARSHIPS AND GRANTS IN AID OF SCIENTIFIC RESEARCH 122

CORRESPONDENCE:

THE PROFESSION AND APPROVED SOCIETIES 123

INSURANCE NOTES:

LOCAL MEDICAL AND PANEL COMMITTEES 123
GERMAN HEALTH INSURANCE STATISTICS 123

NAVAL AND MILITARY APPOINTMENTS 123

DIARY OF SOCIETIES AND LECTURES 124

ASSOCIATION INTELLIGENCE AND DIARY 124

APPOINTMENTS 124

BIRTHS, MARRIAGES AND DEATHS 124

British Medical Association.

CURRENT NOTES.

Ebbw Vale Workmen's Medical Society.

THE name of Ebbw Vale arouses in the minds of active Association workers recollections which go back for many years. In Ebbw Vale there was one of the earliest, biggest, and (for a time) most successful attempts to abolish the private practitioner in connexion with industrial work in South Wales and substitute for him the salaried medical officer. The Monmouthshire Division, under the able guidance of its secretaries, Mr. W. J. Greer and Mr. R. J. Coulter, realized the importance of the matter to the whole profession and never relaxed its opposition to the movement. For many years Ebbw Vale appeared regularly amongst the "Important Notices" in the advertisement pages of the BRITISH MEDICAL JOURNAL, and as a result the workmen's committee found itself unable to provide for its constituents the medical service they needed. Consequently, after many conferences with representatives of the British Medical Association, both central and local, this committee abandoned the salaried service and gave its members "free choice." This was a great improvement, and the Association was able to remove Ebbw Vale from among its "Important Notices." Questions of remuneration, however, continued to arise, and there were severe struggles before the workmen's committee could be induced to raise the remuneration of its doctors during the war and shortly afterwards, though the workmen in the district were earning very high wages. In 1920, after a particularly keen controversy, the Association succeeded in getting the remuneration for the family fixed at 22s. (in addition to the insurance capitation rate). In the latter part of last year the workmen's committee, pleading poverty, attempted to reduce this rate to 13s., the pre-war rate. Further negotiations with the Association took place, and as a result the committee reluctantly consented to go to arbitration, which was held in the latter part of December, 1921. The committee claimed a reduction to 13s., while the Medical Secretary, acting on behalf of the doctors, urged that no reduction ought to be made, but that in any case, if the family rate had been fixed at 22s. when the insurance rate was 11s., the family rate should now certainly not be less than 19s. The arbitrator awarded 18s. 4d., much to the astonishment of the committee, who pleaded that their fund was in such a condition that it could not possibly pay the amount awarded. This excuse came with a particularly bad grace from a body one of whose chief reasons for existence was that only in such a way could they build up a reserve fund for the rainy days which must always be expected in the industrial districts. The workmen's committee next proceeded to give their doctors notice to terminate their engagements at the earliest possible date—namely, on April 30th, 1922. The doctors were again offered the 13s., but, acting on the advice of the Association, refused this and stated their willingness either to accept the arbitrator's award, or, preferably, to adopt the system of poundage, whereby the doctors' remuneration would rise and fall with that of the workmen. The committee refused these suggestions, and is now advertising for doctors. The advertisement is a very specious one to those who know nothing of the history of this society. Medical practitioners who have any regard for the solidarity of the profession or for their own professional reputation will, of course, refuse to interfere in a struggle which the local doctors have decided to fight out. Those who may be attracted by the advertisement of the workmen's committee are reminded that the doctors, though dismissed by that committee, are not leaving the district, but are placing their names upon the Insurance Committee's list, and are offering their services to the families of the insured persons at the same rate as is paid to other colliery and works doctors in the immediate vicinity. The profession will watch with great interest the result of this struggle, in which the local doctors will have the full support of the Association both centrally and locally.

Special Panel Conference.

As already announced, a special conference of representatives of Local Medical and Panel Committees will be held on May 18th, 1922, at the Central Hall, Westminster, London, S.W., at 10 a.m. In view of the great importance of the subject to be discussed—the approved societies and medical benefit—it is hoped that every committee will make a special effort to send a representative. Copies of the provisional agenda of the conference have now been circulated to honorary secretaries and chairmen of Local Medical and Panel Committees. Committees desiring to place motions on the final agenda are requested to send them to the Medical Secretary, 429, Strand, W.C.2, as soon as possible. Motions received not later than the first post on Monday, May 8th, will be included in the final agenda, which it is hoped will be forwarded to representatives and secretaries on May 11th. Though the appearance of motions and amendments on the final agenda necessarily obtains for them greater publicity and opportunity for serious consideration, relevant motions or amendments subsequently received will, of course, be dealt with at the conference.

The Medical Secretary's Tour of the South-Western Branch.

The following is the programme arranged by the Medical Secretary for his tour of the Divisions of the South-Western Branch:

Plymouth Division.—Western Law Courts, Guildhall, 4 p.m., Monday, May 1st: Subject, "What the B.M.A. has done for you and what the B.M.A. can do for you."

East and West Cornwall Divisions.—Royal Cornwall Infirmary, Truro, 2.45 p.m., Tuesday, May 2nd: Subject, "The B.M.A. and its critics."

Barnstaple Division.—North Devon Infirmary, Barnstaple, 3.30 p.m., Wednesday, May 3rd: Subject, "Can medical practitioners afford not to join the B.M.A.?"

Torquay Division.—The Union Board Room, Newton Abbot, 3.30 p.m., Thursday, May 4th: Subject, "The B.M.A. and its critics."

Address by Scottish Medical Secretary.

Dr. J. R. Drever, Scottish Medical Secretary of the British Medical Association, was the guest of the Glasgow Medical Lunch Club on April 6th, when Dr. W. L. Reid presided over a good attendance of members. In addressing the members after lunch Dr. Drever took occasion to refer to certain proposed changes in the National Insurance Act. He dealt at some length, and more particularly, with the claim of the approved societies under the Act to share in its administration. The societies contended that they should control the medical benefit in part, if not wholly, in virtue of their finding the extra money. Further, they held that there were deficiencies in the present service, and that they could provide a cheaper service. Dr. Drever pointed out that the medical profession had the necessary machinery for regulating the quality of the medical service, and were already taking more than their share in that work. A cheaper service was not necessarily a better service, or even as good as the present. Though doubtless the present Act had its deficiencies, it provided a good service, with a wide choice of doctor in most districts, and arrangements for transfer for those insured persons who were dissatisfied. The Act was a national one, and the contributions were national, while the various approved societies were only trustees for the local administration of funds. He emphasized the fact that the profession were not hostile to the leaders and representatives of those societies, but were willing to co-operate with all concerned in anything which tended towards improved service. So far, however, as the conditions of work were concerned, the actual terms of service, and the rate of remuneration, they insisted that these were matters for Parliament to decide through the appropriate Ministry. The medical profession were not willing to negotiate or bargain with anybody but representatives of the Government. They still held to this as a first principle, as at the outset of the Act in 1911. No change was possible before the end of 1923, but before then some arrangement must be arrived at.

Travelling Allowances to Medical Witnesses at Inquests.

The Association in February, 1921, circularized all county councils asking them to pay the travelling expenses of doctors attending coroners' inquests. The way was thus prepared for Branches and Divisions to follow up central action and press matters to a successful issue. A good example of what can be done in this respect is reported from Bedford. On February 15th a deputation from the Division interviewed a Subcommittee of the Finance Committee of the Bedford County Council. It seems that the subcommittee at once admitted the justice of the claim, and at a meeting of the council held at Bedford on February 24th the following resolution was passed:

> That in addition to the scale fees allowed to medical witnesses for attending inquests they shall be allowed in respect of each inquest held beyond a distance of two miles from the usual place of residence of the medical witness the sum of 1s. per mile for the total journey travelled from and to such place of residence, and that the scale made by the council on May 3rd, 1907, be varied accordingly.

The following county councils now pay travelling expenses: Bedford, Kent, Lancashire, Montgomeryshire, Northamptonshire, Southampton, Sussex (East), Westmorland, Yorkshire (North Riding), and Yorkshire (West Riding). There seems no reason why all other county councils should not do the same, and it is hoped that the Branches and Divisions in counties where such payments are not made will follow the good example of Bedford.

Willesden Health Policy.

Among the indirect effects of the recent municipal elections in Willesden is the forthcoming election of a medical advisory committee by the medical practitioners of the district. In the conflict of opinions between the Willesden Division of the British Medical Association and the Urban District Council one of the chief points at issue has been the formation of such a medical advisory committee, a policy which is in accordance with the recommendations of the Dawson Report. At the last meeting, on April 25th, of the Willesden Division of the Association it was decided that a thoroughly representative medical advisory committee, to deal with the health committee of the Urban District Council on all matters affecting the public health of the Willesden district, should include one consultant, nine general practitioners, and one whole-time medical officer, all elected by medical men and women resident in the Willesden district. In this way it is hoped that all points of view among the medical practitioners of Willesden, who number some 120, may be represented.

Association Notices.

NOTICES OF MOTION BY DIVISIONS FOR THE ANNUAL REPRESENTATIVE MEETING, GLASGOW, 1922.

(A) REPORT ON REVISION OF ASSOCIATION CONSTITUTION AND MACHINERY.

(*Published in* SUPPLEMENT *of December 24th, 1921.*)

By GATESHEAD:

That the words "and if such meeting of the members of the Constituency shall not be held, no Representative of the Constituency shall be entitled to attend the Representative Meeting" be omitted from Draft Amended By-law 35 (3) (SUPPLEMENT, December 24th, 1921, p. 246).

By BRIGHTON:

1. That as in accordance with Article 28 the general control and direction of the policy and affairs of the Association are vested in the Representative Body and not in the Council, the following amendments be made in the draft Articles and By-laws submitted:

(*a*) New Draft Article 13A. After word "resolution" add words "of the Representative Body on the report."

(*b*) New Draft By-law 15A. After word "with" in line one add "the Representative Body on the recommendation of" (SUPPLEMENT, December 24th, 1921, p. 239).

(*c*) New Draft By-law 15B. After words "in such form as" add words "the Representative Body on the recommendation of" (SUPPLEMENT, December 24th, 1921, p. 239).

(*d*) New Draft Article 13B. After words "defined and approved by the" add "Representative Body on the report of the" (SUPPLEMENT, December 24th, 1921, p. 240).

(*e*) New Draft By-law 18A (2). After words "approved by" in last line add words "the Representative Body on the report of" (SUPPLEMENT, December 24th, 1921, p. 240).

II. That as draft By-law 16 does not seem to carry out the intention of Minute 142 of the Representative Body, 1921—namely, that the members of Council elected by groups of Representatives should not be members of a Branch Council *ex officio*—there be omitted from draft amended By-law 16 (1) (*a*), all the words after "or by any group of Branches to which the Branch belongs" (SUPPLEMENT, December 24th, 1921, p. 243).

III. That as the draft amended Articles 28 and 32 would seem to make it possible that the past Chairman of Representative Body and the past Treasurer could be continued as a member of the Representative Body and Council respectively beyond one year, especially if other Articles and By-laws were subsequently amended, and thereby do not carry out Minutes 145, 146, and 180 of Representative Meeting, 1921, suitable words be added to make the position free of all ambiguity (SUPPLEMENT, December 24th, 1921, pp. 241–2).

IV. That in order to widen the basis of nomination for election of members of Council by groups of Representatives, the following By-law be adopted:

50. (1) The election of twelve members of Council by the groups of representatives of Constituencies shall be by means of voting papers issued at the Annual Representative Meeting to each Representative or Deputy Representative comprised in the group.

(2) The said voting papers shall contain the names of those candidates who have been nominated either (*a*) by a Branch Council, or (*b*) by a Division, or (*c*) in writing signed by not less than three members of any Division in the

group and sent to the Association at the Head Office on or before an appointed day, of which not less than fourteen days' notice has been given in the JOURNAL.

(3) The said voting papers shall contain such other particulars (if any) and shall be handed in to the Chairman of the Representative Meeting at the place of the Annual Meeting within such time as the Representative Body may from time to time prescribe by notice given as aforesaid.

(4) The expenses of the said election shall be borne by the Association.

V. That as it is desirable that Branch Councils shall have an opportunity of nominating 24 members to the Council, By-law 48 (2) be amended to read:

"The said voting papers shall contain the names of those candidates who have been nominated either by (*a*) *a Branch Council*, or (*b*) by a Division, or (*c*) in writing by not less than three members" (the rest of the words as at present).

By EDINBURGH AND LEITH:

That Draft amended By-law 16 (1) (*a*) be amended by the deletion of the words:

"And those of the 12 members (hereinafter mentioned) of the Council who are elected (as hereinafter provided) wholly or in part by representatives of constituencies comprised in the Branch."

And as an amendment to this, in case this is not carried, the words quoted above to be deleted, and the following substituted therefor:

And such one, if any, of the 12 members (hereinafter mentioned) of the Council elected by representatives of constituencies at the Annual Representative Meeting as resides within the area of the Branch. (SUPPLEMENT, December 24th, 1921, p. 243.)

(B) REPORT ON HOSPITAL POLICY OF THE ASSOCIATION.

(Published in the SUPPLEMENT *of February 25th, 1922.)*

By BIRMINGHAM CENTRAL:

That in considering any scheme for the organization of voluntary hospitals the great teaching hospitals should be considered apart from the smaller hospitals to which any medical school is attached.

By EXETER:

That para. 2 be amended by the deletion of the words "and fundamentally alters the basis of the relationship."

By EDINBURGH AND LEITH:

(i) That the footnote to para. 2 should form part of para. 1 of the Report; (ii) that the definition of medical treatment as included in the footnote to para. 2 should be amended to include simple certificates of illness, but exclude written reports; and (iii) that throughout the Report the word "treatment" be prefaced by the word "medical" where such is intended.

That para. 3 be amended by the deletion of the words "adequate treatment cannot be obtained" and the substitution therefor of the words "they cannot pay for or cannot obtain adequate treatment."

By CLEVELAND:

That para. 3 (*a*) be amended by the deletion of the words

"wherein the whole cost of the maintenance of indigent patients is met by the gratuitous contributions received by the hospital and on whose behalf the service of the honorary medical staffs are given gratuitously,"

and the substitution therefor of the words

"with regard to those unable to pay for adequate medical treatment."

That para. 3 (*b*) be deleted and the following substituted therefor:

"That other patients may be received for treatment at voluntary hospitals when adequate treatment cannot be obtained elsewhere."

By SOUTH SUFFOLK:

That there be added to para. 3 the following words:

"With the proviso that no preference be given to paying patients."

By CARDIFF:

That no such payments as suggested in paras. 3, 4, (and 33, q.v.) should be accepted by members of honorary medical staffs.

By BRIGHTON:

That the following words be added to para. 4:

"The same principles shall apply to all services at Voluntary Hospitals required by approved societies, employers of labour, Insurance Companies, or other bodies, or under any contributory scheme."

By GUILDFORD:

That the following be substituted for paras. 6 and 7:

"That the maintenance of the system of Voluntary Hospitals of the country consists in the voluntary system of support and consequent absence of State and municipal control, and that this is not necessarily related to the Medical Staff."

By MID CHESHIRE:

That para. 6 be amended to read as follows:

"A Voluntary Hospital is one which is neither owned, leased, nor controlled by any State-constituted authority."

By LEEDS:

That while in full agreement with the voluntary principle as laid down in para. 6 this meeting is of opinion that in general many of the proposals in the report are of a revolutionary character and not at present practicable, whilst it proposes the application of a uniform scheme where uniformity is undesirable if not actually unattainable.

By HAMPSTEAD:

That para. 7 be deleted.

By BIRMINGHAM CENTRAL:

That para. 7 be amended to read as follows:

"The Association maintains that the essence of the Voluntary Hospital system is the independent and voluntary management."

By SOUTHPORT:

That para. 7 be amended by the deletion of all the words after "management."

By BEDFORD:

That this meeting dissents from the definition of a voluntary hospital as contained in para. 7, and records its opinion that it considers a voluntary hospital to be one which is supported by voluntary contributions, managed by a voluntary committee, and worked by a medical staff which does not receive any pay; and further that where the expression *voluntary hospital* occurs in the Report some such term as *public hospital* should be used instead.

By DUNDEE:

That para. 7 be amended by the insertion after the word "management" of the words "and the provision of at least half the funds from voluntary sources."

By BRADFORD:

That para. 7 be amended by the insertion after "voluntary management" of the words "and maintenance."

By PLYMOUTH:

That this meeting disapproves of the principle of a percentage of tariff patients' contribution being paid to the staff of a hospital except in so far as concerns the payments made by public authorities,* and which includes such a percentage over and above the amount necessary to discharge in full all the claims of the hospital for maintenance and hospital accommodation.

* The words "public authorities" in the foregoing to be interpreted as meaning only State or municipal authorities.

By WEST CORNWALL:

That para. 9 be amended by the insertion of the words "pro rata" before the word "payment."

By EDINBURGH AND LEITH:

That para. 9 be amended by the deletion of the words "for the treatment of patients" and the substitution therefor of the words "for the maintenance and treatment of patients."

By MANCHESTER:

That para. 9 be amended by the substitution of the words "maintenance and medical treatment" for the word "treatment."

By STOCKTON:

That para. 10 be deleted.

By DARLINGTON:
That para. 10 be amended by the deletion of "considered" and the substitution therefor of "regarded merely."

By MANCHESTER:
That para. 10 be amended by the substitution of the words "maintenance and medical treatment" for the word "treatment."

By CLEVELAND:
That para. 11 be deleted.

By DARLINGTON; and BEDFORD:
That para. 11 be amended by the deletion of the words "during treatment."

By STOCKTON:
That para. 11 be amended to read as follows:

"Every patient of a voluntary hospital who is able should make a contribution during treatment, either directly or through some contributory system."

By WEST CORNWALL:
That para. 11 be amended by the deletion of the words "and treatment."

By MANCHESTER:
That para. 11 be amended by the phrase "maintenance and treatment" being amended to read "maintenance and medical treatment."

By LAMBETH; and CLEVELAND:
That para. 12 be deleted.

By GUILDFORD:
That para. 12 be amended by the insertion of the words "Approved Societies" after "employees."

By CITY:
That para. 17 be amended to read as follows:

"That the primary consideration of admission should be the suitability of the case on medical grounds *or emergency*. This to apply to both free and tariff patients."

By PLYMOUTH:
That a new para., as follows, be inserted in the Report:
That the "ticket system" for admission or treatment be abolished.

By CLEVELAND:
That para. 18 be amended by the deletion of the words "by means of an almoner or other agent."
That para. 19 be deleted.

By BIRMINGHAM CENTRAL:
That (with regard to para. 19) only two classes of patients should be considered:
(1) Those who do not pay full maintenance charges; and
(2) Private patients who pay full maintenance charges and for medical treatment.

By STOCKTON:
That para. 19 be amended by the deletion of titles of patients, patients being classed as A, B, and C only.

By WEST CORNWALL:
That the following be added to para. 19:

but no charge for treatment should be made until the tariff cost of maintenance is paid.

By MANCHESTER:
That para. 19 be amended by the deletion of the word "indigent."

By WEST SUFFOLK:
That para. 19 be amended to read as follows:
(*a*) *Indigent Patients.* Those certified by the Almoner . . . et seq. as present paragraph.
(*b*) *Free Patients.* Those who on their own behalf pay a small contribution towards maintenance, but to whom the honorary staff are willing to give free medical attendance.
(*c*) *Tariff Patients.* Those paying, or for whom is paid, a substantial part or the whole of the tariff cost . . . et seq. as present paragraph (*b*).
(*d*) *Private Patients.* Same as present paragraph (*c*), and the consequential amendments to paras. 2, 20, 33, and 35.

By CHICHESTER AND WORTHING:
That para. 19 (*a*) and (*b*) be amended to read as follows:
19. (*a*) *Ordinary Hospital Patients* (receiving free treatment). Those who can produce evidence that they are unable to contribute more than the bare cost of their maintenance, as distinct from treatment.
(*b*) *Tariff Patients.* (1) Those for whom is paid in part or in whole the tariff cost of maintenance and treatment by public authorities, approved societies, employers of labour, insurance companies, or other bodies.
(2) Those for whom the above payment is made under any contributory scheme which involves definite financial arrangement between the Board of Management and the contributors, or which carries any claim to admission in priority to the "*Ordinary Hospital Patients*" in class (*a*).
(3) Those who are able, personally or through their relatives or guardians, to contribute a weekly sum in excess of that required for maintenance, who are therefore ineligible as "*Ordinary Hospital Patients*" under class (*a*), yet have not the means necessary to qualify as *Private Patients* under class (*c*).

By KINGSTON-ON-THAMES:
That para. 19 (*b*) be amended by the deletion of the words "all those paid for by public authorities" and the substitution therefor of the words "all those for whom *any* payment has been made by public authorities."

By NORTHAMPTON:
That para. 19 (*b*) be amended to read: (*b*) *Tariff patients.* Those paying *in full*, or for whom is *fully* paid, the tariff cost of maintenance and treatment. This group includes, etc.

By PLYMOUTH:
That para. 19 (*b*) be amended by the deletion of all the words from and including "Approved Societies" to the end.

By EXETER:
That para. 19 (*b*) be divided into four categories as under:
(1) Patients who pay themselves in part.
(2) Patients who pay themselves in whole.
(3) Patients aided or paid for by insurance or contributory schemes.
(4) State or rate aided patients.

By BRIGHTON:
That the following be added to para. 19 (*c*):

To ensure that persons of small income shall be able to obtain admission, it is desirable that a maximum income should be fixed for each hospital area.

By CLEVELAND:
That para. 20 be deleted.

By MANCHESTER:
That the heading to Section VII be amended by the deletion of the word "(Indigent)."

By CLEVELAND:
That para. 21 be deleted.

By BIRMINGHAM CENTRAL; and CLEVELAND:
That para. 21 be amended to read as follows:

"But in case of patients referred by Poor Law medical officers to hospital for consultation or treatment payment may be required from the Poor Law guardians both for their maintenance and treatment."

By BIRMINGHAM CENTRAL:
That Section VIII (para. 22) be deleted.

By LAMBETH:
That (with regard to para. 22) some elasticity should be allowed Tariff Patients requiring special treatment.

By SHEFFIELD:
That the first para. of para. 22 be amended by the deletion of all words after the words "such arrangements" and the substitution therefor of the words "shall be regarded as covering the cost of both maintenance and treatment."

By NORTHAMPTON:
That Tariff Patients should pay the *full* cost of maintenance and treatment, and that no deduction should be made for staff funds in other instances.

By GATESHEAD; and SOUTHPORT:
That para. 22 (*a*) be amended by the substitution of the word "treatment" for the words "payment of medical staff."

By CHESTERFIELD:
That para. 22 (*a*) be amended by the insertion of "and" between "accommodation" and "maintenance" and by the deletion of "and payment of medical staff."

By STOCKTON:
That para. 22 (*a*) be amended to read as follows:

"Payments made for Class B in-patients should be for work done based upon a scale of contribution agreed upon from time to time between the contracting parties, such scale of contribution making full allowance for provision of hospital accommodation, maintenance, and payment of resident staff."

By GUILDFORD:
That sub-paras. (*d*) and (*e*) of para. 22 be deleted.

By EDINBURGH AND LEITH:
That sub-paras. (*d*), (*e*), and (*g*) of para. 22 be deleted.

By LIVERPOOL:
That the scale of income limit (3 classes) in para. 22 (*d*) be deleted.

By SOUTH MIDDLESEX:
That the limit of income as stated in para. 22 (*d*) is much too high.

By FURNESS:
That para. 22 (*d*) should be amended to include provision for attendance upon invalids over 16 and the aged.

By PLYMOUTH:
That with reference to para. 22 (*d*) no income limit be fixed (as so much depends on expenditure), but that the eligibility of tariff patients be left to the almoner and the medical man recommending the patient.

By EXETER:
That with reference to para. 22 (*d*) no scale should be published, or, if any, it should be the absolute minimum.

By SOUTHPORT:
That para. 22 (*d*) be amended by the insertion of the words "and to periodic revision" after "local variations."

By CITY:
That para. 22 (*d*) "Class 3" be amended to provide:

(1) That urgency should stand before financial standing;
(2) That there should be one patient ward for dying patients; and
(3) That the scale should be wholly discretionary and in no way arbitrary.

By GUILDFORD:
That para. 22 (*g*) be amended by the deletion of "a private" and the substitution therefor of "the attending."

By NORTHAMPTON:
That para. 22 (*g*) be amended to read as follows:

"No tariff patient should be admitted without medical recommendation, except in case of emergency."

By CITY:
That para. 22 (*g*) be amended by the deletion of the word "tariff."

By BARNSLEY:
That para. 22 (*g*) be amended by the deletion of "private."

By CLEVELAND:
That para. 23 be deleted.

By MID CHESHIRE:
That (with regard to para. 23) this meeting does not consider it practicable or expedient that private patients in hospitals should be attended by their private medical attendant when not on the staff of that hospital.

By LIVERPOOL:
That the first paragraph of para. 23 be amended to read:

Should special accommodation in the nature of a nursing home be provided in connexion with voluntary hospitals, for the reception of private patients then:

By PLYMOUTH:
That the first paragraph of para. 23 be amended by the insertion of the words "where no suitable private nursing home is available" between the words "it is desirable" and "that special accommodation."

By COVENTRY:
That the first paragraph of para. 23 be amended to read as follows:

It is desirable that special accommodation should be provided in connexion with voluntary hospitals for the reception of private patients who cannot get *adequate* or equivalent treatment elsewhere (as laid down in 3 (*b*)).

By EXETER:
That after the words "desirable that" in the first line of para. 23 the words "in the absence of efficient nursing homes" should be inserted.

By SOUTHPORT:
That the first paragraph of para. 23 be amended to read as follows:

If it be desirable in any district that special accommodation in the nature of a nursing home for the reception of private patients in connexion with voluntary hospitals be provided, the regulations should provide as follows:

By NORWICH:
That para. 23 (*a*) be amended by the deletion of the words "except in cases of emergency."

By GATESHEAD:
That (with reference to para. 23 (*a*)), where a patient is admitted or treated as an emergency, the patient's own medical attendant should be informed.

By BEDFORD; BRADFORD; NORTH SUFFOLK; and STOCKTON:
That para. 23 (*b*) be deleted.

By BIRMINGHAM CENTRAL:
That para. 23 (*b*) be amended to commence, "When practicable it shall be open to private patients."

By NORTHAMPTON:
That para. 23 (*b*) be amended to read:

It shall be open to a private patient to select any registered medical practitioner as his attendant, provided he be in a nursing home which is an entirely separate entity from the general hospital.

By MANCHESTER:
That the following words be added to para. 23 (*b*):

subject to administrative possibilities.

By SHEFFIELD:
That the following words be added to para. 23 (*b*):

subject to the approval of the hospital authority.

By COVENTRY:
That para. 23 (*b*) be amended to read as follows:

Private patients should be under the care of a member of the hospital staff, but free access to such patients should be given to their own private medical attendants.

By BIRMINGHAM CENTRAL:
That para. 23 (*c*) be amended to read:

The scale of charges for private patients for maintenance shall be such as at least fully to cover every cost to the hospital.

By NORWICH:
That the following be added to para. 23 (*d*):

That no person should be admitted as a paying patient whose income from all sources exceeds the limit of a specified scale.

By COVENTRY:
That para. 23 (*d*) be amended to read as follows:

Where voluntary hospitals provide accommodation for private patients no fixed rate of payment for professional services rendered to such patients should be established; the fees so payable to remain a matter of arrangement between patient, family physician, and consultant, except in cases where the hospital authorities and the staff have already agreed, or may agree, to a graduated scale of charges according to the patient's ability to pay.

By PLYMOUTH:
That Section X (paras. 24–28) be referred back to the Council for further consideration, especially with a view to the classification of the hospitals referred to, as it is considered unwise and undesirable to prevent the out-patient departments of the teaching hospital being used for treatment.

By EXETER:
That para. 24 be deleted.

By FURNESS:
That paras. 24 and 25 be deleted, or in the event of para. 25 being carried it should stop at "general practitioner."

By BARNSLEY:
That para. 25 be deleted.

By STOCKTON:
That paras. 24 and 25 are considered to be impracticable in the smaller hospitals.

By GATESHEAD:
That paras. 24 and 25 should be emphasized.

By MANCHESTER:
That the following words be added to para. 24:
with an important secondary object as a means of medical education.
That the following words be added to para. 25:
except such as may have an educational value for students of medicine, or of value to the staff for the purpose of investigation or research.

By STOCKTON:
That para. 26 should be subject to the exigencies of particular hospitals.

By GUILDFORD; and BROMLEY:
That para. 27 be deleted.

By FURNESS:
That this meeting considers the effect of para. 27 would be to mix up private and hospital practice, which is thought inadvisable.

By MANCHESTER:
That para. 26 be amended by the insertion of the words "and of teaching and research" between "patients" and "by the private practitioner."

By BRIGHTON:
That the following words be added to para. 27:
In cases where treatment is given at an out-patient department, the ordinary hospital routine should not be modified, nor should any preferential treatment be given to tariff patients.

By EDINBURGH AND LEITH:
That the words "seen or" in first line of para. 28 be deleted.

By BRADFORD; CARDIFF; LIVERPOOL; SOUTHPORT; and STOCKTON:
That para. 29 be deleted.

By PLYMOUTH:
That para. 29 be referred back to the Council for a fuller elucidation of the words "to participate."

By SHEFFIELD:
That the following paragraph be added to Section XI:
That it is desirable that the staff of each hospital should have attached to their Committee a representative of the general practitioners, as liaison officer, who could keep the staff informed as to the opinion in the profession generally outside the hospital.

By LIVERPOOL:
That para 30 be deleted.

By DARLINGTON:
That (with regard to para. 30) in the opinion of the meeting the age limit should be 65.

By MANCHESTER:
That para. 30 be amended to read as follows:
"That the organization of voluntary hospitals should, where necessary, be so modified as to allow more and younger practitioners to obtain responsible hospital experience."

By CARDIFF; CLEVELAND; GUILDFORD; LIVERPOOL; and STOCKTON:
That para. 31 be deleted.

By MANCHESTER:
That para. 31 be amended by the insertion of the word "proportionately" between "be increased" and "to give."

By LIVERPOOL; and CARDIFF:
That para. 32 be deleted.

By EXETER:
That Section XI should be deleted, but, if adopted, the following rider should be added to para. 32 (*a*):
"That the chief evidence of fitness for such appointment is *suitable* registered qualification or degree."

By BARNSLEY:
That para. 32 (*a*) be amended by the insertion of "distinction" after "academic."

By MANCHESTER:
That throughout paras. 33–37 "maintenance and medical treatment" be substituted for "maintenance and treatment."

By NORTHAMPTON:
That para. 33 be amended to read as follows:
In the event of decisions being taken, which would lead to patients (other than private patients referred to in Section IX) paying, *in full* hospital charges, etc.

By PLYMOUTH:
That para. 33 be amended to read as follows:
A Staff Fund shall be formed from the moneys especially paid for the treatment of State or municipal or rate-aided patients. It is a condition precedent to the formation of such Staff Fund that it shall consist only of payments over and above those which are necessary to meet the full cost of hospital maintenance and accommodation. When and where such fund is formed it shall be at the disposal of the honorary medical staff in accordance with the suggestions contained in para. 36.

By BRIGHTON:
That the following be added to para. 33.
I. In each case where the Board of Management advises the Medical Staff that the sum or sums received from a patient have been obtained only from that patient, and without any other financial assistance, and are insufficient to pay more than the whole of the cost of maintenance of that patient, and that the financial position of the patient is such as to render him unable to make any further payment, the medical staff of the hospital should decline to receive any part of such payments for the Staff Fund.
II. That in the event of decisions being taken which would lead to patients (other than paying patients referred to in Minute 229 A.R.M., July, 1921) paying, in part or in whole, fees either individually or by some contributory method, or with the addition of rate aid or State aid, or by a combination of two or more of these methods, such fees should be taken to include payment towards maintenance and treatment, and a percentage of all such payments should be passed into a fund which can be allocated in any manner which the honorary medical staff may determine.
III. That in all such cases where such fees are not paid with (*a*) either the addition of rate aid or State aid, or (*b*) by some contributory method, it is recommended that the staff should utilize such fees for hospital or medical school purposes.

By CHICHESTER AND WORTHING:
That in the event of decisions being taken which would lead to patients (other than *private patients* referred to in Section IX) paying in part or in whole the *cost of treatment*, in addition to that of maintenance, either individually, or by some contributory method, a percentage of all such payments should be passed into a fund which is at the disposal of the honorary medical staff of that hospital.

By SOUTHPORT:
That para. 33 be amended to read as follows:
In the event of decisions being taken which would lead to patients, other than private patients, paying in part or in whole hospital charges, either individually or by some contributory method or with the addition of rate-aid or State-aid or by a combination of two or more of these methods, such charges should be considered to include payment towards maintenance and treatment, but until the full cost of such maintenance and treatment has been met, no payment should be made directly or indirectly to the medical staff funds.
Rider:
That in any case where payment for the maintenance of a patient is derived from public sources such payment should be sufficient to ensure, in addition to the cost of maintenance and treatment, a percentage for a medical staff fund.

By NORTH SUFFOLK:
That para. 33 be amended by the insertion of the word "adequate" before "percentage."

By EDINBURGH AND LEITH:
That the following be added to para. 33:
That when payment is made by a tariff patient (or on his behalf) towards maintenance but not for treatment no percentage should be taken by the staff of the hospital.

By KINGSTON-ON-THAMES:
That para. 33 should end at the word "treatment," and that the words following be deleted—namely:
"and a percentage of all such payments should be passed into a fund which is at the disposal of the honorary medical staff of that hospital."

By Stockton:
That with reference to para. 33 the only remuneration the honorary medical staff should accept should be that from Class C (private) patient only.

By Gateshead:
That the following words be added to para. 33:

The Medical Staff funds should not benefit from patients' contributions until such contributions exceed the cost of maintenance.
(Note.—Paras. 11, 19, 22, 35, and 48 would require to be brought into line with this if accepted.)

By Cardiff:
That no such payments as suggested in para. 33 should be accepted by members of honorary medical staffs.

By Hampstead:
That (with regard to paras. 33–37) it is inconsistent with the principles of a voluntary hospital that a staff fund be created from the contributions of tariff patients.

By West Suffolk:
That (with regard to paras. 33–37) there should be no formation of staff funds whatever.

By Birmingham Central:
That (with reference to para. 33) in the case of teaching hospitals no charge for the treatment of patients in voluntary hospitals should be made unless the patient or the authority or body referring him to the hospital pays the whole cost of his maintenance during the whole period of his stay in the hospital.

By Plymouth:
That para. 34 be deleted.

By Mid-Cheshire:
That (with regard to para. 34) where payment is made to the hospital for maintenance of a patient who comes under the aegis of any public authority, approved society, employer of labour, insurance company, or other such-like body, some proportion of that payment should be allocated to a fund at the disposal of the medical staff.

By North Suffolk:
That para. 34 be amended by the insertion of the word "adequate" before the word "percentage."

By Northampton; Plymouth; and Southport:
That para. 35 be amended by the deletion of the words:

"but all other moneys (other than moneys received from private patients referred to in Section IX) should be liable to such assessment."

By Coventry:
That (with regard to para. 35) income derived from existing assets, endowment funds, etc., and moneys given for the maintenance and treatment of free patients and for the maintenance of private patients, are not liable to assessment for medical staff fund purposes, but all other moneys, including mass contributions received from workmen and deducted at the works from their wages, should be liable to such assessment.

By Lambeth; and Liverpool:
That para. 36 be deleted.

By Darlington:
That (with regard to para. 36) the method of distribution of the moneys should be left to the hospital staffs' decision.

By South Middlesex:
That in para. 36 (*c*) the word "private" be inserted before the words "use of the medical staff."

By Chesterfield:
That sub-paras. (*a*), (*e*), and (*f*) of para. 36 be deleted.

By Plymouth:
That para. 37 be amended by the deletion of the words "tariff patients" and the substitution therefor of the words "State, municipal, or rate-aided patients."

By Chesterfield; Cleveland; and West Cornwall:
That para. 37 be deleted.

By Cleveland:
That para. 38 be deleted.

By Manchester:
That para. 38 be approved subject to method of selection being further considered.

By City:
That (with regard to para. 38) there should be a Committee which should be representative of all local medical interests.

By Birmingham Central; Cleveland; and Liverpool:
That para. 39 be deleted.

By Birmingham Central; and Cleveland:
That para. 40 be deleted.

By Darlington:
That the last sentence of para. 40: "Contributions given, etc.," should be emphasized as very important.

By Furness; and Gateshead:
That para. 41 be deleted.

By Plymouth:
That no opinion be expressed on paras. 41 and 42 until such contributory scheme be proposed.

By Northampton:
That para. 42 be deleted.

By Furness:
That para. 42 be amended by the deletion of all words after "*x*-ray facilities," it being considered that if a patient paid for treatment this should include every facility the hospital can give.

By Liverpool:
That para. 42 be amended by the deletion of the words "for the private practitioner's use for their patients."

By North Suffolk:
That the first part of para. 42 be amended to read as follows:

No contributory scheme should be considered complete unless laboratory and *x*-ray facilities are provided for contributors who may be attended by private practitioners outside the hospital, and in order to protect, etc.

By Birmingham Central:
That (with regard to para. 43) as far as possible every patient in a cottage hospital should have the right to be attended by his usual medical attendant.

By West Cornwall:
That the following words be added to para. 44:

Except in regard to para. 11, in which it is considered that the words "and treatment" should be inserted in reference to cottage hospitals.

By Plymouth:
That (with reference to paras. 45–48) the eligibility of a parturient woman for admission to the obstetric department of a voluntary hospital or similar institution should depend on the almoner's report and the medical man recommending her.

By Gateshead:
That para. 46 be amended by the deletion of the words "except on the recommendation of a medical practitioner."

By Manchester:
That the following be added to para. 46: "except in case of urgency."

By Gateshead:
That the following be added to para. 47: "through the almoner."

By Hampstead:
That para. 48 be deleted.

(C) MISCELLANEOUS.

Insurance Practice.

By Leicestershire and Rutland:
That the following Minute 22 of the Special Representative Meeting of November 19th, 1912, be rescinded:

That, in the opinion of this Representative Meeting, the Regulations issued by the Insurance Commissioners and the latest proposals of the Chancellor of the Exchequer are unworkable, and derogatory to the profession. As a consequence, the medical profession declines to undertake service under the Act and Regulations as at present constituted.

Improvement of Medical Services under Insurance Acts.

By MID STAFFORDSHIRE:

That it be an instruction to the Council to consider fully the feasibility of the improvement of medical services under the Insurance Act by the inclusion of consultative and specialist services, for which payment shall be provided by a supplementary capitation fee, the allocation of which shall be in the hands of a suitable Committee of the medical profession.

Motor Taxation.

By CAMBS AND HUNTS:

That having regard to the substantial contribution made to the National Exchequer by panel practitioners when they accepted the 1s. 6d. per caput reduction in respect of patients under the National Insurance Acts, the Government should restore the 50 per cent. rebate in the tax on motor vehicles used for professional purposes as heretofore.

Motions affecting Policy or Regulations of Association.

By GLASGOW EASTERN:

In view of the fact that resolutions affecting the policy, Articles, or By-laws of the British Medical Association must this year be received at head office not later than April 29th, whilst the Annual Report of Council is to appear in the SUPPLEMENT on May 6th, steps be taken to have the Annual Report issued, if possible, at an earlier date, or to have the date of receiving resolutions made later, or both, as it is highly desirable that such resolutions should in many cases be made in the full knowledge of the Council's latest report on certain matters.

Position of Branch Council in Area of Annual Meeting.

By GLASGOW EASTERN:

That when the Annual Meeting is fixed to be held in an agreed upon city, town, or district, the Branch Council for the said city, town, or district should be thereby constituted the parent Committee for the Annual Meeting, and should control and supervise the formation of all other committees usually appointed to carry out the necessary measures connected therewith.

TABLE OF DATES.

April 29, Sat.	Last day for receipt at Head Office of Independent Motions for Annual Representative Meeting Agenda, as to policy, Articles, or By-laws (By-law 40).
May 6, Sat.	Annual Report of Council appears in SUPPLEMENT.
May 8, Mon.	Last day for receipt at Head Office of Nominations, by a Division or not less than 3 Members, for election of 24 Members of Council by grouped Home Branches for 1922–23.
May 13, Sat.	Publication in SUPPLEMENT of list of nominations for election of 24 Members of Council by grouped Home Branches for 1922–23.
	Voting papers for election of 24 Members of Council by grouped Home Branches posted from Head Office to Members of groups where there are contests.
May 27, Sat.	Last day for receipt at Head Office of voting papers for election of 24 Members of Council by grouped Home Branches (where there are contests).
June 3, Sat.	Publication in SUPPLEMENT of results of Council elections by grouped Home Branches.
June 10, Sat.	Nomination papers available, at Head Office, for election of 12 Members of Council by grouped Home Representatives.
June 14, Wed.	Council Meeting, 429, Strand, at 10 a.m.
June 23, Fri.	Last day for election of Representatives and Deputy Representatives.
June 24, Sat.	Supplementary Report of Council appears in SUPPLEMENT.
June 30, Fri.	Last day for receipt at Head Office of notification of election of Representatives and Deputy Representatives.
July 7, Fri.	Last day for receipt at Head Office of Amendments and Riders for Annual Representative Meeting Agenda.
July 21, Fri.	Annual Representative Meeting, Glasgow, 10 a.m.
	Nominations for election of 12 Members of Council by grouped Representatives to be received (at Annual Representative Meeting, Glasgow) by this date.

ALFRED COX, *Medical Secretary.*

CHANGES OF AREAS.

East Norfolk and Great Yarmouth Divisions.

THE following change has been made by the Council, and takes effect on April 29th, 1922:

That the area of the Great Yarmouth Division be added to that of the East Norfolk Division, to form one East Norfolk Division.

BRANCH AND DIVISION MEETINGS TO BE HELD.

EDINBURGH BRANCH: SOUTH-EASTERN COUNTIES DIVISION.—The annual meeting of the South-Eastern Counties Division will be held in the Railway Hotel, Newtown St. Boswells, at 3.15 p.m., on Wednesday, May 3rd. Business: Election of officers; annual report of Executive Committee; instructions to Representative, particularly as regards hospital question; Hawick Maternity Centre, resolution under Ethical By-laws as to professional conduct; any other competent business. A meeting of the Executive Committee will be held at 3 p.m. at the same place on the same day.

KENT BRANCH: DARTFORD DIVISION.—A meeting of the Dartford Division will be held at the Livingstone Hospital, Dartford, on Thursday, May 4th. At 2.30 p.m. there will be an Executive Committee meeting to discuss finance and the arrangements for the annual meeting. At 3.30 p.m. a Divisional meeting will be held, to which all medical practitioners are invited. Business: Resolutions in reference to the late Drs. Greenway and Crawford. This will be followed by a meeting of the Local Medical Advisory Council (of which all practitioners in the area are members). Business: (1) To discuss the taking of immediate steps to approach all local authorities in the Council's area to utilize the services of general practitioners in carrying on the work of the various health clinics where at all possible; (2) the limitation of the voluntary hospital system.

LANCASHIRE AND CHESHIRE BRANCH: BURY DIVISION.—A general meeting of the Bury Division will be held in the Derby Hotel on Wednesday, May 3rd, at 4 p.m., to discuss the Report of the Council on the Hospital Policy of the Association.

LANCASHIRE AND CHESHIRE BRANCH: ROCHDALE DIVISION.—A meeting of the Rochdale Division will be held in the cloakroom, Town Hall, Rochdale, on Wednesday, May 10th, at 8.30 p.m., when Mr. T. Eastham, K.C., M.B., will deliver a British Medical Association Lecture.

METROPOLITAN COUNTIES BRANCH: CAMBERWELL DIVISION.—A meeting of the Division will be held on Wednesday, May 17th, at the Camberwell Infirmary, at 9 p.m., when a lecture on "The diagnosis of pyorrhoea alveolaris in its relation to general disease" (with lantern) will be given by Mr. F. N. Doubleday, M.R.C.S., L.D.S. (Guy's Hospital).

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—A special general meeting of the City Division will be held at the Metropolitan Hospital to-day (Friday), April 28th, at 9.30 p.m. Agenda: Review the action of the Executive Committee, held February 21st; discuss SUPPLEMENT, December 24th, 1921, with instructions, if any, to Representatives at Annual Representative Meeting; other business. A clinical meeting will be held at the Royal Northern Hospital on Friday, May 5th, at 9.30 p.m., when Dr. Philip Hamill will give an address on "Cardio-vascular Neuroses."

MIDLAND BRANCH: NOTTINGHAM DIVISION.—A meeting of the Nottingham Division will be held at 64, St. James Street, Nottingham, on Tuesday, May 2nd, at 3.30 p.m.

SOUTH-WESTERN BRANCH: NORTH DEVON (BARNSTAPLE) DIVISION.—The annual meeting of the North Devon (Barnstaple) Division will be held at the North Devon Infirmary on Wednesday, May 3rd, at 5 p.m., after the termination of the propaganda meeting. Business: Election of officers and Executive Committee; any other business.

Meetings of Branches and Divisions.

BRITISH GUIANA BRANCH.

THE third quarterly meeting of the British Guiana Branch was held at the Public Hospital, Georgetown, on December 29th, 1921.

The following officers were elected for the year 1922:

President: Dr. A. T. Ozzard. *Vice-Presidents:* Dr. A. J. Craigen, Dr. W. G. Boase. *Honorary Secretary and Treasurer:* Dr. A. E. Delgado. *Auditors:* Dr. G. M. Kerry and Dr. A. J. Craigen.

Suggestions were made for holding frequent clinical meetings during 1922.

A successful dinner was held by the Branch on February 10th at the Hotel Tower, Georgetown, the first of its kind for over ten years. There were present eighteen members, and the guests included the Chief Justice, the Acting Colonial Secretary, the Attorney-General, and the Mayor of Georgetown. Dr. A. T. OZZARD, the President, was in the chair. After the toast of "The King," proposed by the PRESIDENT, had been duly honoured, that of "The British Guiana Branch of the British Medical Association" was proposed by the Chief Justice (Sir CHARLES MAJOR), and replied to by the PRESIDENT. Dr. E. D. ROWLAND proposed "Our Guests," which was responded to by the Acting Colonial Secretary (Hon. J. HAMPDEN-KING). The toast of "The Chairman" was proposed by the Hon. E. G. WOOLFORD, K.C. It is hoped that the dinner will become an annual function.

A clinical meeting of the Branch was held at the Public Hospital, Georgetown, on February 22nd.

Dr. W. F. Law and Dr. L. R. Sharples, who is at present on leave in England, were appointed Representatives in the Representative Body.

The following cases were shown and discussed: 1. A case of abdominal filariasis (male) treated with mixed vaccine (detoxicated); recovery. 2. Severe case of algid type of malaria with abdominal symptoms, patient collapsed, vomiting, dysenteric stools, retracted abdomen, subnormal temperature, pulse weak and rapid. Prompt treatment by intramuscular quinine and injections of camphor and ether; recovery. 3. Case of a gumma simulating liver abscess. 4. Liver abscess of several months' duration treated by operation and emetine; recovery. 5. Case of obstructed hernia, with filarial condition in the pelvic glands.

There were demonstrated also: Marris's atropine test for the enteric fevers and the Widal test (naked eye) by Dreyer's method; also Rosso's methylene-blue test.

LANCASHIRE AND CHESHIRE BRANCH: ROCHDALE DIVISION.

THE annual meeting of the Rochdale Division was held on April 19th, when Dr. BATEMAN was in the chair.

The annual report was read. The balance sheet showed a small balance in hand on December 31st. Six Divisional meetings had been held during the year, and the Executive Committee had met twice.

The following officers were elected:

Chairman: Dr. Bateman (Rochdale). *Vice-Chairman:* Dr. Geddes (Heywood). *Secretary and Treasurer:* Dr. James Melvin (Bamford). *Auditor:* Dr. Harris (Rochdale). *Representative in Representative Body:* Dr. Lord (Castleton). *Deputy Representative:* Dr. J. Melvin (Bamford).

The suggested alteration in the constitution and machinery of the Association was approved, subject to reconsideration when the agenda for the Annual Representative Meeting is published.

The Division Model Rules of Organization were considered and amended.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.

A MEETING of the City Division was held at the Metropolitan Hospital on April 7th, when Dr. C. E. EVANS, Chairman, presided.

Drs. Ross, Thomas, and Worley were elected as Representatives of the Division in the Representative Body.

Dr. T. H. G. SHORE was introduced by the CHAIRMAN and showed a series of pathological specimens, which he illustrated clinically. They included specimens of (1) diverticulitis; (2) the effect of mercury and neo-salvarsan in patients suffering from kidney disease; (3) larynx and tongue of a child of 6 months with congenital stridor, which, though usually tending to disappear, in this case ended fatally; (4) degeneration and subsequent fibrosis of liver in a 2-years-old child that died from chloroform poisoning—the liver showed intense acute fatty degeneration; (5) livers after salvarsan poisoning, showing marked degeneration. Dr. Shore explained that in salvarsan liver a certain amount of liver was destroyed at once (necrosis), and that the damage was probably due to the benzol and not to the arsenic. A discussion followed, after which a vote of thanks was accorded to Dr. Shore for his most interesting demonstration.

The Report on the Organization of Voluntary Hospitals was discussed and certain recommendations adopted. A resolution generally approving the report was carried.

As regards the Sussex scheme, the Division desired to place on record its opinion that it considered this unworkable, and was strongly opposed to it for London, believing it to be detrimental both to the public and the medical profession.

On the motion of Dr. THOMAS, seconded by Dr. HANDS, it was unanimously resolved to urge the Insurance Acts Committee and Council of the British Medical Association to oppose the National Health Insurance Bill before Parliament, whereby the financial control of medical benefit is handed over to the approved societies.

It was proposed by Dr. THOMAS, seconded by Dr. P. REGAN, and resolved to urge the Council to resist strongly the proposed reduction in sessional pay in the Pensions Medical Boards.

The meeting further considered that the cases examined per session should not exceed ten, and that the Pensions Board members should have proper contracts, with one month's notice of termination, instead of being engaged by the Pensions Ministry on a sessional basis, as at present. It pointed out that, owing to the recent reduction of personnel of Medical Boards from three to two members, the responsibility of the Medical Board work has been greatly increased and involved considerable skill and judgement. In view of these facts, it was considered that the remuneration should not be reduced from the present figure.

Dr. Cuthbert Dixon, 54, King Edward Road, was appointed divisional treasurer of the Wood-Hill Fund. He will be pleased to receive donations from members.

The meeting terminated with a vote of thanks to the Chairman.

METROPOLITAN COUNTIES BRANCH: WESTMINSTER DIVISION.

THE annual general meeting of the Westminster Division was held at the Trocadero Restaurant on April 6th. The following officers were elected:

Chairman: Dr. Harvey Hilliard. *Vice-Chairman:* Dr. Kenneth Hay, O.B.E. *Representatives in Representative Body:* Drs. A. E. Cope, G. E. Haslip, and Harvey Hilliard. *Honorary Secretary and Treasurer:* Dr. F. D. Bennett.

A very interesting and illuminating paper on interstitial glands was read by Dr. LEONARD WILLIAMS.

MIDLAND BRANCH: CHESTERFIELD DIVISION.

AT a special general meeting of the Chesterfield Division, held on March 29th, Dr. H. Peck was appointed Representative of the Division for the ensuing year, and Dr. Hollins Deputy Representative.

The special report on Voluntary Hospitals was fully considered, and certain emendations were recommended.

NORTH OF ENGLAND BRANCH: DARLINGTON DIVISION.

A MEETING of the Darlington Division was held at Greenbank Hospital on April 6th. A communication was read from the secretary of the hospital staff on the question of the dispatch of records of each patient discharged to his own doctor. The circular from headquarters regarding the proposal of the approved societies to the Ministry of Health in the matter of the cost of medical benefit in excess of the statutory two ninths was read and discussed. It was unanimously agreed to support the Insurance Acts Committee in their resolution on the matter. Dr. Sinclair's appointment as representative to the forthcoming Conference of Local Medical and Panel Committees was approved. Action was taken in response to circulars from headquarters asking for information as to local conditions. The progress of the voluntary levy for the Incidental Expenses Fund was reported, and it was considered satisfactory.

PERTH BRANCH.

AT a meeting of the Perth Branch held in the Station Hotel, Perth, on April 14th, the following resolution was adopted unanimously:

"That in the opinion of this Branch it is better to face complete cessation of medical benefit rather than that the profession should have any dealings with regard to remuneration or terms of service with the approved societies, but are prepared to meet the societies in regard to improvement of service."

SOUTH MIDLAND BRANCH: BUCKINGHAMSHIRE DIVISION.

A MEETING of the Buckinghamshire Division was held at the Royal Bucks Hospital, Aylesbury, on April 12th.

A letter from the County Director of the British Red Cross asking the Division to waive their objection to doctors lecturing gratuitously or for half fees to voluntary aid detachments was read. It was unanimously resolved to abide by the policy of the Association, and to inform the County Director of this decision. The monthly circulars from the Medical Secretary were considered. A collection for the Wood-Hill fund was made which it is hoped to increase at a future meeting.

Mr. C. A. JOLL gave a most instructive lecture on the modern treatment of fractures. An interesting discussion ensued in which Drs. HUGGINS, ROSE, ASHBY, REYNOLDS, BRADBROOK, and PERRIN took part, and Mr. JOLL replied. A hearty vote of thanks was accorded to Mr. Joll for his address.

The remaining business on the agenda, owing to want of time, had to be postponed to the next meeting, which will be held at High Wycombe on Wednesday, May 24th. Tea was provided for those present.

SOUTH-WESTERN BRANCH: EXETER DIVISION.

A SPECIAL meeting of the Exeter Division was held on March 30th to consider the report on the organization of voluntary hospitals, when Dr. GORDON was in the chair. The report was discussed at considerable length, and it was decided to deal first with the non-controversial portion. After a session of two and a half hours the meeting was adjourned till Friday, April 7th. It was further decided that the Exeter members present should form a sub-committee to make recommendations before the next meeting.

At the adjourned meeting on April 7th, presided over by Dr. GORDON, it was decided to pass straight to No. 33, which was carried unanimously. The report was then approved subject to a number of exceptions.

SOUTH-WESTERN BRANCH: WEST CORNWALL DIVISION.

AT a special meeting of the West Cornwall Division, held on April 4th, at Redruth, the report on the Organization of Voluntary Hospitals was adopted, subject to certain amendments.

STAFFORDSHIRE BRANCH: SOUTH STAFFORDSHIRE DIVISION.

AT a meeting of the South Staffordshire Division held on April 20th it was unanimously resolved—

"That this Division desires to place on record its approval of the action of the Insurance Acts Committee in informing the Ministry of Health that the medical profession would not accept the intervention of third parties in their negotiations, *re* terms of service and remuneration, with the Government."

Dr. H. C. Mactier was appointed Representative for 1922–23, and Dr. T. Ridley Bailey Deputy Representative.

SUFFOLK BRANCH: WEST SUFFOLK DIVISION.

A SPECIAL meeting of the West Suffolk Division was held at the West Suffolk General Hospital, Bury St. Edmunds, on April 11th, when Dr. H. H. STIFF was in the chair.

A letter was read from Colonel Openshaw thanking the Division for electing him a member.

On the motion of Dr. F. R. BARWELL, seconded by Dr. W. O. TROTTER, it was decided *nem. con.* to adopt the Division rules as amended at the annual meeting of the Division.

The SECRETARY introduced the Report of the Council on the Organization of Voluntary Hospitals, and gave a brief account of the origin of the policy outlined therein. In the course of consideration of the report certain amendments were submitted and approved.

The question of reduction of club fees arose on a letter received by a member from the Secretary of the Manchester Unity of Oddfellows suggesting 10s. for adults and 5s. for juveniles. After reading correspondence from the Medical Secretary and from the Secretary of the Suffolk County Medical Club it was resolved, on the motion of Dr. HINNELL, seconded by Dr. BARWELL, that the time had not yet come for the reduction of club or private fees.

The Golf Challenge Cup was presented to Dr. C. Tylor, the winner for 1921. The meeting then adjourned for tea.

Annual Meeting, Glasgow, 1922.

HOTEL AND HYDRO ACCOMMODATION IN THE VICINITY OF GLASGOW.

IN the SUPPLEMENT of April 15th a short list was published of hotels in Glasgow at which accommodation was likely to be found. We publish this week some information regarding similar institutions which are within reach of Glasgow. In all cases such accommodation will be in very great demand by the holiday making general public in July, and application for rooms for quite definite dates should be made at the earliest possible moment. In most cases the actual train times for July have been given, but it is possible that some extra later trains may become available for the Ayrshire coast towns. This list will be republished with all the extensions and corrections which may become necessary.

CLYDE COAST RESORTS.

Helensburgh.—Very fine situation on the north side of the upper Firth, convenient to many of the railway steamers at Craigendoran Pier. An excellent train service from Glasgow—40 to 50 minutes' journey. The last train leaves Glasgow at 10.40 p.m.

Queen's Hotel: Bedroom and breakfast, 11/- per person.
Imperial Hotel: Bedroom and breakfast, 8/6 per person.

Shandon.—A few miles beyond Helensburgh. Direct train service to Glasgow—70 minutes' journey.

Shandon Hydro. Hotel: Offers special terms for bedroom and breakfast at 12/6 per person. Will arrange for their motor to meet at Helensburgh the train which leaves Glasgow at 10.40 p.m.

Greenock.—Shipbuilding centre and the starting place of many of the river steamers. Very good train service—50 to 60 minutes' journey from Glasgow. Last train leaves at 10.50 p.m.

Tontine Hotel: Bedroom and breakfast, 10/- to 11/6 per person.

Gourock.—A few miles beyond Greenock. The starting-place for most of the river steamers. Splendid train service—50 to 60 minutes' journey. Last train from Glasgow 10.50 p.m.

Ashton Hotel: Bedroom and breakfast, 9/6 to 10/6 per person.

Wemyss Bay.—Splendid situation at the junction of the upper and lower reaches of the Firth. Port of call for many river steamers. Service of express trains—journey about 60 minutes. Last train leaves Glasgow at 8.30 p.m.

Wemyss Bay Hydropathic, Skelmorlie: Requires very early notice, and gives inclusive terms only at 16/- and upwards per day per person.

Dunoon.—A very popular coast resort, and therefore very crowded in the summer months. Connected with Glasgow by a train and boat service—average journey 60 to 75 minutes. The last train will leave Glasgow at 6.45 p.m. for Dunoon and Kirn, which is very close to Dunoon. The prices quoted are for bedroom and breakfast in each instance.

Argyll Hotel	8/6 per person.
Crown Hotel	8/6 ,, ,,
McColls's Hotel	8/6 ,, ,,
Wellington Hotel	7/6 ,, ,,
Royal Hotel	7/6 ,, ,,
Queen's Hotel, Kirn	10/6 ,, ,,

Innellan.—A smaller but very popular resort, which lies a few miles west of Dunoon. Direct train and boat service—about 1 hour and 40 minutes' journey. The last direct train leaves at 5.20 p.m., but the distance from Dunoon is small enough to make motors from that town quite reasonable.

Royal Hotel, Innellan: Bedroom and breakfast, 10/- per person.

Rothesay.—"The Madeira of Scotland." A very popular holiday resort, usually very crowded in July. The train and boat services from Glasgow are very good—average journey from 1 hour 30 minutes to 1 hour 40 minutes. The last train will leave Glasgow at 6.10 p.m.

Glenburn Hotel Hydro.: Offers special terms for dinner, bedroom, and breakfast at 15/- per person.
Kyles of Bute Hydropathic, Port Bannatyne, Rothesay: Offers inclusive terms only at 18 - per person per day.

AYRSHIRE COAST RESORTS.

Ayr.—The county town, and a very interesting historical centre. Connected by a very good train service with Glasgow. Express trains take 50 minutes only. At present the last train leaves Glasgow for Ayr at 9.40 p.m., but it is expected that this service will be amplified for the month of July.

Ayr Station Hotel: Bedroom and breakfast, 11/- and upwards per person.

Prestwick.—A very famous golfing centre. Average train journey to Glasgow takes 60 to 65 minutes. Last train from Glasgow at 9.40 p.m., but may be later in July.

Royal Hotel, Prestwick: Bedroom and breakfast, 8/6 per person.

Troon.—A very popular coast resort with good links. The train service from Glasgow takes about 60 minutes, and the last train at present leaves at 9.40 p.m.

Marne Hotel: Beautiful situation on the edge of the links. Bedroom and breakfast from 11/- to 12/- per person.
Craiglea Hotel: Bedroom and breakfast, 10/- per person.

INLAND HOTELS.

Renfrewshire.

Kilmalcolm Hydropathic: Finely situated in the nicest part of Renfrewshire; under 18 miles' distance from Glasgow. Train service 35 to 40 minutes. Morning train leaves for Glasgow at 8.45 and arrives 9.17. Last train from Glasgow leaves at 10.30 p.m. The Hydro. offers only inclusive terms at 15/- to 21/- per person.

Loch Lomond Side.

Tarbet Hotel, Loch Lomond: Situated on the side of the loch. The morning train leaves for Glasgow at 7.25 and arrives at 9.6. The latest train from Glasgow leaves at 5.8 p.m., but it seems likely that there will be an amplified service in July. Bedroom and breakfast 10/- per person.

Trossachs District.

Bridge of Allan.—A popular health resort in a beautiful piece of country within sight of Stirling Castle. There is a very good train service to Glasgow—train journey about 55 minutes. The last train will leave Glasgow at 10 p.m.

Allan Water Hotel: Bedroom and breakfast, 9/- and upwards per person.
Queen's Hotel: Bedroom and breakfast, 11/- per person.

Dunblane.—A few miles nearer the Trossachs. Very near the famous Gleneagles Golf Course. Also well served by rail. Average journey about 60 minutes. The last train leaves Glasgow at 10 p.m.

Dunblane Hotel Hydro.: Bedroom and breakfast, 12/- per person.

Crieff.—In the heart of the Trossachs country. Fairly good train service to Glasgow. The morning train leaves for Glasgow at 8.8 a.m., and arrives at 9.45 a.m. The last train will leave Glasgow at 6.10 p.m.

Drummond Arms Hotel: Bedroom and breakfast, 10/- per person.

SCHOLARSHIPS AND GRANTS IN AID OF SCIENTIFIC RESEARCH.

SCHOLARSHIPS.

THE Council of the British Medical Association is prepared to receive applications for Research Scholarships as follows:

1. An ERNEST HART MEMORIAL SCHOLARSHIP, of the value of £200 per annum, for the study of some subject in the department of State Medicine.
2. THREE RESEARCH SCHOLARSHIPS, each of the value of £150 per annum, for research into some subject relating to the Causation, Prevention, or Treatment of Disease.

Each scholarship is tenable for one year, commencing on October 1st, 1922. A Scholar may be reappointed for not more than two additional terms.

The Conditions of the award of Scholarships are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, 429, Strand, London, W.C.2.

GRANTS.

The Council of the British Medical Association is also prepared to receive applications for Grants for the assistance of Research into the Causation, Treatment, or Prevention of Disease. Preference will be given, other things being equal, to members of the medical profession, and to applicants who propose as subjects of investigation problems directly related to practical medicine.

The Conditions of the award of Grants are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, 429, Strand, London, W.C.2.

Applications.

Applications for Scholarships and Grants for the year 1922-23 *must be made not later than Saturday, June 24th, 1922*, in the prescribed form, a copy of which will be supplied by the Medical Secretary on application.

Each application should be accompanied by testimonials, including a recommendation from the head of the laboratory, if any, in which the applicant proposes to work, setting out the fitness of the candidate to conduct such work, and the probable value of the work to be undertaken. This is not intended, however, to prevent applications for Grants in aid of work which need not be performed in a recognized laboratory.

A LIST of periodical publications, official reports, and Blue Books in the Library of the British Medical Association available for issue to members on loan has been printed, and copies can be obtained free on application to the Librarian at the house of the Association, 429, Strand, W.C. The regulations governing the loan of these publications are stated in the introduction to the list. The Library is open for consultation from 10 a.m. till 6.30 p.m. (on Saturdays 10 a.m. till 2 p.m.).

Correspondence.

The Profession and Approved Societies.

SIR,—In reading the report of the conference between the Insurance Acts Committee and the Ministry of Health it seemed to me that the main point upon which the whole matter turns was overlooked by one side and cleverly evaded by the other side—namely, the legal ownership of the reserved surplus accruing under the working of the Insurance Acts.

These funds are statutory funds and belong to the State, for they have been contributed to by Government, together with employers and employed (by statute).

The societies *per se* do not contribute to these statutory funds, and therefore cannot claim any rights in relation to them.

If instead of a surplus there had been a loss in the working of the Insurance Acts the State would have had to bear it. For example, when the societies wanted to have this surplus to distribute as a bonus among the insured people the Government stepped in and stopped it, fearing a subsequent loss which they would have had to make good, and thus proving that this surplus was State money and not the property of the societies.

The main and fundamental point therefore for discussion is the legal responsibility for either surpluses or losses which may from time to time arise in the working of the Insurance Acts.

The approved societies do not stand in any closer relationship to the State than do the panel doctors. For the State to consult either of these parties as to how the other party should be paid and regulated is out of all reason.—I am, etc.,

Stalybridge, April 9th. ADAM FOX, L.R.C.P., L.R.C.S.

Insurance.

LOCAL MEDICAL AND PANEL COMMITTEES.

BIRMINGHAM.

A MEETING of the Birmingham Panel Committee was held on April 4th. Letters were read from the Medical Practitioners' Union referring to the Government's negotiations with approved societies on the subject of medical benefit. An invitation was extended to the Panel Committee to send two representatives to a Conference of Panel Committees called by the Medical Practitioners' Union for April 6th. At the same meeting a letter was read from the secretary of the Insurance Acts Committee explaining the position and also the steps being taken by the British Medical Association through that committee. It was decided not to send representatives to the conference mentioned above.

HULL.

The monthly meeting of the Kingston-upon-Hull Panel and Local Medical Committee was held on April 6th. The SECRETARY read a lengthy correspondence which he had had with the Medical Secretary of the British Medical Association, the General Secretary of the Medical Practitioners' Union, and others, regarding the threatened attempt of the approved societies to obtain control of the administration of medical benefit. The Committee also had before it Circulars M. 39 and M. 40.

After a full discussion, a resolution was passed approving the action taken by the Chairman and Secretary of the Insurance Acts Committee in this matter, expressing the confidence of the Committee in the ability of the British Medical Association and the Insurance Acts Committee to deal properly with the matter, and deprecating the action of other bodies in trying to take premature action, thereby endangering the efficiency of whatever policy may be agreed upon as necessary, and not likely to contribute to the unity and co-operation in the ranks of the profession which will be so essential if anything in the nature of a struggle should take place.

EAST SUSSEX.

A meeting of the East Sussex Local Medical and Panel Committees was held at Lewes on April 18th, under the chairmanship of Dr. VALLANCE. Consideration was given to the situation created by the demand of the friendly societies to take part in future in negotiations between the Ministry and the profession as to terms of service and the resolution of the Insurance Acts Committee, passed on March 30th, that the profession should insist on the negotiations continuing to be between Ministry and profession without the intervention of any third party was approved.

The East Sussex Committees have for several years contributed substantially to the Defence Trust, but in view of the fact that several neighbouring Panel Committees have not done so it was decided to communicate with them offering to contribute one halfpenny per insured person per year to the Trust if these committees would do the same.

The question whether the Panel Committee should be elected at meetings or by postal vote was decided in favour of the former method.

GERMAN HEALTH INSURANCE STATISTICS.

THE following figures, circulated by the International Labour Office of the League of Nations, show the percentage of sickness among German workers as indicated by the returns of the health insurance societies:

Position on First Day of Month.	Men.		Women.	
	Compulsorily Insured Members, excluding Unemployed.	Percentage of Members Sick and Unable to Work.	Compulsorily Insured Members, excluding Unemployed.	Percentage of Members Sick and Unable to Work.
March, 1921 ...	8,838,048	3.5 (3.3)	4,640,430	4.7 (4.6)
April	8,333,543	3.2 (2.9)	4,679,223	4.4 (4.1)
May	8 801,825	2.9 (2.3)	4,917,927	4.4 (3.5)
June	8,516,715	2.9 (2.1)	4,894,577	4.4 (3.3)
July	8,645,810	2.9 (2.4)	4,930,411	4.5 (3.8)
August ...	8 690,440	2 9 (2.9)	4,767,634	4.5 (4 5)
September ...	8,810.724	3.1 (3.1)	4,918,026	4.7 (4 0)
October ...	8.753,182	2 9 (3 0)	5 035,211	4.3 (4.3)
November ...	8,660,195	2.7 (3.1)	4,795,545	4.0 (4.1)
December ...	9 282 258	3.0 (3.3)	5.046,052	4 0 (4.2)
January, 1922	7,587 003	4 4 (3 6)	4 502,147	5 5 (4.3)
February ...	7,842,103	5.7 (3.6)	4,377,703	6.5 (4.7)

The percentage figures in brackets are those for the corresponding month of the previous year.

OF the local social insurance societies of Germany, 720 have now, according to the *Deutsche medizinische Wochenschrift*, a fund of 503 millions of marks. Only 11 per cent. of their total expenditure was paid to the insurance medical practitioners.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following notifications are announced by the Admiralty:—Surgeon Commanders T. R. L. Jones to the *Vivid*, for R.N. Hospital, Plymouth; J. H. Lightfoot to the *Vivid*, for R.N. Barracks, Devonport; J. McCutcheon and L. Warren, O.B.E., to the *Victory*, for hospital ship *Maine*; G. P. Scott, D.S.O., to the *Iron Duke*, J. O'Hea to the *President*, additional for R.N. Recruiting Headquarters; T. W. Myles to Malta Hospital; R. S. Osborne to R.N. Sick Quarters, Shotley, on *Orion* paying off. Surgeon Lieutenant Commanders A. G. McKee to the *Malaya* temporary), H. E. Perkins to R.N. Hospital, Haslar (temporary); R. E. Rampling to the *Spenser*, temporary for duty in 2nd Destroyer Flotilla (to be accommodated in the *Vanquisher*); M. L. Aitken to the *Diomede*; E. A. Malone to the *Blenheim*, temporary; Surgeon Lieutenants J. T. Wylie to the *Queen Elizabeth*, W. J. McB. Allan to the *Dolphin*, D. H. Cameron to the *Wallace*.

Surgeon Captain E. A. Penfold, D.S.O., has been placed on the retired list.

Mr. T. Roche has entered as a Surgeon Lieutenant, with seniority of April 19th, and appointed to the Royal Naval Hospital, Haslar, for course.

ROYAL ARMY MEDICAL CORPS.

Major W. R. O'Farrell relinquishes the temporary rank of Lieutenant-Colonel.

To be Acting Colonels: Major C. E. W. S. Fawcett, from August 22nd, 1916, to November 3rd, 1917; Captain J. W. Lane, from August 19th to August 27th, 1919.

The following officers relinquish their commissions:—Temporary Captains and are granted the rank of Major: J. R. P. Allin, M.C., A. G. Southcombe, S. A. McClintock. Temporary Captains and retain the rank of Captain: H. G. Jamison, J. Cameron, C. G. Monro, L. Gibbons, G. E lis, G. Elsworth, J. B. Woodrow, W. Groome, M.B E., J. F. O'Loghlan, C. W. Bennett, R. H. Wace, M. O'Brien, C. P. Ruel, E. P. Marett. Temporary Honorary Captain G. W. Stephens, and retains the honorary rank of Captain.

Major-General Sir M. P. C. Holt, K.C.B., K.C.M.G., D.S.O., K.H.S., late R.A.M.C., is placed on half pay under the provisions of Article 351, Royal Warrant for pay and promotion, 1914.

The following Colonels, late R.A.M.C., to be Major-Generals: (Temporary Major-General) Sir G. B. Stanistreet, K.B E., C.B., C.M.G., vice Major-General Sir M. P. C. Holt, K.C.B., K.C.M.G., D.S.O., K.H.S. (placed on half pay), E. M. Pilcher, C.B., C.B.E., D S O., K H.S., and to be supernumerary vice Major-General Sir G. B. Stanistreet K.B.E., C.B. C.M.G. (promoted), H. A. Hinge, C.B., C.M.G., D.S O., vice Major-General E. M. Pilcher, C.B., C.B.E., K.H.S. (supernumerary).

Major T. C. C. Leslie to be acting Lieutenant-Colonel from September 14th, 1919, to May 20 h, 1920.

Major (temporary Lieut.-Colonel) T. H. Gibbon, O.B.E., to retain his temporary rank while specially employed.

The following Captains to be acting Lieutenant-Colonels: A. W. Bevis, from September 15th, 919, to December 13th, 1920; R. K. Mallam, from March 12th, 1919, to November 28th, 1920; F. A. Roddy, from May 8th, 1919, to October 2nd, 1920; W. McE. Snodgrass, M.C., from September 10th, 1919, to June 4th, 1920; A. G. Biggam, from October 1st, 1919, to September 26th, 1920; H H. Mulholland, from November 6th to December 14th, 1919; C. M. Ingoldby, from December 4th, 1919, to March 19th, 1921; F. G. A. Smyth, from June 17th to July 28th, 1920.

The following Captains to be temporary Majors: E. Phillips, D.S.O., M.C., from November 4th, 1919, to February 10th, 1921; W. M. Cameron, from July 19th to November 5th, 1920; H. D. F. Brand, from October 25th, 1920, to March 31st, 1921.

The following Captains to be acting Majors: H. H. Mulholland, from December 15th, 1919, to J nuary 8th, 1921; W. M. Cameron, from January 1st to May 20th, 1920; W. P. Power, M C., from February 14th, 1920, to September 29th, 1921; C. Popham, from September 13th, 1920, to April 16th, 1921.

ROYAL AIR FORCE MEDICAL SERVICE.

R. H. Wace is granted a temporary commission on ceasing to be employed as a Flight Lieutenant, with effect from, and with seniority of, March 28th.

Flight Lieutenant C. W. T. Baldwin relinquishes his temporary commission on ceasing to be employed, and is permitted to retain the rank of Captain.

INDIAN MEDICAL SERVICE.

The services of Colonel V. B. Bennett have been placed at the disposal of the Government of Bombay, with effect from the date on which he assumes charge of his duties.

Colonel W. Young, M.B., F.R.C.S.E., Inspector-General of Civil Hospitals, Central Provinces, has been granted combined leave for eight months from March 18th.

Lieut.-Colonel P. F. Chapman, C.I.E., M.B., has been appointed to officiate as Inspector-General of Civil Hospitals, Central Provinces, from the date on which he assumes charge of his duties.

The services of the following officers have been placed permanently at the disposal of the Government of the Central Provinces, with effect from the dates indicated: Major (Temporary Lieutenant-Colonel) R. A. Needham, C.I.E., D.S.O. (April 2nd, 1914), Major H. Watts (July 2nd, 1915), Major W. J. Fraser (March 1st, 1916), Major C. C. Shaw (May 17th, 1916), Major F. P. Warwick, D.S.O. (October 18th, 1918), Major A. E. Grisewood (January 30th, 1920).

The services of Major E. S. Phipson, D.S.O., have been placed at the disposal of the Government of the Punjab from February 28th.

MILITIA.

ROYAL ARMY MEDICAL CORPS.

Captains E. T. Holland and W. M. Biden, M.C., to be Majors.

Captain O. M. Mirylees relinquishes his commission and retains the rank of Captain.

Captain T. W. Clarke, M.C., relinquishes his commission and is granted the rank of Major.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Captain F. B. Macaskie to be temporary Major from August 23rd to September 16th, 1919.

The following Captains to be Acting Majors: C. C. Harrison, from October 17th to December 1st, 1919; J. A. Musgrave, from November 29th, 1919, to April 22nd, 1920.

ROYAL ARMY RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

The following lieutenant-colonels, having attained the age limit of liability to recall, cease to belong to the Reserve of Officers: J. Hennessy, C.B., C.M.G., J. C. Jameson.

TERRITORIAL ARMY.

ROYAL ARMY MEDICAL CORPS.

Majors J. A. Clarke, D. Walker, T. D. and S. E. Rigg, having attained the age limit, are retired, and retain the rank of Major, with permission to wear the prescribed uniform.

Captain P. D. Warburton, Reserve of Officers, to be Major.

Lieutenant R. W. Mayston (late R.A.M.C.T.F.) to be Captain.

The following officers relinquish their commissions and retain their rank except where otherwise stated: Lieut.-Colonel T. Fraser, C.B.E., D.S.O., and is granted the rank of Colonel; Lieut.-Colonel A. Cary, T.D., with permission to wear the prescribed uniform; Captain J. Strathearn, O.B.E., and is granted the rank of Lieutenant-Colonel. Captains, and are granted the rank of Major: T. C. Britton, H. S. Hollis, J. A. Morris, H. A. Playfair-Robertson; Captains J. R. Chalmers, H. G. Donald, W. T. Henderson, A. B. Jamieson, D. Lyon, A. J. McIvor, J. Moir, R. E. Pitts, M.C., A. G. Reid, E. J. Staddon, T. S. Hele, O.B.E., D. N. Hardcastle.

Major H. H. B. Cunningham, T.D., vacates the appointment of D.A.D.M.S., Welsh Division.

Captain T. S. Elliot, M.C., vacates the appointment of D.A.D.M.S., 46th (North Midland) Division, May 5th, 1921 (substituted for notification in the *London Gazette* of July 21st, 1921).

Captain M. Thompson, having attained the age limit, is retired and retains the rank of Captain.

TERRITORIAL ARMY RESERVE.

ROYAL ARMY MEDICAL CORPS.

Captain J. S. Ward, from General List, to be Major.

DIARY OF SOCIETIES AND LECTURES.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.—Tues. and Thurs., 5 p.m., Oliver-Sharpey Lectures by Professor E. Mellanby: Some Common Defects of Diet and their Pathological Significance.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—Museum Demonstrations:—5 p.m., Mon., Professor Shattock: Sarcoma; Fri., Sir Arthur Keith: Umbilical and Diaphragmatic Hernia.

ROYAL SOCIETY OF MEDICINE.—*Section of Tropical Diseases and Parasitology:* Mon., 8.30 p.m., Annual General Meeting. Sir Leonard Rogers: Etiology and Epidemiology of Leprosy. Mrs. F. E. Philpot: Development of Oxyuris. Dr. J. Anderson: Dysentery in the West Indies. Dr. Powell: Tuberculosis in the Tropics. *Section of Orthopaedics:* Tues., 5 p.m., Cases; 5.30 p.m., Annual General Meeting. *Section of Obstetrics and Gynaecology:* Thurs., 8 p.m., Annual General Meeting. Specimen:—Professor Henry Briggs: Uterus from Case of Anaemia. Communications:—Mr. M. Donaldson: An Operation for Radiation of Iliac Glands and Deep Tissues in Carcinoma. Mr. J. D. Malcolm: Surgical Shock. *Section of Laryngology:* Fri., 3 p.m., Special Clinical Meeting, followed by Annual General Meeting; 7.45 p.m., Annual Dinner at Trocadero Restaurant.

UNIVERSITY OF LONDON, Rooms of the Royal Society of Medicine, 1, Wimpole Street, W.1.—Wed., 3 p.m., Lecture by Dr. C. Winckler (Utrecht): The Human Neo-cerebellum.

POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE, 1, Wimpole Street, W.—Mon., 5 p.m., Sir Humphry Rolleston: Recent Physiology of the Liver and its Application in Practice.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION, Western Infirmary.—Wed., 4.15 p.m., Dr. Barclay Ness and Mr. Archibald Young: Medical and Surgical Cases.

INSTITUTE OF PATHOLOGY AND RESEARCH, St. Mary's Hospital, Paddington, W.—Thurs., 5 p.m., Sir Archibald Garrod: More Inborn Errors of Metabolism.

LONDON HOSPITAL MEDICAL COLLEGE.—Tues. and Fri., 5 p.m., Dr. Millais Culpin: Psycho-neuroses.

LONDON LOCK HOSPITAL, 91, Dean Street, W.1.—Mon., 5 p.m., Mr. C. Gibbs: Anterior and Posterior Urethritis.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.30 p.m., Dr. G. R. Murray: Pneumonia.

ST. MARYLEBONE GENERAL DISPENSARY, Welbeck Street, W.—Infant and Child Welfare:—Dr. Eric Pritchard: 6 p.m., Mon., Causes of Infant Mortality; Thurs., How to Conduct an Infant Consultation, Examine an Infant, and Keep Records.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Hospital, Ouseley Road, Balham, S.W.—Wed., 4 p.m., Dr. H. W. Barber: Common Errors in Diagnosis in Regard to the Skin.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Mon., 2 p.m., Dr. Simson: Diseases of Women. Tues., 2 p.m., Dr. Burrell: Out-patients. Wed., 2 p.m., Mr. Gray: Operations. Thurs., 2 p.m., Mr. Harman: Eye Department. Fri., 10 a.m., Mr. Buxton: Dental Department. Sat., 9 a.m., Dr. Burnford: Bacterial Therapy Department.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 1s. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS and ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London).
MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London).
EDITOR, *British Medical Journal* (Telegrams: Aitiology, Westrand, London).
Telephone number for all Departments: Gerrard 2630 (*3 lines*).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)
IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

APRIL.

28 Fri. London: Propaganda Subcommittee, 2.15 p.m.
Camberwell Division: Camberwell Infirmary, Brunswick Square, 9 p.m.
City Division: Metropolitan Hospital, 9.30 p.m.

MAY.

2 Tues. Nottingham Division, 64, St. James Street, Nottingham, 3.30 p.m.
3 Wed. Bury Division, Derby Hotel, 4 p.m.
Edinburgh Branch: South-Eastern Counties Division Annual Meeting, Railway Hotel, Newtown St. Boswells, 3.15 p.m. Executive Committee, 3 p.m.
North Devon (Barnstaple) Division: Annual Meeting, North Devon Infirmary, 5 p.m.
4 Thurs. London: Rural Practitioners Subcommittee, 2.30 p.m.
Dartford Division: Livingstone Hospital, Dartford, Executive Committee, 2.30 p.m.; Divisional Meeting 3.30 p.m., followed by meeting of Local Medical Advisory Committee.
5 Fri. City Division: Clinical Meeting, Royal Northern Hospital, Address by Dr. Philip Hamill on Cardio-vascular Neuroses, 9.30 p.m.

APPOINTMENTS.

LIVESAY, Arthur, M.B., F.R.C.S.Edin., C.P.M., Surgeon Commander R.N. (ret.), Senior Assistant Medical Officer and Deputy Medical Superintendent to the Norfolk County Mental Hospital, Thorpe, Norwich, vice Dr. O. G. Connell, M.C., promoted.

POLLOCK, W. B. Inglis, F.R.F.P.S.G., Surgeon to the Glasgow Eye Infirmary.

SMELLIE, J. M., M.D., Physician to Out-patients, Children's Hospital, Birmingham.

WARBURTON, Gilbert B., Ch.M., F.R.C.S.Eng., Visiting Surgeon, Withington Institution and Hospitals, Manchester.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 9*s.*, *which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.*

BIRTHS.

BROWNE.—On Easter Sunday, April 16th, 1922, to Dr. and Mrs. William Browne, The Cross, Radcliffe, Lancs—a son.

PULLAN.—April 12th, at 537, Anlaby Road, Hull, to Margaret (*née* Crawford), wife of Dr. C. Durham Pullan—a daughter.

MARRIAGES.

GARROD—PIERCE.—On April 22nd, at Old Jordans Meeting House, Lawrence P. Garrod, M.B., B.Ch.Camb., son of Mr. and Mrs. Cubitt Garrod, of Bournemouth, to Marjorie Pierce, M.R.C.S., L.R.C.P., only daughter of Bedford Pierce, M.D., F.R.C.P., and Mrs. Pierce, of Malton (formerly of York).

GOUDIE—FERGUSON.—At Woodwick, West Kilbride, on the 20th April, by the Rev. James Ferguson, B.D., Crieff, and the Rev. Fergus Ferguson, O.B.E., B.D., Perth, Adam Smith Goudie, M.A., M.B., Ch.B., Saltcoats, to Mary, youngest daughter of the late Rev. Fergus Ferguson, D.D., Queen's Park, Glasgow, and of Mrs. Ferguson, West Kilbride. At Home, 6, Ardrossan Road, Saltcoats, after September.

DEATH.

WATSON CHEYNE.—On April 9th, at Ravensbourne, Melrose, suddenly, Margaret, wife of Sir William Watson Cheyne, Bt., M.P.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, MAY 6TH, 1922.

CONTENTS.

BRITISH MEDICAL ASSOCIATION. PAGE

REPORT OF COUNCIL, 1921-22 125

APPENDIX I. REPORT ON THE UTILIZATION OF MUNICIPAL HOSPITALS FOR CIVIL NEEDS 147

APPENDIX II. FINANCIAL STATEMENT 148

APPENDIX III. RETURN OF ATTENDANCES AT COUNCIL AND COMMITTEE MEETINGS 157

NOTICES OF MOTION BY DIVISIONS FOR THE ANNUAL REPRESENTATIVE MEETING 162

MEETINGS OF BRANCHES AND DIVISIONS 163

Current Notes: PAGE

EBBW VALE AND ITS DOCTORS 162

APPROVED SOCIETIES AND MEDICAL BENEFIT 162

WILLESDEN ADVISORY MEDICAL COMMITTEE 162

ASSOCIATION NOTICES:

TABLE OF DATES 163

BRANCH AND DIVISION MEETINGS TO BE HELD 163

INSURANCE PRACTITIONERS AND APPROVED SOCIETIES ... 164

DIARY OF SOCIETIES AND LECTURES 164

ASSOCIATION INTELLIGENCE AND DIARY 164

BIRTHS, MARRIAGES AND DEATHS 164

SPECIAL NOTICE TO MEMBERS.

Every Member is requested to preserve this "Supplement," which contains matters specially referred to Divisions, until the subjects have been discussed by the Division to which he or she belongs.

MATTERS REFERRED TO DIVISIONS.

British Medical Association.

ANNUAL REPORT OF COUNCIL, 1921-22.

CONTENTS.

PAGE

Preliminary ... 125
Finance ... 128
Journal ... 130
Organisation ... 130
Science ... 132
Post-Graduate ... 134
Medical Ethics ... 134
Medico-Political ... 135
National Health Insurance ... 140
Public Health and Poor Law ... 142
Hospitals ... 143
Naval and Military ... 144
Parliamentary Elections ... 144
Scotland ... 145
Wales ... 145
Ireland ... 145
Oversea Branches ... 146

Preliminary.

THE ANNUAL MEETING AT NEWCASTLE IN 1921.

1. In thanking the President, the Local Executive Committee and all those concerned in the organisation of the Meeting at Newcastle-on-Tyne, the Council expressed the opinion, which it is sure is shared by all who had the good fortune to attend the Meeting, that it was a conspicuous success from every point of view. The outstanding feature was probably the abundant and hearty hospitality which maintained and even enhanced a standard which the Association has come to expect wherever it goes. Where there were so many willing helpers it is impossible to mention all, but the Council feels that it is voicing the feeling of the members in general in placing on record its sense of the deep obligation of the Association to the President, Professor David Drummond, C.B.E., D.C.L., and to the zealous and indefatigable Honorary General Secretary Mr. R. J. Willan, M.V.O., O.B.E.

THE ANNUAL MEETING AT GLASGOW, 1922.

2. Those who remember or have read of the Meeting at Glasgow in 1888, and the prominent part then taken by Sir William Macewen, will look forward with expectation and confidence to the Meeting which is to be held in July under his Presidency. The Local Executive, with Dr. G. A. Allan as Honorary Secretary, is being supported by the local profession in a way which guarantees a successful meeting.

ANNUAL MEETING, 1923.

3. In connection with the Annual Meeting at Portsmouth in 1923, the Portsmouth Division has nominated Mr. C. P. Childe as President for 1923-24.

The Council recommends :—

Recommendation.— That Charles P. Childe, F.R.C.S., Honorary Senior Surgeon, Royal Portsmouth Hospital, be elected President of the Association for 1923-24.

ANNUAL MEETING, 1924.

4. The Council had invitations for the 1924 Meeting from Bath, Bradford, Buxton and Nottingham, and after careful consideration came to the conclusion that the Association should accept the invitation of the Bradford Division.

The Council recommends :—

Recommendation.—That the Annual Meeting, 1924, be held at Bradford.

HONOURS.

5. The Council has pleasure in announcing that during the present session honours have been conferred on the following Members of the Association, who have been congratulated in the name of the Association by the Council :—

Knight Grand Cross Order of the British Empire (G.B.E.).

Sir C. S. Sherrington, P.R.S. (Oxford).

Knighthood.

Dr. George S. Abram (Reading).

Mr. J. W. Thomson Walker, O.B.E. (London).

Knight Commander of the Bath (K.C.B.).
Major-General C. C. Manifold, C.M.G., I.M.S.

Companion of St. Michael and St. George (C.M.G.).
Dr. R. Thomson Paton (Sydney, N.S.W.).

Companion of the Order of the Indian Empire (C.I.E.).
Khan Bahadur Nasarvanji Hormasji Choksy (Bombay).
Lieut.-Colonel James Entrican, I.M.S.
Major-General J. Blackburne Smith, C.B., I.M.S.

Commander Order of the British Empire (C.B.E.).
Dr. J. Ferguson Lees (Cairo, Egypt).
Dr. John Oldershaw, J.P. (Clevedon).

Presidency of the Royal College of Physicians of London.
Sir Humphry Rolleston, K.C.B., D.C.L., F.R.C.P.

Obituary.

6. The Association has to deplore the loss of the following Members:—

Dr. John Adams, (Glasgow).
Member of Central Council 1912-17 and Representative 1908-17.

Dr. Samuel Beatty.
A former President of the Perth Branch; a Member of the Branch Council, and Deputy-Representative.

Sir Sidney Beauchamp, M.B.,
Vice-Chairman of the Westminster Division of the Metropolitan Counties Branch; and a Member of the Division Executive Committee.

Colonel Wm. Henry Bull, K.H.S., V.D., A.M.S. (T.F. Res.)
A former President of the South Midland Branch; for some years a Member of the Naval and Military Committee.

Dr. Roger Bernard Burke.
Member of the Executive Committee of the Plymouth Division of the South-Western Branch.

Dr. Wm. Alexander Caskie.
A former Secretary and at one time Representative of the Glasgow North-Western Division.

Dr. John Ward Cousins.
President of the Association, Portsmouth Meeting, 1899; for long a very active Member of the Central Council and various Committees; a former President of the Southern Branch; at one time Chairman, and for some years Secretary and a former Representative of the Portsmouth Division.

Dr. Douglas Vernon Cow.
Secretary of Section of Pharmacology, Therapeutics and Dietetics, 1913.

Dr. Wm. Laing Cullen.
A former Chairman and Representative of the South-Eastern Counties Division of the Edinburgh Branch.

Dr. Edward Owen Daly.
A former President of the East Yorks and North Lincolnshire Branch.

Dr. David Livingstone Davies.
A Member of the North Wales Branch Council; a former Chairman of the South Carnarvon and Merioneth Division.

Dr. Hugh Davies-Jones.
A Member of the South Wales and Monmouthshire Branch Council; a former Chairman of the North Glamorgan and Brecknock Division.

Professor Sheridan Delepine, M.B.
Secretary of Section of Pathology and Bacteriology, 1892, and President, 1896; President of Section of Pathology, 1902.

Dr. Edwin Dening.
A former President of the Oxford and District Branch.

Mr. Henry Work Dodd.
Secretary of Section of Ophthalmology, 1892.

Dr. Peter Thomas Duncan.
A former President of the South-Eastern Branch, and for some years Secretary of the East Surrey District of that Branch.

Dr. George Maitland Edmond.
Vice-President of Section of Medicine, 1914.

Dr. John Elliott, O.B.E.
President of the Lancashire and Cheshire Branch; Chairman of the Chester Division.

Colonel George Sampson Elliston, C.B.
A Vice-President of the Section of Navy, Army and Ambulance, 1900, and a former Member of the Naval and Military Committee.

Sir George Joseph Hamilton Evatt, K.C.B. Major-General A.M.S. (Ret.).
A former Member of the Central Council, and of the Naval and Military Committee.

Dr. John Matthew Fortescue-Brickdale.
Secretary of Section of Pharmacology, Therapeutics and Dietetics, 1914.

Dr. Charles Gibson, J.P.
A former President of the Yorkshire Branch; for some years Secretary of the Harrogate Division.

Dr. David Dryburgh Gold.
A Member of the Public Health Committee; a former Chairman and Representative of the Hereford Division.

Dr. Francis Wm. Nicholl Haultain.
Secretary of Section of Obstetrics and Diseases of Women, 1898, and President of the Section, 1914.

Dr. Thomas Arthur Helme.
For some years a Member of the Central Council; a former President, and at one time Secretary of the Lancashire and Cheshire Branch; and a former Chairman and Representative of the Manchester Division; Secretary of Section of Obstetrics, 1902, and Vice-President of Section of Obstetrics and Gynæcology, 1906.

Dr. Herbert Edward Hick.
Chairman of the Mashonaland Division of the Rhodesian Branch.

Dr. Alfred Hill.
Probably the oldest Member of the Association, elected 1853.

Dr. William Holder, J.P.
A former President of the East York and North Lincoln Branch, and at one time Chairman of the East York Division.

Dr. William Ainslie Hollis.
A Vice-President of the Association; President, Brighton Meeting 1913.

Dr. W. Johnson.
President of the Orange Free State and Basutoland Branch.

Dr. Claude Philip Le Quesne.
An old Member of the Southern Branch Council; a former Chairman and Secretary of the Southampton Division.

Mr. Harry Littlewood, C.M.G.
Vice-President of Section of Surgery, 1908.

Dr. Thomas McGeoch.
A former Chairman of the Ayrshire Division.

Dr. Thomas McQueen.
A former Chairman of the Eastbourne Division.

Dr. Herbert Coddington Major.
A former President of the Yorkshire Branch; at one time Chairman of the Bedfordshire Division of the South Midland Branch, and a former Chairman and Representative of the Channel Islands Division.

Sir Patrick Manson, G.C.M.G., F.R.S.
Stewart Prizeman, 1901, and President Section of Tropical Medicine, 1898.

Dr. James Ackworth Menzies.
Secretary of Physiology and Anatomy, 1902; nominated a Vice-President of Section of Physiology, Pharmacology, Therapeutics and Dietetics at Newcastle, 1921.

Professor Benjamin Moore, F.R.S.
A Member of the Science Committee, and a former Representative of the Birkenhead Division; a Vice-President of Section of Physiology, 1912, and a Vice-President of Section of Medical Sociology, 1920.

Dr. Sorab A. Nariman.
A Member of the Bombay Branch Council.

Dr. James Henderson Nicoll.
A former Secretary of the Glasgow and West of Scotland Branch; a Vice-President of Section of Surgery, 1905.

Dr. Charles Parsons.
A Vice-President and former Treasurer of the Association; for many years a Member of the Central Council and various Committees; at one time President and for three years Honorary Secretary and Treasurer of the South-Eastern Branch.

Dr. Cecil Anthony Perrier Osbourne.
Secretary of Section of Psychology, 1900.

Dr. Wm. Rattray Pirie, O.B.E.
Secretary of Section of Medicine, 1914.

Dr. Frank Linney Pochin.
At one time President of the Lancashire and Cheshire Branch; a former Chairman and Representative of the Oldham Division.

Dr. Benjamin Poulton.
A former President, and for some years Secretary of the South Australian Branch.

DR. JOHN FRANCIS PRIDIE.
A former Chairman of the Southport Division.

DR. EDWIN RAYNER.
Gold Medal of the Association, 1914; a Vice-President, and Treasurer from 1907 to 1916; for many years a Member of the Central Council; a former President of the Lancashire and Cheshire Branch.

DR. WILLIAM RUSSELL.
A former President of the Assam Branch.

SIR GEORGE HENRY SAVAGE, M.D.
Vice-President, 1883; President, 1884; and Vice-President, 1885, of Section of Psychology.

DR. WILLIAM HENRY IRVIN SELLERS.
Chairman of the Preston Division; a former Secretary and Representative of the Division; a Member of the Lancashire and Cheshire Branch Council.

DR. EDWARD MANSEL SYMPSON.
A former President of the Midland Branch; Secretary 1892, and a Vice-President, 1901, of Section of Diseases of Children.

PROFESSOR PETER THOMPSON, M.D.
Secretary, 1902, and Vice-President, 1909 and 1911, of Section of Physiology and Anatomy; Vice-President of Section of Medical Education, 1920.

DR. GEORGE WESTBY.
A former Chairman and Representative of the Liverpool (Southern) Division.

LT.-COL. EDMUND MONKHOUSE WILSON, C.B. C.M.G., R.A.M.C. (Ret.).
A former Representative on the Council of the R.A.M.C. and Member of the Naval and Military Committee.

PROFESSOR SIR GERMAN SIMS WOODHEAD, K.B.E., M.D.
Address in Bacteriology, Nottingham, 1892; Secretary, 1888; Vice-President, 1880; President, 1894, and Vice-President, 1920, of Section of Pathology and Bacteriology.

DR. RICHARD P. WOODROFFE.
Secretary, and for some years Treasurer, of the Bradford Division.

Dr. William Livingstone Agnew, Dr. David Hunter Ainslie, Dr. John Alexander, Dr. Richard Grammer Allen, Dr. Richard Wm. Allen, Dr. J. Anderson, Dr. Alfred Ashby, Dr. Edwin Charles Ashford, Dr. Herbert Stainer Baker, Dr. Herbert Stanley Ballance, Dr. George Banks, Dr. Frederic John Brownfield Bateman, Dr. A. M. Baumann, Dr. Hugh Thomas Symes Bell, Surgeon Lieut. Wm. Bell, R.N., Dr. Leonard Watkins Bickle, Dr. Alexander Boothroyd, Dr. Thomas Wm. Widger Bovey, Dr. George Charles Bright, Dr. Joseph Brindley-James, Dr. James Henry Brooks, Dr. John Harley Brooks, Dr. Charles Suffield Brown, Dr. Robert Joseph Browne, Dr. C. A. Burfitt, Dr. Herbert Burland, Dr. Frederick James Burman, Dr. Andrew Cooper Cassells, Dr. John Erskine Chalmers, Dr. Sydney Taylor Champtaloup, Dr. Caroline Ada Wallis Chapman, Dr. Alfred N. Chenhall, Dr. Malcolm Robert Clark, Dr. Wm. Rudolf Clay, Mrs. Eveline Rosetta Cohen, F.R.C.S.I., Dr. Louis Colbourne, Dr. Ernest Wilfrid Cooke, Dr. John Cooke, Dr. Francis Gillies Connor, Dr. Herbert Ernest Corbin, Dr. John Arthur Cornett, Dr. William Jenkinson Corrigan, Dr. William Cox, Dr. J. A. Curtin, Dr. Arthur Tonkin Davey, Dr. Wm. Davies, Dr. Wm. Thomas Davies, Dr. Gatewood Coleridge Davis, Dr. John Maxwell Dawson, Dr. Timothy Francis Moya Dilworth, Dr. William Edward Dixon, Dr. James Dobb, Dr. James Donald, Dr. James Walker Downie, Dr. John Downie, D.S.O., Dr. Charles Downing, Dr. Thomas Duncan, Dr. John Edward Dunn, Dr. Henry Edwards, Dr. John Charles Edwards, Dr. James Erskine, Dr. Edgar Griffith Evans, Dr. John Spencer Ferris, Dr. Frederick Leopold Flood, Dr. Alfred Foster, Sir Peter Johnson Freyer, K.C.B., Dr. Edmund Frost, Dr. Henry Edward Garrett, Dr. James Oliphant Goldie, Dr. Walter Belfield Grannum, Dr. Francis Joseph Gray, Dr. Alexander Stevenson Greenway, Dr. William Charles Griffiths, Dr. Frederick Norman Grinling, Dr. Charles Henry Hale, C.M.G., D.S.O., Dr. Richard Eugene Harcourt, Lt.-Col. Lawrence Campbell Vigor Hardwicke, R.A.M.C. (T. F.), Dr. David Stanger Harvey, Mr. Claude Somerville Hawkes, Dr. Wm. S. Hawthorne, Dr. Charles Augustine Hayman, Dr. George Gustav Hulcke, Dr. Patrick Jobson Henderson, Dr. Philip Hicks, Dr. Richard Percy Hill, Dr. Ephraim Hillard, Dr. Charles Albert Hingston, Dr. Joseph James Harrison Holt, Dr. Richard Mandeville Hugo, Dr. James Hurley, Dr. George Wright Hutchinson, J.P., Dr. John Innes, Dr. George Irving, Dr. Wm. Irwin, Dr. Wm. V. Jacobs, Dr. A. J. Johnson, Dr. Henry Gladstone Jones, Dr. Gregory Paul Jordan, Dr. Charles Henry Keay, Dr. Herbert Warren Kershaw, Dr. Bertram Harold Kingsford, Dr. John Kippax, Dr. Andrew Ross Laing, Dr. Llewellyn Bentley Lancaster, Dr. Helen Lauder, Mr. Robert Murray Leslie, Dr. Thomas Lettis, Dr. Albert Sidney Frankau Leyton, Dr. Harry Martin Lightoller, Dr. B. Liknaitsky, Dr. Victor Donald Orr Logan, Dr. Louis Lota, Dr. Wm. Macansh, Dr. Alexander John McCallum, Dr. Alexander Jameson McClymont, Dr. John Coupar McGregor, Dr. Gordon John Kennedy McIver, Dr. Thomas Brownlie McKendrick, Dr. John Mackenzie, Dr. Norman James McKie, Dr. Neil Macleod, Dr. Wm. Macleod, Dr. James Neal Macmullan, Dr. Edward Orr McNiven, Dr. Wm. Manuel, Dr. Augustine Marshall, Dr. John Robert Mason, Dr. Valentine Matthews, C.B.E., Dr. Frederic Pinsent Maynard, Dr. William Robert Colvin Middleton, Dr. Charles Alfred Mitchell, Captain Shaik Ghulam Mohamed, I.M.S., Dr. Arthur John Helm Montague, Dr. John Thomas Moore, Dr. Edgar Freeman Morris, Dr. Thomas Henry Morton, Dr. Lovell Moss, Dr. Stanley A. Wollaston Munro, M.C., Dr. P. J. Nallaseth, Dr. Frank Baker Norris, Dr. Arthur Charles Oldham, Dr. Alfred Orme, Dr. Alexander Bryson Osborne, Dr. James Parker, Dr. Alfred Parkes, Dr. Wm. Paterson, Dr. George A. Paul, Dr. Thomas Franklin Pedley, Dr. Frederick Wm. Henry Penfold, Dr. Alfred Temple Perkins, Dr. James Philp, Dr. Wm. Robertus Pierce, O.B.E., Dr. Cecil Powell, Lt.-Col. Kanta Prasad, I.M.S. (Ret.), Dr. Richard Price, Dr. Thomas Augustus Quirk, Dr. George Rolph Raine, Dr. Alfred Ernest Wm. Ramsbottom, Sir Joseph Michael Redmond, Dr. David Valentine Rees, O.B.E., Dr. David Wm. Reese, Dr. Michael Welldon Rice, Dr. Robert James Riseley, Dr. John K. Robinson, Major-General Wm. Henry Banner Robinson, C.B., I.M.S., Dr. George Frederick Rossiter, Dr. Andrew Lindsay Roxburgh, Dr. Gordon Sanders, Dr. James Savege, Dr. Albin Seddon, Dr. James Linn Shirlaw, Dr. James Smart, Dr. William Herbert Smart, Dr. Charles Smith, Dr. George Purves Smith, Dr. James Lind Smith, Dr. Thomas Hanson Smith, Dr. Wm. Beattie Smith, Dr. John Graham Smythe, Dr. Evan Prosser Staples, Dr. Robert Walter Stewart, Professor H. Stilon, Dr. Timothy Daniel Sullivan, Dr. Herbert Algar Sweetapple, Dr. Arthur Sneyd Taylor, Dr. Laurence Ramsay Thomson, Dr. Ellerington Reed Turner, Dr. Thomas Turner, Dr. Wm. Gregory Van Dort, Dr. Bryan A. Veech, Dr. Benjamin Pope Viret, Dr. Walter Oliphant Walker, Dr. Herbert Kidson Wallace, Dr. George Frederick Charles Wallis, Dr. Wm. Frederick Webster, Dr. Martin Whyte, Dr. Leonard James Willan, Dr. V. J. E. Z. Woinarski, Dr. Henry Charles Wolfenden, Dr. Charles E. Campbell Williams, Dr. Richard Bridgman Williams, Dr. George Samuel Wild, Dr. Matthew Wiseman, Dr. Robert Wm. Woodall, Dr. William Francis Copley Woodhead, Sir Stewart Woodhouse, Mr. Charles Wray, Dr. John Henry Wroughton, Dr. James Davidson Wyness.

ATTENDANCES.

7. The Council submits in Appendix III. a list of attendances at Council, Committee, and Sub-Committee Meetings from the termination of the A.R.M. 1921, to April 13th, 1922.

AWARD OF THE GOLD MEDAL OF THE ASSOCIATION TO THE RT. HON. SIR T. CLIFFORD ALLBUTT, PRESIDENT OF THE ASSOCIATION, 1916-1921.

8. The Council has decided to award the Gold Medal of the Association to the Right Honourable Sir T. Clifford Allbutt, K.C.B., M.D., F.R.S., for his long and distinguished services to the profession and the Association and in commemoration of his five years' Presidency of the Association at the time of the Great War, 1916-21. The Medal and Illuminated Address will be presented on the occasion of the Presidential Address at Glasgow.

ELECTION OF SIR ALEXANDER OGSTON, K.C.V.O., M.D., AS VICE-PRESIDENT.

9. The Council desires this year to repair an oversight for which the upheaval caused by war conditions is responsible and submits to the Representative Body the name of Sir Alexander Ogston, K.C.V.O., M.D., President of the Association, 1914-16, for election as a Vice-President.

The Council recommends:—

Recommendation.—That Sir Alexander Ogston, K.C.V.O., M.D. (President of the Association, 1914-16) be elected a Vice-President of the Association under Art. 36 and By-law 65, in recognition of his services as President of the Association.

THE VICTOR HORSLEY MEMORIAL.

10. The Council had great pleasure in approving that the President and future Presidents of the Association should act as Trustees of the Victor Horsley Memorial Fund in memory of one who, amongst his manifold interests and achievements, was always active in the work, and devoted to the interests, of the Association. The Fund is endowing a lectureship, the lecture to be delivered triennially in London, and the appointment of the lecturer rests with the Board of Official Trustees, consisting of

the President of the Royal Society, the President of the Royal College of Surgeons of England, the President of the British Medical Association, the Senior Physician of the Hospital for Paralysed and Epileptic, Queen Square, the Senior Surgeon of University College, together with Mr. Edward Robinson, the son-in-law of the late Sir Victor Horsley, and Mr. E. J. Domville, O.B.E., one of the Hon. Secs. of the Fund. It is not intended that vacancies caused by the resignation or death of either of the two last named should be filled, and the others hold office by virtue of their official positions.

Memorial to Members Fallen in the War.

11. The Council has resolved that the memorial to Members fallen in the War should take the form of a Book of Honour to be placed in the Library, in which the names of fallen Members shall be engrossed; a Tablet of Art Bronze or other suitable material in the Entrance Hall, stating that the Book of Honour is to be found in the Library; and a small booklet for issue to relatives, giving some account of the Book of Honour.

Record of Past Officers of the Association.

12. The Council has decided to utilize the Oak Panels in the Council Room for recording the names of Past Presidents of the Association, Chairmen of Council, Chairmen of Representative Meetings, Treasurers, Editors, Medical and Financial Secretaries.

Presentation to Late Financial Secretary and Business Manager.

13. The Council at its meeting on December 14th, 1921, in taking leave of Mr. Warne after his long years of faithful service to the Association, presented to him an illuminated address which read as follows:—

"To William Elsworth Warne, Esq.,

The Council of the British Medical Association, on the occasion of your retirement from the service of the Association, desires to place on record its grateful appreciation of your forty years of service for the Association, during which time you have filled the posts successively of Clerk, Chief Clerk, and Financial Secretary and Business Manager.

During the time in which you have been connected with it the Association has grown greatly in membership and influence, and the Council has great pleasure in putting on record its belief that your faithful and untiring service has contributed in no small degree to the progress of the Association.

The Council sincerely trusts that you may be spared in health and strength for many years to enjoy the leisure you have so well earned and the respect of those who know you."

Finance.

14. The Financial Statement for the year ending 31st December, 1921, which is published in detail in Appendix II., shews that the financial position of the Association has improved considerably during the year under review. Expenditure has been rigorously scrutinized, and has been kept down to the lowest limit compatible with efficiency.

15. The increased outlay on Journal Account follows naturally on the larger number of *Journals* necessitated by increased circulation and the postage and other expenses incidental thereto; and it is more than compensated for by the increased revenue accruing from the *Journal*.

16. The income for 1921 was £116,385 14s. 5d.: in 1920 it was £86,372 2s. 2d. which included a sum of £500 received as arrears of rent, a sum of £584 6s. 6d. transferred from the Exhibition Account, and an amount of £37 3s. 2d., being the balance of the Joint Hospitals Account.

17. There is an increase of nearly £23,000 in subscriptions, mainly due to the higher rate of subscription, and also partly to the net increase of over one thousand in the membership. It should be noted that, had the rate of subscription not been increased, the Association would have had to face a further deficit of about £8,000 in respect of 1921. As, however, after careful consideration the increase in the rate of subscription was sanctioned the deficit of 1920 has been made good, and the Association has improved its financial power and stability by nearly £1,200.

18. The total receipts on Journal Account have increased by nearly £7,700. For 1921 both the rates for advertisements and the price of the *Journal* to non-members have been increased; despite this fact, sales of the *Journal* brought in £500 more and advertisements £7,000 more than in 1920, which would seem to furnish proof of the interest in and appreciation of the *Journal* and of its power and value as an advertising medium. Fuller information will be found in the report of the Journal Committee.

19. The total expenditure for the year 1921 was £103,105. 0s. 11d. which includes a reserve of £500 for discounts, and sums written off for depreciation, £3,550. The comparable figures for 1920 were total £98,467, reserves £250, depreciation £1,296. There has been no necessity to depreciate the value of the investments in the Bank of England Stock and Midland Railway Stock, but it is considered prudent to refrain from enhancing their value for Balance Sheet purposes. The sum of £3,000 has this year been written off the Building in order to approximate the depreciation to 2½ per cent. per annum on the original cost.

Balance Sheet.

20. It will be observed that the amount owing by the Association has been considerably reduced, the Bank Overdraft has been paid off and the debit balance of £12,095 incurred through excess of expenditure over income during 1920 has been converted into a net credit addition to the Surplus Account of £1,195 as compared with the figure at 31st December, 1919. This is undoubtedly a satisfactory result of the year's operations.

21. The Freehold Land and Buildings now stand in the Balance Sheet at £121,516. The sum of £9,000 has in all been written off for depreciation of the present building, which has been erected for 14 years.

22. The Library Account has been treated this year in a manner different from that of last year, in order to bring it into line with the other accounts.

23. The Stock of Paper has been decreased by over £4,300. Considerable reductions in price have been obtained and a falling market renders it undesirable to hold a large stock.

24. The number of subscriptions in arrear at 31st December 1920 was 1,592; as against 1,489 at 31st December 1921, the difference in amount (£1,125) being due to the increase in the rate of subscription.

Income and Expenditure Account.

25. Subscriptions show an increase on the year of nearly £23,000, due to the increase in the rate of subscription and to the increase in membership, 1,027.

26. Interest on Deposits at the Bank accounts for an increase of £200.

27. The balance of the Exhibition Account has not this year been transferred to the funds of the Association as, in accordance with the decision of the Council of 15th February, 1922, it is proposed to use this account for financing the Reception Fund (*see* para. 61).

Abstract A.

28. Auditors' Fees.—There is an apparent decrease of £42, which represents the sum paid during 1920 to the Auditors for the supervision and organisation of the Card Ledger System.

29. Legal Charges.—The increase is in connection with the alteration of By-laws, etc., caused through Federation Scheme.

30. Intelligence Department.—Greater supply of press cuttings.

31. Grants.—The Grant of £700 to the Australian Federal Committee and the bonus to retiring members of the Composing Staff were non-recurring expenses.

32. Income Tax.—The Income Tax deducted from Dividends, etc., "at the source," has this year been added to the amount paid direct by the Association, in order to show more correctly the amount of tax payable.

33. The main cause of the decrease of expenditure under Abstract A is shown to be the absence of charges during 1921 in connection with "the Pratt Case."

Abstract B.

34. Representative Meeting.—The increase in Railway Fares is due to the fact that Newcastle is at a greater distance than Cambridge from most other centres.

35. Council.—The above remark applies also to those Members of Council who attended the Council Meeting in Newcastle and were not members of the Representative Body.

Comparative figures are—
Cambridge, 22 members, £81. 11s. 8d.
Newcastle, 23 members, £140. 3s. 2d.

Attendances at Council Meetings—
in 1920 incurred 149 railway fares.
in 1921 incurred 161 railway fares.

36. Annual Meeting.—The decrease in cost is apparent only, being due to the fact that in 1921 the income from Advertisements in the Handbook of the Meeting was credited against the cost of the said Handbook instead of appearing in the General Advertisement Account.

37. Committees.—The various increases and decreases are shown in detail in the accounts.

The following amounts expended on behalf of the Insurance Acts Committee have been repaid to the Association by the National Insurance Defence Trust :—

Railway Fares	£178	7	4
Printings	173	5	6
Hire of Hall...	14	9	6
Postages	44	10	6
	£410	12	10

ABSTRACT C.

38. OFFICIALS AND STAFF.—The increase is due to increased salaries of officials and staff granted by the Council.

39. PREMIUMS ON DEFERRED ANNUITIES.—The year 1921 was the first in which the charge has occurred under the new scheme for insuring pensions on retirement.

40. STAFF SUPERANNUATION.—The full yearly contribution was charged for the first time in 1921.

41. TRAVELLING EXPENSES.—More staff travelling has been found necessary.

ABSTRACT D.

42. CLEANING.—The increase is accounted for by the extra charges under the renewed Contract.

43. GENERAL REPAIRS.—The figure for 1920 includes the cost of extensive repairs and decorations undertaken during that year. Such work was not undertaken during the War.

44. RATES AND TAXES.—The increase is due to the increased assessment.

45. INCOME TAX.—*See* note above *re* tax deducted at the source.

ABSTRACTS E. & F.

Call for no comment.

ABSTRACT G.

46. JOURNAL ACCOUNT.—When considering the figures of the *Journal* Income and Expenditure Account it should be noted that the total amount required for 1921 from subscriptions, to cover the cost of production and issue of the *Journal* was £7,494. 16s. 11d. or only 6s. 3d. per member.

In comparison with the year 1920 there was an increase of nearly 82,000 in the number of Journals printed.

47. SALARIES, CONTRIBUTIONS, REPORTING.—The increases are due to extra expenditure incurred by order of the Council.

48. COMPILING INDEXES: The figure shown for 1921 includes one half-yearly payment for 1920.

49. COMPOSITORS' WAGES.—An increase of 5s. per week War Bonus was granted to the compositors in November, 1920. This increase continued during 1921 until the week ending October 15th, when a new scale of pay was substituted for the old scale plus bonus. Although a reduction of 5s. per man per week was announced, this substitution realised no actual reduction in fact.

The figures for the weeks prior to and following the change were :— October 8th ... ... £150 3s. 0d.
October 15th ... ... £152 1s. 6d.

50. MACHINING.—There was an increase of 6¼ per cent. in the cost of machining in November, 1920. This increase continued during 1921 until October, when a reduction of 3¾ per cent. was obtained. The reduction therefore was in operation for two months only in 1921, and during those two months there was a considerable increase in the number of pages in the *Journal* and in the number of *Journals* printed. It is interesting to note that as the *Journal* is printed on rotary machines which print standard sizes, it is cheaper to machine a journal of 96 pages (in 3 sheets each of 32 pages) than one of 92 pages.

51. PAPER.—During the latter part of 1921 very considerable reductions were obtained in the price of paper. The decrease in total cost for the year as against 1920 is not so great as would otherwise have been the case, for two reasons :—Firstly, because the paper purchased at high cost during 1920 (valued at £4,747 on 31st December, 1920) was used during the early months of 1921 and secondly, during the later months when paper was cheaper, more *Journals* and larger *Journals* were being printed.

52. POSTAGE.—Increase is due to the increased charges for postage per weight and the larger number of *Journals* posted.

53. ADVERTISEMENTS.—The increase in revenue from Advertisements is very satisfactory. It would, however, be unwise to calculate on this high figure being exceeded or even maintained during 1922, owing to the great depression in trade, which affects the business of some classes of firms advertising largely in the *Journal*.

54. SALE OF *Journal*.—The further increase in revenue from the sale of *Journals* is also very gratifying and will probably be maintained in 1922.

TRUST FUNDS.

55. OFFICE STAFF SUPERANNUATION.—It is satisfactory to note that the depreciation of £629 written off investments during 1920 has been entirely recovered during the year 1921. Further appreciation has taken place since 1st January, 1922.

APPORTIONMENT OF MEMBER'S SUBSCRIPTION.

56. The Membership of the Association for 1921 was 23,621, but it must be remembered that all members do not now pay the same rate of subscription. Thus the ordinary member pays £3 3s. 0d., the Service member abroad and the member of over 40 years or retired from practice after at least 10 years' membership pay £2 2s. 0d., the member joining within two years of registration and the member abroad pay £1 11s. 6d., etc.

57. Therefore the average amount of revenue per member was something less than £3 3s. 0d. The revenue from Subscription Account (including arrears) for 1921 was £65,381 or roughly £2 15s. 3d. per head of the membership.

58. The following table has been calculated on this basis to show how the subscription of a member was apportionable towards defraying the expenses of the Association for the year ending 31st December, 1921 :—

	£	£	s.	d.
Central Association Expenses	3,564	0	2	11
Central Meeting Expenses	9,656	0	7	10
Central Premises Expenses	4,524	0	3	7
Central Printing, Stationery and Postage Account	2,449	0	2	1
Central Staff Expenses	12,798	0	10	4
Library Account	775	0	0	8
Journal Account	7,494	0	6	3
Grant to Irish Committee	1,022	0	0	10
Grant to Scottish Committee	1,978	0	1	8
Capitation Grants to Branches	4,611	0	3	9
Subscriptions written off for deaths and in arrears	2,722	0	2	3
Depreciation of Investments, etc., and Reserves	4,050	0	3	4
Deficit, 1920	12,095	0	9	9
		£2	15	3

ESTIMATE OF RECEIPTS AND EXPENDITURE IN 1922.

59. The following figures represent an approximate forecast of the probable revenue and expenditure for the current year :—

Receipts.

	1921. £			1922. £
Subscriptions	65,381	5,381	Decrease ...	60,000
Advertisements	39,052	2,052	Decrease ...	37,000
Sales of *Journal*	8,393	—	...	8,393
Investments and Rents...	3,518	342	Increase ...	3,860
Estimated total receipts ...				£109,253

Expenditure.

	1921. £			1922. £
General Association expenses	3,564	564	Decrease ...	3,000
Central Meeting expenses ...	9,656	244	Increase ...	9,900
Central Premises expenses ...	4,524	—	...	4,524
Central Printing, Stationery and Postage Account ...	2,449	49	Decrease ...	2,400
Central Staff expenses ...	12,798	952	Increase ...	13,750
Library Account	775	75	Increase ...	850
Journal Account	54,940	1,500	Decrease ...	53,440
Irish Committee	1,022	—	...	1,022
Scottish Committee	1,978	50	Increase ...	2,028
Capitation Grants	4,611	200	Increase ...	4,811
Arrears written off	2,722	—	...	2,722
Depreciation	1,550	350	Decrease ...	1,200
Estimated total expenditure ...				£99,647

Estimated Total Revenue	£109,253
Estimated Total Expenditure ...	99,647
Estimated Surplus 1922	£9,606

Note.—It is intended to re-set and reprint the List of Members during 1922. To re-set by an outside printer would cost about £480; to purchase a Linotype machine and re-set the List in the building would necessitate an original outlay of about £1,200.

The Work of the Office Committee.

60. The Office Committee continues to fulfil the purpose for which it was instituted by the Council with the approval of the Representative Body. Experience shows that it fills a gap which formerly existed in the arrangements in the Central Office, not only by providing a general supervision of the premises and the working of the staff, but by investigating matters on behalf of the Council, which seem most appropriately to be done by a small committee of persons intimately acquainted with the work of the office.

RECEPTION FUND.

61. On the recommendation of the Organisation Committee the Council referred to the Office Committee a suggestion that there should be a Hospitality Fund, and after careful consideration the Council has established a Reception Fund to be financed from the surplus funds of the Annual Exhibition and to be used for the purpose of offering suitable hospitality to visitors to whom it is desired that the Association should offer a compliment of the kind.

62. The Council proposes to try the experiment of holding in October next a Council Dinner on the evening of the Council Meeting. This dinner will be open to all members of the Association, but it will be made the means of offering a compliment to the retiring President and any other retiring Officer of the Association. Opportunity will also be taken to invite representatives of other bodies which have invited representatives of the Association to similar functions. The Council looks forward to the trial of the experiment in the hope that it will become an annual event which will provide a fitting opportunity for offering compliments which at present cannot be offered in connection with the dinner of the Association at the Annual Meeting.

FIXED DATES FOR COMMITTEE MEETINGS.

63. In order that there may be no overlapping of Central Committees, and that all undertaking that work may know in advance as many as possible of the dates on which they will be expected to be in London, the Council has adopted the following scheme of fixed dates:—

Committee.	Date of Meeting.
Finance	Wednesday 14 days before Council.
Journal	Thursday 20 ,, ,, ,,
Medico-Political	Wednesday 21 ,, ,, ,,
Central Ethical	Tuesday 29 ,, ,, ,,
Hospitals	Wednesday 28 ,, ,, ,,
Organisation	Tuesday 22 ,, ,, ,,
Insurance Acts	Thursday 27 ,, ,, ,,
Public Health	Friday 26 ,, ,, ,,
Science	Friday 33 ,, ,, ,,
Dominions	Friday 19 ,, ,, ,,
Naval and Military ...	Tuesday 15 ,, ,, ,,
Contract Practice Sub-Committee	Tuesday 36 ,, ,, ,,
Propaganda ,, ...	Wednesday 35 ,, ,, ,,

THE WORK OF THE INTELLIGENCE DEPARTMENT.

64. The Council has had reports from time to time of the work of this Department and has considered possible developments. The Department is engaged in recording for the use of the other departments, Committees and Council, information as to what is done by the Association in its various capacities, together with relevant information derived from press cuttings, reports of Parliamentary proceedings and the work of other bodies. From time to time the Department carries out research work needed to bring together a body of information on any given subject, and the Council looks forward to much more work of the kind being done as the records accumulate. The Council is satisfied that the establishment of this Department has been thoroughly well justified.

"British Medical Journal."

65. The gross cost of the production and distribution of the *British Medical Journal*, including all editorial and a proportion of the managerial expenses, was £54,940. The receipts from advertisements, sales to non-members, and a few small items, amounted to £47,445, so that the net cost of the *Journal* to members of the Association was £7,494, or 6s. 3d. a head for the year, including postage. Thus while the gross cost of producing a single copy of the *Journal* and supplying it to a member was 9¼d., the cost to him was 1½d. To a non-member in the United Kingdom the price of a single copy of the *Journal*, including postage, was 1s. 4½d. The sales of journals to non-members yielded £7,512, being upwards of £500 more than in 1920. The charges for postage of the *Journal* to members amounted to £7,261, as against £5,731 in the previous year; the increase is mainly due to the growth in membership during the year, but partly to the increase in postal rates. The price of paper has fallen during the past twelve months, but the trade union rates of wages for compositors, machine hands, and generally for all printers' workmen, showed little, if any, decrease.

66. The average number of copies of the *British Medical Journal* printed weekly has risen from 24,520 in 1919 to 26,195 in 1920, and to 27,247 in 1921. The total number of pages of text (including the Supplement and Epitome) and of advertisements was 5,128 during the year under review, giving an average total number of pages per week of 97. The average weekly size of the *Journal* alone was 40 pages, of the Supplement 9 pages, of the Epitome 4 pages; the average number of advertisement pages was 44 a week.

67. The publication of the full scientific and clinical proceedings of the Annual Meeting at Newcastle, which had occupied nearly 286 pages of the *Journal*, was completed in the issue of December 10th, 1921. Publication of the proceedings of Council was continued during the year, and latterly arrangements have been made for printing fuller reports of Council meetings, in accordance with the instructions of the Council.

68. The feature of Current Notes in the Supplement has been maintained and developed during the past year with the co-operation of the Medical Secretary's Department. The aim is to keep members informed, week by week, of the subjects dealt with by the head office of the Association, and by the various standing Committees. Space is always held available in that column for short notes on matters of current interest, indicating the manifold activities of the Association on behalf of the profession and of individual members. The policy of publishing full reports of the British Medical Association Lectures has been continued, and a considerable amount of space in the *Journal* has been devoted to this purpose during the year.

69. The Journal Committee has maintained its close supervision over advertisements tendered for publication in the *Journal*, and those not conforming to the policy and requirements of the Association have been excluded. Tabulated lists of advertisements refused in accordance with this strict censorship are laid before each meeting of the Committee. A report is also presented by the Medical Secretary's Department upon the results of excluding advertisements of medical posts at a lower salary than that fixed by the Association, in order that the Committee may know how far its refusal of such advertisements has become effective. The results recorded satisfy the Journal Committee that in many instances the carrying out of this policy has had the effect intended by the Association. Consideration has also been given by the Committee to advertisements of certain classes of foods and drugs, and to the possibility of testing by analysis and experiment the claims made for such preparations.

70. Attention has been paid to the quality of the paper used for the *Journal*, with a view, in particular, to improving the reproduction of illustrations, both in the text and in the advertisement pages, so far as this can be done consistently with the need for economy. An improved device to enable the postal wrappers to be more rapidly removed on opening the *Journal* has been sanctioned. The difficulty of reproducing photographs and skiagrams satisfactorily is due, in the main, to the fact that the *Journal* is printed on rapid rotary presses, but the result is affected also by the quality of the paper and ink employed. The Financial Secretary has given attention to the last two matters, with distinct advantage to the appearance of the illustrations; but further improvement is hoped for. Meanwhile, the custom of using special art-paper plates occasionally, as authorised by the Council, is being continued.

Organisation.

CONSTITUTION AND MACHINERY OF THE ASSOCIATION.

71. The report of the Council to the Divisions and Representative Body on the revision of the constitution and machinery of the Association, in response to specific instructions given by the Annual Representative Meeting, 1921, was published in the *B.M.J.* Supplement of December 24th, 1921. All amendments received from Divisions and Branches to the recommendations of the Council will be published in the *B.M.J.* Supplement not later than May 20th, in order that they may rank as valid amendments and take effect as such in the Articles and By-laws, if so decided by the Annual Representative Meeting at Glasgow and (in the case of Articles) by General Meetings of the Association.

FACILITIES FOR INCORPORATION OF OVERSEA BRANCHES (WHERE SO DESIRED).

72. The question of facilities for incorporation of Oversea Branches where so desired was dealt with by the Council in its report on the revision of the constitution and machinery of the Association (*B.M.J.* Supplement, December 24th, 1921, page 237). As will be remembered, the proposal had been put forward by the Australian Federal Committee on behalf of Branches in Australia.

The Council is glad to say that the Australian Federal Committee has expressed its appreciation of the way in which the Council has dealt with the matter in its report, and with the exception of the suggestion mentioned below, the Federal Committee approves the draft Articles and By-laws on the subject.

73. As regards draft Article 11A (2) (page 238 of the December 24th Supplement), as to possible incorporation of Oversea Branches, the Federal Committee rightly assumes that it was the intention of the Council that a Corporate Branch should have limited liability; that the limitation be by guarantee; that the Branch should be a corporation "not for profit"; and that clauses corresponding to Clauses 4—7 of the Memorandum of Association of the parent body should be included in the Memorandum of Association of any Branch taking steps to incorporate itself. The Federal Committee raises the question whether draft Article 11A (2) should be made more explicit in this connection. In view of draft Article 11A (5), to the effect that the draft Memorandum and Articles of Association of a Corporate Branch shall before its incorporation be submitted to the parent body for approval, and that incorporation of the Branch shall not be effected except under a Memorandum and Articles of Association which have been so approved, the Council does not consider it essential that the draft Article 11A (2) should be modified. As, however, the adjustment of that Article to the effect proposed, would usefully emphasise the homogenity between a Corporate Branch and the parent body, as regards not only aims and objects but constitution and methods, the Council recommends:

Recommendation :—That draft new Article 11A (2) (*B.M.J.* Supplement, December 24th, 1921, page 238), in connection with the question of incorporation of Oversea Branches, be verbally amended to read as follows :—

> "(2) The objects, powers and obligations of a Corporate Branch, as defined by its Memorandum of Association, shall coincide with the objects, powers and obligations of the Association as similarly defined, with such variations only as the Association shall approve."

74. The Australian Federal Committee also makes the valuable suggestion that it would be of help to the work of the Association both overseas, in the case of Branches desiring to incorporate themselves, and in the mother country, if the Council drafted a Model Memorandum of Association and Articles for the assistance of a Branch proposing to become incorporated. The Council agrees, and such a Model Branch Memorandum of Association and Articles is accordingly being drafted.

Question of Federation Facilities.

75. As mentioned in the report of the Council as to the revision of the constitution and machinery of the Association (*B.M.J.* Supplement, December 24th, 1921, page 240, Section (III.)) the Council has under consideration, in consultation with the Branches in the Commonwealth of Canada and in the Union of South Africa and Rhodesia, together with, in the former case, the Canadian Medical Association and, in the latter, the B.M.A. South African Committee, the question as to whether it would be desirable to provide federation facilities in respect of these areas.

Work Done by Divisions and Branches in 1921.

76. Of the 207 Divisions and 43 Branches in the United Kingdom, 143 and 36 respectively have reported for 1921. In almost every case, the reports show excellent work done. The Council desires, on behalf of the Association, to express very warm appreciation of the work of the Division Executive Committees and Branch Councils, and its thanks more especially to the Honorary Secretaries of the Divisions and Branches.

Financing of Work of Divisions and Branches.

77. Detailed principles have been formulated, embodying what has long been the practice of the Council as regards the fixing of the yearly grants to the Branches and Divisions under By-laws 23 and 26. A special memorandum on the subject was issued in January last to all the Branches and Divisions in the United Kingdom. The practical point is that no Division nor Branch need ever be short of the ready money necessary for the reasonable expenses of its work, provided, in the case of the Division, the yearly report is duly made in January, and in the case of the Branch by March 15th, in accordance with By-law 27.

Grants to Branches and Divisions for 1922.

78. Arrangements have already been made by the Council as regards grants under By-law 23 to all Branches which have reported to date for 1921. Where necessary for the work of the Branch and Divisions, the grants made are at the new maximum rate of 6s. a member. The grants thus made by the Council to the Branches include, as members will remember, provision for the grants to be made in turn by the Branch, under By-law 26, to the Divisions in the Branch area. Ordinarily, 50 % of the grant to the Branch will be paid by the Council in May, 25 % in September, and 25 % in November.

79. In the case of all the Oversea Branches, the grants for 1922 under By-law 23 are at the rate of 6s. a member paying the Association subscription for the year, and 3s. a member, elected in the second half of the year, paying the half subscription.

Grant to Australian Branches.

80. In response to an application by the Australian Federal Committee for financial assistance to cover extra expenditure incurred by the Association in Australia in connection with the question of the organisation of the Association in the Commonwealth, the Council made a special grant of £700 to the Australian Federal Committee.

Rules.

81. Divisions and Branches not in possession of both Rules of Organisation and the Revised Ethical Rules approved by the Representative Body in 1919, are urged to communicate at once with the Medical Secretary, with a view to adoption of the Rules.

82. In accordance with Minute 101 of the Annual Representative Meeting, 1921, the names of all Divisions in the British Islands which are without Rules of Organisation will be reported in the Council's Supplementary Report.

Handbook.

83. The Council is glad to note the increasing use which is made of the Association's Annual Handbook, the last edition of which contains an admirable "Short History of the Association —mainly Medico-Political," kindly drawn up by Mr. Russell Coombe, past Chairman of the Organisation Committee. The Council welcomes suggestions for improvement of the Handbook. Some copies of the current Handbook are still available and can be had *gratis* by members. Early application is advisable.

Constituencies for Election of Representative Body, 1922-3. (By-law 33.)

(a) *Home Divisions.*

84. The Council has grouped the Home Divisions for election of the Representative Body, 1922-3, in the same way as for 1921-2, except that the Nuneaton and Tamworth, Coventry, and West Bromwich Divisions of the Birmingham Branch: the North and South Suffolk Divisions of the Suffolk Branch; the North Staffordshire, South Staffordshire and Walsall and Lichfield Divisions of the Staffordshire Branch; and the East Norfolk Division of the Norfolk Branch, have been made separate Constituencies. The complete list of Constituencies, 1922-3, will appear in the *B.M.J.* Supplement of May 13th.

(b) *Oversea Divisions.*

85. The Council has made each Oversea Division and Division-Branch a separate Constituency.

Grouping of Branches for Election of Council, 1922-3. (By-law 46 (a) and (b).)

86. Under the authority conferred upon it by the Representative Body, the Council has grouped the Branches and Constituencies for election of the Council, 1922-3, in the same manner as for 1921-2, except that the new Mesopotamian Branch has been grouped with the Indian Branches; the new Sierra Leone and Zanzibar Branches with the African Branches; and the new Fiji Branch with the New Zealand Branch.

Number of Members of Council to be Elected by Representative Body.

87. The Council draws special attention to Minute 137 of the A.R.M. 1921, quoted in paragraph (26) of the report of the Council on the revision of the constitution and machinery of the Association (*B.M.J.* Supplement, December 24th, 1921, page 249), as to the desirability of increasing the number of members of the Council directly elected by the Representative Body, and to the draft amended By-law 46 contained in that paragraph, whereby, *inter alia*, the number of members so directly elected would be increased, from the present 4, to 8. If approved and so thought fit, the change can be given effect by the Representative Meeting at Glasgow in electing the Council for 1922-3.

Representation of Wales on the Council.

88. The Annual Representative Meeting at Newcastle (Min. 139) instructed the Council to consider the desirability of Wales being represented on the Council by at least one member elected in the Annual Representative Meeting by the Welsh Divisions in

a group. After careful consideration, the Council was unable to find any satisfactory means of carrying out the proposals on existing membership figures, and on being asked for its opinion as to a suitable new grouping, the Welsh Committee decided not to press for separate representation of Wales for the time being. In the event however of any redistribution of seats, the case of Wales will have the special consideration of the Council.

ASSOCIATION SUBSCRIPTIONS.

(a) Subscription of Service Members.

89. The Annual Representative Meeting, 1921 (Min. 193), instructed the Council to consider the advisability of establishing a two-guinea Association subscription for members of the Royal Navy, Royal Air Force, Army and Indian Medical Services on the active list. The Council is of opinion that there is ground for such a subscription, and proposes to give it effect (*see* Recommendation below).

(b) Subscription of Teachers and Research Workers not engaged in Consulting Practice.

90. The Council has also considered in this connection the case of members of the profession engaged in teaching or research but not in consulting practice. In view of the facts (a) that the interest of such persons in the general work of the Association differs from that of other members of the Association; (b) that their remuneration is often inadequate; and (c) that it is desirable that the Association shall include within its ranks as many of them as possible, the Council is of opinion that there should be a reduction of subscription in their case.

Recommendation.—That the A.R.M. 1922, amend By-law 11 to read as follows:—

AMOUNT OF SUBSCRIPTIONS.

11. (1) On and after the 1st of January, 1923, the Annual Subscription to the Association shall be Three Guineas. Provided that in the case of members of the classes or descriptions mentioned in column 1 of the following table the said subscription shall be reduced to the extent appearing in column 2 thereof.

1. Members entitled to Reduction of Subscription.	2 Reduced Subscription payable.
A. Any Officer on the Active List of the Royal Navy Medical Service, the Royal Air Force Medical Service, the Medical Service of the Regular Army or the Indian Medical Service, wherever resident	Two guineas
B. Members of the following descriptions resident in the United Kingdom and not falling within class A above described	
(i.) Any Member of not less than 40 years' standing as such	Two guineas
(ii.) Any Member of not less than 10 years' standing as such who has definitely and permanently retired from the active practice of the medical profession and has signed and transmitted to the Treasurer a declaration to that effect ...	Two guineas
(iii.) Any Member who is engaged on a whole-time basis in the work of medical instruction or medical research and is not engaged in the practice of the medical profession either as consultant or otherwise	Two guineas
(iv.) Two Members jointly being a husband and his wife residing together	Four guineas and a half
(v.) Any Member admitted to membership before the expiration of two years from the date of his registration under the Medical Acts	One guinea and a half until the 31st December next occurring after the expiration of four years from the date of such registration
C. Any Member resident outside the United Kingdom and not falling within class A above described	One guinea and a half

Provided also that any Member, wherever resident, who is admitted on or after the 1st July in any year, shall pay only half his current subscription for that year.

(2) For the purposes of this By-law a Member shall be deemed to reside in that place in which his ordinary place of abode is situate at the time at which according to the Regulations his subscription is considered due.

91. The Council has under consideration a proposal by the New South Wales Branch of a reduced subscription for a husband and wife residing together overseas.

MEMBERSHIP FIGURES.

92. The following is a statement of the changes in the membership during 1921 (the figures for 1920 are given for comparison):—

1920.			1921.		
New members	2,627		New members	2,140	
Paid arrears	346		Paid arrears	595	
Resignations withdrawn	52		Resignations withdrawn	100	
		3,025			2,835
Resignations	716		Resignations	652	
Deaths	328		Deaths	275	
Arrears	741		Arrears	880	
Expelled	1		Erased from Medical Register	1	
		1,786			1,808
Increase		1,239	Increase		1,027

Membership, December 31st, 1920 22,594
Membership, December 31st, 1921 23,621

ORGANISATION OF MEDICAL STUDENTS.

93. Considerable progress has been made this Session with the discussion of a perennial matter of interest to the Association, namely, how can medical students be interested in its work. The matter will be the subject of a further report later, but the Council is glad to say that some very interesting proposals have been discussed, and it is hoped that before long a definite campaign will be launched which will have the effect of getting a far greater proportion of newly qualified practitioners to join the Association than do at present.

AREAS OF DIVISIONS AND BRANCHES.

94. The areas of the Ashford, and Canterbury and Faversham, Divisions of the Kent Branch have been incorporated in the Dover and Folkestone, Isle of Thanet, Maidstone, and Rochester, Chatham and Gillingham Divisions. A new Walsall and Lichfield Division of the Staffordshire Branch has been formed, incorporating the area of the Walsall Division of the Birmingham Branch and the greater part of the Mid-Staffordshire Division; the areas of the North and South Staffordshire Divisions and Birmingham, Midland and Staffordshire Branches have been adjusted; and the area of the Great Yarmouth Division has been incorporated in that of the East Norfolk Division.

BASIS OF REPRESENTATION IN R.B.

95. The Council has considered the following Minute 201 of the A.R.M. 1921:—

> 201.—Resolved: That it be an instruction to the Council to consider the desirability of considering an alteration to an earlier date than April 30th of the time on which the representation of Divisions at the A.R.M. shall be based.

Inasmuch as such change would, *inter alia* (a) mean that the Representatives would require to be elected upon a membership list which by the time of the A.R.M. would to a considerable extent be out-of-date, and (b) involve alteration, which the Council considers inadvisable, in the date of publication of the Annual List, the Council does not propose any change in existing arrangements in this respect.

Science.

SCIENTIFIC WORK OF ANNUAL MEETING, 1922.

96. The Council has decided that the sections at the coming Annual Meeting at Glasgow shall be Medicine, Surgery, Pathology, Ophthalmology, Neurology and Psychological Medicine, Obstetrics and Gynæcology, Micro-Biology (including Bacteriology), Diseases of Children, Public Health, Physiology, Dermatology, Otology, Laryngology, Industrial Diseases and Forensic Medicine, Medical Sociology, Radiology, Tuberculosis, Anæsthetics, Anatomy.

B.M.A. LECTURES.

97. For 1922 a sum of £400 has been set aside out of the ordinary funds of the Association, for the provision of B.M.A. Lectures. The Council is glad to find that these lectures, which are undoubtedly a valuable source of post-graduate teaching, are much appreciated by the Divisions and Branches. It is the practice in some Divisions to make a B.M.A. lecture a special feature of their winter clinical programmes, and the Council hopes that this idea will commend itself to a larger number of Divisions in the future.

List of Lecturers with Subjects since last Annual Report of Council.

Lecturer's Name.	Title of Lecture.	Division or Branch.
Dr. W. Blair Bell.	"Some Common, but often Unrecognised, Obstetrical Difficulties."	Bradford Division.
Mr. S. Alwyn Smith, O.B.E., D.S.O., F.R.C.S.	"Fractures."	Guildford Division.
Dr. H. W. Barber.	"The Etiology and Treatment of some of the Common Diseases of the Skin."	Chichester and Worthing Division.
Dr. H. H. Dale, C.B.E., F.R.S.	"Specific Sensitiveness and Idiosyncrasies."	Sheffield Division.
Dr. W. Hunter, C.B.	"The Anæmias."	West Somerset Branch.
Sir Wm. Thorburn, K.B.E., C.B., C.M.G.	"The Diagnosis and Treatment of Tumours of the Spinal Cord."	Birmingham Branch.
Dr. R. Hutchison, F.R.C.P.	"Some Common Ailments of Children and their Treatment."	Northampton Division.
Dr. C. O. Hawthorne, F.R.C.P.	"Sphygmometer Readings and Sphygmograms."	Leicester and Rutland Division.
Dr. W. Langdon Brown.	"The Practical Importance of Endocrinology."	South-Western Branch.
Dr. E. A. Saunders.	"Nephritis in Children."	Maidstone Division.
Col. L. W. Harrison, D.S.O.	"Treatment of Gonorrhœa in Private Practice."	North Middlesex Division.
Dr. Robt. Knox.	"Radium Therapy."	Swansea Division.
Dr. E. Bramwell.	"Psycho-analysis and Psycho-therapy in Relation to Medical Practice."	Northern Counties of Scotland Branch.
Mr. S. Alwyn Smith, O.B.E., D.S.O., F.R.C.S.	"Diagnosis and Treatment of certain Hip Joint conditions."	South-West Wales Division.
Dr. J. S. Fairbairn.	"What Disability is caused by, and what Treatment is required for, Uterine Displacement."	West Dorset Division.
Mr. T. Eastham, K.C., M.B.	"Medical Men and their Legal Difficulties."	Lancaster Division.
Sir Frederick W. Mott, K.B.E., F.R.S.	"The Reproductive Organs in Relation to Mental Disorders."	East York Division.
Dr. A. Burrows.	"Radium-therapy."	Southport Division.
Mr. Frank Kidd, F.R.C.S.	"The Value of Pyelography in the Diagnosis of Urinary Disease."	Nottingham Division.

Stewart Prize.

98. The Council has decided to award the Stewart Prize to Dr. John C. McVail, in recognition of his distinguished services to the community in the advancement of preventive medicine, and the Council feels that it is peculiarly fitting that the award should be made at the coming Annual Meeting at Glasgow, as much of Dr. McVail's best work was done in the West of Scotland. The Prize will take the form of an illuminated certificate and a cheque for £30. Dr. McVail began his professional career in 1873. He was first of all in general practice and his association with public health dates from the time when he began to assist the medical officer of health for Kilmarnock, whom he ultimately succeeded. He became the first medical officer of health for the Counties of Stirling and Dumbarton in 1891, a position he held for over twenty years. His painstaking investigations, his lucid reports, and his wisdom in counsel displayed during the period of his appointment placed him in the front rank of public health officers. His reputation as a far-sighted and impartial investigator was so well established that when, in 1907, the Royal Commission on the Poor Laws and Relief of Distress desired to have special inquiries made into the methods of administering indoor and outdoor relief, Dr. McVail was chosen to make those inquiries and his report to the Commission is a fascinating record of patient industry and clear thinking.

99. In 1906 Dr. McVail delivered the Lane Lectures before the Cooper Medical College, San Francisco. They were published afterwards in a volume which is now a textbook on infectious diseases. He discussed in them smallpox and vaccination, a subject to which one of his best public health inquiries was directed. The results of his inquiries were published in a book entitled *Vaccination Vindicated*, the first edition of which appeared in 1889; it at once became the chief authority on the subject. His knowledge of the subject was so extensive that his evidence before the Royal Commission on Vaccination occupied no fewer than twelve days. In 1919 he brought up to date our knowledge of the subject in the Milroy Lectures delivered before the Royal College of Physicians of London, the subject he selected being entitled "Half a Century of Smallpox and Vaccination."

100. When the National Insurance Act of 1911 came into force Dr. McVail was appointed Deputy Chairman of the Scottish National Insurance Commission, a position he held with great advantage to the community generally, until, on the abolition of the Commission and the creation of the Scottish Board of Health, he became the medical officer concerned with health insurance and has just retired from the service. While Deputy Chairman of the Scottish Insurance Commission he was a member of the Committee appointed by the Commission which inquired into the medical services in the Highlands and Islands, and he was also a member of the Astor Committee on Tuberculosis.

The Association's Notice Board.

101. The Council is taking steps to include on the Association's Notice Board at the Head Office, up-to-date information as to operations, lectures, fixtures, etc., at the London Hospitals, as well as of all other appropriate matters of medical interest, and believes that Members will appreciate the facilities thus being made available,

Standardisation of Volumetric Glassware.

102. A Conference convened by the National Physical Laboratory was held in October last, to deal with the question of Scientific Glassware, and the Council on being asked to appoint representatives to attend the Conference on behalf of the Association, appointed Dr. H. H. Dale and Profs. J. S. Haldane and C. J. Martin. The outcome of the Conference was the setting up by the National Physical Laboratory of a Standing Advisory Committee to deal with the question of standardisation of scientific glassware and kindred problems. The Association is represented on this Committee, at the invitation of the National Physical Laboratory, by Prof. J. S. Haldane, and it is understood that useful work is being accomplished.

Safeguarding of Industries Act.

103. The Council has had its attention drawn by the National Union of Scientific Workers to the disabilities which result from the Safeguarding of Industries Act, 1921, so far as these affect scientific workers and research and teaching institutions. Under this Act practically all materials for scientific research are scheduled, the result being an increase in cost from 33 to 50 per cent.; in addition, there is a considerable delay in delivering goods owing to Customs regulations. The National Union of Scientific Workers is urging the Minister of Education to recommend the Government to remove some of the graver disabilities of the Act, and the Council has authorised Lt.-Col. R. H. Elliot, I.M.S. (ret.), and Sir Humphry Rolleston, K.C.B., to co-operate, on behalf of the Association, with that body.

Testing of Clinical Thermometers.

104. The British Lampblown Scientific Glassware Manufacturers' Association has approached the Council on the question of the testing of Clinical Thermometers. At present, many Glassware Manufacturers voluntarily submit their thermometers to be tested at a cost of 3d. each by the National Physical Laboratory, but this charge will doubtless be increased, as it is insufficient to cover testing costs. Emphasis is laid on the fact that makers of Clinical Thermometers in those countries which have adopted the compulsory tests will, in the absence of any regulations in this country, be encouraged to dispose here of those products which are not good enough to pass their own Government tests. The Council considers that it is very desirable that all Clinical Thermometers should be properly tested before sale, and is co-operating with the above-named Association with a view to securing legislative action. The Medical and University Committee of the House of Commons has been approached, and a Bill has already passed the House of Lords and is now before the House of Commons.

The Library.

105. The Council is glad to report the increasing use which is made of the Library at the Head Office, the attendance figures showing an appreciable increase over those for 1921. The Lending Library facilities are also extensively used, but there is still insufficient appreciation by Members of the fact that they have at their disposal, free of all charge, except postage, a circulating library which will, on request, supply them with all the latest books of medical or general scientific interest.

Post-Graduate.

106. The Minister of Health in 1921 appointed a Committee, under the Chairmanship of the Earl of Athlone, "to investigate the needs of medical practitioners and other graduates for further education in medicine in London, and to submit proposals for a practicable scheme for meeting them." The Committee reported in May of last year, and made the following recommendations :—

(1) A School attached to a hospital centrally situated in London should be devoted solely to post-graduate medical education.

(2) The School should be a School of the University of London, and receive substantial financial assistance from the Treasury through the University Grants Committee.

(3) In addition to the courses provided at the Central School for the full-time instruction of general practitioners, and at existing post-graduate colleges and schools, further facilities for post-graduate study should be made available at non-teaching hospitals and in Poor Law Infirmaries.

(4) It is desirable that increased use should be made of cottage hospitals, in which all general practitioners of the neighbourhood should have the right, if they so desire, to treat their patients.

(5) A much larger number of resident appointments and clinical assistantships should be created in hospitals and Poor Law Infirmaries.

(6) A Central Office should be established to co-ordinate and develop the work of post-graduate education in London. In the administrative building should be provided not only offices, but the accommodation necessary for social purposes.

(7) An Institute of State Medicine should be established by the University of London in which instruction should be given in Public Health, Forensic Medicine, Industrial Medicine, and in medical ethics and economics.

107. The Council appointed an *ad hoc* Committee, under the Chairmanship of Sir Richard Luce, to consider the report of the Athlone Committee, and a Conference was held in November last with the Fellowship of Medicine and Post-Graduate Medical Association, with a view to inquiring (a) what difficulties existed as to the organisation of post-graduate instruction in London, and (b) how far it might be possible for the Association to take part in the removal of these difficulties. At the time of the Athlone Committee the Fellowship of Medicine was encouraged to believe that a sum of money might be earmarked by the Government for the establishment of a Central Bureau to co-ordinate and develop the work of post-graduate medical education in London, but the reduction of the amount given to the University Grants Committee has rendered such a scheme impracticable for the present. The Council has not been able to see any way in which the Association can give any direct help to post-graduate teaching in London, but it is of opinion that post-graduate medical education in general is so important that it is worthy of any encouragement the Association can give it. Steps have been taken to bring before the Government the urgency of the recognition and encouragement of medical post-graduate education. The Council has also expressed the opinion that the Government should be urged to require, through the University Grants Committee, that institutions for medical post-graduate education should be specifically recognised as such, and independently of recognition as places of study for higher qualifications or special diplomas, by all Universities and Colleges receiving Government grants or support for the purposes of medical education.

Medical Ethics.

PROFESSIONAL SECRECY.

108. The Council has carefully considered the following Minutes 48 and 51 of the A.R.M. 1921 :—

Minute 48 : Resolved : That the Association use all its power to support a member of the British Medical Association who refuses to divulge, without the patient's consent, information obtained in the exercise of his professional duties, except where it is already provided by Act of Parliament that he must do so.

Minute 51. Resolved : That it be an instruction to the Council to act on the foregoing Minute 48 as a resolution of the Representative Body and to submit the same to the next Representative Meeting with a view of considering the advisability of this Resolution becoming the policy of the Association.

109. A literal interpretation of Minute 48 of 1921 seems to promise that the Association will support *any* member who chooses to disobey an order of the Court that he should divulge information which he thinks he ought not to divulge. To hold out this prospect would, in the opinion of the Council, be to accept a wider responsibility than the Association would under present circumstances be justified in assuming. The most the Association can fairly be expected to do is to support a member who takes up an attitude which the Association after due consideration is of opinion is wise and in the best interests of the public and profession. The Council therefore recommends the Representative Body to accept the modification of Minutes 48 and 51 of the A.R.M., 1921, set forth in the recommendations which follow at the end of para. 113 of this report.

110. The Council is of opinion that before a member can claim the support of the Association, he must satisfy the Council, or some body authorised by the Council, that in disobeying the order of the Court he was actuated by the following considerations :—

(a) That the information which he may called on to disclose has originated in a confidence that it will not be disclosed ;

(b) That this element of confidence is essential to the full and satisfactory maintenance of the relation between him and his patient ;

(c) That the relation is one which in public opinion ought to be sedulously fostered ;

(d) That as the facts on which he is likely to be or has been interrogated were brought to his knowledge whilst acting in his professional capacity, and therefore were obtained in confidence, he considers himself morally bound to plead inability to disclose them without his patient's consent.

111. When the Council has admitted the claim of a member for support, it is proposed that this shall take the following form :—

(a) Arrangements to be made by the local Division for the carrying on of his practice—the Division to be responsible to the Council for the adequacy and success of these arrangements.

(b) The organisation of public opinion through the Press, Houses of Parliament, etc.

(c) Legal advice to be provided by the Association. As the cases will be test cases on a matter which affects the honour and interests of the medical profession, the funds of the Association could be used for the purpose.

112. Any individual financial support given to meet damage sustained would have to be borne by some fund outside the Association funds, and the advisability of the establishment of a "Medical Secrecy Defence Fund" would have to be subsequently considered.

113. The Council is further of opinion that the proper preservation of professional secrecy necessitates a measure of special consideration being recognised for medical witnesses in Courts of Law above and beyond what is accorded to the ordinary witness, and it proposes to negotiate with the authorities concerned as to what measure of special consideration can be secured.

Recommendation.—That Minute 48 of the A.R.M., 1921, be rescinded.

Recommendation.—That the Annual Representative Meeting, 1922, express the opinion : That the proper preservation of professional secrecy necessitates a measure of special consideration being recognised for medical witnesses in Courts of Law above and beyond what is accorded to the ordinary witness.

Recommendation.—That it be the policy of the Association to support in every way possible any member of the B.M.A. within the United Kingdom who, in the opinion of the Council, or the Central Ethical Committee acting on behalf of the Council, after due consideration of the circumstances, is deemed to have been justified in refusing to disclose any information he may have obtained in the exercise of his professional duties.

DIVISIONS AND BRANCHES WHICH ARE WITHOUT ETHICAL RULES.

114. In pursuance of the Standing Instruction of the Representative Body, the Council reports that the following 39 Divisions and 4 Branches in Great Britain have not yet adopted the Revised Ethical Rules as approved by the A.R.M., 1919 :—

Divisions.—Argyllshire, Bishop Auckland, Blyth, Blackpool, Bromsgrove, Camberwell, Chelsea, Chester, Crewe, Dover and Folkestone, Dumbartonshire, Durham, Ealing, East York, Edinburgh and Leith, Finchley and Hendon, Glasgow North-Western, Halifax, Hastings, Holland, Islands, Isle of Wight, Leigh, Lothians, Mid-Cheshire, Mid-Essex, Morpeth, North-West Essex, Oxford, Richmond, Ross and Cromarty, Salford, South-West Essex, Tower Hamlets, Wandsworth, Wimbledon, Winchester, Woolwich, York.

Branches.—East York and North Lincoln, Edinburgh, North Wales, Perth.

In addition, 20 Irish Divisions and 3 Irish Branches have not adopted the Rules.

115. The Rules are an essential part of the machinery of the Association; the Divisions and Branches which do not possess them are neglecting something which may at any time be badly needed, and the Council strongly urges those Divisions and Branches which are without them to take the necessary steps for their adoption.

THE NEWER METHODS OF ADVERTISING AS APPLIED TO MEMBERS OF THE MEDICAL PROFESSION.

116. The Council has given consideration to the question of advertising which arises out of certain newer journalistic methods, and has drawn the attention of the General Medical Council to the subject, pointing out that certain of these developments seem to be calculated to break down the traditional decencies and reticencies which have up to now been associated with medical practice, and to lower the reputation of the profession amongst the more reflective sections of the community. One example is the interviews given, or letters sent to newspapers in which members of the profession hold themselves out to possess or allow themselves to be designated as possessing, superior methods of treatment, or in which is indicated the fact which may hitherto have been unknown to the public at large that they are "specialists" in some particular branch of professional work. Another example is the signed articles which frequently appear in lay papers which are not contributions of useful knowledge but obvious advertisement. The Council has made it clear to the G.M.C. that it is making no specific complaint against any person, but that as the practices specified have become so general there is a danger that if no steps are taken to arrest the present movement it will be increasingly difficult to maintain the discipline of the profession in this regard without producing a feeling of injustice.

117. The Council has accordingly asked the General Medical Council to consider if the time has not arrived when some authoritative pronouncement on the subject should be made in justice to those members who are trying to observe what they consider to be the spirit of the G.M.C.'s pronouncement on advertising.

118. The General Medical Council has informed the Council that if a new offence not within the present Warning Notice was becoming prevalent, a flagrant case might be selected to be brought before the General Medical Council, which would give it careful attention; and that it was not the custom of that Council to issue a Warning Notice until the hearing of a case had established the need for it. The Council feels that nothing further can be done in the matter at the moment.

IMPORTANT NOTICES.

119. The Council, in 1921, approved a proposal that the Chairman of the C.E.C. be empowered to insert an Important Notice in the *Journal* without waiting for an application from the Division or Branch, in cases where the salary of a whole-time or part-time appointment did not conform to the Association's minimum, provided that the Division or Branch concerned had adopted the Revised Ethical Rules. Experience has shown that the prompt insertion of an Important Notice in such cases is a very important factor in maintaining the Association's minimum salaries.

ANSWERS TO QUESTIONS ON MEDICAL MATTERS IN LAY PAPERS.

120. The Annual Representative Meeting, 1911, on the recommendation of the Council, expressed the opinion that it was highly detrimental to the public interest and most improper from a professional point of view that medical men should take charge of columns in which answers to correspondents on medical questions are printed. As a result of the action taken by the Association in this matter, at least one important newspaper was, until recently, induced to discontinue a column in which answers to correspondents on medical questions were given. Lately, however, there has been a reappearance of the column in question and the Council is in communication with the Division concerned on the matter. The Council feels that the reasons which led the A.R.M., 1911, to express the above opinion still hold good, namely, that the public using such columns run a great risk of improper treatment, inasmuch as in prescribing treatment the medical man has to rely upon a factor which is extremely untrustworthy, namely the patient's description of his ailment or of his former medical attendant's diagnosis.

Medico-Political.

ADVERTISEMENTS FOR SELF-MEDICATION: PROPRIETARY MEDICINES BILL AND UNQUALIFIED MEDICAL PRACTICE.

121. In connection with the two following resolutions of the A.R.M., 1920, the Representative Meeting, 1921, on receiving a report from the Council that it was considered advisable to defer any action thereon until the effect of the Government's Proprietary Medicines Bill could be estimated, decided to continue the instructions to the Council:—

Minute 167.—Resolved: That the Council be instructed to consider what steps can be taken to deal with the undue advertising of drugs in various forms, for self-medication.

Minute 168.—Resolved: That, in the opinion of the Representative Body, serious steps should be taken in the public interest by the Association to bring to the notice of Parliament the injurious effects of unqualified practice in medicine and surgery.

122. The Council reports that the Government's Patent Medicines Bill has not yet been introduced into Parliament and that consequently no action has been taken on these instructions of the Representative Body of 1920, except that the matter has been discussed with the Medical and University Committee of the House of Commons, which considers there is no likelihood of getting a Government measure at the present time.

SALARIES OF NON-PROFESSORIAL MEDICAL TEACHING STAFFS.

123. The Council presented to the A.R.M. 1921, scales of salaries for non-professorial and professorial medical teaching staffs, but on consideration of these scales the Representative Meeting (Min. 282) decided to proceed to the next business.

124. The Council has reconsidered the whole matter, and submits to the Representative Body the following recommendation, which divides the non-professorial medical teaching staffs into three grades and provides in each case a minimum basic salary. In Grade III. the salary for two years only has been stated, because the Council is of opinion that Grade III. being only for junior workers on probation, no person should remain in it for longer than two years:—

The Council recommends:

Recommendation.—That the essentially whole-time non-professorial Medical Teaching Staff should be divided into three grades as defined below, and with the salaries as stated:—

Grade III.—Comprising those who are junior workers temporarily employed on probation; no person shall remain in Grade III. for more than two years.

That the minimum salaries for Grade III shall be as follows:—

1st year	£300
2nd year	£350

Grade II.—Comprising Laboratory or Research Workers or Teachers, who are permanently and exclusively employed as such.

That in accordance with Minute 65 of the A.R.M. 1920, the minimum commencing salary for Grade II. shall be £500 per annum; and this shall be subject to increments at regular fixed intervals.

Grade I.—Comprising those of Grade II. whose qualifications or duties justify a position of seniority in status and a higher remuneration.

That the minimum salary for Grade I. shall be £750 per annum, subject to increments at regular fixed intervals.

That after the probationary period (*i.e.* Grade III.) has been completed, dismissal should only be possible on grounds of neglect of duty, improper conduct, or incapacity.

NOTIFICATION OF INFECTIOUS DISEASES.

125. In connection with Minute 285 of the A.R.M. 1921, the Council is pleased to report that as from 1st September, 1921, the fee for a private practitioner for notification of cases of infectious disease arising in his practice was restored to 2s. 6d. As, subsequent to that date, some local authorities were still reported as paying no more than 1s. for such notifications, the Ministry of Health was urged to issue a further circular to all local authorities reminding them of the fact that the fee had reverted to 2s. 6d. The circular was issued and no complaints have since been received.

RELATION OF MINISTRY OF HEALTH TO MEDICAL INSPECTION AND TREATMENT OF SCHOOL CHILDREN.

126. It was brought to the attention of the Council that the Association of Directors and Secretaries for Education were claiming that all the activities of School Medical Officers should be supervised by, and under the control of, the Directors of Education. Owing partly to the efforts of the Association, all the powers and duties of the Board of Education with respect to the medical inspection and treatment of school children and young persons were transferred to the Ministry of Health from the Board of Education under Section 3 (1) (d) of the

Ministry of Health Act, 1919, but as the Minister of Health pleaded in the House of Commons that he was not then in a position to take over the detailed control of the health work done by Education Authorities, the Act enabled him to "make arrangements with the Board of Education respecting the submission and approval of schemes of local Education Authorities and the payment of grants to local Education Authorities so far as such schemes and payments relate to or are in respect of medical inspection and treatment, and the powers and duties of the Minister may, under any such arrangements, be exercised and performed by the Board on his behalf under such conditions as he may think fit."

127. In conjunction with the Society of Medical Officers of Health, an interview was sought with the Minister of Health. This interview took place on February 17th, and was fully reported in the Supplement of February 25th, 1922.

128. The Minister made it quite clear that he had no sympathy whatever with the pretensions of the Directors of Education to control the medical inspection and treatment of school children, and he promised to make enquiries in any locality in which it was reported that an attempt was being made to set up such supervision or control. On the larger question of the transfer of all medical services at present carried out on behalf of the Ministry by the Board of Education to the Ministry itself, Sir Alfred Mond pointed out some practical difficulties which were at present being met by the employment of Sir George Newman in the double capacity of Chief Medical Officer of the Ministry and of the Board of Education. The policy of the Ministry, in co-operation with the Board of Education, was to avoid friction and to bring influences to bear on local authorities to promote co-operation.

L.C.C. and Scale of Fees for Part-time Medical Practitioners for Ophthalmic Work and X-Ray Treatment of Tinea.

129. The following Minute 299 of the A.R.M. 1921, has been considered by the Council:—

> That inasmuch as the non-conformity of the London County Council to the Association's scale of fees for part-time medical practitioners for ophthalmic work, and X-ray treatment of tinea, handicaps practitioners in certain parts of the country in their efforts to obtain the fees on that scale, the Representative Body instructs the Council to consider the matter with a view to such action as may be possible being taken to remedy this state of affairs.

130. In view of the fact that the L.C.C., from the inception of the scheme for the treatment of school children, has carried out the B.M.A.'s policy of employing part-time practitioners for this work, and that any effort to obtain an increase of the fees paid by the L.C.C. might result in that Council deciding to employ whole-time practitioners and to dispense with its part-time officials, after consultation with the Metropolitan Counties Branch on the subject the Council is of opinion that it would be unwise at the present moment to press the L.C.C. for any increase in its present rates. In this connection, attention is directed to para. 163 of this report, dealing with the question of the reduction by the L.C.C. from £80 to £66 per annum for one session of 2½ hours per week, 44 weeks per year, for the treatment of minor ailments.

Central Emergency Fund.

(a) *Grant to Tasmanian Branch.*

131. As reported in para. 232 of the Supplementary Report of Council 1920-21, a grant of £100 was made to the Tasmanian Branch to assist the Branch in defraying its expenditure (approximately £253) incurred in attempting to resist the introduction of the Tasmanian Medical Acts. A letter of thanks has been received from the Branch, in which it is stated that the members of the Branch were as delighted with the spirit prompting the gift as with the gift itself.

(b) *Grant to Monmouthshire Division.*

132. In connection with an arbitration between the Ebbw Vale Workmen's Medical Society and the Medical Officers of the Society as to the remuneration of these medical officers, the Monmouthshire Division incurred an expenditure of £22, which included £12. 6s. 6d. being the Association's share (half) of the Umpire's fee. The Division applied for a grant of £22 from the Central Emergency Fund, and the Medico-Political Committee, the members of which are the trustees of the Fund, made a grant of that amount.

Fees of Certifying Factory Surgeons.

133. As reported to the A.R.M. 1921, Dr. W. F. Dearden (Honorary Secretary, Association of Certifying Factory Surgeons) and the Medical Secretary had an interview with Mr. Graves (Chief Inspector of Factories) and Dr. Legge at the Home Office on June 2nd, 1921, and pressed for an increase in certain fees paid to certifying surgeons. It was also suggested that the responsibility for the inspection and proper equipment of first-aid boxes and ambulance rooms set up in certain factories should be placed under the care of certifying factory surgeons, for which they should receive suitable remuneration.

134. The Home Secretary has stated that he has the whole question of factory administration under consideration, and that he regrets that he does not see his way at present to take any action in the matter of the fees of Certifying Factory Surgeons.

Fees for Medical Examination of Intending Emigrants.

135. Arising out of the request of the Commonwealth of Australia for a statement of the fees which the Association considered would be adequate for the medical examination of intending emigrants, the Council, as reported to the A.R.M. last year, stated that, having in view the fact that the majority of these emigrants would be ex-service men and their families, the Association would be prepared to advise practitioners to undertake these medical examinations at 10s. 6d. for each adult and 2s. 6d. for each child.

136. In March, 1922, the Oversea Settlement Office submitted to the Association a roster containing the names of some 1,300 medical practitioners who had agreed to conduct the medical examination of emigrants at a fee of 10s. 6d. for a man, 15s. for a man and wife, 2s. 6d. for a child, with a limit of a guinea per family. It was stated in this roster that these fees had received the approval of the Association, and the mis-statement was accordingly pointed out to the Oversea Settlement Office. The Deputy Medical Secretary later attended a meeting of the High Commissioners for the Dominions and tried to persuade the Commissioners to accept the fees put forward by the Association. The Commissioners, however, decided to adhere to the fees decided upon, but promised at the end of six months' trial to receive any further representations which the Association may like to make.

137. Such of the practitioners whose names appear on this roster as are members of the Association are having their attention drawn to the action of the Association in the matter, and to the fees which it considers should be asked for this service. These members are also being asked whether they can see their way to withdraw their names from the roster.

Bond between Practitioner and Assistant.

138. A request has been made that the Association should draw up, and supply to members on request, a form of usual bond between practitioner and assistant. The Council is, however, of opinion that this is not within the scope of the Association's work, but an effort is being made to obtain the views of the medical agents in the U.K. as to whether they would be prepared to appoint representatives to meet representatives of the Association to consider the preparation of such a bond, to be issued by the medical agents with an indication that it has been approved by the Association.

Co-operation between Association and the Medical and University Committee of the House of Commons.

139. For some time past there has been an informal co-operation between these bodies for which the Association has been very grateful. During the present session efforts have been made to secure more useful and closer co-operation on a basis which, while preserving the complete independence of both sides, should make each side more useful to the other. The Parliamentary Sub-committee has had added to its membership a representative of the Society of M.O.H. and of the Medical Women's Federation, and a meeting of the Sub-committee with the Medical and University Committee has taken place, at which the following matters were discussed:—

(a) Pay of medical women in the G.P.O.
(b) Fees for Post Mortems; Fees for Inquests and Death Certification; and Coroners Law.
(c) Contracts of Medical Practitioners employed by Ministry of Pensions.
(d) Safeguarding and National Endowment of Scientific Research.
(e) Clinical Thermometers Bill.
(f) Dogs' Protection Bill.

The Council desires to express the thanks for the ready help given by the Medical and University Committee in regard to many matters of interest and importance to the profession.

Post Office Medical Officers.

140. The Council is pleased to be able to report that after negotiations extending over some years the Association has secured recognition by the Postmaster-General as the body capable of representing the interests of Post Office Medical

Officers. The Association was able to prove to the Postmaster-General not only that some two-thirds of the total number of P.O.M.O's. were members of the Association, but also that it possesses the necessary machinery for ascertaining and expressing the views of these Officers.

141. It was very unfortunate that the first matter which should come up for consideration by the Association under the new arrangement was a proposal by the Post Office to reduce the capitation fee from 13s. to 11s. 6d. per annum (including medicine). It was originally intended that this reduction should come into effect on the 1st January, 1922, and strong efforts were made to induce the Post Office to forego the reduction. The case was argued both by correspondence and in deputation, but the Postmaster-General finally stated that he could see no reason for altering his opinion that a reduction should be made, but consented to give a respite until the 1st April, 1922. The efforts of the Council in other directions have, however been more successful, and the old standing grievances of P.O.M.O's. in regard to itinerants and emergency cases have been removed. A full report of the deputation to the G.P.O. was contained in the Supplement of 25th March, 1922, pages 78-79. A few questions which still remain for consideration are to be dealt with in a conference between the Post Office Medical Officers' Sub-Committee and the Chief Medical Officer of the Post Office.

Women M.Os. Employed at G.P.O.

142. An advertisement submitted by the G.P.O. for a woman assistant M.O. was refused insertion in the *B.M.J.* mainly because the salary offered was lower than the G.P.O. paid to men M.Os. doing similar work. At a deputation to the G.P.O. on another matter, representatives of the G.P.O. asked for the Association's reasons for refusing the advertisement, and when it was stated that it was the policy of the Association that there should be equality of pay irrespective of sex, the G.P.O. representatives replied that they could not admit that policy; that should they admit it, it would entail the expenditure of an additional £2,000,000 a year, because all technically trained women on their staff would claim to be paid at the same rate as the men in the same class. This the country could not afford. The Council, in conjunction with the Medical Women's Federation, has tried to induce the Postmaster-General to receive a deputation at which the matter should be discussed, but he has declined to do so. The matter cannot be allowed to rest here, as the decision of the Post Office is not only opposed to the policy of the Association, but it is opposed to the policy which the Association has been able to induce other Government departments to adopt.

Employment of Married Medical Women.

143. Two cases have been brought to the notice of the Association in which the St. Pancras Borough Council and the Glasgow Corporation have discharged medical women on account of marriage. The Association and the Medical Women's Federation have taken action in these two cases with a view to possible reinstatement of the medical women concerned, but it has been found that no legal pressure can be brought to bear upon the bodies concerned.

Clayden v. Wood-Hill Case.

144. A considerable amount of attention has been given in the columns of the medical journals to the case in which Dr. H. G. Wood-Hill, of Beccles, was mulcted in heavy damages for alleged negligence in his medical treatment of a fracture. In view of the importance to the whole profession of this case, the Council took the opinion of its Solicitor and also of Counsel as to the likelihood of success if an appeal were made against the verdict. For several reasons, mainly of a technical nature, Counsel advised against the prosecution of an appeal. The Council is glad, however, to see that through the medium of the *British Medical Journal* and by the help of many of the Divisions of the Association and of some Panel Committees a fund has been raised which will materially lighten Dr. Wood-Hill's burden. The Council would take this opportunity of urging all members of the Association who are not yet insured in a medical defence organisation to take a step which is incumbent upon every medical man and woman in practice, as the Wood-Hill case so well illustrates.

Guiding Principles in Connection with Remuneration for Medical Attendance on Uninsured Persons at Contract Rates.

145. In view of the proposals which have been brought to the notice of the Association for the reduction of contract rates for medical attendance on uninsured persons, the following principles have been adopted for guidance in connection with suggested reductions:—

(i) that where a definite understanding has been adopted that the contract practice fee shall be the same as that paid under the National Insurance system, a cut similar to that made under that system should be made locally to come into operation at the same time as the reduced Insurance Capitation fee, and to be reviewed when the latter fee is reviewed;

(ii) that wherever the remuneration has been raised to 11s. (or 13s. with medicine) or more, even though there has been no explicit relation of the fee to the Insurance Capitation fee, there is a *prima facie* case for a discussion;

(iii) that the amount of any reduction made must necessarily vary in different areas and must be settled locally in accordance with local conditions, subject to the approval of the Association;

(iv) that it must be clearly laid down that any reduction is a concession on the ground of present economic circumstances; that no difference will be made in the character of the Service given; and that the reduction is temporary; and

(v) that any contract shall be for an agreed period, and that three months' notice shall be given, prior to the termination of the agreed period, by either side applying for a review.

Grants to Universities.

146. In connection with the proposal of the Government to reduce by £300,000 the annual grants to Universities and University Colleges, the Association has taken action in conjuction with the Association of University Teachers. That Association has drawn up a Memorandum stating the reasons why this reduction should not be effected, and a copy of this Memorandum has been sent to the Medical and University Committee of the House of Commons. Division Secretaries have also been asked to write to their local M.P.'s, asking them to take appropriate action when the Education Estimates are under consideration in the House of Commons.

Medical Services of the Willesden Urban District Council.

147. During the War, the great influx of munition makers into the Willesden area, coupled with the existence of an Urban District Council disposed to make experiments in the provision of medical services, led to developments which in 1921 caused the Willesden Division to seek for interviews with the Medical Officer of Health in order to see if the local medical practitioners could not be introduced into the work of the municipal clinics. These interviews were not fruitful, as the proposals of the District Council indicated an ambitious scheme which the local profession considered to be unjustifiable. The policy of the U.D.C. seemed to be that of the "open door" for all the local inhabitants, while the Division strongly insisted upon the reference of all who were found to be needing medical treatment first to private practitioners, giving access to the treatment clinics only to those who were found to be incapable of providing for themselves the treatment found to be necessary. In the autumn of 1921 the U.D.C. circulated a leaflet setting forth a comprehensive scheme of medical service offered to mothers and children resident in Willesden on payment of an annual registration fee of 2s. 6d., with additional charges for certain specified additional services, and the Willesden Division saw that what they had to face was nothing less than the beginning of a general medical service, including nearly everything except domiciliary attendance, for every mother and child in the district.

148. The Division took very active steps not only to arouse the local profession, but to secure public support for their objection to a system of wholesale medical "spoon-feeding." It brought the matter before the Metropolitan Counties Branch and before the Central Council, and at the request of the Division the Council applied to the Ministry of Health for a ruling on the proposals of the U.D.C. The answer of the Ministry dated January 12th, 1922, was as follows:—

> "I am directed by the Minister of Health to advert to your letter of the 19th ultimo and enclosure relating to the scale of charges for medical services recently introduced by the Willesden Urban District Council, and to state that the Minister has informed the Council that he is not prepared to agree to the proposed annual registration fee of 2s. 6d., and he has requested the Council to rescind this part of the Scheme.
>
> The Minister's view is that no charge should be made for preventive as distinguished from remedial services in connexion with maternity and child welfare—that is, for such services as the visiting of homes by health visitors, attendance of mothers and of children under five at consultation centres, and educational facilities provided at maternity and child welfare centres for expectant and nursing mothers. It is desirable that any mothers and children, and especially the more necessitous, should have the opportunity of profiting by these important services if they so desire.

When, in the administration of the preventive services referred to, mothers and children are found to need further medical advice and treatment, the Minister considers that they should be advised to obtain it from private medical practitioners, and that treatment should be provided by the local authority only for cases in which the parent is unable for sufficient reason to obtain it from a medical practitioner or for ailments which experience shows are not generally treated unless provision is made by the local authority."

149. The Division repeatedly approached the U.D.C. in an attempt to find a satisfactory basis of co-operation with that body in giving treatment to those who needed it and could not provide it for themselves. The Division in particular strongly pressed on the U.D.C. the advisability of recognising a Medical Advisory Committee, which, as representing the whole local profession, should be consulted on all matters in which the co-operation of the local profession was presumably desired by the U.D.C.—the latter body of course having the final decision. The correspondence has been published *in extenso* in the *B.M.J.* and shows that the U.D.C. refused to recognise such an Advisory Committee and threw on the Division the onus of propounding a scheme alternative to that established by the Council. The Division refused to be drawn into what would have been a false position, inasmuch as its contention was that the U.D.C. was neglecting its primary work of prevention in order to develop a scheme of treatment which it had neither the staff nor the facilities to carry out properly. The Division was not willing to draw up an alternative scheme covering the ground of the U.D.C. scheme, because it was prepared to prove that the health energies of the U.D.C. were being put into wrong channels. The members of the Division accordingly resolved to use their influence as doctors and ratepayers in the election which took place on April 1st, and they threw themselves with great vigour into a campaign which was largely based on the Division's criticisms of the local health service. The result was a striking testimony to the efficacy of the influence of the medical profession when applied to a public question of medical importance, and reflects great credit on the Officers of the Division and particularly on its Chairman, Dr. C. F. T. Scott, and its Honorary Secretary, Dr. W. Paterson. Ten seats were gained by the party which upheld the health policy advocated by the Division, and two out of three of the practitioners who stood for election were returned at the head of the polls in their respective districts.

150. The Council both in this report and in the *Journal* at various times during the year has given this matter considerable attention because it believes that the struggle at Willesden is a foretaste of a battle that may have to be fought in many other areas, if not nationally. The work of the Association in regard to medical inspection and treatment of school children and maternity and child welfare is a proof that the Association is anxious that mothers and children who are known to need medical treatment should have it—if necessary at the expense of the community. But the Council believes that it is not in the interest of the community that access should be had without question to the various forms of treatment publicly provided. It is of course arguable that all ratepayers should have access to what all ratepayers pay for, but the Council believes and asks the Representative Body to endorse its belief, that it is in the interests of the community that the self-respect and independence of all classes should be fostered, and that people who out of their own pockets can and will provide for themselves not only thereby prove themselves to be better citizens than if they expected everything to be provided for them, but also appreciate the services in question far more highly than others.

Notification of Congenital Syphilis, Miscarriages, and Still-births.

151. The following resolution of the Orthopædics and Diseases of Children Section of the Annual Meeting, 1921, has been noted by the Council for appropriate action to be taken at the proper time :—

That the meeting of the Children's Section of the British Medical Association, feeling strongly the failure of the curative treatment of congenital syphilis, and appreciating the very superior results obtained by the pre-natal or prophylactic method, recommend, in order to encourage the latter method, the desirability of the notification of all cases of congenital syphilis, miscarriages, and still-births. Those miscarriages and still-births due to syphilis could be detected by Wassermann's tests of the mother's serum, and the necessary treatment of the mother carried out. This meeting desire the Council of the British Medical Association to bring this question to the notice of the Ministry of Health.

Representation on College of Preceptors Committee into Enquiry into Physical Training of Girls.

152. At the request of the College of Preceptors the Council has nominated Mr. E. B. Turner and Mr. R. C. Elmslie to represent the Association on a Joint Committee of Enquiry into the Physical Training of Girls. The College of Preceptors, in asking the Association to take this action, stated that there was a widespread conviction that certain forms of physical exercise included in the education of girls and young women were injurious to their health and tended to unfit them for the functions of motherhood, and the College was of opinion that there is a strong case for enquiry into the matter.

Medical Curriculum and Venereal Diseases.

153. The Council has noted the following resolution of the V.D. Section passed at the Annual Meeting, 1921, with a view to taking appropriate action at the proper time :—

That this meeting desire to bring before the Council of the B.M.A. the necessity of taking such action as will ensure the inclusion of instruction in Venereal Diseases in the curriculum of every medical student, together with the institution of a test of proficiency in diagnosis and treatment as a condition of qualification.

It desires also to draw attention to the advisability of encouraging, by every means possible, the carrying out of Post-Graduate instruction in these subjects amongst General Practitioners.

Prepayment of Postage by Local Authorities on Notifications of Infectious Disease.

154. Minute 162 of the A.R.M. 1920 stated that all necessary postage on notifications of infectious disease should be prepaid by the authority responsible. The matter was brought to the notice of the Minister of Health, who replied that he had no power to authorise or require local authorities to prepay such postage,

Medical Officers employed by the Ministry of Pensions.

(a) *Sessional Basis of Medical Referees.*

155. The Ministry of Pensions recently notified that the prevailing system of Medical Referees would to a large extent shortly come to an end and the following new system be instituted, namely, that in certain areas a general clinic for examination and certification would be established at which pensioners would attend by appointment; that about 15 to 20 would attend per session and the duration of the session would be 2½ hours; that the fee for these Medical Referees would be £1 11s. 6d. per session and that priority for these appointments would be given to existing Medical Referees. The Council informed the Ministry of Pensions that in its opinion the remuneration of these referees should be not less than two guineas a session and that the number of cases examined should be limited to 12 in case of first examinations and 15 in the case of first and other examinations. The Ministry, however, replied that beyond insisting upon the calling up of a sufficient number of cases to ensure that the M.O.s would be fully occupied for a normal session, it had no desire, neither did it intend, to impose any further limitation as to the numbers to be seen per session: further, that under existing conditions the Ministry considered the fee of £1 11s. 6d. a reasonable rate of remuneration for this work.

(b) *Fees to Members of Ministry of Pensions Medical Boards.*

156. The remuneration of members of Ministry of Pensions Medical Boards was by the efforts of the Association raised as from 6th October, 1919, from £1 1s. to £1 11s. 6d. per session of 2½ hours, Chairman 5s. 3d. extra. The Ministry of Pensions has given notice that these fees will be reduced from April 18th, 1922, to £1 6s. 3d. and £1 11s. 6d. respectively. This remuneration is obviously very small and, if accepted, may well be quoted against the profession on some other occasion. The Council has therefore made a protest to the Ministry against this reduction and has asked for a deputation to be received. In order to ascertain the opinion of the medical practitioners chiefly concerned the Secretaries of the Divisions have been asked to ascertain from them what support the Association can depend upon in its efforts to resist the proposed reduction.

(c) *Proposed Reduction of Remuneration of Whole-time Medical Officers employed by the Ministry of Pensions.*

157. In 1920, M.O s employed whole-time by the Ministry of Pensions attempted to obtain a bonus in addition to their salaries; which was refused. These officers were then given consolidated rates of pay on contract, part of the contract being to the effect that the Ministry of Pensions undertook to employ the medical

practitioner concerned at a salary within the range of £800 and £1,200 per annum. Some were given a contract for six months, others for four years, and each of these latter subsequently received a form from the Commissioner of Medical Services stating that their salaries had been fixed somewhere within the fixed range, dating back to 1st January, 1920. Many of them subsequently received an increase of salary. At that time the Association took the opinion of its solicitor as to whether the contract was binding, and the solicitor replied that he considered it constituted a contract between the parties which ordinarily could be enforced by either party, but that the Courts had decided that no action would lie against the Crown upon an agreement for personal services, and that anyone employed by the Crown, despite agreement to the contrary, could be dismissed at the pleasure of the Crown without notice. Recently these officers were informed that their salaries were to be reduced by an amount unspecified. The average salary of these officers was then slightly over £930 per annum. Upon the opinion of the solicitor being taken as to the legality of the proposed reduction, he stated that he was of opinion that if the action proposed by the Ministry had been carried into effect by a private individual or firm, such action would constitute a breach of contract, and the employee would be entitled to prosecute an action at law in vindication of his rights. The contention of the Ministry, however, is that so long as these salaries are not reduced below £800 per annum the contract is not broken. Representatives of the M.Os. concerned interviewed the Minister of Pensions on 3rd March, 1922, when he agreed that their salaries should not be reduced for six months, but he stated that at the end of that period they would have to be reconsidered. The officers concerned have expressed their thanks for the help and advice given by the Association.

Association's Public Medical Service Schemes.

158. The Association's Public Medical Service Schemes which were approved by the A.R.M., 1912, are out of date in several respects. In order that up-to-date rules should be at the disposal of any Division that may ask for them, the Council proposes to revise the Schemes.

The Council therefore recommends—

Recommendation.—That the Council be authorised to amend the existing Public Medical Service Schemes as thought proper.

Scheme for Organization of Colliery Surgeons in England.

159. A scheme for the organisation of Colliery Surgeons in England is under consideration. The diversity of the conditions under which this work is done is recognised, but the Council believes that it should be possible to secure much more uniformity of conditions of service and remuneration than at present exists.

Fees for Medical Practitioners called in on the Advice of Midwives.

(a) *Additional Fee for giving Anæsthetic by the Practitioner called in.*

160. The A.R.M. of 1921 (Min. 292) referred to the Council the following Motions :—

167. *Motion by Cleveland.*—That the fee for suturing the perineum, for removal of adherent or retained placenta, for exploration of the uterus, for the treatment of *post partum* hæmorrhage, or for any operative emergency arising directly from parturition, including all subsequent necessary visits during the first ten days inclusive of the day of birth, should be increased from one guinea to two guineas.

168. *Motion by Cleveland.*—That the fee for attendance at or in connection with an abortion or miscarriage, including the subsequent visits during the ten days after, and including the first visit, should be increased from one guinea to two guineas.

169. *Motion by Preston.*—That the Representative Body express the opinion that the fee of one guinea paid to medical practitioners called in on the advice of midwives for attendance at or in connection with an abortion or miscarriage, including all necessary subsequent visits during the ten days after and including the first visit, is inadequate, and instructs the Council to consider the advisability of taking steps with a view to the fee being increased.

161. After full consideration of the above Motions, the Council decided that in view of the economy campaign the time was very inopportune for any effort to raise the fees as suggested by these Motions. In considering the whole scale, however, the Council came to the conclusion that something should be done for the medical practitioner who has been called in on the advice of a midwife, and desires to administer an anæsthetic to his patient but cannot obtain the assistance of a second practitioner. The Ministry of Health scale does not contain any provision for the payment of a fee for administration under such circumstances, and in this respect the Council is of opinion that it is deficient. A second practitioner called in is allowed a fee of £1 1s. 0d., and the Council has decided to make representations to the Ministry of Health that where the medical practitioner called in has himself to administer the anæsthetic, there being no other practitioner available, a fee of £1 1s. 0d. should be provided for the service, whether it be abortion, miscarriage, parturition or attendance subsequently.

(b) *Specialist Fees.*

162. The Council considers that the 1920 scale of fees is deficient in another particular in that it contains no provision for the payment of a specialist when the doctor called in considers that a specialist's services are necessary. Specialists' fees are, in this regard, already provided in some areas, and the Committee is of opinion that such fees should be universal. The Committee has therefore informed the Ministry of Health that in its opinion the Ministry should arrange with local supervising authorities to provide a fee for specialists in all such cases.

The Association's Minimum Remuneration for Minor Ailment Clinics.

163. In 1920 the Representative Body resolved (Min. 100 (i)) that for the treatment of minor ailments the fee should be two guineas a session of not more than 2½ hours. Experience has shown great difficulty in obtaining such a rate of payment. It would probably have been difficult at any time, but at the present it is practically impossible. In accordance with the policy laid down, however, advertisements have had to be refused because they offered a less remuneration than the two guineas per session, and both the authorities whose advertisements have been refused and many members have resented this because the L.C.C. is known to be paying and many members of the Association accepting a rate which works out at about 30s. per session of 2 hours. The Metropolitan Counties Branch, after very careful consideration, has come to the conclusion that it is not possible to induce the L.C.C. to raise its terms at present and that the only effect of an organised attempt to make it do so would be to make it adopt the employment of whole-time officers. The Council is of opinion that such a result would be very detrimental to the policy of the Association, as the L.C.C. was the first authority to give the employment of part time officers for treatment of school children a fair trial. Taking everything into account the Council is of opinion that the Association should lower its minimum from 2 to 1½ guineas a session and at the same time seek to reduce the duration of the session from 2½ to 2 hours and restrict the number of new cases to be seen at any one session.

The Council recommends—

Recommendation.—(a) That para. (i.) of Minute 100 of the A.R.M., 1920, which fixed the minimum remuneration of medical practitioners for the treatment of minor ailments at maternity and child welfare and school children clinics at £2 2s. 0d. per session of not more than 2½ hours be rescinded ; and (b) that the following para. be substituted therefor :—

(i.) For the treatment of minor ailments, £1 11s. 6d. per session of not more than 2 hours, provided there is a limitation of the average number of new cases to be seen in each session.

Seamen's National Insurance Society.

164. Upon the reduction as from 1st January, 1922, of the capitation rate for Insurance practitioners, a communication was received from the Seamen's National Insurance Society asking whether the medical profession would agree to a reduction in the fees paid by that Society to medical practitioners for the treatment of members of the Society. The Society was informed that it was considered that the medical profession would keenly resent any such attempt, because whereas the National Deposit Friendly Society had increased its fees in January, 1919, by 50% the Seamen's Society had only increased its fees by 20% at that time and only later did it increase them by a further 30%. The Society has also been informed that in many areas its fees are considered to be inadequate and that a reduction would probably result in the Society having real difficulty in getting medical attendance for its members. Any effort by the Society to enforce a reduction will be resisted.

Travelling Expenses of Practitioners attending Coroners' Courts.

165. In continuation of the action reported in the Annual and Supplementary Reports of last year, several Divisions have reported during the session that their County Councils have granted travelling allowances for medical practitioners attending Coroners' Courts.

National Health Insurance.

COMPOSITION OF INSURANCE ACTS COMMITTEE.

166. The Annual Conference of L.M. and P. Committees, October, 1921, expressed a desire for an increase in the direct representation of Insurance practitioners upon the Insurance Acts Committee. The Council, after careful consideration of this desire, is of the opinion that effect can and should be given thereto by means of a slight alteration of the Schedule to the By-laws which has the advantage of not increasing the total membership of the Committee. At present there are, in addition to the 4 *ex officio* members and the 4 appointed by outside bodies, 18 directly elected representatives and 6 elected by the R.B., 4 by the English and Welsh Representatives, 1 by the Scottish and 1 by the Irish Representatives. In view of the recent legislation as regards Ireland, and the fact that there has never been any medical benefit in Ireland as understood in the other countries, there is no apparent reason why the Irish Representatives should continue to elect a member of the Insurance Acts Committee. It is, therefore, proposed that there be no Irish member appointed by the Irish Representatives, but that there should be an additional "direct representative," thus increasing the latter to 19 instead of 18 as at present.

The Council therefore recommends:

Recommendation.—That the figure "5" be substituted for "6" in the third line of the fifth column of the Schedule to the By-laws headed "Otherwise appointed" concerning the constitution of the Insurance Acts Committee; (2) that the words "Great Britain" be substituted for the words "the United Kingdom" in the seventh and eighth lines; (3) that the word "each" in the eleventh line and the words "and for Ireland respectively" in the thirteenth and fourteenth lines be deleted; and (4) that the figure "19" be substituted for the figure "18" in the fifth column "Otherwise appointed" of the Schedule to the By-laws relating to the constitution of the Insurance Acts Committee.

167. In the event of the Representative Body adopting the above recommendation, it is proposed to recommend the next Annual Conference of L. M. and P. Committees to amend the present grouping of L. M. and P. Committees so as to allow of London being a separate group with two representatives, whilst the remaining constituents of the present Group will continue to have two representatives. At present the group comprises London, Middlesex, Essex, Herts, East Ham, West Ham and Southend.

168. In accordance with Minute 174 of the A.R.M. 1921, the Council has had under consideration the question of the amendment of the Schedule to the By-laws relating to the Insurance Acts Committee, so as to define more clearly the method of election of the 22 (23 if the foregoing recommendation is adopted by the R.B.) practitioners referred to in the second column.

The Council recommends:

Recommendation.—That for the following paragraph in the fifth column of the Schedule to the By-laws relating to the Insurance Acts Committee:—

> "22 such practitioners (whether members of the Association or not) elected by the 4 members *ex officio* and the above-mentioned 6 elected members of the Committee acting together, such 22 members to be nominated or qualified as under, viz.:"

there be substituted the following paragraph:

> "together with 23 practitioners (whether members of the Association or not) to be nominated or qualified as under, viz."

169. Minute 176 of the A.R.M. 1921, instructed the Council to consider the advisability of providing that 1 at least of the non-panel members of the Insurance Acts Committee should be in general practice in an industrial area.

170. The existing Schedule to the By-laws provides for the co-option, if necessary, of non-panel practitioners upon the Committee so as to ensure that 4 such practitioners shall be members of the Committee. So far the necessity to make use of this power has never arisen, as there have always been at least 4 non-panel practitioner members of the Committee, some of them elected as "Direct Representatives." At the same time the Council feels it desirable that one of these 4 non-panel practitioners should be in general practice in an industrial area.

The Council therefore recommends:

Recommendation.—That the following words be added to the last paragraph in the fifth column of the Schedule to the By-laws relating to the Insurance Acts Committee:—

"One of whom shall be in general practice in an industrial area."

(NOTE.—The fifth column of the Schedule to the By-laws with respect to the Insurance Acts Committee will read as follows if the foregoing Recommendations are adopted:—

Registered medical practitioners appointed as follows:—

> 5 such practitioners (being members of the Association) elected (in the manner prescribed by the Representative Body) by the elected Representatives of the Constituencies formed for Great Britain under By-law 33, namely 4 by all the elected Representatives (acting together) of the Constituencies so formed for England and Wales, and 1 by all the elected Representatives (acting together) of the Constituencies so formed for Scotland, together with 23 practitioners (whether members of the Association or not) to be nominated or qualified as under, viz.:—
>
> > 19 to be selected so far as possible on a territorial basis from among the practitioners nominated by the Local Medical Committees and Panel Committees formed in Great Britain under the Insurance Acts;
> >
> > 1 (being a member of the staff of a Voluntary Hospital) to be nominated by the Hospitals Committee of the Association;
> >
> > 1 to be nominated by the Medical Women's Federation; 1 to be nominated by the Society of Medical Officers of Health; 1 to be nominated by the Poor Law Medical Officers' Association of England and Wales;
>
> with power for the members of the Committee appointed as above provided to co-opt as additional members such number (if any) of non-panel practitioners as shall be required to secure that 4 such practitioners shall be members of the Committee, 1 of whom shall be in general practice in an industrial area.)

APPROVED SOCIETIES AND CONTROL OF MEDICAL BENEFIT.

171. Members have doubtless noted the new development of the National Health Insurance system to which much professional attention has recently been given. It is a situation which affects not only Insurance practitioners but every member of the Association, inasmuch as it threatens one of the greatest gains of the Association in 1911-12, when it defeated the intention to place medical benefit under the control of the Approved Societies and had it placed under that of the Insurance Committees.

172. The *B.M.J.* of February 18th commenting on the Geddes Report as it affected the medical profession significantly remarked that the suggestion that the portion of the cost of medical benefit hitherto paid out of a Treasury Grant should in future be paid by increased contributions or from the surplus funds of the Approved Societies was one which would need the careful attention of the medical profession, for if those Societies undertook increased monetary responsibilities they would probably be less amenable to those State restrictions which they had accepted more or less meekly when accompanied by financial help. The necessity for this warning was soon apparent. The Government at first intended to increase the contributions of insured persons and employers, but the Approved Societies strongly objected and undertook to provide the money hitherto provided by the Treasury out of their surplus funds from April 1st, 1922, to December 31st, 1923, the date when the present arrangement between the Ministry and Insurance practitioners ends.

173. Immediate steps were taken by the Insurance Acts Committee, acting through its Chairman and the Medical Secretary, to ascertain what return the Approved Societies expected for this contribution on their part, and efforts were made to hasten the date of a deputation to the Ministry which had been arranged for other business, in order that this matter might be discussed without delay. Various difficulties cropped up, one of them being that some time had to elapse before the Ministry could make a definite statement as to Cabinet intentions. On March 30th, however, the deputation was received, and a full account of the interview will be found in the Supplement of April 8th, 1922. The report shows that the Approved Societies have made the new situation the occasion for claiming a status with regard to medical benefit which they have not up to the present held. The account also makes it clear that what was believed to be the emphatic opinion of the profession was stated to the Ministry, namely, that the great body of Insurance practitioners would not tolerate any alteration in the present arrangements for negotiating the terms of service and amount of remuneration. These negotiations have always been between the Ministry and the Insurance Acts Committee as representing Insurance practitioners. The Committee after its meeting with the representatives of the Ministry passed the following resolution:—

> While welcoming the co-operation of all those interested in the development of the best possible medical service for insured persons, the Insurance Acts Committee is of opinion

that the profession should insist upon the continuance of the system of negotiating the actual terms of contract of service which has prevailed since the coming into force of the National Health Insurance system—that is, direct negotiations between the Government and the Profession, without the intervention of any third party.

This was sent to the Ministry, to all Panel Committees, and is to be submitted to a Special Conference of Representatives of Local Medical and Panel Committees called for May 18th.

174. As the question at issue is so important, the Council has adopted the above opinion, and desires that the Representative Body also will endorse it, thus assuring Insurance practitioners that they have the Association solidly at their back in resisting any encroachment by the Approved Societies on the position won by the Association in 1911-12:

Recommendation.—That, while welcoming the co-operation of all those interested in the development of the best possible medical service for insured persons, the R.B. is of opinion that the profession should insist upon the continuance of the system of negotiating the actual terms of contract of service which has prevailed since the coming into force of the National Health Insurance system—that is, direct negotiations between the Government and the Profession without the intervention of any third party.

General Position of National Health Insurance Acts.

175. At the time of the negotiations in connection with the proposal of the Ministry of Health to reduce the capitation fee for the treatment of insured persons, in October, 1921, articles appeared in various lay newspapers urging such a reduction and casting reflection upon the manner of treatment of insured persons by Insurance practitioners. The Insurance Acts Committee considered that to apply to the whole of Insurance practitioners the criticisms probably justly applicable to a few was manifestly unfair, and recommended the Annual Conference of L. M. & P. Committees to welcome a wide enquiry into the working of the Insurance Acts, at an appropriate time, which recommendation was adopted. Part of the campaign by a section of the lay press was also directed towards the repeal of the Insurance Acts altogether. While it was considered by the Council that such a step was not likely to be taken without some such enquiry as is referred to above, the seriousness of the situation at the time was such that the Council expressed the opinion that the measure of success which has attended the experiment of providing medical benefit under the National Health Insurance Acts system has been sufficient to justify the profession in uniting to ensure the continuance and improvement of this system, which opinion was also expressed by the Annual Conference of L. M. & P. Committees in October, 1921.

Recommendation.—That the measure of success which has attended the experiment of providing medical benefit under the National Health Insurance Acts system has, in the opinion of the R.B., been sufficient to justify the profession in uniting to ensure the continuance and improvement of this system.

Annual Conference of Representatives of Local Medical and Panel Committees.

176. The Annual Conference of Representatives of Local Medical and Panel Committees was held on October 20th, 1921, under the Chairmanship of Dr. H. G. Dain (Birmingham), and was well attended. A full report of the proceedings was published in the *B.M.J.* Supplement for October 29th, 1921. Dr. H. G. Dain was re-elected Chairman for 1921-22.

Remuneration of Insurance Practitioners.

177. In September, 1921, the Insurance Acts Committee was informed by the Ministry of Health that the Government had decided to reduce the capitation fee for treatment fixed (by arbitration) in 1920 at 11s. per insured person, no reason for the proposed reduction being given in the notice. At a meeting with the Minister of Health in October, 1921, however, the Committee was informed that the need for reduction was due to the economic position of the country and Insurance practitioners were asked on grounds of citizenship to accept the amount (9s. 6d.) offered by the Government. The opinion of the general body of Insurance practitioners was obtained through the Conference of L.M. and P. Committees, and the Conference, after having sought unsuccessfully to have the 9s. 6d. increased to 10s., eventually decided to accept the reduction on the grounds of citizenship and upon the understanding that the new fee would remain in force for two years. It was decided that the date on which the new fee was to take effect would form a subject for discussion between the Insurance Acts Committee and the Ministry's representatives. Some dissatisfaction has been shown by Insurance practitioners with the decision of the Ministry to introduce the new fee as from January 1st, 1922, without giving individual Insurance practitioners three months' notice of the reduction. For Insurance practitioners it was contended that, although three months' notice was given to the negotiating body (the Insurance Acts Committee) of an intended change in remuneration, each individual practitioner was entitled to a similar notice of the exact amount after it had been determined by central negotiations. The Ministry declined to accept this view, maintaining that if individual notice is to be given of everything decided by collective bargaining that method is reduced to absurdity; the Ministry also maintained that as the Central Pool is each year constituted by an Order of the Minister, individual notice of a change was not necessary. This was regarded by Insurance practitioners as a straining of the interpretation of the proviso to paragraph 2 of the Terms of Service, and the question was taken up with the Ministry. The latter has agreed to obtain a legal definition of the powers covered by an Order of the Minister.

Transfer of Practices.

178. In reference to Minute 310 of the 1921 A.R.M., efforts are still being made to secure a modification, failing a return to the old Regulation (which is emphatically refused by the Ministry), of the Regulation governing the transfer of practices on the death or retirement of an Insurance practitioner. The main difficulty up to a certain point in the negotiations with the Ministry seems to have arisen from misunderstandings due to the imperfect or injudicious wording of resolutions passed by Panel Committees, by professional associations and by the Conference of L. M. and P. Committees.

179. The Ministry of Health contends that the Regulations deal only with the arrangements to be made, when a doctor dies or retires from practice in an area, for securing:—

(1) That the insured persons formerly on his list are fully informed of their position and rights;

(2) That they are given an ample opportunity of exercising an unfettered choice;

(3) That those who fail to make a choice are allocated to doctors on lines that take due account of the patients' interests and of the general interests of the medical service of insured persons in the area;

and that the old Regulations did not satisfactorily secure these objects. They were therefore revised in order that effect might be given more fully to the requirements of the National Insurance Act, 1911, respecting the free choice of doctor and the assignment of those who make no choice. Owing to the misunderstandings which have arisen, the Ministry has made it clear that its intention is to put insurance practice on exactly the same lines as private practice so far as transfers are concerned. In private practice the doctor can only sell the introduction, for the patients can transfer themselves without any formalities. In insurance practice, the Ministry has no objection to the doctor selling the introduction to the insured persons on his list, but by the alteration of the Regulations wished to make it clear that patients could not be transferred *en bloc* simply because they had expressed no opinion in the matter.

180. The experience so far gained in the working of the new Regulation has been very small, because, in the bulk of cases, the new arrangements do not come into operation until the end of this year. The Council regards it as important both in the interests of Insurance practitioners and insured persons that such modifications of the present arrangements as can be secured shall be agreed upon before then, and negotiations are proceeding with that end in view.

Dispensing Capitation Fee.

181. The Ministry of Health intimated in December, 1921, that it proposed to reduce the capitation fee for those practitioners who dispense for their insured patients from 2s. to 1s. 9d. or 1s. 10d., on the ground of the fall in the cost of drugs and services. At the same time chemists were asked to accept a reduction and it was on this reduction that the dispensing practitioner's fee was based. Representatives of the Insurance Acts Committee have met representatives of the Ministry on the matter, and a case has been prepared and submitted to the Ministry in support of the retention of the present fee (*see* Supplement to *B.M.J.*, December 31st, 1921). The matter is still under discussion between the Ministry and the chemists, and until these negotiations are further advanced the consideration of the position of dispensing doctors is postponed. It has been made quite clear to the Ministry that the Committee does not admit that the position of the dispensing doctor is governed by any settlement that may be arrived at between the Ministry and chemists. The threatened reduction will be strenuously opposed, partly because of the

promise of the Minister made at the time of the reduction in the capitation fee for treatment that arrangements as to mileage and things of that sort (which was believed to include dispensing by rural doctors) would remain in force as before, and partly because it is considered that 2s. is the lowest capitation fee that would pay the rural practitioner properly for doing this work.

(*Note.*—Since the drafting of the foregoing, the Ministry has decided that as and from May 1st, 1922, there is to be a reduction in the chemists' dispensing fee of one penny on each item.)

MILEAGE.

182. Considerable feeling was caused among Insurance practitioners by the announcement of the Ministry in December, 1921, that the mileage grant (for which in 1920 £300,000 was granted) for 1921 would be reduced to about £250,000. The misunderstanding was undoubtedly caused by the fact that, at the time of the negotiations regarding the reduction of the capitation fee for treatment, the Minister of Health stated that the arrangements with regard to mileage would remain in force as in the past, which statement was interpreted by many practitioners as meaning that there was to be no alteration in the *amount* of the fund. What was intended by the use of the words in question, however, was that the basis of calculation of the Central Mileage Fund would remain unaltered, but as the 1920 figure was known to be based largely on guess work, and subject to review in the light of added experience, and as the amount for 1921 has been calculated according to the same method, but from more exact data, the reduction in the total amount cannot be regarded as a breach of faith by the Minister.

ADMINISTRATION OF ANÆSTHETICS IN HOSPITAL—RANGE OF SERVICES.

183. Consideration has been given to the question whether an Insurance practitioner's agreement only covered what was understood to constitute domiciliary attendance, or included attendance upon an insured person in an institution when the treatment was clearly within the range of services. The solicitor's opinion has been obtained and is briefly to the effect that, subject to certain conditions, it is part of an Insurance practitioner's agreement to treat insured persons whilst in hospital. The limitations which it is considered should be placed on the right of an insured person in an institution to treatment by an Insurance practitioner are at present the subject of discussion between the Insurance Acts Committee and the Ministry of Health.

EXPENSES OF COMMITTEE.

184. Certain expenses of the Insurance Acts Committee incurred in connection with the negotiations with regard to the capitation fee for treatment in October last, the expenses of the 1921 Annual Conference of Representatives of L.M. and P. Committees, and the Election of Direct Representatives on the Committee, amounting in all to £413. 10s. 7d., have been defrayed out of the National Insurance Defence Trust. The Trustees have agreed to defray the expenses in connection with the last two items annually out of the Trust, provided the total amount thereof does not exceed the total income of the Trust for the year derived from interest and investments.

"ADDITIONAL BENEFITS."

185. Minute 306 of the 1921 A.R.M., referring to the Council for consideration and report the proposal that all nursing schemes established as additional benefits under the National Health Insurance Acts should be administered by the Insurance Committees as a part of medical benefit, has been dealt with by the Insurance Acts Committee and the Panel Conference, which body is in entire agreement therewith. The principle underlying the motion has been brought prominently into the foreground recently in view of the action taken by a number of Approved Societies, both individually and through the National Insurance Beneficent Society, for the giving of ophthalmic benefit, viz., sight-testing and supply of spectacles, &c., to insured persons out of surplus monies which have been made available as a result of the recent valuation of the assets of Approved Societies. This benefit the Insurance Acts Committee holds to be "of the nature of medical benefit" which, as such, should be administered by and through the Insurance Committees, having regard to Section 14 of the 1911 Act. Attention was drawn to the matter by the Committee at its interview with the Ministry on February 2nd, 1922, when the representatives of the Ministry stated that according to their legal advisers any Society using its surplus funds for the direct provision of medical benefits and treatment would be acting against Section 14 of the 1911 Act, but that the additional benefit referred to as now being supplied by Approved Societies was a monetary payment of part of the whole of the cost of the treatment obtained by members themselves and not the organisation of services for them, and therefore that the action of the Approved Societies in this matter was quite in order. In view of the importance of the question the Trustees of the National Insurance Defence Trust are taking the opinion of Counsel.

186. In reference to the last part of the motion contained in Minute 306 of the 1921 A.R.M., *i.e.*, that in connection with nursing schemes established as additional benefits under the Insurance Acts, nurses should always act under the doctor's instructions, and that where possible use should be made of existing "nursing associations," the Council is satisfied that it has been made quite clear to the Approved Societies concerned by the Queen Victoria Jubilee Institute for Nurses, that the nursing would be carried on under the ordinary rules for district nursing, which are those approved by the B.M.A. and the Queen's Institute in conference in 1910.

Public Health and Poor Law.

TRAINING OF OTHER THAN MEDICAL STUDENTS IN OPERATION OF VACCINATION.

187. In accordance with Minute 313 of the A.R.M., 1921, the General Medical Council was petitioned to declare that it would be regarded as infamous conduct in a professional respect for any public vaccinator or practitioner to train other than medical students in the operation of vaccination. To this the G.M.C. replied that the matter had been considered by its Executive Committee on 21st November, 1921, when the following resolution was passed :—

> That the British Medical Association be informed that the Council would be prepared to consider on its merits any case brought before it wherein infamous conduct in a professional respect is alleged; but it is not prepared to make any such general declaration as is suggested.

SUB-COMMITTEES: SUGGESTED RECONSTITUTION OF THE COMMITTEE: CLOSER CO-OPERATION BETWEEN THE ASSOCIATION AND SOCIETY OF MEDICAL OFFICERS OF HEALTH.

188. In the session 1920-21, the Council approved that the Committee should not appoint, at any rate for that session, M.O.H. and P.L.M.O. Sub-Committees. Arising out of this, as reported to the A.R.M., 1921, protests were received from the Society of M.O.H., the Association of County M.O.H. and the P.L.M.O. Association, but the Council, on careful consideration of these representations, decided to defer any action on the matter until the present session. The matter has been considered again during this session in connection with other matters involving the co-operation of the Association and the Society. The Council has now appointed a Special Committee consisting of the Officers of the Association, and the Chairmen of the Public Health, Medico-Political, Insurance Acts and Organisation Committees to meet a similar number of representatives of the Society of M.O.H. to discuss the general question of the best methods and extent of co-operation between the two bodies.

SECURITY OF TENURE OF HEALTH OFFICERS.

189. The Council has much pleasure in reporting that the Public Health Officers' Superannuation Act, 1921, a measure promoted by the Association with a view to getting security of tenure for Public Health Officers, has been entered on the Statute Book and came into effect as from 1st April, 1922. The Act provides for the security of tenure of M.O.H., Sanitary Inspectors, and Inspectors of Nuisances, such officers now being removable only with the consent of the Ministry of Health.

190. In connection with this matter, an Order (Statutory Rules and Orders, 1921, No. 444) has been published by the Minister of Health, providing that every whole-time M.O.H. and whole-time Sanitary Inspector appointed after 1st May, 1921, should be appointed without limit of time, with a proviso that for the first 12 months of appointment he should be taken to be on probation and his appointment would expire unless confirmed by the Minister.

SUPERANNUATION OF PUBLIC HEALTH MEDICAL OFFICERS.

191. This matter has again been under consideration, and a Bill to provide superannuation for Public Health Officers has been approved by the Council. Steps have been taken to get it introduced into Parliament, though it is realised that the time is not very favourable for Bills of this kind.

TREATMENT OF TUBERCULOSIS: RESOLUTION OF SECTION OF ORTHOPÆDICS AND DISEASES OF CHILDREN.

192. The Council has noted the following resolution of the Section of Orthopædics and Diseases of Children of the Annual Meeting, 1921, with a view to taking action at an appropriate time:—

"That the Section of Orthopædics and Diseases of Children desires to express to the Council of the British Medical Association their considered opinion of the value of modern conservative treatment of surgical tuberculosis and their realisation of the necessity for the multiplication under the best climatic conditions of institutions similiar to those already existing in various parts of the United Kingdom."

MEDICAL INSPECTORS UNDER THE IRISH LOCAL GOVERNMENT BOARD.

193. An appeal has been made for the support of the Association by the Medical Inspectors of the Irish Local Government Board (5 in number) who are being handed over to the Irish Free State. The position of these officers, who salaries are very inadequate, is very precarious and the Council has urged the Chief Secretary for Ireland and the Chancellor of the Exchequer, to see that justice is done to them. The Medical and University Committee of the House of Commons has also been asked for its support.

PUBLIC HEALTH AND POOR LAW CASES.

194. The assistance of the Association has been given in connection with a large number of Public Health and Poor Law appointments during the session and action has been taken with varying, but on the whole, satisfactory results.

195. A large number of the Public Health cases have been in reference to proposed reductions of salary and it has often been found impossible to resist such reductions in face of the strong public demand for economy in all public services. Where the proposed reductions brought the salary below the minimums recognised by the Association, members have been advised not to accept the reductions, and letters have been written to the local authorities concerned pointing out the effects of the reductions proposed, in some cases with immediate success. Some officers have however found themselves compelled in present circumstances to accept reductions which are felt to be unjust.

196. Other Public Health cases have iucluded successful resistance to the imposition of extra duties without additional pay; and successful opposition to attempts made to impose on medical officers the payment of official expenses out of their salaries.

197. A case to which the Council attaches great importance as a test case is the proposed appointment of a M.O.H. for Manchester at a salary of £1,500. The Council in close co-operation with the Society of M.O.H. came to the conclusion that it was detrimental to the interests of all ranks of the profession, that a post in the front rank of Public Health appointments and one which could only properly be filled by a man at the very top of the specialty of Public Health, should be thought to be worth no more than £1,500 a year. With the ready help of the Manchester Division, negotiations were opened up with the Manchester Corporation, and that body decided not to open the small number of applications it had received but to meet a deputation from the Association and the Society with a view to trying to arrive at some compromise. The result of the negotiations is not yet known.

198. The Poor Law cases include applications for increases of salary; undue interference with officer by Board of Guardians; the granting of bonus to officials; and action of a Board of Guardians in appointing a non-service officer in preference to a local ex-service practitioner qualified to take the appointment.

Hospitals.

HOSPITAL POLICY OF THE ASSOCIATION.

199. The report of the Council on the Policy of the Association with regard to the Hospital Policy of the Association has already been printed in the Supplement of 25th February, 1922.

200. In publishing the report early, it was originally intended that Notices of Motion and Amendments by Divisions thereon should have been considered in the first instance by the Hospitals Committee and then reported through the Council to the Representative Body. It was subsequently decided, however, that it would be more convenient for such Motions and Amendments to go straight to the Annual Representative Meeting, 1922, for consideration, and this procedure is being adopted.

The Council recommends:

Recommendation.—That in view of the advisability of comparing carefully the views of the British Hospitals Association, especially the views of its lay members, with those of the Association, representatives of that Association should be invited to attend the A.R.M. 1922, during the discussion of the Report on the Hospital Policy of the Association.

Recommendation.—That the Report on the Hospital Policy of the Association as published in the Supplement of 25th February, 1922, be adopted.

Conference of Representatives of Medical Staffs of Voluntary Hospitals in England and Wales.

201. The Report on the Hospital Policy was considered by a Conference of Representatives of the Medical Staffs of Voluntary Hospitals in England and Wales which was held on 22nd March, 1922. Invitations to attend this Conference were issued to all Hospitals in England and Wales, hospitals with over 100 beds (London 42; Provinces 105) being asked to send two representatives each, and hospitals with 100 or less beds (London 114; Provinces 538) being asked to send one representative each.

202. At the Conference 40 London and 66 Provincial hospitals were represented and a scrutiny of the record of attendances shows that the proportion of the larger hospitals which were represented was greater than that of the smaller hospitals. In the main the policy of the Association was adopted by the Conference. Certain important matters in regard to the relationship of general practitioners to hospitals and nursing homes, although approved as the policy of the Association, were objected to by the Conference. These matters are under consideration.

Subsidising by Government of Hospitals in Financial Difficulties.

203. Minute 219 of the A.R.M. 1921, referred the following Motion and Amendment to the Council:—

193. Motion by the Chairman of the Hospitals Committee: That in times of financial difficulty it is desirable that the Voluntary Hospitals should be subsidised by the central Government, and that such subsidy in the case of any individual hospital should take the form of a contribution proportional to the income received by the hospital from voluntary and other contributions. The subsidies here proposed should be made through some central hospital fund.

194. Amendment by Brighton: That at the present time of financial difficulty it is desirable that the central Government should subsidise Voluntary Hospitals. The subsidies here proposed should be made through some central hospital fund, and should not carry the right of any control in the management beyond that allowed to an ordinary private subscriber.

204. In connection with this it is reported that the Government has granted a sum of £500,000 for the assistance of Voluntary Hospitals, of which sum about £120,000 has already been distributed. The distribution of this sum has been entrusted to the Voluntary Hospitals Commission, on which Commission the Association is represented by Dr. R. A. Bolam, Chairman of Council. So far the Council has not thought it necessary to take any action arising out of Minute 219 of A.R.M. 1921.

Utilisation of Municipal Hospitals for Civil Needs.

205. The A.R.M. 1921 (Minutes 240-263, 265-7) adopted a report on the utilisation of Poor Law Hospitals for Civil Needs. During the Session a report on the utilisation of Municipal Hospitals for Civil Needs has been adopted by the Council on the lines of the report on Poor Law Hospitals.

206. The Council presents this report to the R.B. and recommends:

Recommendation.—That the principles for the utilisation of Municipal Hospitals for Civil Needs, based upon the resolutions of the A.R.M. 1921 as to the utilisation of Poor Law Infirmaries for Civil Needs, be adopted (*see* Appendix I, p. 147).

Additional Benefits under the N.H.I. Acts.

207. The Section of Ophthalmology at Newcastle-on-Tyne in July 1921, on the application of the Domestic Workers' Friendly Society (Women), considered what fees would be acceptable to ophthalmologists throughout the country for the examination of members of that Society with a view to the granting of ophthalmic benefit as an additional benefit under the N.H.I. Acts.

208. The Section of Ophthalmology stated that it considered that the Society could count with confidence on obtaining an adequate number of ophthalmic surgeons under the following arrangements:—

That the fee for consultation with ophthalmic surgeons at the consulting rooms of the surgeon should be half the current consultation fee (*e.g.*, in the Provinces, £1 1s.; in London, £1 11s. 6d.), to cover, beside refractions, any operations on the eye and eyelids except such as require a general anæsthetic for their performance, and operations on muscles of the eye or involving the interior of the eyeball.

209. A meeting of Ophthalmological Surgeons of the North of England held at Bradford on 7th December, 1921, approved the principle that arrangements with Approved Societies might be

entered into by Ophthalmic Surgeons for fees not less than the following:—

£1 1s. to cover benefit of a completed refraction, or an examination and letter of advice to a general practitioner.

£2 2s. to cover minor operations, or a continued treatment for a period not exceeding three months.

The sum for major operations to be left to special arrangement between the ophthalmologist and the Society.

210. The Council is of opinion that no agreement should be entered into with an Approved Society for the provision of specialist benefits, in the meantime, except on the lines of the arrangement with the Domestic Workers' Friendly Society (Women), and the Council objects to hospitals being utilised for the purpose of providing extra benefits under the N.H.I. Acts, when such benefits can be provided equally well by private practitioners.

Naval and Military.

Representation of Royal Navy Medical Service on the Council.

211. Owing to his having accepted an appointment at Cardiff, Surgeon-Captain Meaden, the representative of the Royal Navy Medical Service on the Council, intimated that he found it difficult to attend meetings in London, and was accordingly unable to continue his membership of the Council and Naval and Military Committee. The Council has placed on record its cordial appreciation of the assistance it has received from Surgeon-Captain Meaden, and has accepted his resignation with regret. Pending the appointment of his successor, the Council has invited Rear-Admiral Sir Percy Bassett-Smith to attend the meetings of Council and Naval and Military Committee.

Recommendation: That Surgeon-Rear-Admiral Sir Percy Bassett-Smith, K.C.B., C.M.G., R.N. (ret.) be elected to represent the Royal Navy Medical Service on the Council for the period 1922-25.

Subscription of Service Members.

212. The Annual Representative Meeting at Newcastle instructed the Council to consider the advisability of establishing a £2 2s. flat rate of subscription for all officers of the Regular Forces on the active list of the Royal Navy, the Royal Air Force, the Army, and Indian Medical Services. The Council has given careful consideration to this subject, and is satisfied that there is a good case for a flat rate. A recommendation on the subject appears in paras. 89-90 of this Report (see page 132.)

The Earlier Compulsory Retirement of Senior Surgeon Commanders R.N.

213. The position created by the Admiralty by the new regulations for the earlier compulsory retirement of certain Surgeon Commanders of the Royal Navy Medical Service has continued to receive the serious consideration of the Council. As a result of the good offices of the Parliamentary Naval and Military Committee, there was an unofficial conference in August last with Mr. Amery, the Financial Secretary of the Admiralty, and a promise was given that the matter would be re-considered to see if anything could be done. Since that date, the Council has repeatedly pressed the Admiralty to give its decision in the matter, and has recently pointed out that as it has been under consideration for over two years it should be settled without further delay. The Council has also informed the Admiralty that in its opinion the action taken amounts to a grave breach of contract which in the case of a private firm would undoubtedly have led to the institution of legal proceedings. The Council is fully aware of the feeling of resentment aroused in the Service by the attitude of the Admiralty in declining, so far, to make any concession to the officers concerned, and it realises that if no satisfactory settlement is soon arrived at it will have no alternative but to place the full facts before the profession and to warn all young medical men that, if they enter the Royal Navy Medical Service, they must do so in future with the knowledge that there is more than a risk that any agreement made with them by the Admiralty may, at some future time, be broken.

Pay of Majors between 15 Years' Service and Date of Promotion to Lieut.-Colonel.

214. The Council in October last drew the attention of the War Office to the question of the pay of Majors between 15 years' service and the date of promotion to Lieut.-Colonel. It was pointed out that the rate of promotion was slow and would be still more so in view of the recent Army Order whereby a number of Colonels R.A.M.C. on the active list were to be retained after they had had four years' service in the rank, and the point was also emphasised that Majors in India were given an increase at 18 years. The War Office replied that it could hold out no hope of the existing rates being varied, but the Council continued to press the War Office to re-consider the matter. The War Office finally replied on December 30th that is was not possible to pursue the matter further, and, although deeply disappointed with the result, the Council felt that it was useless to press the question in the present state of the finances of the country.

Steamer Passages for I.M.S. Officers.

215. When the deputation from the Association met the Secretary of State for India in 1919, one of the demands put forward was that there should be free steamer passages backwards and forwards to India for all officers of the I.M.S. going outward, retiring or travelling on leave. The Secretary of State promised in reply that whatever concessions were given to the Services in India as to sea passages would be shared by the I.M.S. The Council has sent frequent reminders urging for a decision in this matter, and in June, 1921, it put forward the suggestion that a return free passage once in five years should be granted as a matter of right. The Council received in December last the intimation from the India Office that the decision in this matter was that I.M.S. officers in military employ when proceeding to the United Kingdom or to the Colonies on leave on medical certificate shall be entitled to free passages both ways; no concession was made to I.M.S. officers in civil employ. The Council recognises that the cost of passages bears very heavily on officers, especially those with families, and that the concessions indicated will do nothing to alleviate the hardship—they are in fact negligible. It has communicated to the India Office its profound disappointment at the reply, and has requested the Secretary of State to continue to do all in his power to meet its desires in the matter.

Territorial Army General Hospitals.

216. The War Office has recently formulated certain proposals for the re-organisation of the Territorial Army General Hospitals, and has circulated the Universities and Teaching Schools asking their comments in the matter. The proposals embody several of the recommendations for the re-organisation of the Territorial Army Medical Service which were brought to the notice of the D.G., A.M.S., by the Council in 1920. The Council feels that the questions raised are intimately bound up with those relating to the expansion of the A.M.S. in the event of a national emergency, which subject is under consideration by a special *ad hoc* Committee, a meeting of which will be held to consider the whole matter as soon as certain information is received which will enable it to do the matter justice.

Abolition of Appointment of D.A.D.M.S. of Territorial Divisions.

217. The Army Council, under the pressure of the economy campaign, has recently abolished the appointment of D.A.D.M.S. of Territorial Divisions. Under the terms of the Territorial Force Regulations this appointment is tenable for four years, and the officers concerned, most of whom were appointed in 1920, were given a contract for this period, and on this assumption several of them sold their practices and entered into commitments by taking out leases of houses in the area of their appointment. They have now received two months' notice of termination of appointment without any suggestion of compensation. The Council feels that the officers concerned have an undoubted and justifiable grievance and it is taking every possible step to secure that something shall be done to remedy the injustice. Apart from the injustice done to members of the profession, the Council feels that an incident of this kind, which is by no means isolated, goes far to strengthen an idea which is commonly held, namely, that the Government considers itself at liberty to break contracts with impunity.

Parliamentary Elections Committee.

Position of Medical Representation in Parliament Fund.

218. The financial position of this Fund, which was initiated under the instructions of the Representative Body in 1918, is shown in the appended Financial Statement (see page 155). It is regrettable that there are not more than approximately 224 annual subscribers, while only some 421 practitioners have made donations. It is, however, an encouraging fact that £600 has been subscribed by Panel Committees (nearly one-third of the total amount subscribed). This is in recognition of the great work done for Insurance practitioners by the first "approved" candidate of the Association, Dr. H. B. Brackenbury.

Approval of Candidates.

219. The Council is glad to report that Dr. Brackenbury is making good progress with his candidature in East Walthamstow. All members of the Association, whatever their politics, remembering his work for his own profession, will wish him well in this new enterprise.

220. The Council has approved the candidature of Sir Sydney Russell Wells, the Conservative candidate for representation in Parliament of the University of London. Sir Sydney has been a practising physician for thirty years, holding hospital and other appointments, is well known for his active work for the

University of London, of which he is Vice-Chancellor, representing it also on the General Medical Council. He is a member of the Association and has expressed his willingness, if elected to Parliament, to keep the Association advised of any procedure in Parliament likely to affect the profession, and to confer with the Committee or its representatives as to their views thereon. The Council heartily recommends his candidature to members of the Association who are voters in the constituency.

221. The approval of Sir Sydney Russell Wells's candidature raised an important question of principle, for Dr. W. H. R. Rivers, also a member of the Association, has also been adopted, as Labour candidate, for the same seat. No application has been made by Dr. Rivers or his supporters for the approval of the Association. The Council had to decide whether, when two medical candidates are standing for the same seat, the Association should be neutral, or should only be neutral when both are members of the Association, or if approval should be given to one or other or neither of the candidates according to the circumstances of the case. The decision to approve Sir Sydney Russell Wells's candidature establishes the precedent that each case will be considered on its merits.

222. The Council has considered one other application for approval by a medical candidate, but did not see its way to recommend the Council to promise support.

Scotland.

Fees to Practitioners Called in on the Request of Midwives

223. The Council regrets to report that the Scottish Board of Health has refused, as urged by the Scottish Committee, to promote legislation to allow of a fee being paid to cover necessary attendance during ten days after confinement and, pending that, to allow an inclusive fee of £2 2s. to be paid, on the honourable understanding that practitioners accepting the fee would give all necessary attendance during the ten days. The Board adheres to its offer to allow a fee of £1 17s. 6d. for attendance at confinement, including one subsequent visit.

Fees for Attendance at Maternity and Child Welfare Clinics.

224. In view of the difficulty of establishing a claim for payment of £2 2s. where the duration of a clinic in connection with a Maternity, etc. Centre did not exceed one hour, and the fact that the Board of Health had intimated to some Local Authorities that it was not prepared to approve fees for medical practitioners in excess of 13s. 4d. per hour or £1 11s. 6d. for a session of two-and a half hours, representations were made by the Scottish Committee to the Board of Health that the fee for a session not exceeding one hour should be £1 1s. The Board intimated that it was not prepared to recognise a minimum fee, but that when it was reported that the sum proposed to be allowed was inadequate to secure a sufficient service it was willing to consider the special circumstances. Accordingly in several areas, application was made for the minimum fee of £1 1s., and this has been conceded in a few instances. In one area where it was refused, the doctors unanimously resolved to accept nothing less, and as a result the centre has been closed.

Conditions of Service of Poor-Law Medical Officers.

225. A request of the Scottish Poor-Law Medical Officers' Association for help in obtaining security of tenure and pensions for Scottish Poor-Law Medical Officers, is receiving the attention of the Committee.

Ophthalmia Neonatorum.

226. A circular of the Scottish Board of Health on the treatment of Ophthalmia Neonatorum, issued to Local Authorities for transmission to practitioners, recommended that a one per cent. solution of silver nitrate should be instilled into the eyes of every child immediately after birth, and intimated also that the Board would in future require Medical Officers of Health to make a report to them of every case of Ophthalmia Neonatorum in which, in the opinion of the M.O.H., there occurs appreciable loss of vision.

227. The Scottish Committee expressed its disapproval of the terms of this circular, in respect that it laid down a course of treatment which might not commend itself to all; but more particularly in that it seemed to place the medical practitioner under the jurisdiction of the Medical Officer of Health, a new departure which is undesirable. The Committee has drawn the attention of the Board of Health to its opinion.

Highlands and Islands' Medical Service.

228. The Scottish Committee has concluded negotiations with the Board of Health, whereby some modifications in the conditions of distribution of the grant-in-aid for the next two years have been agreed to. The object of the grant is to improve the medical services in the Highlands, and the purpose of that portion of it which is paid to the doctors is to remunerate them for cost of, and time spent in, travelling, in return for which they undertake not to charge patients at a higher rate than the scale of modified fees agreed upon. In addition the grant was intended to provide houses for doctors and for nurses; provide and extend hospital accommodation, nursing services, etc.

229. In sparsely populated areas where the total income that can possibly be earned is insufficient, the Board guarantee a minimum salary, amounting now to at least £500, after paying all expenses, including house rent.

230. In the other areas grants are made to the doctors as follows:—(a) a fixed grant based on the estimated loss incurred by attending patients at modified fees; (b) a supplementary grant, based on the total distance travelled in visiting those patients, and guaranteed to be at the rate of not less than 9d. per mile. (In actual practice the grant in 1920 considerably exceeded in all cases 9d. per mile). The total grant available for all purposes is £42,000, and this includes a sum in respect of mileage under the Insurance Acts.

231. Up to 1920 the sum granted to doctors left a margin for the other purposes of the scheme, but in that year it considerably exceeded the £42,000, and the Reserve which had been accumulated for the other purposes was trenched upon. The Board intimated that as no addition to the grant could be obtained from the Treasury, it would be necessary to so adapt the scheme of distribution as to limit the liability of the Board to a sum not exceeding the amount disbursed in 1920.

232. After discussion the following conditions were agreed to as a basis, viz:—

1. The amount of fixed grant paid to doctors is to be raised, and the amount paid in supplementary grants is to be proportionately reduced, so that the whole amount shall fall within the aforementioned limit.
2. The supplementary grants, instead of being paid on the basis of an elaborate return of the distance travelled in each visit made, are to be paid on the basis of the average proportion of miles travelled in respect of Board's patients to total mileage travelled in four years.
3. As a corollary of this the records kept by the doctors are to be much simplified. The advantages to the profession are these. Their grants for the next two years are stabilised and the subsidy paid in each case is related to the normal conditions of the practice, and allowance is at the same time made for variations in the conditions.

233. The Committee is satisfied that the proposals are fair to the profession, considering all the factors, especially the fact that costs of travelling are diminishing, and they have strongly recommended their acceptance by practitioners.

Colliery and Public Works Surgeons Committee.

234. The Scottish Committee has agreed to support the above Committee in resisting the demands of the miners for a reduction in the capitation rate for attendance on dependants.

Public Health Services in Scotland.

235. An enquiry has been instituted into the whole range of Health Services provided by Public Authorities in Scotland. A memorandum on the powers and duties of the different authorities has been prepared and a report will be issued, in course, to the Divisions.

Wales.

Second Interim Report of Welsh Consultative Council.

236. The Council has received from the Welsh Committee its Report on the Second Interim Report of the Welsh Consultative Council on Medical and Allied Services in Wales. The report of the Committee is a comparison of the Welsh Report with that of the corresponding English Report and with relevant decisions of the Association. As owing to financial stringency there seems no likelihood of action being taken on the matter, the Council has noted the report and placed it on the Minutes of Council for future reference.

Welsh National School of Medicine.

237. The Welsh National School of Medicine, opened in October, 1921, is appealing for a sum of £100,000 for the purposes of endowment and equipment, and has asked for the assistance of the profession, through the Welsh Committee of the Association, in raising this sum. The Appeal has been referred to the Welsh Divisions and Branches asking them to give the matter their favourable consideration.

Ireland.

Meetings of Irish Committee.

238. Owing to the disturbed condition of the country, meetings of the Irish Committee could not be held for the past two or three years with the same frequency as formerly. The majority of the members are resident in the provinces and at long distances

from Dublin. The train services were frequently uncertain, and if the members of the Committee were fortunate enough to reach Dublin a return service could not be guaranteed. The Irish Medical Secretary, however, attended several local meetings of the profession and accomplished a very considerable amount of useful work which made up for the apparent want of central activity.

PRESENT POSITION OF IRISH MEDICAL SERVICES.

239. For the past two or three years Irish medical practitioners have had a very trying ordeal in the discharge of their duties. When attending their patients during curfew hours they frequently ran very great risk, especially if they had not heard the challenges given by either of the combatant parties. Moreover, they were responsible for the treatment of the wounded of both armies and often had to reach such patients under very dangerous conditions. In addition the payment of the salaries of Poor Law and other medical officials was very uncertain. This was due mainly (1) to the enactment of special legislation, which provided for the withdrawal of the health grants, from which medical officials had heretofore been paid portion of their salaries; and (2) the great difficulty in collecting the local rates out of which were paid the greater portion of the salaries of medical officials. In the circumstances the local authorities had, in most cases, no alternative in Southern Ireland but to defer payment of a portion or the whole of their officials' salaries. It is now, however, satisfactory to be able to state that nearly all arrears of salaries have been paid and the health grants, which were withdrawn and diverted to other purposes, are again being made available for the payment of the salaries of medical officials. With regard to the withdrawal of the health grants the Committee made representations for their restoration to the proper quarters.

AMALGAMATION OF WORKHOUSES.

240. The Northern Parliament, which has been functioning for some time, has not so far shown any disposition to undertake any drastic medical reforms. The medical profession in the northern area were very fortunate in securing as Parliamentary representatives for Queen's University three well-known members of the profession, namely, Dr. Campbell, Professor R. J. Johnstone, and Dr. H. S. Morrison, all of whom have taken an active part in medical politics for many years. Professor Johnstone has been for over six consecutive years Chairman of the Irish Medical Committee, and is an ex-Chairman and present member of the Irish Committee of the Association.

241. Notwithstanding the chaotic position of local government administration in Southern Ireland, the long threatened amalgamation and abolition of workhouses have been carried out on a most extensive scale. In nearly all of the twenty-six Southern counties the reformed scheme is either in actual operation or in an advanced stage of preparation. In counties where there were formerly as many as eight workhouses with hospitals attached, there are now only retained three of these institutions for the reformed services. One, generally the most centrally situated, is converted into a county hospital; the others are converted into convalescent and infirm homes respectively. In the larger county hospitals there is generally appointed a whole-time resident doctor and a part-time visiting physician. The salaries paid to the medical officials, though altogether inadequate, are, for the most part, an improvement on the remuneration paid under the old régime.

242. Boards of Guardians and other bodies hitherto concerned in the administration of Poor Law medical affairs are abolished and their place taken by a County Board of Health which administers for the whole county. The County Board of Health is appointed by the County Council and consists of from fifteen to twenty members. Most of the County Councils invited the local profession to select two or three of their members who would act on the Board of Health for the county. The profession appreciates this concession and considers the substitution of a County Board of Health to administer Health questions as a very distinct improvement on the old system. This reform has been for a long time advocated by the profession in Ireland, as well as medical representation on the county boards.

FEDERATION OF IRISH MEDICAL BODIES.

243. The amalgamation and federation of Irish medical bodies has not received, for obvious reasons, much consideration in recent years. There is, however, a general feeling amongst the profession that when things become more settled and a stable form of government established, the unsatisfactory position of medical organisation in Ireland must be again taken up.

Oversea Branches.

244. Oversea members intending to be present at the Annual Meeting at Glasgow in July, 1922, are asked to notify Dr. G. A. Allan, 22, Sandyford Place, W., Glasgow, the Honorary General Secretary of the Meeting, of the fact as early as possible. The Council wishes specially to remind Members from overseas visiting the United Kingdom that the services of the Head Office Staff are at their disposal for any advice or help in the power of the Council to give.

CONFERENCE OF OVERSEA REPRESENTATIVES AT ANNUAL REPRESENTATIVE MEETINGS.

245. In order to discuss matters specially affecting Oversea Branches, it has been arranged that Oversea Representatives, Members of Council representing Oversea Branches, and visitors from overseas, shall meet together at the Annual Representative Meeting prior to the discussion of matters specially affecting the Association overseas.

NEW OVERSEA BRANCHES.

246. Since the last Annual Report of the Council three new Oversea Branches have been formed, as follow:—

Sierra Leone ..	on 7th May, 1921.
Mesopotamia ...	on 20th August, 1921.
Fiji	on 27th August, 1921.

THE COLONIAL MEDICAL SERVICES.

247. In August, 1921, an arrangement was arrived at with the Colonial Office, with the approval of the Secretary of State for the Colonies, by which the Association should be in regular unofficial communication with the C.O. in regard to matters affecting the Medical Staffs of the Colonies and Protectorates.

248. The Council is pleased to be able to report the establishment of this relationship, which has been utilised whenever it has been deemed necessary, and has enabled certain matters to be personally brought to the notice of the C.O. by representations of the Dominions Committee and of the Head Office. The arrangement has been found in practice to work very satisfactorily. The C.O. has recognised that the Association is a representative body, and can speak for members of the Colonial Medical Services in a way which eliminates, to a great extent, any question of personal bias. During the session representations have been made to the Colonial Office on many matters connected with the Colonial Medical Services, principal among which have been representations for higher salaries, greater facilities for leave (both study and ordinary), and increased pensions of M.O.s retired from the Services. Owing to the fact that during the whole of this session there has been a very strong call for economy throughout the country, which call has become more insistent since the publication of the Geddes Reports, the Council has found itself unable to do much that it would have liked to do regarding the betterment of the terms and conditions for Medical Officers of these Services.

249. The worst paid of these Services are the West Indian. The Hon. E. F. L. Wood, M.P. (Parliamentary Under-Secretary of State for the Colonies), has recently paid a visit to the West Indian Colonies and has discussed with M.O.s their terms and conditions of service. Representatives of the Dominions Committee have met Mr. Wood since his return, and there is good reason to believe that he will recommend to the Secretary of State certain improvements in the terms and conditions of service of M.O.s in the West Indian Medical Services.

250. The question of study leave as affecting M.O.s in the East African Medical Services has been the subject of particular representations to the C.O. Certain concessions have been obtained and the East African Branches have been asked for their observations thereon.

251. Generally speaking it has been found advisable not to take up cases presented by individual officers, but to refer these to the local Branch of the Association for verification before taking any action.

BRITISH OFFICERS IN THE EGYPTIAN MEDICAL SERVICE.

252. The Association has been in communication with the Association of British Officials in the service of the Egyptian Government in connection with the position of these officers in view of the change in the form of Government of that country.

253. The British Officials' Association drew up a scheme of compensation for those officers whose services were dispensed with on account of the change, and it is reported that practically all the points on which emphasis was laid by the British Officials have been included in the proposed Egyptian Convention, and although it may be some time before the Convention is signed, it is believed that the Foreign Office will accept the terms of the Convention.

PROPOSED INDIAN RAILWAY M.O.s COMMITTEE.

254. A proposal by Indian Railway Medical Officers that there should be an Indian Railway M.O.s' Branch of the Association has been considered. It has been pointed out that such a Branch would not be possible under the existing Memorandum and Articles of Association, as Branches have to be on a territorial basis, and an Indian M.O.s' Branch would of necessity overlap most of the already existing Branches.

255. A proposal was therefore made that an Indian Railway M.O.s Committee should be formed, on which there should be representatives of the Indian Branches, and the opinion of the M.O.s concerned and the Branches affected has been asked for.

FEDERATED MALAY STATES MEDICAL SERVICE.

256. Particulars of this Service were received from the Malay States Agency in England, with a request that the Association would assist in obtaining candidates for the Federated Malay States Medical Service. As there had previously been some controversy as to this Service the particulars received were submitted to the Malaya Branch, which has replied that it is of opinion that the salaries offered are adequate and that the Association should help in obtaining candidates for the Service.

DESPATCH BY COLONIAL OFFICE TO COLONIES AND PROTECTORATES.

257. The Colonial Office on 30th August, 1921, sent to the Colonies and Protectorates a despatch dealing with the recommendations of the Departmental Committee appointed to enquire into the Colonial Medical Services. The chief points in the despatch are (i) that the recommended unification of the Colonial Medical Services into one Service, however desirable, is impracticable, and is not likely to become less so in the near future, but special consideration is being given to the possibility of unifying the services of neighbouring colonies; (ii) that there are very serious objections to the suggested appointment of a Director-General of the Colonial Medical Services, even though it were proved practicable, and for the present it must stand over; (iii) that it is not possible to consider the introduction of a system of competitive examination for admission to the Services until the number of candidates is considerably greater than at present; (iv) that regular visits to colonies by travelling experts are unnecessary, although desirable, and would be not unlikely to interfere with the functions of the local heads of Departments; (v) that the initial emoluments in the greater number of colonies are now £600 or more, although in certain colonies financial stringency makes it impossible to offer that rate; (vi) that in the larger colonies assistance for leave and passage is at present given to M.Os. and that it is considered impracticable to go beyond the present arrangements; (vii) that the Colonial administrations cannot grant privileges to M.Os. in matters of leave, passages, salaries, and pensions without extending them to other officers, and financial considerations exercise a restraining influence on the desire of the administrations to meet their officers in this matter; (viii) that the Secretary of State is glad that the value of Widows' and Orphans' schemes has been recognised by the Departmental Committee and states that such schemes are already in existence in some colonies, and extension of the arrangement is under consideration whenever local circumstances admit; (ix) that the possibility of extending facilities for study leave is under consideration; (x) that it was believed that it would be found possible to create a certain number of well-paid specialist appointments in the larger and wealthier colonies, and the smaller colonies would be dealt with by grouping and arranging for visits by specialists; (xi) that the suggestion that the transfer of an officer from one colony to another should not affect adversely the pension of such officer cannot be carried out in its entirety, as there is no uniformity of pension laws; (xii.) that the proper housing of Colonial officers is a very important matter, but at present there are difficulties in making full provision for housing owing to cessation of building during the war, and increased cost of labour and materials; (xiii.) that the proposal that medical officers on arrival for a first tour of duty should serve at least a month at headquarters and be attached for duty at the Colonial hospital is followed wherever practicable; (xiv) that reference libraries are already provided in Tropical Africa and elsewhere where possible; (xv) that the suggestion for the establishment of an auxiliary medical service in the West African Colonies requires careful consideration and the views of the Governors of the Colonies were requested; and (xvi) that the importance of research work and the foundation of research institutes wherever practicable is realised, and it is pointed out that Government research institutes already exist, or are being established, in the Federated Malay States, Ceylon, Gold Coast and Nigeria; it is further pointed out that a research institute is being established by the Liverpool School of Tropical Medicine in Sierra Leone and a bacteriological laboratory is about to be provided in Cyprus; that much valuable research is being carried out in some of the other Colonies and it is hoped that as their financial position improves it will be found possible in their case to provide the funds required for the establishment of fully equipped institutes.

OFFICIAL DOCUMENTS SUPPLIED TO ASSOCIATION.

258. In addition to the C.O. supplying the Association with copies of all documents which specially affect M.Os. of the Colonial Services, the Colonial Administrations, where there are a fairly large number of British M.Os, are supplying the Association, free of cost, with copies of their official Gazettes.

REPORTS OF OVERSEA BRANCHES.

259. Annual Reports for the year 1921 have been received from the following Oversea Branches:—Assam, Bermuda, Bombay, Border (South Africa), Ceylon, Orange Free State and Basutoland, Queensland, Witwatersrand and Zanzibar. The difficulty of holding meetings in some of the Oversea Branches is realised, and the Council is therefore very glad to note how active many of these are under conditions which are much more difficult than those at home.

R. A. BOLAM,
Chairman of Council.

APPENDIX I.

REPORT ON THE UTILISATION OF MUNICIPAL HOSPITALS FOR CIVIL NEEDS.

In any contemplated application by a local Sanitary Authority of the Public Health Act 1875 (Section 131) enabling such authority to establish or maintain a public hospital:—

1. Any such additional hospital accommodation should be related to existing hospital accommodation whether in voluntary hospitals or poor law infirmaries, so as to ensure that there shall be no duplication of accommodation or competition with or between the institutions provided.

2. Representatives of the medical practitioners chosen by the practitioners of the area for which additional hospital accommodation is proposed should be invited to consult with and advise the representatives of the local Sanitary Authority in the formulation of its scheme. For the selection of these representatives use should be made of the local organisation of the British Medical Association.

Admission of Private Patients Employing their own Doctor.

3. In Municipal Hospitals established by the local Sanitary Authority certain beds should be set aside for private patients paying a fee to be settled by the authority; where a general practitioner wishes to continue to treat therein patients of his own, he should be allowed to do so under the general administrative supervision of the Medical Superintendent, and any of these patients should be allowed to call in a consultant from outside, the patient bearing the cost thereof.

Inclusive Charge for Maintenance: Doctor paid by Private Arrangements.

4. For private patients admitted to Municipal Hospitals there should be an inclusive charge to cover the cost of medical supervision, maintenance, nursing, food and medicines, within the ordinary tariff and pharmacopœia of the hospital, the patient paying his medical attendant independently.

Extra Comforts to be available as "Extras."

5. Any extra nursing and any food or medicine ordered over and above those allowed under the ordinary tariff and pharmacopœia of the hospitals, should be charged as extras to the patient.

Administrative Supervision by Medical Superintendent.

6. All medical attendance by private practitioners on "paying" patients in hospitals should be under the administrative supervision of the Medical Superintendent.

Utilisation of Infirmaries for Medical Education.

7. Municipal Hospitals so far as practicable should be utilised for medical education.

Tendency towards "Primary Health Centre" Type.

8. In any hospital maintained by a local authority for general cases, provision should be made for wards on the lines of the suggested primary health centre as outlined in the Consultative Council's report for the reception of private patients admitted on the recommendation of their own practitioner, who should be allowed to attend these patients in such wards.

Representation of Profession on Management Committee.

9. Municipal hospitals should be controlled by an *ad hoc* Committee, on which there should be a small but definite representation of the medical profession, nominated by members of the local profession.

Method of Admission to Hospital.

10. The normal method of admission to a Municipal Hospital should be on the recommendation of a general practitioner.

Staffs of Municipal Hospitals.

11. Except for the treatment of private patients, the normal medical staff of any Municipal Hospital should be a combination of the whole-time resident staff or a part-time selected staff with part-time specialists, the last being called in by the Medical Superintendent as and when necessary.

APPENDIX II.

British Medical Association.

FINANCIAL STATEMENT FOR THE TWELVE MONTHS ENDING DECEMBER 31st, 1921.

Balance Sheet 31st December, 1921.

Dr. **Cr.**

1920 £	LIABILITIES.	£ s. d.	1921 £ s. d.
1,410	To Creditors for:— „ Subscriptions paid in advance		1,011 14 1
1,118	„ Advertisements ditto		875 16 2
	„ Capitation Grants due and not deducted by Overseas Branches when remitting subscriptions		187 17 0
364	„ Contributions		546 5 6
	„ Charing Cross Hospital 1921 Donation		10 10 0
31	„ Engraving		28 7 3
	„ Income Tax on Dividends and Interest		78 14 9
13	„ Irish Committee		13 16 5
	„ Journal Index		66 7 6
68	„ Legal Charges		247 10 11
57	„ Library Books, etc.		77 4 4
1,451	„ Miscellaneous Printing and Paper		1,714 13 11
1,034	„ Paper for Journal		711 12 0
939	„ Printing Journal		1,088 8 0
41	„ Plant and Type		105 12 9
1,571	„ Repairs		208 4 4
678	„ Rates, Taxes, Insurance, Gas, and Electricity ...		222 11 8
	„ Reporting for Journal		62 7 6
12	„ Repairs and Hire of Typewriters		6 10 0
322	„ Stationery		225 10 11
101	„ Sundries		11 8 4
			7,544 3 4
	„ Surplus Account –		
	Balance on January 1st, 1920	139,415 10 10	
	Less excess of Expenditure over Income, 1920	12,095 11 7	
		127,319 19 3	
	Add Excess of Income over Expenditure, 1921	13,290 13 6	
	Balance 31st December, 1921		140,610 12 9
			£148,154 16 1

1920 £	ASSETS.		1921 £ s. d.
	By INVESTMENTS—		
124,516	Freehold—429, Strand, Agar Street, and Harvey's Buildings ...	124,516 6 9	
	Less amount written off for Depreciation	3,000 0 0	121,516 6 9
5,296	£5,200 Bank of England Stock @ 165½	5,296 0 0	
2,576	£6,400 Midland Railway 2½% Perpetual Guaranteed Preferential Stock @ 40¼	2,576 0 0	
			7,872 0 0
	By LIBRARY—		
1,463	Balance at 31st December, 1920	1,463 11 0	
	Add Purchase and Binding of Books during the year	219 14 9	
		1,683 5 9	
	Less amount written off for Depreciation	200 0 0	
			1,483 5 9
590	„ Furniture and Fittings		526 1 10
490	„ Plant and Type		503 11 10
4,747	„ Paper Stock		360 9 0
1,924	„ Subscriptions in arrear		3,049 6 6
5,843	„ Sundry Debtors (Advertisements)		6,564 15 5
863	„ „ (Publishing)		966 9 6
	„ „ (Sundries)		25 2 0
412	„ Accrued Rent and Insurance		417 2 6
264	„ Cash at Office		74 10 7
	„ Cash at Bank (Deposit)...		4,000 0 0
	„ „ (Current)		795 14 5

(The above Assets do not include the unexpended Balances of Capitation Grants held by the various Branches.)

£148,154 16 1

Income and Expenditure Account for the Year ending 31st December, 1921.

		1920. £ s. d.	1921. £ s. d.
General Association Expenses	*Abstract A* ...	5,574 11 6	3,564 4 2
Central Meetings Expenses	„ *B* ...	9,395 3 0	9,656 11 8
Central Staff Expenses	„ *C* ...	11,139 1 1	12,798 18 10
Central Premises Expenses	„ *D* ...	7,323 10 8	4,524 2 7
Central Printing, Stationery, and Postage Expenses	„ *E* ...	2,102 6 4	2,449 10 2
Library Account Expenses	„ *F* ...	758 1 2	775 12 4
Journal Account Expenses	„ *G* ...	51,958 17 1	54,940 5 3
Grant to Irish Committee and Irish Medical Secretary's Salary	„ *H* ...	1,183 10 3	1,022 18 11
Grant to Scottish Commitee & Scottish Medical Secretary's Salary	„ *I* ...	1,633 0 11	1,978 8 6
Capitation Grants to Branches	... ...	3,251 13 0	4,611 8 7
Subscriptions Written off for Deaths	... ...	168 13 0	200 16 6
Ditto Arrears Written off	... ...	2,132 5 9	2,522 3 5
Reserve for Discounts	... ...	250 0 0	500 0 0
		£97,171 13 9	£99,545 0 11
Written off for Depreciation of Investments ...	1,096 0 0	—	
„ „ „ Premises ...	—	3,000 0 0	
„ „ „ Library ...	200 0 0	200 0 0	
„ „ „ Furniture and Fittings	—	200 0 0	
„ „ „ Plant and Type ...	—	100 0 0	
	1,296 0 0		3,500 0 0
Balance of Income over Expenditure—Carried to Balance Sheet	Nil		13,290 13 6
	£98,467 13 9		£116,385 14 5

	1920. £ s. d.	1921. £ s. d.
Subscriptions	42,383 18 0	65,381 4 1
Journal Account, Total Receipts	39,792 2 11	47,440 8 4
Interest on Investments, Deposits, &c.	651 6 4	868 13 6
Rent received and accrued	2,900 6 8	2,650 5 0
Scientific Grants Unused and Returned	2 18 7	40 3 6
Received from Exhibition Account	584 6 6	—
Balance of Joint Hospitals Account	37 3 2	—
Excess of Expenditure over Income	12,095 11 7	—
	£98,467 13 9	£116,385 14 5

Abstract H.

Irish Committee.

Financial Statement for the Year ended 31st December, 1921.

1921.	£ s. d.
To Cash paid during the year	1,022 12 9
„ Balance due at 31st December, 1921	13 16 5
	£1,036 9 2

1921.	£ s. d.	£ s. d.
By Balance 31st December, 1920	—	13 10 3
„ Rent, Rates, Taxes, etc.	62 9 2	
„ Printing and Stationery	16 11 7	
„ Postages	8 8 7	
„ Sundries	35 9 7	
		122 18 11
„ Salaries—Irish Medical Secretary	£00 0 0	
„ „ Clerk	64 15 0	
		864 15 0
„ Travelling Expenses—Members of Irish Committee and Irish Medical Secretary	35 5 0	
		35 5 0
		£1,036 9 2

D. WALSHE, *Chairman.*
THOMAS HENNESSY, *Irish Medical Secretary.*

Abstract I.

Scottish Committee.

Financial Statement for Year ended 31st December, 1921.

1921.	£ s. d.
Jan. 1. To Balance brought forward	64 12 1½
Dec. 31. „ Cash from Head Office	1,978 8 6
„ Rent of Room for Meetings	3 0 0
	£2,046 0 7½

1921.	£ s. d.
Dec. 31. By Scottish Medical Secretary's Salary	1,012 10 0
„ Rent, Heating, and Cleaning	170 8 4½
„ Railway Fares of Members attending Meetings	185 14 10
„ Railway Fares of Scottish Medical Secretary	105 12 0
„ Auditor's Fee	3 3 0
„ Wages	166 1 0
„ Printing, Stationery, etc.	142 1 1
„ Postages	25 17 6
„ Insurance	8 4 10
„ Telephone	11 16 7
„ Furnishings	9 12 3
„ Sundry Small Outlays	3 14 9
„ Balance (Cash in hand)	201 4 5
	£2,046 0 7½

JAS. R. DREVER, *Scottish Medical Secretary.*

Abstract A.

General Association Expenses.

	1920. £ s. d.	1921. £ s. d.
Architects' Fees	177 7 0	—
Auditors Fee	252 0 0	210 0 0
Bank Charges	66 16 4	96 1 1
Interest on Overdraft	110 0 8	—
Donation to Charing Cross Hospital	10 10 0	10 10 0
The Faculty of Insurance, Subscription	2 2 0	2 2 0
Legal Charges	383 17 11	495 19 2
Do. Do Pratt Case	2,018 8 4	—
Repairs and Hire of Typewriters	2 3 6	40 14 3
Office—Petty Cash	322 0 3	291 1 10
Parliamentary Papers, etc.	40 9 2	29 15 1
Intelligence Department—Press Cuttings	52 4 7	84 14 6
Research Scholarships	475 0 0	462 10 0
Scientific Grants	360 0 0	350 0 0
Stamping Subscription Receipt Books	66 13 4	105 0 0
Dr. J. A. Macdonald's Visit to S. Africa	600 0 0	—
Rent of Telephones (including Editorial)	72 12 8	109 10 0
Association Gold Medal	81 9 0	40 12 0
Memorial to the late Guy Elliston	159 0 0	—
History of the Association (on account)	21 0 0	21 0 0
B.M.A. Staff Luncheon Room	110 0 0	26 0 0
Mrs. C. L. Taylor's Annuity	100 0 0	100 0 0
Bonuses to Retiring Members of Composing Staff	—	115 15 2
Grant to Australian Federal Committee	—	700 0 0
Income Tax on Dividends and Interest	49 9 0	222 14 9
Sundries	41 7 9	60 4 4
	£5 574 11 6	£3 564 4 2

Abstract B.

Central Meetings Expenses.

	1920. £ s. d.	£ s. d.	1921. £ s. d.	£ s. d.
REPRESENTATIVE MEETING—				
Railway Fares	631 2 4		1,010 17 4	
Printings	544 18 0		567 4 6	
Analysis	5 5 0		—	
Sundries	30 13 0		52 1 1	
		1,211 18 4		1,630 2 11
COUNCIL—				
Railway Fares	853 3 9		972 9 4	
Printings	1,065 19 0		1,269 13 6	
Sundries	52 15 0		19 15 0	
		1,917 17 9		2,261 17 10
ANNUAL MEETING—				
Sectional Expenses and Hand Book of Meeting	279 7 10		134 15 4	
		279 7 10		134 15 4
RAILWAY FARES, SECRETARIES' CONFERENCE	189 6 10		184 11 2	
		189 6 10		184 11 2
		3,598 10 9		4,211 7 3

Committees.

Arrangements Committee—				
Railway Fares	109 6 5		217 0 1	
Printings, etc.	123 11 6		69 16 6	
		232 17 11		286 16 7
Central Ethical Committee—				
Railway Fares	89 11 9		80 10 3	
Printings	106 16 0		92 6 0	
Advertising Appointments	12 19 6		—	
		209 7 3		172 16 3
Central Representative Medical Committee—				
Railway Fares	—		2 14 9	
Printings	—		8 12 6	
		—		11 7 3
Dominions Committee—				
Railway Fares	41 6 11		68 13 7	
Printings	24 9 6		47 7 2	
		65 16 5		116 0 9
Finance Committee—				
Railway Fares	80 12 10		69 5 6	
Printings	165 2 0		121 13 0	
		245 14 10		190 18 6
Carried forward		£4,352 7 2		£4,989 6 7

Committees—*continued.*

	1920. £ s. d.	£ s. d.	1921. £ s. d.	£ s. d.
Brought forward		4,352 7 2		4,989 6 7
Hospitals Committee, including Conference—				
Railway Fares	107 16 4		176 4 3	
Printings	78 15 6		101 12 8	
		186 11 10		277 16 11
Insurance Acts Committee—				
Railway Fares	591 10 8		537 19 4	
Printings	477 16 9		215 8 6	
Postages	29 0 5		22 19 9	
Sundries	18 19 0		2 2 0	
		1,117 6 10		778 9 7
Joint Committee on Minimum Salaries for Public Appointments—				
Railway Fares	29 4 8		—	
Printings	11 9 6		—	
		44 4 2		—
Journal Committee—				
Railway Fares	54 3 5		33 10 9	
Printings	47 13 6		31 5 6	
		101 16 11		64 16 3
Medico-Political Committee—				
Railway Fares	307 4 9		384 13 4	
Printings	152 6 0		146 10 8	
		459 10 9		531 4 0
Medico-Sociological Committee—				
Railway Fares	—		117 5 1	
Printings	—		109 13 6	
		—		226 18 7
Ministry of Health Committee—				
Railway Fares	377 0 3		103 1 11	
Printings	90 16 0		14 4 6	
		467 16 3		117 6 5
Naval and Military Committee—				
Railway Fares	65 12 7		31 2 3	
Printings	55 18 0		27 1 0	
		122 10 7		58 3 3
Office Committee—				
Fees	294 0 0		90 0 0	
Printings	39 6 6		17 13 6	
		333 6 6		107 13 6
Office Staff Superannuation Fund Committee—				
Railway Fares	—		0 3 2	
Printings	2 1 0		2 0 6	
		2 1 0		2 3 8
Organisation Committee—				
Railway Fares	294 0 7		419 2 7	
Printings, etc.	1,036 5 0		907 14 3	
Hand Book	232 2 6		399 13 0	
Postages and Addressing	—		42 13 1	
Framed Notices to Medical Schools	25 5 0		—	
Travelling (Officials)	75 3 8		98 3 9	
Sundries	—		15 15 0	
Maps and Charts	2 12 6		6 16 6	
		1,675 9 3		1,889 18 2
Parliamentary Elections Committee—				
Printings (Repaid in 1922)	3 18 6		—	
		3 18 6		—
Post-Graduates Committee—				
Railway Fares	—		6 9 6	
Printings	—		6 2 6	
		—		12 12 0
Public Health Committee—				
Railway Fares	102 16 1		120 16 7	
Printings	40 8 0		35 18 4	
		143 4 1		156 14 11
Science Committee—				
Railway Fares	41 15 0		52 3 0	
Printings	54 5 0		37 18 0	
Lectures	268 5 11		316 8 2	
		364 5 11		406 9 2
Welsh Committee—				
Railway Fares	17 4 9		30 19 8	
Printings	3 18 6		5 19 0	
		21 13 3		36 18 8
		£9,396 3 0		£9,656 11 8

Abstract C.]

Central Staff Expenses.

	1920. £ s. d.	£ s. d.	1921. £ s. d.	£ s. d.
Financial Secretary and Business Manager			538 9 2	
Late Do. Do. (Salary and Pension)	800 0 0		700 0 0	
Clerical Staff, Finance Department	4,291 11 5		4,657 4 11	
		5,091 11 5		5,895 14 1
Less Proportion of Salaries debited to Journal Account		2,363 8 0		2,869 12 11
		2,728 3 5		3,026 1 2
Medical Secretary	1,475 0 6		1,525 0 0	
Deputy Medical Secretary	959 12 9		1,062 10 0	
Assistant Medical Secretary (1)	812 10 0		862 10 0	
Do. Do. (2)	687 10 2		762 10 0	
Clerical Staff, Medical Department	3,287 9 11		3,563 17 10	
		7,222 3 4		7,776 7 10
Intelligence Officer	300 0 0		350 0 0	
Clerical Staff, Intelligence Department	182 0 0		197 12 0	
		482 0 0		547 12 0
Premiums of Deferred Annuities for Officials... ...				249 5 1
Contribution to Office Staff Superannuation Fund ...		416 1 10		848 10 11
TRAVELLING EXPENSES:—				
Finance Department		79 9 4		134 8 8
Medical Department		146 1 7		153 14 4
Fidelity Guarantee and Employers' Liability Insurance		65 1 7		62 18 10
		£11,139 1 1		£12,798 18 10

Abstract D.]

Central Premises Expenses.

	1920. £ s. d.	1921. £ s. d.
Cleaning Offices	612 0 8	707 5 8
Coals, Coke and Wood	295 0 4	239 6 0
General Repairs, Upkeep, and Alterations	3,907 7 0	530 10 9
Rates, Taxes, Insurance, Gas and Electricity	2,569 2 8	3,047 0 2
	£7,323 10 8	£4,524 2 7

Abstract E.]

Central Printing, Stationery and Postage Expenses.

	1920.	1921.
	£ s. d.	£ s. d.
General Printing	375 4 10	403 1 0
Office—General Postage:—		
Finance Department	522 18 0	607 10 6
Medical Department	435 16 7	462 9 6
Stationery	1,068 6 11	976 9 2
	£2,402 6 4	£2,449 10 2

Abstract F.]

Library Expenses.

	1920. £ s. d.	1921. £ s. d.
Salary and late work—Librarian...	476 10 11	459 3 4
,, ,, Assistant ,, ...	224 15 3	253 12 0
Hall Porter—Late Duty	18 10 0	25 10 0
Printing and Postage of Circulars, &c.	13 5 0	12 7 0
Subscription to Messrs. H. K. Lewis's Library	25 0 0	25 0 0
	£758 1 2	£775 12 4

Abstract C.]

JOURNAL ACCOUNT.

Income and Expenditure Account for the Year ending 31st December, 1921.

	1920.		1921.	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
EDITORIAL.				
Salaries:— Editor	2,000 0 0		2,000 0 0	
,, Assistant Editor	1,221 1 8		1,250 0 0	
,, Sub-Editor	—		775 0 0	
,, Late Sub-Editor	486 18 0		—	
,, Late Sub-Editor Pension	198 6 10		226 13 4	
,, Temporary Assistance	25 0 0		—	
,, Clerical Staff	1,264 9 2		1,408 12 1	
Contributions to Journal	1,331 17 9		1,647 3 3	
Engraving	157 18 7		171 7 4	
Reporting	177 1 2		415 5 4	
Legal Charges	8 10 2		5 3 4	
Postage	68 0 0		72 0 0	
Travelling, Parliamentary Papers, and Sundries ...	91 7 0		101 8 8	
Analyses	13 2 6		1 11 6	
Compiling Indexes for JOURNAL and SUPPLEMENT ...	52 2 6		197 14 6	
Editorial Petty Cash	10 8 1		11 9 7	
		7,106 3 5		8,283 8 11
MANAGERIAL.				
JOURNAL—Compositors' Wages, Machining, &c. ...	16,186 5 10		17,562 14 0	
,, Paper	16,579 5 6		13,869 10 4	
SUPPLEMENT—Compositors' Wages, Machining, &c. ...	1,245 2 0		1,951 8 2	
,, Paper	1,275 6 7		1,541 1 2	
Postage for Dispatch of JOURNAL	5,731 12 6		7,261 4 1	
Address Bands for JOURNAL	323 7 0		465 18 0	
Repairs to Plant	—		22 2 6	
Proportion of Manager's and Clerks' Salaries	2,363 8 0		2,869 12 11	
General Postage	420 17 6		311 5 3	
Printings	270 18 5		377 6 2	
Reprints	212 3 4		216 5 7	
Stationery (Ledgers, &c.)	120 6 6		108 9 10	
Insurance	106 15 8		81 10 10	
Sundries	17 4 10		18 7 6	
		44,852 13 8		46,656 16 4
		£51,958 17 1		£54,940 5 3

	1920.		1921.	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Advertisements	31,916 15 2		39,052 11 11	
Sundry Sales—Journals	7,008 9 3		7,512 14 10	
,, Pamphlets, Covers, Blocks, etc. ...	126 10 7		128 14 9	
,, Reprints	273 10 4		209 12 8	
,, "More Secret Remedies" ...	45 10 10		5 9 2	
Sale of Waste	52 10 3		6 10 10	
Discounts on Machining, &c.	368 16 6		429 14 2	
		39,792 2 11		47,445 8 4
Balance from Subscriptions for the cost of production and issue of the JOURNAL...		12,166 14 2		7,494 16 11
		£51,958 17 1		£54,940 5 3

TRUST FUNDS FOR WHICH THE COUNCIL OF THE BRITISH MEDICAL ASSOCIATION ACT AS TRUSTEES.

Office Staff Superannuation Fund.

Income and Expenditure Account for the Year ending December 31st, 1921.

1921. INCOME.	£ s. d.	1921. EXPENDITURE.	£ s. d.
Dec. 31.—Contributions from Association	848 10 11	Dec. 31.—Pensions paid during the year	253 19 0
,, from Members of the Staff	416 9 11	Amount refunded to retiring member	4 11 0
Interest on Investments and Deposit Account	321 13 10	Balance carried to Capital Account	1,328 4 8
	£1,586 14 8		£1,586 14 8

Capital Account for the Year ending 31st December, 1921.

1921.	£ s. d.	1921.	£ s. d.
Dec. 31.—Balance brought down from 1920	7,301 2 0	Dec. 31.—Balance carried down	£9,304 14 2
,, from Income and Expenditure Account	1,328 4 8		
Appreciation on Investments for year ending December 31st, 1921, calculated on the middle price officially quoted on that date ...	675 7 6		
	£9,304 14 2		£9,304 14 2

Balance Sheet, 31st December, 1921.

Dr. LIABILITIES	£ s. d.	Cr. ASSETS.	£ s. d.	£ s. d.
To Capital Account Balance	9,304 14 2	By Cash with Bankers—Current Account	62 14 0	
		,, ,, —Deposit ,, ...	1,150 0 0	
				1,212 14 0
		By Investments calculated on middle price, officially quoted on 31st December, 1921—		
		£600 Cape of Good Hope 3 per cent. Inscribed Stock @ 64		384 0 0
		£100 Bristol Corporation 3½ per cent. Redeemable Stock @ 65		65 0 0
		£1,150 Midland Railway Consolidated 2½ per cent. Perpetual Guaranteed Preferential Stock @ 45		517 10 0
		£100 Midland Railway 2½ per cent. Debenture Stock @ 47		47 0 0
		£200 New Zealand 4 per cent. 1929 Consolidated Inscribed Stock @ 89 ...		178 0 0
		£400 New Zealand 3 per cent. 1945 Inscribed Stock @ 64		256 0 0
		£200 Furness Railway Consolidated 4 per cent. Preferential Stock 1881 @ 58½ ..		117 0 0
		£100 Furness Railway 4 per cent. Preferential Stock 1899 @ 53½		53 10 0
		£250 Bank of England Stock @ 187½		468 15 0
		£400 India Stock 3 per cent. @ 51½		206 0 0
		£450 Stockton-on-Tees Corporation 3 per cent. Redeemable Stock 1915-1935 @ 70		315 0 0
		£900 North-Eastern Railway 3 per cent. Debenture Stock Irredeemable @ 56 ...		504 0 0
		£600 Lancashire and Yorkshire Railway 3 per cent. Consolidated Preferential Stock @ 51		306 0 0
		£700 London and North-Western Railway 3 per cent. Perpetual Debenture Stock @ 58		406 0 0
		£100 New South Wales Government 5½ per cent. Inscribed Stock 1922-1927 @ 96		96 0 0
		£2,463 2s. 0d. War Loan 5 per cent. 1929-1947 @ 92½		2,272 5 2
		£500 National War Bonds 5 per cent. 1st Series 1927 @ 101¼		506 5 0
		£500 National Savings Certificates		393 15 0
		£1,000 Bradford Corporation 6 per cents. Mortgage Loan (at cost)		1,000 0 0
	£9,304 14 2			£9,304 14 2

Francis Fowke Bequest.

£700 Midland Railway Consolidated 2½% Perpetual Guaranteed Preferential Stock.

1921.		£ s. d.	1921.		£ s. d.
Jan. 1.	To Balance brought forward from 1920	186 8 9	Dec. 31.	By Balance, Cash in hand, Current and Deposit Accounts	206 3 8
Dec. 31.	,, Interest on Deposits and Dividends...	19 14 11			
		£206 3 8			£206 3 8

Fotherby Bequest.

1921.		£ s. d.	1921.		£ s. d.
Jan. 1.	To Balance brought forward from 1920	53 18 6	Dec. 31.	By Balance, Cash at Bank, Current and Deposit Accounts	55 15 3
	,, Deposit Interest	1 16 9			
		£55 15 3			£55 15 3

Stewart Fund.

£579 Caledonian Railway 4 per cent. Debenture Stock.

1921.		£ s. d.	1921.		£ s. d.
Jan. 1.	To Balance brought forward from 1920	11 4 0	Dec. 31.	By Balance, Cash at Bank	27 8 4
	,, Dividends	16 4 4			
		£27 8 4			£27 8 4

Middlemore Fund.

£666 13s. 4d. North British Railway 3 per cent. Debenture Stock.

1921.		£ s. d.	1921.		£ s. d.
Dec. 31.	To Dividends	14 0 0	Jan. 1.	To Balance (overdrawn)	12 14 10
			Dec. 31.	,, ,, Cash in hand	1 5 2
		£14 0 0			£14 0 0

Having examined the Balance Sheet, dated 31st December, 1921, and Accounts with the books and vouchers of the Association, except as regards the Irish Committee and Scottish Committee Accounts, and having received all the information and explanations we have required, we report that the Balance Sheet is, in our opinion, properly drawn up so as to exhibit a true and correct view of the state of the affairs of the Association according to the best of our information and the explanations given to us and as shown by the books of the Association.

We have verified the Investments of the Association on General Account and on account of the Trust Funds shown and of the Office Staff Superannuation Fund, and we have verified the possession by the Bankers of the Association of the Deeds of the Freehold Property.

G. E. HASLIP, M.D.,
Treasurer.

L. FERRIS-SCOTT, F.C.A.,
Financial Secretary and Business Manager.

PRICE, WATERHOUSE & CO.,
3, Frederick's Place, Old Jewry, London, E.C.,
27th March, 1922.

SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL

Medical Representation in Parliament Fund.

FOR WHICH THE COUNCIL OF THE BRITISH MEDICAL ASSOCIATION ACT AS TRUSTEES.

Financial Statement for the Year ending 31st December, 1921.

1921.		£ s. d.	1921.		£ s. d.	£ s. d.
To Balance from 1920		1,060 9 5	By Contribution towards Expenses of Approved Candidate ...			328 14 6
,, Subscriptions and Donations		460 18 6	,, Miscellaneous Printing			2 19 0
,, Interest on Deposits		44 3 6	,, Stationery			1 4 9
			,, *Balance carried forward*—			
			Cash at Bank—Current Account		32 13 2	
			,, Deposit Account		1,200 0 0	
						1,232 13 2
		£1,565 11 5				£1,565 11 5

The sum of £21 2s. 0d. was due on 31st December, 1921, for Railway Fares and Miscellaneous Printings for 1921.

Central Emergency Fund.

FOR WHICH THE MEDICO-POLITICAL COMMITTEE OF THE BRITISH MEDICAL ASSOCIATION ACT AS TRUSTEES.

Financial Statement for the Year ending 31st December, 1921.

1921.		£ s. d.	£ s. d.	1921.		£ s. d.	£ s. d.
To Balance from 1920—				By Cash paid to Tasmanian Branch, being grant towards expenses incurred in opposing Medical Acts of Tasmania			100 0 0
Cash at Bankers—Current Account		15 5 4		,, Balance 31st December, 1921—			
,, ,, Deposit Account		100 0 0		Cash at Bank—Current Account		38 7 9	
National Savings Certificates (with accrued interest)... ...		429 3 4		,, ,, Deposit ,, ...		140 0 0	
£500 National War Bonds (at cost)		500 0 0		National Savings Certificates (with accrued interest) ...		454 3 4	
£500 5-15 Treasury Bonds (at cost)		500 0 0		£500 National War Bonds (at cost)...		500 0 0	
			1,544 8 8	£500 5-15 Treasury Bonds (at cost)		500 0 0	
,, Subscriptions and Donations			113 17 6				1,632 11 1
,, Deposit Interest and Dividends			49 4 11				
,, Accrued Interest on National Savings Certificates...			25 0 0				
			£1,732 11 1				£1,732 11 1

We have compared the above two accounts of receipts and payments with the books and vouchers of the Funds and find them correct. We have verified the Investments held by the Bank and Bank Balances at the 31st December, 1921.

PRICE, WATERHOUSE & CO.,

3, Frederick's Place, Old Jewry, London, E.C.,

27th March, 1922.

Remittances received on behalf of Medical Benevolent Funds for the Year ending 31st December, 1921.

Royal Medical Benevolent Fund.

	£ s. d.		£ s. d.
1921. Dec. 31. To Subscriptions and Donations	809 4 6	1921. Dec. 31. By Cheques sent to Treasurer	809 4 6

Royal Medical Foundation of Epsom College.

	£ s. d.		£ s. d.
1921. Dec. 31. To Subscriptions and Donations	514 17 0	1921. Dec. 31. By Cheques sent to Treasurer	514 17 0

Royal Medical Benevolent Fund Society of Ireland.

	£ s. d.		£ s. d.
1921. Dec. 31. To Subscriptions and Donations	24 8 6	1921. Dec. 31. By Cheques sent to Treasurer	24 8 6

We have compared the above three accounts with the Books and Vouchers of the Funds relating thereto and find them correct.

PRICE, WATERHOUSE & CO.,
3, Frederick's Place, Old Jewry, London, E.C.,
27th March 1922.

G. E. HASLIP, M.D.,
Treasurer.

L. FERRIS-SCOTT, F.C.A.,
Financial Secretary and Business Manager.

APPENDIX III.

RETURN OF ATTENDANCES.

At Council, Committee, and Sub-Committee Meetings, from the termination of Annual Representative Meeting, 1921, up to and including April 13th, 1922.

(Prepared pursuant to Standing Orders.)

COUNCIL.

Chairman: Dr. R. A. BOLAM.

NAME.	ATTENDANCES. Actual.	Possible.
President: Drummond, Prof. David, C.B.E., M.A., D.C.L., Newcastle-on-Tyne	2	5
President-Elect: Macewen, Sir Wm., C.B., LL.D., M.D., F.R.C.S., F.R.S., D.Sc., D.C.L., Glasgow	0	5
Past-President: Allbutt, The Rt. Hon. Sir T. Clifford, K.C.B., LL.D., M.D., F.R.S., Cambridge	3	5
Chairman of Council: Bolam, Dr. R. A., Newcastle-on-Tyne	5	5
Chairman of Representative Meetings: Henry, Dr. R. Wallace, Leicester	5	5
Treasurer: Haslip, Dr. G. E., London	4	5
Bailey, Dr. T. Ridley, Bilston	5	5
Barry, Col. T. D., C.B.E., R.A.F., London	1	5
†Bassett-Smith, Surg. Rear-Admiral Sir Percy, K.C.B., C.M.G., R.N. (Ret.), London	0	1
Beadles, Dr. H. S., London	4	5
Bone, Dr. J. W., Luton	5	5
Brackenbury, Dr. H. B., Hornsey	5	5
Bristowe, Dr. H. C., Wrington	5	5
Buchanan, Col. Sir Walter, K.C.I.E., I.M.S., (Retd.), Dublin	3	5
Buttar, Dr. C., London	5	5
Coombe, Mr. Russell, Exeter	5	5
Dain, Dr. H. G., Birmingham	5	5
Darling, Dr. J. Singleton, Lurgan	3	5
Dawson, The Rt. Hon. Lord, K.C.M.G., G.C.V.O., C.B., London	3	5
Don, Dr. James, Newcastle-on-Tyne	5	5
Douglas, Dr C. E., Cupar	4	5
Dunhill, Mr. T. P., C.M.G., London	4	5
Eccles, Mr. W. McAdam, London	5	5
Elliot, Lieut.-Col. R. H., I.M.S. (Ret.), London	3	5
Ewart, Dr. David, O.B.E., Chichester	0	5
Farquharson, Dr. A. C., M.P., London	3	5
Forbes, Dr. A., Sheffield	5	5
Fothergill, Dr. E. R., Hove	5	5
*Francis, Dr. H. A., London	0	1
Garstang, Dr. T. W. H., Altrincham	5	5
Greenlees, Dr. T. D., Fordingbridge	2	5
Harman, Mr. N. Bishop, London	4	5
Heaney, Mr. F. Strong, Liverpool	4	5
Holbeche, Dr. A. O., Great Malvern	2	5
Johnstone, Prof. R. J., M.P., Belfast	2	5
Langdon-Down, Dr. R., Hampton Wick	5	5
Law, Dr. W. F., Dublin	1	5
Lawson, Dr. David, Banchory	4	5
Lee, Dr. P. G., Cork	1	5
Luce, Maj.-Gen. Sir Richard H., K.C.M.G., C.B., A.M.S. (Retd.), Derby	4	5
Macdonald, Dr. J. A., LL.D., Taunton	5	5
Mackenzie, Dr. S. Morton, Dorking	3	5
Macpherson, Maj.-Gen. Sir Wm., K.C.M.G., C.B., London	4	5
*Marriott, Dr. Oswald, Hong Kong	0	1
Meaden, Surg.-Capt. E. H., C.M.G., R.N. (Ret.), Penarth	0	3
Miller, Dr. Hugh, Hamilton	5	5
Nuttall, Mr. A. W., Birmingham	4	5
Peacocke, Dr. R. C., O.B.E., Blackrock	4	5
Radcliffe, Dr. Frank, Oldham	5	5
Robertson, Dr. C. E., Glasgow	3	5
Sheahan, Dr. D. A., Portsmouth	5	5
Snodgrass, Dr. W., Glasgow	5	5
†Stedman, Dr. F. O., Weybridge	1	2
Stevens, Dr. John, Edinburgh	5	5
Treasure, Dr. W. B., Crawford, Cardiff	3	5
Turner, Mr. E. B., London	5	5
Turner, Dr. E. O., Great Missenden	5	5
†Verrall, Sir Jenner, LL.D., Leatherhead	2	2
Walshe, Dr. Denis, Graigue	1	5

* Resigned October, 1921.
† Appointed February, 1922.

COMMITTEES.

FINANCE.

Chairman: THE TREASURER.

NAME.	Com. Meetings. Actual	Com. Meetings. Possible	Sub-Com. Meetings. Actual	Sub-Com. Meetings. Possible	Total. Actual	Total. Possible
President (ex-officio)	0	3				
Chairman of Council (ex-officio)	3	3				
Chairman of Representative Meetings (ex-officio)	3	3				
Treasurer (ex-officio)	2	3				
(1) D'Ewart, Dr. J., Manchester	2	3				
(3) Eccles, Mr. W. McAdam, London	1	2				
(2) Galloway, Sir James, K.B.E., C.B., London	0	3				
(2) Garstang, Dr. T. W. H., Altrincham	3	3				
(1) Harman, Mr. N. Bishop, London	2	3				
(3) Hawthorne, Dr. C. O., London	1	2				
(2) Lawson, Dr. D., Banchory	1	3				
(1) Lucas, Mr. Albert, Birmingham	2	3				
(1) Moore, Dr. Milner M., Eastbourne	3	3				
(2) Verrall, Sir Jenner, LL.D., Leatherhead	2	3				
Chairman of Organisation Committee (Dr. S. Morton Mackenzie)	3	3				
Chairman of Journal Committee (Dr. J. A. Macdonald)	2	3				
Chairman of Science Committee (The Rt. Hon. Sir Clifford Allbutt)	0	3				
Chairman of Medico-Political Committee (Mr. E. B. Turner)	3	3				
Chairman of Central Ethical Committee (Dr. R. Langdon-Down)	0	3				
Chairman of Insurance Acts Committee (Dr. H. B. Brackenbury)	2	3				

(1) Appointed by R.B.
(2) Appointed by Council.
(3) Appointed by Journal Committee.

ORGANISATION.

Chairman: Dr. S. MORTON MACKENZIE.

NAME.	Com. Meetings. Actual	Com. Meetings. Possible	Sub-Com. Meetings. Actual	Sub-Com. Meetings. Possible	Total. Actual	Total. Possible
President (ex-officio)	0	5	—	—	0	5
Chairman of Council (ex-officio)	3	5	—	—	3	5
Chairman of Representative Meetings (ex-officio)	4	5	2	2	6	7
Treasurer (ex-officio)	3	5	0	5	3	10
(1) Baildon, Dr. F. J., Southport	5	5	5	5	10	10
(2) Beadles, Dr. H. S., London	5	5	1	3	6	8
(2) Coombe, Mr. Russell, Exeter	5	5	2	7	7	12
Dryland, Dr. L. W., Kettering	2	4	1	2	3	6
(1) Fothergill, Dr. E. R., Hove	3	5	—	—	3	5
(1) Garstang, Dr. T. W. H., Altrincham	5	5	7	7	12	12
*Lankester, Dr. C. P., Guildford	2	4	—	—	2	4
(2) Mackenzie, Dr. S. Morton, Dorking	5	5	5	7	10	12
(1) Oldham, Dr. H. F., M.B.E., Morecambe	3	5	0	2	3	7
(2) Verrall, Sir Jenner, LL.D., Leatherhead	4	5	—	—	4	5

(1) Appointed by R.B.
(2) Appointed by Council.
*Co-opted August, 1921.

JOURNAL.

Chairman: Dr. J. A. MACDONALD.

NAME.		ATTENDANCES. Com. Meetings. Actual	Com. Meetings. Possible	Sub-Com. Meetings. Actual	Sub-Com. Meetings. Possible	Total. Actual	Total. Possible
President	ex-officio	0	2				
Chairman of Council	ex-officio	1	2				
Chairman of Representative Meetings	ex-officio	0	2				
Treasurer	ex-officio	2	2				
(2) Douglas, Dr. C. E., Cupar		1	2				
(2) Eccles, Mr. W. McAdam, London		0	2				
(1) Hawthorne, Dr. C. O., F.R.C.P., London		2	2				
(2) Heaney, Mr. F. Strong, Liverpool		0	2				
(1) Macdonald, Dr. J. A., LL.D., Taunton		0	2				
(1) Wallis, Mr. C. E., London		1	2				
Chairman of Central Ethical Committee (Dr. R. Langdon-Down)		0	2				

(1) Appointed by R.B.
(2) Appointed by Council.

SCIENCE.

Chairman: The Rt. Hon. Sir CLIFFORD ALLBUTT.

NAME.		ATTENDANCES. Com. Meetings. Actual	Com. Meetings. Possible	Sub-Com. Meetings. Actual	Sub-Com. Meetings. Possible	Total. Actual	Total. Possible
President	ex-officio	0	1	—	—	0	1
Chairman of Council	ex-officio	0	1	—	—	0	1
Chairman of Representative Meetings	ex-officio	1	1	—	—	1	1
Treasurer	ex-officio	0	1	0	1	0	2
(1) Allbutt, The Rt. Hon. Sir T. Clifford, K.C.B., M.D., F.R.S., Cambridge		0	1	—	—	0	1
*(1) Bolton, Dr. C., F.R.S., London		0	1	—	—	0	1
(1) Buist, Dr. R. C., Dundee		1	1	—	—	1	1
(1) Dale, Dr. H. H., C.B.E., F.R.S., London		1	1	—	—	1	1
(1) Dixon, Prof. W. E., O.B.E., F.R.S., Whittlesford		1	1	—	—	1	1
(1) Elliot, Lt.-Col. R. H., I.M.S. (Retd.), London		1	1	—	—	1	1
†Leathes, Prof. J.B., F.R.S., Sheffield		—	—	—	—	—	—
(1) Martin, Prof. C. J., C.M.G., F.R.S., London		1	1	—	—	1	1
(1) Rolleston, Sir Humphry, K.C.B., D.C.L., London		1	1	1	1	2	2

(1) Appointed by Council.
* Resigned November, 1921.
† Appointed November, 1921.

CENTRAL ETHICAL.

Chairman: DR. R. LANGDON-DOWN.

NAME.		ATTENDANCES. Com. Meetings. Actual	Com. Meetings. Possible	Sub-Com. Meetings. Actual	Sub-Com. Meetings. Possible	Total. Actual	Total. Possible
President	ex-officio	0	4	—	—	0	4
Chairman of Council	ex-officio	2	4	—	—	2	4
Chairman of Representative Meetings	ex-officio	2	4	—	—	2	4
Treasurer	ex-officio	0	4	—	—	0	4
(2) Bristowe, Dr. H. C., Wrington		3	4	—	—	3	4
*(2) Crookshank, Dr. F. G., London		2	3	2	5	4	8
(1) Don, Dr. J., Newcastle-on-Tyne		1	4	—	—	1	4
(2) Forbes, Dr. A., Sheffield		1	4	—	—	1	4
(1) Goff, Dr. John, Windlesham		4	4	5	5	9	9
(2) Jordan, Mr. J. Furneaux, Birmingham		3	4	—	—	3	4
(2) Langdon-Down, Dr. R., Hampton Wick		4	4	5	5	9	9
(1) Lyndon, Dr. A., O.B.E., Hindhead		4	4	5	5	9	9
(1) Mactier, Dr. H. C., M.B.E., Wolverhampton		4	4	—	—	4	4
(1) Moore, Dr. Milner M., Eastbourne		2	4	4	5	6	9
(2) Neal, Dr. James, London		3	4	5	5	8	9
(1) Stevens, Dr. J., Edinburgh		3	4	—	—	3	4

(1) Appointed by R.B.
(2) Appointed by Council.
* Resigned April, 1922.

MEDICO-POLITICAL.

Chairman: Mr. E. B. TURNER.

NAME.		ATTENDANCES. Com. Meetings. Actual	Com. Meetings. Possible	Sub-Com. Meetings. Actual	Sub-Com. Meetings. Possible	Total. Actual	Total. Possible
President	ex-officio	0	4	—	—	0	4
Chairman of Council	ex-officio	2	4	1	3	3	7
Chairman of Representative Meetings	ex-officio	3	4	5	6	8	10
Treasurer	ex-officio	1	4	0	2	1	6
*Bailey, Dr. T. Ridley, Bilston		3	3	8	8	11	11
(2) Beadles, Dr. H. S. London		3	4	—	—	3	4
(1) Bone, Dr. J. W., Luton		4	4	3	3	7	7
(2) Brackenbury, Dr. H. B., Hornsey		4	4	4	5	8	9
(2) Bristowe, Dr. H. C., Wrington		3	4	2	2	5	6
(1) Flemming, Dr. C. E. S., Bradford-on-Avon		3	4	2	2	5	6
(1) Garstang, Dr. T. W. H., Altrincham		4	4	1	1	5	5
(2) Holbeche, Dr. A. O., Great Malvern		4	4	2	3	6	7
(1) Mactier, Dr. H. C., M.B.E., Wolverhampton		4	4	6	6	10	10
(2) Stevens, Dr. J., Edinburgh		4	4	—	—	4	4
(2) Treasure, Dr. W. B. Crawford, Cardiff		2	4	1	3	3	7
(1) Turner, Mr. E. B., London		4	4	9	11	13	15
(1) Verrall, Sir Jenner, LL.D., Leatherhead		3	4	3	3	6	7

(1) Appointed by R.B.
(2) Appointed by Council.
* Co-opted January, 1922.

PUBLIC HEALTH.

Chairman: Dr. T. W. H. Garstang.

NAME.	ATTENDANCES. Com. Meetings. Actual	Com. Meetings. Possible	Sub-Com. Meetings. Actual	Sub-Com. Meetings. Possible	Total. Actual	Total. Possible
President	0	3	—	—	0	3
Chairman of Council	2	3	—	—	2	3
Chairman of Representative Meetings	2	3	—	—	2	3
Treasurer	0	3	—	—	0	3
(2) Bailey, Dr. T. Ridley, Bilston	3	3	—	—	3	3
(1) Dearden, Dr. W. F., Manchester	3	3	—	—	3	3
*Domville, Dr. E. J., O.B.E., Bridport ...	2	2	—	—	2	2
(2) Garstang, Dr. T. W. H., Altrincham ...	3	3	3	3	6	6
(2) Howarth, Dr. W. J., C.B.E., Longfield ...	3	3	2	2	5	5
(2) Jones, Dr. Herbert, Hereford	3	3	2	2	5	5
(1) Radcliffe, Dr. Frank, Oldham	0	3	—	—	0	3
*Sanders, Dr. C., London	2	2	—	—	2	2
(1) Smyth, Dr. W. Johnson, Bournemouth ...	3	3	1	1	4	4
(1) Snell, Dr. E. H., Coventry	3	3	0	1	3	4
(2) Wynne, Dr. F. E., Sheffield	3	3	—	—	3	3
†Wheatley, Dr. J., Shrewsbury	1	1	—	—	1	1

(1) Appointed by R.B.
(2) Appointed by Council.
* Appointed September, 1921.
† Appointed January, 1922.

INSURANCE ACTS.

Chairman: Dr. H. B. Brackenbury.

NAME.	ATTENDANCES. Com. Meetings. Actual	Com. Meetings. Possible	Sub-Com. Meetings. Actual	Sub-Com. Meetings. Possible	Total. Actual	Total. Possible
President	0	8	—	—	0	8
Chairman of Council	3	8	—	—	3	8
Chairman of Representative Meetings	5	8	1	1	6	9
Treasurer	1	8	—	—	1	8
Askin, Dr. T. Cuming, M.B.E., Woodbridge	8	8	1	1	9	9
Bailey, Dr. T. Ridley, Bilston	8	8	1	1	9	9
(1) Beadles, Dr. H. S., London	8	8	1	1	9	9
Brackenbury, Dr. H. B., Hornsey	8	8	3	3	11	11
†Burkitt, Dr. J. C. S., Whitwich	2	3	1	1	3	4
¶Cope, Dr. A. E., London	3	3	—	—	3	3
(1) Craig, Dr. R. W., Dalkeith	5	8	2	2	7	10
(1) Dain, Dr. H. G., Birmingham	8	8	2	2	10	10
(1) Darling, Dr. J. Singleton, Lurgan	0	8	—	—	0	8
Dewar, Dr. M., Edinburgh	6	8	2	2	8	10
Forbes, Dr. A., Sheffield	8	8	1	1	9	9
§Fry, Dr. P. V., East Molesey	5	5	—	—	5	5
*Gregg, Dr. E. A., London	7	7	1	1	8	8
‡Green, Dr. A. Withers, London	4	5	—	—	4	5
Hillman, Dr. G. B., M.B.E., Wakefield ...	8	8	1	1	9	9
Hodgson, Sir W., Crewe	6	8	—	—	6	8
*Howarth, Dr. W. J., C.B.E., Longfield ...	4	7	—	—	4	7
†Jones, Dr. Hugh, Dolgelly	1	3	1	1	2	4
(1) Jones, Dr. Herbert, Hereford	6	8	—	—	6	8
†Lankester, Dr. C. P., Guildford	1	3	—	—	1	3
§Lilley, Dr. E. L., Leicester	5	5	—	—	5	5
Locket, Dr. T. Wood, Melksham	8	8	2	2	10	10
†Martine, Dr. W. R., Haddington	3	3	2	2	5	5
Oldham, Dr. H. F., M.B.E., Morecambe ...	7	8	—	—	7	8
(1) Palmer, Dr. C. J., Mansfield Woodhouse ...	5	8	1	1	6	9
Panting, Dr. C. H., London	7	8	1	1	8	9
Radcliffe, Dr. Frank, Oldham	7	8	—	—	7	8
Ramsay, Dr. Mabel, Plymouth	5	8	—	—	5	8
Smith, Dr. A., Whickham	6	8	—	—	6	8
Souttar, Mr. H. S., C.B.E., London ...	4	8	—	—	4	8
§Stevenson, Dr. D. Lyon, Larkhall	4	5	1	1	5	6
§Thomas, Dr. W. E., Ystrad Rhondda ...	3	5	1	1	4	6
Williams-Freeman, Dr. J. P., Andover ...	7	8	3	3	10	11

(1) Appointed by R.B.
* Appointed October, 1921.
† Membership ceased November, 1921.
‡ Membership ceased January, 1922.
§ Appointed November, 1921.
¶ Appointed January, 1922.

OFFICE.

Chairman: The Chairman of Council.

NAME.	ATTENDANCES. Com. Meetings. Actual	Com. Meetings. Possible	Sub-Com. Meetings. Actual	Sub-Com. Meetings. Possible	Total. Actual	Total. Possible
Chairman of Council	6	6				
Chairman of Representative Meetings	6	6				
Treasurer	5	6				

HOSPITALS.

Chairman: Mr. N. Bishop Harman.

NAME.	ATTENDANCES. Com. Meetings. Actual	Com. Meetings. Possible	Sub-Com. Meetings. Actual	Sub-Com. Meetings. Possible	Total. Actual	Total. Possible
President	0	4	—	—	0	4
Chairman of Council	4	4	—	—	4	4
Chairman of Representative Meetings	3	4	—	—	3	4
Treasurer	2	4	—	—	2	4
(1) Clarke, Dr. A. V., Leicester	4	4	—	—	4	4
(2) Dain, Dr. H. G., Birmingham	3	4	2	2	5	6
(2) Eccles, Mr. W. McAdam, London	3	4	2	2	5	6
(1) Flemming, Dr. C. E. S., Bradford-on-Avon	3	4	—	—	3	4
(2) Fothergill, Dr. E. R., Hove	3	4	2	2	5	6
(2) Galloway, Sir James, K.B.E., C.B., London	3	4	2	2	5	6
(2) Harman, Mr. N. Bishop, London	4	4	3	4	7	8
(1) Johnson, Dr. I. W., Bury	3	4	—	—	3	4
(1) Masterman, Dr. E. W. G., London	3	4	2	2	5	6
(2) Radcliffe, Dr. F., Oldham	4	4	—	—	4	4
(1) Smyth, Dr. W. Johnson, Bournemouth	4	4	—	—	4	4
(1) Souttar, Mr. H. S., C.B.E., London	3	4	4	4	7	8

(1) Appointed by R.B.
(2) Appointed by Council.

NAVAL AND MILITARY.

Chairman: Lt.-Col. R. H. Elliot, I.M.S. (retd.).

NAME.	ATTENDANCES. Com. Meetings. Actual	Com. Meetings. Possible	Sub-Com. Meetings. Actual	Sub-Com. Meetings. Possible	Total. Actual	Total. Possible
President	0	2	—	—	0	2
Chairman of Council	0	2	—	—	0	2
Chairman of Representative Meetings	1	2	—	—	1	2
Treasurer	0	2	—	—	0	2
Barry, Col. T. D., C.B.E., R.A.F., London	1	2	—	—	1	2
†Bassett-Smith, Surg. Rear-Admiral Sir Percy, K.C.B., C.M.G., R.N. (Ret.), London	1	1	—	—	1	1
Buchanan, Col. Sir W. J., K.C.I.E., I.M.S. (Retd.), London	1	2	—	—	1	2
(2) Buttar, Dr. C., London	2	2	0	1	2	3
(2) Elliot, Lt.-Col. R. H., I.M.S. (Retd.), London	2	2	1	1	3	3
(1) Goodbody, Capt. F. W., R.A.M.C.T., London	2	2	—	—	2	2
(1) Luce, Maj.-Gen. Sir Richard, K.C.M.G., C.B., Derby	2	2	—	—	2	2
Macpherson, Maj.-Gen. Sir W. G., K.C.M.G., C.B., A.M.S. (Retd.), London	2	2	1	1	3	3
*Meaden, Surg.-Capt. E. H., C.M.G., R.N. (Retd.), Penarth	0	1	—	—	0	1

(1) Appointed by R.B.
(2) Appointed by Council.
† Appointed January, 1922
* Resigned January, 1922.

DOMINIONS.

Chairman: Mr. T. P. DUNHILL.

NAME.	ATTENDANCES. Com. Meetings. Actual	Com. Meetings. Possible	Sub-Com. Meetings. Actual	Sub-Com. Meetings. Possible	Total. Actual	Total. Possible
President	0	3				
Chairman of Council	0	3				
Chairman of Representative Meetings	0	3				
Treasurer	0	3				
(2) Cantlie, Sir James, K.B.E., London ...	2	3				
Dunhill, Mr. T. P., C.M.G., London ...	3	3				
Elliot, Lt.-Col. R. H., I.M.S. (Retd.), London	2	3				
Ewart, Dr. David, O.B.E., Chichester ...	2	3				
Greenlees, Dr. T. D., Fordingbridge ...	3	3				
(1) Johnson, Dr. I. W., Bury	2	3				
Law, Dr. W. F., Dublin	2	3				
(2) Macdonald, Dr. J. A., LL.D., Taunton ...	1	3				
†Marriott, Dr. Oswald, Hong Kong ...	—	—				
(1) Paterson, Dr. W., London	2	3				
Stedman, Dr. F. O., Weybridge	1	1				
*Verrall, Sir Jenner, LL.D., Leatherhead ...	0	1				

(1) Appointed by R.B.
(2) Appointed by Council.
* Appointed February, 1922.
† Resigned September, 1921.

SCOTTISH.

Chairman: Dr. W. SNODGRASS.

NAME.	ATTENDANCES. Com. Meetings. Actual	Com. Meetings. Possible	Sub-Com. Meetings. Actual	Sub-Com. Meetings. Possible	Total. Actual	Total. Possible
President	0	3	—	—	0	3
Chairman of Council	1	3	—	—	1	3
Chairman of Representative Meetings	0	3	—	—	0	3
Treasurer	0	3	—	—	0	3
†Andrew, Dr. J. G., Glasgow	0	2	—	—	0	2
*Buist, Dr. R. C., Dundee	2	3	1	2	3	5
Comrie, Dr. J. K., Edinburgh	4	4	1	1	3	5
Dickson, Dr. D. Elliot, M.C., Lochgelly ...	2	4	0	1	2	5
Douglas, Dr. C. E., Cupar	2	4	0	1	2	5
Fraser, Dr. T., D.S.O., C.B.E., Aberdeen ...	0	4	—	—	0	4
Frew, Dr. W. D., M.C., Kilmarnock	2	4	0	1	2	5
Hunter, Dr. Joseph, Dumfries	2	4	1	2	3	6
*Hunter, Dr. John, Edinburgh	2	3	—	—	2	3
Lawson, Dr. D., Banchory	2	4	1	1	3	5
Lawson, Dr. W., Glasgow	2	4	—	—	2	4
*Miller, Dr. A. C., Fort William	1	3	1	1	2	4
Miller, Dr. J. B., Bishopbriggs	3	4	—	—	3	4
Miller, Dr. G. W., D.S.O., Dundee	4	4	3	3	7	7
Miller, Dr. Hugh, Hamilton	4	4	1	1	5	5
¶Patrick, Dr. J., Glasgow	1	1	—	—	1	1
Ritchie, Dr. J., Glasgow	2	4	2	3	4	7
Robertson, Dr. C. E., Glasgow	2	4	0	1	2	5
Smith, Dr. F. K., Aberdeen	3	4	0	1	3	5
Snodgrass, Dr. W., Glasgow	3	4	3	3	6	7
Stevens, Dr. John, Edinburgh	4	4	3	3	7	7
Thin, Dr. R., Edinburgh	3	4	1	1	4	5

* Co-opted September, 1921.
† Resigned November, 1921.
¶ Appointed January, 1922.

WELSH.

Chairman: Dr. W. B. CRAWFORD TREASURE.

NAME.	ATTENDANCES. Com. Meetings. Actual	Com. Meetings. Possible	Sub-Com. Meetings. Actual	Sub-Com. Meetings. Possible	Total. Actual	Total. Possible
President	0	3				
Chairman of Council	1	3				
Chairman of Representative Meetings	1	3				
Treasurer	0	3				
Bailey, Dr. T. Ridley, Bilston	2	3				
Brierley, Dr. E. E., Cardiff	1	3				
Healey, Dr. J. J., Llanelly	3	3				
Lewys-Lloyd, Dr. E., Towyn	2	3				
Marks, Dr. L. Freeman, Mumbles	2	3				
Prytherch, Dr. J. R., Llangefni	0	3				
Thomas, Dr. W. E., Ystrad Rhondda	1	3				
Treasure, Dr. W. B. Crawford, Cardiff ...	2	3				
Verity, Dr. R. J. S., Pontypool	0	3				

SPECIAL COMMITTEE *re* FORMATION OF CENTRAL MEDICAL COMMITTEE.

Chairman: THE CHAIRMAN OF COUNCIL.

NAME.	ATTENDANCES. Com. Meetings. Actual	Com. Meetings. Possible	Sub-Com. Meetings. Actual	Sub-Com. Meetings. Possible	Total. Actual	Total. Possible
President						
Chairman of Council						
Chairman of Representative Meetings						
Treasurer						
Brackenbury, Dr. H. B., Hornsey						
Garstang, Dr. T. W. H., Altrincham						
Macdonald, Dr. J. A., LL.D., Taunton						
Maclean, Prof. Ewen J., Cardiff						
Verrall, Sir Jenner, LL.D., Leatherhead ...						

ANNUAL MEETING ARRANGEMENTS.

Chairman: THE CHAIRMAN OF COUNCIL.

NAME.	ATTENDANCES. Com. Meetings. Actual	Com. Meetings. Possible	Sub-Com. Meetings. Actual	Sub-Com. Meetings. Possible	Total. Actual	Total. Possible
President	2	3				
Chairman of Council	3	3				
Chairman of Representative Meetings	2	3				
Treasurer	3	3				
Allan, Dr. G. A., Glasgow	2	2				
Childe, Mr. C. P., Southsea	2	3				
Fergus, Mr. A. Freeland, LL.D., Glasgow ...	2	2				
Hall, Prof. A. J., Sheffield	1	3				
Macewen, Sir Wm., C.B., D.C.L., Glasgow ...	2	2				
Martin, Prof. C. J., C.M.G., F.R.S., London ...	1	3				
Parry, Mr. R. H., Glasgow	2	2				
Patrick, Dr. J., Glasgow	2	2				
Rolleston, Sir Humphry, K.C.B., D.C.L., London	3	3				
Sargent, Mr. Percy, C.M.G., D.S.O., London ...	1	3				
Snodgrass, Dr. W., Glasgow	2	2				
Willan, Mr. R. J., O.B.E., M.V.O., Newcastle-on-Tyne	2	3				

CONFERENCE OF MEDICO-POLITICAL, PUBLIC HEALTH, HOSPITALS, AND MINISTRY OF HEALTH COMMITTEES.

Chairman: THE CHAIRMAN OF COUNCIL.

NAME.	ATTENDANCES. Com. Meetings. Actual	Com. Meetings. Possible	Sub-Com. Meetings. Actual	Sub-Com. Meetings. Possible	Total. Actual	Total. Possible
President	0	2				
Chairman of Council	2	2				
Chairman of Representative Meetings	2	2				
Treasurer	0	2				
Badcock, Mr. J. H., London	0	2				
Bailey, Dr. T. Ridley, Bilston	2	2				
Beadles, Dr. H. S., London	1	2				
Bennett, Dr. N. G., London	0	2				
Bone, Dr. J. W., Luton	2	2				
Brackenbury, Dr. H. B., Hornsey	2	2				
Bristowe, Dr. H. C., Wrington	1	2				
Buchan, Dr. G. F., London	2	2				
Buttar, Dr. C., London	2	2				
Cardale, Dr. H. J., London	0	2				
Cates, Dr. H. J., St. Helens	2	2				
Clarke, Dr. A. V., Leicester	2	2				
Dain, Dr. H. G., Birmingham	2	2				
Dawson, The Rt. Hon. Lord, K.C.M.G., K.C.V.O., C.B., London	1	2				
Dearden, Dr. W. F., Manchester	0	2				
Dill, Dr. J. F. Gordon, O.B.E., Hove	0	2				
Domville, Dr. E. J., O.B.E., Bridport	2	2				
Eccles, Mr. W. McAdam, London	0	2				
Flemming, Dr. C. E. S., Bradford-on-Avon ...	1	2				
Fothergill, Dr. E. R., Hove	2	2				
Fry, Dr. P. V., East Molesey	2	2				
Galloway, Sir James, K.B.E., C.B., London...	2	2				
Garstang, Dr. T. W. H., Altrincham	2	2				
Harman, Mr. N. Bishop, London	2	2				
Hill, Dr. T. Eustace, O.B.E., Darlington ...	0	2				
Holbeche, Dr. A. O., Great Malvern	1	2				
Howarth, Dr. W. J., C.B.E., Longfield	1	2				
Houlton, Dr. E. H., Mansfield	2	2				
Ivens, Dr. M. H. F., Liverpool	0	2				
Johnson, Dr. I. W., Bury	2	2				
Jones, Dr. D. Rocyn, Newport	0	2				
Jones, Dr. Hugh, Dolgelly	1	2				
Jones, Dr. Herbert, Hereford	0	2				
Lyster, Dr. R. A., Winchester	2	2				
Macdonald, Dr. J. A., LL.D., Taunton	1	2				
Maclean, Prof. Ewen J., Cardiff	1	2				
Mactier, Dr. H. C., M.B.E., Wolverhampton ...	2	2				
Masterman, Dr. E. W. G., London	1	2				
Myles, Dr. G. T., Bristol	2	2				
Radcliffe, Dr. F., Oldham	1	2				
Sanders, Dr. C., London	2	2				
Shore, Dr. T. W., O.B.E., London	0	2				
Smyth, Dr. W. Johnson, Bournemouth	1	2				
Snell, Dr. E. H., Coventry	2	2				
Souttar, Mr. H. S., C.B.E., London	2	2				
Stevens, Dr. J., Edinburgh	2	2				
Thomas, Dr. W. E., Ystrad Rhondda	1	2				
Treasure, Dr. W. B. Crawford, Cardiff ...	0	2				
Turner, Mr. E. B., London	2	2				
Verrall, Sir Jenner, LL.D., Leatherhead ...	2	2				
Wheatley, Dr. J., Shrewsbury	1	1				
Williams, Dr. E. C. Pillman, London	1	2				
Wynne, Dr. F. E., Sheffield	1	2				

MEDICO-SOCIOLOGICAL.

Chairman: Dr. E. R. FOTHERGILL.

NAME.	ATTENDANCES. Com. Meetings. Actual	Com. Meetings. Possible	Sub-Com. Meetings. Actual	Sub-Com. Meetings. Possible	Total. Actual	Total. Possible
President	0	1				
Chairman of Council	0	1				
Chairman of Representative Meetings	0	1				
Treasurer	0	1				
Brackenbury, Dr. H. B., Hornsey	1	1				
Fothergill, Dr. E. R., Hove	1	1				
Garstang, Dr. T. W. H., Altrincham	1	1				
Harman, Mr. N. Bishop, London	1	1				
Turner, Mr. E. B., London	1	1				

PARLIAMENTARY ELECTIONS.

Chairman: Mr. N. BISHOP HARMAN.

NAME.	ATTENDANCES. Com. Meetings. Actual	Com. Meetings. Possible	Sub-Com. Meetings. Actual	Sub-Com. Meetings. Possible	Total. Actual	Total. Possible
President	0	2	—	—	0	2
Chairman of Council	1	2	—	—	1	2
Chairman of Representative Meetings	1	2	—	—	1	2
Treasurer	1	2	0	1	1	3
Brackenbury, Dr. H. B., Hornsey	1	2	1	1	2	3
Caiger, Mr. H., Sheffield	2	2	—	—	2	2
Dain, Dr. H. G., Birmingham	1	2	—	—	1	2
Eccles, Mr. W. McAdam, London	1	2	1	1	2	3
Elliott, Capt. W. E., M.C., M.P., London ...	0	2	0	1	0	3
Farquharson, Dr. A. C., M.P., London ...	0	2	1	1	1	3
Flitcroft, Sir Thomas, Bolton	2	2	—	—	2	2
Fothergill, Dr. E. R., Hove	1	2	—	—	1	2
Goff, Dr. J., Windlesham	2	2	—	—	2	2
Greer, Mr. W. J., Newport	0	2	—	—	0	2
Harman, Mr. N. Bishop, London	2	2	1	1	3	3
Le Fleming, Dr. E. K., Wimborne	2	2	—	—	2	2
Macdonald, Dr. J. A., LL.D., Taunton	1	2	—	—	1	2
McGowan, Dr. R. G., Manchester	1	2	—	—	1	2
Murrell, Dr. Christine, London (Medical Women's Federation)	1	2	1	1	2	3
Turner, Mr. E. B., London	2	2	1	1	3	3
Verrall, Sir Jenner, LL.D., Leatherhead ...	0	2	—	—	0	2

PROFESSIONAL SECRECY.

Chairman: Dr. R. LANGDON-DOWN.

NAME.	ATTENDANCES. Com. Meetings. Actual	Com. Meetings. Possible	Sub-Com. Meetings. Actual	Sub-Com. Meetings. Possible	Total. Actual	Total. Possible
President	0	2				
Chairman of Council	2	2				
Chairman of Representative Meetings	1	2				
Treasurer	1	2				
Bristowe, Dr. H. C., Wrington	2	2				
*Crookshank, Dr. F. G., London	1	1				
Dain, Dr. H. G., Birmingham	2	2				
Dawson, The Rt. Hon. Lord, K.C.M.G., G.C.V.O., C.B., London	1	2				
Don, Dr. James, Newcastle-on-Tyne	1	2				
Forbes, Dr. A., Sheffield	1	2				
Fothergill, Dr. E. R., Hove	2	2				
Goff, Dr. J., Windlesham	2	2				
Jordan, Mr. J. Furneaux, Birmingham	2	2				
Langdon-Down, Dr. R. Hampton Wick	2	2				
Lyndon, Dr. A., O.B.E., Hindhead	2	2				
Macdonald, Dr. J. A., LL.D., Taunton	1	2				
Mactier, Dr. H. C., M.B.E., Wolverhampton ...	2	2				
Moore, Dr. Milner M., Eastbourne	2	2				
Neal, Dr. James, London	2	2				
Stevens, Dr. John, Edinburgh	1	2				
Turner, Mr. E. B., London	2	2				
Verrall, Sir Jenner, LL.D., Leatherhead ...	1	2				

* Resigned April, 1922.

POST-GRADUATE COURSES.

Chairman: Major-General Sir RICHARD LUCE.

NAME.		ATTENDANCES. Com. Meetings. Actual	Com. Meetings. Possible	Sub-Com. Meetings. Actual	Sub-Com. Meetings. Possible	Total. Actual	Total. Possible
President	ex-officio	0	3				
Chairman of Council	ex-officio	0	3				
Chairman of Representative Meetings	ex-officio	0	3				
Treasurer	ex-officio	0	3				
Brackenbury, Dr. H. B., Hornsey		3	3				
Buttar, Dr. Chas., London		3	3				
Dain, Dr. H. G., Birmingham		1	3				
Hawthorne, Dr. C. O., London		3	3				
Hurst, Dr. Arthur, Windsor Forest		0	3				
Luce, Maj.-Gen. Sir Richard, K.C.M.G., C.B., Derby		2	3				
Macdonald, Dr. J. A., LL.D., Taunton		0	3				
Martin, Prof. C. J., C.M.G., F.R.S., London		2	3				
Saunders, Dr. E. Arthur, London		3	3				
Walker, Dr. J. F., Southend-on-Sea		1	3				
*Whiting, Dr. A. J., London		1	1				
Willan, Mr. R. J., M.V.O., O.B.E., Newcastle-on-Tyne		1	3				

* Appointed December, 1921.

British Medical Association.

CURRENT NOTES.

Ebbw Vale and its Doctors.

THE Workmen's Committee at Ebbw Vale has induced nine doctors to accept its offer, and the question whether the public of Ebbw Vale are to have doctors of their own choosing or only those chosen for them by a committee is now to be fought out. The doctors formerly employed by the committee are determined to give the public a chance of settling the matter for themselves. The independent doctors have scored a very good initial point, for the management of the works has agreed to deduct poundage from the wages of all those workmen who signify their desire to employ any of these independent doctors, and the latter have already received sufficient promises of support to show that the workmen's scheme with its "tied" doctors will have for the first time a competition which must be reckoned with. The Medical Secretary spent the week-end at Ebbw Vale, and was glad to note the confidence with which the independent doctors are entering into the fight, and how much they appreciate the backing of the Association and the sympathy they are receiving from most of the local press. The rest of the doctors in Monmouthshire fully appreciate the significance of this fight to all doctors engaged in industrial practice, and the Monmouthshire Division at a recent meeting pledged itself to do all in its power to support the independent Ebbw Vale doctors.

Approved Societies and Medical Benefit.

The motions received from Local Medical and Panel Committees for inclusion in the agenda of the Panel Conference to be held in London on May 18th, and the resolutions passed by meetings of these committees, by medical societies, and by Divisions and Branches of the British Medical Association, are all more or less on the lines of the resolution passed by the Insurance Acts Committee, to the effect that, whilst welcoming the co-operation of all those interested in the development of the best possible medical service for insured persons, the Conference insists upon the continuance of the system of negotiating the actual terms of the contract of service which has prevailed since the coming into force of the National Health Insurance system—that is, direct negotiations between the Government and the profession without the intervention of any third party. It is clear therefore that the medical profession does not intend to lose anything in this direction which it gained as a result of its successful fight in 1912.

Willesden Advisory Medical Committee.

In this column last week we recorded (p. 114) that an advisory medical committee was about to be appointed in Willesden to advise and deal with the health committee of the local urban district council on all matters affecting the public health of the district, on the lines suggested by the Dawson Report. This committee was to be elected by all the medical practitioners residing in Willesden, and considerable interest has been taken in its election. The committee was to include one consultant, nine general practitioners, and one whole-time medical officer; for these places there were nominated two consultants, fourteen general practitioners, and one whole-time medical officer. As the result of a vote, the following have been elected: Consultant—Mr. A. W. Bourne; General Practitioners—Dr. W. Paterson, Dr. H. J. Macevoy, Dr. C. F. T. Scott, Dr. C. H. Auty, Dr. F. R. Sturridge, Dr. J. W. Brash, Dr. C. Whitehall Cooke, Dr. W. Woodley Stocker, Dr. J. B. Dunning; Whole-time Officer—Dr. Rachel Gethen, unopposed. Nearly all the general practitioners elected have taken an active part in the recent work of the Willesden Division of the British Medical Association.

Association Notices.

NOTICES OF MOTION BY DIVISIONS FOR THE ANNUAL REPRESENTATIVE MEETING, GLASGOW, 1922.

Report on Hospital Policy of the Association.

(Published in the SUPPLEMENT of February 25th, 1922.)

By BARNSTAPLE:

That the patients referred to in para. 4 be classified as "Tariff Patients."

That this meeting disagrees with the definition of a voluntary hospital as laid down in para. 7; that in the opinion of this meeting a voluntary hospital should be defined as one in which no charge is made to the patient either for maintenance or treatment.

That the following be added to para. 25:

Except such patients who shall be referred for prolonged treatment by their own medical attendant.

By MARYLEBONE:

That para. 23 (*b*) be deleted and the following substituted therefor:

The Staff of the Hospital Annexe for private patients should not be limited to the Staff of the Hospital to which it is attached, but should include other competent practitioners as indicated in para. 32.

That the following additional subparagraph be added to para. 23:

(*c*) It shall be open to a private patient to retain his family physician as his general attendant during his residence in the Hospital Annexe, and to select any member of the Staff of the Annexe he may desire for the special treatment necessary.

That existing para. 30 become para. 29, and that existing para. 29 be amended to read as follows and become para. 30:

Full opportunity should be given to private practitioners who possess the necessary qualifications and experience to participate in the work of the voluntary hospitals as clinical and chief clinical assistant, or in similar capacities.

That para. 31 be amended to read as follows:

When the number of tariff patients of voluntary hospitals increases the number of appointments to clinical assistantships should be increased to give a greater number of practitioners opportunity of taking part in the work.

Postal Vote by Division or Branch.

By CAMBS AND HUNTS:

That it be an instruction to the Council to make provision whereby any Branch or Division may take a postal vote on any question of policy or otherwise, after the question has been discussed at a meeting of that Branch or Division, if the members present at that meeting deem a postal vote to be desirable, provided that with each Referendum there shall be transmitted such observations on the subject under discussion as the meeting may direct, and that a full report of the proceedings shall be submitted to the Council of the Association.

Non-Panel Committee.

By MARYLEBONE:

That the Non-Panel Committee of the Association be revived and reconstituted.

TABLE OF DATES.

May 8, Mon.	Last day for receipt at Head Office of Nominations, by a Division or not less than 3 Members, for election of 24 Members of Council by grouped Home Branches for 1922-23.
May 13, Sat.	Publication in SUPPLEMENT of list of nominations for election of 24 Members of Council by grouped Home Branches for 1922-23.
	Voting papers for election of 24 Members of Council by grouped Home Branches posted from Head Office to Members of groups where there are contests.
May 27, Sat.	Last day for receipt at Head Office of voting papers for election of 24 Members of Council by grouped Home Branches (where contests).
June 3, Sat.	Publication in SUPPLEMENT of results of Council elections by grouped Home Branches.
June 10, Sat.	Nomination papers available, at Head Office, for election of 12 Members of Council by grouped Home Representatives.
June 14, Wed.	Council Meeting, 429, Strand, at 10 a.m.
June 23, Fri.	Last day for election of Representatives and Deputy Representatives.
June 24, Sat.	Supplementary Report of Council appears in SUPPLEMENT.
June 30, Fri.	Last day for receipt at Head Office of notification of election of Representatives and Deputy Representatives.
July 7, Fri.	Last day for receipt at Head Office of Amendments and Riders for Annual Representative Meeting Agenda.
July 21, Fri.	Annual Representative Meeting, Glasgow, 10 a.m.
	Nominations for election of 12 Members of Council by grouped Representatives to be received (at A.R.M., Glasgow) by this date.

ALFRED COX, *Medical Secretary.*

BRANCH AND DIVISION MEETINGS TO BE HELD.

DORSET AND WEST HANTS BRANCH.—The annual meeting of the Dorset and West Hants Branch will be held on Thursday, May 11th, at the Branksome Tower Hotel, Bournemouth, at 3 p.m., when Dr. F. C. Bottomley, O.B.E. (President), will take the chair. Agenda: Report of Branch Council. Reports of Bournemouth and West Dorset Divisions. To receive reports of elections of new officers who will thereupon take office. The President, Dr. W. Johnson Smyth, will deliver the presidential address; subject: Sleep and Sleeplessness. To fix date and place of summer meeting. Luncheon will be served at 1.30; price 5s. The President and President-elect will receive members in the grounds of the hotel from 1 to 1.30. Dr. Johnson Smyth very kindly invites members and ladies to tea after the business meeting.

LANCASHIRE AND CHESHIRE BRANCH: ROCHDALE DIVISION.—A meeting of the Rochdale Division will be held in the cloakroom, Town Hall, Rochdale, on Wednesday, May 10th, at 8.30 p.m., when Mr. T. Eastham, K.C., M.B., will deliver a British Medical Association Lecture on "Some recent medico-legal difficulties."

METROPOLITAN COUNTIES BRANCH: CAMBERWELL DIVISION.—A meeting of the Division will be held on Wednesday, May 17th, at the Camberwell Infirmary, at 9 p.m., when a lecture on "The diagnosis of pyorrhoea alveolaris in its relation to general disease" (with lantern) will be given by Mr. F. N. Doubleday, M.R.C.S., L.D.S. (Guy's Hospital).

MIDLAND BRANCH: CHESTERFIELD DIVISION.—The annual general meeting of the Chesterfield Division will be held in the board room at the Royal Hospital, Chesterfield, on Friday, May 12th, at 2.30 p.m. The agenda includes the presentation of the annual report and balance sheet, and election of officers.

SOUTH WALES AND MONMOUTHSHIRE BRANCH.—A social meeting of the South Wales and Monmouthshire Branch will be held at Llandilo on May 12th, by the kind invitation of the South-West Wales Division. The members of the Branch, with ladies, will meet at the Cawdor Arms, Llandilo, at 3.15 p.m., proceed to Castell Carreg Cennen (Dr. R. Hopkin will read a short paper on the castle), and afterwards return to the Cawdor Arms for tea about 5 o'clock. All members who intend to be present are requested to notify Dr. Alfred Lloyd, Bank House, Llandilo, as soon as possible, and to indicate whether they will be accompanied by ladies.

SURREY BRANCH: KINGSTON-ON-THAMES DIVISION.—The annual general meeting of the Kingston-on-Thames Division will be held at the Surbiton Hospital at 8.45 p.m. on Tuesday, May 9th. Agenda: To receive the report for the last year. Elect officers. Instruct the Representative Meeting.

SUSSEX BRANCH: HASTINGS DIVISION.—The annual meeting of the Hastings Division will be held on Tuesday, May 9th, at the Eversfield Hotel, St. Leonards-on-Sea, at 8.30 p.m. Agenda: To receive the annual report; election of officers and representatives.

WILTSHIRE BRANCH.—A British Medical Association Lecture will be given by Dr. A. F. Hurst on May 10th, at 4.30, in the Town Hall, Trowbridge, on "Causes and Treatment of Constipation," to which all members of the profession are invited. The President hopes that they will meet him at tea at 4 o'clock in the Council Chamber. There will be a business meeting of the Branch at 3 to discuss the report of the hospital service of the county.

Meetings of Branches and Divisions.

DORSET AND WEST HANTS BRANCH: WEST DORSET DIVISION.

A MEETING of the West Dorset Division was held at Dorchester on April 26th, when the "Revision of Constitution" (vide SUPPLEMENT, December 24th, 1921), and the report on organization of voluntary hospitals (vide SUPPLEMENT, February 25th, 1922) were approved.

The following resolution was unanimously adopted:

"That this Division uncompromisingly supports the Insurance Acts Committee in their refusal to accept any control over the administration of medical benefit by approved societies."

A subscription for Dr. Wood-Hill fund was started.

METROPOLITAN COUNTIES BRANCH: MARYLEBONE DIVISION.

AN ordinary meeting of the Marylebone Division was held on April 26th, when Dr. BLACKHALL-MORISON was in the chair.

A motion by Dr. BLACKHALL-MORISON that "the Non-Panel Committee of the Association be revived and reconstituted" was carried after considerable discussion, in which Mr. BISHOP HARMAN and Drs. ROXBURGH, SPURGIN, FIELDING-OULD, WORTHINGTON, GOULLET, and HAWTHORNE took part, and it was agreed to send the motion to the Council and as a notice of motion to the Representative Meeting.

The Division agreed to nominate Dr. Blackhall-Morison, Lord Dawson, and Mr. Bishop Harman for the Central Council. Mr. BISHOP HARMAN gave an epitome of the Council's report on hospital policy, for which he was accorded a vote of thanks. Some amendments were agreed to, and the honorary secretaries were instructed to send these to the Head Office as notices of motion for the Representative Meeting.

METROPOLITAN COUNTIES BRANCH: SOUTH MIDDLESEX DIVISION.

AT a meeting of the South Middlesex Division, held on April 26th, the following motion was carried:

"That this Division views with regret the publishing in the BRITISH MEDICAL JOURNAL of a letter advocating the reduction in fees, as being injudicious, and liable to misinterpretation by the lay press and public."

NORFOLK BRANCH.

A WELL attended and highly successful meeting of the Norfolk Branch was held at the Norfolk and Norwich Hospital on April 27th, when the President, Dr. R. C. M. COLVIN-SMITH (Cromer), was in the chair.

Dr. ALFRED COX, Medical Secretary of the Association, gave an address on "Some commonplaces of medical organization, together with remarks on the B.M.A. policy as regards hospitals and approved societies." A good discussion followed, in which Dr. D. G. THOMSON, Dr. LONG, Dr. BELDING, Dr. CLEVELAND, Mr. S. H. BURTON, Lieut.-Colonel ELLIS ROWELL, Dr. VERE PEARSON, Mr. B. B. SAPWELL, and Mr. J. BURFIELD took part. Dr. COX replied to the points raised.

A hearty vote of thanks to the speaker was proposed by Sir HAMILTON BALLANCE and carried with acclamation.

At the close of the meeting afternoon tea was provided.

NORTH OF ENGLAND BRANCH: STOCKTON DIVISION.

A SCIENTIFIC meeting of the Stockton Division was held in the Stockton and Thornaby Hospital on April 21st. Dr. S. LYLE, C.B.E., was in the chair, and introduced Mr. J. HAMILTON BARCLAY, M.D., M.S., F.R.C.S., of Newcastle-on-Tyne, who gave a very interesting lecture on acute intestinal obstruction. The lecturer emphasized the great importance of early diagnosis and treatment, and he quoted "better an early operation by a poor surgeon than a late operation by a better surgeon!" Some illustrative specimens were shown. The cause of death in acute intestinal obstruction was also discussed by Mr. Barclay, and he gave detailed accounts of experiments done and theories held, particularly dealing with the "toxaemic theory" and the "splanchnic theory."

Dr. A. N. ROY proposed a vote of thanks, and emphasized the importance of early diagnosis. Dr. WILKIN, who had served in France beside Mr. Barclay, seconded the proposal, which was carried unanimously.

The meeting was well attended, and the members greatly appreciated the lecture.

SUFFOLK BRANCH.

THE spring meeting of the Suffolk Branch was held at Saxmundham on April 17th. Papers were read by Dr. BROWN (Ipswich) on cancer of the bowel, and by Dr. HEATH (Ipswich) on the biochemistry and treatment of diabetes. Tea was served by the kind invitation of the President, Dr. Tyson, and Mrs. Tyson.

YORKSHIRE BRANCH: HARROGATE DIVISION.

A GENERAL meeting of the Harrogate Division was held on April 6th, when Dr. W. BAIN presided. A resolution was adopted expressing the severe loss the Division had sustained in the death of its late secretary, Dr. C. Gibson, and recording its great appreciation of his work.

The following officers were elected for the year:

Chairman: Dr. C. H. Greenwood (Ripon). *Vice-Chairman:* Mr. H. Frankling, C.B.E. *Honorary Secretary:* Dr. A. C. Sharp. *Representative on Branch Council:* Dr. A. Mantle. *Representative in Representative Body:* Dr. A. C. Sharp.

Insurance.

INSURANCE PRACTITIONERS AND THE APPROVED SOCIETIES.

THE current issue of the *National Insurance Gazette and Sickness Societies Review*, a weekly paper devoted chiefly to the interests of the National Insurance Act, reproduces extracts from the report in the SUPPLEMENT of April 8th of the recent Conference between representatives of the medical profession and the Ministry of Health. In the same issue of the gazette an editorial article under the heading "Doctors and Societies" discusses the suggestion that representatives of the approved societies should be present when the Ministry of Health negotiates the terms of medical remuneration with the Insurance Acts Committee. The article continues:

"We fully realize that the doctors are determined not to go back to the old club practice days, and we can understand quite well that they prefer to say: We are under a contract for service with the State, and not under a contract of service with the approved societies. But all these things are very remote from practical issues. We have never come across an approved society which seriously wants to go back to the old system of giving appointments to individual doctors to treat its members in the several areas. That sort of thing is simply ridiculous as compared with the present system. Societies might be forced into it as the result of a strike, but it is not anything that they want. At this stage insured persons are not going to be told that they must go to Dr. Jones and to no one else. They might submit if convinced that the doctors were trying to drive an unconscionable bargain, though we are not too sure of it even then. No; what approved societies want is a fair opportunity to discuss things. They do not want the Minister to make a bargain with the doctors without consultation with them, with the result that they are left to find the money, or submit to a new Act of Parliament altering contributions, etc. Surely it is better to bring the societies in than to leave them outside, simply saying: We will pay 7s. (less two-ninths) and not a copper more. If the societies say that, and the Government will not find any extra, where are the doctors? They had much better argue the matter with the societies. Our view is that there are several questions which can very well be argued between the societies and the doctors, with benefit to all. Societies will be more ready to pay more than the bare 7s. if they can have these other questions satisfactorily settled. Societies know that the vast majority of the doctors are giving a square deal, but they also know that few societies are not—and Drs. Cox and Brackenbury know this, too. Further, a small number of doctors adopt anything but a helpful attitude to approved societies. We want approved societies and doctors to work together and to pull together. The more they confer the better for all. It will be a very good thing for some doctors if they are led to realize that approved societies have a stake in the matter."

The office of the headquarters staff of the National Health Insurance Department of the Ministry of Health has been transferred from Wellington House, Buckingham Gate, London, S.W.1, to the Ministry of Health, Whitehall, London, S.W.1.

DIARY OF SOCIETIES AND LECTURES.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.—Mon., 8 p.m., Second General Meeting. 9 p.m., Annual Oration by Mr. H. J. Waring, C.B.E., M.S., F.R.C.S.: Hospitals: Some Suggestions as Regards their Future.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—Mon., 5 p.m., Museum Demonstration by Professor Shattock: Tuberculosis. Wed. and Thurs., 5 p.m., Hunterian Lectures by Mr. Harold Burrows: The Results and Treatment of Gunshot Wounds of the Blood Vessels.

ROYAL SOCIETY OF MEDICINE.—*War Section:* Mon., 5.30 p.m., Annual General Meeting. *Section of Psychiatry:* Tues., 5.30 p.m., Annual General Meeting. *Section of Surgery; Subsection of Proctology:* Wed., 5.30 p.m., Annual General Meeting; Cases and Specimens. *Section of Neurology:* Thurs., 8.30 p.m., Annual General Meeting; Paper, Dr. Edwin Bramwell: Some Features of Myopathy. *Clinical Section:* Fri., 5 p.m., Cases. 5.30 p.m., Annual General Meeting.

POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE, 1, Wimpole Street, W.—Tues., 5 p.m., Sir W. Arbuthnot Lane: Fractures.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION, Eye Infirmary.—Wed., 4.15 p.m., Eye Cases.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Thurs., 4 p.m., Dr. Poynton: The Heart in Severe Anaemias of Childhood.

INSTITUTE OF PATHOLOGY AND RESEARCH, St. Mary's Hospital, Paddington, W.—Thurs., 5 p.m., Professor G. Elliot Smith: The Anatomy of Anxiety.

LONDON HOSPITAL MEDICAL COLLEGE, E.—Dr. Culpin: Psycho-Neuroses: Tues., 5.15 p.m., The Unconscious; Fri., 5.15, Suggestion.

LONDON LOCK HOSPITAL, 91, Dean Street, W.1.—Tues., 2.30 p.m., Mr. J. E. R. McDonagh: Rationale and Interpretation of Tests used in Syphilis. 5 p.m., Mr. F. A. Juler: Commoner External Venereal Diseases of the Eye. Thurs., 4.30 p.m., Mr. Swift Joly: Treatment of Acute Gonorrhoea in the Male. Fri., 4 p.m., Mr. J. Johnston Abraham: Treatment of Gonorrhoea in the Female.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland Street, W.1.—Mon., 5.30 p.m., Dr. F. W. Price: Examination of Cardiovascular System.

ST. MARYLEBONE GENERAL DISPENSARY, Welbeck Street, W.—Infant and Child Welfare, Dr. Eric Pritchard: Mon., 6 p.m., Breast Feeding; Thurs., 6 p.m., Artificial Feeding of Infants.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Hospital, Ouseley Road, Balham.—Thurs., 4 p.m., Mr. P. Macleod Yearsley: Common Errors in Diagnosis in Regard to the Ear.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Mon., 10.30 a.m., Mr. Maingot: Surgical Pathology. Tues., 10 a.m., Dr. Paterson: Medical Cases. Wed., 5 p.m., Dr. Grainger Stewart: Examination of Nervous System. Thurs., 2 p.m., Mr. Armour: Operations. Fri., 2.30 p.m., Dr. Pritchard: Wards. Sat., 10 a.m., Mr. Banks Davis: Nose, Throat, and Ear Operations.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 1s. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS and ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London).
MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London).
EDITOR, *British Medical Journal* (Telegrams: Aitiology, Westrand, London).
Telephone number for all Departments: Gerrard 2630 (*3 lines*).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)
IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

MAY.

5 Fri. City Division: Clinical Meeting, Royal Northern Hospital, Address by Dr. P. Hamill, Cardio-vascular Neuroses, 9.30 p.m.
9 Tues. Hastings Division: Eversfield Hotel, St. Leonards-on-Sea, Annual Meeting, 8.30 p.m.
Kingston-on-Thames Division: Surbiton Hospital, 8.45 p.m.
10 Wed. Rochdale Division; Ladies' Cloakroom at the Town Hall, Rochdale, B.M.A. Lecture by Dr. T. Eastham, K.C., M.B., on Some Recent Medico-Legal Difficulties, at 8.30 p.m.
Wiltshire Branch, Trowbridge: B.M.A. Lecture, Dr. A. F. Hurst, Causation and Treatment of Constipation, 4.30 p.m.
11 Thur. London: Maternity and Child Welfare Subcommittee, 2 p.m.
Dorset and West Hants Branch: Annual Meeting, Branksome Tower Hotel, Bournemouth, 3 p.m. Luncheon, 1.30 p.m.
12 Fri. London: Insurance Acts Committee, 2.30 p.m.
Chesterfield Division: Annual Meeting, Royal Hospital, Chesterfield, 2.30 p.m.
South Wales and Monmouthshire Branch: Cawdor Arms, Llandilo, 3.15; Tea, 5 p.m.
16 Tues. London: Organization of Students' Subcommittee, 2.15 p.m.
17 Wed. London: Hospitals Committee, 2.30 p.m.
Camberwell Division, Camberwell Infirmary. Lecture by Mr. F. N. Doubleday: Diagnosis of Pyorrhoea Alveolaris in its Relation to General Disease, 9 p.m.
18 Thurs. London: Conference of Local Medical and Panel Committees at Central Hall, Westminster. Principal item of business: Approved Societies and Control of Medical Benefit.
24 Wed. London: Medico-Political Committee, 2.30 p.m.
26 Fri. London: Public Health Committee, 3.0 p.m.
31 Wed. London: Finance Committee, 2.30 p.m.

APPOINTMENTS.

BRAITHWAITE, J. V. C., M.B., B.S.Lond., M.R.C.P., Honorary Assistant Physician, Leicester Royal Infirmary.

DANBY, A. B., F.R.C.S.E., Honorary Assistant Obstetric Officer to the Birmingham General Hospital.

HICKS, E. P., Assistant Pathologist to the Municipal Council, Shanghai.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

BIRTHS.

HENDRIE.—On April 27th, at Stowe House, Holt, Norfolk, to Dr. and Mrs. A. S. Hendrie—a son.

JAMIESON.—At High Elms Nursing Home, Victoria Park, Manchester, on April 26th, to Elizabeth Mary (*née* Edwards), wife of H. G. R. Jamieson, M.B., Ch.B.—a son.

MARRIAGES.

HAIG—TAIT.—On April 25th, at the Parish Church of Etherley, county Durham, by the Rev. L. S. Merrefield, Rector of the Parish, assisted by the Rev. C. E. Owtram, Rector of Woodchurch, Kent, William Haig, D.S.O., M.B., C.M., of Crieff, Perthshire, to Christine Jean, elder daughter of the late J. J. and Mrs. Tait, The Fields, Etherley.

MORISON—MORLEY.—On April 29th, at Christ Church, Highbury, by the Rev. T. R. Hine-Haycock, Alexander Gavin Morison, M.A., M.B., Ch.B.Aberd., Isleworth, to Dorothy May Morley, 50, Highbury Park, N.5.

TOMB—LAMPORT.—On April 19th, at the Parish Church, Lancaster, by Rev. C. J. Milner, assisted by Rev. J. W. Hope, James A. Tomb, M.B., Ch.B., younger son of Mr. and Mrs. James Tomb, Coleraine, to Dorothy Parke, elder daughter of Dr. and Mrs. H. C. Lamport of Lancaster.

DEATH.

WILSON.—On April 23rd, suddenly, Arthur Edward Wilson, M.B.Lond., of 28, West Hill, Sydenham, S.E. 26, and late of Boston, Lincs.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, MAY 13TH, 1922.

CONTENTS.

BRITISH MEDICAL ASSOCIATION.	PAGE
Proceedings of Council	165
Annual Representative Meeting at Glasgow: Provisional Agenda	168
CURRENT NOTES:	
Sport at the Glasgow Annual Meeting	172
Ebbw Vale	172
Fees for Examination of Emigrants	172
Fees for Attendance on Soldiers on Leave	172
Medical Inspection of School Children at Crewe	172
ASSOCIATION NOTICES:	
Election of 24 Members of Council	170
Home Constituencies for Election of Representative Body	171
Table of Dates	171
Branch and Division Meetings to be held	171
Grants in Aid of Scientific Research	176
MEETINGS OF BRANCHES AND DIVISIONS	175

	PAGE
Annual Meeting at Glasgow:	
PROGRAMME OF BUSINESS	173
THE SCIENTIFIC SECTIONS	175
The Maintenance of Our Hospitals. By Chas. E. S. Flemming, M.R.C.S.	177
CORRESPONDENCE	178
INSURANCE NOTES:	
London Scheme for Holiday Deputies	173
Local Medical and Panel Committees	179
NAVAL AND MILITARY APPOINTMENTS	179
DIARY OF SOCIETIES AND LECTURES	180
ASSOCIATION INTELLIGENCE AND DIARY	180
APPOINTMENTS	180
BIRTHS, MARRIAGES AND DEATHS	180

SPECIAL NOTICE TO MEMBERS.

Every Member is requested to preserve this "Supplement," which contains matters specially referred to Divisions, until the subjects have been discussed by the Division to which he or she belongs.

British Medical Association.

PROCEEDINGS OF COUNCIL,

Wednesday, April 26th, 1922.

A meeting of the Council took place at 429, Strand, London, on Wednesday, April 26th, at 10 a.m. Dr. R. A. Bolam (Chairman of Council) presided, and there were present:

Professor David Drummond (President), Sir Clifford Allbutt (Past President), Dr. Wallace Henry (Chairman of Representative Meetings), Dr. G. E. Haslip (Treasurer), Dr. T. Ridley Bailey, Dr. H. S. Beadles, Dr. J. W. Bone, Dr. H. B. Brackenbury, Dr. H. C. Bristowe, Dr. C. Buttar, Mr. Russell Coombe, Dr. H. G. Dain, Dr. J. S. Darling, Dr. James Don, Dr. C. E. Douglas, Dr. T. P. Dunhill, Mr. W. McAdam Eccles, Dr. A. Forbes, Dr. E. R. Fothergill, Dr. T. W. H. Garstang, Dr. T. D. Greenlees, Mr. N. Bishop Harman, Dr. A. O. Holbeche, Dr. R. Langdon-Down, Dr. David Lawson, Dr. P. G. Lee, Sir Richard Luce, Dr. J. A. Macdonald, Dr. Morton Mackenzie, Sir William Macpherson, Dr. Hugh Miller, Mr. A. W. Nuthall, Dr. R. C. Peacocke, Dr. F. Radcliffe, Dr. C. E. Robertson, Dr. W. Snodgrass, Dr. R. F. O. Stedman, Dr. John Stevens, Mr. E. B. Turner, and Dr. E. O. Turner.

Personal.

The Chairman, after formal business, asked for authorization to convey to Sir Humphry Rolleston the congratulations of the Council on his election to the presidency of the Royal College of Physicians of London. This was accorded with applause.

The Chairman then reported, with regret, the deaths of Dr. W. A. Hollis, a former President; Dr. Charles Parsons, a former Treasurer and Vice-President; Dr. John Adams, a former member of Council; Sir Patrick Manson, a Stewart Prizeman and a Sectional President; and Dr. Alfred Hill, probably the oldest member of the Association; also the death of Mr. A. W. Bacot, who, although not a medical man, was well known to the profession for his work at the Lister Institute.

The Annual Meeting at Glasgow.

Applications from officers of certain Sections for permission to extend the number of days on which sectional meetings will be held or to invite special guests were considered. Some discussion arose on the additional space in the Journal which would be required for reporting the proceedings, and it was decided to intimate that the Council had provided for a certain limited number of additional pages in the Journal for the publication of the proceedings of the Sections, and that the space so accorded could not be exceeded.

The Position of Medical Charities.

The Chairman reported on a conference held between representatives of the Association and of Epsom College and the Royal Medical Benevolent Fund to consider the possibility of a special joint appeal being made through the Association for financial support for the two great medical charities. The representatives of both charities, however, appeared to find considerable difficulty, for various reasons, in agreeing to a joint appeal, although the Association was thanked for the help it had given in the collection of funds. The Chairman added that through its annual notice to members the Association had been able to secure for each of these bodies a considerable and steady income.

Medical Students and the Association.

Dr. Morton Mackenzie, Chairman of the Organization Committee, submitted a detailed report from that Committee on the organization of medical students with a view to keeping the work and claims of the Association prominently before them, so that on qualification they would, as a matter of course, become members. A conference on this subject had taken place with representatives from the teaching staffs of nearly all the provincial medical schools and certain of the London schools. The Association had never enjoyed the position among the teaching bodies to which it was entitled. So far as the deans were concerned, this was perhaps attributable to a natural unwillingness to allow any external interest to be introduced into the work of the school, and so far as the teachers were concerned, it was largely due to ignorance of the work of the Association. A draft scheme had been prepared, the first items of which were that only final-year students and newly qualified men should be specifically approached by the Association, that steps should be taken to get notices regarding the Association posted in the twelve schools not already exhibiting them, and that addresses should be given or debates opened, where possible, by local representatives of the Association, preferably old students of the schools concerned, on questions connected with medical practice. With regard to research grants, the opinion of the Committee was that these were not quite serving their intended purpose, and that it would be advantageous either to increase the total amount or to spread the amount now available over a larger number of grants.

Sir Clifford Allbutt said that he was disposed to think that with the amount of money now available for research from one source or another, persons really capable of advancing knowledge were already sufficiently provided for in this respect; but, of course, there were a large number of persons who derived very much benefit for themselves from being induced by grants and scholarships to take up research, even though the gain to medical science was not so appreciable. After further discussion, it was agreed that the money available should be spread over a larger number of grants, and that in the allocation of these grants special attention should be paid to the encouragement of investigations by senior students and recent graduates in medicine, and the matter was referred to the Science Committee for further consideration.

A further proposal by the Committee was that the Association should spend annually, through the deans, a certain sum in prizes for competition by final-year students for essays on clinical and pathological subjects. Dr. Mackenzie explained that it was not desired to make these prizes too large, or that they should demand so much research as to deflect the student from the set tasks of his last year. Mr. Russell Coombe welcomed these movements because they made it plain that the Association had the scientific spirit. It was agreed that the sum available should be allocated among the medical schools, and that the Organization of Medical Students Subcommittee should draft a scheme.

Another method of assistance favoured by the Committee was the provision of grants or loans for approved final-year students in exceptional financial difficulties through the deans. It was not proposed to finance all students who might be in temporary need, but merely to have certain resources for meeting exceptional and recommended cases in which a man, through no fault of his own, was brought to a dead stop at a critical moment of his career. The Committee realized that the money could not come from the ordinary funds of the Association, but from some extraneous source which they thought would be forthcoming. Sir Clifford Allbutt, who spoke as trustee of a fund for assisting undergraduates, hoped that in course of time a more ambitious fund might be formed under the auspices of the Association which should be open to receive bequests for helping deserving students under special circumstances. Sir Clifford also urged that the loans should be made without interest or at a low rate of interest.

The report of the Committee on the whole subject was then approved, and the Committee was instructed to take steps to give effect to the various proposals.

Non-Members.

Some discussion took place on the question of non-members and their enjoyment of certain privileges of the Association. The Organization Committee proposed that in the case of non-members eligible for membership no invitation should be issued after 1922 to attend scientific meetings either centrally or locally, and that in the case of members resigning after the next Representative Meeting the Council be instructed to take steps to prevent the advantages of membership being placed at their disposal. Dr. Wallace Henry thought this proposal too drastic; he had himself succeeded in recruiting for the Association by invitations to outsiders to come to scientific meetings; difficulty would also arise in the Divisions where joint scientific meetings were held with local medical societies. Dr. Garstang pointed out the inconvenience of adopting two opposite policies. On the one hand they were endeavouring to get non-members to join, and on the other hand it seemed unjust that those who were members of the Association and bore the financial responsibility for its expensive work should find others who deliberately remained outside sharing in some of its advantages. He pressed for a definite policy, otherwise interminable difficulties would arise locally. He thought the Committee's recommendation rather too drastic, but an amendment by Mr. Harman was not strong enough. This amendment was that official invitations to non-members, who were eligible for membership, to attend scientific meetings should only be issued in exceptional circumstances. After a discussion which showed considerable divergence of opinion this was put to the vote and lost, whereupon Dr. Mackenzie withdrew the original proposition, and undertook to redraft it and bring it forward later.

Other Organization Matters.

Further recommendations of the Organization Committee, which were adopted with little or no discussion, authorized the calling of a conference between that Committee and the two medical defence societies with a view to furthering the insurance of all members of the Association in respect to individual medical defence; instructed committees so to arrange their work as to provide for the issue at more regular intervals of subjects for consideration by the Divisions; and authorized the grants to the Branches for 1922. It was also agreed to rearrange the by-laws so as to give effect, in an easily understood form, to the recent alteration in subscription rates for members in the regular services and members engaged solely in teaching or research. Dr. Mackenzie promised that the whole question should be examined next year.

Welsh Consultative Council.

The second interim report of the Welsh Consultative Council was reported on by the Welsh Committee, which approved it on the whole, subject to some slight modifications and reservations. Dr. Brackenbury urged that the Council should not give its unqualified approval to this document, because, for one thing, the report implied that existing local health authorities might be scrapped. Dr. Wallace Henry said that the view of the Committee was that under the special conditions in Wales the work could be done more satisfactorily in the way the Consultative Council proposed than by a strict adherence to the existing system of local area administration. Dr. Fothergill criticized certain proposals in the report which, he thought, were likely to have a pauperizing effect. It was agreed that the report should simply be received without approval or disapproval.

THE HOSPITALS POLICY.

Mr. Bishop Harman, Chairman of the Hospitals Committee, moved that the Representative Body be recommended to adopt the report on the hospitals policy of the Association (SUPPLEMENT, February 25th). He referred to the success of the recent Hospitals Conference called by the Association; its only disadvantage was that the small hospitals had not been able to send a larger number of representatives. Dr. Brackenbury took exception to the statement that on no essential point was the policy of the Association rejected by the Conference. One proposal of great importance was rejected—namely, that nursing-home annexes should be established in connexion with hospitals, and that patients therein should be at liberty to choose their own private practitioners. That, in his view, was an essential part of the hospitals scheme, without which he was not prepared to accept the scheme at all. If the free choice of doctor was going to be denied in the case of voluntary hospitals, while it remained a part of the scheme for municipal hospitals, then he preferred the latter. Mr. Harman agreed to an amended form of wording to meet Dr. Brackenbury's objection to the account of the Conference.

Medical Representation in Parliament.

Mr. Harman, in introducing the report of the Parliamentary Elections Committee, brought forward a formal alteration in the conditions under which the Medical Representation in Parliament Fund was held. He desired to make the Fund analogous to the National Insurance Defence Fund, so that the Committee concerned, and not the Council (to which nevertheless the Committee was responsible), should be the trustee body. To avoid any confusion it was proposed that the members of the Committee should be jointly and severally the trustees. In the course of some discussion the difficulty was pointed out that, unlike the Insurance Acts Committee, whose members acted as trustees for the Insurance Defence Fund, the Parliamentary Elections Committee was not a standing committee which the Council was bound to appoint, and which must have a certain composition. Ultimately it was agreed that the Council should remain the trustees, with power to delegate responsibility to the Committee for the time being.

Mr. Harman referred to the difficulty which had arisen owing to the parliamentary candidature of two medical men for the University of London, Sir S. Russell-Wells (Conservative) and Dr. W. H. R. Rivers (Labour). His committee came to the conclusion that the Association should approve the candidature of Sir. S. Russell-Wells because (1) he had asked for approval, whereas Dr. Rivers had not; (2) he was a practising doctor, whereas his medical opponent was not; and (3) Dr. Rivers was the nominee of a party which had promulgated a policy with regard to medical affairs which ran counter to the policy of the Association. After discussion the action of the Committee in approving the candidature of Sir S. Russell-Wells was endorsed.

FINANCES OF THE ASSOCIATION.

Dr. Haslip, the Treasurer, presented the annual balance sheet for the year ending December 31st. It was a pleasant duty for him to report that the finances of the Association showed a distinct improvement. During the year there had been an excess of income over expenditure (without, however, allowing for a subsequent special writing off of £3,000 for depreciation on the Association building) amounting to £15,290, which enabled the large bank overdraft from the previous year to be paid off, and left £4,000 on deposit. There had

been no need to write down the investments, although it had been considered prudent not to write them up. The stock of paper in hand had largely decreased, owing to the possibility now of buying on a falling market. The subscriptions in arrear at the end of December numbered 1,489; in 1920 the number was 1,592. Out of these 1,489 subscriptions outstanding at the end of the year, only 467 remained still unpaid. The amount received from subscriptions had increased from £42,393 in 1920 to £65,381 in 1921, so that, the increase in the subscription notwithstanding, there had been during the year a net increase of over 1,000 members. The finances of the Association, however, demonstrated the wisdom, and indeed the necessity, of the increased subscription. Had the two-guinea subscription been retained, he would have had to appear before them with a deficit of £8,000.

Mr. Bishop Harman suggested that a reserve fund should be set up and surplus amounts transferred to it yearly until £100,000 had been accumulated. The Chairman of Council agreed that the setting up of a reserve fund was arguable from various points of view, especially from the need for increased accommodation at headquarters and the desirability for the extension of many of the Association's activities. On the Treasurer's suggestion the matter was referred to the Finance Committee for report to the Council, and the financial statement was then approved. Dr. Haslip then proposed that £1,250 should in future be written off annually for depreciation of the Association's building (an amount calculated at forty years' purchase), and that for the year 1921 the sum of £3,000 should be written off in order that the total depreciation should approximate to the amount which would have been written off had such a basis been adopted in 1914. This was agreed to.

Various matters brought forward by the Office Committee were agreed to at this point without discussion. They included an alteration in the method of payment of the clerical staff on promotion, and the setting up of fixed dates for Committee meetings in relation to the meetings of the Council.

Professional Secrecy.

The report of the special committee which was appointed to reconsider the question of professional secrecy was then submitted by Dr. H. G. Dain, who said that the committee had held two meetings under the chairmanship of Dr. Langdon-Down, and certain recommendations were carried by large majorities. The first recommendation was axiomatic—namely, that the proper preservation of professional secrecy necessitated a measure of privilege being recognized for medical witnesses in courts of law over and beyond what was accorded to ordinary witnesses. The second recommendation—which was more or less tentative and might form the subject of conference later on between the representatives of the medical and legal professions—was an attempt to explore the exact measure of privilege to be aimed at. The third reiterated the policy of the Association to support in every way possible any member who, after due consideration of the circumstances, was deemed to have been justified in refusing to disclose any information he had obtained in the exercise of his professional duties.

Dr. Langdon-Down, who did not agree with the report and its associated recommendations in some particulars, then addressed the Council at some length. His principal argument was that instead of the word "privilege" a better phrase would be "special measure of consideration." The demand for privilege he believed to be inapplicable to the situation so far as it concerned the medical man. Legal privilege was not what the doctor really needed, and in any case was not likely to be obtained. What the doctor did need and what was obtainable was a special measure of consideration. Dr. C. E. Douglas supported Dr. Langdon-Down, and quoted as an underlying principle, against any extreme assumption of professional prerogative, "Salus populi suprema est lex," a phrase which was equally adopted by Mr. E. B. Turner, in speaking on the other side, save that he interpreted the word "Salus" to mean health, not merely public safety or policy. Dr. Brackenbury confessed that he had been impressed by the arguments of Dr. Langdon-Down, and he regarded the change from "privilege" to "consideration" as being both prudent and logical.

The Chairman of Council, speaking as a private member, reminded the Council of the way in which this matter arose. The resolution of the Representative Body on which they had been acting was passed at a time when there was much indignation in the profession on account of recent happenings in the courts, but apart from such happenings there was a feeling that in general the measure of consideration which had been accorded to the profession had been sensibly diminished by recent legal action. Public and professional feeling was strongly in favour of adequate protection of medical secrecy, and the necessity was obviously urgent in cases where professional duties lay in relation to cases of venereal disease. He would deprecate any undue compromise, in face of the very definite attitude of the Representative Meeting, and he suggested that the report might be adopted as a whole, that a certain part of it which might yet require further exploration and upon which it might be necessary to hold conference with members of the legal profession should be held up for further consideration, and that the remainder should go forward to the Representative Meeting.

After some further discussion it was agreed to amend the recommendations by the substitution of the words "measure of special consideration" for "measure of privilege" wherever these occurred, and the report and its recommendations was then adopted by a majority. It was agreed to send to the Representative Meeting the following two recommendations with the associated paragraphs of the report:

> That the proper preservation of professional secrecy necessitates a measure of special consideration being recognized for medical witnesses in courts of law above and beyond what is accorded to the ordinary witnesses.
>
> That it be the policy of the Association to support in every way possible any member of the British Medical Association within the United Kingdom who, in the opinion of the Council, or the Central Ethical Committee acting on behalf of the Council, after due consideration of the circumstances, is deemed to have been justified in refusing to disclose any information he may have obtained in the exercise of his professional duties.

Another recommendation which attempted to define the precise extent of such special consideration was held over with a view to the appointment of an *ad hoc* committee which would consider the matter and possibly enter into a conference with members of the legal profession on questions of interpretation. It was agreed that the appointment of this *ad hoc* committee and its terms of reference should be raised at the Chairman's instance at the next meeting of Council.

Surreptitious Methods of Advertising.

Dr. Langdon-Down, Chairman of the Central Ethical Committee, stated that in accordance with the instructions of the Council at the February meeting, a letter had been sent to the General Medical Council calling attention to surreptitious methods of advertising by newspaper interviews and the like which were somewhat prevalent. The Registrar had replied that the matter had been submitted to the Penal Cases Committee, who said that it was not the custom of the General Medical Council to issue a warning notice until a case actually before the Council had proved the need for such an action. Dr. Langdon-Down intimated that his Committee felt a difficulty in moving further in this matter at present.

Approved Societies and Control of Medical Benefit.

Dr. Brackenbury moved the report of the Insurance Acts Committee, which recited the developments in the situation arising out of the action of the approved societies in providing out of surplus funds the cost of medical benefit hitherto met by a Treasury grant, and making this the occasion for claiming a status with regard to medical benefit which they had not held up to the present. In asking the Council to pass a resolution on this subject, his committee felt that it was essential to get the support of the whole profession, because the entire professional status was involved. If the situation matured as the approved societies desired, the profession would undergo a change in status which would be deplorable. The Insurance Acts Committee was determined that the question should not rest where it was, and that there must be no interference from a third party in arrangements made between the State and the profession in respect to any State provision for the health of the people.

Dr. Buttar quoted from the report of the interview between the Committee and representatives of the Ministry of Health, and suggested that it might be unwise to refuse to meet one's enemy. The profession was surely capable of dealing with the representatives of the approved societies in open argument. Dr. Stevens wished that the whole question might have been lifted to a higher level by insistence upon the re-establishment of the direct relation between doctor and patient without any other body intervening. Dr. Haslip agreed in some measure with Dr. Buttar, and asked whether, if the Minister of Health stated that at a particular stage of the negotiations representatives of the approved societies would be present, the Insurance Acts Committee would refuse to attend. Dr. Dain said that the members of the Insurance Acts Committee, who were more conversant with the situation than the three preceding speakers, felt it very important not to recede in any respect from the position already taken up. The approved societies were endeavouring to get control of the whole situation; possibly before long the approved societies might propose that Insurance Committees, which were amenable to public criticism,

should be abolished in their favour. Mr. E. B. Turner said that if the insurance practitioners came under the control of the approved societies it would be a bigger blow to the profession than the original passing of the Insurance Act. For his own part he would fight this new development as vigorously as he fought the Act on its inception. Dr. Brackenbury, in reply, said that the Insurance Acts Committee was absolutely firm and united in its position. He could, of course, say nothing in answer to the extreme but quite understandable and consistent position taken up by Dr. Stevens. In reply to Dr. Buttar, he thought the report of the interview with the Ministry of Health showed that he (Dr. Brackenbury) made it perfectly plain that the refusal on the part of his Committee to meet the approved societies was a refusal to meet them as negotiating bodies only. He said more than once that on other matters than the terms and contract of service the Committee was perfectly ready to meet all who might have suggestions to make for the improvement of the service. The Committee did not regard the approved societies as the enemies of insurance practitioners, but neither did it regard them as their employers. He could not object to the Minister of Health inviting whomsoever he pleased to be present at the discussion, but if the third party so invited took a hand in the negotiations a situation would be brought about which his Committee would not tolerate.

It was agreed without dissent to recommend to the Representative Meeting the following resolution:

> That while welcoming the co-operation of all those interested in the development of the best possible medical service for insured persons, the Representative Body is of opinion that the profession should insist upon the continuance of the system of negotiating the actual terms and contract of service which has prevailed since the coming into force of the national health insurance system—that is, direct negotiations between the Government and the profession without the intervention of any third party.

Dr. Brackenbury announced that counsel's opinion, including a second opinion, was being taken on the question whether certain additional benefits—in particular sight-testing and the supply of spectacles—to insured persons out of surplus money in the hands of the approved societies were of the nature of medical benefit, to be administered by Insurance Committees.

THE ASSOCIATION'S PUBLIC MEDICAL SERVICE SCHEMES.

Mr. E. B. Turner, Chairman of the Medico-Political Committee, introduced a memorandum which brought up to date the Association's public medical service schemes, approved by the Representative Body in 1912. The alterations were few. The amended schemes were referred to the Insurance Acts Committee for its observations, together with a suggestion by Dr. Brackenbury, that the Representative Body be recommended to entrust to the Council the necessary amendment of the schemes from time to time.

Fees for Practitioners Called In on Advice of Midwives.

It was agreed to make representations to the Ministry of Health that the 1920 scale of fees for medical practitioners called in on the advice of midwives should be amended to provide an additional fee of one guinea when the doctor himself was compelled (through the inaccessibility of any other practitioner) to administer an anaesthetic; also that the Ministry be asked to arrange with the local supervising authorities that fees be provided for specialists in connexion with midwifery cases when practitioners called in on the advice of midwives considered specialist services necessary.

Position of School Medical Officers.

A further motion, put forward by the Medico-Political Committee and carried, arose out of the recent deputation to the Minister of Health on the subject of the Board of Education and school medical officers. The Council reaffirmed the opinion that the medical inspection and treatment of school children was a part of the health services of the country, to be controlled by the Ministry of Health and not by the Board of Education.

Treatment of Minor Ailments at Clinics.

The final recommendation put forward by the Committee, and agreed to, was for a revision of the Association's minimum fee for the treatment of minor ailments at clinics. Instead of a minimum of 2 guineas for a session of not more than two and a half hours—a fee which is paid in a very small percentage of cases—it was proposed to make the minimum £1 11s. 6d. for a session of not more than two hours, provided that there was a limitation of the average number of new cases to be seen in each session. The Medico-Political Committee felt that this arrangement would be more in accord with prevailing custom and with the possibilities of the case.

CO-OPERATION WITH SOCIETY OF MEDICAL OFFICERS OF HEALTH.

Dr. Garstang moved the report of the Public Health Committee, the principal matter of which concerned the question of co-operation between the Society of Medical Officers of Health and the Association. A report from a committee of that Society which dealt with its position and policy in relation to the Association was also brought forward. Dr. Garstang said that as a long-standing member of both bodies he had laboured in season and out of season to keep the Society on friendly terms with the Association, an endeavour which made it necessary to fight many battles locally. The subject was so delicate that even a single careless expression might have serious effects. He would ask only that the Society should be invited to send a number of its members to meet a corresponding number of members of the Association's Council and thresh out the difficulties in friendly conference. He had some hopes that in this way a friendly conclusion might be reached. He proposed accordingly that a special committee be appointed, consisting of the officers of the Association and the Chairmen of certain Committees, to meet representatives of the Society to discuss various detailed and general questions as to the best methods of securing co-operation between the two bodies. Dr. Haslip seconded, and this was agreed to.

In view of the lateness of the hour it was agreed to postpone to the next meeting of Council the consideration of the report of the Joint Conference of the Medico-Political, Public Health, Hospitals, and late Ministry of Health Committees (to which certain representatives of the Society of Medical Officers of Health were invited) on the question of municipal hospitals and clinics.

THE ANNUAL REPORT.

The draft Annual Report of Council was then considered. Dr. Haslip raised an objection to paragraph 162, dealing with the general position of the Insurance Acts, wherein it was recommended to the Representative Body to endorse a resolution of the Council to the effect that the measure of success attending the experiment of the Insurance Acts system had been sufficient to justify the profession in uniting to ensure the continuance and improvement of the system. Dr. Haslip's view was that the resolution was passed on the suggestion of Dr. Brackenbury as a matter of urgency to assist in negotiations, and not as a recommendation to the Representative Body. Dr. Brackenbury replied that a resolution on the subject, declaring service under the Insurance Acts to be derogatory, remained the policy of the Association. It was absurd that it should do so, and the matter was certainly going to be dealt with at the Representative Meeting, whether directly by way of the Annual Report or not. He suggested, therefore, that the resolution was the best considered means of dealing with the situation. An amendment to delete the recommendation to the Representative Body was lost.

The election of candidates under By-laws 6 and 7 concluded the proceedings of the Council, which rose at 7 p.m. During the last hour of the sitting, Dr. Bolam having to leave, Dr. Wallace Henry, Chairman of Representative Meetings, occupied the chair.

MATTERS REFERRED TO DIVISIONS.

ANNUAL REPRESENTATIVE MEETING, GLASGOW, 1922.

THE Annual Representative Meeting of the British Medical Association will be held in the Bute Hall, Glasgow, on Friday, July 21st, 1922, and following days as may be necessary.

PROVISIONAL AGENDA.

[NOTE.—*This Provisional Agenda gives only those Recommendations of the Council contained in the Annual Report to which Amendments or Riders have been sent in, except those contained in the Report on Hospital Policy; also any Independent Motions from Divisions.*]

Remainder of Annual Report under "Preliminary."

1. **Motion:** That the remainder of the Annual Report of Council under "Preliminary" (SUPPLEMENT, May 6th, 1922, pp. 125–8, paras. 1-13) be approved.

Rules re Annual Meetings to be Supplied to Members of Branch Council concerned.

2. **Motion** by GLASGOW EASTERN:

That upon the acceptance of an invitation from a particular town or district to hold the Annual Meeting there, it shall thereupon be the Medical Secretary's duty to send a copy of the rules and suggestions anent the carrying out of Annual Meetings to every member of the Branch Council concerned.

Position of Branch Council in Area of Annual Meeting.

3. **Motion** by GLASGOW EASTERN:

That when the Annual Meeting is fixed to be held in an agreed upon city, town, or district, the Branch Council for the said city, town, or district should be thereby constituted the parent Committee for the Annual Meeting, and should control and supervise the formation of all other committees usually appointed to carry out the necessary measures connected therewith.

ORGANIZATION.

Constitution and Machinery of Association.

(The Report of Council under this heading was published in the SUPPLEMENT of December 24th, 1921, pp. 237–254.)

4. **Motion:** That the following recommendation of Council (SUPPLEMENT, December 24th, 1921, p. 237) be adopted:

That the A.R.M. Glasgow, 1922, approve and adopt as the Articles and By-laws of the Association, the draft amended Articles and By-laws submitted by the Council pursuant to the instructions of the A.R.M. 1921, and instruct the Council to submit those Articles to Extraordinary General Meetings of the Association for adoption as Articles of the Association.

5. **Amendment** by BRIGHTON:

That as in accordance with Article 28 the general control and direction of the policy and affairs of the Association are vested in the Representative Body and not in the Council, the following amendments be made in the draft Articles and By-laws submitted:

(*a*) New Draft Article 13A. After word "resolution" add words "of the Representative Body on the report" (SUPPLEMENT, December 24th, 1921, p. 238).

(*b*) New Draft By-law 15A. After word "with" in line one add "the Representative Body on the recommendation of" (SUPPLEMENT, December 24th, 1921, p. 239).

(*c*) New Draft By-law 15B. After words "in such form as" add words "the Representative Body on the recommendation of" (SUPPLEMENT, December 24th, 1921, p. 239).

(*d*) New Draft Article 13B. After words "defined and approved by the" add "Representative Body on the report of the" (SUPPLEMENT, December 24th, 1921, p. 240).

(*e*) New Draft By-law 18A (2). After words "approved by" in last line add words "the Representative Body on the report of" (SUPPLEMENT, December 24th, 1921, p. 240).

6. **Amendment** by BRIGHTON:

That as draft By-law 16 does not seem to carry out the intention of Minute 142 of the Representative Body, 1921—namely, that the members of Council elected by groups of Representatives should not be members of a Branch Council *ex officio*—there be omitted from draft amended By-law 16 (1) (*a*), all the words after "or by any group of Branches to which the Branch belongs" (SUPPLEMENT, December 24th, 1921, p. 243).

7. **Amendment** by EDINBURGH AND LEITH:

That draft amended By-law 16 (1) (*a*) be amended by the deletion of the words:

"And those of the 12 members (hereinafter mentioned) of the Council who are elected (as hereinafter provided) wholly or in part by representatives of constituencies comprised in the Branch."

And as an amendment to this, in case this is not carried, the words quoted above to be deleted, and the following substituted therefor:

And such one, if any, of the 12 members (hereinafter mentioned) of the Council elected by representatives of constituencies at the Annual Representative Meeting as resides within the area of the Branch. (SUPPLEMENT, December 24th, 1921, p. 243.)

8. **Amendment** by BRIGHTON:

That as the draft amended Articles 28 and 32 would seem to make it possible that the past Chairman of Representative Body and the past Treasurer could be continued as a member of the Representative Body and Council respectively beyond one year, especially if other Articles and By-laws were subsequently amended, and thereby do not carry out Minutes 145, 146, and 180 of Representative Meeting, 1921, suitable words be added to make the position free of all ambiguity (SUPPLEMENT, December 24th, 1921, pp. 241–2).

[NOTE.—*The question as to whether the term "immediate past Chairman" was sufficiently definite was raised with Counsel (Mr. Colquhoun Dill), who stated—"The expression 'immediate past Chairman' can only mean the person who was Chairman for the last preceding year. His membership as such* ex officio *will therefore be limited to the one year following the year of his tenure of office as Chairman. It would, of course, be possible to add 'Past Chairman' to the list of Officers in Article 36 and to deal with his tenure of office in By-law 61 or elsewhere. I have not thought this necessary."*]

9. **Amendment** by GATESHEAD:

That the words "and if such meeting of the members of the Constituency shall not be held, no Representative of the Constituency shall be entitled to attend the Representative Meeting" be omitted from draft amended By-law 35 (3) (SUPPLEMENT, December 24th, 1921, p. 246).

10. **Motion** by BRIGHTON:

That as it is desirable that Branch Councils shall have an opportunity of nominating 24 members to the Council, By-law 48 (2) be amended to read:

"The said voting papers shall contain the names of those candidates who have been nominated either (*a*) by *a Branch Council*, or (*b*) by a Division, or (*c*) in writing by not less than three members" (the rest of the words as at present).

11. **Motion** by BRIGHTON:

That in order to widen the basis of nomination for election of members of Council by groups of Representatives, the following By-law be adopted:

50. (1) The election of twelve members of Council by the groups of representatives of Constituencies shall be by means of voting papers issued at the Annual Representative Meeting to each Representative or Deputy Representative comprised in the group.

(2) The said voting papers shall contain the names of those candidates who have been nominated either (*a*) by a Branch Council, or (*b*) by a Division, or (*c*) in writing signed by not less than three members of any Division in the group and sent to the Association at the Head Office on or before an appointed day, of which not less than fourteen days' notice has been given in the JOURNAL.

(3) The said voting papers shall contain such other particulars (if any) and shall be handed in to the Chairman of the Representative Meeting at the place of the Annual Meeting within such time as the Representative Body may from time to time prescribe by notice given as aforesaid.

(4) The expenses of the said election shall be borne by the Association.

Remainder of Annual Report under "Organization."

12. **Motion:** That the remainder of the Annual Report of Council under "Organization" (SUPPLEMENT, May 6th, 1922, pp. 130–2, paras. 71–95, and December 24th, 1921, pp. 237–254) be approved.

Postal Vote by Division or Branch.

13. **Motion** by CAMBS AND HUNTS:

That it be an instruction to the Council to make provision whereby any Branch or Division may take a postal vote on any question of policy or otherwise, after the question has been discussed at a meeting of that Branch or Division, if the members present at that meeting deem a postal vote to be desirable, provided that with each referendum there shall be transmitted such observations on the subject under discussion as the meeting may direct, and that a full report of the proceedings shall be submitted to the Council of the Association.

Motions affecting Policy or Regulations of Association.

14. **Motion** by GLASGOW EASTERN:

That in view of the fact that resolutions affecting the policy, Articles, or By-laws of the British Medical Association must this year be received at head office not later than April 29th, whilst the Annual Report of Council is to appear in the SUPPLEMENT on May 6th, steps be taken to have the Annual Report issued, if possible, at an earlier date, or to have the date of receiving resolutions made later, or both, as it is highly desirable that such resolutions should in many cases be made in the full knowledge of the Council's latest report on certain matters.

Medical Benevolent Fund.

15. **Motion** by GLASGOW EASTERN:

That the Memorandum of Association be amended so as to include the following as one of the objects for which the Association is established, namely:

9. To establish a Benevolent Fund for the benefit of Members and their dependants.

Remainder of Annual Report under "Medico-Political."

16. **Motion:** That the remainder of the Annual Report of Council under "Medico-Political" (SUPPLEMENT, May 6th, 1922, pp. 135–9, paras 121–165) be approved.

Motor Taxation.

17. **Motion** by CAMBS AND HUNTS:

That having regard to the substantial contribution made to the National Exchequer by panel practitioners when they accepted the 1s. 6d. per caput reduction in respect of patients under the National Insurance Acts, the Government should restore the 50 per cent. rebate in the tax on motor vehicles used for professional purposes as heretofore.

Remainder of Annual Report under "National Health Insurance."

18. **Motion:** That the remainder of the Annual Report of Council under "National Health Insurance" (SUPPLEMENT, May 6th, 1922, pp. 140–2, paras. 166–186) be approved.

Insurance Practice.

19. **Motion** by LEICESTERSHIRE AND RUTLAND:

That the following Minute 22 of the Special Representative Meeting of November 19th, 1912, be rescinded:

That, in the opinion of this Representative Meeting, the Regulations issued by the Insurance Commissioners and the latest proposals of the Chancellor of the Exchequer are unworkable and derogatory to the profession. As a consequence the medical profession declines to undertake service under the Act and Regulations as at present constituted.

Improvement of Medical Services under Insurance Acts.

20. **Motion** by MID-STAFFORDSHIRE:

That it be an instruction to the Council to consider fully the feasibility of the improvement of medical services under the Insurance Act by the inclusion of consultative and specialist service, for which payment shall be provided by a supplementary capitation fee, the allocation of which shall be in the hands of a suitable Committee of the medical profession.

Non-Panel Committee.

21. **Motion** by MARYLEBONE:

That the Non-Panel Committee of the Association be revived and reconstituted.

HOSPITALS.

Hospital Policy of the Association.

(The Report of Council under this heading was published in the SUPPLEMENT of February 25th, 1922, pp. 45–48.)

22. **Motion:** That the following Recommendation of Council (SUPPLEMENT, May 6th, 1922, p. 143, para. 200) be adopted:

That the Report on the Hospital Policy of the Association, as published in the SUPPLEMENT of February 25th, 1922, be adopted.

[NOTE: *The amendments to this Report will be found in the* SUPPLEMENTS *of April 29th, pp. 115–119, and May 6th, p. 162.*]

ELECTION OF OFFICERS.

23. **Elect:** Chairman of Representative Meetings under By-laws 40 and 61 and Standing Order 34.

24. **Elect:** Deputy Chairman of Representative Meetings under By-law 40 and Standing Order 34.

25. **Elect:** Treasurer under By-law 63 and Standing Order 34.

ELECTION OF MEMBERS OF COUNCIL.

26. **Elect:** 12 Members of Council by Grouped Representatives under By-laws 40 and 46 (*c*) and Standing Order 37.

27. **Elect:** 4 Members of Council under By-law 46 (*d*) and Standing Order 38.

ELECTION OF MEMBERS OF COMMITTEES.

28. **Elect:** 4 Members of Finance; 4 of Organization; 3 of Journal; 6 of Central Ethical; 6 of Medico-Political; 6 of Public Health; 6 of Hospitals; 2 of Naval and Military; and 2 of Dominions; and other Committees, if any, under By-law 69 and Schedule to the By-laws, and Standing Orders 39–48.

29. **Elect:** Members of Insurance Acts Committee, under By-law 69 and Schedule to the By-laws, and Standing Orders 39–48.

SUPPLEMENTARY REPORT OF COUNCIL.

[*Note.*—The Supplementary Report of Council will be published in the SUPPLEMENT of June 24th, 1922.]

Association Notices.

ELECTION OF 24 MEMBERS OF COUNCIL BY BRANCHES IN UNITED KINGDOM.

THE following is a list of the nominations received for 1922–3:

Group.	Branches in Group.	Candidates Nominated.	No. of Seats.
A	North of England. North Lancashire and South Westmorland	Dr. JAMES DON (Newcastle-on-Tyne)	1
B	Yorkshire	Dr. A. MANKNELL (Bradford)	1
C	Lancashire and Cheshire	Dr. T. W. H. GARSTANG (Altrincham) Mr. F. STRONG HEANEY (Liverpool)	2
D	East York and North Lincoln. Midland	Major-Gen. Sir R. H. LUCE, K.C.M.G., C.B. (Derby)	1
E	Cambridge and Huntingdon. Essex. Norfolk. South Midland. Suffolk.	Dr. E. O. TURNER (Great Missenden)	1
F	Birmingham Staffordshire	Mr. A. W. NUTHALL (Birmingham)	1
G	North Wales. Shropshire and Mid Wales. South Wales and Monmouthshire	Dr. W. B. CRAWFORD TREASURE (Cardiff)	1
H	Metropolitan Counties	Dr. H. S. BEADLES (West Ham) Dr. ALEXANDER BLACKHALL-MORISON (Marylebone) Dr. C. BUTTAR (Kensington) Lord DAWSON OF PENN, G.C.V.O., K.C.M.G. (Marylebone) Mr. N. BISHOP HARMAN (Marylebone) Dr. R. LANGDON-DOWN (Hampton Wick) Dr. WM. PATERSON (Willesden) Dr. G. CLARK TROTTER (Islington)	4
I	Bath and Bristol Gloucestershire West Somerset Worcestershire and Herefordshire	Dr. H. C. BRISTOWE (Wrington)	1
J	Dorset and West Hants. South-Western. Wiltshire	Dr. E. K. LE FLEMING (Wimborne, Dorset)	1
K	Oxford and Reading. Southern	Dr. D. A. SHEAHAN (Portsmouth)	1
L	Kent. Surrey. Sussex	Dr. E. ROWLAND FOTHERGILL (Hove) Dr. ARNOLD LYNDON, O.B.E. (Hindhead)	1
M	Aberdeen. Dundee. Northern Counties. Perth	Dr. DAVID LAWSON (Banchory) Dr. G. W. MILLER, D.S.O. (Dundee)	1
N	Edinburgh. Fife	Dr. C. M. PEARSON (Edinburgh)	1
O	Glasgow and West of Scotland (4 City Divisions)	(Vacancy)	1
P	Border Counties. Glasgow and West of Scotland (5 County Divisions). Stirling	Dr. HUGH MILLER (Hamilton)	1
Q	Connaught. South-Eastern of Ireland	Dr. DENIS WALSHE (Graigue, Kilkenny)	1
R	Leinster	Dr. R. C. PEACOCKE, O.B.E. (Blackrock, Dublin)	1
S	Munster	(Vacancy)	1
T	Ulster	Prof. R. J. JOHNSTONE, M.P. (Belfast)	1
			24

Voting papers for Groups H, L, and M will be posted from Head Office on Saturday, May 13th; they are returnable by Saturday, May 27th, first post.

HOME CONSTITUENCIES FOR ELECTION OF REPRESENTATIVE BODY, 1922–23.

(Divisions bracketed together form one Constituency.)

ABERDEEN—
Aberdeen
Orkney
Shetland

BATH AND BRISTOL—
Bath
Bristol

BIRMINGHAM—
Bromsgrove
Dudley
Central
Coventry
Nuneaton and Tamworth
Warwick and Leamington
West Bromwich

BORDER COUNTIES—
English
Dumfries and Galloway

CAMBRIDGE AND HUNTINGDON—
Cambridge and Huntingdon
Isle of Ely

CONNAUGHT—
Mid Connaught
North Connaught
South Connaught

DORSET AND WEST HANTS—
Bournemouth
West Dorset

DUNDEE

EAST YORK AND NORTH LINCOLN—
East York
North Lincoln

EDINBURGH—
Edinburgh and Leith
South-Eastern Counties
The Lothians

ESSEX—
Mid Essex
North-West Essex
North-East Essex
South Essex

FIFE

GLASGOW AND WEST OF SCOTLAND—
Argyllshire
Dumbartonshire
Ayrshire
Glasgow Central
Glasgow Eastern
Glasgow North-Western
Glasgow Southern
Lanarkshire
Renfrewshire and Buteshire

GLOUCESTERSHIRE

KENT—
Bromley
Dover and Folkestone
Isle of Thanet
Dartford
Rochester, Chatham, and Gillingham
Maidstone
Tunbridge Wells

LANCASHIRE AND CHESHIRE—
Ashton-under-Lyne
Glossop
Birkenhead
Blackburn
Blackpool
Isle of Man
Bolton
Burnley
Bury
Chester
Crewe
Hyde
Stockport, Macclesfield, and East Cheshire
Leigh
Wigan
Liverpool
Manchester
Mid Cheshire
Oldham
Preston
Rochdale
St. Helens
Warrington
Salford
Southport

LEINSTER—
Dublin
East Leinster
Mid Leinster
North Leinster
North-West Leinster
South-East Leinster

METROPOLITAN COUNTIES—
Camberwell
Chelsea
City
Ealing
East Hertfordshire
Finchley and Hendon
Greenwich and Deptford
Hampstead
Harrow
Kensington
Lambeth
Lewisham
Marylebone
North Middlesex
South Middlesex
South-West Essex
Stratford
Tower Hamlets
Wandsworth
West Hertfordshire
Westminster
Willesden
Woolwich

MIDLAND—
Chesterfield
Derby
Holland
Kesteven
Leicester and Rutland
Lincoln
Nottingham

MUNSTER—
North Munster
South Munster
West Munster

NORFOLK—
East Norfolk
Norwich
West Norfolk

NORTHERN COUNTIES OF SCOTLAND—
Banff, Elgin, and Nairn
Caithness and Sutherland
Islands
Ross and Cromarty
Inverness

NORTH LANCASHIRE AND SOUTH WESTMORLAND—
Furness
Kendal
Lancaster

NORTH OF ENGLAND—
Bishop Auckland
Durham
Blyth
Morpeth
Cleveland
Consett
Gateshead
Darlington
Hartlepool
Stockton
Hexham
Newcastle-on-Tyne
North Northumberland
South Shields
Tyneside
Sunderland

NORTH WALES—
Denbigh and Flint
N. Carnarvon and Anglesey
S. Carnarvon and Merioneth

OXFORD AND READING—
Oxford
Reading

PERTH

SHROPSHIRE AND MID WALES

SOUTH-EASTERN OF IRELAND—
Carlow and Kilkenny
Waterford

SOUTHERN—
Channel Islands
Isle of Wight
Southampton
Portsmouth
Winchester

SOUTH MIDLAND—
Bedford
Buckinghamshire
Northamptonshire

SOUTH WALES AND MONMOUTHSHIRE—
Cardiff
Monmouthshire
North Glamorgan and Brecknock
South-West Wales
Swansea

SOUTH-WESTERN—
Barnstaple
East Cornwall
Exeter
Plymouth
Torquay
West Cornwall

STAFFORDSHIRE—
North Staffordshire
South Staffordshire
Walsall and Lichfield

STIRLING

SUFFOLK—
North Suffolk
South Suffolk
West Suffolk

SURREY—
Croydon
Guildford
Kingston-on-Thames
Reigate
Richmond
Wimbledon

SUSSEX—
Brighton
Chichester and Worthing
Horsham

SUSSEX *(continued)*—
Eastbourne
Hastings
Lewes and East Grinstead

ULSTER—
Ballymoney, North Antrim, and South Derry
Derry
Belfast
Enniskillen
Monaghan and Cavan
Omagh
Portadown and West Down

WEST SOMERSET

WILTSHIRE—
Salisbury
Swindon
Trowbridge

WORCESTERSHIRE AND HEREFORDSHIRE—
Hereford
Worcester

YORKSHIRE—
Barnsley
Bradford
Dewsbury
Leeds
Halifax
Harrogate
Huddersfield
Rotherham
Scarborough
Sheffield
Wakefield, Pontefract, and Castleford
York

TABLE OF DATES.

May 13, Sat.	Voting papers for election of 24 Members of Council by grouped Home Branches posted from Head Office to Members of groups where there are contests.
May 27, Sat.	Last day for receipt at Head Office of voting papers for election of 24 Members of Council by grouped Home Branches (where contests).
June 3, Sat.	Publication in SUPPLEMENT of results of Council elections by grouped Home Branches.
June 10, Sat.	Nomination papers available, at Head Office, for election of 12 Members of Council by grouped Home Representatives.
June 14, Wed.	Council Meeting, 429, Strand, at 10 a.m.
June 23, Fri.	Last day for election of Representatives and Deputy Representatives.
June 24, Sat.	Supplementary Report of Council appears in SUPPLEMENT.
June 30, Fri.	Last day for receipt at Head Office of notification of election of Representatives and Deputy Representatives.
July 7, Fri.	Last day for receipt at Head Office of Amendments and Riders for Annual Representative Meeting Agenda.
July 21, Fri.	Annual Representative Meeting, Glasgow, 10 a.m.
	Nominations for election of 12 Members of Council by grouped Representatives to be received (at A.R.M., Glasgow) by this date.

ALFRED COX, *Medical Secretary.*

BRANCH AND DIVISION MEETINGS TO BE HELD.

DUNDEE BRANCH.—A clinical meeting of the Dundee Branch will be held at the Royal Infirmary, Dundee, on Friday, June 2nd, to be followed by a dinner. Members having cases or exhibits to show are asked to communicate with either of the Secretaries (Dr. R. C. Buist, 166, Nethergate, Dundee, and Dr. G. Rankine, 201, Albert Street, Dundee) not later than Saturday, May 20th.

EAST YORK AND NORTH LINCOLN BRANCH: EAST YORK DIVISION.—The annual meeting of the Division will be held in the Board Room of the Royal Infirmary, Hull, to-day (Friday, May 12th), at 8.30 p.m. Agenda: Annual Report, 1921–22; Financial Statement, 1921; Election of Officers and Executive Committee.

METROPOLITAN COUNTIES BRANCH.—The annual general meeting of the Metropolitan Counties Branch will be held at 429, Strand, W.C., on Friday, June 23rd, at 4 p.m. Business: (1) Report of scrutineers as to the election of new officers; (2) Annual Report of Council; (3) President's address by Mr. N. Bishop Harman, entitled "London: the triumph of medicine."

METROPOLITAN COUNTIES BRANCH: CAMBERWELL DIVISION.—A meeting of the Division will be held on Wednesday, May 17th, at the Camberwell Infirmary, at 9 p.m., when a lecture on "The diagnosis of pyorrhoea alveolaris in its relation to general disease" (with lantern) will be given by Mr. F. N. Doubleday.

MIDLAND BRANCH: KESTEVEN DIVISION.—The annual meeting of the Kesteven Division will be held at the residence of Dr. H. Poole Berry, The Priory, Grantham, on Tuesday, May 16th, at

3.30 p.m. Agenda: Appoint Chairman and Officers for ensuing year; discuss Agenda for Annual Representative Meeting and instruct Representative.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: NORTH GLAMORGAN AND BRECKNOCK DIVISION.—A meeting of this Division will be held at Pontypridd on Thursday, June 29th, when a British Medical Association lecture will be delivered by Dr. H. Morley Fletcher on "Treatment in renal disease."

SOUTHERN BRANCH: WINCHESTER DIVISION.—The annual meeting of the Winchester Division will be held on Thursday, June 8th, at 3.30 p.m. at the George Hotel, Winchester. Dr. G. C. Anderson, the Deputy Medical Secretary, has promised to be present and give an address. All non-members of the Association residing in the neighbourhood are invited to be present.

SUSSEX BRANCH: BRIGHTON DIVISION.—The annual meeting of the Brighton Division will be held at the Queen's Road Dispensary on Wednesday, May 17th, at 8.30 p.m. Agenda: Election of officers; Annual Report of Executive Committee; Report of Ethical Committee. The Chairman will move the following resolution:

> That the Council be instructed to consider the advisability of substituting the following rule for Rule 10 of the Report on the Ethics of Consultation:
>
> The attendance of a consulting practitioner shall cease when the consultation is concluded, unless another appointment is made, and no medical practitioner introduced to a family in consultation shall afterwards undertake sole attendance upon members of that family residing in the same house except with the knowledge and consent of the former medical attendant.

At the conclusion of the business meeting Dr. Helen Boyle will read a paper on the Overlapping of Early Nervous and Mental Disorders. Members are invited to bring as guests any medical practitioner not a member of the Association.

CURRENT NOTES.

Sport at the Glasgow Annual Meeting.

THE Committee in charge of the Sports Section of the entertainments for visitors at the forthcoming Annual Meeting has secured facilities for golf, bowling, and tennis, from the various local clubs, which will allow all who desire to indulge in their favourite pastime.

The chief golfing event will be the Ulster Cup competition, which, through the kindness of the Glasgow Golf Club, will be played over their course at Killermont, a short distance by tram from the headquarters of the meetings, but situated nevertheless amid rural surroundings. The official opening of the competition is fixed for 2 o'clock on Thursday, July 27th, but opportunity will be afforded to those who are not attending the sections to play off their ties in the forenoon. The captain of the club (Professor J. M. Munro Kerr) and Mrs. Munro Kerr will entertain the competitors and others to tea in the club-house during the afternoon. To add to the interest of the event and as a souvenir of the Glasgow visit, the Glasgow Medical Golf Club has agreed to present a gold medal to the winner on this occasion. The details of the competition are in the hands of a small committee, and entries will be received by Dr. J. Glaister McCutcheon. A golf competition has also been arranged for ladies on the course of the Hillfoot Golf Club for the forenoon of the previous day.

While arrangements are not quite completed it is hoped to fix a bowling match between teams representing the north and south of the Tweed, and intimation is made now so that bowlers may keep this in view.

Ebbw Vale.

We are informed that one of the doctors introduced into the district last week by the Ebbw Vale Workmen's Medical Society has left, and some of the others are believed to be reconsidering their position. The old doctors are well satisfied with the promises they have received of support from the workmen of the district, many of whom strongly resent the position in which they have been placed by the Workmen's Committee of seeming to be a party to an attempt to force the Ebbw Vale doctors to accept a rate of payment which is below that paid to any other colliery doctors in the district. The significance of this attempt is evident to the thinking trade unionist, and many of the workmen realize that the fact will be used against them in the future.

Fees for Examination of Emigrants.

Negotiations have been going on ever since May, 1921, between the Association and the Oversea Settlement Office with regard to the fees which should be charged for the examination of emigrants from this country to the Dominions, and the medical profession, through these columns, has been kept informed of the various steps taken. The Oversea Settlement Office decided to appoint a number of recognized examiners in various areas, and has recently published a list of doctors who have accepted the terms. In spite of the fact that members of the British Medical Association should be well aware that the terms offered are not approved by the Association, it is surprising to find that a large number of those on the list are members of the Association. This is disappointing after all the work that has been done centrally to maintain these fees at a reasonable level. As has been previously stated, it was only under pressure, and on the grounds that the bulk of the emigrants would be ex-service men, that the Association agreed to accept so low a fee as 10s. 6d. per adult, with 2s. 6d. each for children for a very responsible examination and report. The terms that have been accepted by considerably over 1,000 doctors are 15s. for a man and his wife, with a guinea limit for parents and children.

The Medico-Political Committee has had this matter under careful consideration and has decided to communicate individually with all the members whose names are on the list calling their attention to the action which has been taken and asking them to support it by withdrawing their names from the list. It is possible that members may have been under a misapprehension as regards these fees when they agreed to accept them, for it is understood that a statement has been made that these fees were fixed after consultation with the British Medical Association. This statement, while literally correct, is misleading, as it was well known that, although the Association had been consulted, it had not agreed to the fees offered. Notwithstanding strong protests made by the Association the Oversea Settlement Office has decided to give the present scale of fees a six months' trial. If the members of the Association now on that list will follow the lead given by the Association there is little doubt what the result of that trial will be. Previous reference to this matter will be found in "Current Notes" in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL, October 15th, 1921, and December 31st, 1921.

Fees for Attendance on Soldiers on Leave or Furlough.

Readers who are doing this work should note that Army Form 0.1667 is still being issued to practitioners in some areas with an obsolete scale of remuneration stated thereon and with no mention whatever that the fees are out of date. The attention of the War Office was called to this so long ago as August, 1920, and an assurance was given by the War Office that instructions were being issued that if the old forms were used a statement must be made showing that the fees had been raised. Two instances of an issue of the obsolete form have been reported during the last few weeks, and in one case the doctor, not being aware of the correct fees, made out an account for a less sum than that to which he was entitled. The attention of the War Office has again been called to the matter, and it is hoped that any practitioner who may be furnished with one of these obsolete forms will at once report the fact to the Medical Secretary, 429, Strand, W.C.2. The lowest fee for a visit and medicine named on the scale should be 3s. 9d., whereas the old form names 2s. 6d.

Medical Inspection of School Children at Crewe.

The value of organization is well illustrated by an arrangement for the medical inspection of school children which has just been concluded between the medical practitioners in Crewe and the local Education Committee. The question of appointing a full-time school medical officer had arisen. The medical officer of health pointed out to a deputation of the doctors that the work would involve the inspection of 3,500 to 4,000 children annually, together with attendance at the infant welfare centre. The doctors have undertaken to carry out the work collectively for a period of twelve months for a sum of £300, the work being done by a rota of those who are able to give the necessary time. The scheme has been adopted by the Council subject to the approval of the Board of Education. It has always been the policy of the Association that this work should be carried out by the local profession wherever possible, and it is encouraging to note that the medical practitioners of Crewe have succeeded in persuading their local authority to give the method a trial. The experiment will be watched with great interest both by those who believe in the method adopted and those who do not.

Lending Library.

The Librarian will be glad to assist members of the Association in the selection of works to be sent them by post, in accordance with the arrangements for borrowing books that are notified each week on the last page of the SUPPLEMENT.

British Medical Association.

NINETIETH ANNUAL MEETING, GLASGOW, JULY 25th, 26th, 27th, & 28th, 1922.

Patron: HIS MAJESTY THE KING.

President: DAVID DRUMMOND, C.B.E., M.A., M.D., D.C.L., Vice-Chancellor and Professor of the Principles and Practice of Medicine, University of Durham.

President-Elect: Sir WILLIAM MACEWEN, C.B., D.Sc., D.C.L., M.D., F.R.S., Regius Professor of Surgery, University of Glasgow, one of the Honorary Surgeons to H.M. the King in Scotland.

Chairman of Representative Meetings: R. WALLACE HENRY, B.A., M.D.

Chairman of Council: ROBERT ALFRED BOLAM, M.D., F.R.C.P.

Treasurer: GEORGE ERNEST HASLIP, M.D.

PROGRAMME.

The President will give his address to the Association on Tuesday, July 25th, at 8 p.m.

The REPRESENTATIVE MEETING will begin on Friday, July 21st, at 10 a.m., and be continued on the following three week-days.

The Statutory ANNUAL GENERAL MEETING will be held on July 25th, at 2 p.m., and the adjourned General Meeting at 8 p.m.

The Annual Dinner of the Association will take place on July 27th, at 7.15 p.m.

The official Religious Service will be held in Glasgow Cathedral on July 25th, at 5.15 p.m., and Mass will be celebrated in St. Andrew's Roman Catholic Cathedral on July 27th, at 9.15 a.m.

The Conference of Secretaries will be held at 2 p.m. on July 26th, and the Secretaries' Dinner will take place in the evening at 6.30.

The Pathological Museum and the Annual Exhibition of surgical instruments and appliances, foods, drugs, and books will open on July 25th.

The Popular Lecture will be delivered by Professor John Graham Kerr, F.R.S., on July 28th, at 7.30 p.m.

Saturday, July 29th, the last day of the meeting, will be set apart for excursions to places of interest in the neighbourhood.

THE SECTIONS.

The Scientific Sections will meet from 10 a.m. to 1 p.m. for papers and discussions. Laboratory and clinical demonstrations in connexion with the work of the Sections will be given in the classrooms of the University on the afternoons of Wednesday, Thursday, and Friday, July 26th, 27th, and 28th. Speakers desiring to take part in any of the discussions should communicate as soon as possible with one of the honorary secretaries of the Section concerned.

The following Sections meet on three days—Wednesday, Thursday, and Friday, July 26, 27, and 28.

MEDICINE.

President: Professor THOMAS KIRKPATRICK MONRO, M.D., F.R.F.P.S.

Vice-Presidents: JOHN M. COWAN, M.D., F.R.F.P.S., D.Sc.; Sir ARCHIBALD E. GARROD, K.C.M.G., M.D., F.R.C.P., F.R.S.; GEORGE HALL, C.M.G., M.D., M.R.C.P.; C. O. HAWTHORNE, M.D., F.R.C.P.; JOHN HAY, M.D., F.R.C.P.

Honorary Secretaries: ADAM PATRICK, M.D., F.R.F.P.S., 16, Buckingham Terrace, Glasgow; H. LETHEBY TIDY, M.D., F.R.C.P., 39, Devonshire Place, London, W.1.

The following provisional programme has been arranged:

July 26th (10 a.m.).—Discussion: The Prognosis and Treatment of Chronic Renal Disease. To be opened by Professor HUGH MACLEAN, D.Sc., M.D.

July 27th (10 a.m.).—Discussion: Exophthalmic Goitre. To be opened by Professor GEORGE R. MURRAY, M.D., F.R.C.P. (Manchester).

July 28th (10 a.m.).—Discussion: Degenerative Diseases of the Liver. To be opened by Sir HUMPHRY D. ROLLESTON, K.C.B., M.D., P.R.C.P.

NEUROLOGY AND PSYCHOLOGICAL MEDICINE.

President: Professor GEORGE M. ROBERTSON, M.D., F.R.C.P.Edin.

Vice-Presidents: A. STANLEY BARNES, M.D., F.R.C.P.; C. C. EASTERBROOK, M.D., F.R.C.P.Edin.; J. H. MACDONALD, M.B., F.R.F.P.S.; Sir JAMES PURVES STEWART, K.C.M.G., C.B., M.D., F.R.C.P.

Honorary Secretaries: HILDRED CARLILL, M.D., M.R.C.P., 146, Harley Street, London, W.1; D. K. HENDERSON, M.D., F.R.F.P.S., 17, Whittinghame Drive, Glasgow.

The following provisional programme has been arranged:

July 26th.—Discussion: Psychotherapy. To be opened by Dr. T. W. MITCHELL.

July 27th.—Discussion: The Treatment of Neuro-syphilis. To be opened by Sir JAMES PURVES STEWART, K.C.M.G., C.B.

July 28th.—Papers.

OPHTHALMOLOGY.

President: A. S. PERCIVAL, M.B., M.R.C.S.

Vice-Presidents: A. J. BALLANTYNE, M.D., F.R.F.P.S.; Sir WILLIAM T. LISTER, K.C.M.G., F.R.C.S.; JOHN ROWAN, M.B., F.R.F.P.S.

Honorary Secretaries: PERCIVAL J. HAY, M.D., 350, Glossop Road, Sheffield; W. H. MANSON, M.D., F.R.F.P.S., 17, Royal Terrace, Glasgow.

The following provisional programme has been arranged:

July 26th (10 a.m.).—Discussion: The Etiology of Optic Atrophy. To be opened by C. O. HAWTHORNE, M.D., F.R.C.P., Mr. J. HOGARTH PRINGLE, M.B., C.M., F.R.C.S. (Glasgow), and H. MOSS TRAQUAIR, M.D., F.R.C.S.Edin.

July 27th (10 a.m.).—Discussion: The Clinical Significance and Treatment of Heterophoria. To be opened by Mr. A. S. PERCIVAL, M.A., M.B., B.Ch. (Newcastle-upon-Tyne).

July 28th.—Clinical Demonstration at the Glasgow Eye Infirmary.

PATHOLOGY.

President: Professor ROBERT MUIR, M.D., F.R.C.P.Edin., F.R.S.

Vice-Presidents: J. S. C. DOUGLAS, M.D.; Professor JOHN SHAW DUNN, M.D.; ARCHIBALD LEITCH, M.D.; Professor JOHN H. TEACHER, M.D., F.R.F.P.S.

Honorary Secretaries: JOHN ANDERSON, M.B., C.M., "Westerhill," St. Bride's Road, Newlands, Glasgow; ROBERT DONALDSON, M.D., F.R.C.S.Edin., St. George's Hospital, London, S.W.1.

The following provisional programme has been arranged:

July 26th (10 a.m.).—Discussion: The Origin of Cancer in relation to Specific Forms of Irritation. To be opened by Professor FIBIGER (Copenhagen).

July 27th (10 a.m.).—Discussion: Animal and Vegetable Pathology in relation to Human Disease. To be opened by Professors F. G. HOBDAY, F.R.C.V.S., and W. H. LANG, F.R.S.

SURGERY.

President: Professor H. ALEXIS THOMSON, C.M.G., M.D.Edin., F.R.C.S.

Vice-Presidents: JAMES BERRY, F.R.C.S.; Sir KENNEDY DALZIEL, M.B., F.R.F.P.S.; A. ERNEST MAYLARD, M.B., F.R.F.P.S.; G. GREY TURNER, M.S., F.R.C.S.; R. J. WILLAN, M.V.O., O.B.E., M.S., F.R.C.S.

Honorary Secretaries: J. A. C. MACEWEN, M.B., F.R.F.P.S., 3, Woodside Crescent, Charing Cross, Glasgow; JOHN PATRICK, M.B., F.R.C.S.Edin., 9, Newton Place, Glasgow; H. S. SOUTTAR, C.B.E., M.Ch., F.R.C.S., 58, Queen Anne Street, London, W.

The following provisional programme has been arranged:

July 26th (10 a.m.).—Discussion: The Diagnosis and Treatment of Cholelithiasis.

July 27th (10 a.m.).—Discussion: Surgical Treatment of Non-traumatic Affections of the Spleen; Surgery of the Pituitary Gland.

July 28th (10 a.m.).—Discussion: The Surgical Treatment of Non-malignant Affections of the Colon.

MICROBIOLOGY (INCLUDING BACTERIOLOGY).

President: ROBERT MACNEIL BUCHANAN, M.B., F.R.F.P.S.

Vice-Presidents: JOHN ANDERSON, M.A., B.Sc.; Professor HY. ROY DEAN, M.D., F.R.C.P.; Sir WM. B. LEISHMAN, K.C.M.G., C.B., F.R.S.

Honorary Secretaries: S. PHILLIPS BEDSON, M.D., Lister Institute, Chelsea, London, S.W.; J. L. BROWNLIE, M.D., D.P.H., 28, Hamilton Park Terrace, Glasgow.

The following provisional programme has been arranged:

July 26th, 27th, and 28th.—Discussions:

Dr. F. D'HERELLE (Pasteur Institute, Paris) and Dr. F. W. TWORT: The Bacteriophage (Bacteriolysin).

Dr. MERVYN H. GORDON, C.M.G., O.B.E.: The Bacteriology of Influenza.

Professor V. H. BLACKMAN, F.R.S.: Some Similarities and Dissimilarities in the Microbiology of Plant and Animal Diseases, with special reference to Immunity and "Virus" Diseases.
W. B. BRIERLEY, D.Sc.: Mutation of Species.
Demonstrations:
Sir WILLIAM LEISHMAN: Leishmaniasis; Spirochaetosis of Tick Fever.
Professor GRAHAM-KERR and J. I. DUNKERLEY, D.Sc.: Protozoal Parasites.
Dr. R. ST. JOHN BROOKS: Cultures of Organisms Pathogenic for Man, Animals, and Plants.
Professor DAVID ELLIS: Iron Bacteria; Sulphur Bacteria; Fossil Iron-moulds.

OBSTETRICS AND GYNAECOLOGY.

President: Professor EWEN J. MACLEAN, M.D., F.R.C.P.
Vice-Presidents: H. RUSSELL ANDREWS, M.D., F.R.C.P.; Professor J. M. MUNRO KERR, M.D., F.R.F.P.S.; Professor LOUISE MCILROY, M.D., D.Sc.; E. FARQUHAR MURRAY, M.D., F.R.C.S.
Honorary Secretaries: S. J. CAMERON, M.B., F.R.F.P.S., 30, Lynedoch Street, Charing Cross, Glasgow; W. D. MACFARLANE, M.B., F.R.F.P.S., 17, Woodside Crescent, Glasgow; H. G. TAYLOR, M.B., 15, Cavendish Place, London, W.1.

The following provisional programme has been arranged:
July 26th (Morning Session).—Discussion: Stillbirths and Neonatal Deaths. Speakers: Dr. J. W. BALLANTYNE: Ante-natal, Intra-natal, and Neo-natal Death; Causes, Pathology, and Prevention, with special reference to Ante-natal Death. Dr. EARDLEY HOLLAND: Intra-natal Death. Professor A. M. KENNEDY and Dr. F. J. BROWNE: Neo-natal Death. Professor LOUISE MCILROY: Ante-natal Death due to Toxaemia of Pregnancy. Dr. J. N. CRUICKSHANK and Dr. GILBERT STRACHAN.
In the afternoon there will be a demonstration of Professor A. M. Kennedy's specimens in the museum.
July 27th (Morning Session).—Papers:
Dr. W. FOTHERGILL: Surgical Treatment of Uterine Prolapse.
Dr. T. W. EDEN: Treatment of Eclampsia.
Dr. W. OSBORNE GREENWOOD: Anaesthetics and Analgesics in Labour.
July 28th.—Papers:
Dr. ROBERT KNOX: Use of Radium and *X* Rays in Relation to Gynaecology.
Dr. GORDON LEY: Primary Carcinoma of Ovaries.
Dr. JOHN CAMPBELL (Belfast): Treatment of Salpingo-oöphoritis.

PUBLIC HEALTH.

President: A. K. CHALMERS, M.D., F.R.F.P.S., D.P.H.
Vice-Presidents: R. J. REECE, C.B., M.D., M.R.C.P., D.P.H.; F. E. FREMANTLE, O.B.E., M.P., M.B., F.R.C.P., D.P.H.; HAROLD KERR, O.B.E., M.D., D.P.H.
Honorary Secretaries: R. S. FULLARTON, M.A., M.D., F.R.F.P.S., D.P.H., Sanitary Chambers, Glasgow; J. J. PATERSON, M.D., D.P.H. The Guildhall, Maidenhead; RICHARD PATON, M.B., D.P.H., Sanitary Chambers, Glasgow.

The following provisional programme has been arranged:
July 26th (10 a.m.).—Papers:
Dr. RICHARD J. REECE: Port Sanitation in Relation to the Public Health of the Country.
Dr. F. E. FREMANTLE, M.P.: Public Health Economics.
Dr. JOHN BROWNLEE: Statistics.
Discussion on Puerperal Fever if time permits.
July 27th.—Papers:
Dr. ROBERTS: Defects in Children on Attaining School Age.
Dr. MCKAIL: Industrial Fatigue and Vocational Selection on a Basis of Physical Inquiry.
Dr. J. P. KINLOCH: The Constituents of Fresh and Vitiated Air, and their Significance in Problems of Ventilation.
Dr. F. E. WYNNE (Sheffield): The "Wrong Turning" in Public Health.
July 28th.—Papers:
Councillor W. B. SMITH: Smoke Abatement.
Discussion: The Training for the D.P.H. and the New Regulations. To be opened by Professor MATTHEW HAY (Aberdeen).
11.30 a.m., Discussion: The Administrative Requirements for the Various Types of Tuberculosis.

The following Sections will meet on two days.

DERMATOLOGY.

President: H. LESLIE ROBERTS, M.D., C.M.
Vice-Presidents: A. M. H. GRAY, C.B.E., M.D., F.R.C.P.; G. H. LANCASHIRE, M.D.; Professor J. G. TOMKINSON, M.D.
Honorary Secretaries: WM. HERBERT BROWN, M.D., 20, Park Circus, Glasgow; HALDIN DAVIS, M.B., F.R.C.S., 17, Cavendish Place, London, W.1.
The Section will meet on Wednesday and Thursday, July 26th and 27th. The provisional programme will be published in due course.

DISEASES OF CHILDREN.

President: Sir HERBERT F. WATERHOUSE, M.D., F.R.C.S.
Vice-Presidents: LEONARD FINDLAY, M.D., F.R.F.P.S.; ROBERT HUTCHISON, M.D., F.R.C.P.; ALEX. MCLENNAN, M.B., C.M.; R. H. A. WHITELOCKE, M.D., F.R.C.S.
Honorary Secretaries: GEOFFREY BOURNE, M.D., M.R.C.P., 150, Harley Street, London, W.1; G. B. FLEMING, M.B.E., M.D., 13, Lynedoch Crescent, Glasgow.
The Section will meet on Wednesday and Thursday, July 26th and 27th. The provisional programme will be published in due course.

PHYSIOLOGY.

President: Professor J. A. MACWILLIAM, M.D., C.M., F.R.S.
Vice-Presidents: Professor EDWARD MELLANBY, M.D.; Professor D. NOËL PATON, M.D., F.R.C.P., F.R.S.
Honorary Secretaries: GEORGE GRAHAM, M.D., F.R.C.P., 37, Queen Anne Street, London, W.1; W. F. SHANKS, M.B., Ch.B., Physiological Institute, University of Glasgow.

The following provisional programme has been arranged:
July 26th (Morning Session).—Joint meeting with the Section of Diseases of Children: Discussion on Rickets. To be opened by Dr. LEONARD FINDLAY (Glasgow) from the clinical side, and Professor E. MELLANBY (Sheffield) from the physiological side. Paper by Dr. J. SIM WALLACE (London): Dental Hypoplasia and Rickets.
Afternoon Session: Demonstrations in the Physiological Institute.
July 27th (Morning Session).—Discussion on Basal Metabolism. To be opened by Professor E. P. CATHCART (Glasgow).
Afternoon Session: Demonstrations in the Physiological Institute.

INDUSTRIAL DISEASES AND FORENSIC MEDICINE.

President: Professor JOHN GLAISTER, M.D., F.R.F.P.S., D.P.H., F.R.S.E.
Vice-Presidents: GODFREY CARTER, M.B., M.R.C.P.Edin., D.P.H.; WILLIAM LEDINGHAM RUXTON, M.B.; Sir WILLIAM H. WILLCOX, K.C.I.E., C.B., C.M.G., M.D., F.R.C.P.
Honorary Secretaries: Professor ANDREW ALLISON, M.B., F.R.F.P.S., D.P.H., St. Vincent Park, Paisley Road, W. Ibrox, Glasgow; JAMES R. KERR, C.B.E., Ch.M., The Pilkington Special Hospital, St. Helens, Lancs.

The following provisional programme has been arranged:
July 26th and 27th.—Opening address by Professor GLAISTER.
Papers:
Sir THOMAS OLIVER: Some Circumstances which make for Industrial Efficiency.
Sir W. H. WILLCOX: Dangers to Health arising from Use of Preparations of Arsenic in Various Industries.
Dr. JOHN GLAISTER, jun.: New Apparatus for the Assessment of Efficiency after Injuries.
Dr. R. A. LYSTER: The Importance of Teaching Forensic Medicine to Students of Medicine and Law.

RADIOLOGY AND ELECTROLOGY.

President: LEONARD A. ROWDEN, M.B., C.M.
Vice-Presidents: E. P. CUMBERBATCH, M.B., M.R.C.P.; JAMES ROBERTSON RIDDELL, F.R.F.P.S.
Honorary Secretaries: F. HERNAMAN-JOHNSON, M.D., 66, Harley Street, London, W.1; D. O. MACGREGOR, M.B., C.M., Langside Cottage, Langside, Glasgow.

The following provisional programme has been arranged:
July 26th (10 to 11.30 a.m.).—Discussion: The *X*-ray Treatment of Deep-seated Cancers, with special reference to Erlangen Methods. To be opened by Dr. J. R. RIDDELL (Glasgow), followed by Dr. DOUGLAS WEBSTER, Dr. F. HERNAMAN-JOHNSON, and Dr. C. W. SALEEBY, the last from the point of view of a non-practising medical man.
11.30 a.m. to 12 noon.—Dr. J. A. LONGLEY (Middlesbrough): Comparison of Coil and High-Tension Transformer in *X*-ray Therapy.
12 to 1 p.m.—Discussion on the Value of Gas Inflation in *X*-ray Diagnosis. To be opened by Dr. F. HERNAMAN-JOHNSON (London), followed by Dr. J. MAGNUS REDDING (London).
July 27th (10.30 a.m.).—Papers:
Dr. H. E. GAMLEN (Newcastle-upon-Tyne): A Short Account of the Bucky-Potter Diaphragm and the Lead-Glass Shield for the 7 in. Coolidge Tube.
Dr. C. W. S. SABERTON (Harrogate): Points in the Differential Diagnosis of Simple and Malignant Bone Disease.
Dr. JAMES CROCKET (Glasgow): The Differentiation of Active from Quiescent Tuberculosis of the Lung.
Dr. E. W. REED (Manchester): *X* Rays in Diseases of the Skin.
Dr. J. GIBSON GRAHAM (Glasgow): *X*-Ray Treatment of Tinea.
11.30 a.m. to 1 p.m.—Discussion on the Therapeutic Value of High-Frequency Currents and Static Electricity. To be opened by Dr. E. P. CUMBERBATCH (London), Dr. F. HOWARD HUMPHRIS (London), and Dr. W. F. SOMERVILLE (Glasgow).

The following Sections will meet each on one day.

ANATOMY.

President: Professor ALEXANDER MACPHAIL, M.B., C.M., F.R.F.P.S.
Vice-Presidents: Professor J. C. BRASH, M.C., M.B., Ch.B.; Professor J. T. WILSON, M.B., F.R.S.
Honorary Secretaries: Professor JAMES BATTERSBY, F.R.C.S., F.R.F.P.S., 616, Great Eastern Road, Glasgow; Professor JOHN GRAHAM, F.R.F.P.S., 351, Renfrew Street, Glasgow.

The following provisional programme has been arranged:
July 28th.—Papers:
Professor J. C. BRASH (Birmingham): The Relation of the Urethra to the Vagina.
Dr. ALFRED PINEY (Birmingham): The Naked-Eye Anatomy of the Bone Marrow with Age Changes.
Dr. J. M. WOODBURN MORISON (Manchester): The Teaching of Anatomy by Radiology, in the Anatomy Department.
Dr. W. B. PRIMROSE (Glasgow): The Problem of the Structure of the Vertebrate Head.
Dr. W. K. CONNELL (Glasgow): Observations on the Form of the Palate in Children.

Discussion: The Administration of the Anatomy Act. To be opened by Dr. ALEX. MACPHAIL.

Demonstration of a series of embryological models by Professor THOMAS H. BRYCE, F.R.S.

ANAESTHETICS.

President: W. J. MCCARDIE, M.B., B.Ch.

Vice-Presidents: JAMES PATON BOYD, M.B., F.R.F.P.S.; L. MABEL RENWICK CAMPBELL, M.B., Ch.B.

Honorary Secretaries: H. PRESCOT FAIRLIE, M.D., 19, Bute Gardens, Glasgow; HUBERT PINTO-LEITE, M.R.C.S., L.R.C.P., 24, Fellows Road, South Hampstead, London, N.W.3.

The following provisional programme has been arranged:

July 26th (10 a.m.).—Discussion on Broncho-pulmonary Complications following Operation under Anaesthesia. Offers from those desiring to take part in the discussion should be sent to one of the Secretaries.

Paper and demonstration by Dr. A. L. FLEMMING: Different Effects produced by Exposing Tissues to various Concentrations of Anaesthetic Vapour.

Demonstrations of Anaesthetic Apparatus.

LARYNGOLOGY.

President: JOHN MCINTYRE, M.B., C.M., F.R.F.P.S.

Vice-Presidents: A. BROWN KELLY, M.D., F.R.F.P.S.; Sir STCLAIR THOMSON, M.D., F.R.C.P., F.R.C.S.

Honorary Secretaries: F. F. MUECKE, C.B.E., M.B., F.R.C.S., 36, Cavendish Square, London, W.; W. S. SYME, M.D., F.R.F.P.S., 11, Lynedoch Crescent, Glasgow.

The Section will meet on Thursday, July 27th. The provisional programme will be published in due course.

MEDICAL SOCIOLOGY.

President: E. ROWLAND FOTHERGILL, M.B., B.S.

Vice-Presidents: CHARLES E. S. FLEMMING, M.R.C.S., L.R.C.P.; JAMES HUDSON, M.D., C.M.; PETER MACDONALD, M.D.

Honorary Secretaries: ALEX. FORBES, M.B., C.M., Hillsboro' Lodge, Sheffield; DAVID MCKAIL, M.D., D.P.H., 2, Morris Place, Monteith Row, Glasgow.

The following provisional programme has been arranged:

July 28th.—Discussion: Alcohol as a Beverage in its relations to Certain Social Problems.

OTOLOGY.

President: ALBERT ALEX. GRAY, M.D., F.R.F.P.S.

Vice-Presidents: J. G. CONNAL, M.B., F.R.F.P.S.; W. F. WILSON, M.B.

Honorary Secretaries: F. J. CLEMINSON, M.Ch., F.R.C.S., 32, Harley Street, London, W.1; J. W. LEITCH, M.B., 6, Clairmont Gardens, Charing Cross, Glasgow.

The following provisional programme has been arranged:

July 26th.—Discussion: Septic Sinus Thrombosis, its Diagnosis and Treatment. To be opened by Sir WILLIAM MILLIGAN and Mr. HUNTER TOD.

Papers:

Professor HOLGER MYGIND: Otogenic Collateral Meningitis.

Dr. J. S. FRASER and Dr. STEPHEN YOUNG: Is it worth while to Remove Aural Polypi?

TUBERCULOSIS.

President: Sir ROBERT W. PHILIP, M.D., P.R.C.P.Edin., F.R.S.E.

Vice-Presidents: JAMES CROCKET, M.D., D.P.H.; Professor S. LYLE CUMMINS, C.B., C.M.G., M.D.; WM. HY. DICKINSON, O.B.E., M.B., D.P.H.

Honorary Secretaries: A. HOPE GOSSE, M.D., M.R.C.P., 75, Harley Street, London, W.; A. S. M. MACGREGOR, O.B.E., M.D., D.P.H., 488, Clarkston Road, Muirend, Cathcart, Glasgow.

The Section will meet on Thursday, July 27th. The provisional programme will be published in due course.

Honorary Local General Secretary.

Dr. GEORGE A. ALLAN, 22, Sandyford Place, Glasgow, W.

Meetings of Branches and Divisions.

ASSAM BRANCH.

THE annual meeting of the Assam Branch was held in Tezpur on January 14th. A resolution was unanimously carried proposing that a medical man who had previously practised in Assam should be asked to act as a representative in England, to whom those intending to take up tea estate appointments in Assam could apply for information.

A paper was read by Dr. JAMESON on duodenal deficiencies, drawing attention to the probable effect of long-continued gross infections of ankylostoma on the duodenal secretions. Dr. HERMITTE read a paper entitled "A plea for supplementary systematic teaching of the Subordinate Medical Staff"; he also showed several slides under the microscope which were of much interest—notably, a culture of *Leishmania herpetomonas* grown on N.N.N. media; *Trypanosoma gambiense*; a section of liver from a case of ankylostomiasis, and others. The formol-gel test for kala-azar was discussed by Dr. FOSTER, and notes of a series of cases in which the test had been applied were shown to the meeting; the results were regarded as inconclusive. Notes of the same test as applied to the diagnosis of syphilis were read by Dr. SMYTHE; the investigations were not complete and would be published later.

Dr. Forsyth was elected President for the coming year, and Dr. Jameson honorary secretary. The members dined together in the evening, at the kind invitation of the President.

EDINBURGH BRANCH: SOUTH-EASTERN COUNTIES DIVISION.

THE annual meeting of the South-Eastern Counties Division was held at Newtown St. Boswells on May 3rd, when Dr. PERCY J. HENDERSON (Galashiels) was in the chair.

The SECRETARY announced that Mrs. Cullen desired to express her thanks for the vote of sympathy, on the death of Dr. Cullen, adopted at the last meeting. It was decided to allocate as follows the £34 11s. 3d. received in response to the appeal to members: Expenses 3s. 9d., cost of wreath £3, memorial to Dr. Cullen £22 5s., Wood-Hill Fund £9 2s. 6d.

The meeting then proceeded to the election of officers for the ensuing year. The Vice-Chairman, Dr. P. A. MACLAGAN (Ayton), having succeeded to the chair, proposed a warm vote of thanks to Dr. Henderson for the very efficient manner in which he had carried out his duties as chairman, and this was most heartily accorded.

The following officers were elected:

Vice-Chairman: Dr. N. P. Fairfax (Innerleithen). *Representative in Representative Body:* Dr. J. S. Muir (Selkirk). *Deputy Representative:* Dr. P. J. Henderson. *Honorary Secretary and Treasurer:* Dr. M. J. Oliver (re elected).

Instructions to Representative.—On the invitation of the Chairman, Dr. MUIR stated his views on the hospital question as generally in conformity with the principles set forth in the report of Council, and in particular strongly opposed those who were able to pay for treatment being allowed to make use of voluntarily supported hospitals. He strongly objected to panel practitioners being allowed to send insured persons to hospitals for the dressing of wounds and such like purposes which were within the competence of an ordinary practitioner. Dr. KENNEDY asked how a conclusion could be arrived at as to whether a person was able to pay a consultant's fee or not; Dr. MUIR replied that an almoner would be a necessary official at every hospital to make such inquiries. Amongst other points Dr. Muir referred to institutions and clubs sending patients to hospitals, and Dr. DREVER explained that it was a cardinal principle of the hospital policy of the Association that in such cases payment should be made and that a portion of the payments should go to the medical staff to be disposed of as they thought fit.

The SECRETARY suggested to the meeting that in view of the probability of an early contest with approved societies the Representative should be instructed to do all in his power to advance measures for the better organization of the profession, and in particular for the provision of adequate funds for defence purposes. Dr. HENDERSON strongly supported the suggestion, and said that members should be warned that those who did not contribute to such funds would not benefit from them in the event of their suffering loss by competition of others. Several members spoke to the same effect, and the recommendation was made that they should use their influence in the Panel Committees to secure substantial contributions to the Insurance Defence Fund being levied in such panel areas within the Division.

The question of minimum fees at maternity centres was considered, and, after discussion, the following motion was adopted:

> "That in the opinion of the South-Eastern Division, British Medical Association, no medical practitioner within the area of the Division should apply for or hold an appointment as physician or surgeon to a maternity centre at fees less than the minimum recommended by the British Medical Association—namely, two guineas per session of two hours and a half, or one guinea for the first hour and seven shillings per succeeding half-hour."

The Edinburgh Branch having decided to hold a meeting at Galashiels, Drs. Muir, Henderson, and Kennedy and the Honorary Secretary were appointed a subcommittee to collaborate with the subcommittee appointed by the Branch Council in making the necessary arrangements.

At the conclusion of the formal business Dr. DREVER, in reply to questions by members, gave explanations of various matters connected with the policy of the Association.

On the motion of the CHAIRMAN a vote of thanks was accorded to Dr. Drever for his able assistance at the meeting. Dr. DREVER in reply said that he had been instructed by the Branch Council to congratulate the Division on its state of organization, which was at least as good as that of any Division in Scotland.

GLASGOW AND WEST OF SCOTLAND BRANCH: GLASGOW EASTERN DIVISION.

A MEETING of the Glasgow Eastern Division was held on April 26th.

The Division Model Rules of Organization were considered and adopted as modified.

The Report of Council on the revision of the British Medical Association constitution and machinery was considered and passed from without further comment save that the Representative was advised to bring up certain matters, if thought advisable, when (44) Provision for Standing Arrangements Committee was under discussion.

Dr. RUSSELL submitted the following resolution, which was adopted for transmission to the Annual Representative Meeting:

> That upon the acceptance of an invitation from a particular town or district to hold the annual meeting there, it shall thereupon be the Medical Secretary's duty to send a copy of the rules and suggestions anent the carrying out of annual meetings to every member of the Branch Council concerned.

The following motion was also adopted for transmission to the Annual Representative Meeting:

That the Memorandum of Association be amended so as to include the following as one of the objects for which the Association is established, namely: (9) To establish a benevolent fund for the benefit of members and their dependants.

METROPOLITAN COUNTIES BRANCH: LAMBETH DIVISION.

A MEETING was held on April 26th, when a paper was read by Mr. ALAN H. TODD, F.R.C.S., entitled "Injuries to the elbow and their treatment," which proved most interesting and instructive. The lantern slides which were used to illustrate the paper were remarkably clear.

METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.

A MEETING of the Lewisham Division was held on April 25th, when Dr. G. W. CHARSLEY occupied the chair. Dr. T. E. WHITE read a paper on the problem of infant mortality. He stated that the infant death rate amongst illegitimate children was double that of the children born in wedlock, and that ten thousand children could be saved. He advocated the establishment by the State of foundling hospitals, on the lines of the London one, in different parts of the country.

SOUTH WALES AND MONMOUTHSHIRE BRANCH.

A CLINICAL meeting of the South Wales and Monmouthshire Branch was held at King Edward VII Hospital, Cardiff, on December 8th, 1921, at 3.15 p.m., with Dr. P. J. O'DONNELL, President, in the chair.

The following cases were exhibited:—Professor A. W. SHEEN showed in the Surgical Unit, Welsh National School of Medicine: (1) A case of large pigmented papilloma of the abdomen, round which was an area of pronounced leucodermia. (2) A case of osteochondritis deformans (Legg's or Perthes's disease) in a boy of 8, with anterior projection of the head of the femur. (3) A case of acromegaly with bitemporal hemianopsia in which sellar decompression by the nasal route had been performed by Dr. D. R. Paterson. (4) A case after colopexy. (5) A case of Charcot's disease of both ankles in a woman aged 32 years.

Mr. GEARY GRANT showed in the Surgical Unit a case of sarcoma of the tibia in a haemophiliac in which amputation was performed successfully. Mr. Geary Grant also showed a patient after operation for talipes equino valgus. Dr. ALFRED HOWELL showed a patient suffering from progressive lenticular degeneration, or Little's disease. Dr. IVOR DAVIES showed a patient suffering from cerebellar tumour.

A meeting of the South Wales and Monmouthshire Branch was held at the Swansea General Hospital on February 9th, 1922. In the absence of the President, Dr. QUICK was voted to the chair. The minutes of the last meeting were read and confirmed.

The following papers were read: (1) The encroachment of the public medical officer upon the field of clinical medicine, by Dr. J. M. MORRIS; (2) an appreciation of the work done by Johannes Wolaens, by Dr. G. ARBOUR STEPHENS; (3) some newer applications of chemistry to clinical medicine; and (4) the peptone treatment of asthma, by Dr. A. CLARKE BEGG.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: SOUTH-WEST WALES DIVISION.

A MOST successful meeting of the South-West Wales Division was held at the Carmarthen Infirmary on April 26th, when Mr. ALWYN SMITH, D.S.O., gave a demonstration on the treatment of fractures. The demonstration was very much appreciated, and a hearty vote of thanks accorded to Mr. Alwyn Smith. A vote of thanks was also passed to the matron for the accommodation and tea provided.

SOUTH-WESTERN BRANCH: PLYMOUTH DIVISION.

A MEETING of the Plymouth Division, which was open to the profession, was held at the Guildhall, Plymouth, on May 1st, under the presidency of Dr. C. L. LANDER, D.S.O.

Dr. ALFRED COX, Medical Secretary, delivered an interesting and convincing address, and regret was expressed that those members of the profession who had talked so loudly against the Association was conspicuous by their absence. Dr. Cox detailed much of what the Association had done for the profession, and indicated the possibilities of the future. He especially insisted on the importance of recognizing the fact that the interests and honour of all sections of the profession were so interdependent that no section could stand alone. A vote of thanks to Dr. Cox was passed unanimously, and a similar recognition was made of Dr. R. Wagner's generosity in providing tea.

SURREY BRANCH: CROYDON DIVISION.

THE annual meeting of the Croydon Division was held at Croydon General Hospital on April 19th, when Mr. G. E. NEWBY, O.B.E., F.R.C.S., was in the chair.

The following officers were elected for 1922–3:

Chairman: Dr. G. G. Genge. *Vice-Chairman:* Mr. G. E. Newby, O.B.E. *Honorary Secretary and Treasurer:* Dr. C. G. C. Scudamore. *Assistant Honorary Secretary:* Dr. P. W. Hamond. *Representative in Representative Body:* Dr. C. G. C. Scudamore. *Deputy Representative:* Dr. P. W. Hamond.

A clinical meeting followed, when cases were shown by Dr. GENGE, Mr. NEWBY, and Mr. COWELL, and specimens by Mr. COWELL.

WORCESTERSHIRE AND HEREFORDSHIRE BRANCH.

THE spring meeting of the Worcestershire and Herefordshire Branch was held at the Hospital, Great Malvern, on April 27th, when Dr. HOLBECHE, the President, was in the chair.

Professor MURRAY of Manchester gave a most interesting and instructive British Medical Association Lecture on hyperthyroidism and its treatment. The paper was fully illustrated by lantern slides. Several members subsequently asked questions which were fully explained by the lecturer. A most hearty vote of thanks to Professor Murray was carried with acclamation.

YORKSHIRE BRANCH: BRADFORD DIVISION.

A British Medical Association Lecture was given by Colonel L. W. Harrison, D.S.O., who took as his subject "The modern treatment of syphilis," at the Great Northern Victoria Hotel on April 26th, with Dr. T. JASON WOOD in the chair. Some seventy practitioners were present.

In the course of a most interesting and instructive lecture, Colonel HARRISON reviewed the steps which had led up to the present method of treatment commencing from the introduction of "606." He referred to the various complications which had been met with and explained how these had been practically eradicated by variations of dose and changes of intervals between doses. Colonel Harrison then showed the most recent courses of treatment for the disease in its various stages, and by means of diagrams he gave a very clear explanation of how and why. One point the lecturer impressed very fully upon his audience was the necessity for prolonged treatment; he strongly deprecated the only too common habit of being satisfied with one negative Wassermann test, followed by the "Wait and see policy."

A discussion followed the lecture, in which Drs. W. CAMPBELL, H. ROWE, and W. WRANGHAM took part. Colonel HARRISON replied to various questions which had been raised in the discussion.

On the motion of Dr. CRAWFORD WATSON, seconded by Mr. J. PHILLIPS, a hearty vote of thanks was accorded with acclamation to Colonel Harrison for his most excellent address.

SCHOLARSHIPS AND GRANTS IN AID OF SCIENTIFIC RESEARCH.

SCHOLARSHIPS.

THE Council of the British Medical Association is prepared to receive applications for Research Scholarships as follows:

1. An ERNEST HART MEMORIAL SCHOLARSHIP, of the value of £200 per annum, for the study of some subject in the department of State Medicine.
2. THREE RESEARCH SCHOLARSHIPS, each of the value of £150 per annum, for research into some subject relating to the Causation, Prevention, or Treatment of Disease.

Each scholarship is tenable for one year, commencing on October 1st, 1922. A Scholar may be reappointed for not more than two additional terms.

The Conditions of the award of Scholarships are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, 429, Strand, London, W.C.2.

GRANTS.

The Council of the British Medical Association is also prepared to receive applications for Grants for the assistance of Research into the Causation, Treatment, or Prevention of Disease. Preference will be given, other things being equal, to members of the medical profession, and to applicants who propose as subjects of investigation problems directly related to practical medicine.

The Conditions of the award of Grants are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, 429, Strand, London, W.C.2.

Applications.

Applications for Scholarships and Grants for the year 1922–23 *must be made not later than Saturday, June 24th, 1922*, in the prescribed form, a copy of which will be supplied by the Medical Secretary on application.

Each application should be accompanied by testimonials, including a recommendation from the head of the laboratory, if any, in which the applicant proposes to work, setting out the fitness of the candidate to conduct such work, and the probable value of the work to be undertaken. This is not intended, however, to prevent applications for Grants in aid of work which need not be performed in a recognized laboratory.

A LIST of periodical publications, official reports, and Blue Books in the Library of the British Medical Association available for issue to members on loan has been printed, and copies can be obtained free on application to the Librarian at the house of the Association, 429, Strand, W.C. The regulations governing the loan of these publications are stated in the introduction to the list. The Library is open for consultation from 10 a.m. till 6.30 p.m. (on Saturdays 10 a.m. till 2 p.m.).

THE MAINTENANCE OF OUR HOSPITALS.

BY

CHAS. E. S. FLEMMING, M.R.C.S.,

BRADFORD-ON-AVON.

MUCH that is interesting and useful has of late been written and said as to the future of our hospitals, and many have pleaded eloquently for the maintenance of the voluntary system of support and management and against State control.

We can only prevent State control by doing ourselves what otherwise it would be the duty of the State to do, for it has become a primary obligation of the Government to ensure that proper means are available for maintaining the health of the community. This necessitates, among other things, the provision of sufficient and efficient hospitals for the treatment of all who may require it, for the conduct of research as to the causes, the prevention, and the cure of disease, for the training of medical men. Hitherto voluntary effort has been able to make this provision, and if it can continue to do so efficiently it is most unlikely that the State will want to interfere; but as control naturally and properly goes with financial support it is quite obvious that the only way to maintain the voluntary system is to continue voluntary support.

Valiant endeavours have been made to do so, but the increasing demands on these institutions and the unavoidable rise in the cost of working them, have made the task impossible under our existing methods. All sorts of schemes have been suggested and tried, but none of them are more than the patching of an old garment. The altruistic support of days gone by has been gradually to a large extent replaced by a charity that begins nearer home; subscriptions by firms or private individuals from which some benefit, direct or indirect, is anticipated, or contributory schemes which are frankly conducted in the interests of the contributors, all voluntary though only in a very limited degree charitable.

Seeing that every member of the population benefits directly or indirectly by the work done in our hospitals, all may fairly be expected to contribute to their support; it is for them to say whether they will do so of their own accord or at the bidding of their Government.

The anxiety of those who have to keep our hospitals going, the amount of energy that is expended, the prolonged fight against heavy odds by a large and devoted army of voluntary workers, have led some in despair to counsel the policy of State support. It sounds so simple: a local rate with a grant in aid from the Exchequer, everyone bearing their proper share of the burden, an end to the everlasting appeals to charity.

Distributing the Burden.

There is no need to waste space in recounting the many objections actual and sentimental, but attention must be given to the obvious fairness and advantage of a system that distributes the burden more evenly, that makes the working more simple, that once organized must save a great deal of anxiety, get better return for the energy spent and make for the more successful progress of our hospitals.

We want a system which will be more equally and more evenly sustained, less spasmodic in working and in effect, more methodical, more generally organized than is the present; but it must be voluntary, must not dissipate that local and personal interest which is such a valuable asset to our hospitals. Any scheme to be just and effective must be universal—that is to say, it must take effect equally throughout the country; at present, apart from the uneven distribution among the different classes of society, the local contributions are too uneven and do not bear a proper relation to the hospital benefit received. Large central and special institutions treat cases from areas from which they receive, far too often, little or no pecuniary support; this is, indeed, one of the main causes of the financial embarrassment of most of our large hospitals.

From one small county, in the year 1920, 730 persons were treated by hospitals outside that county, at a total cost to those hospitals of nearly £7,000, but the contributions from that county to those hospitals amounted, so far as could be ascertained, to little over £1,200. The cost of a patient is necessarily greater in a central hospital than in a cottage hospital, greater still in a teaching hospital, in London greater than in the provinces, but patients from any district may use any of them.

In 1916 the total expenditure of the voluntary hospitals in England and Wales, including London, was £4,218,698; this divided equally among the whole population would give a sum of 2s. 4d. per head. The cost must now be more than this, and if more accommodation is provided must still further increase. Unfortunately, it would not be practicable to collect this sum from every individual in the country, but it should not be impracticable to collect from given areas their quota, calculated according to their population; thus a district with a population of 20,000 would at a rate of, say, 3s. have to provide annually a sum of £3,000.

All who could afford might well be expected to pay their share, and those who could afford more to help those who could not pay more than a part, if any, of the contribution due from them. The deficiency, if any, might be met, as in the past, by the various means—street collections, Hospital Sundays, etc.—which are now resorted to.

The most convenient and effective area would be that immediately served by a hospital or hospitals. A Hospital Fund Committee would be formed in each area; this committee might be constituted from representatives of the hospital board or boards and from the various contributory bodies. Thus the services of those most interested in the local institutions would be retained, local patriotism would be maintained and taken advantage of; support would be given not to "Our Hospital," but to "Our Hospital Fund." It is assumed that the work would be, as in the past, mostly voluntary.

To prevent overlapping or incompleteness it would be necessary for these areas to be arranged by some more central body; this is a duty that might well be undertaken by the statutory Local Voluntary Hospitals Committees recently set up. Some such body would be necessary, too, to co-ordinate the contributory schemes that are being instituted by friendly societies and various industrial and other organizations.

Business-like Management.

The management and distribution of the fund when collected raises an important question in the control of the revenue of the hospital. It has been said that the hospitals can be helped by the adoption of more business-like management. The present system of providing revenue can hardly be called business-like; if one set out to run an institution as a self-supporting concern one would charge to each patient's account the actual cost of his maintenance and treatment, and this is the reform that must be carried out if there is to be business-like management. It is being tentatively introduced by many hospitals, but only in a half-hearted way, because of the impossibility of carrying it out completely under the existing method of getting funds; partial payments are being required from patients themselves or from funds paying for them.

The cost of a patient is anything from £3 to £4 per week, but the payments made are not generally more than 10s. or 20s. If there were in existence a hospital fund, the actual cost to the institution of each patient would be paid to it out of that fund, whether the hospital was in the area of the fund or in any other part of the country.

It is not advisable to confuse the consideration of the broad principle by entering into too much detail, but the fund collected by a hospital fund committee would be controlled and managed by that committee, the money would not be paid at once to any hospital, but only for work done.

Variations in the incidence of sickness in different areas would entail a corresponding variation in the demands of the fund; to adjust this it would be necessary to have the assistance of some more central body: here again the Local Voluntary Hospitals Committee suggests itself as being the most expedient, naturally some co-ordinating body or council would be required to organize the whole scheme.

Every individual contributor and everyone living in an area that contributed its proper quota would have a right, when admitted to a hospital, to have his maintenance charge paid out of the fund. But it would be necessary to make some stipulation that those should have first claim to admission whose income was under a certain agreed limit. And while hospitals might arrange for the medical treatment of these patients, it would be necessary for all others to make their own arrangements for the payment of such treatment. The patient's chief pecuniary difficulty is the expense of what is included under "maintenance"—that is, lodgings, food, nursing, drugs, dressings, etc. Persons requiring any special or preferential accommodation would have to pay for it themselves.

One of the obstacles in the way of any contributory scheme is the impossibility of ensuring prompt admission, because of

the insufficient number of beds. It must be understood that admission is dependent on accommodation available, but with a more businesslike system this difficulty should, without undue delay, be overcome.

In estimating the rate suggested above no allowance has been made for income derived from endowments; this might be used directly or indirectly, to provide better equipment or that extra accommodation which success of the scheme would certainly make necessary.

There will be, no doubt, all sorts of obstacles and objections raised, prejudices to be overcome. But what matter difficulties and old ideas if the object is gained and the fundamental principle is kept? Think of the alternative.

Correspondence.

Hospital Treatment of Insured Persons.

SIR,—One year ago you printed a letter from me on the subject of treatment of insured persons in hospital. In your following issue Dr. Wood Locket supported my remarks. Since then I have been instrumental in sending to the Medical Secretary certain rulings of the Ministry on this matter and have personally asked Dr. Cox and Dr. Dain to hasten consideration of the matter. I see from the BRITISH MEDICAL JOURNAL (para. 183 of Council's report) that no sort of agreement has yet been reached, other than the solicitor's opinion, which may or may not have any particular value in the eyes of the Minister of Health.

Para. 183 appears, however, to concede the general principle that we must treat insured persons in hospital under the terms of our contracts. As this is only one of 259 paras. (plus 11 more in an appendix) with which the Representative Body has to deal, and as, moreover, it is headed "Administration of Anaesthetics in Hospital—Range of Services," it seems quite likely to be adopted as the policy of the British Medical Association without any adequate discussion.

I write to suggest that it is extremely undesirable that the Representative Body should formulate policies which affect matters within the sphere of interest of the Panel Conferences. In particular it would appear to be highly improper for the Representative Body to concede general principles before the details of a highly complex situation are available. If the Representative Body voiced only its own opinions there could be no complaint, but the claim of the British Medical Association to represent the whole profession is so frequent and so insistent that those who consider that the Panel Conferences have a higher claim in their own sphere are bound to submit to close scrutiny all attempts to forestall their decisions.

May I point out some of the difficulties which arise in my own district if this principle be allowed? First, the cottage hospital is at such a distance from my house that mileage could be claimed. This is a temporary arrangement here, but the loss of money on travelling is permanent, for most of my patients there have their homes within the mileage limit. The medical officers receive a proportion of the "pay-day" contributions, but I presume that they cannot accept even this from insured persons. What should we do in this matter? The principle once conceded, we can obviously order drugs and dressings at State expense, provided the service is within the contract of service. When does the after-treatment of an abdominal section (itself without the terms) come within the terms? This is going to make a great difference to those who provide drugs and dressings for their patients, and should be taken into consideration when reduction of the doctor's dispensing fee is considered. The cost of maintenance ought not to be made the same for those who supply their own dressings and doctors—how is one to explain to the insured person that this will depend entirely on whether the service rendered is within the competence of the ordinary practitioner? My fever cases go to an isolation hospital beyond the mileage limit. Certain of my colleagues receive a retaining fee and a capitation fee for each patient admitted. Can they continue to receive this for insured persons? Or does this new interpretation of the Acts relieve local authorities of a portion of their statutory duties?

With such questions as these undecided, I venture to urge members of the Representative Body to refuse to meddle with the business of Panel Conferences until they are asked to, or at least until the matter has been properly discussed.—I am, etc.,

Sevenoaks, May 7th. GORDON WARD.

*** The position both of the Ministry of Health and the Insurance Acts Committee will be made clearer before the date of the Representative Meeting. Dr. Gordon Ward need have no fear of the Representative Body doing anything which would hamper or interfere with the work of the Panel Conference, for, thanks to the liaison between the Conference and the Representative Body via the Insurance Acts Committee, it is easy to make sure that representatives of the profession as a whole are kept fully aware of the opinion of any special section of the profession about matters of general interest.

Insurance.

LONDON SCHEME FOR HOLIDAY DEPUTIES.

IN the *London Panel Committee Gazette* for April the attention of insurance medical practitioners in London is directed to a co-operative scheme for avoiding as far as possible the expense and anxiety of employing a locumtenent during the holiday season. In the London Panel Committee's view the adoption of this scheme by practitioners will not only accomplish its immediate purpose, but will assist in bringing about closer co-operation among doctors on the panel. The details of the scheme are set out in the following paragraphs:

Scheme for Mutual Assistance during the Holiday Season, May to October inclusive.

1. The adoption of this scheme shall be entirely voluntary, but practitioners joining shall undertake that, unless compelled to do so by illness, they will not retire from the scheme without giving three months' notice of their intention.

2. The operation of the scheme shall be confined to the months of May, June, July, August, September, and October in each year.

3. The operation of the scheme shall be undertaken by groups of practitioners residing within reasonable distance of one another.

4. Each group shall consist of not less than five members, and the members shall appoint one of their number to act as secretary of the group.

5. Each member of a group shall (i) undertake to act for any other member of the group in providing treatment for the patients of the absent practitioners; (ii) arrange by mutual agreement with the other members of the group as to the dates between which he shall take his holiday; (iii) undertake to require not more than four weeks' holiday; (iv) undertake to keep the forms supplied by the Panel Committee in respect of the scheme; (v) undertake to forward to the Panel Committee all forms in respect of any practitioner who has been on holiday as soon as possible but in any case not later than six weeks after the return of the practitioner; (vi) pay direct to the practitioner who has been on holiday all fees received in respect of private patients attended on his behalf.

6. The operation of the scheme shall be in respect of holidays only.

7. This scheme shall not provide for midwifery, Poor Law, vaccination, or insurance examinations.

8. The Panel Committee will provide the forms necessary for the working of the scheme.

9. Each group shall at as early date as possible give notice to the Committee of: (i) Its formation and the name of the member nominated as secretary of the group; (ii) of the dates arranged for the holidays of its members.

10. Fees shall be paid by each practitioner, who being a member of a group, intends to avail himself of the scheme, to the secretary of the Panel Committee in advance, at the rate of £5 5s. per week for the first two weeks of his holiday, and £6 6s. per week for the second period of not more than two weeks.

11. The fees (see paragraph 10) received from each practitioner in a group shall be pooled, and after deducting the necessary expenses of the Panel Committee the balance shall be distributed among the members of the group.

12. The distribution of the balance, referred to in paragraph 11, shall be as follows:

> The total number of patients attended by the various members of the group having been ascertained by adding together the number of forms returned to the Panel Committee, the sum remaining in the pool shall be divided into units representing one unit per patient, and each member of the group shall be paid a sum in direct proportion to the number of forms submitted by him to the Committee.

13. The distribution of the balance referred to in paragraphs 10 and 11 shall be made not later than three months subsequent to the return of the last practitioner in the group from holiday.

14. Any practitioner who, having signified his willingness to co-operate in this scheme, is unwilling to provide, or refuses to provide, treatment for any person on the list of a practitioner then taking holiday under this scheme, shall not be entitled to participate in the distribution of the fees received in connexion with the scheme in so far as it applies to the practitioner then on holiday.

15. In the event of any question arising between the Committee and a practitioner, or between a practitioner and a practitioner, as to the interpretation of this scheme, or as to any arrangements made under the provisions of this scheme, the matter in dispute shall be submitted to a section of the Panel Committee appointed to deal with such matters, who shall report to the Panel Committee, whose decision shall be final. Each party to the dispute shall be entitled to be heard by the Panel Committee.

Those desiring to take advantage of these arrangements should communicate with the Secretary, Dr. R. J. Farman, Staple House, 51, Chancery Lane, W.C.2.

LOCAL MEDICAL AND PANEL COMMITTEES.

WEST RIDING OF YORKSHIRE.

THE annual county medical dinner of the Local Medical and Panel Committee was held at the Queen's Hotel, Leeds, on April 25th, when there was a large gathering of medical men and their lady guests from all parts of the county. The Chairman, Dr. G. B. HILLMAN (Wakefield), presided, and the committee's guests of the evening were Alderman and Mrs. Crossley, Dr. Peter Macdonald of York, and Dr. G. C. Anderson, Deputy Medical Secretary of the British Medical Association. Apologies for absence were received from Sir Berkeley Moynihan, Dr. C. H. Milburn, Divisional Medical Officer, Ministry of Health; Dr. A. Forbes, Sheffield; Dr. Mylan, Sheffield; Professor Leathes, Sheffield University; Mr. A. Flather, Clerk to the Insurance Committee of the West Riding; Dr. McCulloch, Bradford; Dr. Callander, Doncaster; and many others. The stewards of the evening were: Drs. Adams (Sowerby Bridge), Craig (Bingley), Infield (Kippax), Kershaw (Pudsey), Thorp (Todmorden), and Wales (Gargrave).

The CHAIRMAN having given the toast of "The King," Dr. PETER MACDONALD (York) proposed "The West Riding Local Medical and Panel Committee." He recalled the opposition of the medical profession ten years ago to the Insurance Act, and said that time had wrought changes in their opinion. He thought they were now agreed that they did not want the panel system removed or ended. Referring to the National Insurance Defence Trust, he urged on all panel doctors the duty of joining and supporting the fund, and said they could not possibly afford to do without organization. As to the future, they were now up against the menace of approved society control, which he hoped the profession would be able to resist, but he was quite certain this could only be achieved by vigorous organization. The toast was replied to by Dr. W. STEVEN and Dr. HARGREAVES.

The other toasts were "The Guests," proposed by Dr. WATSON, and replied to by Dr. ANDERSON and Alderman CROSSLEY; and "The Chairman," whose health was drunk with enthusiasm and with musical honours.

LANCASHIRE.

AT a meeting of the Lancashire County Local Medical and Panel Committees held on April 26th the following resolutions, moved by Dr. H. F. OLDHAM, the Chairman, were unanimously adopted:

1. "That the Insurance Acts Committee be instructed to take all possible steps to obtain the appointment of a Royal Commission with reference, 'To review the whole working, administration, and finance of the National Health Insurance Acts of 1911, 1913, 1918, and 1920, and report thereon.'"
2. "That the Insurance Acts Committee be instructed to explore every possible avenue that might lead to the consolidation of all National Health Insurance under one State-controlled body, preferably the Ministry of Health, by whom alone, and through whom alone, all benefits should be dispensed."
3. "That in the opinion of this conference National Health Insurance would be more efficient and more beneficial, the service more attractive and of a higher standard, and the administration more economical if the present system of deposit contributors were extended to embrace all insured persons and the financial arrangements for deposit contributors so modified that the good lives should carry the bad."

The Chairman pointed out that only by a Royal Commission could the entire scope of the Acts be reviewed. A Departmental inquiry would probably be confined to inquiry into the administration of medical benefit at which the medical profession would be forced into the position of defendants against all sorts of complaints, and would be deprived of any opportunity of pointing out the most serious flaw in the Acts. This, he said, was to be found in the unlimited power of interference between a medical practitioner and his patient which was vested in the approved societies, and their absolute freedom from any control either by Insurance Committees or the Ministry of Health. Resolution 2 was based on the consideration that the different societies had no interest in the health of their members or in the health of the State. Their only interest was to accumulate moneys at the expense of the members and of the State. The time had come when the profession must choose between a State service and an approved society service. A State service based on the principles of a part-time service and free choice was greatly to be preferred. The contract would be a straight contract with the State, and both parties would be equally interested in improving and perfecting the service and securing a high standard of national health. Resolution 3 suggested a method by which No. 2 might be attained. The deposit contributor might be placed in as good a position as the approved society member by making his insurance collective and not individual, the good lives carrying the bad. Under such a system, Dr. Oldham said, all accruing surplus would be in the hands of the State and available for extending or improving benefits, and by eliminating all overlapping administration would be simplified and made more economical.

TYNEMOUTH.

A MEETING of the Tynemouth Panel and Local Medical Committee was held on May 2nd under the chairmanship of Dr. HENRY ADAMS. The provisional agenda of the Conference to be held on May 18th was considered, and it was unanimously decided to support the motion to be submitted by the Insurance Acts Committee. The question of the secrecy of the reports given to the Regional Medical Officer was discussed, and it was pointed out that these reports are handled by civil servants other than the Regional Medical Officer. It was suggested that any strictly private information a practitioner desired to communicate to the Regional Medical Officer might be given in an unofficial and private letter, addressed to the Regional Medical Officer personally, and it was decided to ask the opinion of the Regional Medical Officer.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following notifications are announced by the Admiralty:—Surgeon Commanders W. H. Pope, O.B.E., and A. K. Smith-Shand to the *Victory*, for R.N. Barracks, Portsmouth (temporary); G. O. M. Dickenson to the *President*, additional for temporary service at Medical Department and as Inspecting Medical Officer, R.N. Auxiliary Sick Berth Reserve; W. T. Haydon to the *Curaçoa* as Senior Medical Officer and Squadron Medical Officer; H. B. Hill to the *Thunderer*; H. W. B. Shewell O.B.E. to the *Gibraltar*; J. Martin to the *Revenge* as Senior Medical Officer and Squadron Medical Officer; A. R. Schofield to R.N. Hospital, Haslar; P. D. Ramsay to the *Greenwich*; W. R. Harrison, O.B.E., to the *President*, additional for hospital course, on relief; J. Thornhill to the *Hecla*; R. W. G. Stewart, O.B.E., to R.N. Hospital, Chatham; W. C. B. Smith and E. S. Wilkinson to the *Pembroke*, additional for R.N. Barracks, Chatham; P. B. Egan to the *Woolwich*; G. Carlisle to the *Fisgard*; G. A. S. Hamilton to the *Dragon*; L. M. Morris to the *Vivid*, additional for R.N. Hospital, Plymouth, for course and to the *Resolution* for general duties and for special duties in 1st Battle Squadron; J. K. Raymond to the *Calliope*. Surgeon Lieutenant Commanders R. F. Quinton to the *Hood*; P. W. Carruthers to R.N. Hospital, Haslar; H. E. Perkins to the *Castor*; R. P. Ninnis to the *President*, additional for hospital course; H. B. Parker to the *Ramillies*; W. I. Gerrard to the *Victory*, for R.N. Hospital, Haslar; F. W. Paul to the *Vivid*, for R.N. Hospital, Plymouth; T. A. B. Corless to the *Fisgard*; P. G. Richards to the *Greenwich* (on relief); A. S. Patterson to the *Vindictive*; A. B. Clark to the *Bryony*; Surgeon Lieutenant C. N. Ratcliffe to the *Iron Duke*.

Surgeon Lieutenant Commanders H. St.C. Solson, H. E. R. Stephens, E. MacEwan, A. H. Joy, M. C. Mason, A. S. Paterson, R. N. W. W. Biddulph, and E. L. Markham, O.B.E., have been promoted to the rank of Surgeon Commander.

K. W. Leon has entered as Surgeon Lieutenant and has been appointed to the *Victory*, for R.N. Hospital, Haslar, for course.

ROYAL NAVAL VOLUNTEER RESERVE.

Late Surgeon Probationers entered as Surgeon Lieutenants: T. S. Severs, March 17th, with seniority of that date, and attached to the Tyneside Division, List II; S. W. Davidson, March 10th, with seniority of that date, and attached to the Tyneside Division, List I.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel and Brevet Colonel T. C. MacKenzie, D.S.O., and Lieut.-Colonel H. S. Anderson, C.M.G., are placed on the half-pay list on account of ill-health.

Lieut.-Colonel B. S. Bartlett, D.S.O., retires on retired pay.

Major J. L. Wood, O.B.E., relinquishes the temporary rank of Lieutenant-Colonel.

The following officers relinquish their commissions: Temporary Lieut.-Colonel W. H. W. Elliot, D.S.O., and retains the rank of Lieut.-Colonel; temporary Majors, and retain the rank of Major: F. E. Feilden (on account of ill health contracted on active service), J. F. Carruthers; temporary Captains, and retain the rank of Captain: E. C. Fawcett (on account of ill health contracted on active service), W. Reynolds, R. M. Walker, C. E. Hibbard, A. Girvan.

Captain B. H. C. Lea-Wilson is seconded for service with the Egyptian Army.

Captain R. W. Galloway relinquishes the temporary rank of Major.

Lieutenants (temporary Captains) to be Captains: J. E. Rea, F. Holmes.

ROYAL AIR FORCE MEDICAL SERVICE.

Flight Officer J. A. Perdrau to be Flight Lieutenant

Flight Lieutenant H. C. E. Quin relinquishes his temporary commission, and is permitted to retain the rank of Captain.

REGULAR ARMY RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel L. A. Mitchell and Major F. J. W. Porter, D.S.O., having attained the age limit of liability to recall, cease to belong to the Reserve of Officers.

TERRITORIAL ARMY.

ROYAL ARMY MEDICAL CORPS.

The announcements regarding Major J. D. Wells, O.B.E., and Captain W. J. Wilkinson, which appeared in the *London Gazette* of March 30th and April 4th, 1922, respectively, are cancelled.

Captain R. K. Mallam, R.A.M.C., to be Adjutant of the R.A.M.C. School of Instruction, East Anglian Division (T.A.).

The following officers relinquish their commissions and retain their rank, except where otherwise stated: Lieut.-Colonel W. R. Matthews, D.S.O., T.D., and is granted the rank of Colonel, with permission to wear the prescribed uniform; Lieut.-Colonel H. G. Parker, T.D., with permission to wear the prescribed uniform; Lieut.-Colonel A. G. Gullan, T.D., Major E. U. Bartholomew, with permission to wear the prescribed uniform; Captains and are granted the rank of Major: O. H. Williams, N. H. H. Haskins, M.C.; Captains F. S. Bedale, M.C., W. Calverley, W. J. Cowan, A. M. Gibson, M.C., O. H. Blacklay, W. R. Douglas, M.C., J. R. Jagger, J. H. Mather, W. E. Rothwell, B. Robertshaw, M. I. Dick, A. W. Havard, F. G. Prestwick, J. F. Roberts, E. W. Reed, W. J. Reid.

The following officers, having attained the age limit, are retired and retain their rank, except where otherwise stated: Major W. B. Milbanke (with permission to wear the prescribed uniform), Major T. J. Faulder (April 1st, 1922; substituted for notification in the *London Gazette*, April 7th, 1922), Major V. Howard, Captain A. Griffith (and is granted the rank of Major), Captain W. G. Rutherford.

Captain J. M. Postlethwaite resigns his commission and retains the rank of Captain.

To be Captains: Major H. D. Smart, M.C. (late R.A.M.C.), with precedence as from November 15th, 1918, and relinquishes the rank of Major; Major R. Ogier Ward, D.S.O., M.C. (late H.A.C.), with precedence as from June 1st, 1916, and relinquishes the rank of Major.

Captains to be Majors: T. H. C. Derham (January 1st, 1921), H. J. Gorrie, O.B.E.

Captain C. W. T. Baldwin is restored to the establishment on ceasing to hold a temporary commission in the R.A.F.

Lieutenant M. D. Mackenzie to be seconded under para. 114 T.A. Regulations.

Supernumerary for Service with O.T.C.—Captain G. A. Williamson, from General List, to be Captain, for service with Aberdeen University

Contingent, Senior Division, O.T.C., and to command the unit, February 9th, 1919 (substituted for notification in the *London Gazette*, January 21st, 1920). Major A. M. H. Gray, C.B.E., from General List, to be Major, for service with London University Contingent, Senior Division, O.T.C., April 23rd, 1919 (substituted for notification in the *London Gazette*, February 17th, 1920). Captain P. H. Mitchiner to be local Major and to command a Medical Section of the University of London O.T.C.

1st London (City of London) Field Ambulance.—Captain (temporary Major) A. Elliot to be temporary Lieutenant-Colonel from June 1st, 1915, to March 31st, 1916, without pay and allowances whilst specially employed.

Sanitary Companies.—Captain W. D. Quirke (late R.E.) to be Captain. Captain J. Y. Scott (late R.S.Fus.) to be Lieutenant, and relinquishes the rank of Captain.

TERRITORIAL ARMY RESERVE.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel R. S. Taylor, D.S.O., relinquishes his commission and retains the rank of Lieutenant-Colonel.

Major J. R. Pooler, O.B.E., from General List, to be Lieutenant-Colonel.

APPOINTMENTS.

ALLISON, T. M., M.D., Honorary Physician to the Wingrove Hospital, Newcastle-upon-Tyne.

FLINT, E. R., M.B., Ch.B.Leeds, F.R.C.S., Assistant Surgeon to the Leeds General Infirmary.

GASKING, Dr. C. Trist, L.M.S.S.A.Lond., Medical Registrar to the Devonshire Hospital, Buxton.

LEASK, James, M.D.Aberd., Admiralty Surgeon and Agent at Wick, Medical Officer, Northern Division of Wick Parish.

MACDONALD, D. C., M.C., M.B., Ch.B.Glas., Certifying Factory Surgeon for district of Manchester, West Central.

MITCHINER, Philip H., M.S.Lond., F.R.C.S.Eng., Surgeon to Out-Patients, St. Thomas's Hospital,

PATERSON, William, M.B., Ch.B.Edin., Medical Officer to the Post Office, Willesden, vice D. Frame, M.D.Glasg.

REID, Charles, M.B., House Surgeon, Wrexham Infirmary.

STARLING, Hubert John, M.D., additional Medical Referee under the Workmen's Compensation Act, 1906, for County Court Circuit No. 32.

TROUTON, Miss Nora E., M.B., B.S., District Resident Medical Officer, Queen Charlotte's Lying-in Hospital, Marylebone Road, N.W.

WHARRY, H. M., M.R.C.S., L.R.C.P., Surgical Registrar to the Throat, Nose, and Ear Hospital, Golden Square, London, W.

YOUNG, W. Arthur, B.Sc., M.B., B.S., Pathologist to the Royal Chest Hospital, City Road, E.C.

MANCHESTER ROYAL INFIRMARY.—Senior House-Surgeon: G. B. Buckley, M.B., Ch.B.Vict. Junior House-Surgeon: H. V. Von Mengerhausen, M.B., Ch.B.Vict., M.R.C.S., L.R.C.P. Anaesthetists at Central Branch: William A. Helm, M.B., Ch.B.Vict., C. R. Corfield, M.D.Brussels, L.M.S.S.A.Lond.

DIARY OF SOCIETIES AND LECTURES.

HARVEIAN SOCIETY, Paddington Infirmary, Harrow Road, W.—Thurs., 4.30 p.m., Clinical Meeting.

LONDON DERMATOLOGICAL SOCIETY, 49, Leicester Square, W.C.2.—Tues., 4.30 p.m., Pathological Specimens, Cases; 4.45 p.m., Clinical Meeting.

ROYAL SOCIETY OF MEDICINE.—General Meeting of Fellows, Tues., 5 p.m. Ballot for election to Fellowship. *Section of History of Medicine:* Wed., 5 p.m., Annual General Meeting. Election of Officers and Council for 1922–23. *Section of Surgery:* Wed., 5.30 p.m., Annual General Meeting. *Section of Dermatology:* Thurs., 4.30 p.m., Cases; 5 p.m., Annual General Meeting. *Section of Otology:* Fri., 4.45 p.m., Cases; 5 p.m., Annual General Meeting. Demonstration, Mr. Wilkinson: The Resonating System in the Cochlea, with demonstration of a model. *Section of Electro-Therapeutics:* Fri., Annual General Meeting and annual dinner at the Langham Hotel, Portland Place, W.1, at 7.15 p.m.

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos Street, W.—Thurs., 8.15 p.m., Dr. Francis W. O'Connor: Some Medical Researches in the Western Pacific, illustrated by lantern slides. The meeting will be preceded by a microscopic demonstration by Dr. O'Connor at 7.45 p.m.

POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE, 1, Wimpole Street, W.—Mon., 4.45 p.m., Dr. Bernard Myers: Method of Clinical Investigation of Gastro-Intestinal Affections in Children. Tues., 5 p.m., Sir Thomas Horder: Clinical Significance of Haemoptysis.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION, Royal Samaritan Hospital for Women.—Wed., 4.15 p.m., Dr. Shannon: Gynaecological Cases.

INSTITUTE OF PATHOLOGY AND RESEARCH, St. Mary's Hospital, Paddington, W.—Thurs., 5 p.m., Sir William Leishman, F.R.S.: Enteric Fevers in the War.

LONDON HOSPITAL MEDICAL COLLEGE, E.—Dr. Millais Culpin: Psycho-Neuroses. Tues., 5.15 p.m., Conflict and Repression; Fri., 5.15 p.m., Symbolism—Displacement of Affect. Surgical Unit: Fri., 4.15 p.m., Mr. Russell Howard: Acute Intestinal Obstruction.

LONDON LOCK HOSPITAL, 91, Dean Street, W.1.—Mon., 5 p.m., Mr. C. Gibbs: Treatment of Syphilis. Tues., 2.30 p.m., Mr. McDonagh: The Basis of Chemo- and Immune-Therapy in Venereal Diseases; 5 p.m., Mr. F. Juler: Syphilitic Affections of the Fundus and Orbit. Thurs., 2.30 p.m., Mr. W. V. Corbett: Practical Demonstration of Tests used in Syphilis and Gonorrhoea; 4.30 p.m., Mr. Swift Joly: Treatment of Chronic Gonorrhoea in the Male. Fri., 4 p.m., Mr. J. Abraham: Late Sequelae of Gonorrhoea in the Female.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland Street, W.1.—Mon., 5.30 p.m., Dr. P. Hamill: Minor Discomforts of Heart Disease and their Treatment.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Mon., Tues., Thurs., Fri., 2 p.m., Out-patient Clinics, Dr. Taylor. Mon., 3.30 p.m., Nervous Diseases of Early Life. Tues., 3.30 p.m., Myopathies. Wed., 2.15 p.m., Dr. Risien Russell: Clinical Demonstration. Thurs., 3.30 p.m., Dr. S. A. K. Wilson: Involuntary Movements. Fri., 3.30 p.m., Cerebral Vascular Disease. Tues. and Fri., 9 a.m., Operations. Mon. and Thurs., 12 noon, Dr. Greenfield: Neuro-Pathology. Tues. and Fri., 12 noon, Dr. Howell: Anatomy and Physiology. Wed., 12 noon, Dr. Adie: Demonstration on Methods of Examination.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Daily, 2.30 p.m., In- and Out-Patient Clinics, Operations, etc. *Lectures*, 4.30 p.m.—Mon., Sir Thomas Horder: Clinical Types of Arthritis and their Treatment. Tues., Mr. W. E. Tanner: Operative Treatment of Fractures. Wed., Dr. P. Manson-Bahr: Dysentery and its Treatment. Thurs., Dr. F. G. Crookshank: Medical Treatment of Acute Febrile Maladies. Fri., Dr. C. E. Sundell: A New View of Rheumatism.

ST. MARYLEBONE GENERAL DISPENSARY, Welbeck Street, W.—Infant and Child Welfare, Dr. Eric Pritchard: Mon., 6 p.m., Modification of Milk; Thurs., 6 p.m., Uses of Dried Milk and Patent Foods.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Hospital, Ouseley Road, Balham.—Wed., 4 p.m., Sir John Collie: Medico-Legal Pitfalls.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Mon., 5 p.m., Dr. Saunders: Pneumonia in Childhood. Tues., 5 p.m., Dr. Pernet: Drug Eruptions. Wed., 5 p.m., Dr. Grainger Stewart: Examination of Nervous System. Thurs., 5 p.m., Dr. Snowden: Psycho-Neuroses. Fri., 5 p.m., Dr. Pritchard: Clinical Lecture. Sat., 2 p.m., Dr. Owen: Out-Patients.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 1s. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS and ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London).
MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London).
EDITOR, *British Medical Journal* (Telegrams: Aitiology, Westrand, London).
Telephone number for all Departments: Gerrard 2630 (*3 lines*).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)
IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

MAY.

12 Fri. London: Insurance Acts Committee, 2.30 p.m.
Chesterfield Division: Annual Meeting, Royal Hospital, Chesterfield, 2.30 p.m.
East York Division: Annual Meeting, Board Room, Royal Infirmary, Hull, 8.30 p.m.
South Wales and Monmouthshire Branch: Cawdor Arms, Llandilo, 3.15; Tea, 5 p.m.
16 Tues. London: Organization of Students Subcommittee, 2.15 p.m.
Kesteven Division: Annual Meeting, The Priory, Grantham, 3.30 p.m.
17 Wed. London: Hospitals Committee, 2.30 p.m.
Camberwell Division, Camberwell Infirmary. Lecture by Mr. F. N. Doubleday: Diagnosis of Pyorrhoea Alveolaris in its Relation to General Disease, 9 p.m.
Brighton Division: Annual Meeting, Queen's Road Dispensary, 8.30 p.m.
18 Thurs. London: Conference of Local Medical and Panel Committees at Central Hall, Westminster. Principal item of business: Approved Societies and Control of Medical Benefit.
23 Tues. London: Organization Committee.
24 Wed. London: Medico-Political Committee, 2.30 p.m.
25 Thurs. London: Journal Committee, 2.30 p.m.
26 Fri. London: Public Health Committee, 3.0 p.m.
31 Wed. London: Finance Committee, 2.30 p.m.

JUNE.

2 Fri. Dundee Branch: Clinical Meeting, Royal Infirmary, Dundee, followed by a dinner.
8 Thurs. Winchester Division: Annual Meeting, George Hotel, Winchester, 3.30 p.m.
14 Wed. London: **Council**, 10 a.m.
23 Fri. Metropolitan Counties Branch: Annual Meeting, 429, Strand, W.C.2, 4.30 p.m.
29 Thurs. North Glamorgan and Brecknock Division: At Pontypridd, British Medical Association Lecture by Dr. H. Morley Fletcher on Treatment in Renal Disease.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **9s.**, *which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.*

BIRTH.

MERCIER.—On May 2nd, at 167, Plashet Grove, East Ham, to Louise, wife of C. Jerome Mercier, M.B., a son.

DEATHS.

GRIFFITHS.—On April 25th, suddenly, of pneumonia, at 720, Fulham Road, S.W., John Howell Knight Griffiths, M.D., C.M., aged 52 years.

MIDDLEMASS.—At Ryhope, Sunderland, on the 2nd May, after a long illness, James Middlemass, M.D., F.R.C.P.E. Interment in Edinburgh.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, MAY 20TH, 1922.

CONTENTS.

BRITISH MEDICAL ASSOCIATION. PAGE

CURRENT NOTES:
- ANNUAL MEETING, GLASGOW, 1922 ... 181
- THE POSITION AT EBBW VALE ... 181
- THE POST OF M.O.H. FOR STAFFORD ... 181

MEETINGS OF BRANCHES AND DIVISIONS ... 181

ASSOCIATION NOTICES:
- NOTICES OF MOTION FOR THE ANNUAL REPRESENTATIVE MEETING: CORRECTION ... 182
- TABLE OF DATES ... 182
- BRANCH AND DIVISION MEETINGS TO BE HELD ... 182

DENTAL BOARD OF THE UNITED KINGDOM: PAGE
- CHAIRMAN'S ADDRESS ... 183
- POSITION OF EX-SERVICE MEN ... 183
- DISCIPLINARY CASES ... 183

NAVAL AND MILITARY APPOINTMENTS ... 184

DIARY OF SOCIETIES AND LECTURES ... 181

ASSOCIATION INTELLIGENCE AND DIARY ... 184

APPOINTMENTS ... 184

BIRTHS, MARRIAGES AND DEATHS ... 184

British Medical Association.

CURRENT NOTES.

Annual Meeting, Glasgow, 1922.

THE ninetieth Annual Meeting of the British Medical Association will be held at Glasgow this summer, under the presidency of Sir William Macewen, LL.D., F.R.S., Regius Professor of Surgery in the University, who will deliver his address to the Association on the evening of Tuesday, July 25th. The sectional meetings for scientific and clinical work will be held as usual on the three following days, the mornings being given up to papers and discussions and the afternoons to clinical and laboratory demonstrations. The Annual Representative Meeting will begin on the previous Friday, July 21st. The provisional programme for the scientific work of the meeting and the names of the officers of the various sections were printed in the SUPPLEMENT of May 13th (p. 173); brief notes of the sectional arrangements, as these are made, appear from time to time in the JOURNAL. Announcements regarding the accommodation for visitors at Glasgow have appeared in the SUPPLEMENT of April 15th (p. 105) and April 29th (p. 123). The last day of the meeting, Saturday, July 29th, in accordance with the custom of previous Annual Meetings, has been set apart for excursions to places of interest in Glasgow and the neighbouring West Highlands. An illustrated article, published in the JOURNAL of April 22nd, p. 649 (the fourth of the series), gave a preliminary sketch of the neighbourhood of Glasgow. Further descriptive notes will be published in subsequent issues.

The Position at Ebbw Vale.

The position at Ebbw Vale continues to justify the prophecies that have been made about it. Of the nine doctors imported by the Workmen's Committee two have already left and another is expected to leave shortly. The Workmen's Committee, led by Mr. Evan Davies, M.P., is making the most strenuous efforts to persuade the workmen to stick to the Committee, irrespective of the nature of the service provided by it, and not to exercise their choice in favour of their old doctors. The doctors who have been dismissed have, through the Cardiff, Monmouthshire, and Bristol Divisions, issued an appeal to the local consultants for their support in this struggle to prevent the standard of remuneration being lowered out of all proportion to the cost of living or of carrying on practice.

The Post of M.O.H. for Stafford.

The "Important Notice" in connexion with the appointment of Medical Officer of Health for the Municipal Borough of Stafford was through inadvertence not withdrawn from last week's issue of the JOURNAL. The Notice was originally inserted because the salary offered for the post did not conform to the minimum recognized by the Association, but as the Municipal Borough Authority has agreed to a salary of £700 per annum the post was advertised in last week's JOURNAL and the Important Notice has been withdrawn from this week's issue. A careful scrutiny is made of all the advertisements before they are inserted in the JOURNAL, and members can take it for granted that if an advertisement appears in the JOURNAL there can be no objection so far as the Association is concerned to an application being made in connexion therewith.

Meetings of Branches and Divisions.

LANCASHIRE AND CHESHIRE BRANCH: ROCHDALE DIVISION.

A MEETING of the Rochdale Division was held in the Town Hall, Rochdale, on May 10th, with Dr. BATEMAN in the chair. An address was given by Dr. T. EASTHAM, K.C., on "Medico-legal difficulties."

Hints on Medico-Legal Cases.

Dr. Eastham began by saying that doctors were, as a rule, poor witnesses. This he attributed to the fact that they attended at their surgeries in the morning and visited patients up to the moment of going into court, and were thus generally unprepared. It was of the greatest importance that medical men should not go into court without preparation; they should know their facts, consult the latest books, and regard the case seriously. At the time of the first examination it was advisable to make good notes, taking great care to preserve the original notes for future reference if necessity arose. The notes must be dated, and contain the name of the person, age, and residence, and also the date and place of examination. The patient must be asked what happened, and his reply written down; he should also be asked if there was anything else he complained of until he had told everything and replied that there was nothing else to report. The notes should be read over to the patient, who should be asked who was his medical attendant. Notes should also be taken of the result of careful examination. The original notes should be retained and only a copy supplied. A record of subsequent attendance and treatment should be kept. In hernia cases it was necessary to note whether the hernia was direct or indirect. The medical practitioner should read over his notes before going into court. It was undesirable to state in the report what sum the insurance company should settle for; all that was necessary was to give the result of the examination and to state if another examination was desired. In calculating any sum payable exaggeration must be avoided.

Dr. Eastham said that there was no such thing as professional privilege in law courts where medical men were concerned; it applied only to lawyers. If asked to divulge something, the medical practitioner should ask the judge if he was compelled to answer the question, and should answer according to the judge's advice; he would then have done his duty. With reference to the question of a doctor disclosing a crime, that was a legal matter. It was the duty of every citizen—doctors included—to inform the police when they discovered that a crime had been committed. In regard to civil liability a doctor must have a reasonable amount of

knowledge and skill, and if he failed in treating a case he was liable to have an action brought against him. If such a thing happened the doctor should consult a good solicitor and several of his medical brethren to ascertain their views as to his liability, and act accordingly. It was of no use a doctor defending a case if liable; it was best to get it settled at once. A medical practitioner who used a motor car should take care that he was insured in a reliable company for third-party risks; he should carefully examine the proposal form and see that his answers were correct.

Several questions were subsequently asked and answered; and on the motion of Dr. BATEMAN, seconded by Dr. GEDDES, a hearty vote of thanks was unanimously accorded to Dr. Eastham for his address.

METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.

Discussion on Infant Mortality.

AT a meeting of the Lewisham Division of the British Medical Association, held on April 25th, Dr. T. E. WHITE opened a discussion on the problem of infant mortality.

After some remarks on the subject of limitation of families, and complimentary references to Dr. Gibbons's lecture on sterility, published in the JOURNAL of March 18th (p. 427), Dr. White referred to the last report of the Registrar-General on births and deaths, showing that the births were 18.5 per 1,000 of the population, and comparing this with those of 1914 and 1890. The death rate in the last report showed a mortality of 13.7 per 1,000, thus the natural increase was less than 5 per 1,000. Bad as this appeared on the surface, the actual conditions were much worse. Emigration was increasing, due to scarcity of employment at home and the inducements held out by our colonies to attract emigrants from this country. The colonies were exacting in their demands, and would only accept those whose antecedents, family history, and physical fitness met with approval. The result was that this country was being depleted gradually of its A1 population, and accordingly the C3 class would increase arithmetically and geometrically. This was the grave prospect that had to be faced—a lowered birth rate, lessened increase of population, and a high emigration rate. Under ordinary conditions emigration and immigration ought to balance each other, but in our country immigrants were for the most part unprofitable and undesirable aliens. In America and the colonies immigrants were a source of strength; in England they were a source of weakness.

The infant mortality under one year in 1919 was 89 per 1,000 births registered: this was the lowest on record. If the powers working for good continued a rate of 50 per 1,000 might reasonably be expected in a few years. Dr. White next turned to the subject of illegitimate births and deaths. The number of illegitimate children born in 1919 was 41,876, or 6.05 per cent. of all births, while the mortality under one year amounted to 172 per 1,000 births. Thus the illegitimate death rate was nearly double that of legitimate infants; in other words nearly 10,000 avoidable deaths occurred. The country could not afford to lose this number without making an effort to equalize the balance between those born in and out of wedlock. With a diminishing birth rate every human life had an enhanced value. How could 10,000 lives be added yearly to the population? The remedy he proposed was an extension of the Foundling Hospital system; but the term "State children" should be substituted for "illegitimate children." The State should take possession of, and be responsible for, the care and upbringing of all its wards. Foundling hospitals on the lines of that in London should be established in every county or group of counties. The father should not be relieved of the responsibility of supporting his offspring, every effort should be made to exact it to the last farthing; but it was well known that when a paternity order had been made the difficulty of enforcing it was very great, so that under the most favourable conditions only a small proportion of the children would be self-supporting. The balance should be paid by the State.

Association Notices.

NOTICES OF MOTION BY DIVISIONS FOR THE ANNUAL REPRESENTATIVE MEETING, GLASGOW, 1922.

Report on Hospital Policy of Association.

Correction.—The Notice by Brighton affecting para. 33 of the Report on Hospital Policy (published in SUPPLEMENT of April 29th, 1922, p. 118) should be amended to read as follows:

By BRIGHTON:

That the following be added to para. 33:

> In each case where the Board of Management advises the Medical Staff that the sum or sums received from a patient have been obtained only from that patient and without any other financial assistance, and are insufficient to pay more than the whole of the cost of maintenance of that patient, and that the financial position of the patient is such as to render him unable to make any further payment, the Medical Staff of the hospital should decline to receive any part of such payments for the Staff Fund.

By OLDHAM:

That para. 46 of the Report on the Hospital Policy of the Association be deleted.

Provision of Surgical Dressings to Insured Persons.

By CHESTERFIELD:

That the retail provision of surgical dressings to insured persons by retail chemists is unduly extravagant, and in many cases not in accordance with the principles of asepsis, and that the Council be instructed to take steps to obtain a revision of the Regulations under the National Health Insurance Acts in this respect.

Correction.—In Item 7 (Amendment by Edinburgh and Leith) of the Provisional Agenda published in last week's SUPPLEMENT (p. 169, col. 1) the word "amendment" in the first line of the paragraph between the two drafts should be altered to "alternative."

SUGGESTED CHANGE OF NAME OF DIVISION.

NOTICE is hereby given to all concerned of a proposal made by the Executive of the Westminster Division that the Division be known as the "Westminster and Holborn Division."

The matter will be determined in due course by the Council. Any member affected by the proposed change and objecting thereto is requested to write, giving reasons therefor, to the Medical Secretary, 429, Strand, W.C.2, not later than June 20th, 1922.

TABLE OF DATES.

May 27, Sat.	Last day for receipt at Head Office of voting papers for election of 24 Members of Council by grouped Home Branches (where contests).
June 3, Sat.	Publication in SUPPLEMENT of results of Council elections by grouped Home Branches.
June 10, Sat.	Nomination papers available, at Head Office, for election of 12 Members of Council by grouped Home Representatives.
June 14, Wed.	Council Meeting, 429, Strand, at 10 a.m.
June 23, Fri.	Last day for election of Representatives and Deputy Representatives.
June 24, Sat.	Supplementary Report of Council appears in SUPPLEMENT.
June 30, Fri.	Last day for receipt at Head Office of notification of election of Representatives and Deputy Representatives.
July 7, Fri.	Last day for receipt at Head Office of Amendments and Riders for Annual Representative Meeting Agenda.
July 21, Fri.	Annual Representative Meeting, Glasgow, 10 a.m.
	Nominations for election of 12 Members of Council by grouped Representatives to be received (at A.R.M., Glasgow) by this date.

ALFRED COX, *Medical Secretary.*

BRANCH AND DIVISION MEETINGS TO BE HELD.

DUNDEE BRANCH.—A clinical meeting of the Dundee Branch will be held at the Royal Infirmary, Dundee, on Friday, June 2nd, to be followed by a dinner. Members having cases or exhibits to show are asked to communicate with either of the Secretaries (Dr. R. C. Buist, 166, Nethergate, Dundee, and Dr. G. Rankine, 201, Albert Street, Dundee) not later than Saturday, May 20th.

KENT BRANCH: MAIDSTONE DIVISION.—A clinical demonstration will be given at the West Kent Hospital on Thursday, May 25th, by Mr. Alan Todd, M.S., F.R.C.S., Orthopaedic Surgeon to the West Kent Hospital. A large series of orthopaedic cases will be shown, and methods of diagnosis and treatment demonstrated.

LANCASHIRE AND CHESHIRE BRANCH: MID-CHESHIRE DIVISION.—A meeting of the Mid-Cheshire Division will be held at the Unicorn Hotel, Altrincham, on Thursday, June 15th, at 3.15 p.m., when Dr. John Hay (Liverpool) will give a British Medical Association lecture on "Some Aspects of Cardiac Disease." Tea will be provided at 4.30 p.m.

METROPOLITAN COUNTIES BRANCH.—The annual general meeting of the Metropolitan Counties Branch will be held at 429, Strand, W.C., on Friday, June 23rd, at 4 p.m. Business: (1) Report of scrutineers as to the election of new officers; (2) Annual Report of Council; (3) President's address by Mr. N. Bishop Harman, entitled "London: the triumph of medicine."

METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.—The annual meeting of the Lewisham Division will be held on Tuesday, May 23rd, at 8.45 p.m., at Rosedale, 40, Sydenham Road, S.E.26. Dr. G. W. Charsley will occupy the chair. Agenda: Election of officers; Discussion on (1) Annual Report of Council, 1921–22 (SUPPLEMENT, May 6th, 1922); (2) Provisional Agenda of Annual Representative Meeting, Glasgow, 1922 (SUPPLEMENT, May 13th, 1922). Any other business.

NORTH OF ENGLAND BRANCH: DARLINGTON DIVISION.—A meeting of the Darlington Division will be held at Greenbank Hospital on Thursday, May 25th, at 8.30 p.m. Dr. T. Eustace Hill will address the meeting on "The Public Health Service and its relation to the General Practitioner."

SOUTH MIDLAND BRANCH: BEDFORD DIVISION.—A general meeting of the Bedford Division will be held at the Bedford County Hospital to-day, Friday, May 19th, at 3 p.m., to consider the Annual Report of Council (BRITISH MEDICAL JOURNAL SUPPLEMENT, May 6th, which members are asked to bring to the meeting). Tea will be provided.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: NORTH GLAMORGAN AND BRECKNOCK DIVISION.—A meeting of this Division will be held at Pontypridd on Thursday, June 29th, when a British Medical Association lecture will be delivered by Dr. H. Morley Fletcher on "Treatment in Renal Disease."

SOUTHERN BRANCH: WINCHESTER DIVISION.—The annual meeting of the Winchester Division will be held on Thursday, June 8th, at 3.30 p.m. at the George Hotel, Winchester. Dr. G. C. Anderson, the Deputy Medical Secretary, will give an address entitled "What are the advantages of belonging to the British Medical Association?" All non-members of the Association residing in the neighbourhood are invited to be present.

YORKSHIRE BRANCH: HARROGATE DIVISION.—A special meeting of the Harrogate Division will take place on Thursday, May 25th, at 8.15 p.m., at the Imperial Café. Agenda: (*a*) Annual Report of Council (BRITISH MEDICAL JOURNAL SUPPLEMENT, May 6th, 1922); (*b*) Hospital Policy of the Association (SUPPLEMENT, February 25th, 1922); (*c*) Other business. Members are asked to bring the above-named SUPPLEMENTS to the meeting. The following members will speak: Drs. Calthrop, Garrad, Greenwood (Ripon), Steven, and Mr. Frankling.

YORKSHIRE BRANCH: SHEFFIELD DIVISION.—The annual meeting of the Sheffield Division will be held at the Church House, St. James Street, Sheffield, on Friday, May 26th, at 8.30 p.m. Agenda: Annual Report of Executive Committee; Election of Chairman, Vice-Chairman, Honorary Secretary, Four Representatives on Yorkshire Branch Council, Two Representatives in Representative Body, Two Auditors, Executive Committee.

DENTAL BOARD OF THE UNITED KINGDOM.

THE second session of the Dental Board of the United Kingdom was opened on May 9th, the Right Hon. F. DYKE ACLAND, M.P., Chairman of the Board, presiding. The principal business was the consideration of twenty disciplinary cases, which occupied three days. In each case the offence charged against the registered dentist was that of "covering" an unregistered person.

Chairman's Address.

In his preliminary address the Chairman said that the number of applications for registration which had been received was 6,765, and in 4,085 of these the Board was already satisfied, and the names had been published. Of this number 2,200 were persons who claimed to have been in practice for five of the last seven years, 1,400 were members of the Incorporated Dental Society, 275 were mechanics, 116 were persons in practice at the time of the passing of the Act who had, like the mechanics, to undergo an examination before being registered, and 94 were chemists who claimed that at the commencement of the Act they had a substantial practice as dentists. One of the most difficult matters which had occupied the attention of the Board and its Registration Committee was the claims of ex-service men. As the Act laid down a general requirement of five years' actual practice in dentistry, it was difficult to say that in the case of ex-service men the Board should be satisfied with a shorter period, and it had been thought right to require, if the period of practice was less than five years, that an examination should be taken (without fees, in the case of ex-service men). The Board was willing to count the time spent in the army in carrying out the dental treatment of troops in considering the period for which a person had been engaged in dentistry as his principal means of livelihood; but the War Office had made it clear that the only persons so employed were persons registered under the Dentists Act of 1878, who were granted temporary commissions, and the Registration Committee had considered itself debarred from entertaining the claims of persons who appeared only to have carried a forceps in their haversack for use in the case of an aching tooth. The arrangements were proceeding steadily and satisfactorily with regard to the holding of the first prescribed examinations in July. The examination would be held if necessary at four centres—in London, Manchester, Edinburgh, and Dublin.

Much misapprehension existed with regard to the matter of covering. Some thought that if they had no branch practice conducted by an unregistered person, and only employed such a person on their own premises, no offence was committed. This view was incorrect. It was permissible for an unqualified person to adjust in the mouth a denture which he had made in the workroom, or to do mechanical work of a similar kind, but it was not permissible for him to extract teeth or attend or treat patients in any matter requiring professional knowledge and skill. Others thought that if they employed a bona fide student they would be protected by the words in the Warning Notice issued by the General Medical Council—that the restriction was not to prevent the instruction of students. Students, however, might only be registered as pupils of registered practitioners for mechanical work, and to employ a third-year or fourth-year student to attend or treat patients would not come under the instruction of students and would not be permissible. He feared that in a considerable proportion of the cases which were to come before the Board an offence had been knowingly committed which was a serious fraud upon the public and a gross piece of unfairness to brother practitioners who had strictly conformed to the Regulation of the General Medical Council.

Position of Ex-Service Men.

A letter was read from the War Office stating that during the war the only persons employed for the purpose of carrying out dental treatment among British troops were those registered under the Dentists Act then in force. These were granted temporary commissions either in the R.A.M.C. or in the General List of the army. Persons employed as dental mechanics were enlisted as soldiers in the R.A.M.C. or attached thereto from other arms. A communication was also read from the Ministry of Labour in regard to the position of disabled ex-service men trained as dental mechanics. This contained a resolution passed by the National Trade Advisory Committee (Dental Mechanics) stating that the training given to such men had been solely directed to making them efficient as dental mechanics, and was never intended and was quite inadequate to fit any person so trained for the practice of dentistry as such. The resolution was passed in view of the fact that dental mechanics trained under the auspices of the Ministry of Labour are in some cases putting forward their training as ground for consideration for admission to the *Dentists Register*.

Disciplinary Cases.

The first of the twenty disciplinary cases brought before the Board was that of an Irish dentist, registered as "in practice in 1878," who was charged with having permitted an unregistered person to practise in his name or in partnership with or as assistant to him. The unregistered person in this case was the dentist's son, who had been employed in one position and another in his father's business, at first in the workshop, for a number of years. The defendant expressed regret that he had inadvertently transgressed the regulations. There were some compassionate circumstances in the case, the defendant having lost the whole of his property and business in the rebellion of 1916.

After a long consideration *in camerâ* the Chairman announced the procedure in these disciplinary cases. The Board, after hearing each case, would merely record its finding on the facts, and after all the cases had been brought before it the judgement in the cases found proved would be considered. In this case the Board found the facts alleged against the dentist in question to have been proved to its satisfaction.

At the conclusion of the hearing of the whole of the cases those defendants against whom the Board had found the facts to have been proved to its satisfaction were recalled, and the Chairman communicated to them the measure which the Board had decided to take. Their names were:

Randall Patrick MacDonnell (Dublin), Hugh de Bosco Askew (Workington), Arthur Wellesley Overell (Plymouth), Robert Sleigh (Southport), Benjamin Brown Hartley (Wigan), Samuel John Zachary (Leeds), Herbert George Howitt (Merthyr Tydfil), William George Poole (Sheffield), Peyton Grenville Levason (Hereford), Charles Herbert Fox (Gloucester), Alic Moore (Birmingham), Charles George Knight (Southsea), James Bennick Hickley (Southampton), Henry George Marshallsay (Aldershot), John Hanford Dunkin (Westminster Bridge Road, London), Alfred William Roberts (Wandsworth Common, London), Thomas Henry Gee Moore (Stoke Newington, London).

The Chairman said that in 1897 the General Medical Council issued a warning in regard to covering which had been circulated to all members of the profession on several occasions. Registered practitioners were warned that any one of them who knowingly enabled an unqualified and unregistered person to attend, treat, or perform any operation upon a patient was liable on proof of the fact to have his name erased from the *Register*. This warning did not apply so as to restrict the legitimate employment of skilled mechanics under due supervision. The Board took a grave view of the practices which had been proved against the practitioners concerned, though the gravity of the practitioners' conduct varied very much in the different cases.

Taking all the circumstances into account, and particularly considering the fact that some of the persons concerned had incriminated themselves by signing statements with regard to their assistants, the Board was prepared to give the defendants an opportunity to prove that they were capable of more worthy conduct in the future, for which purpose it had decided not at once to proceed to its findings on the facts proved, but to postpone all the cases to the November session, 1922, when the respondents would be required to attend and to produce satisfactory evidence as to their conduct in the interval. If they could not do so he need not say that the consequences would be most serious, and that the Board would proceed at once to make a very strong recommendation to the General Medical Council. He added that in future in any case in which this complaint was made and the facts were proved—namely, that the practitioners had permitted unregistered persons to practise in their name or in partnership with or as assistants to them, thereby enabling the unregistered persons to practise as if they were registered—it must not be assumed that a similarly lenient course would be followed.

The remainder of the sitting of the Board was held *in camerâ* to consider various reports of committees.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following notifications are announced by the Admiralty:—Surgeon Commanders: J. D. Keir to the *Lucia* on recommissioning, C. A. G. Phipps to the *Maidstone* on recommissioning, G. T. Verry to the *Ganges II* for R.N. Sick Quarters, Shotley, J. H. McDowall to the *Caradoc*, C. H. Dawe to the *Impregnable*, additional (temporary), H. A. Browning to the *Victory XI* for R.N. Hospital, Portland. Surgeon Lieutenant Commanders: M. B. MacLeod to the *Iron Duke*, additional (to be accommodated in the *Maine*), F. St. B. Wickham, O.B.E., to the *Alecto*. Surgeon Lieutenants: A. de B. Joyce to the *Veronica*, D. F. McGregor to the *Benbow*, J. C. Sinclair to the *Adamant*.

Surgeon Commander L. Kilroy has been placed on the retired list with the rank of Surgeon Captain.

ROYAL ARMY MEDICAL CORPS.

Major General Sir Maurice P. C. Holt, K.C.B., K.C.M.G., D.S.O., K.H.S., retired on retired pay, April 15th, 1922 (substituted for notification in the *London Gazette*, April 18th, 1922).

Colonel B. Martin, C.M.G., late R.A.M.C., to be Commandant, Royal Army Medical College.

Colonel L. P. More, late R.A.M.C., from half pay is restored to full pay, October 10th, 1920, with precedence next below J. McD. McCarthy. (Substituted for notifications in the *London Gazette* of October 27th, 1920, and May 9th, 1921.)

Lieut.-Colonel A. R. C. Parsons retires on retired pay.

Major and Brevet Lieut.-Colonel G. F. Sheehan, D.S.O., half-pay list, late R.A.M.C., retires on retired pay on account of ill health contracted on active service.

Major A. E. G. Fraser is placed on the half-pay list on account of ill health.

The following to be acting Lieutenant-Colonels: Majors H. Harding (November 17th, 1920, to November 3rd, 1921), E. G. Anthonisz (April 16th, 1921, to February 13th, 1922), C. G. Thomson, D.S.O. (May 21st, 1921, to January 12th, 1922), Brevet Lieut.-Colonel R. A. Bryden, D.S.O. (July 19th, 1921), Captain J. H. Fletcher, D.S.O., M.C. (December 8th, 1920, to March 31st, 1921).

Captain and Brevet Major N. V. Lothian, M.C., relinquishes the acting rank of Major.

Captain D. T. M. Large relinquishes the temporary rank of Major.

The following Captains to be temporary Majors: Brevet Major G. A. Blake (May 10th, 1920, to January 24th, 1921), W. K. Campbell, D.S.O., M.C. (November 7th, 1920, to March 31st, 1921), W. Frier (January 19th, 1921, to January 22nd, 1922), W. M. Cameron (May 15th to October 16th, 1921).

The following Captains to be acting Majors: F. R. S. Shaw, M.C. (November 7th, 1920, to November 3rd, 1921), G. A. E. Argo, M.C. (January 28th, 1921), B. C. O. Sheridan, M.C. (May 10th, 1921), W. K. Campbell, D.S.O., M.C. (July 19th, 1921).

The following officers relinquish their commissions:—Temporary Majors and retain the rank of Major: A. G. Higgins, A. E. Atkinson, C. E. F. Mouat-Biggs. Temporary Captains and retain the rank of Captain: E. P. Peake, J. K. Hamilton, H. J. Theriault, F. J. Power, temporary Captain G. B. Egerton, temporary Lieutenant J. D. Leahy, M.C., and retains the rank of Lieutenant.

DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.—*Section of Odontology:* Mon., 8 p.m., Annual General Meeting. Papers: Mr. E. Sprawson: The Extra Cusp commonly found on the Antero-internal Aspect of the Maxillary First Permanent Molar in Man. Mr. H. C. Malleson: Notes on Dental Histology. *Section of Medicine:* Tues., 5.30 p.m., Annual General Meeting. Papers: M. P. L. Violle: A Method of Estimating Diuresis. Dr. William Hunter: Nervous Disorders of Severe Anaemias in relation to their Infective Lesions and Blood Changes. *Section of Urology:* Thurs., 8.30 p.m., Annual General Meeting. Papers: Professor Frederick Hobday: Urinary Calculi in Animals (with specimens and skiagraphs). Mr. Kenneth Walker: Accessory Sexual Glands of Rhinoceros, Flying Wombat, Ornithorynchus, Zebra, and Tapir. *Section of Study of Diseases in Children:* Fri., 4.30 p.m., Cases. 5 p.m., Annual General Meeting. *Section of Epidemiology and State Medicine:* Fri., 8 p.m., Election of Officers and Council. Paper: Dr. R. Dudfield: Reforms Needed in the Notification of Tuberculosis. *Section of Balneology and Climatology:* Sat., Annual General Meeting at Cambridge. A train leaves Liverpool Street at 10.5 a.m. Exhibits and demonstrations by Dr. W. H. L. Duckworth and Dr. T. S. P. Strangeways. Particulars may be had from Dr. C. F. Sonntag, 80a, Belsize Park Gardens, N.W.3.

UNIVERSITY OF LONDON, Rooms of Royal Society of Medicine, 1, Wimpole Street, W.—*Lectures*, 5 p.m.:—Mon., Professor F. Widal: Anti-anaphylaxie. Thurs., Professor H. Vaquez: De l'Erythrémie (Maladie de Vaquez-Osler).

POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE, 1, Wimpole Street, W.—Wed., 5 p.m., Sir StClair Thomson: Surgical Anatomy of the Nose and Accessory Sinuses (lantern demonstration). At Western General Dispensary, Marylebone Road, N.W.1.—Mon. and Thurs., 4.45 p.m., Dr. B. Myers: Gastro-intestinal Affections in Children.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION, Western Infirmary.—Wed., 4.15 p.m., Dr. James Carslaw: Medical Cases.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Thurs., 4 p.m., Mr. Fairbank: Flat-foot.

INSTITUTE OF PATHOLOGY AND RESEARCH, St. Mary's Hospital, Paddington, W.2.—Thurs., 5 p.m., Professor E. H. Starling: Some New Experiments on the Kidney.

LONDON HOSPITAL MEDICAL COLLEGE, E.—Dr. Millais Culpin: Psycho-Neuroses. Tues., 5.15 p.m., Dreams; Fri., 5.15 p.m., Symptomatology. Surgical Unit, Fri., 4.15 p.m., Sir Hugh Rigby: Carcinoma of the Rectum.

LONDON LOCK HOSPITAL, 91, Dean Street, W.1.—Mon., 5 p.m., Mr. C. Gibbs: Ante- and Post-natal Treatment of Syphilis. Tues., 2.30 p.m., Mr. J. E. R. McDonagh: Clinical Demonstration (with paintings). Thurs., 2.30 p.m., Mr. W. V. Corbett: Interpretations of Wassermann Reaction. 4.30 p.m., Mr. S. Joly: Complications of Gonorrhoea in the Male. Fri., 4 p.m., Mr. J. Abraham: Syphilis in Women.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland Street, W.1.—Mon., 5.30 p.m., Dr. B. T. Parsons-Smith: Diagnosis of Aneurysm of the Thoracic Aorta.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Mon., Tues., Thurs., Fri., 2 p.m., Out-patient Clinics. Mon., 3.30 p.m., Dr. Walshe: Paraplegia. Tues., 3.30 p.m., Dr. Adie: Syringomyelia. Wed., 2.15 p.m., Dr. Taylor: Clinical Demonstration. Thurs., 3.30 p.m., Dr. K. Wilson: Disseminated Sclerosis. Fri., 3.30 p.m., Dr. Collier: Aphasia. Tues. and Fri., 9 a.m., Operations. Mon. and Thurs., 12 noon, Dr. Greenfield: Neuro-Pathology. Tues. and Fri., 12 noon, Dr. Howell: Anatomy and Physiology. Wed., Dr. Adie: Demonstration on Methods of Examination.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Daily, 10.30 to 5 p.m., Intensive Course. *Lectures*, 4.30 p.m.:—Mon., Professor R. T. Hewlett: Laboratory Findings and their Use in Diagnosis and Treatment. Tues., Dr. A. J. Whiting: Treatment of Heart Failure. Wed., Mr. J. B. Banister: Inflammation of the Female Pelvic Organs. Thurs., Dr. J. Metcalfe: Radiological Examination of the Heart and Mediastinum.

ST. MARYLEBONE GENERAL DISPENSARY, Welbeck Street, W.1.—Infant and Child Welfare, Dr. Eric Pritchard: Mon., 6 p.m., Digestive System; Thurs., 6 p.m., Minor Ailments.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Hospital, Ouseley Road, Balham, S.W.—Wed., 4 p.m., Mr. J. F. S. Frazer: Some Erroneous Ideas of Structure and Function as they come into Everyday Work.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Mon., 5 p.m., Mr. D. Armour: Cerebral Surgery. Tues., 5 p.m., Dr. Pernet: Late Manifestations of Congenital Syphilis. Wed., 4 p.m.: Sir R. Armstrong-Jones: Common Forms of Mental Disease (at Claybury). Thurs., 5 p.m., Dr. Beddard: Chronic Rheumatism. Fri., 5 p.m., Mr. Addison: Empyema and Suppurative Pericarditis. Sat., 10 a.m., Mr. Simmonds: Orthopaedics.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 1s. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS and ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London).
MEDICAL SECRETARY (Telegrams: Mediseca, Westrand, London).
EDITOR, *British Medical Journal* (Telegrams: Aitiology, Westrand, London).
Telephone number for all Departments: Gerrard 2630 (*3 lines*).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)
IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

MAY.

19 Fri. Bedford Division, Bedford County Hospital, 3 p.m.
23 Tues. London: Organization Committee, 2.15 p.m.
Lewisham Division: Annual Meeting, 40, Sydenham Road, S.E.26, 8.45 p.m.
25 Thurs. London: Journal Committee, **10.30 a.m.** (alteration in time).
London: Naval and Military Committee, 2.30 p.m.
Darlington Division, Greenbank Hospital: Address by Dr. T. Eustace Hill on the Public Health Service and its relation to the General Practitioner, 8.30 p.m.
Harrogate Division, Imperial Café, 8.15 p.m.
Maidstone Division, Clinical Demonstration, West Kent Hospital.
26 Fri. London: Public Health Committee, 2.30 p.m.
Sheffield Division: Annual Meeting, Church House, St. James Street, Sheffield, 8.30 p.m.
30 Tues. London: Central Ethical Committee, 2.30 p.m.
31 Wed. London: Finance Committee, 2.30 p.m.

APPOINTMENTS.

COX, William J., M.B., Ch.B., D.P.H., Medical Officer of Health for the Urban District of Watford.

DAW, S. W., M.B., B.S., F.R.C.S., Honorary Surgeon in charge of the Orthopaedic Department at the Leeds General Infirmary.

HANDFIELD-JONES, R. M., M.S.Lond., F.R.C.S., Assistant Director of the Surgical Unit, St. Mary's Hospital Medical School.

MITCHELL, Leonard J. C., M.D., Ophthalmologist to the Melbourne Hospital, vice Sir James Barrett, K.B.E., C.M.G., resigned.

THOMSON, J. H., M.B., Ch.B.Edin., Resident Orthopaedic Officer to the Leeds General Infirmary.

WALKER, Miss Enid, L.D.S.Eng., Dental Surgeon to the South London Hospital for Women.

EDINBURGH ROYAL INFIRMARY.—Resident House-Surgeon: R. W. Paylor Hall, L.R.C.P. and S.E., L.R.F.P. and S. Glasg., to Professor Alexis Thomson (five months). Clinical Assistant: Miss Mary F. Liston, M.B., Ch.B., to Mr. Lees (twelve months).

GLASGOW ROYAL INFIRMARY.—Extra-Dispensary Surgeon: George H. Stevenson, O.B.E., M.C., M.B., Ch.B., D.P.H., M.R.C.P., F.R.C.S.Edin. Anaesthetist: R. Gloag Battersby, L.R.C.P. and S.Edin., L.R.F.P.S. Glasg. Extra-Dispensary Surgeon for Diseases of the Teeth: A. Douglas Hillier, L.D.S.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **9s.**, *which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.*

MARRIAGE.

RUSSELL—MACKAY.—On May 1st, at Brompton Oratory, London, by the Rev. Father Crewse, George Andrew Russell, M.R.C.S., L.R.C.P., of Derby, to Cecily, widow of the late Dr. William Hugh Mackay.

DEATH.

BROWN.—On April 30th, at The Glen, Dore, near Sheffield, Horace George Brown, M.A., M.R.C.S., L.R.C.P., elder son of the late Dr. G. A. Brown, of Tredegar.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, MAY 27TH, 1922.

CONTENTS.

	PAGE
Approved Societies and Medical Benefit:	
Intervention of Approved Societies in Negotiations	185
Question of Conference with other Bodies	189
Control of Funds for Medical Benefit	189
The National Insurance Bill	190
Inquiry into the Working of National Insurance	190
Dispensing Capitation Fee: Mileage	192
National Insurance Defence Trust	192
ASSOCIATION NOTICES:	
Notices of Motion for the Annual Representative Meeting	193
Table of Dates	194
Branch and Division Meetings to be held	194
Grants in Aid of Scientific Research	196
MEETINGS OF BRANCHES AND DIVISIONS	194
General Medical Council: President's Address	198
Vacancies: Summary of Vacant Posts	199
CURRENT NOTES:	
Compliment to the Past Chairman of Representative Meetings	197
Cheshire Minutes	197
Expenditure and Income Statistics	197
Statistics of Insurance Work	197
LOCAL MEDICAL AND PANEL COMMITTEES	197
NAVAL AND MILITARY APPOINTMENTS	199
APPOINTMENTS	200
DIARY OF SOCIETIES AND LECTURES	200
ASSOCIATION INTELLIGENCE AND DIARY	200
BIRTHS, MARRIAGES, AND DEATHS	200

APPROVED SOCIETIES AND MEDICAL BENEFIT.

Special Conference of Representatives of Local Medical and Panel Committees,

Central Hall, Westminster, Thursday, May 18th, 1922.

A Special Conference of Representatives of Local Medical and Panel Committees, summoned by the Insurance Acts Committee to consider principally the question of approved societies and medical benefit, was held at the Central Hall, Westminster, on May 18th.

Dr. H. G. Dain (Birmingham) presided, and was supported by Dr. H. B. Brackenbury (Chairman of the Insurance Acts Committee), Dr. Alfred Cox (Medical Secretary of the British Medical Association), and Mr. W. E. Hempson (Solicitor of the Association).

The number of representatives attending was 148; of the 145 Local Medical and Panel Committees of England and Wales 124 were represented at the Conference, and 25 of the 54 Scottish Committees were represented.

The Chairman at the outset of the proceedings reminded the representatives that this was a Special Conference, which meant that it was called to deal with special business, thereby excluding other subjects, which might properly be discussed at the Annual Conference in October. With that definition in his mind he had ruled out of order a number of motions which had been sent in, bearing on matters outside the range of business with which that Conference was called to deal. He had heard a special conference defined as a conference which was held at a special time, but of that definition he could not approve. The Conference was called because it was important that the Insurance Acts Committee should obtain immediately an expression of opinion from insurance practitioners on the question which had arisen in connexion with approved societies and medical benefit. So far as he could see, the resolution to be put forward by the Insurance Acts Committee commanded unanimous agreement in the profession, and it became largely a question of signifying such agreement and signifying it vigorously.

The returns of representatives and deputy representatives and apologies for absence were then received.

THE INTERVENTION OF APPROVED SOCIETIES IN NEGOTIATIONS.

Dr. Brackenbury then brought forward on behalf of the Insurance Acts Committee the motion:

> That whilst welcoming the co-operation of all those interested in the development of the best possible medical service for insured persons, the Conference insists upon the continuance of the system of negotiating the actual terms of the contract of service which has prevailed since the coming into force of the National Health Insurance system—that is, direct negotiations between the Government and the profession without the intervention of any third party.

In doing so he made a lengthy report upon the whole question of approved societies and medical benefit. The main purpose of the Conference, he said, was to discover whether the profession, as there represented, was behind the Insurance Acts Committee in the position it had taken up. The Committee had taken up a very definite position, and wished to know at the earliest possible moment whether in so doing it had correctly interpreted the feeling of the profession. He hoped that in all the discussions on this subject the profession would state as clearly as possible what it meant to convey, that it would state the case with firmness and without irrelevance, and also that the point would be argued and maintained without offensiveness or discourtesy or even unfriendliness. Already, he thought, the attitude of the Insurance Acts Committee and the calling of the Conference had achieved a certain measure of success. The atmosphere at the Ministry of Health and in approved society circles did not seem to be quite the atmosphere that it was a few weeks ago; and if the medical profession made itself heard in those two quarters with clearness and firmness he believed its object would be gained. He confessed to something of the "old Adam" in him which made him burn for a fight on favourable grounds, but it had to be remembered that the object was not to have a fight, however great the chances of success, but to arrive at a certain definite result, which might be reached without fighting.

What was the situation with which the Insurance Acts Committee had to deal, and what was the clear principle on which it asked the profession to stand? The approved societies had made certain claims, and the Government had stated that it was difficult to resist the admission of those claims. If the report of the interview between the Committee and the representatives of the Ministry of Health (SUPPLEMENT, April 8th) were read very carefully it would be discovered exactly what those claims were, but not so easily what the Government had admitted with regard to them. He supposed they might take the considered statement read by Sir Arthur Robinson at the beginning of that interview to set forth the situation more definitely than any subsequent expressions used by him during the same interview. That statement contained the following words:

> "But in return for accepting these new charges the approved societies have made it clear that they intend to claim a voice in the negotiations with the medical profession both in regard to the capitation rates and the conditions of service after the expiry of the present agreement at the end of 1923. In view of the extent of the societies' contribution to the cost of medical benefit under the new scheme, it is difficult to contest their right to be represented in any future negotiations with the profession. But this must not be taken to mean that in future the final decision as to the terms of service and the rate of remuneration will rest with the approved societies. While the societies are in equity entitled to claim to be consulted in regard to any future negotiation, the responsibility for the maintenance of an adequate medical service must rest with the Minister."

The claim of the societies therefore was to be understood as a claim to be represented in the negotiations. That was a claim which, the Insurance Acts Committee said, the medical profession was not prepared to admit. (Applause.) The claim could be admitted neither with regard to remuneration nor to the other terms of service. It was true that one member of the Committee did say that he was prepared to admit the claim on questions other than remuneration, but he (Dr. Brackenbury), on behalf of the Committee, immediately said, "Neither on remuneration nor terms of service." He wanted to know whether he had correctly interpreted the mind of the profession in saying this. (Applause.) The position the Committee took up was this: The contract was a contract between practitioners and the State, which represented the whole community, the State acting, of course, in local affairs through local bodies; or, as he would prefer to put it, though with less exactness legally, it was a contract between practitioners and their patients (that was to say, collectively, such persons as chose to take advantage of the arrangements which the State had made to enable them to obtain medical treatment), the State being there to see that the contract was properly observed on both sides. In precisely the same way the approved societies had a contract with their members (that was to say, such persons as chose to take advantage of that arrangement which the State had set up under its auspices for the distribution of sickness benefit). If that was a correct statement of the position, then the approved societies had no more right to a voice in the negotiations about medical benefit than practitioners had a right to a voice in the actual arrangements made between the Government and the approved societies in connexion with sickness benefit. Again, the funds by which these benefits were provided were not moneys produced by the approved societies—(Hear, hear)—but were made up of compulsory contributions ordered by the State to be made by certain wage-earners, by employers, and by the taxpayers. Those moneys, for certain purposes, came through the channel of the approved societies in respect of a great majority of the persons concerned, but, although they might be properly called "approved society funds," they could not be called "approved society moneys"; and in so far as the provision of money entailed a right to negotiate about the expenditure of that money, then the State and the State alone was concerned as a negotiating party on the one side. Taking that position, it followed that the claim of the approved societies to be admitted to the negotiations must be contested; the approved societies did not represent the contributors, it was not the societies' money which was being used, medical benefit was not within their sphere, and they were not the employers of the practitioners. The Insurance Acts Committee—he hoped he might speak also for the whole profession in saying this—did not intend to be manœuvred into any position whatever which would seem to indicate that in any degree the approved societies stood to practitioners in the relation of employers to employed. (Applause.) He wanted that put forward so unequivocally that not even the least restrained of approved society officials should be able to say, "This procedure indicates that we are your employers."

The admission by the Government of the claim of the approved societies seemed to him both premature and illogical. (Hear, hear.) He was surprised that any Government at this stage should have gone so far as to say that it could admit that claim. The claim was watered down later on in the interview, by word of mouth, into a claim to consultation, but the words he had read from the considered statement, which had been considered by the Cabinet, embodied a claim to a voice in negotiation. The Government had accepted moneys from approved societies' funds covering the period between April of this year and December of 1923, and during that period the Government admitted the societies to no voice in negotiation over the terms of service. But with respect to the period after December, 1923, when it was at least doubtful whether the approved societies as such would make any contribution out of their funds to the expenses of medical benefit—and a period when the actuary had already said that he could not advise that the societies would be safe in making any contribution—the Government had said that it would admit them to a voice in the negotiations. This was the illogical position: during the period of contribution there was to be no voice in the negotiations, but during the period when such contributions would be, to say the least, doubtful, there was to be such a voice.

But when all this had been said it was rendered largely nugatory in practice by these facts: there were certain claims which they in the profession could not contest. They could not contest the right of the approved societies as an ordinary section of the public to make their opinion known to the Government and to bring whatever pressure they could to bear upon the Government. Any section of the public had a right to make its opinion known to the Government. Moreover, they could not contest the right of the Government to consult whatever persons or bodies it wished. Any Government or Government department had a right to consult whomsoever it chose. But the claim of the approved societies was that they had the *right* to be consulted, which was a very different thing. The profession must make its position perfectly plain; on terms of service it would negotiate with the Government as representing the whole community, and with no one else. No section of the community had a right to step in and say that it was a party to such negotiations. But it must also be made plain that this stand was not taken in any spirit of offensiveness or unfriendliness. The approved societies were not the employers of practitioners; they must not be considered in that relationship. But neither were approved societies to be considered as enemies, and the Insurance Acts Committee for its part did not propose to treat them as such. It was true that many silly things had been said by officials of approved societies about insurance practitioners; but, after all, they were not so silly nor so severe as things which had been said of the Insurance Acts Committee itself by an organized body in the profession. (Laughter and applause.) If extreme persons, either within or without the profession, chose to say silly things, that did not entitle the whole body or class to which they belonged to be considered as enemies. Moreover, the approved societies contained, as did the medical profession, a very large body of social workers who were anxious to contribute to the solution of a great social problem; and in their own sphere there was no reason why conference should not take place with these persons, as with anybody and everybody who was interested in this problem, in order to see how the service could be bettered and how this national work could be more smoothly carried on. Therefore, as an integral part of the motion he was proposing, it was stated that the co-operation of all those interested in the development of the best possible service would be welcomed. There was an amendment which proposed to leave out this phrase from the motion. But the Committee wished to stand by those words, because without them the position would not be clear to the public and might be greatly prejudiced. The members of the profession ought to have no objection to consultation and co-operation, if necessary, with all persons interested in this social problem; but this must be strictly interpreted to exclude intervention in the negotiations which led up to the actual terms of service.

In conclusion Dr. Brackenbury referred to the bill at present before Parliament (the National Health Insurance Bill). This measure did not alter the state of affairs so far as practitioners were concerned during the time for which it operated—namely, until the end of 1923. But it was necessary

to envisage the situation which might develop towards the end of next year. Even if another Government was then in power, it might also admit the claim of the approved societies to a voice in the negotiations. What the profession said now he hoped it would stand by next year. (Applause.) From the beginning of 1924 either the cost of medical benefit would have to be reduced—which meant that a lower capitation fee would have to be accepted—or the additional money would have to be found from some other source. This source might be Exchequer grant, or increased contributions from employers and workers, or contributions from the reserve or contingency funds of approved societies. If either the second or the third of these sources were taken—not the first—legislation would be required in the next Parliament, not in this. It therefore behoved the profession to remember that situation, and to bring all its influence to bear to help to constitute a Parliament which would take a view more consonant with that of the profession itself. The point to remember was that if there was no reversion to the Treasury grant, legislation would be required: that was the situation which had to be faced. The thing for the profession to do *now* was to make its position clear. The thing for the profession to do *then*, if events matured in the direction he had indicated, was to resist. And what it had to do between now and then was to get its organization absolutely prepared in all its details, so that such resistance if it became necessary should be successful. (Hear, hear.) He was confident that the whole profession did intend to stand by what it said that day, and he hoped that what was said would be in the terms of the Insurance Acts Committee's motion which he proposed. (Loud applause.)

Dr. GORDON WARD (Kent) said that he was instructed by his committee to move the deletion of the first part of the motion (the words, "whilst . . . insured persons"). It appeared to his committee that the first part of the motion was contradictory to the second part. What the second part said should not be given to the approved societies the first part gave them. A good deal turned upon the word "co-operation." Dr. Brackenbury in conversation had illustrated to him the meaning of the word "co-operation" by saying that in fact it meant conference. His (Dr. Ward's) committee was not prepared to confer with approved societies. It had a clear idea of what the position of approved societies should be. The power of approved societies under the Insurance Acts should be strictly limited to the administration of sickness benefit. His committee was not prepared to go an inch farther than that. He admitted that anyone speaking for the profession, or friendly to the profession, would interpret the motion in a friendly manner; but it was necessary to consider how it might be interpreted by persons hostile to the profession, and how it might be used by approved societies as evidence that the profession had agreed to co-operate with them in all save the one principle which was excluded by the latter half of the motion. The attitude put forward by the Insurance Acts Committee towards approved societies was not sufficiently stiff. He asked the Conference not to endorse an attitude which was very much like sitting on the fence, and which would in any case commit them to a statement which might be read in two ways. No clear line of policy was set forward in the official motion—nothing which could stimulate enthusiasm or evoke a fighting spirit.

Dr. G. H. L. HAMMERTON (Dewsbury) supported Dr. Ward's amendment. The motion proposed by Dr. Brackenbury was unsatisfactory. It would be sent to the Ministry, where it could and doubtless would be read in two ways. The motion seemed to be offering something with one hand and with the other taking it back again, and the Ministry was most likely to ask itself what those who had sent the motion really meant to convey by such an equivocal expression of opinion. This was not the time to hold out the hand of friendship. It was sufficient that day to say that the profession would have no co-operation with approved societies, nor any intervention of a third party in negotiations. If the Ministry of Health was not capable of representing insured persons and the Insurance Acts Committee was not capable of representing insurance practitioners both had better resign.

Dr. G. LAURENCE (Wiltshire) said that the word "co-operation" was the stumbling-block; he thought it an extremely dangerous word to use.

Dr. F. D. TODD (Durham) said that he could not understand how the Conference could "welcome the co-operation" of those with whom it had decided to have nothing to do. It had meant a very strenuous fight to get to the position the profession had reached—that, namely, in which approved societies exercised no control over the profession—and the Conference that day should adhere to the principles laid down in the struggle which ensued upon the introduction of the Act. Those principles had worked successfully up to the present time. No interference whatever was to be tolerated. If any "padding" seemed to be necessary this could come later; it was not appropriate at the present juncture.

Dr. H. J. CARDALE (London) was inclined to support the Kent amendment, not because he thought it should go forth to the public that the profession was unwilling to have anything to do at any time or in any circumstances with approved societies, but because the clause in the motion was certainly liable to grave misinterpretation. The best policy was to send out an absolutely clear-cut motion, expressing the determination of the profession not to admit the societies to negotiation. In any negotiations regarding the capitation fee or terms of service, the societies should have no right whatever to any voice. The way in which there might be co-operation was, after those terms of service had been laid down, by each party helping the other to ensure the most efficient service possible. Perhaps later on some resolution might be passed expressing the willingness of the profession to work with these bodies in this direction. It would certainly be unwise to let it go forth that the profession was not prepared at all to consult with these bodies in the matter of the improvement of the service.

Dr. R. H. DIX (Sunderland) believed that if the approved societies were given the opportunity of taking one step nearer their objective this would be followed by many more little steps, and the cumulative effect might be disastrous. He wanted a motion whose terms could admit of no possible misinterpretation. Many of them at that Conference could not forget that words as grave as any spoken that day by the Chairman of the Insurance Acts Committee were spoken at another quite recent Panel Conference, when it was said that under no circumstances would a capitation fee below 11s. be accepted. Yet, in the result, without firing a shot, a smaller sum was accepted. Were the motion carried as it stood a similar situation and a similar necessity might confront them at the October Conference of 1923.

Dr. W. R. HADWEN (Gloucester) thought it would be a mistake to delete this first clause from the motion. The approved societies, as well as the practitioners, might be called the servants of the Government. While the profession looked after the medical side of Insurance Act administration, the societies looked after the financial side. It seemed to him that the profession ought to be prepared to discuss with the societies, not only what was outlined in the motion, but even, in a friendly way, any modification of the capitation fee. ("No.") He would not suggest that there should be negotiation, but there would be no harm in hearing what the arguments of the societies were with regard to a reduction in the capitation fee and so forth. Negotiations should take place only with the Government directly, but it would be a mistake to treat the approved societies as enemies and so preclude friendly discussion.

Dr. A. CALLAM (Burnley) supported the amendment. The time had come to make a firm stand against approved society interference in the matter of medical benefit. There would be general agreement with the argument that the insured population had a right to a voice in medical benefit. But the approved societies were not representatives of the insured population in this connexion; they were merely officials, and the Insurance Committees were the representative bodies with whom any discussion should take place. It was the Insurance Committees whose co-operation should be invited in the making of a better service. The primary function of approved societies was to administer sickness benefit.

Dr. J. HOLMES (Bury), while agreeing with the substance of the motion, thought it unfortunately worded, and suggested that it be split into two motions, the second part to have precedence over the first.

Dr. C. FRIER (Kesteven) suggested that the supporters of the amendment were mixing up the two things which were made sufficiently distinct in the main resolution. Dr. Gordon Ward and those who had followed him had not made it clear whether they were or were not prepared under any circumstances to listen to what the other side had to say. Co-operation might logically be meant to cover a situation in which the Government, the approved societies, and any other body of organized citizens considered together in what way the medical service for insured persons might be improved. Did it necessarily mean that if the profession said it was willing to co-operate, its representatives must go into the room in which those bodies were meeting together and talk it over with them? He thought it did not. But the word "co-operation" seemed to be a stumbling-block, and he would suggest that the opening phrase might be altered to read, "Whilst welcoming an expression of opinion from all those interested . . ."

Dr. JAMES MCDONALD (Motherwell) was instructed by his Committee to support the amendment. The approved societies claimed a voice in negotiations. It was to deal with that claim that the Conference had assembled, and accordingly he thought that the second part of the official motion

should be thrown up into relief. The first part was only a pious resolution; the second was a practical measure on which action could be taken. This was not a time for discussing amendments in the Insurance Act or the evolution of the best possible medical service. The Conference had to deal solely with the claim put forward by the societies.

Dr. H. M. STEVENSON (Gloucestershire) opposed the amendment. In his county the Committee did not go so far as Dr. Hadwen had done in speaking for the town, but the words in the motion to which so much objection had been taken defined correctly the functions of approved societies and the functions of the Government. To carry the amendment would be merely to advertise hostility: it would not make the slightest practical difference. He believed that the first part of the motion in no respect weakened the second part, and that some spirits in the profession were a little inclined to ignore facts in order that they might strengthen words—a thing which never paid in the end. (Applause.)

Dr. H. B. PALMER (Plymouth) said that it was the latter part of the motion which governed the action of the Insurance Acts Committee. He agreed with the previous speaker that some advocates of extreme courses, like the Stuart kings, were inclined to ignore facts. It must be recognized that the societies had power; the wise policy, to put it no higher, was one of friendliness. The motion did not lay it down that there was to be a round-table conference, but assistance and suggestion would always be welcomed, and might be given without any interference in the matter of negotiation of terms of service.

Dr. FRANK CHALLANS (West Ham) thought the controversy in the Conference had arisen because Dr. Brackenbury had not explained what he meant by co-operation. Did he mean co-operation in fixing what practitioners were to do—apart from the question of the capitation fee—or did he mean co-operation in the development of ancillary services connected with the Act, such as hospital provision and laboratory facilities?

Dr. MUIR SMITH (Eastbourne) suggested an alteration in the opening words of the motion to the effect, "That while anxious (or willing) to co-operate in the development of the best possible medical service for insured persons . . ." That would raise as a subsequent question whether co-operation with approved societies would make for the best service or not.

Dr. D. O. TWINING (Devonshire) supported the original motion. It was widely felt that the approved societies did not represent insured persons, and the profession, by co-operation with them or with anybody else, might point out many faults which would lead to a better service. He instanced the new certification rules, which operated very hardly indeed against the insured person, or were only saved from operating hardly by the sympathetic action of the doctors.

Dr. H. ROSE (Buckinghamshire), who suggested leaving out the word "co-operation" and inserting the word "suggestions," asked whether the Conference was really of a mind to let it go forth that the profession declined to listen to those interested in the best working of the Act. It was useless to go away thinking that the approved societies would not have their say, for they would have it.

Dr. MILLER WILSON (Liverpool) said that there was absolute agreement on two points—that there must be no control on the part of approved societies, and that there must be direct negotiation with the Government without the intervention of any third party. The difficulty was that the Government had not made its position clear, and until it had done so the Insurance Acts Committee should not be committed to any co-operation or conference.

Dr. BRACKENBURY said that so far as he could speak for the Insurance Acts Committee he believed it to be absolutely unrepentant with regard to the motion. The moving of the Kent amendment had acted as a useful safety-valve. The operative and binding part of the Committee's motion was the latter part, which negatived the claim of the approved societies to have any part whatever in negotiations as to terms of service. He hoped there would be no alterations of wording to interfere with the moral gain of unanimous support by the Conference of the Committee's proposal as it originally stood. In the interview with the Ministry of Health he had to do his best as spokesman, and the Committee had endorsed the line he took. He would read one passage from the report of the interview:

> Sir A. ROBINSON: With regard to remuneration, then, under no circumstances will the profession meet the approved societies?
>
> Dr. BRACKENBURY: On remuneration and terms of service. With regard to improvement of the service we are perfectly ready to meet with anybody and everybody who can suggest means of making the service better. But we cannot consent to negotiate with the approved societies on remuneration and terms of service.

The attitude then taken was endorsed by the Insurance Acts Committee and embodied in the resolution before the Conference. The motion had already been sent to the Ministry of Health as the opinion of the Insurance Acts Committee, and it would be a pity, therefore, if that representative Conference altered it without good reason. If, however, it would help to secure a unanimous vote, he would transpose the order of the first and second parts of the motion, on the understanding that the actual wording was not to be materially altered. In that case the insistence upon the continuance of the present system of negotiation would come first, and the reference to welcoming the co-operation of all interested in the development of the best possible service would come at the end.

Dr. GORDON WARD said that this transposition would be better than nothing, but it was not what he wanted. He protested against the vote upon the motion being made a vote of confidence in the Insurance Acts Committee. It appeared that the motion had already been forwarded to the Ministry before the Committee had any instructions from the Conference, and now the Conference was told that its purpose was to support the Committee in something the Committee had already done.

Dr. BRACKENBURY said that this was a perversion of his opening remarks. What he had said was that the purpose of the Conference was to ascertain whether the representatives did support the action taken by the Committee.

Dr. WARD still protested against the Conference being asked not to alter one word of the original statement made by the Committee. The revision now suggested, however, would certainly make it less injurious, though it would still be useless as a means of raising either money or enthusiasm.

He asked leave to withdraw his amendment, which was given, and the Conference agreed also to the transposition of the two parts of the resolution.

Dr. LAURISTON SHAW (London) moved a further amendment whereby the words "contract of service" were taken out of the motion, and the words "contract for the provision of medical benefit" inserted. On reading the report of the interview with the representatives of the Ministry of Health the disquieting feature was that Sir Arthur Robinson should clearly think that in some way or other the profession was doing wrong in refusing the approved societies some voice in its affairs. Sir Arthur Robinson might very likely only have been supporting officially, as it was his duty to do, the action of the Government; but it seemed to the speaker that the reason for anybody thinking that the approved societies had the right to intervene in these negotiations could only arise from a belief on the part of the public that the approved societies were to some extent the masters, and that in a certain sense insurance practitioners were employed by them. He was convinced that the profession itself had misapprehended its proper position with regard to medical benefit. It had often talked about the Government being its "master," and it had naturally led the public to regard practitioners as Government employees. The profession would get much more sympathy for the attitude it adopted towards its work if it took the point of view, not of employers and employed, but of producers and consumers. Insurance practitioners should be regarded as "producers," and the people to whom they rendered their service as "consumers" of the "commodity" which they and they alone could provide. And they were absolutely determined that under no circumstances should a third party of "middlemen" arise to make profits out of selling the "commodity" to somebody else. The approved societies wanted to secure that the terms on which the profession produced its "article" were such that they themselves would be able to secure a larger balance for the funds which, although they did not belong to those societies, they would get the credit for a generous action in handing over to the Government. The Insurance Acts Committee, the next time it met the Government, might rather emphasize this point of view. Meanwhile, in any resolutions passed by the Conference, it would be well not to give any colour to the view that the Government was the employer and the profession the employed; that was his reason for moving that the words "contract for the provision of medical benefit" be substituted for "contract of service."

Dr. CARDALE having seconded this amendment, Dr. BRACKENBURY said he agreed with everything Dr. Shaw had said, but was not quite sure that the amendment was a good one. He did not think that there was any such thing as a "contract for the provision of medical benefit." What practitioners entered into was a contract to give their services on certain terms. The "contract of service" was the only correct expression, and Dr. Shaw's amendment would therefore be meaningless.

Dr. SHAW thereupon withdrew his amendment.

The two amendments to the Insurance Acts Committee's motion having been withdrawn, the CHAIRMAN then put to the

Conference the motion as it stood. The only change made had been, on Dr. Brackenbury's suggestion, to transpose the first and second clauses, so that it read:

> That this Conference insists upon the continuance of the system of negotiating the actual terms of the contract of service which has prevailed since the coming into force of the National Insurance Health system—that is, direct negotiations between the Government and the profession without the intervention of any third party; but will continue to welcome the co-operation of all those interested in the development of the best possible medical service for insured persons.

This was carried unanimously, with applause.

The Claims of the Approved Societies.

The Conference then turned to the consideration of a number of motions which dealt further with the claims of the approved societies.

Dr. J. CANTLEY (Salford) moved to instruct the Insurance Acts Committee to represent to the Minister that whereas the medical profession was willing to serve the State, it would be against public interest that the practice of medicine as regards insured persons should be under the control of a particular section of the community. The desire of his committee was simply to strengthen the attitude of the Insurance Acts Committee.

Dr. E. A. GREGG (London) thought that the resolution which had already been carried fully covered the point. It was worth while to keep in mind a hope for the future when the medical profession would be the "section of the community" which would control medical matters from A to Z without anybody else intervening; and it was because the Salford motion would rather cumber the way towards that far-off event that he hoped it would not be carried.

The motion was lost.

THE QUESTION OF CONFERENCE WITH OTHER BODIES.

Dr. S. P. MATTHEWS (West Sussex) moved to add to the Insurance Acts Committee's motion already carried:

> That to promote this end [that is, the co-operation of those interested] and also to devise, if possible, means whereby the excessive cost and complication of existing methods may be reduced without detriment to any party, a conference should be arranged, to meet at least annually, consisting of representatives of the Insurance Acts Committee, of Insurance Committees and their clerks, and of approved societies.

Many speakers, he observed, had expressed a willingness to confer with approved societies while stopping short of negotiation. There had been many conferences in which certain matters had been discussed, to the great benefit of all concerned. From the tone of Dr. Brackenbury's remarks at the interview with the representatives of the Ministry, it seemed that he was not indisposed to meet representatives of approved societies in general conference, and this was corroborated by the letter sent out by the Medical Secretary on the following day. His Committee felt that it had the tacit consent of the Insurance Acts Committee to some proposal for conference of the kind. Friendly conference was a far more expedient course than fighting the approved societies, and by such conference some curb might possibly be placed on the despotism of the Ministry of Health.

Dr. CANTLEY suggested that the reference to the cost and complication of existing methods should be deleted, and the mover agreed to this course.

Dr. D. F. TODD hoped the Conference would not accept the resolution. By so doing it would simply be walking into a trap set for the unwary. The Conference had already made its wishes known, and surely the Insurance Acts Committee could carry them out without any further instruction.

Dr. A. FOSTER (Worcester) thought the motion was opposed to the previous decision of the Conference, which had been against the intervention of any third party. If such a conference as the one indicated in the motion were set up, resolutions would be passed which would interfere with professional freedom. On some Insurance Committees the medical representatives had to be continually on the defensive—(Hear, hear)—because of the attacks made upon the profession. How could those who made such attacks be met in conference?

Dr. J. HOLMES (Bury) thought it would be folly to tell the Insurance Acts Committee precisely how it should co-operate.

Dr. A. E. COPE held that such a motion needed a great deal more consideration than could be given to it in that Conference. The expenditure on such conferences, for instance, would have to be studied. What was the size of the conference proposed? In spite of all the difficulties, however, many of them felt that as soon as possible there should be a small round-table conference with a view to improving the service, and he would deprecate the absolute shutting of the door upon that arrangement by negativing the motion.

Dr. BRACKENBURY supported the motion on his own behalf and on behalf of the Insurance Acts Committee. Personally he regarded it as good tactics. To pass this motion would help to spike the guns of their opponents, as it would show that the profession meant what it said when it professed to welcome the co-operation of those interested. It would impress the Ministry of Health and the societies if the profession took the initiative in suggesting some practical steps. Some conference of the kind would come about. The question of terms of service would not enter into it at all. It would simply be an occasion for mutual hints as to the improvement of the work, but these suggestions would have no binding effect. For the profession to initiate this proposal would be an excellent first move in the campaign upon which they were entering. It would be almost as good if the Conference would refer the matter for consideration to the Insurance Acts Committee. Although among the members of approved societies and others concerned the profession had some violent opponents, it had also some very anxious and sincere friends. The passing of this motion, apart from the reference to finance, which it had been agreed to eliminate, would help to strengthen the hands of their friends and disarm their opponents.

Dr. TODD moved as an amendment, and it was seconded by Dr. P. MACDONALD:

> That this Conference instructs the Insurance Acts Committee to take steps, if necessary, to arrange a conference of representatives of those interested in the working of the Insurance Acts.

Dr. CARDALE hoped that this would not be agreed to. He was sympathetic with the principle of a conference, but this was not the occasion for passing a motion of that kind. It would be misunderstood by insurance practitioners and the general public. He asked that it might be referred to the Insurance Acts Committee for report to the October Conference. In the meantime there would be opportunity for representatives to consult their constituents.

The CHAIRMAN thought that the Conference would perhaps accept Dr. Cardale's suggestion as the best solution of the problem.

Dr. Todd's amendment was lost, and Dr. Cardale's suggestion was then put in the form of a motion and was agreed to, in substitution for the West Sussex motion.

In answer to questions, the CHAIRMAN said that this would prevent the Insurance Acts Committee initiating any conference until after October, but he did not interpret it as preventing the Committee from participating in a conference which might be started in some other quarter.

Dr. CARDALE agreed with the scope of the resolution as defined by the Chairman.

The Control of Funds for Medical Benefit.

Dr. HERBERT MALINS (Warwickshire) moved a resolution protesting against the assumption that sectional organizations or bodies other than the Government possessed the right to be recognized as representatives of insured persons, and pledging the Conference to endeavour to secure that funds available for medical benefits should be allocated and administered solely under public control. He raised the question as to whether approved societies had any statutory rights to the control of the money available for medical benefits. He read a letter from one of his constituents, suggesting that in the controversy which had arisen the main point had been overlooked by one side and cleverly evaded by the other. This main point was as to the legal ownership of the reserve surpluses. If instead of a surplus there had been a deficiency in the funds held by approved societies, the State would without doubt have been called upon to make up the balance. The surplus was State money, and not the property of the societies.

Dr. BRACKENBURY, though unable to answer specifically Dr. Malins's question as to the legal ownership of the surpluses, was sure the Conference appreciated the intention of the mover and the point he raised. In his own opening statement he had emphasized the fact that although the funds were approved societies' funds, the moneys were not the societies' moneys. He thought, however, that to pass the motion which Dr. Malins proposed would possibly commit the Conference to something which was not strictly accurate.

Dr. Malins, by consent, withdrew his motion.

Dr. C. FRIER (Kesteven) had a motion authorizing the Insurance Acts Committee to negotiate on the points at issue, with two express stipulations: one was that the actual terms of contract should be settled by direct negotiation with the Government alone (which had already been decided), and the other that medical benefit should be administered by the present system of local Insurance Committees or by committees constituted on similar representative lines. If medical benefit was administered by the approved societies the whole thing would turn into a sort of national medical club, and attempts would at once be made to set individual members of the profession in competition one against another. Those

who had experience on Insurance Committees would agree with him that, in spite of the presence thereon of approved societies' members, the committees did try to get at the facts of the matter before them, perhaps with some tendency to bias in favour of the insured person.

After some discussion as to whether this point was not also covered by the main resolution, it was agreed to proceed to the next business.

The National Insurance Bill.

Dr. C. H. PANTING (Essex) moved:

> That the Insurance Acts Committee be instructed to take steps to secure the insertion in the National Health Insurance Bill, now before Parliament, of an additional clause providing that the acceptance by the Government of the proposed contribution out of the benefit funds of the approved societies shall not confer on the approved societies any right to ask hereafter for any further measure of control in insurance matters than they have at present.

He said that this bill was limited in time, and would come to an end in 1923. There was practically nothing in the substance of the bill to which objection could be taken. But there was one sentence in the first clause which the Insurance Acts Committee picked out at once and tried to get defined. This was the sentence in Clause 1 (1) (*a*) which ran, "Subject to such conditions as may be prescribed." He thought the Committee should be instructed to see that some words were inserted in the bill which would prevent the approved societies from asking hereafter for any right they did not possess already under existing Acts. The approved societies had never forgiven the profession for getting away from their control, and the societies were united in trying to recover the position. This bill, entirely harmless as it appeared, was one move in their strategy. It was a short bill and would be in force only for a limited time, but if by this clause some precedent could be set up it would be quoted on future occasions as having authority. The Ministry was already saying that it did not see how it could resist the claim of the approved societies. He wanted an instruction to the Committee to endeavour to get inserted into the bill a clause expressly stating that the approved societies had no right and no claim beyond what they now had.

Dr. BRACKENBURY hoped the Conference would be content not to adopt this motion, because to do so would tie the hands of the Committee. The motion was an instruction to secure the object in view in one particular way. The resolution which the Committee had passed for its own guidance was to the effect that unless it was possible to secure that the conditions which "may be prescribed," referred to in Clause 1 (1) (*a*), should not vary from those at present in force, steps might be taken to have an amendment moved to the bill so as to include the words:

> Provided that such conditions shall not confer upon approved societies any additional right to consider or to adjudicate upon the terms or conditions under which medical benefit is arranged or provided.

The Insurance Acts Committee was fully alive to the exigencies of the situation and was ready to take appropriate action. But there was this to be said. The Ministry was asked what was meant by this phrase, "Subject to such conditions as may be prescribed," and it assured the Committee—and the Committee accepted the assurance—that all that it was intended to do was to be able to prescribe exactly the same conditions as were now the conditions of the Exchequer grant, which was to be abolished. That was so far satisfactory, but the Committee was a little suspicious, like Dr. Panting, and desired to have things so tied up that there would be no chance of different interpretations by another Ministry (and even by the end of 1923 there might be another Ministry). The Ministry had promised that on the second reading the Minister would make a considered statement declaring that these words were not intended to mean nor should they be interpreted as meaning that any additional powers were to be conferred upon approved societies with reference to their place in medical benefit. The exact words in which the Minister made that declaration would be awaited with some interest. Then another safeguard to which the Committee attached very great importance was that the conditions, being "such as are prescribed," would have to be embodied in actual Regulations, as to whose form the representatives of the profession would be consulted before they became operative. The conditions at the present moment were secret conditions. It was known that they dealt with the reports that practitioners had to make, the certificates they had to sign, and with certain general matters governing the standard of the service. But the profession had never had those conditions in black and white. They had been embodied in a number of communications and minutes which had passed privately between the Treasury and first of all the Insurance Commissioners, and later the Ministry of Health. But now those conditions, whatever they were, would come into the open, and in regard to any Regulations embodying them the profession would have its say before they became operative. It might be that this would be sufficient, and that these two safeguards which he had mentioned would make it unnecessary to put up a specific amendment to the words of the bill itself. But if the Committee was not satisfied it would like to be in a position to put up the words he had just read out as an amendment to the proviso of the bill, and to do so in a friendly rather than in a hostile spirit. There was some reason to believe that if it was necessary to have those words in, and the Ministry of Health was approached on the matter, it would be found amenable; whereas if the proposal was put forward in any other spirit it would probably not be carried in the House, and the position of the profession would be worsened because it might be implied that the opposite of the proviso held good.

Dr. J. HOLMES urged that the motion should be withdrawn so that the Insurance Acts Committee might be left free to do the best it could.

Dr. CARDALE suggested the interpolation "if necessary" after the words "the Insurance Acts Committee be instructed." This would leave the hands of the Committee absolutely free.

This suggestion was accepted, and the motion with this amendment was agreed to.

INQUIRY INTO THE WORKING OF NATIONAL INSURANCE.

Dr. H. J. CARDALE (London) moved a resolution calling for an inquiry into the entire working of national health insurance, the report of such inquiry to be available before any decisions as to changes in the terms and conditions of service of practitioners were arrived at. Last autumn a certain body in London asked the Minister of Health to agree to appoint some persons to inquire into the whole question. The Minister gave a favourable reply. When, however, a deputation waited upon the Minister with regard to the capitation fee, and this question again arose, Sir Alfred Mond said that the approved societies did not desire such an investigation, and therefore he turned it down. The feeling of the London Committee was that such an inquiry could only be productive of good to the medical profession. A great deal of mud had been flung at the profession, in Parliament and in the press and among people concerned in insurance work, and, whatever the other results of such an inquiry might be, it could not fail to disprove the allegations and to enhance the reputation of the profession. At present the profession had to be continually on the defensive; in any such inquiry as this it would no longer be on the defensive. The whole question of the administration of the Act would come up. He believed that the unwillingness of the approved societies with regard to an inquiry was on account of what might emerge as to the way in which some of them were administering sickness benefit.

The CHAIRMAN reminded the Conference that the previous Conference in October had passed a resolution to the effect that the profession would willingly take part in any inquiry into the working of the Act, but that no inquiry concerning medical benefit ought to take place until after April, 1922.

Dr. BRACKENBURY thought the present motion was to the opposite effect, for it stated that an inquiry was overdue, whereas the resolution of last year was that the Acts should be allowed to work for a number of normal years before any reliable conclusion could be drawn. He suggested, therefore, that the resolution was out of order.

It was agreed to take a motion by Lancashire as an amendment to the London motion. This amendment, after the words in the London motion "that an inquiry embracing all branches of national health insurance shall be instituted forthwith," went on to instruct the Insurance Acts Committee to take all possible steps to obtain the appointment of a Royal Commission with the reference to review the whole working, administration, and finance of the Acts.

Dr. H. F. OLDHAM, in moving this amendment, said that he pressed for a Royal Commission because an ordinary inquiry would exclude evidence regarding the position of approved societies. He would not speak of approved societies either as friends or enemies, but their position was undoubtedly a strong one, and it was pretty evident that they could do what they liked with the Government. In Lancashire the desire was for an inquiry into the whole administration from beginning to end.

Dr. J. HARRISON (Lancashire) seconded the proposition. The recommendations of a Royal Commission might lead to parliamentary action. The medical profession had nothing to fear as the result of any inquiry. It would benefit from a free and full investigation.

Dr. CARDALE having accepted Dr. Oldham's amendment of his original proposition, the CHAIRMAN asked whether a Royal Commission would, in reporting, be in a position to

decide that national insurance had been a mistake and to recommend that the whole system be abolished. Dr. OLDHAM said that strictly speaking this would be so, but he scarcely thought, after the experience of the last ten years, that any Royal Commission would make such a recommendation.

Dr. D. F. TODD held that such an inquiry would serve a very useful purpose. Those who had taken a practical interest in the working of the Act knew that there many points which required investigation. There was the financing of the Act to start with, the question of the payment that practitioners received, and the balances which accrued to approved societies. If there was a proper actuarial inquiry into the administration of the Act he believed it would be found that the approved societies were making profits which should go into the pockets of those who were really doing the hard work under the Act—namely, the doctors. There were many other points of view which might properly be investigated by a Royal Commission.

Dr. BRACKENBURY thought it would be a pity to reject this resolution lest it be interpreted as meaning that they shirked an inquiry, and he believed that from any inquiry which was instituted the medical profession would come out quite well. But it was significant that this Conference had been fighting, not for changes, but for the maintenance of the existing position. The motion called for a Royal Commission to make an inquiry into the whole working of the Acts. If that was a subtle way of securing that the existing state of affairs should continue for many years it might be worth passing. He believed that at the present moment the profession did not want any Commission to inquire into whether the system was or was not a good one. The Conference had already expressed an opinion that the system had so far succeeded that it should be continued and improved. The point was met very much better by affirming, as the Conference had already done, a desire to co-operate in the improvement of the system and referring it to the Insurance Acts Committee to consider what method of inquiry or conference was best. On a wider inquiry he thought they should express no opinion, and accordingly he moved that the Conference proceed to the next business.

Dr. P. MACDONALD seconded, and this was agreed to almost without dissent.

THE ADMINISTRATION OF NATIONAL INSURANCE.

Dr. OLDHAM then moved an instruction to the Insurance Acts Committee to explore every possible avenue that might lead to the consolidation of all national health insurance under one State-controlled body, preferably the Ministry of Health, by and through whom alone all benefits should be dispensed. Medical benefit, in the long run, would come to be administered by the medical profession with the Ministry of Health at its head; the only stumbling block in the way of this consummation was the present administration of the approved societies. He had no enmity against these bodies, but he could not forget that the great flaw in the Acts was the intervention of the societies between the Ministry and the profession and between the profession and their patients.

Dr. BRACKENBURY remarked that all the approved societies did not love one another, that the industrial societies were not overfond of the friendly societies, and the big societies not so very keen about the small ones. Was it not better to have one's opponents mutually hostile or critical rather than to have them consolidated, as Dr. Oldham proposed, into one body under State administration and control? As a politician and as a doctor he was in favour of the full use by the State of voluntary services. He thought it useful for the administration of sickness benefit that a number of persons largely interested in social questions should be utilized by the State under proper conditions for the distribution of such benefit. This resolution had the disadvantage that it favoured the substitution of a State machine for voluntary or semi-voluntary effort.

Dr. GORDON WARD (Kent) thought it ludicrous to call the approved societies voluntary in any shape or form. It was improper that any such bodies of persons should intervene between the profession and the insured person and the Ministry of Health. He was prepared to concede to the approved societies only the administration of sickness benefit. He would support anything at the moment which tended to put the approved societies in their present form out of the system.

Dr. OLDHAM, in replying, said that Lancashire was quite willing to accept the principle of voluntary service in all social matters, but the service of the approved societies could not be called voluntary. The societies had made large surpluses which were practically at their own disposal. The object of his motion was to stimulate the Insurance Acts Committee to help the Government in every way it could. A national health service must be under Government control.

The motion was lost by a large majority.

Lancashire had a further motion, moved by Dr. J. HARRISON, declaring that the present system of deposit contributors should be extended to embrace all insured persons and that the financial arrangements for deposit contributors should be so modified that the good lives carried the bad. This was put forward in furtherance of the plan, advocated in the resolution already negatived, that one State-controlled body should administer all national health insurance.

Dr. OLDHAM said that this was one of the directions which might be profitably explored with a view to securing the consolidation he had already proposed. Deposit contributors were deliberately put in an unfavourable position in order to compel them to come into the approved societies if possible.

Dr. E. A. GREGG, while in sympathy with the spirit of the Lancashire resolutions, felt that a very neat counter-thrust might be made against the profession. The approved societies could put up a similar claim with regard to the medical side of insurance matters, that the medical administration of the Acts could be more efficiently carried out under a State service. The profession would have a very good answer to that demand, but the answer would be along lines which might just as well be used by the approved societies in defending their case. This was not an opportune time to discuss a proposal of this kind.

The motion was lost by a very large majority.

Approved Societies' Funds.

Dr. J. NELSON (Kingston-upon-Hull) moved:

> That as the surplus funds at present in the possession of the approved societies do not belong to the societies, but are statutory funds and under the control of the State, the use of such funds by the State for the purpose of contributing to the cost of medical benefit does not, and cannot legally, in itself confer any right upon the societies to claim any share whatever in the administration of medical benefit.

The point he desired to make in this motion was that the approved societies had no right to claim a participation in administration of medical benefit simply because the Government was appropriating certain of their surplus funds for the payment of practitioners this year. To whom did these surplus funds belong? The approved societies acted as if they were their own funds. The funds were accumulated in at least three ways: partly from the contributions of the insured persons, whom as a whole the approved societies did not represent; partly as contributions from employers; and partly as contributions from the State. It would be just as logical for the employers through some federation to demand a share in the administration of the medical benefits, because their contributions were being partly used in substitution for the Exchequer grant, as it was for the approved societies to make the claim they did. The State had abrogated its duty in admitting as it had done any right of claim on the part of approved societies to strike a bargain on the matter. The profession had a double right in this connexion if these were really State funds: it had a right as the profession concerned in the administration of medical benefit, and also it had a right as a body of citizens to express its opinion on the action of a State department. For his own part he was convinced that the Ministry of Health was more sympathetic to the medical profession and less sympathetic to the approved societies than outward appearances might suggest, and the profession should do all it could to strengthen the position of the Ministry in resisting approved societies' encroachments.

The motion was carried.

Dr. D. O. TWINING (Devonshire) wished the Insurance Acts Committee to investigate the actuarial figures upon which the original assessment of funds to approved societies was made; but after Dr. BRACKENBURY had pointed out that this was not the business of the Committee, and that in any case it would have to employ actuaries, which would make it a most expensive proceeding, a motion on the subject was defeated.

Alternative Scheme of Medical Service.

Dr. H. F. DEVIS (Bristol) had a resolution to instruct the Insurance Acts Committee to appoint a special subcommittee, including some experts, to prepare a comprehensive and elastic scheme of medical service for the whole country, organized and controlled by the profession, in order to provide an alternative in view of threatened alterations in terms and conditions of service. The time was ripe for an enlargement of ideas as to the constitution of insurance medical service, including hospital and ancillary services; and such an alternative service would be an effective weapon if the profession were compelled to resist. He withdrew the motion, however, after an assurance by Dr. BRACKENBURY that the Insurance Acts Committee had under consideration a scheme of public medical service which had been drawn up by experts and was at present in the hands of a subcommittee. The intention was to bring forward a report on the subject in October.

PLAN OF CAMPAIGN.

Dr. A. LYNDON (Surrey) moved:

> That the Insurance Acts Committee explore with the utmost care every method (including a form of service outside the Act) by which the profession can bring pressure to bear against the encroachment by the Government or the approved societies, on the rights and honour of the profession, and that in the event of its being established that the approved societies are to have a voice in settling with the profession the terms of service and remuneration, the Insurance Acts Committee at once refuse to co-operate with the Ministry of Health in improving the service, and also advise all practitioners who possibly can to go off the panel, and take steps to publish as widely as possible that the terms of service are such that it cannot urge any practitioner to accept them.

He complained that owing to postponements by the Government it was left to the profession in 1912 and again in 1921 to make their decision as to acceptance or rejection of terms at a few hours' notice, and the way to counter this difficulty was to make every possible preparation in advance.

Dr. BRACKENBURY said that if what was forecasted in the Surrey resolution was the best that could be done, the end of the campaign was quite certain. Surrey suggested that if the Ministry of Health was not persuaded of the rightness of the profession's case, the Ministry were to be told that the profession would refuse to co-operate in improving the service, the Committee was to advise all practitioners who possibly could to come off the panel, and a statement was to to be published that the conditions were such that the Committee could not urge men to go on it. If that was all that the profession could do, it was lost. Instead of saying that the profession would not improve the service, they must say that the profession could not carry on the service; instead of asking all who could do so to come off the panel, they should ask everybody to come off; and instead of publishing the reasons why they could not urge new men to go on the panel, they should publish the reasons why there was nobody at all on the panel. Now that the Conference had endorsed the policy of the Insurance Acts Committee on all essential points, the Committee had to contemplate the possibility of not succeeding in making its principles prevail with the Ministry. It was essential, therefore, that the Committee should at once take into consideration in some detail what it was that it was going to advise practitioners to do in that event. It would be the business of the Committee to present to the October Conference the things which it would be legitimate and the things which it would be illegitimate for practitioners to do, in order that, if the insurance scheme came to an end at the end of 1923, they would be in a position to carry on a service for the present insured population. That must be done, and every detail be ready to be put into force if necessary on January 1st, 1924. But he hoped that Surrey would see the wisdom of not laying down the particular plan of campaign envisaged in its resolution.

The CHAIRMAN, in reply to Dr. DEVIS, said that the present contract ran subject to three months' notice at any time; they were not tied to any particular date for the giving of the notice. The question, so far as the Government was concerned, was not likely to become acute until the autumn of next year. The profession would not be in a position to come to any final decision until October, 1923; and this not through any neglect or tardiness of its own, for he did not see how it could act in advance of a Government decision. The machinery should be ready in every detail by October, 1923, but it could not be put into operation until the last word of the Government had been heard. The capitation fee went on until December 31st, 1923, but they had always received centrally at least three months' notice of any proposed alterations, so that it should be known before October, 1923, what changes were contemplated, and the profession would then be in a position to lodge its three months' notice if necessary.

Dr. BRACKENBURY said that the putting into force of the machinery in this contingency could not arise until January, 1924, but the duty of getting the machinery in readiness for use necessarily arose much earlier than that. That machinery should be so complete that on sending out the word to insurance practitioners and Panel Committees the whole of them should know instantly what it was they had to do. The programme he had in mind was, in general terms, to present to the October Conference of 1922 the line of policy and the kind of machinery which would be set up in the contingency contemplated, and to have that machinery complete in every detail in readiness for putting into operation, if necessary, on January 1st, 1924.

The CHAIRMAN added that they were not bound to the month of October for their Conference, and Dr. LYNDON, in asking leave to withdraw his motion in view of Dr. Brackenbury's statement, suggested that for 1923 the Committee might consider the desirability of holding the Conference earlier than in the past.

Publicity Campaign.

Dr. GORDON WARD (Kent) moved a resolution expressing the view that no successful opposition could be made to approved society control except by enlisting the support and sympathy of the public, and that the time had now come for an extensive press and publicity campaign to this end; the Insurance Acts Committee might appoint a special subcommittee for this purpose. The resolution was carried, though many abstained from voting. Dr. BRACKENBURY remarked that in October Dr. Ward would be asking the Committee what it had done in pursuance of this resolution, and at present he had not a notion of what the Conference wanted. If there were specific things which representatives wanted done, he hoped that they would communicate them to the Committee. Dr. CARDALE suggested amidst laughter that one very useful thing would be to have a film.

DISPENSING CAPITATION FEE: MILEAGE.

Dr. J. P. WILLIAMS-FREEMAN, on behalf of the Insurance Acts Committee, reported on the position of the dispensing capitation fee. The Ministry, he said, had stated that it was trying to induce the chemists to accept a lower fee, and that when this had been done it would ask practitioners who dispensed their own medicines to do the same. No more had been heard on the matter, though the pharmacists had now been forced to accept a lower rate. The inference was that the practitioners' dispensing fee was not going to be interfered with; and there seemed the more justification for this conclusion because in the letter to the pharmacists the Ministry mentioned that after the sacrifices already made by practitioners it was reasonable that the pharmacists also should be asked to make a sacrifice.

In view of this statement certain resolutions from Warwickshire and Gateshead were withdrawn.

Dr. WILLIAMS-FREEMAN then brought forward the report by the Insurance Acts Committee as to the present position with regard to the mileage grant for areas of special difficulty (SUPPLEMENT, February 11th). At the interview with representatives of the Ministry of Health, one of the secretaries, Mr. Harris, gave an explanation as to why the Ministry had ignored the recommendation of the Committee that the special mileage fund should remain unaffected, and had reduced this fund by the same proportion as the ordinary mileage fund. He would not like it to be thought that any member of the Committee agreed that this explanation was satisfactory and to be accepted. It was too long a question to be entered into at that stage of the Conference, but the feeling of the Rural Subcommittee that the special fund should be left alone had by no means been shaken.

He went on to move:

> That inasmuch as the records as to travelling upon which the amount of the mileage grant was based were taken during a period of low incidence of illness, this Conference urges upon Panel Committees the importance of securing accurate records being kept by a number of practitioners in every rural area if and when called upon to do so by the Distribution Committee.

Very early in the work last year it was discovered that the twelve months which had been hit upon for keeping records was a most unfortunate period from this point of view; it was, in fact, one of the healthiest periods of recent years, as was shown to some extent by the exceptionally low death rate, though there were no sickness figures, so far as he knew. There would clearly have to be more records if a fair basis was to be established.

Dr. G. J. B. CANDLER-HOPE quoted some statistics from the North Riding Insurance Committee to show that there was in fact much less sickness in 1921—the year chosen—than in 1920. In 1920 the sum of £5,873 was paid to chemists in that area for medicines, and in 1921 only £4,200. The number of scripts in 1920 was 2.9 per insured person, and in 1921 it was 2.2.

The resolution was adopted.

The MEDICAL SECRETARY urged practitioners to send to headquarters records of attendances on insured persons, and also statements of income and expenditure, in accordance with the requests frequently made in "Current Notes" and elsewhere, and said that the response up to the present had been very disappointing.

Dr. F. MACDONALD thought the best method of getting at statistics was to ask secretaries of Panel Committees to obtain them from certain representative practitioners in their area.

In reply to a suggestion that instead of actual figures of income and expenditure percentages might serve the purpose, the CHAIRMAN said that percentages would be of no assistance in meeting the requirements of a board of arbitrators, and that Dr. Macdonald's suggestion had already been carried out.

NATIONAL INSURANCE DEFENCE TRUST.

Dr. BRACKENBURY moved the reception of the report on the present position of the National Insurance Defence Trust.

Dr. J. NELSON (Kingston-upon-Hull) had a resolution affirming that it was now more incumbent than ever upon all Panel and Local Medical Committees to contribute to the Defence Trust, and that where they did not do so opportunity should be given to the practitioners in such areas to contribute individually. This motion, he said, was intended to strengthen the hands of the Insurance Acts Committee. Various representatives had been impressing upon the Committee that day the need for organizing the profession, but this would entail considerable expenditure. He was glad to see that since the October Conference many committees had become subscribers, but there were still too many which had given nothing. London had not contributed anything at all as yet to the Defence Fund, yet London was always very ready to come forward and try to induce the Conference to take a very advanced attitude. It was from London that Panel Committee secretaries received a circular urging the calling of a special conference in order to organize the resistance they were going to make to the approved societies. That appeal was in somewhat bad form, for it was an appeal to the profession to organize itself, involving possibly the withdrawal of service, and yet the committee which made the appeal regularly refused to contribute to the Fund.. London was invariably to the fore in urging action, and to the rear in paying. It was illogical for any Panel Committee to refuse to contribute to a fund upon which it might be so necessary to call during the coming year. He believed that in committees a majority of whose members declined to make a levy there should be some means for securing the contbutions of individual members. More might be done to bring home to the individual practitioner the necessity for his contribution.

Dr. P. MACDONALD said that at the October Conference he undertook to recommend to his own committee at York that it should become a contributor to the Fund, and it had done so in a way which he thought was not unsatisfactory. Therefore it would be understood that he had no hostility to the Fund. He thought, however, that it would be a bad error in tactics to approach practitioners individually; practitioners ought only to be subject to levy through their respective Panel Committees. The financial gain from such a departure would in any event be infinitesimal.

Dr. NELSON agreed to the deletion from his resolution of the reference to individual contributions.

Dr. BRACKENBURY understood there would be no objection to an appeal for individual subscriptions from practitioners when it was made with the sanction of their Panel Committee. He asked, Were the trustees to be debarred, when a Panel Committee by a majority objected to subscribe, from sending a circular to the insurance practitioners in that area telling them of the existence of the Fund and asking them if they would use their influence to get their Panel Committee to reconsider its attitude?

Dr. MACDONALD said that it might be legitimate, but he doubted whether it was good tactics.

Dr. C. H. PANTING said that he represented a committee (Essex) which had formerly refused to contribute, but within the last week or two had decided to come in with the others. His committee felt that it was of no use sending a representative to the Conference to discuss policies involving the spending of money while it contributed nothing. He believed that individuals should be at liberty to subscribe if they desired to do so. He had, he thought, thoroughly convinced all the members of his committee that they need not have the slightest doubt as to the safety of the money. His committee had, in fact, been threatened with open revolt if it did not pass a resolution that any man wishing to contribute should be allowed to do so.

Dr. E. A. GREGG said that some very harsh remarks had been made by Dr. Nelson about the refusal of London to subscribe. These remarks were hardly fair, because it was not altogether unknown why London was not subscribing. As to the attitude of London with regard to aggressive policy, he doubted whether the Conference would have been held that day or at all had it not been for the action of London in arousing the attention of other committees to the new situation. He added that in London they were not satisfied that the Trust Fund, held under its present conditions, had perfect legal protection in the event of certain happenings. Some of them had the courage of their convictions to hold that the trade union principle was of value here. If a real fighting fund was to be accumulated, a fund whose mere size would show the sincerity of their intentions, such a fund should not be left unprotected while there was any possible means of ensuring it. There were those in London who were prepared to support the Fund, but his committee had asked, as the only condition of its support, that the Fund should come under the protection accorded to trade union moneys.

Dr. BUNTING (Newcastle-upon-Tyne): May we know what funds those people who believe in trade union action have accumulated?

Dr. GREGG replied that he was not there as an advocate of the Medical Practitioners' Union, though he believed in it with all his heart, but the Union had collected and made good use of a fund, and at the moment the Union was deliberately holding its hands with regard to a fund to see whether it was possible to throw it in with the Defence Trust Fund.

The motion by Hull, affirming that it was now more than ever incumbent upon committees to contribute (but omitting the reference to individual contributions by practitioners), was then carried, with one dissentient.

A similar motion by Dr. A. FORBES (Sheffield), reiterating the urgent need of all insurance practitioners subscribing to a defence fund and asking Panel Committees to use every means in their power to bring this about was also carried. Dr. Forbes said that his committee had subscribed the full amount and would continue to do so. Each man who was not subscribing was a weak link in a chain which bound them all together. Only a few minutes previously Kent had urged an expensive press campaign to be undertaken by the Insurance Acts Committee, yet Kent had not subscribed.

Dr. GORDON WARD (Kent) said that his committee would be willing to pay its share of the expenses of such a campaign.

The CHAIRMAN said that at the October Conference a resolution was passed, referring to the Insurance Acts Committee the question of getting into touch with the Medical Practitioners' Union. After an informal conference, which took place a few weeks ago, it was decided to recommend to the Insurance Acts Committee and the Council of the Medical Practitioners' Union that a formal conference should take place, and the Committee had appointed its representatives for such a conference. At the moment he thought no purpose would be served by discussing the merits of the case.

Dr. G. H. L. HAMMERTON (Dewsbury) had a motion on the agenda asking the Committee to join with the Union to assure full protection for the Defence Trust under the trade union powers of the Union in the event of Government interference during a possible "strike" of the profession. He was about to move this when Dr. BRACKENBURY begged him not to do so, because if the resolution was moved there would be a discussion, and it was a pity that anything should be said on either side while a committee was being set up to deal with it; but if one side did not keep silence the other could not. Thereupon Dr. HAMMERTON withdrew his resolution.

This concluded the business of the Conference, and a hearty vote of thanks was accorded to the Chairman.

Association Notices.

NOTICES OF MOTION BY DIVISIONS FOR THE ANNUAL REPRESENTATIVE MEETING, GLASGOW, 1922.

Establishment of Reserve Fund.

By MARYLEBONE:

To recommend to the Representative Meeting that the Council be instructed to establish a Reserve Fund and to transfer annually to this Fund, from the Reserve account, such sums as may be available, until the Reserve Fund amounts to not less than one year's income, based on the average of the three preceding years.

Ethics of Consultation.

By BRIGHTON:

That the Council be instructed to consider the advisability of substituting the following rule for rule 10 of the Report on the Ethics of Consultation:

> The attendance of a consulting practitioner shall cease when the consultation is concluded, unless another appointment is made, and no medical practitioner introduced to a family in consultation shall afterwards undertake sole attendance upon members of that family residing in the same house except with the knowledge and consent of the former medical attendant.

Present rule 10 reads as follows:

> A practitioner who has seen a case in consultation should not supersede the attending practitioner during the illness with regard to which the consultation is held, and, if he be asked to attend or prescribe in any future illness, he should only do so after explanation with the attending practitioner, unless circumstances make this impracticable.

TABLE OF DATES.

May 27, Sat.	Last day for receipt at Head Office of voting papers for election of 24 Members of Council by grouped Home Branches (where contests).
June 3, Sat.	Publication in SUPPLEMENT of results of Council elections by grouped Home Branches.
June 10, Sat.	Nomination papers available, at Head Office, for election of 12 Members of Council by grouped Home Representatives.
June 14, Wed.	Council Meeting, 429, Strand, at 10 a.m.
June 23, Frf.	Last day for election of Representatives and Deputy Representatives.
June 24, Sat.	Supplementary Report of Council appears in SUPPLEMENT.
June 30, Fri.	Last day for receipt at Head Office of notification of election of Representatives and Deputy Representatives.
July 7, Fri.	Last day for receipt at Head Office of Amendments and Riders for Annual Representative Meeting Agenda.
July 21, Fri.	Annual Representative Meeting, Glasgow, 10 a.m. Nominations for election of 12 Members of Council by grouped Representatives to be received (at A.R.M., Glasgow) by this date.

ALFRED COX, *Medical Secretary.*

PROPOSED JERSEY DIVISION.

NOTICE is hereby given by the Council to all concerned of a proposal made by the members of the Association in Jersey to form a Jersey Division. Written notice of the proposal has already been given to the Channel Islands Division and the Southern Branch. Any member affected by the proposed change and objecting thereto is requested to write, giving reasons therefor, to the Medical Secretary, 429, Strand, not later than June 27th, 1922.

BRANCH AND DIVISION MEETINGS TO BE HELD.

BIRMINGHAM BRANCH: COVENTRY DIVISION.—The annual meeting of the Coventry Division will be held on Tuesday, May 30th, at 8.30 p.m., at the Coventry and Warwickshire Hospital. Agenda: Election of Officers; Instruction of Representative.

BORDER COUNTIES BRANCH: DUMFRIES AND GALLOWAY DIVISION.—The annual general meeting of the Dumfries and Galloway Division will be held at the Child Welfare Centre, Buccleuch Street, Dumfries (next the Town Hall), on Tuesday, May 30th, at 2.30 p.m. (The Executive Committee will meet at 2.15 p.m.) Agenda: Statement of Accounts and Division Reports for 1921; Election of Officers; Election of Representatives to Representative Body; Consideration of Report of Council (see SUPPLEMENT, May 6th, 1922); Medical Certificates relating to Failure in School Attendance; Medical Inspection of School Children in Dumfriesshire.

DUNDEE BRANCH.—A clinical meeting of the Dundee Branch will be held at the Royal Infirmary, Dundee, on Friday, June 2nd, to be followed by a dinner. Members having cases or exhibits to show are asked to communicate at once with either of the Secretaries (Dr. R. C. Buist, 166, Nethergate, Dundee, and Dr. G. Rankine, 201, Albert Street, Dundee).

LANCASHIRE AND CHESHIRE BRANCH: MID-CHESHIRE DIVISION.—A meeting of the Mid-Cheshire Division will be held at the Unicorn Hotel, Altrincham, on Thursday, June 15th, at 3.15 p.m., when Dr. John Hay (Liverpool) will give a British Medical Association lecture on "Some aspects of cardiac disease." Tea will be provided at 4.30.

METROPOLITAN COUNTIES BRANCH.—The annual general meeting of the Metropolitan Counties Branch will be held at 429, Strand, W.C., on Friday, June 23rd, at 4 p.m. Business: (1) Report of scrutineers as to the election of new officers; (2) Annual Report of Council; (3) President's address by Mr. N. Bishop Harman, entitled "London: the triumph of medicine."

METROPOLITAN COUNTIES BRANCH: NORTH MIDDLESEX DIVISION.—The annual general meeting of the North Middlesex Division will be held on Tuesday, May 30th, at 3.30 p.m., in the Wortley Hall, Seven Sisters Road, Finsbury Park. Agenda: Proposed action of Hornsey Town Council in certain cases of diphtheria; Consideration of Annual Report of Council, 1921–22 (SUPPLEMENT, BRITISH MEDICAL JOURNAL, May 5th, 1922); Consideration of Hospital Policy of the Association (SUPPLEMENT, February 25th, 1922); Election of Divisional Officers, Representative and Deputy Representative; Instruction of Representative; Consideration of appointment and salary of Poor Law Medical Officer for West Green.

METROPOLITAN COUNTIES BRANCH: WESTMINSTER AND HOLBORN DIVISION.—A meeting of the Westminster and Holborn Division will be held on Thursday, June 1st, at 8.30 p.m., in the Board Room of St. George's Hospital to discuss the question of Hospital Policy.

NORTH OF ENGLAND BRANCH: CLEVELAND DIVISION.—The annual meeting of the Cleveland Division will be held at the Zetland Hotel, Saltburn, on Thursday, June 1st, at 3.15 p.m. (Executive Committee, 3.10 p.m.). Business: Annual Report of Executive Committee; Election of Office-bearers, 1922–23; Resolution, proposed by Executive Committee, in regard to the Middlesbrough, South Bank, and Eston Medical Aid Association; Retiring Chairman's address; Other business; Tea. The Honorary Secretary, Dr. G. H. Lowe, draws the attention of members of the Division to the fact that a Locum Tenens Bureau has been established at 7, Windsor Terrace, Newcastle, under the auspices of the Newcastle Division. He will be pleased to give further information.

NORTH OF ENGLAND BRANCH: STOCKTON DIVISION.—The annual general meeting of the Stockton Division will be held in the Stockton and Thornby Hospital on Friday, June 2nd, at 8.30 p.m. Agenda: Election of (*a*) officers, (*b*) Representative to Annual Representative Meeting; Other business (annual dinner, etc.).

SOUTH WALES AND MONMOUTHSHIRE BRANCH: NORTH GLAMORGAN AND BRECKNOCK DIVISION.—A meeting of this Division will be held at Pontypridd on Thursday, June 29th, when a British Medical Association lecture will be delivered by Dr. H. Morley Fletcher on "Treatment in renal disease."

SOUTHERN BRANCH: WINCHESTER DIVISION.—The annual meeting of the Winchester Division will be held on Thursday, June 8th, at 3.30 p.m., at the George Hotel, Winchester. Dr. G. C. Anderson, the Deputy Medical Secretary, will give an address entitled, "What are the advantages of belonging to the British Medical Association?" All non-members of the Association residing in the neighbourhood are invited to be present.

Meetings of Branches and Divisions.

BIRMINGHAM BRANCH: CENTRAL DIVISION.

THE annual meeting of the Central Division was held on May 4th, at 4 p.m.

The following were elected as officers for the ensuing year:

Chairman: Dr. Burges. *Vice-Chairman:* Dr. Trumper. *Honorary Secretary:* Dr. Stokes. *Representatives in Representative Body:* Dr. Dain, Mr. Lucas, and Dr. D. K. Wilkinson.

The annual report was adopted. It stated that the executive committee had held four meetings during the year. In addition to the ordinary routine work of the Division the following subjects had been considered: (1) Fees of doctors called in by midwives. (2) Dangerous Drugs Act. (3) Report of Council.

A letter was read from Dr. Ashkenny regarding the appointment of full-time medical officers who were performing the combined duties of two posts, and it was resolved that when a whole-time medical officer performed the duties of two permanent posts he should be remunerated at the rate of the higher paid of the two posts.

DORSET AND WEST HANTS BRANCH.

THE annual meeting of the Dorset and West Hants Branch was held at Branksome Tower Hotel, Bournemouth, on May 11th. After luncheon, Dr. W. JOHNSON SMYTH delivered the presidential address, entitled "Sleep and sleeplessness." There was a large attendance of members and the address was highly appreciated. The announcement of Dr. E. K. Le Fleming's unopposed return to the Council representing Group J was received with enthusiastic applause. Satisfactory replies were read from the Dorset County Council upon the subject of travelling allowances to medical practitioners attending coroner's inquests, and it was decided to circularize the information to all the members of the Branch. Members and ladies accepted the kind invitation of Dr. Johnson Smyth to tea on the terrace after the meeting.

EDINBURGH BRANCH: THE LOTHIANS DIVISION.

THE annual meeting of the Lothians Division was held in the Royal College of Surgeons, Edinburgh, on May 4th, when Dr. JAMES CAMERON (Loanhead), Chairman of the Division, presided, and there was a representative attendance. The meeting endorsed the action of the Insurance Acts Committee with reference to approved societies and medical benefit. Dr. R. W. Craig (Pathead Ford), failing whom Dr. James Cameron (Loanhead), was appointed Representative to the Representative Meeting for the ensuing year, and he was instructed to support the hospital policy as outlined by the Council. A discussion took place on the amount of remuneration which should be paid to locumtenents during the ensuing holiday season, and it was unanimously agreed that the fee should not exceed seven guineas a week; the Secretary was instructed to intimate this to all the medical agents in the district. A discussion also took place on the question of professional fees, and it was agreed that the scale of fees adopted three years ago by the Divison should be continued.

LANCASHIRE AND CHESHIRE BRANCH: BURY DIVISION.

AT a general meeting of the Bury Division, held on May 3rd, a resolution was passed that the Division should support the appeal for financial assistance to Dr. Wood-Hill. It was considered that the increased responsibility which appeared to be involved in the verdict in this case was a very serious matter for the medical practitioner.

Subscriptions, limited to half a guinea, should be sent to the honorary secretary. During the meeting the following subscriptions were received: Drs. Smith, Johnson, Laurie, J. Holmes, A. H. Johnson, 10s. 6d. each.

LANCASHIRE AND CHESHIRE BRANCH: HYDE DIVISION.

AT a meeting of the Hyde Division, held on May 4th, the following resolutions were passed:

That the Hyde Division, while welcoming the co-operation of all those interested in the development of the best possible medical service for insured persons, is of opinion that the profession should insist upon the continuance of the system of negotiating the actual terms of contract of service which has prevailed since the coming into force of the National Health Insurance system—that is, direct negotiations between the Government and the profession without the intervention of any third party.

That the Hyde Division contends that the National Insurance surplus belongs to the State, and contests any claims or rights of the approved societies in this matter, as they, like the medical profession, are only servants of the State.

LANCASHIRE AND CHESHIRE BRANCH: ST. HELENS DIVISION.

THE annual meeting of the St. Helens Division was held on May 15th, when the following officers were elected for the ensuing year:

Chairman: Dr. J. R. Kerr, C.B.E. *Vice-Chairman:* Mr. A. A. W. Merrick, F.R.C.S.I. *Honorary Secretary and Treasurer:* Dr. F. J. Knowles. *Representative in Representative Body* (St. Helens and Warrington combined): Dr. F. P. Bassett. *Deputy Representative:* Dr. T. A. Murray.

The relation of the medical profession to the approved societies was discussed at some length. The general feeling of the members was that the more amicable the relationships between these bodies, and the closer they worked together, the better it would be for the profession, the societies, and the insured persons. The following motion was carried unanimously for submission to the Annual Representative Meeting:

That while welcoming the co-operation of all those interested in the development of the best possible medical service for insured persons, the Representative Body is of opinion that the profession should insist upon the continuance of the system of negotiating the actual terms and contract of service which has prevailed since the coming into force of the National Health Insurance system—that is, direct negotiations between the Government and the profession without the intervention of any third party.

MIDLAND BRANCH: DERBY DIVISION.

A MEETING of the Derby Division was held at the Derbyshire Royal Infirmary on May 5th, when Dr. F. W. BLOOMES was in the chair. Dr. PEMBERTON presented the views of the members in New Mills and district with reference to a proposed reduction in club fees. On the motion of Sir RICHARD LUCE, seconded by Dr. WATT, it was unanimously resolved:

That the Division support the members of the New Mills district in their demand for 6s. 6d. for juvenile Friendly Society members and the National Health Insurance rate for adult members, and that the secretary communicate with the secretary of the Cheshire Division with a view to concerted action being taken if necessary.

Sir Richard Luce was elected chairman for 1922–23 and Dr. S. Hunt vice-chairman.

NORTHERN COUNTIES OF SCOTLAND BRANCH: INVERNESS DIVISION.

A MEETING of the Inverness Division was held at the Northern Infirmary, Inverness, on May 12th, when Dr. THOMAS MACDONALD (Beauly), Vice-Chairman, presided.

Arising out of the minutes, the Honorary Secretary stated that the scheme of the Division for school medical inspection, etc., in the outlying areas of the county had fallen through owing to the fact that the Scottish Board of Health insisted on the Inverness County Council appointing a whole-time man for the Outer Islands and Skye, who would also work under the county education authority. He also reported that the Inverness Burgh Town Council had adopted a scheme for the domiciliary treatment of tuberculosis, whereby the doctors would be remunerated at the rate of 5s. per week per patient for attendance on cases on the order of the public health authority.

The annual report of the Council of the British Medical Association was discussed.

Dr. J. Munro Moir was elected Representative and Dr. James Murray Deputy Representative to the Annual Representative Meeting in Glasgow.

The Secretary intimated that he had, on the instructions of the Medical Secretary of the British Medical Association, written to Sir Murdoch MacDonald, M.P. for Inverness-shire, on the reduction of Parliamentary grant to universities. He had promised that he would go into the matter carefully.

NORTH OF ENGLAND BRANCH: GATESHEAD DIVISION.

AT the annual meeting of the Gateshead Division, held on May 10th, the new model rules were adopted.

The following officers were elected for the year 1922–23:

Chairman: Dr. John Galloway. *Vice-Chairman:* Dr. John L. Speirs. *Honorary Secretary:* Dr. Colin Mearns. *Representative in Representative Body for Consett and Gateshead Divisions:* Dr. J. L. Speirs (Gateshead). *Deputy Representative:* Dr. J. Charles (Stanley S.O.).

The annual report of the executive committee was approved. The report stated that eight ordinary meetings of the Division and four meetings of the executive committee had been held during the past year, with an average attendance of ten. In spite of two members resigning and one lapsing through arrears in subscriptions the membership of the Division had increased from 48 to 58. This satisfactory increase was due to personal canvassing of non-members by a number of active members. The Gateshead Division took an active part in the organization and financing of the annual meeting of the Association in Newcastle last year. By the action of the Division the fee of £2 2s. was secured for attendance at the Maternity and Child Welfare Clinic for at least one of the weekly sessions and £1 11s. 6d. for the other, on the understanding that it would not last longer than two hours. The Division also took action with regard to the administration of pituitary extract by midwives, and the M.Os.H. of Gateshead and Durham County shortly afterwards forbade the practice in their areas. Some discussion arose at one or two of the meetings with regard to methods of popularizing the monthly meetings, and the matter was referred to the executive committee in the hope that they would produce some scheme before the autumn. The Report of Council on the Revision of British Medical Association Constitution and Machinery and the Report on the Organization of Voluntary Hospitals were considered fully and amendments and suggestions sent in. In March, 1922, Dr. Edgar Barnes retired from the position of honorary secretary after three years' service, and the executive committee recorded their sincere thanks for his services during that time. Dr. Colin Mearns was appointed as his successor.

NORTH WALES BRANCH: DENBIGH AND FLINT DIVISION.

THE Denbigh and Flint Division has for some time been in a state of suspended animation, but on May 17th a meeting, convened by the North Wales Branch Council, was held at the Queen Hotel, Chester, when the Division was revived with every prospect of as creditable a history in the future as it had in the past. The chair was taken by Dr. J. H. WILLIAMS (Flint), Chairman of the Division.

Dr. E. LEWYS-LLOYD, Secretary of the North Wales Branch, informed the meeting that efforts from inside the Division having failed to secure a meeting the Branch Council had taken action.

The meeting thereupon proceeded to elect the following officers for the year 1922 23:

Chairman: Dr. George Harrison (Gresford). *Vice-Chairman:* Dr. D. A. Powell (Llangwyfan). *Honorary Secretary:* Dr. R. Morris Jones (Gresford). *Representative in Representative Body:* Dr. C. E. Morris (Holywell). *Deputy Representative:* Dr. J. Owen Jones (Holywell), with an Executive including representatives of the Flint and Denbigh Panel Committees respectively, and of local whole-time medical officers.

The Model Organization Rules were, with certain alterations, adopted, and those present declared their intention of making the Division in its new form an active and influential body.

SOUTH WALES AND MONMOUTHSHIRE BRANCH.

A WELL-ATTENDED meeting of the South Wales and Monmouthshire Branch was held at Llandilo on May 12th. At the invitation of the South-West Wales Division members and ladies accompanying them met at Llandilo at 3 o'clock, and proceeded by motor cars to near Carreg Cennin Castle. After a stiff climb they eventually arrived at the castle, which is situated in a portion of truly rural Wales, with beautiful and extensive views of the surrounding country. Dr. RICHARD HOPKIN, in the absence of Dr. D. R. Price, who unfortunately was unable to be present on account of ill health, gave a most interesting historical account of the castle. The company returned to Llandilo, and were entertained to tea at the Cawdor Arms Hotel. The President, Dr. O'DONNELL, proposed, and Dr. NELSON JONES seconded, a vote of thanks to the South-West Wales Division for their invitation. Dr. HOPKIN replied. On the proposal of Dr. CRAWFORD TREASURE the meeting sent a message of sympathy with Dr. D. R. Price, one of the Branch Secretaries, in his illness, and of good wishes for his speedy recovery.

STIRLING BRANCH.

THE annual meeting of the Stirling Branch was held on May 10th, under the presidency of Dr. MITCHELL (Bridge of Allan). Dr. Thomas Adam (M.O.H., County of Stirling) was elected president for the ensuing year, Dr. McFarlan (Stirling) was elected vice-president, and Dr. E. E. Dyer (Alloa) re-elected secretary. Dr. Dyer was also re-elected Representative for the Annual Representative Meeting.

After the business meeting was over a clinical meeting was held in the wards of the Infirmary, when a number of surgical cases were shown and explained by Dr. MCFARLAN; they consisted chiefly of cases operated on for goitre, malignant disease of the bowel, prostatectomies, and wiring or pegging of bone fractures. After the meeting the members of the Branch were hospitably entertained to tea and welcomed to the institution by the chairman of the board of directors and other members of the board. The meeting was a great success and was much enjoyed.

SOUTH-WESTERN BRANCH: NORTH DEVON (BARNSTAPLE) DIVISION.

THE annual propaganda meeting of medical practitioners of the North Devon (members and non-members of the Association) was held at the North Devon Infirmary on May 3rd, when Dr. A. J. KENDREW was in the chair. This was the first time that the Division had been visited by the Medical Secretary of the Association.

The CHAIRMAN introduced Dr. ALFRED COX, Medical Secretary, who then delivered an address entitled "Can medical practitioners afford *not* to join the British Medical Association?" Dr. Cox specially dwelt upon the work of the Association and how it affected all members of the profession, whether members of the

Association or not. He laid emphasis on the democratic constitution of the Association and how each individual member could affect its policy. He finally classified the non-members of the Association, pointing out the weaknesses of each group.

The address was closely followed by all present and was frequently applauded. Questions and discussion were then invited, and remarks were made by Drs. JONAS, TOYE, HARPER, GOOD, and MARSHALL; these were duly dealt with in turn by Dr. COX, who, in his reply, laid emphasis on the following points: (*a*) The conduct of the Association at the time of the inception of the National Health Insurance Act and how its policy led to greater remuneration of medical practitioners. (*b*) The great power and influence of the Association with various Government departments. (*c*) The fact that the Association is not merely a medico-political association, but is also a learned medical society. (*d*) The necessity of members reading "Current Notes" each week in the SUPPLEMENT to the JOURNAL.

On the motion of Dr. JONAS, seconded by Dr. TOYE, a vote of thanks to Dr. Cox was carried with acclamation.

The proceedings of the propaganda meeting, which lasted upwards of two hours, were brought to a termination by invitation to tea, thus enabling individual members to make the acquaintance of Dr. Cox.

The annual meeting of the Division was subsequently held at 5 p.m. under the chairmanship of Dr. KENDREW.

Dr. J. R. Harper having been unanimously appointed chairman for the ensuing year, Dr. Kendrew surrendered the chair to him.

A vote of thanks was passed with acclamation to Dr. Kendrew for his valuable services as chairman. Dr. Alexander Stookes (Braunton) was unanimously elected vice-chairman. Dr. PEARSON, having expressed a desire to resign the office of honorary secretary, Dr. S. C. Shaw (Barnstaple) was appointed to succeed him. The resignation was received with regret and a vote of thanks to Dr. Shaw for his work during the past sixteen years was unanimously adopted. Dr. E. J. Toye (Bideford) was elected Representative in the Representative Body.

SUSSEX BRANCH: HASTINGS DIVISION.

A DINNER of the Division, which was open to members, their wives, and guests, was held at the Albany Hotel, Hastings, on April 21st, when the party numbered sixty. The Division entertained as its guest Dr. Alfred Cox, O.B.E., Medical Secretary. After dinner an excellent programme of toasts, interspersed with songs and recitations, was gone through.

The Chairman, Dr. HESSEY, in proposing the toast of the British Medical Association, remarked that it was hoped that the dinner would inaugurate a series of annual dinners. The Hastings Division was resurrected from a corpse into a very lively and useful body, and had been held up by Dr. Cox in his monthly statement as an example to other Divisions. There was no reason why the Division should not continue to do better and better.

Dr. COX, in replying, said he took a paternal interest in the doings of the Division, and gave special praise to Dr. Hessey and the Committee for the success they had achieved in so completely reorganizing the Division. Dr. LOCKE proposed the toast of the guests, which was replied to by the Rev. Canon COOK, who spoke highly of the co-operation of medical men and clergymen. Dancing was then indulged in till midnight, when a most successful evening's entertainment was brought to a close.

The annual meeting of the Hastings Division was held on May 9th at the Eversfield Hotel, St. Leonards, under the chairmanship of Dr. HESSEY.

The following officers were elected for the ensuing year:

Chairman: Mr. D. Ligat, F.R.C.S. *Vice-Chairman:* Dr. Hessey. *Representative in Representative Body:* Dr. G. H. Howe. *Deputy Representative:* Dr. F. E. Daunt. *Representative on Branch Council:* Dr. F. R. Lewis, J.P. *Honorary Secretary and Treasurer:* Dr. C. Charnock Smith (re-elected).

On the motion of Dr. LOCKE a hearty vote of thanks was accorded to Dr. Hessey for the very able manner in which he had carried out his duties as chairman.

The meeting closed with a discussion on the fees to be charged by medical men administering anaesthetics to insured persons receiving dental treatment, as arranged by certain approved societies. Four local members of the British Dental Association were present and joined in the discussion, which was deferred until a more definite basis has been arrived at for negotiation.

YORKSHIRE BRANCH: HUDDERSFIELD DIVISION.

THE second annual golf competition of the Huddersfield Division will be held at Fixby in June. Dr. Irving has generously presented the Division with a handsome cup to be played for annually and held for the year by the winner of the competition. All members of the British Medical Association in the Division area are eligible. The competition will be by match play throughout, the first round to be completed by Thursday evening, June 8th. One week will be allowed for each subsequent round. The draw will take place on Saturday, May 27th, and competitors will then be notified the result. Entrance fee 6s. This covers all expenses except caddie, and must be sent on entry. Members are requested to send the name of their club and their handicap to the honorary secretary, Dr. David Wilson, on or before May 27th.

The committee of the Division are organizing a picnic to the Dukeries on Thursday, June 15th. All medical men in the area, whether members of the British Medical Association or not, are invited to join and bring guests. Further details will be furnished in due course.

STAFFORDSHIRE BRANCH: WALSALL AND LICHFIELD DIVISION.

THE inaugural meeting of the Walsall and Lichfield Division was held on May 1st, and was attended by Dr. EDGAR, President, and W. WEBSTER, Honorary Secretary of the Branch Council. All the necessary formalities were complied with—namely, the Ethical Rules and the Model Rules of Organization of a Division were adopted. The following officers were elected:

Chairman: S. H. Hawley (Walsall). *Vice-Chairman:* F. M. Rowland (Lichfield). *Honorary Secretary and Treasurer:* F. G. Layton (Walsall). *Representative in Representative Body:* G. M. Fox (Walsall).

SOUTHERN BRANCH: CHANNEL ISLANDS DIVISION.

AT the annual meeting of the Channel Islands Division held on May 17th, 1922, the following officers were duly elected for the year 1922-23:

Chairman: C. de L. Carey. *Chairman-Elect:* C. Jones. *Honorary Secretary and Treasurer:* C. d'A. Collings. *Representative in Representative Body and on Branch Council:* R. A. Wilson.

In addition to these appointments the Executive Committee and Ethical Committee were elected for the ensuing year.

NORTH OF ENGLAND BRANCH: CLEVELAND DIVISION.

The Year's Work.

THE report of the Executive Committee for 1921-22 states that four business meetings have been held; the average attendance was 15.1 compared with 19.3 in the previous year. The Committee invites suggestions towards making these meetings more attractive and therefore better attended. It realizes that it is difficult, if not impossible, for the country members to attend meetings in Middlesbrough during the winter months, and for the Middlesbrough members to attend meetings at Saltburn. Still there must, it thinks, be some means of getting better attendances even in so large an area as that covered by the Cleveland Division. The Executive Committee has met on three occasions. A meeting of the combined Cleveland and Stockton Divisions was addressed by Dr. Alfred Cox, Medical Secretary, in Middlesbrough in January on "Current Medical Politics." The attendance was disappointing, due doubtless to the influenza epidemic prevailing at the time. Nevertheless, says the Committee, it was regrettable that "in spite of the fact communicated to members, that Dr. Cox was thirsting for criticism and heckling, very few of those of our members who are usually loudest in their complaints against the B.M.A. were present to oblige him."

In regard to the scientific side of the Division's work, this feature has been well maintained. Dr. D. WELLS PATTERSON, of Newcastle, gave an address in the North Riding Infirmary on March 30th on "Endocrine Glands and their Interrelationship"; the attendance at this meeting was excellent. The Clinical Section met thrice, when Drs. W. Steel, J. R. McCurdie, and Isobel Hill contributed papers to the pleasure and profit of those present. This Section will resume its meetings in October. The annual social event again took the form of a dinner held in Middlesbrough on February 2nd. The Chairman of the Division (Mr. W. S. Dickie) presided and 53 members and guests spent a most enjoyable evening. The principal work of the Division has been the consideration of the Report of Council on the organization of voluntary hospitals. Two meetings were required before this business could be disposed of, and a number of amendments were sent up to the Council of the Association for consideration and reference to Divisions. The report itself will be presented to the Annual Representative Meeting in July, along with all amendments thereto. The Committee notes that resistance to a local medical aid association is being successfully maintained, and concludes its review with some remarks on the membership of the Division. At present the members number 71—the highest on record. But there are still a few doctors in the area who have either at some period resigned from or have never belonged to the Association. Some of these derive benefit from the Association's work and funds and the Committee feels that an effort should be made to induce them to take their rightful part in the work and expenses of the Association in general and the Division in particular.

SCHOLARSHIPS AND GRANTS IN AID OF SCIENTIFIC RESEARCH.

SCHOLARSHIPS.

THE Council of the British Medical Association is prepared to receive applications for Research Scholarships as follows:

1. An ERNEST HART MEMORIAL SCHOLARSHIP, of the value of £200 per annum, for the study of some subject in the department of State Medicine.

2. THREE RESEARCH SCHOLARSHIPS, each of the value of £150 per annum, for research into some subject relating to the Causation, Prevention, or Treatment of Disease.

Each scholarship is tenable for one year, commencing on October 1st, 1922. A Scholar may be reappointed for not more than two additional terms.

The Conditions of the award of Scholarships are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, 429, Strand, London, W.C.2.

GRANTS.

The Council of the British Medical Association is also prepared to receive applications for Grants for the assistance of Research into the Causation, Treatment, or Prevention of Disease. Preference will be given, other things being equal, to members of the medical profession, and to applicants who propose as subjects of investigation problems directly related to practical medicine.

The Conditions of the award of Grants are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, 429, Strand, London, W.C.2.

Applications.

Applications for Scholarships and Grants for the year 1922–23 *must be made not later than Saturday, June 24th, 1922*, in the prescribed form, a copy of which will be supplied by the Medical Secretary on application.

Each application should be accompanied by testimonials, including a recommendation from the head of the laboratory, if any, in which the applicant proposes to work, setting out the fitness of the candidate to conduct such work, and the probable value of the work to be undertaken. This is not intended, however, to prevent applications for Grants in aid of work which need not be performed in a recognized laboratory.

British Medical Association.

CURRENT NOTES.

Compliment to the Past Chairman of Representative Meetings.

As an example of the increasing recognition of the necessity for close co-operation between the British Medical Association and bodies representing sectional professional interests, as well as of a graceful compliment to the Association and to an honoured past officer, we are glad to report that the Society of Medical Officers of Health has elected Dr. T. W. H. Garstang as a Vice-President, with a seat on its council. In conveying this information the Executive Secretary of the Society says: "In selecting you for this office the Society wished to do you personal honour and at the same time to secure the presence on our council of a distinguished leader of the British Medical Association. Knowing how much you have done to promote good relations between medical officers and private practitioners, the Society feels sure that you will render it a further service by accepting the Vice-Presidency to which you have been elected." Members of the Association will, we feel sure, receive this news with pleasure.

Cheshire Minutes.

Among the periodical reports that reach this office are the minutes of meetings of the Local Medical and Panel Committee for the County Palatine of Chester. The Cheshire minutes are noteworthy for two reasons. In the first place they are always printed in neat fasciculi of octavo size, the pages being numbered continuously within each administrative year, so that at the end of twelve months the bundles can be bound into a handy volume for reference. This way of producing the minutes must be rather expensive in these days of high printing charges, but the effect is workmanlike, and the insurance practitioners of Cheshire probably feel that they get good value for the outlay. In the second place, the casual reader of the Cheshire minutes may at any moment find therein a memorandum, letter, or brief comment, by the honorary secretary, Dr. Lionel J. Picton; and those who know Dr. Picton's literary gifts are aware that in presenting a subject he does not always follow the beaten track. Thus the record of formal business often takes an individual turn, and the Cheshire minutes are no doubt looked forward to with lively interest by insurance practitioners throughout the county. These remarks are prompted by the receipt from the printers of a packet of minutes covering the period from October 1st, 1921, to March 18th, 1922. They include a full statement of the Panel Committee's case against the County Council's tuberculosis dispensary scheme, mentioned some months ago in our columns; also Dr. Picton's racy report of the annual Panel Conference held last October; and copies of letters written by the same hand on a number of occasions, formal and informal. The last meeting of the Committee was called to consider the bill to be placed before Parliament transferring the Government share of the cost of medical benefit to the approved societies, and the minutes include copies of letters and circulars, and newspaper extracts, bearing upon the questions discussed at the recent special Panel Conference in London.

Expenditure and Income Statistics.

The attention of the medical profession is again drawn to the offer of a gratuitous copy of a model account book to any practitioner undertaking to forward the information entered therein for the confidential use of the Insurance Acts Committee. There can be no doubt that all information under this head ought to be in the possession of the central negotiating body for insurance practitioners (the Insurance Acts Committee), for use at the time of the revision, at the end of 1923, of the present bargain with respect to the insurance capitation fee. Inquiries should be addressed to the Medical Secretary, 429, Strand, W.C.2.

Statistics of Insurance Work.

Insurance practitioners are reminded of the necessity for the Insurance Acts Committee to be supplied with statistics of insurance work done in 1921. Information under the following heads should be sent to the Medical Secretary, 429, Strand, W.C.2.

Name.	Insurance Address.	No. of Insured Persons on List.	No. of Insured Persons Attended during 1921—that is, No. of Patients.	No. of Consultations.	No. of Visits.

Lending Library.

The Librarian will be glad to assist members of the Association in the selection of works to be sent them by post, in accordance with the arrangements for borrowing books that are notified each week on the last page of the SUPPLEMENT.

Insurance.

LOCAL MEDICAL AND PANEL COMMITTEES.

BEDFORDSHIRE.

A MEETING of the Bedfordshire Local Medical and Panel Committee was held at Luton on May 4th, under the chairmanship of Dr. A. STANBURY PHILLIPS. A resolution was passed instructing the Committee's representative to the Special Conference (Dr. Kilhan Roberts) to support the motion by the Insurance Acts Committee with regard to the question of approved society control of medical benefit.

On the recommendation of the Statistical Data Subcommittee it was decided to draw the attention of practitioners to the fact that when ordering such drugs as phenacetin, aspirin, and calomel, the dispensing fee is half the cost of dispensing them in powder form. The average total cost of drugs per insured person for the area during 1921 was 31.63d. There was no evidence of extravagant or excessive prescribing.

At the request of the Insurance Committee the question of the range of service of the following operation, performed on an insured person, was considered: "Carcinoma of pelvic colon: Paul's operation, resection of intestine." The Committee decided that the operation was outside the scope of an insurance practitioner's duties, and that a fee might be charged under Article 9 (2) of the Terms of Service.

SURREY.

AT a meeting of the County of Surrey Local Medical and Panel Committees held on May 5th, 1922, the following resolutions were carried unanimously:

1. "That the Insurance Acts Committee correctly interpreted the views of the panel practitioners of the country when it informed the Ministry of Health at the Conference held on March 30th, 1922, that while willing to meet the approved societies, or anyone else, who can suggest means of improving the service, the Insurance Acts Committee declines to meet the approved societies at any stage of the negotiations with the Minister of Health in respect to remuneration and terms of service, or to countenance the suggestion that the approved societies are in any way the employers of the panel practitioners."
2. "That the Insurance Acts Committee explore with the utmost care every method (including a form of service outside the Act) by which the profession can bring pressure to bear against the encroachment by the Government or the approved societies on the rights and honour of the profession, and that in the event of its being established that the approved societies are to have a voice in settling with the profession the terms of service and remuneration, the Insurance Acts Committee at once refuse to co-operate with the Ministry of Health in improving the service, and also advise all practitioners who possibly can to go off the panel, and take steps to publish as widely as possible that the terms of service are such that it cannot urge any practitioner to accept them."

GENERAL COUNCIL
OF
MEDICAL EDUCATION AND REGISTRATION.

SUMMER SESSION, 1922.

Tuesday, May 23rd, 1922.

Sir DONALD MACALISTER, K.C.B., President, in the Chair.

THE one hundred and fifteenth session of the General Council of Medical Education and Registration was opened at the offices of the Council in Hallam Street, London, W., on Tuesday, May 23rd, at 2 p.m.

Official notification was received of the appointment by the Privy Council of Sir Nestor Tirard, M.D., F.R.C.P., as Crown Nominee for England for five years from March, 1922.

Sir Nestor Tirard was introduced by Sir Norman Moore, and took his seat.

PRESIDENT'S ADDRESS.

SIR DONALD MACALISTER said: The Dental Board of the United Kingdom, which was in process of formation during our last session, has now been constituted, and since the beginning of the year has been in active operation under the chairmanship of the Right Hon. Francis Dyke Acland. The Regulations which govern its procedure have been duly approved by the Dental Executive Committee on behalf of the Council and by the Privy Council, and have been allowed by Parliament. The Board has decided to erect its offices on the site adjoining our own, and the building is now in progress. Meanwhile the office work of the Board is being carried out on our premises, under the direction of Mr. King, who has been appointed the first Dental Registrar. Reports or other communications from the Board to the Council may possibly come before you at this session; but meanwhile the Board is naturally preoccupied with the formation of the new *Register*. It is sad to learn that a breach has already been made in its membership by the untimely death of Mr. John Sinclair of Belfast, brother of our esteemed colleague, Professor Thomas Sinclair. Mr. Norman G. Bennett's resignation of his place on the Council as one of the Crown members has deprived us of a colleague who, during his short tenure of office, proved himself a worthy successor of Sir Charles S. Tomes, and rendered many valued services to the dental profession and to the Council in connexion with the framing of the new Dentists Act. His Majesty in Council has been pleased to appoint in his room our old friend, Sir Nestor Tirard, for many years secretary of the Pharmacopoeia Committee, and Medical Editor of the *British Pharmacopoeia*. Sir Nestor has frequently represented the Council's interests in inquiries by Government Committees and Commissions, and we may count with confidence on profiting by his special knowledge and experience in all matters relating to pharmacology, and by his assiduity in promoting medical efficiency.

Negotiations concerning medical reciprocity with Spain and Belgium are still proceeding, but no definite conclusion has yet been reached.

Visitation of Indian Medical Schools.

The "visitation" of Indian universities and schools of medicine, proposed by the late Secretary of State for India, has been duly carried out by Dr. Norman Walker, accompanied by Colonel R. A. Needham, C.I.E., D.S.O., Deputy Director-General of the Indian Medical Service. His report to the Secretary of State on the present and prospective conditions of obstetric training at the various centres of medical education in India has been duly communicated by Lord Peel to the Executive Committee for its consideration. The report is of great interest and practical importance, and makes recommendations which Lord Peel approves and hopes the Committee will accept. It shows clearly that, after full discussion with the authorities concerned, the Indian universities are now satisfied that means can and will be found for overcoming such difficulties as may have existed in attaining and maintaining an adequate standard of education in midwifery for the degrees which they desire to be registrable in this country. The particular recommendations on the subject of registration that are made in the report, the Executive Committee has had no difficulty in adopting. In its name and in that of the whole Council I venture to offer Dr. Norman Walker our congratulations and thanks for having, at the serious risk of his health, undertaken and carried to a satisfactory conclusion a delicate and important task. From communications which have reached me from India and from the India Office, it is clear that his tact and judgement, and his sincere desire to promote sound professional education in India, have been warmly appreciated there. He and his colleagues officially associated with his mission have succeeded in bringing about, with the good will of all concerned, a more satisfactory measure of agreement regarding the principles and practice of obstetric instruction than has recently existed between this country and India. For the leading part he has taken in effecting this result Dr. Walker has deserved well of the profession and of the Commonwealth.

Inspection of Examinations at Home.

The reports on the visitation and inspection of the qualifying examinations in medicine, surgery, and midwifery, held in the United Kingdom, have, by direction of the Executive Committee, been collected into a volume and issued for public information. The draft resolutions on professional examination, based thereon by the Examination Committee, have been submitted for the observations of the licensing bodies as you directed. The Committee has given minute and careful attention to the criticisms received from the bodies. It will at this session submit to you a draft for approval, which is designed to embody the best examination practice, as suggested by the experience of the Council and of the licensing authorities.

A similar course has been followed with regard to the draft rules for post-graduate degrees and diplomas in Public Health. Though some diversity of opinion exists on certain details of the proposals contained in the new rules, there appears to be a considerable body of support for the requirement of a longer period of practical study and professional experience from medical practitioners who seek to qualify themselves for responsible administrative office in the public health service. The standing committee on the subject has held several meetings for the discussion and preparation of its second report on the rules, which will come up for final consideration by the Council during this week. The committee and the Council will learn with deep regret of the death, a few days ago, of our much-valued Inspector of Public Health Examinations, Dr. Robert Bruce Low, on whose reports the new rules have been based.

Revision of the Curriculum.

With reference to the revision of the curriculum for ordinary medical qualifications, the Education Committee has held more than one special meeting during the recess. It has succeeded in bringing into succinct and orderly form the main recommendations of the many expert subcommittees which were requested to consider the proper content and relations of the successive educational stages of the professional course. Much thought has been given to the sequence and interconnexion of the several subjects of study, and to the relating of all to the preservation of health as well as to the skilled observation and treatment of actual disease.

The report of the Education Committee will, I understand, put forward a series of resolutions, indicating its view of what the course of professional study for a registrable qualification should comprise in order that it may be deemed by the Council "sufficient" for the purpose of Section 20 of the Medical Act, 1858. That purpose is "to secure the possession by persons obtaining such qualification of the requisite knowledge and skill for the efficient practice of their profession." The resolutions of the Council therefore deal with the minimum curriculum required for "sufficiency." It rests with particular licensing bodies, either by including additional subjects or by instituting combinations that call for higher or more prolonged study, to require for their own qualifications something more than the minimum. In this sense the curriculum to be proposed by the Council must be elastic; and so long as all the essentials for "sufficiency" are observed the bodies are free to introduce what they deem to be improvements in method or matter.

The Dental Curriculum.

The Dental Education and Examination Committee likewise will have an outline curriculum for degrees and diplomas in dentistry and dental surgery to propose. The labours of the Committee on this subject were interrupted by the inquiries that led to the passing of the new Dentists Act. The

Act, however, still leaves to the Council the duty of controlling the course of study and examinations required for dental qualifications; and accordingly the Committee, reinforced by the three dental members of the Council, who are also members of the Dental Board, has resumed and completed its efforts, and the result to be submitted to you will reflect the special knowledge and experience which the new members contribute.

Procedure and Finance.

Recent changes in the constitution, and to some extent in the functions of the Council, have made it necessary to redraft many of the Standing Orders. The work of revision has been carried out by the Executive Committee, guided in important particulars by the advice of our able legal advisers. The Standing Orders as amended will be presented for your consideration to day, and as some of them govern the composition and duties of the Committees of the Council, it is to be desired that these Orders at least should be settled before the Committees are appointed for another year.

The Finance Committee will be able to report to you that, in spite of a considerable increase in expenditure due to the enhanced activities of the last year, the accounts of the Council are in a sound condition. The surplus income of the General and Branch Councils, after meeting all charges, is £3,264, which is more than in any year since 1915, or about twice the average annual surplus for the past seven years. This result is in a measure due to the greater number (1,410) of practitioners registered in 1921, as compared with 1,100 in 1920. These figures confirm closely the forecasts furnished by the Council to the Government during the years of the war. The number of medical students registered in 1921 is 1,808, as compared with 2,531 in 1920 and 3,420 in 1919. Though the number is still higher than the average (1,421) for five years before the war, the relief thus afforded to the overstrained medical schools and colleges cannot but be welcome.

The programme of business includes so many agenda of importance that the session cannot be a short one; but the several committees have by diligent and often laborious preparation put their reports and recommendations into compendious shape, and the Council will in most cases have little difficulty in discussing and deciding upon them.

VOTE OF THANKS.

A vote of thanks to the President for his address was accorded on the motion of Sir NORMAN MOORE, seconded by Dr. NORMAN WALKER.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following notifications are announced by the Admiralty:—Surgeon Lieutenant Commander G. L. Ritchie, M.C., to the *Revenge*. Surgeon Lieutenant (temporary) C. Cotter to the *Defiance*.

Messrs. A. E. Phillips and G. Kirker have entered as Surgeon Lieutenants for short service and have been appointed to the *Victory*, for R.N. Hospital, Haslar, for course of instruction.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel J. Cowan is placed on the half-pay list on account of ill health.

Major Norman D. Walker, O.B.E., relinquishes the temporary rank of Lieutenant-Colonel.

Temporary Major R. H. Jones reverts to the temporary rank of Captain on ceasing to be specially employed.

Captain T. F. Kennedy, O.B.E., to be temporary Major whilst employed as Deputy Assistant Director of Hygiene.

Temporary Captain J. Graham relinquishes the acting rank of Major.

Temporary Captain J. A. Marsden relinquishes the temporary rank of Major.

The following officers relinquish their commissions:—Temporary Majors and retain the rank of Major: E. M. J. O'Farrell, C. A. Davies. Temporary Captains and retain the rank of Captain: H. H. Hulbert, P. J. O'Sullivan, A. L. Paliologus, A. J. Ireland. Temporary Lieutenants and retain the rank of Lieutenant: W. E. Barnes, C. A. Lindup, D. Loughridge.

ROYAL AIR FORCE MEDICAL SERVICE.

Flying Officer T. P. Harpur to be Flight Lieutenant.

Flight Lieutenant L. Game is granted a short service commission, retaining his present substantive rank and seniority (April 21st).

The following are granted short service commissions in the ranks stated, with effect from and seniority of April 24th: Flight Lieutenant J. B. Woodrow, Flying Officer J. D. Leahy.

The following are granted temporary commissions in the ranks stated, with effect from and with seniority of April 24th: Squadron Leader A. G. Higgins, Flight Lieutenant (Honorary Squadron Leader) E. A. Aldridge.

REGULAR RESERVE OF OFFICERS.

Colonel Gerald T. Rawnsley, C.B., C.M.G., late R.A.M.C., having attained the age limit of liability to recall, ceases to belong to the Reserve of Officers.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Captain W. M. Dickson relinquishes his commission, April 1st, 1920, and is granted the rank of Major (substituted for the notification in the *London Gazette*, May 25th, 1920).

TERRITORIAL ARMY.

ROYAL ARMY MEDICAL CORPS.

Major J. V. Holmes (late R.A.M.C.) to be Captain, with precedence as from January 3rd, 1919, and relinquishes the rank of Major.

Captain S. Scott, M.C., resigns his commission, and is granted the rank of Major.

Captain C. T. Fox resigns his commissien, and retains the rank of Captain.

Captain G. D. E. Jones to be Major without pay and allowances of the rank prior to April 20th, 1922.

The following relinquish their commissions and retain their rank except where otherwise stated: Major F. W. K. Tough, T.D., Captains and are granted the rank of Major: R. P. Pollard, F. H. Robbins, M.C., W. F. Young; Captains J. R. Clark, D.C.L. Fitzwilliams, C.M.G. (and is granted the rank of Lieutenant-Colonel), W. T. Homan, A. H. Platt, F. W. Schofield, A. W. Berry, W. N. P. Williams, J. St. G. Wilson, M.C.

The following officers having attained the age limit are retired, and retain their rank, except where otherwise stated: Lieut.-Colonel G. B. Masson, T.D., with permission to wear the prescribed uniform; Major W. D. Watson, T.D., and is granted the rank of Lieutenant-Colonel with permission to wear the prescribed uniform: Captains, and granted the rank of Major: A. W. Paterson, F. Ward; Captains A. C. Ransford, J. N. Robins, M. A. Cholmeley, S. D. Graham.

Lieutenant G. Eager to be Captain.

1st Southern General Hospital:—Lieut.-Colonel W. F. Haslam, having attained the age limit, is retired, September 30th, 1921, and retains the rank of Lieutenant-Colonel.

2nd Southern General Hospital:—Captain A. L. Flemming to be Lieutenant-Colonel and to command 2nd Southern General Hospital, June 1st, 1921.

General Hospitals:—Major A. W. Moore, O.B.E., from General List to be Lieutenant-Colonel and to command 1st Southern General Hospital.

TERRITORIAL ARMY RESERVE.

ROYAL ARMY MEDICAL CORPS.

Captain W. E. Graham, M.C., from General List, to be Captain.

Captain H. S. Beadles, from General List, to be Lieutenant-Colonel.

Sanitary Companies.—Captains H. G. Moss and C. H. Gibb, from 1st London (City of London) Sanitary Company, to be Captains.

VACANCIES.

ALL SAINTS' HOSPITAL FOR GENITO-URINARY DISEASES, Vauxhall Bridge Road, S.W.—(1) Resident House-Surgeon. Salary, £120 per annum. (2) Radiographer. Remuneration, £100 per annum.

BIGGLESWADE RURAL AND URBAN DISTRICT COUNCILS.—Medical Officer of Health. Salary, £300 per annum.

BRADFORD CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £180.

BRISTOL GENERAL HOSPITAL.—Honorary Clinical Assistants.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—House-Surgeon (male). Six months. Salary, £130 per annum.

CHESTER COUNTY MENTAL HOSPITAL.—Locumtenent (male). Salary, 7 guineas a week.

COUNTESS OF DUFFERIN'S FUND.—Pathologist (medical woman) for Lady Hardinge Hospital and College, Delhi.

CROYDON GENERAL HOSPITAL.—(1) Junior Surgeon. (2) Junior Physician.

DEVON MENTAL HOSPITAL, Exminster.—Third Assistant Medical Officer. Salary, £300 per annum.

DUDLEY EDUCATION COMMITTEE.—Assistant (male) to the School Medical Officer and Medical Officer of Health. Salary, £500 per annum.

DUNDEE ROYAL INFIRMARY.—Medical Superintendent. Salary, £1,000 per annum.

DURHAM COUNTY COUNCIL.—Resident Assistant Medical Officer at the County Sanatorium, Holywood Hall, Wolsingham. Salary, £400 per annum, rising to £500.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark.—House-Surgeon. Salary at the rate of £160 per annum.

HAMPSHIRE COUNTY COUNCIL.—Assistant Medical Officer of Health. Salary, £625 if married with children, £580 if unmarried.

ITALIAN HOSPITAL, Queen Square, W.C. — Honorary Ophthalmic Surgeon.

KING EDWARD VII SANATORIUM, Midhurst, Sussex.—Pathologist. Salary, £400 per annum.

KING'S COLLEGE FOR WOMEN, Campden Hill Road, W.8.—Assistant Lecturer in Hygiene and Bacteriology. Salary, £600 per annum.

LANCASTER ROYAL INFIRMARY. — House-Surgeon. Salary, £200 per annum.

LEICESTER CORPORATION.—Medical Superintendent of the Isolation Hospital and Sanatorium. Salary, £600 per annum.

LIVERPOOL CITY INFECTIOUS HOSPITALS.—Assistant Resident Medical Officer. Salary, £250 per annum.

LIVERPOOL HOSPITAL FOR CHILDREN, Leasowe.—Junior Medical Officer (resident). Salary, £250 per annum.

LONDON LOCK HOSPITAL, 91, Dean Street, W.—Clinical Assistantships in Out-patients' Department.

LONDON TEMPERANCE HOSPITAL, Hampstead Road, N.W.—Assistant Casualty Officer. Salary at the rate of 100 guineas per annum.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon (male). Salary, £200.

METROPOLITAN EAR, NOSE, AND THROAT HOSPITAL, 2, Fitzroy Square, W.—Senior Clinical Assistant.

MIDDLESEX HOSPITAL, W.—(1) Anaesthetist. (2) Dental Surgeon. (3) Assistant Dental Surgeon. (4) Assistant Anaesthetist (salary, £100 per annum).

MINISTRY OF AGRICULTURE AND FISHERIES.—Assistant Bacteriologist in the Fisheries Department. Salary, £450 to £550 per annum.

NATIONAL SANATORIUM, Benenden, Kent.—Assistant Medical Officer. Salary, £250 per annum.

NORTH BORNEO RUBBER ESTATES.—Medical Officer. Salary, £750 per annum, rising by £25 annually to £800.

NOTTINGHAM GENERAL HOSPITAL.—House-Surgeon, six months. Salary, £200 per annum.

OXFORD: RADCLIFFE INFIRMARY AND COUNTY HOSPITAL.—(1) Casualty House-Surgeon. (2) Accoucheur. Salary at the rate of £200 per annum each.

QUEEN MARY'S HOSPITAL FOR THE EAST END, Stratford.—Resident Medical Officer.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.—Assistant Physician.

ROYAL LONDON OPHTHALMIC HOSPITAL, City Road, E.C.—Refraction Assistant. Salary at the rate of £100 per annum.

ROYAL NATIONAL ORTHOPAEDIC HOSPITAL, Great Portland Street, W.—House-Surgeon. Salary, £150 per annum.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William Street, W.C.2.—Assistant Surgeon.

ST. GEORGE'S HOSPITAL, S.W.—Resident Anaesthetist (male). Salary at the rate of £100 per annum.

SHEFFIELD: JESSOP HOSPITAL FOR WOMEN.—Assistant House-Surgeons. Salary, £100 per annum.

SHEFFIELD ROYAL INFIRMARY.—(1) Two House-Physicians; (2) House-Surgeon; (3) Ophthalmic House-Surgeon; (4) Assistant Casualty Officer. Salary, £150 per annum each.

SMETHWICK COUNTY BOROUGH.—Lady Assistant Medical Officer of Health and School Medical Officer. Salary, £500 per annum.

SOUTHPORT GENERAL INFIRMARY.—Junior House-Surgeon (male). Salary, £175 per annum and fees worth about £10.

SUNDERLAND BOROUGH MENTAL HOSPITAL.—Medical Superintendent. Salary, £1,000 per annum.

VICTORIA HOSPITAL FOR CHILDREN, Tite Street, S.W.—Senior Resident Medical Officer. Salary, £250 per annum.

WEST LONDON HOSPITAL, Hammersmith Road, W.—(1) Two House-Physicians. (2) House-Surgeon. Salary, £100 per annum.

WESTMINSTER HOSPITAL, S.W.—(1) Assistant House-Physician; (2) Assistant House-Surgeon. Honorarium at the rate of £52 per annum each.

WHITEHAVEN AND WEST CUMBERLAND INFIRMARY.—Locumtenent for House-Surgeon for one month.

WIGAN: ROYAL ALBERT EDWARD INFIRMARY.—Junior House-Surgeon (male). Salary, £175 per annum.

CERTIFYING FACTORY SURGEON.—The appointment of certifying factory surgeon at Thrapston (Northampton) is vacant.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

APPOINTMENTS.

MITCHELL, G. Livingstone, M.B., Ch.B.Glas., L.M.S.S.A.Lond., Honorary Surgeon to the Smallwood Hospital, Redditch, Certifying Factory Surgeon for district of Redditch.

OLLERENSHAW, Robert, M.D., Ch.B., F.R.C.S., Orthopaedic Surgeon to the Manchester Children's Hospital.

KING'S COLLEGE HOSPITAL AND MEDICAL SCHOOL.—The following appointments have been made:—Medical Tutor and Teacher of Practical Medicine: Harold W. Wiltshire, D.S.O., O.B.E., M.A., M.D., F.R.C.P. Junior Surgeon, Teacher of Clinical Surgery, and Surgical Tutor: C. P. G. Wakeley, F.R.C.S. Junior Orthopaedist and Junior Surgeon: St. John Dudley Buxton, M.B., B.S., F.R.C.S.

ST. THOMAS'S HOSPITAL.—The following appointments have recently been made:—Emeritus Physician: F. F. Caiger, M.D., F.R.C.P. Consulting Surgeon: E. M. Corner, M.A., M.Ch. Consulting Anaesthetist: H. Low, M.A., M.D., B.Ch. Surgeon: J. E. Adams, M.S., F.R.C.S. Surgeon in Charge of Out-patients: P. H. Mitchiner, M.S., F.R.C.S. Anaesthetist: L. W. Shelley, M.C., M.B., B.Ch. Assistant Bacteriologist: J. Bamforth, M.D., Ch.B., D.P.H. Resident Assistant Physician: L. B. Maxwell, O.B.E., M.B., B.Ch. John and Temple Research Fellow: J. Forest Smith, M.R.C.S., L.R.C.P. Medical Registrar: H. B. Russell, M.D., M.R.C.P. Surgical Registrar: R. H. O. B. Robinson, M.B., B.Ch., F.R.C.S. Orthopaedic Registrar: G. Perkins, M.C., M.B., M.Ch., F.R.C.S.

DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.—*Section of Obstetrics and Gynaecology:* Thurs., 8 p.m., Mr. G. Luker: (*a*) Uterus Removed with Solid Ovarian Tumour for Obstructed Labour; (*b*) Carcinoma of Cervix following Gonorrheal Cervicitis. Professor H. Briggs: Conservative Induction of Labour. *Section of Surgery:* Wed., 5.30 p.m. Discussion: Diathermy in Surgical Practice, to be opened by Mr. Clayton Greene, followed by Mr. Hamer, Dr. Cumberbatch and others. *Section of Ophthalmology:* Fri., 8 p.m., Clinical Evening; Cases, followed by Annual General Meeting.

UNIVERSITY OF LONDON, Rooms of Royal Society of Medicine, 1, Wimpole Street, W.—Wed., Lecture by Professor J. Babinski; Des reflexes de défense.

POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE, 1, Wimpole Street, W.1.—Tues., 5 p.m., Sir W. Arbuthnot Lane: Stasis. At Western General Dispensary, Marylebone Road, N.W.1. Mon., 4.45 p.m., Dr. H. E. Archer: Wassermann Reaction and its Importance in General Practice. Thurs., 4.45 p.m., Dr. H. Adamson: Skin Diseases in Children.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—Thurs., 4 p.m., Dr. Hutchison: Convulsions.

INSTITUTE OF PATHOLOGY AND RESEARCH, St. Mary's Hospital, Paddington, W.2.—Thurs., 5 p.m., Sir A. C. Houston: The Purification of Water.

LONDON HOSPITAL MEDICAL COLLEGE, E.—Dr. M. Culpin: Psycho-Neuroses. Tues., 5.15 p.m., Symptomalogy. Fri., 5.15 p.m., Diagnosis. Surgical Unit: Thurs., 4.15 p.m., Mr. R. Milne: Operative Treatment of Spinal Caries.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland Street, W.—Mon., 5.30 p.m., Dr. R. O. Moon: Cardiac Arrhythmias.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Mon., Tues., Thurs., and Fri., 2 p.m., Out-patient Clinics. Mon., 3.30 p.m., Dr. Walshe: Paraplegia. Tues., 3.30 p.m., Dr. Adie: Muscular Atrophies. Wed., Dr. Adie, 12 noon: Methods of Examination, Dr. A. Turner, 2.15 p.m.: Clinical Demonstration. Thurs., 3.30 p.m., Dr. G. Stewart: Diseases of the Pituitary Body. Fri., 3.30 p.m., Mr. Sargent: Pituitary Tumours. Tues. and Fri., 9 a.m., Operations; 12 noon, Dr. G. Holmes: Anatomy and Physiology of the Nervous System. Mon. and Thurs., 12 noon, Dr. J. G. Greenfield: Neuro-Pathology.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Hospital, Ouseley Road, Balham, S.W.12—Tues., 4 p.m., Mr. L. G. Phillips: Common Errors in Diagnosis in Regard to Pelvic Disease.

ST. MARYLEBONE GENERAL DISPENSARY, Welbeck Street, W.1.—Dr. Eric Pritchard: Infant and Child Welfare. 6 p.m., Mon.: Tuberculous and Syphilitic Mothers and Their Children. Thurs., Rickets.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Daily, 10 a.m. to 6 p.m., Saturdays, 10 a.m. to 1 p.m. 10 a.m., Morning Work, 2 p.m., Operations, In-patients, Out-patients, Special Departments. Lectures, 5 p.m., Mon., Mr. Armour: Cerebral Surgery. Tues., Sir R. Armstrong-Jones: Common Forms of Mental Disorder. Thurs., Dr. E. Smith: Practical Points in Forensic Mededine. Fri., Mr. Sinclair: Foreign Bodies.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 1s. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS and ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London).
MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London).
EDITOR, *British Medical Journal* (Telegrams: Aitiology, Westrand, London).
Telephone number for all Departments: Gerrard 2630 (*3 lines*).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)
IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

MAY.

26 Fri. London: Public Health Committee, 2.30 p.m.
Sheffield Division: Annual Meeting, Church House, St. James Street, Sheffield, 8.30 p.m.
30 Tues. London: Central Ethical Committee, 2.30 p.m.
Coventry Division: Annual Meeting, Coventry and Warwickshire Hospital, 8.30 p.m.
Dumfries and Galloway Division: Annual Meeting, Child Welfare Centre, Buccleuch Street, Dumfries, 2.30 p.m. Executive Committee, 2.15 p.m.
North Middlesex Division: Annual Meeting, Wortley Hall, Finsbury Park, 3.30 p.m.
31 Wed. London: Finance Committee, 2.30 p.m.

JUNE.

1 Thurs. London: Medico-Political Committee, 2.30 p.m.
Cleveland Division: Zetland Hotel, Saltburn, 3.15 p.m. Executive Committee, 3.10 p.m.
Westminster and Holborn Division: Board Room, St. George's Hospital, 8.30 p.m.
2 Fri. Dundee Branch: Clinical Meeting, Royal Infirmary, Dundee, followed by a dinner.
Stockton Division: Annual Meeting, Stockton and Thornaby Hospital, 8.30 p.m.
8 Thurs. Winchester Division, George Hotel, Winchester: Annual Meeting. Address by Dr. G. C. Anderson, the Deputy Medical Secretary, entitled "What are the advantages of belonging to the British Medical Association?" 3.30 p.m.
9 Fri. London: Post Office Medical Officers Subcommittee, 2 p.m.
14 Wed. London: **Council**, 10 a.m.
15 Thurs. Mid-Cheshire Division, The Unicorn Hotel, Altrincham: British Medical Association Lecture by Dr. John Hay (Liverpool) on "Some Aspects of Cardiac Disease," 3.15 p.m. Tea at 4.30 p.m.
22 Thurs. London: Insurance Acts General Purposes Subcommittee, 2.30 p.m.
23 Fri. Metropolitan Counties Branch: Annual Meeting, 429, Strand, W.C.2, 4.30 p.m.
29 Thurs. North Glamorgan and Brecknock Division: At Pontypridd, British Medical Association Lecture by Dr. H. Morley Fletcher on Treatment in Renal Disease.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 9*s.*, *which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.*

BIRTHS.

LAIRD.—On May 19th, to Dr. and Mrs. A. H. Laird, of Coventry—a son.

WILLIAMS.—On May 10th, at "Orchard House," Masbro, Rotherham, to Dr. and Mrs. Williams—a son.

WILLIAMS.—On May 17th, to E. Christine Pillman-Williams, M.B., B.S., and E. Ulysses Williams, of 128, Harley Street, and 30, Cumberland Terrace, Regent's Park—a son.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, JUNE 3RD, 1922.

CONTENTS.

BRITISH MEDICAL ASSOCIATION. PAGE

Annual Meeting at Glasgow:
- PROGRAMME OF BUSINESS ... 203
- THE SCIENTIFIC SECTIONS .. 203
- PROVISIONAL PROGRAMME AND TIME TABLE ... 206
- PATHOLOGICAL MUSEUM ... 208
- ACCOMMODATION IN GLASGOW AND VICINITY ... 209
- SPORTS: ARRANGEMENTS FOR LADIES ... 209
- *Form for Notification of Attendance* ... 207

CURRENT NOTES:
- THE ANNUAL MEETINGS ... 201
- ANNUAL EXHIBITION ... 201
- THE NATIONAL INSURANCE BILL ... 202
- JOURNAL COMMITTEE ... 202
- THE DISPUTE AT EBBW VALE ... 202
- THE "SUPPLEMENT" AND THE "EPITOME" .. 202
- SUPPLEMENTARY REPORT OF COUNCIL ... 202
- D.A.D.M.S. TERRITORIAL FORCE ... 202

General Medical Council: PAGE
- THE FINANCE OF THE COUNCIL ... 211
- REVISION OF THE CURRICULUM IN MEDICINE ... 211
- PROFESSIONAL EXAMINATIONS ... 212
- DISCIPLINARY CASES ... 213
- ELECTION OF COMMITTEES .. 218

ASSOCIATION NOTICES: ... 210
COUNCIL ELECTION ... 210
SCOTTISH COMMITTEE: ELECTION OF DIRECT REPRESENTATIVES 210
PENSIONS BOARDS MEDICAL OFFICERS: DEPUTATION TO THE MINISTER OF PENSIONS ... 218
NAVAL AND MILITARY APPOINTMENTS ... 219
VACANCIES AND APPOINTMENTS ... 219
ASSOCIATION INTELLIGENCE AND DIARY ... 220
DIARY OF SOCIETIES AND LECTURES ... 220
BIRTHS, MARRIAGES, AND DEATHS ... 220

Objects and Constitution of the Association: Open Letter to Non-Members.

British Medical Association.

CURRENT NOTES.

The Annual Meetings.

THE annual meeting of the British Medical Asscciation is a great social and scientific gathering which every member is entitled to attend, at which he will see and hear much to interest him whatever his department of practice, and where he will be sure of a cordial welcome from his fellow members resident in the locality. When the Association was founded at Worcester in 1832 it was agreed that one of the principal means of carrying out its objects should be the holding of an annual meeting of the members at some one of the principal towns, changing the place of meeting each year. In the following year the Association met at Bristol, which was visited again in 1894. The Association met for a second time at Worcester in 1849 under the presidency of its founder, Sir Charles Hastings, and visited its birthplace once more in 1882. In the ninety years of the Association's existence it has met at most of the great cities and other medical centres in Great Britain and Ireland. Besides Worcester and Bristol the English cities and towns that have been visited on more than one occasion are: Birmingham (five times), Oxford, Manchester, Liverpool (four times each), Cambridge, Bath, Leeds, Sheffield, Brighton, Newcastle-on-Tyne (thrice each), Cheltenham, York, Exeter, Norwich, and Nottingham (twice each). The Association has held four annual meetings in London, and a special clinical and scientific meeting in connexion with war surgery and medicine in April, 1919. During the war the usual features of the annual meetings were in abeyance, but the Annual Representative Meeting for medico-political business and the statutory Annual General Meeting were held each year from 1915 to 1919 in London. Of the Scottish cities, Edinburgh has been visited thrice, Glasgow (where the Association is meeting again next month) once, and Aberdeen once. In Wales, Cardiff has been visited once and Swansea twice. In Ireland, Dublin and Belfast have each been visited twice and Cork once. Two annual meetings have been held outside the British Isles, the Dominion on each occasion being Canada; in 1897 the place of meeting was Montreal, in 1906 Toronto.



HEAD OFFICE OF THE ASSOCIATION, 429, STRAND, LONDON.

Annual Exhibition.

An important feature of the Annual Meeting at Glasgow will be the Exhibition of Surgical Instruments, Electro-Medical Apparatus, Drugs, Foods, etc., to be held in the Kelvin Hall from Tuesday, July 25th, to Friday, July 28th inclusive. The President-elect, Sir William Macewen, will formally open the Exhibition at 10 a.m. on the Tuesday. Arrangements have been already completed with the leading firms to have on view the latest appliances, etc., appertaining to Medicine, Surgery, and Radiology. Members will find a visit to the Exhibition not only interesting but of great value, as here, under one roof, will be accumulated from various parts of the world a large and representative display of appliances and therapeutical preparations. A great portion of the exhibits will be shown for the first time on this occasion. The Exhibition will remain open from 9 a.m.

to 6 p.m. each day. Every member of the Association who desires to inspect the latest adjuncts to practice, to keep himself informed of the most recent developments in pharmacy and instrument manufacture, and to encourage the continuation of their yearly collection and display, will make a point of visiting the Exhibition.

The National Insurance Bill.

The attention of insurance practitioners in particular is directed to the Parliamentary Notes in this week's *Journal*, where that part of the discussion on this bill which specially affects the medical profession is reported at some length. It will be seen that the Minister of Health dotted the i's and crossed the t's of the statement made on his behalf by Sir Arthur Robinson at the interview with representatives of the Insurance Acts Committee on March 30th, when the latter declared that the Minister of Health was responsible for the medical arrangements under the national insurance system and had no intention of abdicating in favour of the approved societies, though he "found it difficult to contest their right to be represented in any future negotiations with the profession." In the debate some of the usual approved society comments on the medical service of the system were made. They are, indeed, common form with certain approved society representatives, though one hardly expected to see Mr. J. H. Thomas in that galley. The Minister was urged by him, by Sir Alfred Warren, and by others to make a declaration that the approved societies should have a voice in determining the new arrangements with the medical profession at the end of 1923. Mr. Rhys Davies asked the Minister to take note that the societies, as "the people responsible for finding the money to pay for medical attention," were determined to have a say in dealing with the doctors. The Minister, however, stood firm and in his final speech defined exactly what he was prepared to do. The words, quoted verbatim in our report, should be carefully studied by every insurance practitioner. That such a statement has been made is due to the action taken by the Insurance Acts Committee, to the decisive statements made by Dr. Brackenbury at the conference with Sir Arthur Robinson, and particularly to the way in which the Conference of Panel Committees made it plain to all concerned that the Insurance Acts Committee had spoken for the profession when it declared that it was not prepared to deal with the approved societies on questions of conditions of service and remuneration as if those bodies were the employers of insurance practitioners. The gratitude of insurance practitioners is due to Dr. A. C. Farquharson, who, amongst other telling remarks in his speech, made the very pertinent observation that one of the main causes of the splendid surplus out of which the contribution was proposed by the bill to be taken was the effective work of the medical profession. This is a point which might well be elaborated on some future occasion. If the medical service had been anything like as bad as it pleases some of its critics on occasion to say, there would have been a deficit, not a surplus.

Journal Committee.

The Journal Committee on May 25th received a number of reports upon matters that had arisen since its last meeting in connexion with the publication of the *British Medical Journal*. An important function of the Committee is to supervise the advertisements tendered for publication in the *Journal*, and the usual tabulated list was laid before the Committee, showing the advertisements which had been refused in accordance with the rules laid down by the Council. Various matters relating generally to the advertisement of certain classes of foods and drugs were also discussed and action taken. In this connexion the policy of the American Medical Association was considered; it is proposed shortly to publish an article explaining the nature of that policy. A resolution was received from the Propaganda Subcommittee suggesting that the "Nova et Vetera" column in the *Journal* might be revived, and it was agreed to inform the Subcommittee that the Editor hopes to resume the publication of occasional articles of the kind which appeared before the war under the title "Nova et Vetera." The Committee noted that the Council at its last meeting had resolved that the attention of officers of Sections at the Annual Meeting and contributors to its proceedings be drawn to the fact that an addition to the number of pages in the *Journal* is provided during the autumn for the publication of the proceedings of the Sections, and that such provision cannot be exceeded. The Editor reported that during the present year four special plates on art paper have been issued for the printing of illustrations which could not be reproduced satisfactorily on the ordinary paper used for the *Journal*.

The Dispute at Ebbw Vale.

The number of the workmen who have transferred from the Workmen's Fund to the independent doctors is now well over 1,000, and the Workmen's Committee is showing considerable uneasiness at this evidence of the desire of the workmen to choose for themselves. The doctors formerly employed by the Committee and their supporters have formed a Hospital Committee whose purpose it is to ensure hospital treatment for those who need it. The dispute is still the subject of lively exchanges of opinion in the local newspapers, and the Workmen's Committee is being roundly accused of betrayal of the first principles of trade unionism in rejecting the arbitration award and employing doctors at a rate below the standard.

The "Supplement" and the "Epitome."

For the guidance of new members of the Association it may be well to state briefly here the chief purposes fulfilled by the weekly *Supplement* to the *British Medical Journal*. Its object is to give information on medico-political matters of importance to all practitioners; to keep members informed of the progress of the work of the Representative Body, of the Council, and of the numerous standing and special Committees appointed by the Association; and to provide a direct means of communication between the head office and each individual member on topics of current interest. Thus the *Supplement* publishes a full record of the proceedings of the Representative Meetings and Council; reports of conferences and of the sessions of the General Medical Council; and notes on the meetings of Branches and Divisions of the Association, and on national insurance matters. It includes also announcements of naval and military and other appointments, a weekly summary of vacant posts, a diary of lectures and meetings, and Current Notes on the work of the Association.

The *Epitome* of Current Medical Literature, published each week at the end of the *Journal*, contains abstracts of articles, chiefly from the foreign press, classified under the headings Medicine, Surgery, Obstetrics and Gynaecology, and Pathology; in it special attention is given to practical therapeutics.

Supplementary Report of Council.

The Annual Report of the Council for 1921–22 and the financial statement for 1921 were printed in the *Supplement* of May 6th (pp. 125–156). The Supplementary Report of the Council will appear in our issue of June 24th. In his *Monthly Circular* for May the Medical Secretary suggests that Honorary Secretaries of Branches and Divisions should now begin to make arrangements for local meetings, at which the Supplementary Report can be discussed and final instructions given to Representatives in readiness for the Annual Representative Meeting which opens in Glasgow on July 21st. It may be hoped that local officers of the Association will pay heed to the Medical Secretary's hint that they should try to induce members to study this column of Current Notes every week and so keep themselves in touch with the medico-political work of the head office.

D.A.D's.M.S. Territorial Force.

The Association is continuing its efforts to persuade the War Office that compensation for loss of office should be given to Deputy Assistant Directors of Medical Services T.F. who have been dispossessed of their posts at very short notice. An urgent letter was sent on May 5th pointing out that the financial difficulty in which some of these officers find themselves is very serious and asking that the matter might be treated as one of extreme urgency. A reply was received on May 11th that the matter was under consideration. A further letter was sent to the War Office on May 24th pressing for an early decision. The Naval and Military Committee, on May 25th, approved the action taken, and resolved to await the reply of the War Office before deciding upon further action. The matter is regarded by the Committee as one affecting the reputation of the War Office for fair dealing.

Lending Library.

The Librarian will be glad to assist members of the Association in the selection of works to be sent them by post, in accordance with the arrangements for borrowing books that are notified each week on the last page of the *Supplement*.



Photograph by THE UNIVERSITY, GLASGOW. [*Valentine.*

British Medical Association.

NINETIETH ANNUAL MEETING, GLASGOW, JULY 25th, 26th, 27th, & 28th, 1922.

Patron: HIS MAJESTY THE KING.

President: DAVID DRUMMOND, C.B.E., M.A., M.D., D.C.L., Vice-Chancellor and Professor of the Principles and Practice of Medicine, University of Durham.

President-Elect: Sir WILLIAM MACEWEN, C.B., D.Sc., D.C.L., M.D., F.R.S., Regius Professor of Surgery, University of Glasgow, one of the Honorary Surgeons to H.M. the King in Scotland.

Chairman of Representative Meetings: R. WALLACE HENRY, B.A., M.D.

Chairman of Council: ROBERT ALFRED BOLAM, M.D., F.R.C.P.

Treasurer: GEORGE ERNEST HASLIP, M.D.

PROGRAMME.



GLASGOW CATHEDRAL.

THE ANNUAL MEETING of the REPRESENTATIVE BODY will begin on Friday, July 21st, at 10 a.m., in the Bute Hall of the University, and be continued on the following three week-days.

The Representatives' Dinner will be held on Friday, July 21st, at 7.15 p.m.

The Statutory ANNUAL GENERAL MEETING will be held in the Bute Hall of the University, on Tuesday, July 25th, at 2 p.m., and the Adjourned General Meeting at 8 p.m., when the oversea delegates and foreign guests will be received, and the President, Sir William Macewen, C.B., will deliver his address.

The official Religious Service will be held in Glasgow Cathedral on the same day at 5 p.m.

The Conference of Secretaries will be held in the University Union on Wednesday, July 26th, at 2 p.m., and the Secretaries' Dinner will take place on the same evening.

The Annual Dinner of the Association will be held in St. Andrew's Hall on Thursday, July 27th, at 7 p.m.

The Popular Lecture will be delivered by Professor Graham Kerr, F.R.S., on Friday, July 28th, at 7.30 p.m.; subject: "The Physician—Naturalist, Teacher, Benefactor."

THE SECTIONS.

The Scientific Sections will meet in the classrooms of the University for papers and discussions from 10 a.m. to 1 p.m. on Wednesday, Thursday, and Friday, July 26th, 27th, and 28th. Laboratory and clinical demonstrations in connexion with the work of the Sections will be given at other hours on the same days either in the University or in some of the hospitals.

Speakers desiring to take part in any of the discussions or to make any communications should get in touch with the secretary of the Section concerned. The Director of Demonstrations is Mr. R. H. Parry, 25, Blythswood Square, Glasgow.

The following Sections meet on three days—Wednesday, Thursday, and Friday, July 26, 27, and 28.

MEDICINE.

President: Professor THOMAS KIRKPATRICK MONRO, M.D., F.R.F.P.S.

Vice-Presidents: JOHN M. COWAN, M.D., F.R.F.P.S., D.Sc.; Sir ARCHIBALD E. GARROD, K.C.M.G., M.D., F.R.C.P., F.R.S.; GEORGE HALL, C.M.G., M.D., M.R.C.P.; C. O. HAWTHORNE, M.D., F.R.C.P.; JOHN HAY, M.D., F.R.C.P.

Honorary Secretaries: ADAM PATRICK, M.D., F.R.F.P.S., 16, Buckingham Terrace, Glasgow; H. LETHEBY TIDY, M.D., F.R.C.P., 39, Devonshire Place, London, W.1.

The following provisional programme has been arranged:

July 26th (10 a.m.).—Discussion: The Prognosis and Treatment of Chronic Renal Disease. To be opened by Professor HUGH MACLEAN, D.Sc., M.D.

July 27th (10 a.m.).—Discussion: Exophthalmic Goitre. To be opened by Professor GEORGE R. MURRAY, M.D., F.R.C.P. (Manchester).

July 28th (10 a.m.).—Discussion: Degenerative Diseases of the Liver. To be opened by Sir HUMPHRY D. ROLLESTON, K.C.B., M.D., P.R.C.P.

MICROBIOLOGY (INCLUDING BACTERIOLOGY).

President: ROBERT MACNEIL BUCHANAN, M.B., F.R.F.P.S.

Vice-Presidents: JOHN ANDERSON, M.A., B.Sc.; Professor HY. ROY DEAN, M.D., F.R.C.P.; Sir WM. B. LEISHMAN, K.C.M.G., C.B., F.R.S.

Honorary Secretaries: S. PHILLIPS BEDSON, M.D., Lister Institute, Chelsea, London, S.W.; J. L. BROWNLIE, M.D., D.P.H., 28, Hamilton Park Terrace, Glasgow.

The following provisional programme has been arranged:

July 26th, 27th, and 28th.—Discussions:

Dr. F. D'HERELLE (Pasteur Institute, Paris) and Dr. F. W. TWORT: The Bacteriophage (Bacteriolysin); followed by Drs. ANDRÉ GRATIA, LEDINGHAM, MCLEOD, FLEMING, and ELLIS.

Dr. MERVYN H. GORDON, C.M.G., C.B.E.: The Bacteriology of Influenza; followed by Drs. MCINTOSH and DIBLE.

Professor V. H. BLACKMAN, F.R.S.: Some Similarities and Dissimilarities in the Microbiology of Plant and Animal Diseases, with special reference to Immunity and "Virus" Diseases; followed by Dr. E. J. BUTLER, C.I.E., Dr. W. B. BRIERLEY, Dr. S. G. PAINE, and Mr. J. RAMSBOTTOM, F.L.S.

W. B. BRIERLEY, D.Sc.: Mutation of Species; followed by Professor DAVID ELLIS, D.Sc. (Glasgow).

Papers:

Dr. W. R. WISEMAN (Glasgow): *B. aertrycke* as a Cause of Epidemic Poisoning by Milk.

Professor DAVID ELLIS: The Intimate Structure of the Bacterial Cell.

Dr. R. CECIL ROBERTSON (Glasgow): On the Toxin of *B. dysenteriae* (Shiga).

Dr. ANDREW CONNAL (Director, Medical Research Institute, Lagos): The Development of *Loa loa* in Chrysops (with demonstration).

Demonstrations in the Laboratory adjoining the Section room:

Sir WILLIAM LEISHMAN: Leishmaniasis; Spirochaetosis of Tick Fever.

Professor GRAHAM KERR and J. S. DUNKERLEY, B.Sc., Ph.D.: Protozoal Parasites.

Dr. R. ST. JOHN BROOKS: Cultures of Organisms Pathogenic for Man, Animals, and Plants.

Professor DAVID ELLIS: Iron Bacteria; Sulphur Bacteria; Fossil Iron-moulds.

NEUROLOGY AND PSYCHOLOGICAL MEDICINE.

President: Professor GEORGE M. ROBERTSON, M.D., F.R.C.P.Edin.

Vice-Presidents: A. STANLEY BARNES, M.D., F.R.C.P.; C. C. EASTERBROOK, M.D., F.R.C.P.Edin.; J. H. MACDONALD, M.B., F.R.F.P.S.; Sir JAMES PURVES STEWART, K.C.M.G., C.B., M.D., F.R.C.P.

Honorary Secretaries: HILDRED CARLILL, M.D., M.R.C.P., 146, Harley Street, London, W.1; D. K. HENDERSON, M.D., F.R.F.P.S., 17, Whittinghame Drive, Glasgow.

The following provisional programme has been arranged:

July 26th (10 a.m.).—Discussion: Psychotherapy. To be opened by Dr. T. W. MITCHELL, on Psycho-therapeutics and Psycho-pathology; followed by J. A. HADFIELD, on the Making of a Neurotic; Dr. JANE SUTTIE, on Mental Stresses of Adjustment in Women; and by Dr. CRICHTON MILLER, on the Psychic and Endocrine Factors in Functional Disorders.

July 27th (10 a.m.).—Discussion: The Treatment of Neuro-syphilis. To be opened by Sir JAMES PURVES STEWART; followed by Dr. KINNIER WILSON, on Observations on the Treatment of Neuro-syphilis; Dr. DOUGLAS K. ADAMS, on the Treatment of Neuro-syphilis, with Special Reference to the Changes in the Cerebro-Spinal Fluid; and Dr. ERNEST M. DUNLOP, on the Bearing of the Wassermann Reaction on Diagnosis and Control of Treatment of Nervous Syphilis.

July 28th (10 a.m.).—Paper by Dr J. H. MACDONALD on the Elements of Contrast in the Psychic Mechanism.

OBSTETRICS AND GYNAECOLOGY.

President: Professor EWEN J. MACLEAN, M.D., F.R.C.P., F.R.S.E.

Vice-Presidents: H. RUSSELL ANDREWS, M.D., F.R.C.P.; Professor J. M. MUNRO KERR, M.D., F.R.F.P.S.; Professor LOUISE MCILROY, M.D., D.Sc.; E. FARQUHAR MURRAY, M.D., F.R.C.S.

Honorary Secretaries: S. J. CAMERON, M.B., F.R.F.P.S., 30, Lynedoch Street, Charing Cross, Glasgow; W. D. MACFARLANE, M.B., F.R.F.P.S., 17, Woodside Crescent, Glasgow; H. G. TAYLOR, M.B., 15, Cavendish Place, London, W.1.

The following provisional programme has been arranged:

July 26th (Morning Session).—Discussion: Stillbirths and Neo-natal Deaths. Speakers: Dr. J. W. BALLANTYNE: Ante-natal, Intra-natal, and Neo-natal Death; Causes, Pathology, and Prevention, with special reference to Ante-natal Death. Dr. EARDLEY HOLLAND: Intra-natal Death. Professor A. M. KENNEDY and Dr. F. J. BROWNE: Neo-natal Death. Professor LOUISE MCILROY: Ante-natal Death due to Toxaemia of Pregnancy. Dr. J. N. CRUICKSHANK and Dr. GILBERT STRACHAN.

In the afternoon there will be a demonstration of Professor A. M. Kennedy's specimens in the museum.

July 27th (Morning Session).—Papers:

Dr. W. FOTHERGILL: Surgical Treatment of Uterine Prolapse.

Dr. T. W. EDEN: Treatment of Eclampsia.

Dr. W. OSBORNE GREENWOOD: Anaesthetics and Analgesics in Labour.

July 28th.—Papers:

Dr. ROBERT KNOX: Use of Radium and *X* Rays in Relation to Gynaecology.

Dr. GORDON LEY: Primary Carcinoma of Ovaries.

Dr. JOHN CAMPBELL (Belfast): Treatment of Salpingo-oöphoritis.

OPHTHALMOLOGY.

President: A. S. PERCIVAL, M.B., M.R.C.S.

Vice-Presidents: A. J. BALLANTYNE, M.D., F.R.F.P.S.; Sir WILLIAM T. LISTER, K.C.M.G., F.R.C.S.; JOHN ROWAN, M.B., F.R.F.P.S.

Honorary Secretaries: PERCIVAL J. HAY, M.D., 350, Glossop Road, Sheffield; W. H. MANSON, M.D., F.R.F.P.S., 17, Royal Terrace, Glasgow.

The following provisional programme has been arranged:

July 26th (10 a.m.).—Discussion: The Etiology of Optic Atrophy. To be opened by C. O. HAWTHORNE, M.D., F.R.C.P., Mr. J. HOGARTH PRINGLE, M.B., C.M., F.R.C.S. (Glasgow), and H. MOSS TRAQUAIR, M.D., F.R.C.S.Edin.

July 27th (10 a.m.).—Discussion: The Clinical Significance and Treatment of Heterophoria. To be opened by Mr. A. S. PERCIVAL, M.A., M.B., B.Ch. (Newcastle-upon-Tyne), and Dr. L. WEBSTER FOX (Philadelphia).

July 28th.—Clinical Demonstration at the Glasgow Eye Infirmary.

PATHOLOGY (HUMAN AND COMPARATIVE).

President: Professor ROBERT MUIR, M.D., F.R.C.P.Edin., F.R.S.

Vice-Presidents: J. S. C. DOUGLAS, M.D.; Professor JOHN SHAW DUNN, M.D.; ARCHIBALD LEITCH, M.D.; Professor JOHN H. TEACHER, M.D., F.R.F.P.S.

Honorary Secretaries: JOHN ANDERSON, M.B., C.M., "Westerhill," St. Bride's Road, Newlands, Glasgow; ROBERT DONALDSON, M.D., F.R.C.S.Edin., St. George's Hospital, London, S.W.1.

The following provisional programme has been arranged:

July 26th (10 a.m.).—Discussion: The Origin of Cancer in relation to Specific Forms of Irritation. To be opened by Professor FIBIGER (Copenhagen).

July 27th (10 a.m.).—Discussion: Animal and Vegetable Pathology in relation to Human Disease. To be opened by Professors F. G. HOBDAY, F.R.C.V.S., and W. H. LANG, F.R.S.

July 28th (10 a.m.)—Papers.

The Pathological Museum will be housed in the Anatomical and Natural History Departments, in the same block as that in which the Section will meet.

PUBLIC HEALTH.

President: A. K. CHALMERS, M.D., F.R.F.P.S., D.P.H.

Vice-Presidents: R. J. REECE, C.B., M.D., M.R.C.P., D.P.H.; F. E. FREMANTLE, O.B.E., M.P., M.B., F.R.C.P., D.P.H.; HAROLD KERR, O.B.E., M.D., D.P.H.

Honorary Secretaries: R. S. FULLARTON, M.A., M.D., F.R.F.P.S., D.P.H., Sanitary Chambers, Glasgow; J. J. PATERSON, M.D., D.P.H., The Guildhall, Maidenhead; RICHARD PATON, M.B., D.P.H., Sanitary Chambers, Glasgow.

The following provisional programme has been arranged:

July 26th (10 a.m.).—Papers:

Dr. RICHARD J. REECE: Port Sanitation in Relation to the Public Health of the Country.

Dr. F. E. FREMANTLE, M.P.: Public Health Economics.

Dr. JOHN BROWNLEE: Statistics.

Discussion on Puerperal Fever if time permits.

July 27th.—Papers:

Dr. ROBERTS: Defects in Children on Attaining School Age.

Dr. MCKAIL: Industrial Fatigue and Vocational Selection on a Basis of Physical Inquiry.

Dr. J. P. KINLOCH: The Constituents of Fresh and Vitiated Air, and their Significance in Problems of Ventilation.

Dr. F. E. WYNNE (Sheffield): The "Wrong Turning" in Public Health.

July 28th.—Papers:

Councillor W. B. SMITH: Smoke Abatement.

Discussion: The Training for the D.P.H. and the New Regulations. To be opened by Professor MATTHEW HAY (Aberdeen).

11.30 a.m., Discussion: The Administrative Requirements for the Various Types of Tuberculosis.

A Public Health Exhibition, organized by the Corporation of Glasgow, will be held in the Kelvin Hall from July 25th to 28th inclusive.

SURGERY.

President: Professor H. ALEXIS THOMSON, C.M.G., M.D.Edin., F.R.C.S.

Vice-Presidents: JAMES BERRY, F.R.C.S.; Sir KENNEDY DALZIEL, M.B., F.R.F.P.S.; A. ERNEST MAYLARD, M.B., F.R.F.P.S.; G. GREY TURNER, M.S., F.R.C.S.; R. J. WILLAN, M.V.O., O.B.E., M.S., F.R.C.S.

Honorary Secretaries: J. A. C. MACEWEN, M.B., F.R.F.P.S., 3, Woodside Crescent, Charing Cross, Glasgow; JOHN PATRICK, M.B., F.R.C.S.Edin., 9, Newton Place, Glasgow; H. S. SOUTTAR, C.B.E., M.Ch., F.R.C.S., 58, Queen Anne Street, London, W.

The following provisional programme has been arranged:

July 26th (10 a.m.).—Discussion: The Diagnosis and Treatment of Cholelithiasis. To be opened by Professor J. RUTHERFORD MORISON, LL.D., Dr. DE MARTEL (Paris), and Mr. FARQUHAR MACRAE.

July 27th (10 a.m.).—Discussion: Surgical Treatment of Non-traumatic Affections of the Spleen. To be opened by Dr. JAMES CARSLAW, Sir KENNEDY DALZIEL, and Dr. E. H. KETTLE.

Paper: The Surgery of the Pituitary Gland, by Mr. WALTON.

July 28th (10 a.m.).—Discussion: The Surgical Treatment of Non-malignant Affections of the Colon. To be opened by Sir WILLIAM ARBUTHNOT LANE, Mr. WAUGH, and Sir H. M. W. GRAY.

The following Sections will meet on two days.

DERMATOLOGY.

President: H. LESLIE ROBERTS, M.D., C.M.

Vice-Presidents: A. M. H. GRAY, C.B.E., M.D., F.R.C.P.; G. H. LANCASHIRE, M.D.; J. G. TOMKINSON, M.D.

Honorary Secretaries: WM. HERBERT BROWN, M.D., 20, Park Circus, Glasgow; HALDIN DAVIS, M.B., F.R.C.S., 17, Cavendish Place, London, W.1.

The following provisional programme has been arranged:

July 26th.—Discussion: Etiology of Seborrhœa and Seborrhœic Dermatitis. Opening paper by Dr. CRANSTON LOW. The discussion will be opened by Dr. HAROLD W. BARBER.

July 27th.—Discussion: Occupational Dermatitis. Opening paper by Dr. WM. JAS. O'DONOVAN.

The following short private papers will be introduced:

Dr. GEORGE HERBERT LANCASHIRE: Dermatitis Artefacta.

Professor J. GOODWIN TOMKINSON: Alopecia Areata and Strabismus, a Family Group of Cases.

Clinical Demonstrations will be arranged on both days; the hour probably 9 a.m.

DISEASES OF CHILDREN.

President: Sir HERBERT F. WATERHOUSE, M.D., F.R.C.S.

Vice-Presidents: LEONARD FINDLAY, M.D., F.R.F.P.S.; ROBERT HUTCHISON, M.D., F.R.C.P.; ALEX. MCLENNAN, M.B., C.M.; R. H. A. WHITELOCKE, M.D., F.R.C.S.

Honorary Secretaries: GEOFFREY BOURNE, M.D., M.R.C.P., 150, Harley Street, London, W.1; G. B. FLEMING, M.B.E., M.D., 13, Lynedoch Crescent, Glasgow.

The following provisional programme has been arranged:

July 26th (Morning Session).—Joint Discussion with the Section of Physiology: Etiology of Rickets. To be opened by Dr. LEONARD FINDLAY and Professor MELLANBY, and followed by Dr. ROBERT HUTCHISON and Professor NOËL PATON.

Afternoon Session.—Clinical Demonstrations at the Royal Hospital for Sick Children (medical and surgical). Mr. ALEX. MCLENNAN will give a demonstration on scoliosis.

July 27th (Morning Session).—Discussion: Treatment of Tuberculous Cervical Glands. To be opened by Mr. JOHN FRASER.

Afternoon Session.—Clinical Demonstrations at the Royal Hospital for Sick Children (medical and surgical). Mr. ALEXANDER MITCHELL will show skiagrams of Regeneration of Bone in Osteomyelitis.

INDUSTRIAL DISEASES AND FORENSIC MEDICINE.

President: Professor JOHN GLAISTER, M.D., F.R.F.P.S., D.P.H., F.R.S.E.

Vice-Presidents: GODFREY CARTER, M.B., M.R.C.P.Edin., D.P.H.; WILLIAM LEDINGHAM RUXTON, M.B.; Sir WILLIAM H. WILLCOX, K.C.I.E., C.B., C.M.G., M.D., F.R.C.P.

Honorary Secretaries: ANDREW ALLISON, M.B., F.R.F.P.S., D.P.H., St. Vincent Park, Paisley Road, W. Ibrox, Glasgow; JAMES R. KERR, C.B.E., Ch.M., The Pilkington Special Hospital, St. Helens, Lancs.

The following provisional programme has been arranged:

July 26th and 27th.—Opening address by Professor GLAISTER.

Papers:

Sir THOMAS OLIVER: Some Circumstances which make for Industrial Efficiency.

Sir W. H. WILLCOX: Dangers to Health arising from Use of Preparations of Arsenic in Various Industries.

Dr. JOHN GLAISTER, jun.: New Apparatus for the Assessment of Efficiency after Injuries.

Dr. R. A. LYSTER: The Importance of Teaching Forensic Medicine to Students of Medicine and Law.

PHYSIOLOGY.

President: Professor J. A. MACWILLIAM, M.D., C.M., F.R.S.

Vice-Presidents: Professor EDWARD MELLANBY, M.D.; Professor D. NOËL PATON, M.D., F.R.C.P., F.R.S.

Honorary Secretaries: GEORGE GRAHAM, M.D., F.R.C.P., 37, Queen Anne Street, London, W.1; W. F. SHANKS, M.B., Ch.B., Physiological Institute, University of Glasgow.

The following provisional programme has been arranged:

July 26th (Morning Session).—Joint meeting with the Section of Diseases of Children: Discussion on Rickets. To be opened by Dr. LEONARD FINDLAY (Glasgow) from the clinical side, and Professor E. MELLANBY (Sheffield) from the physiological side. Paper by Dr. J. SIM WALLACE (London): Dental Hypoplasia and Rickets.

Afternoon Session: Demonstrations in the Physiological Institute.

July 27th (Morning Session).—Discussion on Basal Metabolism. To be opened by Professor E. P. CATHCART (Glasgow).

Afternoon Session: Demonstrations in the Physiological Institute.

RADIOLOGY AND ELECTROLOGY.

President: LEONARD A. ROWDEN, M.B., C.M.

Vice-Presidents: E. P. CUMBERBATCH, M.B., M.R.C.P.; JAMES ROBERTSON RIDDELL, F.R.F.P.S.

Honorary Secretaries: F. HERNAMAN-JOHNSON, M.D., 66, Harley Street, London, W.1; D. O. MACGREGOR, M.B., C.M., Langside Cottage, Langside, Glasgow.

The following provisional programme has been arranged:

July 26th (10 to 11.30 a.m.).—Discussion: The *X*-ray Treatment of Deep-seated Cancers, with special reference to Erlangen Methods. To be opened by Dr. J. R. RIDDELL (Glasgow), followed by Dr. DOUGLAS WEBSTER, Dr. F. HERNAMAN-JOHNSON, and Dr. C. W. SALEEBY, the last from the point of view of a non-practising medical man.

11.30 a.m. to 12 noon.—Dr. J. A. LONGLEY (Middlesbrough): Comparison of Coil and High-Tension Transformer in *X*-ray Therapy.

12 to 1 p.m.—Discussion on the Value of Gas Inflation in *X*-ray Diagnosis. To be opened by Dr. F. HERNAMAN-JOHNSON (London), followed by Dr. J. MAGNUS REDDING (London).

July 27th (10.30 a.m.).—Papers:

Dr. H. E. GAMLEN (Newcastle-upon-Tyne): A Short Account of the Bucky-Potter Diaphragm and the Lead-Glass Shield for the 7 in. Coolidge Tube.

Dr. C. W. S. SABERTON (Harrogate): Points in the Differential Diagnosis of Simple and Malignant Bone Disease.

Dr. JAMES CROCKET (Glasgow): The Differentiation of Active from Quiescent Tuberculosis of the Lung.

Dr. E. W. REED (Manchester): *X* Rays in Diseases of the Skin.

Dr. J. GIBSON GRAHAM (Glasgow): *X*-Ray Treatment of Tinea.

11.30 a.m. to 1 p.m.—Discussion on the Therapeutic Value of High-Frequency Currents and Static Electricity. To be opened by Dr. E. P. CUMBERBATCH (London), Dr. F. HOWARD HUMPHRIS (London), and Dr. W. F. SOMERVILLE (Glasgow).

The following Sections will meet each on one day.

ANAESTHETICS.

President: W. J. MCCARDIE, M.B., B.Ch.

Vice-Presidents: JAMES PATON BOYD, M.B., F.R.F.P.S.; L. MABEL RENWICK CAMPBELL, M.B., Ch.B.

Honorary Secretaries: H. PRESCOT FAIRLIE, M.D., 19, Bute Gardens, Glasgow; HUBERT PINTO-LEITE, M.R.C.S., L.R.C.P., 24, Fellows Road, South Hampstead, London, N.W.3.

The following provisional programme has been arranged:

July 26th (10 a.m.).—Discussion on Broncho-pulmonary Complications following Operation under Anaesthesia. To be opened by Dr. DAVID LAMB. Offers from those desiring to take part in the discussion should be sent to one of the Secretaries.

Paper and demonstration by Dr. A. L. FLEMMING: Different Effects produced by Exposing Tissues to various Concentrations of Anaesthetic Vapour.

Demonstrations of Anaesthetic Apparatus.

ANATOMY.

President: Professor ALEXANDER MACPHAIL, M.B., C.M., F.R.F.P.S.

Vice-Presidents: Professor J. C. BRASH, M.C., M.B., Ch.B.; Professor J. T. WILSON, M.B., F.R.S.

Honorary Secretaries: JAMES BATTERSBY, F.R.C.S., F.R.F.P.S., 616, Great Eastern Road, Glasgow; JOHN GRAHAM, M.B., F.R.F.P.S., 351, Renfrew Street, Glasgow.

The following provisional programme has been arranged:

July 28th.—Papers:

Professor J. C. BRASH (Birmingham): The Relation of the Ureters to the Vagina.

Dr. ALFRED PINEY (Birmingham): The Naked-Eye Anatomy of the Bone Marrow with Age Changes.

Dr. J. M. WOODBURN MORISON (Manchester): The Teaching of Anatomy by Radiology, in the Anatomy Department.

Dr. W. B. PRIMROSE (Glasgow): The Problem of the Structure of the Vertebrate Head.

Dr. W. K. CONNELL (Glasgow): Observations on the Form of the Palate in Children.

Dr. JOHN T. HUNTER (Sydney): Intestinal Diverticulum with Retroposition of the Transverse Colon.

Discussion: The Administration of the Anatomy Act. To be opened by Dr. ALEX. MACPHAIL.

Demonstration of a series of embryological models by Professor THOMAS H. BRYCE, F.R.S.

LARYNGOLOGY.

President: JOHN MACINTYRE, M.B., C.M., F.R.F.P.S.

Vice-Presidents: A. BROWN KELLY, M.D., F.R.F.P.S.; Sir STCLAIR THOMSON, M.D., F.R.C.P., F.R.C.S.

Honorary Secretaries: F. F. MUECKE, C.B.E., M.B., F.R.C.S., 36, Cavendish Square, London, W.; W. S. SYME, M.D., F.R.F.P.S., 11, Lynedoch Crescent, Glasgow.

The following provisional programme has been arranged:

July 27th.—Discussion: Diseases of the Œsophagus, their symptomatology and differential diagnosis. To be opened by Dr. D. R. PATERSON (Cardiff) and Mr. W. G. HOWARTH, F.R.C.S. (London).

MEDICAL SOCIOLOGY.

President: E. ROWLAND FOTHERGILL, M.B., B.S.

Vice-Presidents: CHARLES E. S. FLEMMING, M.R.C.S., L.R.C.P.; JAMES HUDSON, M.D., C.M.; PETER MACDONALD, M.D.

Honorary Secretaries: ALEX. FORBES, M.B., C.M., Hillsboro' Lodge, Sheffield; DAVID MCKAIL, M.D., F.R.F.P.S., D.P.H., 2, Morris Place, Monteith Row, Glasgow.

The following provisional programme has been arranged:

July 28th.—Section will meet in the Debating Hall of the University Union. Subject for discussion: Alcohol as a Beverage, and its relation to Certain Social Problems.

10 a.m.—Action of Alcohol on the Human Economy, by Professor E. MELLANBY; to be followed by Dr. W. H. RIVERS RIVERS, Professor A. R. CUSHNY, and the Rev. C. C. WEEKS, M.R.C.S.

Alcohol in Relation to the Problems of Mental Disorders, to be opened by Sir FREDERICK W. MOTT, K.B.E., and Dr. THOMAS W. SALMON (U.S.A.), followed by Dr. C. HUBERT BOND and Dr. AUGUST LEY (Brussels).

2.15 p.m.—Alcohol and Industrial Efficiency, to be opened by Professor EDGAR L. COLLIS and Dr. M. HINDHEDE (Copenhagen), followed by Sir THOMAS OLIVER and Dr. W. E. ELLIOT, M.P.

Alcohol and Infant Mortality, to be opened by Dr. J. W. BALLANTYNE and Professor C. R. STOCKARD (Cornell University, U.S.A.), followed by Dr. C. W. SALEEBY, Dr. T. N. KELYNACK, Miss IVENS, M.S., Professor LOUISE MCILROY, D.Sc., M.D., and Mrs. STACEY CLEMINSON, M.B.

Lay persons specially interested may be present only by invitation, a request for which should be made to one of the Honorary Secretaries.

OTOLOGY.

President: ALBERT ALEX. GRAY, M.D., F.R.F.P.S.

Vice-Presidents: J. G. CONNAL, M.B., F.R.F.P.S.; W. F. WILSON, M.B.

Honorary Secretaries: F. J. CLEMINSON, M.Ch., F.R.C.S., 32, Harley Street, London, W.1; J. W. LEITCH, M.B., 6, Clairmont Gardens, Charing Cross, Glasgow.

The following provisional programme has been arranged:

July 26th.—Discussion: Septic Sinus Thrombosis, its Diagnosis and Treatment. To be opened by Sir WILLIAM MILLIGAN and Mr. LIONEL COLLEDGE. The following members will take part in the discussion: Mr. G. J. JENKINS, Mr. T. B. LAYTON, Mr. ARCHER RYLAND, and Dr. T. RITCHIE RODGER.

Papers:

Professor HOLGER MYGIND: Benign Forms of Otogenic Meningitis.

Dr. J. S. FRASER and Dr. STEPHEN YOUNG: Is it worth while to Remove Aural Polypi?

TUBERCULOSIS.

President: Professor Sir ROBERT PHILIP, M.D., LL.D., P.R.C.P.E.

Vice-Presidents: JAMES CROCKET, M.D., D.P.H.; Professor S. LYLE CUMMINS, C.B., C.M.G., M.D.; WM. HY. DICKINSON, O.B.E., M.B., D.P.H.

Honorary Secretaries: A. HOPE GOSSE, M.D., M.R.C.P., 75, Harley Street, London, W.; A. S. M. MACGREGOR, O.B.E., M.D., D.P.H., 488, Clarkston Road, Muirend, Cathcart, Glasgow.

The following provisional programme has been arranged:

July 27th (10 a.m.).—Discussions: (1) The Clinical Differentiation of Pulmonary Tuberculosis from other Respiratory Affections. To be opened by Professor RIST (Paris). (2) Some Aspects of the Treatment of Surgical Tuberculosis. To be opened by Mr. JAMES TAYLOR, O.B.E., F.R.C.S.E. (Glasgow).

In the afternoon Dr. ROLLIER (Leysin) will give a cinematograph demonstration illustrating "The Share of the Sun in the Treatment and Prevention of Tuberculosis."

It is hoped also to arrange for a demonstration in the Kelvin Hall of radiographs illustrative of chest conditions.

Honorary Local General Secretary:

Dr. GEO. A. ALLAN, 22, Sandyford Place, Glasgow, W.

PROVISIONAL PROGRAMME AND TIME-TABLE.

THE Headquarters of the Annual Meeting of the Association will be in the University of Glasgow.

MEETINGS OF COUNCIL, REPRESENTATIVE BODY, ETC.

Friday, July 21st.

10 a.m.—Meeting of Representative Body, Bute Hall, University.
4.45 p.m.—Extraordinary General Meeting, Bute Hall.
7.15 p.m.—Representatives' Dinner, Grand Hotel, Charing Cross.

Saturday, July 22nd.

9.30 a.m.—Representative Meeting, Bute Hall.
8 p.m.—Smoking Concert, Grand Hotel.

Sunday, July 23rd.

11 a.m.—Services in Glasgow Cathedral and St. Mary's Cathedral. Sail to the Firth of Clyde on ss. *Skirmisher*, by invitation of Messrs. Henderson Bros.

Monday, July 24th.

9 a.m.—Council Meeting, Randolph Hall, University.
10 a.m.—Representative Meeting, Bute Hall.
9 p.m.—Music Hall Entertainment, Alhambra, by invitation of Local Committee.

Tuesday, July 25th.

9.30 a.m.—Representative Meeting, Bute Hall.
2 p.m.—Annual General Meeting, Bute Hall (short session).
5 p.m.—*Official Religious Service, Glasgow Cathedral.
8 p.m.—*Adjourned General Meeting and President's Address.

Wednesday, July 26th.

9 a.m.—Council Meeting, Randolph Hall.
2 p.m.—Secretaries' Conference, Debating Hall, University Union.
6.30 p.m.—Secretaries' Dinner, University Union.

ENTERTAINMENTS FOR LADIES ACCOMPANYING REPRESENTATIVES.

July 21st.

8 p.m.—Reception and Social Evening in the Ladies' Club (Burlington House, 183, Bath Street) to meet the members of the Ladies' Committee.

July 22nd.

Afternoon—Visit to the Cathedral and Provand's Lordship (St. Nicholas' Hospital, date 1471).
Evening—Picture House Entertainment.

July 23rd.

Church Services at the Cathedrals.
Sail on ss. *Skirmisher*.

July 24th.

Afternoon—Motor run, probably to Loch Lomond, by invitation of the Ladies' Committee.
Evening—Either a Musical Evening at Burlington House or join the Representatives at the Alhambra.

July 25th.

No special arrangements; see general programme.

SECTION MEETINGS AND EXHIBITIONS.

(For Sections see detailed list.)

The *Pathological Museum* will be open from July 25th to 28th inclusive, and will be housed in the Anatomical and Natural History Departments, in the same quadrangle as most of the Sections (see descriptive note at p. 208).

A *Public Health Exhibition*, organized by the Corporation, will be held in the Kelvin Hall, immediately opposite the south-west gate of the University, and will be open from July 25th to 28th inclusive. It will be designed to demonstrate the bearing of the various municipal activities on the health of the public.

The *Annual Exhibition* of surgical instruments, electrical appliances, drugs, foods, and books will be on view in the Kelvin Hall on the same days (see p. 201).

The *Kelvin Hall* will be the only official place for daily lunches during the time of the general meetings, and the Exhibitors' Club will also be available for the use of members.

GENERAL MEETINGS, SOCIAL AND OTHER FUNCTIONS, AND ENTERTAINMENTS.

Tuesday, July 25th.

2 p.m.—Annual General Meeting, Bute Hall (short session).
3 p.m.—Official Opening of Exhibition.
5 p.m.—*Official Religious Service, Glasgow Cathedral.
8 p.m.—*Adjourned General Meeting and President's Address in Bute Hall.

Wednesday, July 26th.

8 a.m.—Holy Communion at St. Mary's Cathedral (Church of England), Great Western Road.
2 p.m.—Party of 300 will leave by charabancs for Bridge of Weir, to visit Quarrier's Homes and the Consumption Sanatoria of Scotland, and will be entertained at Duchal by Sir Joseph and Lady Maclay.
2.15 p.m.—Party will leave by motors to visit Glasgow Waterworks at Mugdock, and will be entertained at Craigend Castle by Mr. and Mrs. Harold E. Yarrow.
2.15 p.m.—Charabancs will leave for short trips to places of interest in or near the city.
Visits have also been arranged to the Glasgow Art Galleries and Museum, Kelvingrove Park, the Glasgow Observatory, and to two of the Sugar Refineries at Greenock, where the party will be entertained to tea at the Greenock Royal Infirmary.
3.30 p.m.—Royal Infirmary, Royal Hospital for Sick Children, and the Royal Maternity Hospital will entertain parties to tea, and they will have an opportunity of seeing round the hospitals.
8.30 p.m.—*Reception by the Vice-Chancellor and Court of the University in the Bute Hall and Hunterian Museum.

Thursday, July 27th.

8 a.m.—Temperance breakfast, University Union, by invitation of the National Temperance League.
9 a.m.—*Celebration of Mass at St. Andrew's Cathedral, Great Clyde Street.
2 p.m.—Golf Competition for the Ulster Cup, and Gold Medal to be presented to the winner by the Glasgow Medical Golf Club, at Killermont (Glasgow Golf Club); party of 200 will be entertained to tea by Professor Munro Kerr (Captain of the Club) and Mrs. Munro Kerr.
2 p.m.—Charabancs will leave for short trips to places of interest in the city.
3.30 p.m.—*Civic Reception in the City Chambers, by invitation of the Lord Provost, Magistrates, and Councillors of the City of Glasgow.
7 p.m.—Annual Dinner of the Association, in St. Andrew's Halls (Grand Hall), Charing Cross.
10 p.m.—Dance in St. Andrew's Halls, Ball Room Suite, by invitation of Local Committee.

British Medical Association.

NOTIFICATION OF ATTENDANCE AT THE ANNUAL MEETING.

To be sent to the HONORARY LOCAL GENERAL SECRETARY,

Dr. Geo. A. Allan, 22, Sandyford Place, Glasgow, W.

All Members of the Association who intend to be present at the Annual Meeting are requested to fill up and post the annexed form as soon as possible, in order to facilitate the general arrangements and to allow an estimate to be formed of the accommodation required.

The Meeting of the Representative Body begins on Friday, July 21st.

Registration for the Annual Meeting begins on Monday, July 24th.

The Annual General Meeting takes place on Tuesday, July 25th, and the **Annual Exhibition,** the Public Health Exhibition, and the Pathological Museum will be open from the forenoon of that day.

Please write distinctly.

Name _____

Address _____

Date of Arrival _____ *Date of Departure* _____

Will you be accompanied by a lady? .....

If you wish accommodation reserved please notify the Secretary of Hotels and Lodgings Committee, Dr. James Hendry, M.B.E., 4, Clifton Place, Glasgow, W., and state your exact requirements. A list of Hotels, etc., will be found elsewhere in this issue of the SUPPLEMENT (p. 209).

ANNUAL DINNER OF THE ASSOCIATION.

The Annual Dinner will be held in the GRAND HALL, ST. ANDREW'S HALLS, Charing Cross, Glasgow, on the evening of Thursday, July 27th, at 7 o'clock prompt. Members are requested to assemble at 6.30.

Tickets, price 21s. each, inclusive of wines, may now be had from the Secretary of the Dinner Committee, Dr. David Shannon, 26, Woodside Place, Glasgow, W. Places will be reserved in order of application. Application must be accompanied by a remittance for the amount, and may be enclosed with the notification of attendance at the Annual Meeting to the Honorary Local General Secretary.

Please reserve a seat for me at the Annual Dinner, for which I enclose postal order for 21s.

Name _____

Address _____

Friday, July 28th.

2 p.m.—Train leaves Partick Central Station for Erskine House (Princess Louise Scottish Hospital for Limbless Sailors and Soldiers), where a party of 500 will be entertained.

2 p.m.—Motors leave for a trip to the birthplace of William and John Hunter, and will be entertained to tea by Dr. Livingstone Loudon at Hamilton (party limited to 40).

2.15 p.m.—Charabancs leave for short trips to places of interest in or near the city.

Visits have also been arranged to the Art Galleries and Museum, and to the Broadstone Jubilee Hospital, Port Glasgow.

3.30 p.m.—Western Infirmary, Victoria Infirmary, and Royal Samaritan Hospital will entertain parties to tea and they will have an opportunity of seeing round the hospitals.

7.30 p.m.—Popular Lecture by Professor Graham Kerr, F.R.S. Subject: "The Physician—Naturalist, Teacher, Benefactor."

8.30 p.m.—*Reception by the President and Fellows of the Royal Faculty of Physicians and Surgeons of Glasgow (500 guests).

9 p.m.—Music Hall Entertainment, Alhambra, by invitation of the Local Committee (450 guests).

Saturday, July 29th.

Morning.—Turbine steamer, *Duchess of Argyll*, specially chartered, will leave the Broomielaw for a cruise on the Firth of Clyde and through the Kyles of Bute, returning to Gourock for special train about 5.30 p.m. Tickets, inclusive of lunch and tea, 12s. 6d.

Morning.—Excursion to Ayr and the "Land o' Burns." Train to Ayr, thence charabancs to Mauchline (Burns Museum), Alloway (Burns Cottage), Crossraguel Abbey, etc. Tickets, inclusive of lunch at Alloway Hotel (Banks of Doon) and tea, about 21s.

An excursion is also being arranged either to Stirling and Bannockburn District or to Loch Lomond.

* It is requested that Academic Dress be worn at the functions marked with an asterisk.

ACADEMIC DRESS.

Academic Dress for the Scottish Universities may be hired from Messrs. Thomson, Son, and Laidlaw, 159, St. Vincent Street, Glasgow, Official Robe Makers to the University of Glasgow, who will attend for that purpose in the University Union during the meeting. Those desiring Robes, etc., for English degrees should communicate with Messrs. Ede and Ravenscroft, 93 and 94, Chancery Lane, London, W.C.2, Official Robe Makers for the Association, or with the robe makers of their own university before coming to the meeting.

PATHOLOGICAL MUSEUM.

The Subcommittee responsible for the organization of the Pathological Museum wishes to draw the attention of members to this branch of the Annual Meeting. It is particularly desired that specimens should be shown which illustrate subjects to be discussed. The Museum will be situated in the Anatomical Department of the University, and will therefore be convenient to the various Sections. Provision will be made for the display of museum preparations of all kinds, photographs or drawings, microscopic specimens, lantern slides, radiographic negatives, and instruments. An endeavour is being made to get together a collection of specimens illustrating disease of animals and plants of economic importance, and the development of malignant disease in relation to specific forms of irritation.

Whilst the exhibits are primarily intended to illustrate the work of the various Sections, the Committee wishes it to be understood that individual specimens of special interest or a series demonstrating some special subject, specimens and illustrations relating to any recent research, and instruments relating to clinical diagnosis and pathological investigations, will be welcomed. Every care will be taken of specimens, and the contents of the Museum will be insured.

In order that arrangements may be made and the necessary forms for the description of specimens supplied, intending exhibitors are requested to communicate, early in June, with the Honorary Secretary of the Pathological Museum Subcommittee, Dr. G. Haswell Wilson, Glasgow University.

A special feature of the Museum will be the anatomical and pathological preparations of William Hunter. The anatomical collection, which is of great intrinsic and historical interest, has recently been displayed in the gallery of the museum of the Anatomical Department along with the preparations of the late Professor Allen Thomson and Emeritus Professor Cleland. The pathological specimens of William Hunter and Professor Cleland are exhibited in other sections of the Department.

PUBLIC HEALTH EXHIBITION BY THE CORPORATION OF GLASGOW.

In view of the Annual Meeting of the British Medical Association to be held in Glasgow in July, and of the prominent place which the city has acquired in the advancement of public health, the Corporation has cordially responded to the desire for an exhibition portraying its diversified activities in safeguarding the health of the community. Towards the fulfilment of this object twenty-one departments of municipal work are co-operating with the Health Department. The exhibits will illustrate as far as possible the varied work of the public health administration of the city, and the closely related departments of work represented in bacteriology, chemistry, and the inspection of meat and milk. The other departments will similarly indicate and exemplify their important functions in contributing to the maintenance and promotion of the well-being of the citizens, and will have reference to the water, gas, and electricity supplies; to street construction, street lighting, and the tramway service; to housing and city improvements; to public baths and washhouses, cleansing, and the

Stamp.

The Hon. Local GENERAL SECRETARY,
British Medical Association,
22, Sandyford Place,
Glasgow, W.

disposal of sewage; to public parks and open spaces, museums, and libraries; and to markets, the standardization of weights and measures, and the prevention of fire.

The Exhibition will be accommodated in the Kelvin Hall, in which a space of 20,000 square feet has been set apart by the Corporation and will be open from July 25th to 28th. The City Bacteriologist is in charge of the arrangements for the collection of the exhibits to be supplied by the various departments.

ACCOMMODATION AT THE ANNUAL MEETING.

The Hotels and Lodgings Committee wishes to impress on members the advisability of making their arrangements as early as possible. Most of the hotels are unwilling to reserve rooms, and accommodation in them can only be secured by early and definite booking.

A list of hotels and hydros in Glasgow and vicinity is appended. Information regarding train service for those out of town was given in the SUPPLEMENT of April 29th (p. 122).

A number of beds will be available in students' hostels, which are being specially reopened for the time of the meetings, and for these the Committee has had to guarantee a minimum number of residents. The charge for bed and breakfast is 8s. 6d. per person.

A list of private lodgings, which have been personally inspected, will be published in an early issue of the SUPPLEMENT.

The Secretary of the Committee is Dr. James Hendry, M.B.E., 4, Clifton Place, Glasgow, W., to whom all applications or inquiries should be sent.

HOTEL AND HYDRO ACCOMMODATION IN GLASGOW AND VICINITY.

GLASGOW.

	Bedroom and Breakfast.
Central Station Hotel (Caledonian Railway) ...	12/- to 15/6
North British Station Hotel	12/6 to 14/-
St. Enoch Station (G. and S.W. Railway) ...	From 11/-
Grand Hotel, Charing Cross	10/- to 10/6
Green's Private Hotel, Woodlands Terrace	From 12/6
Claremont Private Hotel, Claremont Terrace	From 12/6
More's Private Hotel, India Street ...	From 9/6
Bath Hotel, 152, Bath Street	From 8/6
Waverley (Cranston's) Temperance Hotel, 172, Sauchiehall Street	From 8/-

CLYDE COAST RESORTS.

Helensburgh:

Queen's Hotel: Bedroom and breakfast, 11/- per person.
Imperial Hotel: Bedroom and breakfast, 8/6 per person.

Shandon:

Shandon Hydro Hotel: Offers special terms for bedroom and breakfast at 12/6 per person. Will arrange for their motor to meet at Helensburgh the train which leaves Glasgow at 10.40 p.m.

Greenock:

Tontine Hotel: Bedroom and breakfast, 10/- to 11/6 per person.

Gourock:

Ashton Hotel: Bedroom and breakfast, 9/6 to 10/6 per person.

Wemyss Bay:

Wemyss Bay Hydropathic, Skelmorlie: Requires very early notice, and gives inclusive terms only at 16/- and upwards per day per person.

Duncon:

Argyll Hotel	8/6 per person.
Crown Hotel	8/6 ,, ,,
McColls's Hotel	8/6 ,, ,,
Wellington Hotel	7/6 ,, ,,
Royal Hotel	7/6 ,, ,,
Queen's Hotel, Kirn	10/6 ,, ,,

Innellan:

Royal Hotel, Innellan: Bedroom and breakfast, 10/- per person.

Rothesay:

Glenburn Hotel Hydro: Offers special terms for dinner, bedroom, and breakfast at 15/- per person.
Kyles of Bute Hydropathic, Port Bannatyne, Rothesay: Offers inclusive terms only at 18/- per person per day.

AYRSHIRE COAST RESORTS.

Ayr:

Ayr Station Hotel: Bedroom and breakfast, 11/- and upwards per person.

Prestwick:

Royal Hotel, Prestwick: Bedroom and breakfast, 8/6 per person.

Troon:

Marne Hotel: Beautiful situation on the edge of the links. Bedroom and breakfast from 11/- to 12/- per person.
Craiglea Hotel: Bedroom and breakfast, 10/- per person.

INLAND HOTELS.

Peeblesshire:

Peebles Hydro, about one and a half hours from Glasgow: Inclusive terms, 15s. per person.

Renfrewshire:

Kilmalcolm Hydropathic: The Hydro offers only inclusive terms at 15/- to 21/- per person.

Loch Lomond Side:

Tarbet Hotel, Loch Lomond: Bedroom and breakfast, 10/- per person.

Trossachs District.

Bridge of Allan:

Allan Water Hotel: Bedroom and breakfast, 9/- and upwards per person.
Queen's Hotel: Bedroom and breakfast, 11/- per person.

Dunblane:

Dunblane Hotel Hydro: Bedroom and breakfast, 12/- per person.

Crieff:

Drummond Arms Hotel: Bedroom and breakfast, 10/- per person.

SPORTS.

GOLF.

COMPETITION for the Ulster Cup and the Glasgow Medical Golf Club's Medal on Thursday, July 27th, at 2 p.m., at Killermont, by permission of the Glasgow Golf Club. Entries will be received by Dr. J. Glaister McCutcheon, 14, Belmont Street, Glasgow, W., or at the Reception Room, up to Wednesday, July 26th.

Facilities for golf during the week have been granted by the following clubs: Glasgow Golf Club, Killermont (gentlemen only); Erskine Golf Club; Pollok Golf Club; Bishopbriggs Golf Club. Arrangements have also been made for play at Gailes (Western Golf Club), and at Prestwick Championship Course. (This last privilege is granted contingent on the course not being closed after the amateur championship.)

BOWLING.

It is probable that a bowling competition for teams representing England and Scotland will be arranged.

Facilities for bowling have been granted on the following greens: Willowbank, Partick, Burnbank, Queen's Park, Bellahouston, and Titwood.

TENNIS.

Facilities for tennis have been granted on the following courts: Partick, Pollokshields, and Titwood.

CLUBS, ETC.

Honorary membership of the University Union will be granted to all members registering at the Annual Meeting. Lunches will be provided during the Meeting of Representatives, but later the official place for daily lunches will be at Kelvin Hall.

Daily privileges (not residence) have also been granted by the Royal Scottish Automobile Club, the Liberal Club, the Conservative Club, the Royal Faculty of Physicians and Surgeons, and the Arlington Baths Club.

Cards will be provided at the Reception Room.

ARRANGEMENTS FOR LADIES DURING GENERAL MEETINGS.

LADIES' CLUBS.

Burlington House, 183, Bath Street, adjoining Sauchiehall Street, has been reserved for the use of ladies during the whole period of the meetings. Meals will be provided as required. It may be used as an address for letters, and it will be convenient for those living out of town as a place for changing for evening entertainments.

Queen Margaret College Union, Ann Street, off University Avenue and adjoining the University, has been specially reserved for the use of medical women attending the meetings; tea will be provided as required.

Short charabanc trips to places of interest in Glasgow will be specially reserved for ladies on the forenoons of Wednesday, Thursday, and Friday, July 26th, 27th, and 28th.

For information regarding afternoon and evening arrangements ladies are referred to the General Programme.

In addition, the Gaumont Film Company has arranged to provide a display of special films in one of the Picture Houses on the forenoon of Thursday, July 27th.

SPORTS.

There will be a Ladies' Golf Competition over the course of Hillfoot Golf Club on the forenoon of Wednesday, July 26th, and the course will be open to ladies during the remainder of the week. The courses mentioned on the General Programme are also open to ladies, with the exception of that at Killermont. Facilities have also been arranged for Tennis and Bowling (see General Programme).

Association Notices.

TABLE OF DATES.

June 3, Sat.	Publication in SUPPLEMENT of results of Council elections by grouped Home Branches.
June 10, Sat.	Nomination papers available, at Head Office, for election of 12 Members of Council by grouped Home Representatives.
June 14, Wed.	Council Meeting, 429, Strand, at 10 a.m.
June 23, Fri.	Last day for election of Representatives and Deputy Representatives.
June 24, Sat.	Supplementary Report of Council appears in SUPPLEMENT.
June 30, Fri.	Last day for receipt at Head Office of notification of election of Representatives and Deputy Representatives.
July 7, Fri.	Last day for receipt at Head Office of Amendments and Riders for Annual Representative Meeting Agenda.
July 21, Fri.	Annual Representative Meeting, Glasgow, 10 a.m. Nominations for election of 12 Members of Council by grouped Representatives to be received (at A.R.M., Glasgow) by this date.

ALFRED COX, *Medical Secretary.*

BRANCH AND DIVISION MEETINGS TO BE HELD.

KENT BRANCH: DARTFORD DIVISION.—The annual meeting of the Dartford Division will be held at the Livingstone Hospital, Dartford, on Thursday, June 8th, at 3 p.m. Agenda: Election of officers; consider Annual Report of Council (SUPPLEMENT, May 6th). At 3.30 p.m., a meeting of the Local Medical Consultative Council (all practitioners in the area being members) will be held. Business: To receive (1) report of deputation to the Urban and District Councils, in reference to utilizing the services of local practitioners in child welfare and maternity clinics; (2) report of Kent delegate to recent Panel Conference (*a*) final decision as to transfer of practices; (*b*) Approved Societies' control of panel practice. All practitioners are urgently requested to attend this meeting to give support to the steps to be taken.

LANCASHIRE AND CHESHIRE BRANCH: MID-CHESHIRE DIVISION.—A meeting of the Mid-Cheshire Division will be held at the Unicorn Hotel, Altrincham, on Thursday, June 15th, at 3.15 p.m., when Dr. John Hay (Liverpool) will give a British Medical Association lecture on "Some aspects of cardiac disease." Tea will be provided at 4.30.

METROPOLITAN COUNTIES BRANCH.—The annual general meeting of the Metropolitan Counties Branch will be held at 429, Strand, W.C., on Friday, June 23rd, at 4 p.m. Business: (1) Report of scrutineers as to the election of new officers; (2) Annual Report of Council; (3) President's address by Mr. N. Bishop Harman, entitled "London: the triumph of medicine."

SOUTHERN BRANCH: WINCHESTER DIVISION.—The annual meeting of the Winchester Division will be held on Thursday, June 8th, at 3.30 p.m., at the George Hotel, Winchester. Dr. G. C. Anderson, the Deputy Medical Secretary, will give an address entitled, "What are the advantages of belonging to the British Medical Association?" All non-members of the Association residing in the neighbourhood are invited to be present.

SOUTH MIDLAND BRANCH: BUCKINGHAMSHIRE DIVISION.—A meeting of the Buckinghamshire Division will be held at the Red Lion Hotel, High Wycombe, at 3 p.m. on Wednesday, June 7th. Agenda: Minutes and any business arising therefrom; correspondence, including the monthly circular; Dr. J. A. Benjafield will read a paper on Vaccine Therapy especially in relation to Rheumatoid Arthritis; election of Representative and Deputy Representative; consider annual report of the Council (SUPPLEMENT, May 6th, 1922); Any other business. Tea will be provided.

SOUTH-WESTERN BRANCH.—The eighty-third annual meeting will be held on Thursday, June 15th, at 3.15 p.m., at "Durracombe," Newton Abbot, by kind invitation of the President-elect, when Dr. Shaw will resign the chair to Mr. Haydon, who will deliver his inaugural address. The report of the Branch Council for the year 1921–22 and the Annual Financial Statement for 1921 will be presented, and the officers of the Branch for the year 1922–23 will be elected. Luncheon, also by kind invitation of the President-elect, will take place from 1.15 to 2.30 at "Durracombe." The annual dinner of the Branch will be held at 7 p.m. at the Globe Hotel. Tickets (7s. 6d. each, exclusive of wine) can be obtained from Dr. J. Culrose, M.B.E., Roseneath, Newton Abbot. Early application for dinner tickets will greatly facilitate arrangements, and in any case should be made not later than the first post on Monday, June 12th. Mr. Haydon would be obliged if, when answering his invitation, members will state if they expect to come by train, when arrangements will be made to meet them by car at the station; he can also obtain dinner tickets for them if desired. Accommodation can be privately arranged for visitors intending to stay the night at Newton Abbot provided notice is received.

THE next meeting of the Cambridge Medical Society will be held at Addenbrooke's Hospital on Friday, June 2nd, at 2.30 p.m. (*Note*: By arrangement with the Cambridge and Huntingdon Branch of the British Medical Association, all members of the Branch are entitled to attend meetings of the Cambridge Medical Society.) Agenda: (1) Election of Member; (2) Hints on Cataract, its Symptoms and Treatment from a medical *patient's* point of view, Dr. F. J. Allen; (3) Notes on a case of Carcinoma of Lung (specimen shown), Drs J. Aldren Wright, Dr. J. F. Gaskell; (4) Notes on a case of Tumour of the Pylorus (specimen shown), Dr. Aldren Wright, Mr. W. H. Bowen; (5) Notes on a case of Thoracopagus (specimen shown), Dr. J. R. C. Canney. These meetings which are held on the first Friday in every month, excepting August and September, will count as clinical meetings of the Association.

COUNCIL ELECTION.

THE names of the members already declared elected to the Council for 1922–23 in respect of the 15 groups of Branches in which there were no contests were published in the SUPPLEMENT of May 13th, p. 170. The following is the detailed result of the voting in the three groups where a contest took place, and it may be of interest to readers to learn that this is the first election in this connexion at which the new rule was applicable—namely, that the voting paper contain, in addition to the names and addresses of the candidates, such information (limited to five items) as to the candidates' Association, municipal, or other public experience as is stated in the nomination paper:

METROPOLITAN COUNTIES BRANCH.

The voting paper contained the names of eight candidates for the four vacancies. The voting was on the single transferable vote system. Out of 2,944 voting papers issued, 798 were returned, of which 28 were spoilt, leaving 770 valid votes. The quota was therefore 155—that is, 770 divided by 5 (one more than the number of seats to be filled), *plus* one. The result of the first count was:

Dr. H. S. Beadles	153	
Dr. A. Blackhall-Morison	64	
Dr. Chas. Buttar	116	
Mr. N. Bishop Harman	83	
Lord Dawson of Penn	168	Elected
Dr. R. Langdon-Down	45	
Dr. Wm. Paterson	67	
Dr. G. Clark Trotter	74	
	770	

The voting papers were then dealt with according to the rules of the transferable voting system, and the result was that the candidates who were elected are those who would have been elected had the vote been by the ordinary method—namely, Lord Dawson, Dr. Beadles, Dr. Buttar, and Mr. Bishop Harman.

The counting of the votes has been checked by the Proportional Representation Society.

ABERDEEN, DUNDEE, NORTHERN COUNTIES AND PERTH BRANCHES.

Dr. David Lawson, of Banchory, and Dr. George W. Miller, D.S.O., of Dundee, were the two candidates nominated for the vacancy in the above Group. There were 482 voting papers issued, of which 197 were returned. Of these 95 were in favour of Dr. Lawson, and 102 in favour of Dr. Miller. Dr. Miller was therefore elected.

KENT, SURREY, AND SUSSEX BRANCHES.

There were 1,144 voting papers issued to members of the above Group, the candidates for the one vacancy being Dr. E. Rowland Fothergill of Hove and Dr. Arnold Lyndon of Hindhead, Surrey. Of the 385 papers returned two were spoilt; of the remainder, 169 were in favour of Dr. Fothergill, and 214 in favour of Dr. Lyndon, with the result, therefore, that the latter was elected.

SCOTTISH COMMITTEE.

ELECTION OF DIRECT REPRESENTATIVES, 1922-23.

THIRTEEN members of the Scottish Committee of the British Medical Association are to be elected by the Scottish Divisions, grouped as follows:

	No. of Representatives.
Group I.—The Divisions in the Aberdeen and Northern Counties Branches	2
Group II.—The Divisions in the Dundee, Perth, Fife, and Stirling Branches	2
Group III.—The Divisions in the Edinburgh Branch, and the Dumfries and Galloway Division	3
Group IV.—The Glasgow City Divisions	3
Group V.—The remaining Divisions in the Glasgow and West of Scotland Branch	3

Nominations may be made (*a*) by a Division, or (*b*) by three Members in a group. The election, in cases of contest, will will be by postal vote of the members in each group.

Forms for nomination may be obtained from the Scottish Medical Secretary, 6, Rutland Square, Edinburgh, and must be returned to him not later than June 19th.

GENERAL COUNCIL
OF
MEDICAL EDUCATION AND REGISTRATION.

SUMMER SESSION, 1922.

Sir DONALD MACALISTER, K.C.B., President, in the Chair.

THE FINANCE OF THE COUNCIL.

THE report of the Finance Committee was received and entered on the minutes. The income of the General and Branch Councils for the year ending December 31st was £13,475, and the expenditure £10,211. The surplus of £3,264 is larger than in any year since 1915. The receipts of the Branches from registration fees show an increase, in England, of £730, in Scotland of £607, and in Ireland of £477. The number of registrations in 1921 was 1,410 as compared with 1,100 in the previous year. The number of students registered was 1,808 as compared with 2,531 in 1920, and 3,420 in 1919; the average for the five years immediately preceding the war was 1,421.

REGISTRATION OF MEDICAL AND DENTAL STUDENTS.

Professor J. Y. MACKAY introduced a report from the Education Committee on the revision of the regulations with regard to the registration of medical and dental students. This report in draft was debated at the previous session (SUPPLEMENT, December 3rd, 1921, p. 211), but since then the report had been circulated among the bodies concerned for their observations. No exception had been taken to the scheme, which was based on a recognition of the matriculation examinations of the universities of Great Britain.

The report was received and entered on the minutes, and Sir S. RUSSELL-WELLS congratulated the committee on arriving at a very satisfactory solution of a difficult problem.

REVISION OF THE CURRICULUM IN MEDICINE.

Professor MACKAY then moved the reception of the report of the Education Committee on the revision of the curriculum in medicine. He said that this matter first came before the Council in 1918, so that he had to lay before it the result of four years' work. He acknowledged the great assistance rendered by members of the special curriculum subcommittees, some of them not members of the Council, in threshing out the subject. He did not think the Education Committee had been wrong in taking a considerable amount of time over this task, and it had sought information from every likely quarter. It was now proposed that the resolutions of the Council with regard to professional education, which were last revised in December, 1919, should be withdrawn on January 1st next, and that on that date the curriculum as outlined below should come into force, together with some additional resolutions which he would deal with after this proposed new curriculum had been approved.

Pre-Registration Examinations in Chemistry and Physics.

Before registration as a student or commencement of the regular medical curriculum every person shall be required to pass, in addition to an approved examination in general education, an examination or examinations, conducted or approved by one of the licensing bodies, in the following subjects:

(1) *Physics* (theoretical and practical), including the elementary mechanics of solids and fluids, the elements of heat, light, sound, electricity, and magnetism. (This course should not include biophysics or the clinical applications of physics, which are to be taken in the medical curriculum.)

(2) *Chemistry* (theoretical and practical). The elements of the science. (This course should not include biochemistry, pharmacological chemistry, or the clinical applications of chemistry, which are to be taken in the medical curriculum.)

Medical Curriculum.

With regard to the course of study and examinations which persons desirous of qualifying for the medical profession shall go through in order that they may become possessed of the knowledge and skill requisite for the efficient practice of medicine, surgery, and midwifery, the Council recommends as follows—namely:

1. The period of professional study, between the date of registration as a medical student and the date of the final examination for any diploma which entitles its holder to be registered under the Medical Acts, should be a period of certified study during not less than five academic years, in the last three years of which clinical subjects shall be studied.

In every course of professional study and examinations the following subjects should be included:

(i) *Elements of General Biology.*—A course of instruction, including practical work, in the fundamental facts of vegetable and animal structure, life-history, and function; and an introduction to the study of embryology. (The course of instruction may be taken before registration.)

(ii) *Chemistry, Physics, and Biology.*—Instruction in these subjects in their application to medicine.

(iii) *Human Anatomy and Human Physiology.*—These courses should include: (*a*) dissection of the entire body; (*b*) histology; (*c*) elements of human embryology; (*d*) biochemistry and biophysics.

(iv) *Elementary Bacteriology.*—A course in this subject should be taken before the student undertakes his regular clinical appointments.

(v) *Pathology.*—Courses of instruction in (*a*) general and special pathology and morbid anatomy; (*b*) clinical pathology. Each student should be required to have received practical instruction in the conduct of autopsies and to have acted as a *post-mortem* clerk in at least ten cases.

(vi) *Pharmacology and Materia Medica (including Pharmacological Chemistry).*—A course, including practical work, should be taken concurrently with courses of clinical instruction.

(vii) *Forensic Medicine, Hygiene, and Public Health.*—Courses of instruction in these subjects should be taken concurrently with the later stages of clinical instruction.

(viii) *Medicine, including Applied Anatomy and Physiology, Clinical Pathology, and Therapeutics*, comprising: (1) A course of systematic instruction in the principles and practice of medicine. (2) A medical clinical clerkship for a period of six months, of which at least three months must have been spent in the hospital wards. (3) Lectures or demonstrations in clinical medicine, and attendance on general in-patient and out-patient medical practice, during seven terms, which may be concurrent with the terms prescribed under (ix) (4). (4) Instruction in applied anatomy and physiology, and in clinical pathology. (5) Instruction in therapeutics and prescribing, including pharmacological and physical therapeutics and the methods of treatment by vaccines and serums. (6) Instruction in the following subjects—namely: (*a*) Children's diseases; (*b*) acute infectious diseases ("fevers"); (*c*) tuberculosis; (*d*) mental diseases; (*e*) diseases of the skin; (*f*) theory and practice of vaccination.

(ix) *Surgery, including Applied Anatomy and Physiology, and Clinical Pathology*, comprising: (1) A course of systematic instruction in the principles and practice of surgery. (2) A surgical dressership for a period of six months, of which at least three months must have been spent in the hospital wards. (3) Practical instruction in surgical methods, including mechano-therapeutics. (4) Lectures or demonstrations in clinical surgery, and attendance on general in-patient and out-patient surgical practice, during seven terms, which may be concurrent with the terms prescribed under (viii) (3). (5) Instruction in the administration of anaesthetics, the candidate being certified to have administered anaesthetics on at least ten occasions. (6) A course of instruction in operative surgery. (7) Instruction in applied anatomy and physiology, and clinical pathology. (8) Instruction in the following subjects—namely: (*a*) Diseases of the eye: refraction; use of ophthalmoscope. (*b*) Diseases of the ear, throat, and nose: use of otoscope, laryngoscope, and rhinoscope. (*c*) Radiology. (*d*) Venereal diseases. (*e*) Orthopaedics, if this is not included in the course of surgery or of surgical methods.

(x) *Midwifery and Diseases of Women.*—Instruction during a period of at least two terms, comprising: (1) Courses of systematic instruction in the principles and practice of obstetrics and gynaecology. (2) Lectures or demonstrations in clinical obstetrics and gynaecology, and attendance on in-patient and out-patient gynaecological practice. (3) Instruction in the following subjects—namely: (*a*) Ante-natal conditions; (*b*) infant hygiene. (4) Every student should, after attending the courses of systematic instruction in the principles and practice of surgery and of obstetrics, give continuous attendance on obstetrical hospital practice, under the supervision of a competent officer, for a period of three months, during one month of which, at least, he should perform the duties of an intern student in a lying-in hospital or ward. He should attend during the period twenty cases of labour under adequate supervision. Extern or district maternity work should not be taken until the student has personally delivered at least five cases in the lying-in hospital or ward, to the satisfaction of his teacher.

A certificate of having attended twenty cases of labour should state that the student has personally attended each case during the course of labour, making the necessary abdominal and other examinations, under the supervision of the certifying officer, who should describe his official position and state how many of the twenty cases were conducted in hospital.

Before the additional resolutions were considered this general curriculum was subjected to some discussion.

Sir GEORGE NEWMAN pointed out that one result of the proposed changes would be to make the student reading for medicine come into touch with chemistry and physics from the very beginning, in the examination of matriculation standard, right up to the final. The endeavour of the Committee had been to integrate the study of chemistry and physics into the whole medical curriculum, at first in the theoretical and practical aspects of these subjects, and later on in their special applications to medicine.

Professor DEAN said that at Manchester it was proposed in future to have four compulsory subjects for the pre registration examination in general education—namely, English, mathematics, mechanics, and Latin—and having passed this examination the student would go on to the university, where

he would work for six months in the laboratories studying chemistry and physics. At the end of six months he would undergo an examination in these two subjects, and if successful would then be registered as a medical student for the five years' course.

Dr. R. A. BOLAM thought that the proposed arrangement might give rise to inequalities of standard between the universities. Some universities would allow the student to take the examination in chemistry and physics direct from school, and others would require a six months' course in the university before proceeding to that examination.

The PRESIDENT said that the Council was legislating for the minimum curriculum. Each body was entitled to demand more, and he hoped it would.

After some further discussion on the pre-registration requirements, Mr. WARING moved an amendment so as to make the first paragraph read:

> Before registration as a student or commencement of the regular medical curriculum every person shall be required to pass an approved examination in general education, and also, *having attended an approved course of instruction*, to pass an examination or examinations, conducted or approved by one of the Licensing Bodies, in the following subjects. . . .

Sir GILBERT BARLING seconded.

Sir S. RUSSELL-WELLS said that he took it that Mr. Waring's intention was to have the courses of instruction approved by the examining bodies; he could not conceive that they would have to be approved by the Council. But some of the examining bodies were in touch with school work and others were not, and if the word "approved" could be omitted it would leave the universities and licensing bodies free to make such regulations as they liked. He hoped that in time the Council would be able to recognize definitely a large number of schools and approve their courses, but if at the present time the approval of the course was made absolutely compulsory it would strangle the growth which the Council was anxious to encourage.

Dr. J. A. MACDONALD disagreed with the last speaker, and thought that regulations could not be too rigid in order to bring the preliminary education of the student up to the highest point.

Dr. BOLAM pointed out some dangers in the course which would have to be taken if Mr. Waring's amendment were adopted, and said that he himself would rather approach the matter by the use of some words as an alternative to "approved courses of instruction," such as "of a standard similar to that now accepted at the first professional examinations."

Sir JENNER VERRALL advocated such an arrangement that the approved course in biology might come a year later than the approved courses in chemistry and physics. The student could not do all three things on entering for his first professional examination—general education, chemistry and physics, and elementary biology.

Sir GEORGE NEWMAN said that in practice it would be a formidable thing for the twenty-two medical schools to apply to the 1,200 secondary schools—or the considerable proportion of them which provided a two years' course in science over and above matriculation standard—with a view to giving their approval to the course.

The PRESIDENT believed that Mr. Waring's amendment was almost *ultra vires*. This was a pre-registration matter, and the Council, which had to deal with the medical curriculum, could hardly claim authority over courses not given in medical schools nor entirely to medical students.

Sir A. CHANCE pleaded for the acceptance of the proposals of the Committee. One of the virtues of these proposals was their elasticity, so that the licensing bodies were put upon their honour to do the right thing. He deprecated the forcing upon them of a number of small restrictions.

Mr. Waring's amendment was not carried on a show of hands, and he demanded a roll-call, which resulted: In favour, 16; against, 19.

Dr. BOLAM then moved that instead of the new regulations coming into force on January 1st, 1923, the date should be January 1st, 1924. From inquiries he had made as to the preparedness of certain institutions, he thought it would be wise to postpone their introduction for a year.

Sir JOHN MOORE seconded. He said that it would require some time before the arrangements for education in chemistry and physics could be made effective at some of the colleges. The students also were being given very short notice of the change.

The PRESIDENT pointed out that the postponement could not well apply to the whole of the curriculum because notices had already been sent to the bodies concerned of the impending change that would take place from January 1st next, and some of them at least had made arrangements to fall in with the Council's requirements.

Dr. Bolam's amendment was lost by a large majority, and it was then agreed that the curriculum as set out above should be substituted for the existing regulations on January 1st next.

Administrative Application.

The Council then turned to consider, in an informal discussion, certain additional proposals which concerned the practical applications of this curriculum. The proposals were:

(*a*) That the curriculum should be so arranged that a minimum period of three years shall in every case be available for study after the completion by the student of the professional examinations in anatomy and physiology at the close of the second year;

(*b*) That each licensing body should make adequate arrangements for the effective correlation of the several subjects of study throughout its curriculum;

(*c*) That the curriculum should be framed so as to afford sufficient opportunities for the study, during the last three years of the course, of physics, chemistry, biology, anatomy, and physiology in their practical applications to medicine, surgery, and midwifery, and that the student's knowledge of these subjects should be subject to test in the Final Examination;

(*d*) That before the student is admitted to his clinical appointments he should have received practical instruction in clinical methods and in the recognition and interpretation of physical signs;

(*e*) That throughout the whole period of study the attention of the student should be directed by his teachers to the importance of the preventive aspects of medicine;

(*f*) That the teaching of anatomy and physiology should include as a regular part of the courses the demonstration on the living body of structure and function;

(*g*) That instruction should be given, in the courses of forensic medicine and public health or otherwise, on the duties which devolve upon practitioners in their relation to the State, and on the generally recognized rules of medical ethics. Attention should be called to all notices on these subjects issued by the General Medical Council.

An amendment to leave out the words at the end of (*a*), "at the close of the second year," was not carried, and an amendment to insert the words "academic" before "years," and "of the clinical subjects" after "study" was equally unsuccessful. In connexion with (*c*) Sir ISAMBARD OWEN remarked upon the omission of any reference to public health, and Professor MACKAY replied that public health was there regarded as a branch of medicine. On (*f*) Sir ISAMBARD OWEN asked what was meant by demonstrations on the living body, and suggested that among the lay public the phrase might give rise to misconceptions; people might imagine that the practice of vivisection was being urged. The PRESIDENT said that what was intended was to emphasize the importance of the study of the living human body throughout the course of anatomy and physiology. It was agreed to insert the word "human."

The whole of these additional recommendations were then agreed to, and on the motion of Dr. MCVAIL, their order was altered so that (*e*) and (*f*) came first, thereby emphasizing the importance of these matters upon teachers. Professor MACKAY, in seconding this proposition, bore testimony to Dr. McVail's valuable work as a co-opted member of the Committee.

PROFESSIONAL EXAMINATIONS.

Dr. NORMAN WALKER brought forward a report from the Examination Committee on professional examinations. He said that the report followed upon the presentation of a similar report at the last session, which was sent to the Licensing Bodies for their observations. The observations received had been considered very carefully, and the Committee had redrafted the report in the simplest possible form. This is now brought forward for final adoption. The recommendations were as follows:

General.

1. In order to secure due continuity and sequence in medical study, two or more professional examinations in the earlier subjects should be held antecedently to the Final Examination in medicine, surgery, and midwifery.

2. Thirty months at least should intervene between the date of passing the Professional Examination in anatomy and physiology and that of admission to the Final Examination in medicine, surgery, and midwifery.

3. A candidate remitted in any subject of a professional examination should, before he is readmitted to examination therein, be

required to produce satisfactory evidence that he has during the interval of remission pursued the study of the subject in which he was rejected. Candidates who obtain less than 30 per cent. of the marks in any subject should be remitted for a longer period than three months.

4. In all the professional examinations a sufficient time should be assigned to practical work, to test the thoroughness of the candidate's knowledge and to encourage practical methods of study.

5. Candidates in all their examination work should be carefully supervised.

6. Two examiners should always participate in the oral examination of a candidate, except in subordinate parts of the examination.

7. In written examinations the questions in each subject should be submitted for the approval of all the examiners in that subject.

8. In written examinations an average of at least half an hour should be allowed for a candidate to answer each question.

9. It is desirable that examiners, and in particular those for the Final Examination in medicine, surgery, and midwifery, should be appointed or re-elected for at least three consecutive years.

10. Whatever may be the system of marking, the percentage for a pass in each subject should be not less than 50.

11. In the regulations for the several examinations it should be provided that examiners, in assessing marks, be empowered to take into account the duly attested records of the work done by the candidate throughout his course of study in the subject of the examination.

The Final Examination.

12. The Final Examination in medicine, surgery, and midwifery, with the exception of practical midwifery, must not be passed before the close of the fifth academic year of medical study.

13. The three portions of the Final Examination in medicine, surgery, and midwifery should not be further subdivided into sections which may entered for separately.

14. Compensation in respect of marks as between the three different portions of the Final or Qualifying Examination—namely, medicine, surgery, and medicine—is contrary to the intention of the Medical Act (1886).

15. The Final Examination should include clinical and practical examinations in midwifery and gynaecology.

16. The Clinical Examinations in medicine, surgery, and midwifery should be held in hospitals.

17. In the examinations in clinical medicine and clinical surgery at least one hour should be allowed to the candidate for the examination of, and report on, his principal case.

18. In the regulations for the several examinations it should be provided that examiners, in assessing marks, be empowered to take into account the duly attested records of the work done by the candidate throughout his course of study in the subject of the examination.

19. The marks obtainable for the written and oral examinations added together ought not to be greater than those obtainable for the Clinical Examination, and no candidate who fails to obtain 50 per cent. of the marks in the Clinical Examination should pass.

20. The Final Examination should include the examination of secretions, the testing of urine, clinical microscopy, and prescription writing, and there should always be an oral examination in medicine, surgery, and midwifery, which should always include an examination on pathological specimens.

21. At the Final Examination each candidate should be submitted to a practical and oral examination in pathology (macroscopic and microscopic), unless this has been included in a professional examination preceding the Final Examination.

22. Whatever be the method of entry for the Final Examination all candidates should be required to complete the three portions of the Final Examination within a period of nineteen months.

With regard to Recommendation 6, Dr. NORMAN WALKER said that this had been so drafted as to ensure that two examiners should be effectively present; not merely that they should be in the same room at the same time, but that they should both together listen to the answers of the candidate. Some discussion took place on the words "except in subordinate parts of the examination." Sir GILBERT BARLING pointed out that some bodies held an examination in ophthalmology, a thing upon which the Council did not insist, and to compel the examining body to have two examiners present would be to throw a considerable burden of expense upon it. He pleaded for the retention of the words.

Sir JENNER VERRALL said that a second examiner was as necessary for checking the questions asked by his colleague as for checking the answers given by the student. Sir NORMAN MOORE and Mr. WARING were anxious to retain the words. Dr. CATON said that, while it was necessary in a true oral examination to have two examiners, there were certain details, such as the examination of the urine or ophthalmoscopic examination, in which the presence of one examiner was enough.

The PRESIDENT said that what was desired was to make sure that the final marks received by the candidate were the total given to him by the two examiners; otherwise it was not possible to be sure that the student had had a fair examination. Dr. GRIFFITH said that there were certain parts of the examination which might be looked after by a single examiner, though he thought that the Council should be jealous with regard to such concession.

The recommendation was adopted as it stood.

With regard to Recommendation 9, Dr. NORMAN WALKER said that the original proposal was that the examiners should be appointed for five years, but this had encountered criticism from the Licensing Bodies; the proposal to make the term three years was agreed to.

Discussion arose on the system of marking. Sir ISAMBARD OWEN asked whether there was any possible method of arriving at the percentage value of an answer in medicine, surgery and midwifery; he agreed that it could be done in mathematics. When he examined at Cambridge he appealed to the Regius Professor, and was told that for a good average answer half marks should be given. The PRESIDENT said that the proposal before the Council was only offered as a means of interpreting the results of one examination in the terms of another. There was no agreed system of estimation.

Mr. WARING objected to Recommendation 16—that the clinical examinations in medicine, surgery, and midwifery should be held in hospitals. He said that this would make the examinations very difficult for some bodies, and he instanced one which had built a large hall for examination purposes, to which patients were brought. Sir NORMAN MOORE supported Mr. Waring's objection. Professor LITTLEJOHN maintained that the clinical examinations must be held in hospitals, although an examination hall might be useful for other parts of the examination.

The discussion of this report had not concluded on the Saturday morning of the session when, by standing orders, the Council stood adjourned until the following Monday.

DISCIPLINARY CASES.

Prescription and Treatment without Seeing or Examining the Patient.

The Council devoted nearly the whole of May 24th to considering the case of Robert Bell, registered as of 15, Half Moon Street, Mayfair, London, W.1, M.D., U.Glasg.; L.R.C.S. Edin.; F.R.F.P.S.Glasg., who had been summoned to appear on the following charge:

"That, being a registered medical practitioner, you have, during a period of nine months, prescribed for and treated a patient, namely, Mrs. Rose Hindley, who was suffering from 'inoperable' cancer, without ever having seen or examined the said patient, such prescribing and treatment being carried on by means of correspondence sent by you to Edward Hindley, the husband of the said patient, a person without medical skill or knowledge; and that in relation thereto you have been guilty of infamous conduct in a professional respect."

Dr. Bell was present, with his counsel, Mr. Herbert.

The Council's Solicitor (Mr. Harper), in opening the case, said that the Council had nothing to do with any theory of medicine; it could not and would not bring that into its consideration; it was prevented from so doing by Section 28 of the Medical Act. This case was brought to its notice by a body of practitioners in Warrington, Lancashire. The husband was an insurance agent at Warrington. In 1919, his wife suffering from haemorrhage from the vagina, he called in Dr. Ogilvie, of Warrington, who treated her, and the haemorrhage ceased. Early in 1920 Dr. Ogilvie was called in again on account of a recurrence of the haemorrhage, and he suggested consultation with a Manchester specialist, Dr. Clifford. The consultation did not take place at that time, however, because the case yielded again to simple treatment and rest. The husband remained extremely anxious about his wife's condition, and in March, 1920, he called in Dr. Anderson, another Warrington practitioner, who, having examined the patient, and not knowing about Dr. Ogilvie's recommendation, suggested a consultation with Dr. Fletcher Shaw, of Manchester. Dr. Shaw diagnosed the case as inoperable cancer of the uterus. In April Dr. Ogilvie was called in again, and again suggested Dr. Clifford, who confirmed the diagnosis, and suggested treatment by radium. Mr. Hindley did not take that advice, but, happening to see an account in a Manchester newspaper of treatment of cancer by Dr. Robert Bell, of London, he wrote to Dr. Bell in June, 1920. Mr. Hindley had not kept a copy of his letters, nor had Dr. Bell copied his letters to Mr. Hindley, and the only correspondence available was the original letters written by Dr. Bell. In his first letter Dr. Bell said that it was necessary he should satisfy himself as to the character of the disease, and asked if it was not possible for the patient to come to London. In answer to this Mr. Hindley wrote that his wife was unable to travel. It was

now stated by Dr. Bell that he wrote again immediately saying that the best thing to do was to get the local doctor to report to him, when he would give him (the local doctor) full particulars of the treatment to be followed. This letter could not be found, but Dr. Bell had put in what purported to be a copy of it, not made at the time of writing the letter, but, it was said, two days afterwards. In reply to that letter, according to Dr. Bell, Mr. Hindley wrote saying that Dr. Ogilvie refused to co-operate with Dr. Bell. On that point, however, he would call rebutting evidence. A letter was then sent by Dr. Bell giving the prescription and explicit directions, and this was followed by many other letters at later dates, containing further directions, including one in answer to the husband's statement that his wife was suffering great pain. In April, 1921, his wife getting worse, he again called in Dr. Ogilvie and asked him to give a report or certificate to show Dr. Bell how hopeless it was to continue the treatment. Dr. Ogilvie did so, stating that he found the cancer of the cervix progressing, with marked involvement of the uterine glands. Dr. Bell wrote that he was exceedingly sorry to receive this grave report, but he had been handicapped in the treatment of the case by the refusal of the local practitioner to co-operate with him. He added that he was at the end of his resources in the matter, but at the same time he advised continuing the treatment, even though the outlook was not brilliant. Mrs. Hindley died in April, 1921. The complaint as to Dr. Bell's conduct reached the Council from certain practitioners in Warrington, and, in accordance with the standing order, the Registrar wrote to Dr. Bell in November, 1921, informing him, without giving details, that a complaint had been lodged against him. Dr. Bell replied that he had not the remotest recollection of any case of the kind, and that he never prescribed for a case without either seeing it or getting a report from the medical man in attendance. In further correspondence he threatened the Registrar with an action for libel, the publication being a letter dictated to the Registrar's typist with regard to the charges against him; this action, however, he withdrew.

Mr. E. Hindley gave evidence bearing out the Solicitor's statement. In May, 1920, he noticed a paragraph in the paper stating that Dr. Bell had said that cancer was curable without operation. After the preliminary correspondence, on getting Dr. Bell's instructions, he himself administered the medicines, gave the tampons to his wife, which she inserted, and saw to the prescribed diet. He could not recall the receipt of any letter from Dr. Bell asking for a report from the medical man, nor did he ask Dr. Ogilvie to give him a report to send on to Dr. Bell until just at the end of the patient's illness. During the summer of 1921 he was himself ill and attended by Dr. Manson, to whom he spoke on the subject, and at his request showed him Dr. Bell's letters.

Dr. Ian Ogilvie said that he attended Mrs. Hindley for the first time in September, 1919, for haemorrhage from the vagina, and again in January, 1920, when he suggested that she should see a gynaecologist. On both occasions the haemorrhage ceased under the treatment he prescribed. Later she did see a gynaecologist, who diagnosed inoperable cancer. The certificate he gave Mr. Hindley at his request in April, 1921, was given in order to show Dr. Bell the gravity of her condition and the futility of his treatment, and to save Mr. Hindley further expense. No request for any such report or certificate was made in June, 1920, the date when Dr. Bell began treatment. When Mr. Hindley, about May, 1920, spoke to him about Dr. Bell (whom he had never heard of before) and pulled out a sheaf of newspaper cuttings, he washed his hands of the matter.

Dr. A. Anderson and Dr. J. S. Manson, of Warrington, also gave evidence, both disclaiming any personal feeling towards Dr. Bell, and recounting the circumstances in which a meeting of the twenty-eight practitioners in Warrington was summoned to consider what was regarded as a breach of professional conduct. This meeting was attended by about half those practitioners, and a committee of five was appointed to bring the case before the Council.

Dr. Bell, who was very indistinctly heard, said that he took the M.B. degree in 1868. For twenty-one years he was physician at the Women's Hospital at Glasgow, and he had practised in London since 1904, and was superintendent of the Cancer Research Department at the Battersea Hospital. In June, 1920, he received the first communication from Mr. Hindley. He had not kept the original letter. A long argument ensued between Dr. Bell and his counsel, and the President and the Legal Assessor, with regard to the exact dates of the correspondence and the possibility of a letter having been sent by Dr. Bell suggesting that the local practitioner should report to him. No other doctor had ever refused to co-operate with him.

In cross-examination, he said that he did not as a rule keep copies of his letters unless they were likely to be useful for a memoir he was writing. The copy of the letter in question, asking for the local practitioner's report, was made for that purpose; it was written from memory two days after the dispatch of the letter. The President said that surely the letter in reply from Mr. Hindley would have been the more important document to have kept if it represented the solitary instance in which a practitioner had refused to co-operate. Dr. Bell went on to say that in all cases he required either a personal examination or a report from the medical man in attendance. When he was reminded that he had not had such a report in this case, he said that he had had it indirectly from the two Manchester specialists, whose verdict of inoperable cancer of the uterus was transmitted to him by the husband, and he thought this quite sufficient. He had treated several cases of inoperable cancer which had got well. In some cases he had treated them without seeing them, on the report of a medical man. He did not inquire as to the name of the medical man who had refused to co-operate; he had simply asked Mr. Hindley to get his medical man to write to him; it was not his business to write Dr. Ogilvie. Any charge in this case should lie, not against himself, but against local practitioners who allowed the case to drift until it became inoperable and beyond treatment altogether. As to the fee, he had only charged Mr. Hindley 5 guineas in all. Asked by the President if he kept copies of the prescriptions he sent to patients, he said he did not, but he knew what he prescribed according to the case. An opium preparation having been prescribed in this case, he was asked whether he was in the habit of prescribing opium preparations for people he had never seen. He said that in such cases their own doctor was on the spot and was responsible for the administration. The opium was given to relieve the pain. Asked what was the nature of the co-operation of the doctors of which he spoke, he said it consisted of carrying out his instructions and reporting the progress of the cases to him. He believed that the report of a medical man that a case was incurable was a sufficient report, and he maintained that by his method such cases were curable in many instances.

Lord Tenterden, Chairman of the Battersea Hospital, said that Dr. Bell had been in charge of the Cancer Research Department for the eight years of his own chairmanship, and had done invaluable work. He was proceeding to give details of cases when the President reminded him that he was a layman; Lord Tenterden replied that the reports he held in his hand were signed by a medical man. Dr. Bell had succeeded in cases where others had failed to cure. He added, in reply to a question from the Council, that the full title of the Hospital was the Battersea General (Anti-Vivisection) Hospital, and that it had forty beds.

Dr. Bell's counsel urged that there was only one point in dispute—namely, as to the letter which Dr. Bell alleged he wrote, asking that the Warrington practitioner might report to him, and which Mr. Hindley said he did not receive. He withdrew the supposed "copy" of this letter which had been put in, because it was admitted that it was made after the letter had been dispatched; but the evidence still stood, and was corroborated by the examination of the other correspondence, which showed that there must have been some such letter. This was also borne out by the fact that almost a year later, near Mrs. Hindley's death, and long before any proceedings were dreamed of, Dr. Bell wrote to Mr. Hindley that had he received the co-operation of the medical man in Warrington, the result might have been different. He accepted Dr. Ogilvie's statement that he was not asked to report to Dr. Bell when the latter undertook treatment, but Dr. Ogilvie had virtually thrown up the case on being shown some newspaper cuttings by Mr. Hindley, and this would lead Mr. Hindley to suppose that he would refuse to co-operate. What was alleged against Dr. Bell was a single breach of the rules governing professional conduct, not their systematic infringement. He had been fifty years in his profession, and although there had been differences of opinion between him and his fellow medical men, not a word had been said against him from the professional point of view. Comment had been made on the fact that correspondence was not kept, but it was important to remember that this lady died in April, 1921, that the letters were written in June, 1920, and that nothing was heard by Dr. Bell with regard to any charge against him until November, 1921.

The Council's Solicitor urged that there was no evidence that Dr. Bell had ever asked for a report by the local practitioner.

The Council deliberated in private for half an hour, and on the resumption of the public sitting the PRESIDENT said:

Dr. Bell, I have to tell you that the facts alleged against you in the notice have been proved to the satisfaction of the Council. These facts are:

"That, being a registered medical practitioner, you have, during a period of nine months, prescribed for and treated a patient—namely, Mrs. Rose Hindley, who was suffering from 'inoperable' cancer—without ever having seen or examined the said patient, such prescribing and treatment being carried on by means of correspondence sent by you to Edward Hindley, the husband of the said patient, a person without medical skill or knowledge."

It was open to the Council, having regard to the facts so proved, to have judged you to have been guilty of infamous conduct in a professional respect, but, in the circumstances of the case, they have postponed pronouncing this judgement until next year in order that they may then have an opportunity of considering your conduct in the interval and of taking that conduct into account. I am instructed by the Council to say that they take a grave view of the conduct of a practitioner who for gain prescribes for and treats by correspondence, without ever having seen or examined the patient, without having had any medical evidence as to the actual nature of her complaint, and without securing any medical assistance or co-operation in the actual treatment of it.

At the May Session, 1924, you should be prepared to satisfy the Council that during the interval you have been without reproach in respect of such methods of practice as have been proved against you to day.

The thanks of the Council were expressed to the Warrington practitioners who had brought the complaint forward.

Advertising to attract Patients.

The Council on May 25th considered the case of John William Kynaston, registered as of 26, Welbeck Street, Cavendish Square, London, W.1, L.S.A.Lond., M.R.C.S.Eng., L.R.C.P.Lond., who was summoned to appear before the Council on the following charge:

"That, being a registered medical practitioner, you have sought to attract to yourself patients for your own gain by means of the following advertising, namely:

"(1) A book written and published by you, entitled *Adenoids and Enlarged Tonsils: Curable without Operation*, containing your name, professional address, qualifications, and portrait, and particulars of cases treated by you, and in which is inserted a printed slip inviting persons to send to you an account of their symptoms. (2) A letter, over your name and professional address, published in the Bournemouth *Daily Echo* of March 11th, 1922, in which you state that you are prepared to give advice by post to all applicants, and asking for financial assistance to start a clinic in London. (3) An account of an interview between you and a representative of the *Daily Herald*, published, with your photograph, in that paper on April 13th, 1922. (4) An advertisement in *John Bull* of April 22nd, 1922, of the Kynaston Institute, containing your name as Medical Director thereof, and offering your free advice to sufferers;

"And that in relation thereto you have been guilty of infamous conduct in a professional respect."

Dr. Kynaston attended, unaccompanied by counsel or solicitor. The complainant was the Medical Defence Union, represented by Mr. Oswald Hempson, solicitor. Members of the Council who are members of the Medical Defence Union were requested to withdraw.

Mr. Hempson, in opening, said that for some time past the Council of the Medical Defence Union had been looking askance at an increasing tendency on the part of some members of the profession to advertise themselves in the lay press, and Dr. Kynaston had been mentioned by various members of the Union as an example. His book, *Adenoids and Enlarged Tonsils: Curable without Operation*, was obviously directed to the lay public, and the objectionable feature was a printed slip, appearing at any rate in the second edition, and, he believed, in some copies of the first, inviting persons to send to Dr. Kynaston an account of their symptoms. The attention of the Council of the Union was also drawn to a letter in the Bournemouth *Daily Echo* of March 11th last, which stated that 90 per cent. of the tonsils and adenoids operations on elementary school children were unnecessary and therefore unjustifiable, and that Dr. Kynaston had decided, failing other means, to give advice by post to applicants. A similar letter appeared in certain London papers, and in papers in Aberdeen and Newcastle. It was the duty of the complainant, in the first place, to find out whether Dr. Kynaston was actuated by disinterested motives. Accordingly, when the matter was put in his hands, he (Mr. Hempson) arranged for a representative of his firm to write to Dr. Kynaston from his private address, which he did in March last, stating that his daughter, now 18 years of age, had had her tonsils removed under an anaesthetic when she was 6, that for a time all went well, but in later life she had developed hoarseness after singing, shortness of breath, copious nasal discharge, and had at times swelling of the glands of the throat. Dr. Kynaston replied that the case was a typical example of the uselessness of these operations in effecting a cure. He added that he preferred in all cases to make a personal examination before undertaking treatment and asked that the young lady should call and see him. This was agreed to, and, after fixing the appointment, Dr. Kynaston added, "My usual fee is three guineas, but I am always ready to modify it when necessary, as I do not allow financial stringency to close the door." The father then wrote again, stating that it was difficult for his daughter to call, as she was in business locally, and suggesting that as Dr. Kynaston had expressed willingness to give advice through the post, this course might be taken. Dr. Kynaston's reply, through his secretary, was that he would be quite willing to give advice by post as it was impossible for him to see the person, and the father was asked to fill up a form and send it, together with Dr. Kynaston's reduced fee of two guineas, whereupon he would return full instructions as to the course of treatment required. A series of questions was enclosed with the letter. There was no need to emphasize the unprofessional character of this conduct, because since these proceedings started he (Mr. Hempson) had had his attention drawn to the fact that Dr. Kynaston had written to the General Medical Council requesting that his name might be removed from the *Register;* therefore it was evident that he was acting with his eyes open. Mr. Hempson next drew attention to the advertisements of the Kynaston Institute in *John Bull;* one of his clerks applied to the Institute and obtained certain publications, one of them stating that Dr. Kynaston's experience and knowledge of all these matters (the treatment of tonsils and adenoids) was unrivalled, and his methods were proved by demonstration to be safe, easy, and sure. "It is well known that operations frequently fail to remove symptoms for which they were undertaken. Such failure is no bar to successful treatment by Dr. Kynaston's method." An information card was enclosed, to be filled up as fully as possible, and it was stated that all such cards were dealt with by Dr. Kynaston himself, that it was the object of the Institute to make available to everybody expert advice, and that Dr. Kynaston was giving this impartial advice without fee. On the card was a blank space, "For the use of Dr. Kynaston only." This was sufficient evidence that Dr. Kynaston was associated with this institution, that he was advertising its claims, and was prepared to treat cases without previous examination, and simply from the description given by the patients themselves.

Mr. Hempson went on to draw attention to the association of Dr. Kynaston with a company of wholesale chemists' and druggists' manufacturers, dealers, and distributors of proprietary articles—a company formed with a capital of £5,000 in £1 shares. Dr. Kynaston objected, and said that this matter formed no part of the four charges preferred against him. Mr. Hempson said that he would bring it up in cross-examination. He also drew attention to an interview with Dr. Kynaston which appeared in the *Pall Mall Gazette* of May 3rd headed, "A Harley Street Heretic," and beginning, "Dr. John Kynaston has dropped a bombshell into Harley Street," when Dr. Kynaston again objected. Mr. Hempson said that he could not include this in the charge because it occurred subsequent to the sending in of the complaint. He added that he had been informed of the line the defence would take. Dr. Kynaston's first contention was that none of the instances brought forward constituted scandalous conduct in a professional respect, that the charges were all concerned with his effort to get attention to the conditions under which tonsils and adenoids operations were performed, and to introduce more rational methods, Dr. Kynaston contending that he had been refused facilities by the Ministry of Health for demonstrating his thesis; and finally, that the charges were made subsequently to his request to the Council for the removal of his name from the *Register*. Mr. Hempson added that he himself was not competent to enter into a discussion on the merits of the treatment; he was only there to prove that Dr. Kynaston had acted unethically and contrary to the regulations of the profession. He was glad that he was representing the Medical Defence Union, a body which no one could say was other than impartial, rather than any group of practitioners against whom it might possibly be alleged that they were actuated by professional jealousy.

Dr. James Neal, general secretary of the Medical Defence Union, testified that he had received complaints from a number of members of the Union with regard to Dr. Kynaston's conduct. His attention had been called particularly to the second edition of Dr. Kynaston's book, with its inserted slip. He reported the matter to his council on March 16th, and was instructed to ask the solicitors to get in touch with Dr. Kynaston.

Dr. Kynaston asked the witness for the names of the members of the Union who had complained against him. Mr. Hempson objected to the question, and his objection was allowed. Dr. Kynaston further asked whether the letter in the Bournemouth *Daily Echo* had precipitated the Union's action. Dr. Neal said that the charges against Dr. Kynaston were prepared by the solicitor in consequence of a report which he (the witness) had made to his council on March 16th, and that, the Bournemouth letter coming into his hands on the 17th, he included this among the matters on which he instructed the solicitor. Dr. Kynaston went on to ask whether the Medical Defence Union was a limited liability company, formed to support and protect the interests of medical practitioners—that is to say, a trade protection society. Dr. Neal said that it was a limited liability company, formed in the first place for the protection and support of its subscribers, but in reply to Dr. Kynaston's repeated inquiry whether it was not in essence a trade protection society, he said he could not accept that description. Re-examined by Mr. Hempson, he said that the Union was concerned for the general status of the profession.

Mr. F. C. Whitwell, the representative of Messrs. Hempson who had written to Dr. Kynaston about the case of his daughter, gave evidence corroborating the reference to the correspondence in Mr. Hempson's opening statement. Cross-examined by Dr. Kynaston he said his daughter was suffering from exactly the condition described in his original letter to Dr. Kynaston. Dr. Kynaston remarked that that was valuable information, and exactly what the slip inserted in his book was intended to elicit. He asked the witness about the question which he (the witness) had put to him in his letter, as to whether it was possible for tonsils to grow again. Where on that slip did he find an invitation to ask such a question? The witness said that he relied on the general invitation of Dr. Kynaston to anybody to communicate with him. Dr. Kynaston also asked whether he did not make it plain that the fee was to be only what the patient could afford. The witness said that 3 guineas was mentioned in the letter, but there was a suggestion that a lower fee might be taken.

Mr. A. E. Bright, also employed by Messrs. Hempson, gave evidence as to receiving, on application, from the Kynaston Institute a printed letter, an information card, and a booklet entitled "Devil-may-care Operations."

This closed Mr. Hempson's case, and Dr. Kynaston then tendered himself for evidence. He began by saying that he had been engaged, was still engaged, and intended to go on being engaged, in a campaign against Sir George Newman and the Ministry of Health. Sir George Newman was a member of the General Medical Council, but he ventured to say most respectfully that it was Sir George Newman rather than himself who should appear as defendant before that tribunal that day. The President reminded the defendant that the charge was advertising to attract patients. Dr. Kynaston said that the book of which so much had been heard came to be written owing to Sir George Newman's action. He (Dr. Kynaston) conceived the idea, which he very strongly held, that the tonsils and adenoids operations going on throughout the country under the Ministry of Health were a scandal. The vast majority of the operations, carried on at public expense, were unnecessary and therefore unjustifiable. Asked to confine himself to evidence, and to reserve comments to his final speech, Dr. Kynaston went on to recount his professional career. He entered the army in 1886, retired in 1905 with the rank of major, was recalled to the active list on the outbreak of war, and served until six months after the armistice. During the war he had charge of a camp of 25,000 men and a hospital of 1,200 beds. On January 15th, 1920, he wrote to the Ministry of Health, stating that in his view the very great majority of cases of tonsils and adenoids were wrongly treated by operation, and asking the Ministry to place him in a position in which he could demonstrate that operative treatment was quite unnecessary in a very large proportion of cases. He was asked to call at the Ministry, where he saw a medical officer, of whom he asked that this question should be inquired into and threshed out. He went away under the impression that possibly steps might be taken, but later he received a letter stating that the Ministry was not prepared to arrange for him to test the medicinal treatment he proposed to apply. He believed that this was mere bureaucratic obstruction to any new idea. It was absolutely unjustifiable for a public body to take up such an attitude towards any medical man, especially one who had had thirty-six years in the profession. He felt justified, therefore, in taking other steps, and the first edition of his book was the consequence. He sent a copy of this to Sir George Newman, who replied that he quite agreed with him that operations should not be undertaken except when absolutely necessary. Dr. Kynaston replied to this that he thought he would find that there was a difference of opinion as to the value of alternative methods, and that neither the school medical officers nor the profession generally carried out the principles in which he (Sir George) believed. Then he prepared the second edition of his book, to which exception was now taken, eighteen months after publication. The slip was inserted into the book to enable him to obtain the statistics he had been unable to get in any other way. Later on he wrote to the Editors of the *British Medical Journal* and the *Lancet*, asking them to publish a letter, which in fact was published in the *British Medical Journal*, requesting medical men who were in a position to afford facilities for demonstration of the truth of the claims he was making to give him an opportunity in that direction. To that appeal to his profession he had received no answer. Facilities had never been granted to him by the Ministry of Health, nor by any of the hospitals or clinics in London. At about this time he wrote Dr. Addison, then Minister of Health who apparently considered that his application was for a public appointment, for a communication was sent him in reply enclosing a form beginning, "With reference to your application . . ." He wrote again to Dr. Addison, complaining of official supineness, lack of foresight, and even callousness, and pleading that he himself was neither a visionary nor a quack, nor a crank, but that he had been assistant to the late Sir Henry Butlin, and had taken a great interest in diseases of the nose and throat ever since. He appealed to Dr. Addison as "a Barts man to a Barts man," to discuss the matter with him. That appeal fell on deaf ears. He was told that the Ministry of Health could not undertake the discussion of a question which was more suitable for ventilation in the medical press. The medical press, however, invariably put his letters and contributions in the waste-paper basket. At a time when there was a long correspondence in the *British Medical Journal* on the subject of enlarged tonsils, he wrote to that journal that the easiest way to make arrangements for a sufficient number of beds was simply not to operate upon cases where operation was unnecessary. The Editor practically refused to put in this letter, apparently because of the pamphlet he had written. He then wrote to the Editor again, and called and saw the Assistant Editor, and in order that there might be no mistake he wrote another letter subsequent to the interview, on each occasion protesting against the suppression of his views. He told the Editor that in suppressing these views he was assuming a grave responsibility; this was a matter which vitally affected hundreds of thousands of children annually, and it was suppressed apparently as a retribution for his (Dr. Kynaston's) alleged breach of medical ethics. To that letter he got a bare acknowledgement. He then came to the British Medical Association. At this point the Central Ethical Committee "chipped in."

The President inquired as to the relevance of all this as evidence.

Dr. Kynaston said that all this was part and parcel of his campaign for an inquiry, and it led up to his resignation from the *Medical Register*; he resigned in order to prevent the General Medical Council being placed on the horns of a dilemma.

The President: You have no power to resign from the *Medical Register*.

Dr. Kynaston said that that was a matter of opinion. He went on to read a communication from the Central Ethical Committee stating that its attention had been drawn to the book he had written; that it noted with regret that a member of the Association should in that book have inserted a portrait of himself and a slip inviting correspondence from persons not necessarily his own patients; and asking for an explanation. Dr. Kynaston then read his letter in reply, in which he again put forward his view that operations were

frequently undertaken to cure what was merely a head cold, especially so after measles, whooping-cough, and like conditions, and that the fact that he was a member of the Association could not be held to prevent him from bringing these facts before the public. He told the Committee that it was an abominable scandal that attempts should be made to prevent so obvious a truth becoming known, and he referred to his letters which had been refused insertion, and to the fact that he was denied an opportunity of putting forward his views at the Annual Meeting. The Central Ethical Committee, in reply, said that it was not concerned with the validity or otherwise of his claims, but it was concerned with any transgression of the rules of ethical conduct. It could not undertake to instruct the Editor of the *Journal* as to what he should insert, nor control the programme of the annual meeting. The next incident was at the annual meeting of the Association at Newcastle last year. When he asked to read a paper in the Orthopaedic Section the request was refused, ostensibly because he had had a short article on the same subject in the *Practitioner*. He was permitted to speak in the Section of Rhinology, the president of which (Dr. W. Hill) introduced him as "our arch-enemy" and suggested that he was putting his head between the lion's jaws. He had not gone very far before he was interrupted and "shut up." His paper was not allowed to appear in the agenda. It was then that he started writing to the public lay press. He applied to the Institute of Hygiene to lecture there, and was refused. He applied to societies for child welfare and the prevention of infant mortality and was refused. He offered to give evidence before the London County Council and was refused, being told that he must convert the medical profession. In Carnarvonshire, where a large number of children were awaiting operation, he offered to give a lecture, and was not only refused but insulted. In December, 1921, he wrote to the *Lancet*, and his letter was put in the waste-paper basket, but it was made the occasion for an article misrepresenting his views. He believed that it was because he was a retired army medical officer that he was not allowed to interfere, in any shape or form, in this matter. Professional jealousy was operating, and there was a natural tendency to say, "What can an army officer possibly know about the subject?" Thus he came to the conclusion that it would be better for him to remove his name from the *Register*. He had no wish to put the General Medical Council to the inconvenience and expense of an inquiry. Two months ago he wrote asking that his name might be removed from the *Register*. The reply stated that by the standing orders a statutory declaration was necessary. He complied, and at the time the declaration was put in there was no hint of impending proceedings. He received the acknowledgement of his statutory declaration on April 3rd, and it was on April 5th that the Medical Defence Union took action.

The President asked whether his sole reason in applying for removal of his name was a desire to save the Council from the inconvenience and expense of an inquiry. Dr. Kynaston replied that that was one of the reasons, and he thought he could say the chief.

Mr. Hempson cross-examined Dr. Kynaston as to an interview in the *Pall Mall Gazette*, headed "A Harley Street Heretic." Dr. Kynaston said he thought this was written by a patient of his. In this interview the question was asked, "What will your defence [before the Council] be?" and Dr. Kynaston was reported to have replied, "I will give them hell." Asked whether this was correct Dr. Kynaston admitted that that was apparently what he had said. He was then cross-examined as to his association as shareholder and director in the company (mentioned by Mr. Hempson in his opening remarks) manufacturing an antiseptic which, he agreed, was the substance referred to in his book. In reply Dr. Kynaston said there was no secret about this matter. His sole interest in this company was limited to one £1 share, and although he was a director he received no fees whatever. It was utterly "off the track" to suppose that this was a case of secret gain. The matter was a somewhat technical one, which he could explain if the Council desired; it had been fully explained in an article by him in the *Practitioner*. Financially his interest was purely nominal. To another question by Mr. Hempson, "You have plastered the country pretty liberally with your advertisements of your method of treatment?" Dr. Kynaston's reply was, "Not so badly." Asked whether he approved of the type of advertisement of the Kynaston Institute he said he accepted full responsibility for it.

Dr. Kynaston, who had hitherto been giving evidence, then addressed the Council. He pointed out that the Central Ethical Committee of the British Medical Association had not seen fit to move against him, nor had either of the Royal Colleges nor the Apothecaries' Hall; it was left to a trade protection society to take the initiative, and that was typical of the whole of this complaint. He was approaching this question from the point of view of the interests of hundreds of thousands of children; he was not concerned for personal profit. The first charge against him was that of publishing a booklet. The booklet was published in order to exert pressure on the Ministry of Health and the local education committees, and the slip was put in to obtain statistics—the evidence denied him by his profession. He did not think it legal for the Council to refuse his application for removal and then proceed to treat him as a criminal; the charge of infamous conduct in a professional respect ranked him with those guilty of grave misdemeanour or felony, yet he had only undertaken what he conceived to be a public duty. There was great searching of heart on this subject at the present time, and although he never got the credit for it, his propaganda had started it. He had taken the proper and honourable course of asking that his name might be removed from the *Register*, and in answer he was subjected to a trade union prosecution by a trade protection society. The people who took a more scientific attitude, including the British Medical Association, had been much too wise to take the responsibility of bringing him there at the eleventh hour to classify him with felons, and all for an action forced upon him by the refusal of one body after another to give him proper facilities. He charged it against those who complained of his conduct that they were taking a very narrow, sordid, and worldly-wise view. There was no need for the Council to come to any decision at all on this matter. He preferred to be unregistered, and to carry on his propaganda as a free man, but he did not wish to obtain publicity by falling out with the General Medical Council, and he believed the present inquiry to be irregular under the Council's own standing orders.

Mr. Hempson, in his final speech, confined himself to saying that the Medical Defence Union had no knowledge that at the date it came to its decision on this case Dr. Kynaston had asked to have his name removed. He thought it was clear from the facts of the case that Dr. Kynaston had endeavoured to place himself in a position in which the Council could not penalize him. There was no doubt that he had engaged in most widespread advertising.

After the Council had deliberated briefly in private, the PRESIDENT announced its decision as follows:

John William Kynaston, I have to inform you that the Council have found the fact alleged against you in the notice of inquiry to have been proved; that they have judged you to have been guilty of infamous conduct in a professional respect; and have directed the Registrar to erase your name from the *Medical Register*.

Dr. Kynaston: Thank you, sir.

The President: That closes the case.

Intent to Procure Miscarriage.

The Council considered the case of Richard William Starkie, registered as of 27, Oakley Square, London, N.W.1, M.R.C.S.Eng., L.R.C.P.Lond., who had been summoned to appear on the following charge:

"That being a registered medical practitioner you were at the General Sessions holden at the Central Criminal Court on September 6th, 1921, convicted of the following felony—namely, that you unlawfully administered and caused to be taken by [a woman] certain poisons and noxious things—to wit, ergot, aloes, and oil of savin—with intent to procure her miscarriage, and were ordered to be imprisoned without hard labour in Wormwood Scrubbs Prison for nine months, which conviction was affirmed on your appeal to the Court of Criminal Appeal."

Dr. Starkie attended with his counsel, Sir E. Marshall Hall, K.C., and Mr. N. Birkett.

The Solicitor to the Council (Mr. Harper), after putting in the certificate of conviction, said that in view of the nature of the offence for which Dr. Starkie had been convicted, he would ordinarily have had nothing to add, but he had received from Dr. Starkie's solicitors a number of statutory declarations with regard, first, to the question of the commission of the offence, and, secondly, to the character of the defendant.

Sir E. Marshall Hall said that these had been sent on his instructions because he did not wish any evidence which might be admissible to be excluded on account of a technicality.

The PRESIDENT said that this was a case of conviction for felony. The Medical Act, 1858, stated that in such a case

the Council, if it saw fit, could erase the practitioner's name. Evidence as to character, but no further evidence as to the circumstances of the conviction, would be admissible.

Evidence was then called as to character. Miss E. Briggs, a St. Pancras newsagent, said that in her shop 5,000 signatures had been obtained to a petition in Dr. Starkie's favour. Most of his patients were poor people, among whom he was very popular. The Rev. C. Hunter spoke of his high reputation, especially for kindness to the poor. Mr. T. Oakley, member and ex-chairman of the St. Pancras Board of Guardians, said that Dr. Starkie was esteemed for his great services during an air-raid disaster which occurred in the neighbourhood, also because he showed no discrimination between his poor and his better-to-do patients. During the years in which he had been medical officer to the guardians there had been no case in which his skill or character was called in question. On his release from imprisonment a largely attended dinner was given in his honour, over which the witness presided.

Dr. Starkie, in evidence, said that he had two practices, one in St. Pancras, which he had worked with the aid of an assistant, and another in Brook Street, Mayfair. The patient in the case was a Mayfair patient. His practice in St. Pancras was general; in Mayfair it was that of a gynaecologist. The only reason why he opened out in Mayfair was because he received introductions to a number of West End people whom he could not ask to go to St. Pancras. A list of his distinguished patients was handed in, and it was mentioned that he had a yearly fee from a well-known trainer of racehorses.

Sir E. Marshall Hall said that he recognized that he was appealing entirely to the mercy of the Council. The Council was not compelled to erase Dr. Starkie's name on account of his conviction. It was impossible for him to go behind the facts of the case, but in parenthesis he might observe that if the Council had had the opportunity of reading the medical evidence called by the prosecution it would have realized that on that evidence an ignorant lay jury could have taken no other course. The learned counsel was pulled up by the President owing to the length of his parenthesis, but he suggested that a medical jury might have made certain allowances in the evidence. In three recent cases the Council had exercised a merciful discretion even when a conviction for a serious offence had been recorded. He admitted that one of the cases was that of a dentist, and that the Dentists Act differed from the Medical Act on this point. But he asked the Council to remember the circumstances under which this conviction took place. Here was a married woman, living happily with her husband; in her last confinement she had suffered terribly. If they had heard her tell her pitiful story they would have understood better the appeal to Dr. Starkie's compassion. There was no question of surgical interference or any drastic measure. Dr. Starkie prescribed for her a pill which was sold by the million. It was made by every reputable wholesale drug manufacturer in this country, and was on the shelf of every practitioner, who obtained it at 1s. 8d. a gross. The dose prescribed was one pill thrice a day. Dr. Starkie was convicted of administering the pill with intent to procure miscarriage. In the result there was no abortion; the lady had since had a child. Perhaps they would think that Dr. Starkie, having undergone nine months' imprisonment, had suffered sufficiently. If his name were erased it would only put a premium on illicit practice. As an unregistered man he could do almost all that he had been doing, except sue for his fee, give evidence as a medical practitioner, or sign death certificates. His past history was one of which any man might be proud. Enormous importance was to be attached to the petition signed in the little newspaper shop in St. Pancras. In that poverty-stricken district Dr. Starkie had earned his living, and had earned also the gratitude of the people. He had made a disastrous mistake. No man was justified in law in doing anything which would interfere with the natural process of generation and parturition. Whether the pills availed for this purpose the law did not stay to consider. Had they been made of bread he would have been equally liable. But he had served his sentence. He was 47 years old, and had nothing before him which made for honesty if his name were removed. They had all known cases in which the most brilliant men had been guilty of a single fault, and, failing to secure mercy, their careers had been eclipsed.

The Council's Solicitor pointed out that Dr. Starkie carried on two practices, one in St. Pancras among the poor, and the other in Mayfair among the rich. In St. Pancras he had no doubt done a great deal of good, but no evidence had been tendered from the patients of his Mayfair practice. With regard to the suggestion that the pill could do no harm, he read a letter found at Brook Street after Dr. Starkie's arrest: "I wish your medicine could have helped me. I still have a few of your pills left. Would you like me to return them, or may I keep them for another year, when I hope to use them in good time?"

The Council deliberated in private, and the PRESIDENT announced its decision as follows:

"That Richard William Starkie having been proved to have been convicted of the felony alleged against him in the notice of inquiry, the Registrar has been directed to erase his name from the *Medical Register*."

ELECTION OF COMMITTEES.

The following Committees were elected:

Executive Committee.—The President (*ex officio*), Sir Gilbert Barling, Dr. Macdonald, Sir Norman Moore, Mr. Waring, Sir James Hodsdon, Dr. Norman Walker, Sir Arthur Chance, and Sir John Moore.

Dental Executive Committee.—As above, with the addition of Mr. Dolamore.

Penal Cases Committee.—The President (*ex officio*), Sir F. Champneys, Dr. Macdonald, Sir Arthur Chance, Dr. Norman Walker.

Business Committee.—Dr. Norman Walker (Chairman), Sir Francis Champneys, Dr. Macdonald, Dr. Magennis, the President (*ex officio*).

Pharmacopoeia Committee.—The President (Chairman), Dr. Caton, Dr. Hopkins, Sir S. Russell-Wells, Dr. Matthew Hay, Dr. Norman Walker, Dr. Kidd, Sir John Moore, Sir Nestor Tirard.

Finance Committee.—Sir Norman Moore (Chairman), Mr. Waring, Sir James Hodsdon, Sir Arthur Chance, the President (*ex officio*).

Dental Education and Examination Committee.—Sir James Hodsdon (Chairman), Mr. Dolamore, Mr. Gilmour, Mr. Waring, Mr. Guy, Sir Arthur Chance, the President (*ex officio*).

Students' Registration Committee.—Sir Norman Moore (Chairman), Sir Gilbert Barling, Mr. Littlejohn, Dr. Mackay, Mr. Coffey, Mr. Sinclair, the President (*ex officio*).

The following nominations from the Branch Councils for committees were adopted:

Education Committee.—Sir F. Champneys, Dr. Howden, Sir N. Moore (England); Sir J. Hodsdon, Professor Littlejohn, Dr. Mackay (Scotland); Sir A. Chance, Dr. Dixon, Dr. Sinclair (Ireland).

Examinations Committee.—Sir G. Barling, Dr. Caton, Dr. Macdonald (England); Dr. Adams, Dr. Russell, Dr. N. Walker (Scotland); Sir A. Chance, Dr. Coffey, Dr. Kidd (Ireland).

Public Health Committee.—Dr. Dean, Sir G. Newman, Sir J. Verrall (England); Dr. M. Hay, Professor Littlejohn, Dr. McVail (Scotland); Sir C. Bigger, Dr. Magennis, Sir J. Moore (Ireland).

Meetings of Branches and Divisions.

OXFORD AND READING BRANCH: READING DIVISION.

AT a general meeting of the Reading Division, held on May 11th, Dr. G. O. Lambert was appointed Representative, and Mr. Joyce, F.R.C.S., Deputy Representative for the forthcoming Annual Representative Meeting. The following resolution was adopted:

That our Representative be instructed to support that part of the Hospital Policy of the British Medical Association which favours some remuneration being made to the Staffs of Voluntary Hospitals, from moneys received from public bodies; but to strongly oppose those parts of the policy which favour payment of medical staffs from moneys received from patients who pay on their own behalf part of their maintenance or under a contributory scheme.

METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.

THE annual meeting of the Lewisham Division was held on May 23rd, when Dr. G. W. CHARSLEY was in the chair. The following officers were elected for the ensuing year:

Chairman: Dr. T. E. White. *Vice-Chairman:* Dr. J. Gilchrist. *Honorary Secretary:* Dr. C. J. B. Buchan. *Representative on Branch Council:* Dr. G. W. Charsley.

The members of the Executive Committee were also elected. The annual report of the Council of the Association for 1921-22 was discussed, and it was agreed to support it.

PENSIONS BOARDS MEDICAL OFFICERS.

DEPUTATION TO THE MINISTER OF PENSIONS.

ON April 18th the rate of remuneration to ordinary members of Pension Boards was reduced from £1 11s. 6d. to £1 6s. 3d., and that of chairmen from £1 16s. 9d. to £1 11s. 6d. Immediately the reduction was announced, steps were taken by the British Medical Association to ascertain the feeling of the medical men doing this work, and as a result the Minister of Pensions, the Right Hon. Ian Macpherson, K.C., M.P., was asked to receive a deputation, which he did on May 26th. The Minister was accompanied by Mr. G. Chrystal, C.B., Mr. E. H. Hodgson, O.B.E., and Colonel Sir A. Lisle Webb, K.B.E., C.B., C.M.G.

The deputation was introduced by Sir JENNER VERRALL, Chairman of the Ministry of Pensions Subcommittee, who was accompanied by Dr. Alfred Cox (Medical Secretary),

Dr. Courtenay Lord (Assistant Medical Secretary), and four medical practitioners who are at present doing pension board work in the London Region.

Dr. Cox explained that the British Medical Association was concerned in this matter from two points of view: that of the profession as a whole and that of the pensions medical officers, most of whom were members of the Association. The profession generally was interested because the reduction brought the pay of the pension doctor beneath that paid for any similar work, and thereby was a direct, if unintended, attack on the standard of remuneration of the profession. The Association had always held that £2 2s. was the proper fee for this work, and had tried hard to get the Minister's predecessor, Sir L. Worthington Evans, to fix this fee when he was approached by deputation in September, 1919. The result was a compromise, the fee being raised from one guinea to a guinea and a half. The doctors employed on this work resented the reduction because it was virtually a reflection on their professional efficiency. If a man was told that the Minister considered that his time ought to be paid for at a less rate than that of any doctors doing similar work the inference was that this work was considered to be of less value than the other. But the doctors doing this work were picked men, there had been a gradual process of elimination among their ranks, and the fact that, as he was informed, only some 6 per cent. of their decisions were appealed against, of which appeals only half were successful, was proof that the work was good. Moreover, he was informed that not only was a reduction in salary being forced on the Boards, but, at any rate in many areas, they were being asked to do more work in a given time. Dr. Cox also made an appeal on behalf of the chairmen of the Boards, whose special responsibilities seemed to be very inadequately recognized by a payment of only 1½ guineas for two and a half hours' work.

The Minister said he had no intention of making any attack on the standard of remuneration of the profession. In 1917 they only paid a guinea for this work and this was willingly accepted by the profession. They increased it in 1919 to one and a half guineas because of the increased cost of living. The increase was proportional to that made in the remuneration of insurance practitioners, and the recent decrease to pension doctors was based on the lower payment now made to insurance practitioners. Economies had to be made in that Ministry as elsewhere, and that the payment was not considered inadequate in present conditions was shown by the fact that he had recently had a deputation of doctors from Glasgow who asked for Board work and raised no difficulties about the payment. The reduction was certainly not meant as a reflection on the service—he believed the work was very well done, and he certainly would not be responsible for the employment of incompetent doctors. He did not claim that the payment was excessive, but he thought it was reasonable. The arguments as to lower cost of living, etc., which applied to insurance practitioners applied also to pensions medical officers. He agreed as to the responsibility of the chairman's work, but thought that his greater regularity of employment should be taken into account.

One of the Pensions medical officers gave particulars as to the work, and pointed out that a chairman had much work to do on the documents after the Board had finished. This made it even more difficult for him than for the ordinary members to do anything in the way of starting practice. The work of the doctors on the Boards was really that of specialists, and should be paid for accordingly.

The Minister stated that the average number of cases attending the Boards in 1920 was 8.5 and in 1921 8.9, and instructions had been given that an average of two and a half hours should not be exceeded. He was informed by one of the Pensions medical officers that this was all right in theory, but as a matter of fact men could not be sent away. One member of a Board said he had frequently seen twelve in an afternoon and never less than eight. Another said that on one occasion no cases had turned up and the doctors went away, but were not paid. The Minister expressed the opinion that they should have been paid in these circumstances.

Considerable discussion took place over the suggestion made by the Minister that the remuneration had gone up, and was now coming down because of the alterations in the cost of living. Dr. Cox read from a copy of the agreed report of the interview with Sir L. Worthington Evans in September, 1919, in which cost of living was not mentioned. He protested that the whole of the discussion then had been as to what was a proper fee for two and a half hours' responsible medical work. The Association's figure was £2 2s., but eventually £1 11s. 6d. had been accepted.

The Minister said that the representations which had induced the Treasury to give the increase from £1 1s. to £1 11s. 6d. were based mainly on the cost-of-living figures. Dr. Cox replied that it seemed to him that the victims of the present reduction were being penalized for a misunderstanding. When the guinea and a half was granted no part of it was looked on by the recipients as a war bonus, but now it was being reduced on war-bonus grounds. The Minister would, of course, get his work done at the reduced fee, but it would be done under a protest and with a feeling that the Minister was not paying the market rate for responsible work. That rate should indeed be higher because the doctors concerned were not working regularly and could be turned off at twenty-four hours' notice.

The Minister promised that he would give the representations made to him his careful attention before he gave an answer; and Sir Jenner Verrall thanked him for the very considerate way in which he had received the deputation.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following announcements are notified by the Admiralty:—Surgeon Commanders: A. G. Valpy-French to the *Blenheim*, temporary; M. C. Mason to the *Despatch*. Surgeon Lieutenant-Commander T. Cock to the *Vivid*, for Devonport Dockyard; J. G. Danson to the *Furious*.

Surgeon Lieutenant A. W. North has been promoted to the rank of Surgeon Lieutenant Commander.

ROYAL ARMY MEDICAL CORPS.

The following officers relinquish their commissions:—Temporary Captains and retain the rank of Captain: W. E. C. Musson, S. Oliver (on account of ill health), R. S. Aspinall.

TERRITORIAL ARMY.

ROYAL ARMY MEDICAL CORPS.

The following officers, having attained the age limit, are retired and retain their rank, except where otherwise stated: Major P. Howie. Captains, and are granted the rank of Lieutenant-Colonel: W. E. Alston, C. Cameron; Captains G. Davidson, R. R. Macnicol, T. S. Slessor.

Captain J. Walker relinquishes his commission and retains the rank of Captain.

The announcement regarding Captain H. A. Playfair-Robertson which appeared in the *London Gazette* of April 11th is cancelled.

Lieutenant G. V. Davies (late R.A.M.C., S.R.), to be Lieutenant, with precedence as from March 1st, 1917.

Supernumerary for Service with O.T.C.—Major H. B. Roderick, O.B.E., T.D., from 1st Eastern General Hospital, to be Major, for service with the Cambridge University Contingent, Senior Division, O.T.C., January 16th, 1920 (substituted for the notification in the *London Gazette*, January 15th, 1920).

MILITIA.

ROYAL ARMY MEDICAL CORPS.

The following Captains relinquish their commissions: P. A. Clements, and is granted the rank of Major; F. A. Prosser, and retains the rank of Captain.

TERRITORIAL ARMY RESERVE.

ROYAL ARMY MEDICAL CORPS.

Captain H. A. Playfair-Robertson, from General List, to be Major.
Captain J. S. Cooper, from T.A. Reserve, to be Captain.

VACANCIES.

BRADFORD CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £180 per annum.

BRADFORD MUNICIPAL GENERAL HOSPITAL.—(1) House-Physicians. (2) House-Surgeons. Salary at the rate of £200 per annum.

BRENTFORD UNION.—District Medical Officers. Salary, £140 per annum each.

CANTERBURY: KENT AND CANTERBURY HOSPITAL.—Resident Medical Officer. Salary, £175 per annum.

CHELTENHAM GENERAL HOSPITAL.—Assistant Honorary Surgeon.

COLCHESTER SEVERALLS MENTAL HOSPITAL.—Locumtenent Medical Officer (male). Salary, 7 guineas a week.

DARLINGTON GENERAL HOSPITAL.—Junior House-Surgeon (male). Salary, £175 per annum.

DELHI: LADY HARDINGE HOSPITAL AND COLLEGE.—Pathologist (medical women).

DERBY BOROUGH MENTAL HOSPITAL.—Assistant Medical Officer (male). Salary, £400 per annum.

DEVON MENTAL HOSPITAL, Exminster.—Third Assistant Medical Officer. Salary, £300 per annum.

DONCASTER ROYAL INFIRMARY AND DISPENSARY.—Senior House-Surgeon (male). Salary, £220 per annum.

DURHAM COUNTY COUNCIL.—Resident Assistant Medical Officer at the County Sanatorium, Holywood Hall, Wolsingham. Salary, £400 per annum, rising to £500.

GALWAY COUNTY BOARD OF HEALTH.—House-Physician for Central Hospital, Galway. Salary £100 per annum and £3 a week until indoor accommodation is provided.

GREAT YARMOUTH HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL, Haverstock Hill, N.W.3.—(1) House-Physician. (2) House-Surgeon. (3) Casualty Medical and Surgical Officers at Out-patient Department, Bayham Street, N.W. Salary at the rate of £150 per annum each.

ITALIAN HOSPITAL, Queen Square, W.C.1.—Honorary Ophthalmic Surgeon.

KING EDWARD VII SANATORIUM, Midhurst, Sussex.—Pathologist. Salary, £400 per annum.

LEICESTER ISOLATION HOSPITAL AND SANATORIUM, Groby Road.—Medical Superintendent. Salary, £600 per annum.

LONDON LOCK HOSPITAL, 91, Dean Street, W.1.—Clinical Assistants in Out-patients' Department.

LONDON UNIVERSITY—William Dunn Chair of Pathology at Guy's Hospital Medical School. Salary at least £1,300 a year.

MACCLESFIELD GENERAL INFIRMARY.—Senior House-Surgeon (male). Salary, £200 per annum.

MANCHESTER: ST. MARY'S HOSPITALS FOR WOMEN AND CHILDREN.—House-Surgeon for the Maternity Hospital. Salary at the rate of £100 per annum.

NATIONAL DENTAL HOSPITAL, Great Portland Street, W.1.—Honorary Anaesthetist.

NATIONAL SANATORIUM, Benenden, Kent.—Assistant Medical Officer. Salary, £250 per annum.

NOTTINGHAM GENERAL HOSPITAL.—House-Surgeon, six months. Salary, £200 per annum.

OXFORD: RADCLIFFE INFIRMARY AND COUNTY HOSPITAL.—(1) Casualty House-Surgeon. (2) Accoucheur. Salary at the rate of £200 per annum each.

PERTH PRISON.—Medical Superintendent of the Prison and of the Criminal Lunatic Department at Perth Prison. Salary, £350 per annum, rising to £500 with Civil Service bonus and house.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.—Assistant House-Surgeon. Salary, £120 per annum.

QUEEN MARY'S HOSPITAL FOR THE EAST END, Stratford.—Resident Medical Officer.

RICHMOND: ROYAL HOSPITAL.—Refractionist. Remuneration, £50 per annum.

ROCHDALE INFIRMARY AND DISPENSARY.—Junior House-Surgeon. Salary, £180.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.—(1) House-Surgeon. (2) Assistant Casualty Officer. (3) Obstetric House-Surgeon. (4) Senior Obstetric Assistant. (5) House-Surgeon at Marlborough Maternity Centre. Salary £50 per annum.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.—Assistant Physician.

ROYAL NATIONAL ORTHOPAEDIC HOSPITAL, Great Portland Street, W.1.—House-Surgeon. Salary, £150.

ST. HELENS COUNTY BOROUGH.—Assistant Medical Officer of Health. Salary, £450 per annum.

SOUTH SHIELDS: INGHAM INFIRMARY.—Senior and Junior House-Surgeons (male). Salaries, £200 and £150 per annum respectively.

SHEFFIELD ROYAL INFIRMARY.—(1) Two House-Physicians; (2) House-Surgeon; (3) Ophthalmic House-Surgeon; (4) Assistants Casualty Officer. Salary, £150 per annum each.

SOUTHPORT GENERAL INFIRMARY.—Junior House-Surgeon (male). Salary, £175 per annum and fees worth about £10.

UNIVERSITY COLLEGE HOSPITAL, Gower Street, W.C.1.—(1) Non-Resident Clinical Assistant in the Ophthalmic Department. Honorarium, £50 per annum. (2) Second Clinical Assistant in Child Welfare Department.

WEST LONDON HOSPITAL, Hammersmith Road, W.—(1) Two House-Physicians. (2) House-Surgeon. Salary, £100 per annum.

WESTMINSTER HOSPITAL, S.W.—(1) Assistant House-Physician; (2) Assistant House-Surgeon. Honorarium at the rate of £52 per annum each.

WIGAN: ROYAL ALBERT EDWARD INFIRMARY.—Junior House-Surgeon (male). Salary, £175 per annum.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

APPOINTMENTS.

ALEXANDER, J. Browning, M.D., M.R.C.P., Physician to St. Mark's Hospital.

SOUTHAM, A. H., M.Ch., F.R.C.S., Honorary Surgeon for Children to the Northern Hospital, Manchester.

ST. THOMAS'S HOSPITAL.—The following house appointments have been made:—House-Surgeon for Ear, Nose, and Throat: C. V. Patrick, M.R.C.S., L.R.C.P. Obstetric House-Physicians: (Senior) G. A. Back, M.R.C.S., L.R.C.P.; (Junior) E. D. Granger, M.B., B.S. Ophthalmic House-Surgeon: (Senior) S. H. G. Humfrey, M.R.C.S., L.R.C.P. Clinical Assistants: (Throat) R. W. Nichol, M.R.C.S., L.R.C.P.; (Skin) J. H. H. Gough, M.R.C.S., L.R.C.P.; (Ear) C. V. Patrick, M.R.C.S., L.R.C.P., R. W. Nichol, M.R.C.S., L.R.C.P.; (Children's Medical) F. A. Gaydon, M.R.C.S., L.R.C.P., N. S. Macpherson, M.R.C.S., L.R.C.P.; (Tuberculosis Department) C. W. C. Bain, M.R.C.S., L.R.C.P., C. P. Oliver, M.R.C.S., L.R.C.P.; (Electro-Cardiograph) B. T. Parsons-Smith, M.D., E. F. Smith, M.R.C.S., L.R.C.P. Nineteen other gentlemen have received extensions of their appointments.

DIARY OF SOCIETIES AND LECTURES.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.—Thurs., 5 p.m., Croonian Lecture by Dr. Gordon Holmes: The Symptoms of Cerebellar Disease and their Interpretation.

ROYAL SOCIETY OF MEDICINE.—*Section of Surgery:* Wed., 5.30 p.m., Discussion: Diathermy in Surgical Practice, to be opened by Mr. Clayton-Greene, followed by Mr. Harmer, Dr. Cumberbatch, and others. *Section of Neurology:* Thurs., 8.30 p.m., Dr. Shellshear: Morphological and Functional Significance of the Blood Supply of the Brain (with specimens). *Section of Ophthalmology:* Fri., 8 p.m., Clinical Evening; Cases, followed by Annual General Meeting.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 1s. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS and ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London).
MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London).
EDITOR, *British Medical Journal* (Telegrams: Aitiology, Westrand, London).
Telephone number for all Departments: Gerrard 2630 (*3 lines*).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)
IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

JUNE.

7 Wed. Buckinghamshire Division: Red Lion Hotel, High Wycombe, 3 p.m.
8 Thurs. Dartford Division: Annual Meeting, Livingtone Hospital, Dartford, 3.30 p.m.
Winchester Division, George Hotel, Winchester: Annual Meeting. Address by Dr. G. C. Anderson, the Deputy Medical Secretary, entitled "What are the advantages of belonging to the British Medical Association?" 3.30 p.m.
9 Fri. London: Post Office Medical Officers Subcommittee, 2 p.m.
14 Wed. London: **Council**, 10 a.m.
15 Thurs. Mid-Cheshire Division, The Unicorn Hotel, Altrincham: British Medical Association Lecture by Dr. John Hay (Liverpool) on "Some Aspects of Cardiac Disease," 3.15 p.m. Tea at 4.30 p.m.
South-Western Branch: Annual Meeting, "Durracombe," Newton Abbot, 3.15 p.m. Luncheon, 1.15 to 2.30 p.m. Annual Dinner, Globe Hotel, 7 p.m.
22 Thurs. London: Insurance Acts General Purposes Subcommittee, 2.30 p.m.
South Wales and Monmouthshire Branch: Annual Meeting, King Edward VII Hospital, Cardiff, 3.15 p.m.
23 Fri. Metropolitan Counties Branch: Annual Meeting, 429, Strand, W.C.2, 4.30 p.m.
24 Sat. Monmouthshire Division: Annual Meeting, Royal Gwent Hospital, Newport, 3.30 p.m. Executive Committee, 3 p.m.
Northern Counties of Scotland Branch: Highland Hotel, Strathpeffer.
29 Thurs. North Glamorgan and Brecknock Division: At Pontypridd, British Medical Association Lecture by Dr. H. Morley Fletcher on "Treatment in Renal Disease."

POST-GRADUATE COURSES AND LECTURES.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—Thurs., 4 p.m., Mr. Waugh: The Colon from a Surgical Aspect.

INSTITUTE OF PATHOLOGY AND RESEARCH, St. Mary's Hospital, Paddington, W.2.—Thurs., 5 p.m., Professor W. Bulloch: Historical Development of the Doctrines of Croup and Diphtheria.

LONDON HOSPITAL MEDICAL COLLEGE, E.—Dr. M. Culpin: Psycho-Neuroses. Tues. and Fri., 5.15 p.m., Treatment. Surgical Unit: Fri., 4.15 p.m., Mr. H. Lett: Haematuria.

LONDON LOCK HOSPITAL, 91, Dean Street, W.1.—Tues., 2.30 p.m., Mr. McDonagh: Microscopic Demonstration of *Leucocytozoon syphilidis*. At 283, Harrow Road, W.9, Wed., 3 p.m., Mr. Ernest Lane: Ante- and Post-natal Treatment.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Tues., Thurs., and Fri., 2 p.m., Out-patient Clinics. Tues., 3.30 p.m., Mr. Armour: Surgical Treatment of Torticollis. Wed., 12 noon, Dr. Adie: Methods of Examination; 2.15 p.m., Dr. J. Collier: Clinical Demonstration. Thurs., 12 noon, Dr. J. G. Greenfield: Neuro-Pathology; 3.30 p.m., Dr. G. Stewart: Tumours of Spinal Cord. Fri., 3.30 p.m., Demonstration of Fraenkel's Exercises. Tues. and Fri., 9 a.m., Operations; 12 noon, Dr. G. Holmes: Anatomy and Physiology of the Nervous System.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Hospital, Ouseley Road, Balham, S.W.12.—Wed., 4 p.m., Dr. T. Grainger Stewart: Physical Signs of Diseases of the Nervous System.

ST. MARYLEBONE GENERAL DISPENSARY, Welbeck Street, W.1.—Dr. Eric Pritchard: Infant and Child Welfare. Thurs., 6 p.m., Feeding of Children.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Daily, 10 a.m. to 6 p.m., Sat., 10 a.m. to 1 p.m. 10 a.m., Morning Work, 2 p.m., Operations, In-patients, Out-patients, Special Departments. 5 p.m., *Lectures*—Tues., Mr. Gray: Static Deformities. Wed., Mr. Armour: Cerebral Surgery. Thurs., Sir S. Russell-Wells: The Circulatory Differences in Mitral Stenosis and Aortic Regurgitation. Fri., Dr. Pritchard: Clinical Lecture.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **9s.**, *which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.*

MARRIAGE.

SARGENT—MITCHELL.—On the 27th May, Eric L. K. Sargent, M.B., B.Ch.Cantab., son of Mr. and Mrs. E. G. Sargent of Coombe Dingle, Bristol, to Margaret, daughter of Mr. and Mrs. David G. Mitchell, of Wimbledon.

DEATH.

ELSWORTH.—At St. Helen's Road, Swansea, on May 28th, Richard Cogswell Elsworth, M.D., F.R.C.S., in his 64th year.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, JUNE 10TH, 1922.

CONTENTS.

PAGE

General Medical Council:
PROFESSIONAL EXAMINATIONS ... 221
DIPLOMAS IN PUBLIC HEALTH ... 222
THE DENTAL CURRICULUM ... 223
DISCIPLINARY CASES ... 224

CURRENT NOTES:
SCHOLARSHIPS AND GRANTS IN AID OF SCIENTIFIC RESEARCH ... 224
DR. KYNASTON AND THE CENTRAL ETHICAL COMMITTEE ... 224
FEES FOR THE EXAMINATION OF EMIGRANTS ... 225

HOSPITALS POLICY OF THE ASSOCIATION: MEETING OF THE WESTMINSTER DIVISION ... 225

PAGE

ASSOCIATION NOTICES:
TABLE OF DATES ... 225
BRANCH AND DIVISION MEETINGS ... 225

SCOTTISH COMMITTEE: ELECTION OF DIRECT REPRESENTATIVES 227

CORRESPONDENCE ... 227

NAVAL AND MILITARY APPOINTMENTS ... 227

VACANCIES AND APPOINTMENTS ... 227

ASSOCIATION INTELLIGENCE AND DIARY ... 228

DIARY OF SOCIETIES AND LECTURES ... 228

BIRTHS, MARRIAGES, AND DEATHS ... 228

GENERAL COUNCIL
OF
MEDICAL EDUCATION AND REGISTRATION.

SUMMER SESSION, 1922.

Sir DONALD MACALISTER, K.C.B., President, in the Chair.

PROFESSIONAL EXAMINATIONS.

Clinical Examinations in Special Examination Halls.

AT the resumption, on May 29th, of the discussion on the Examination Committee's report on professional examinations, Mr. WARING proposed that Recommendation 16, which ran: "Clinical examinations in Medicine, Surgery, and Midwifery should be held in hospitals," should be amended to read, "in properly equipped hospitals or examination halls well provided with suitable patients." He thought it unwise to limit the recommendation to hospitals. In practice, in order to provide a suitable selection of patients, cases were brought into a hospital for the examination from outlying hospitals and infirmaries, and he failed to see how this differed in principle from bringing them to an examination hall. His experience as an examiner was that examinations in a special examination hall were better conducted than in a hospital.

Professor HOPKINS supported this amendment, and said that it had always been the custom at Cambridge for patients to be brought into medical schools. Sir JOHN MOORE pointed out that there were a number of cases, both medical and surgical, in which the patients could not be taken out of their beds for examination. Sir S. RUSSELL-WELLS, in supporting the amendment, said that in London there were a large number of special as well as general hospitals, and to obtain a sufficient variety of cases for examination purposes it was necessary to draw upon more than one hospital. What did it matter, therefore, whether the patients who had to be moved were brought to another hospital or to an examination hall if the latter was properly equipped? To remove them to a hospital would often occasion the hospital authorities inconvenience. Cases which were too severe to be moved from their beds should not in any case be used in examinations.

Dr. NORMAN WALKER said that it was an old recommendation of the Council that examinations should take place in hospitals wherever practicable, but there were circumstances under which, occasionally, examinations could not be so held. He thought there was something in Mr. Waring's contention so far as surgical cases were concerned, but he could not think such a course desirable in medical cases. Dr. MACDONALD thought that the only thing upon which it was necessary to insist was that the hall should be as well equipped as the hospital for this special purpose.

Mr. Waring's amendment was carried.

The Time Devoted to the Student's Principal Case.

Dr. NORMAN WALKER, in moving the recommendation of the Committee that in the examinations in clinical medicine and surgery at least one hour should be allowed to the candidate for the examination of and the report upon his principal case, said that it had been found that the time devoted to the principal case in a clinical examination had varied from ten minutes to three hours.

Mr. WARING thought that the recommendation went too much into detail and that this was a matter upon which the licensing bodies should be trusted; he moved that the recommendation be amended to read, "an adequate time should be allowed to the candidate."

Dr. MACDONALD objected to the word "adequate," which allowed too much latitude to the licensing bodies; and Dr. MCVAIL pointed out that to use the word "adequate" for the principal cases implied that the examinations in the other cases need not be adequate. Sir S. RUSSELL-WELLS was of opinion that an hour might be too long in a surgical case, but not a minute too long in a medical. Sir A. CHANCE said that the original recommendation did not compel a man to spend a full hour on his case, and if he had finished his case before the expiration of that time, there was no reason why the rest of the examination should not proceed.

The PRESIDENT said that it had been clear from the inspectors' reports that there were two conceptions of clinical examinations: one was the "spotting" of a number of cases, in which the candidate might have good luck or ill, and the other encouraged patient work in arriving at a correct diagnosis. The object of the recommendation was to eliminate "spotting."

Mr. Waring's amendment was lost; whereupon Sir S. RUSSELL-WELLS moved that in clinical medicine at least one hour and in clinical surgery at least half an hour should be allowed to the candidate. This was agreed to, and on being put as a substantive resolution an amendment to delete the reference to clinical surgery was not carried.

Marks in Examinations.

A long discussion took place on the recommendation that the marks obtainable in the written and oral examinations added together must not be greater than those obtainable for the clinical examination; and that no candidate who failed to obtain 50 per cent. of the marks in the clinical examination should pass.

Sir F. CHAMPNEYS drew attention to the special case of midwifery, in which examination, he said, one of the most important tests was on what was called a dummy pelvis and foetus. Any marks given for this would count in the oral, not in the clinical; and it seemed to him that to allow so large a proportion of marks for the clinical—which often depended, so far as midwifery was concerned, upon a single case—was rather unfair. It might be that the candidate would come out rather low in the restricted clinical examination, which was often all that was possible in midwifery,

and yet come well through the written and oral, including the examination on the dummy pelvis and foetus.

Sir A. CHANCE moved that in each of the three portions of the Final Examination—in medicine, surgery, and midwifery—any candidate who failed to obtain 50 per cent. of the marks in the clinical examination should not pass, whatever marks he might obtain in the written and oral.

This proposal, however, was not acceptable to some members, and the matter gave rise to so much discussion that the Council adjourned for an interval to see whether the Committee could arrive at an agreed proposal. The PRESIDENT then stated that there appeared to be a general wish to have 50 per cent. of marks secured for the clinical, and some members wished 50 per cent. also secured for the written and oral, while others thought that a very good clinical examination might be allowed to compensate for a less good written and oral. He suggested that there should be a minimum for the written and oral, however good the clinical might be. The form of words he proposed to the Council was:

In Medicine and Surgery (and in Midwifery when a clinical examination is held in that subject) no candidate should be allowed to pass who fails to obtain 50 per cent. of the aggregate marks assigned to the entire examination, or who fails to obtain 50 per cent. of the marks assigned to the clinical examination, or who fails to obtain 40 per cent. of the aggregate marks assigned to the written and oral examinations.

This was accepted as expressing the general view, but some members thought that the position as regards midwifery ought to be made clearer, and therefore it was added as a rider:

In Midwifery (where a clinical examination is not held) duly attested records of the work done by the candidate in Practical Midwifery must be presented to the examiners for assessment in the Final Examination.

Sir F. CHAMPNEYS, in answer to certain objections from members as to the lower place which the clinical examination in midwifery assumed as compared with the other portions, pointed out that it was not always possible to get a case in labour on the day of the examination, and, after all, the best test as to a man's capacity in midwifery was that which was obtained from his work during his pupilage.

In the result it was agreed to add that no candidate should be allowed to pass who did not obtain 50 per cent. of the aggregate marks assigned to practical midwifery and gynaecology.

The Completion of the Examination.

In moving the last recommendation of the Committee—

That whatever be the method of entry for the Final Examination, all candidates should be required to complete the three portions of the Final within a period of nineteen months—

Dr. NORMAN WALKER said that this had given rise to considerable difference of opinion, and it did not seem as if the time was ripe for its settlement. The proposal of the Committee had already been adopted by eight universities, but some of the other bodies held views very strongly against it. There was, however, general agreement that such a case as was brought to the Committee's attention, in which one student went up for the fourteenth time in surgery, having passed in medicine four years previously, should not be allowed to occur.

The recommendation was adopted, and the report of the Examination Committee in its entirety was then approved.

DIPLOMAS IN PUBLIC HEALTH.

Sir JOHN MOORE, Chairman of the Public Health Committee, brought forward again a report on the rules for the degree or diploma in sanitary science, public health, or State medicine. These rules were discussed at the last session of the Council, and were printed in full in the SUPPLEMENT of December 10th, 1921 (p. 217). They have since been circulated among the licensing bodies for their observations, and have been redrafted to some extent in accordance therewith. The alterations are very slight, the principal being the reduction from 100 to 80 hours of the minimum period of instruction at an institution or from approved teachers in certain subjects. The subjects are as follows:

The principles of public health and sanitation, 30 hours.
Epidemiology and vital statistics, 20 hours.
Sanitary law and administration (including public medical service), 20 hours.
Sanitary construction and planning, 10 hours.

The examination includes as a new subject meteorology and climatology in relation to public health; it is now required that in each of the two parts into which the examination is divided the candidate must pass in all the specified subjects at one time; and a further alteration is that certificates that candidates have received the prescribed course of instruction in public health administration may be given by a medical officer of health of any sanitary area in Great Britain having a population of not less than 50,000 (previously it was laid down that in England and Wales such certificates could only be given by medical officers of sanitary areas having populations of not less than 100,000).

Sir JOHN MOORE especially emphasized Rule 1, which requires that a period of not less than two years shall elapse between the attainment by the candidate of a registrable qualification in medicine, surgery, and midwifery, and his admission to the final examination for this public health diploma. The purport of this rule was to provide opportunity for candidates for the diploma to pass from the state of pupilage to that of responsible practitioners, to give mature consideration to the obligations and duties involved in the work of the public health service, and to acquire direct experience of clinical work in a responsible capacity either in practice or in hospital or laboratory appointments. The time had arrived when, in the public interest, the diploma should be confined to candidates who were seriously intending to take up public work as a career. He added that, in order to prevent any hardship, it was proposed that the new rules should not come into operation until January 1st, 1924, and this would enable present candidates for this important qualification to complete the curriculum in good time.

Sir GEORGE NEWMAN hoped that the result of the Committee's labours would commend itself to the Council. It was right that the Council should recognize that it was incurring a considerable responsibility in introducing new rules, and that it would probably receive considerable criticism. There were two questions, however, which critics would have to answer. Was any substantial reform of the D.P.H. rules necessary? And was the proposed reform the best? The answer to the first question was to be found in the reports of the late Dr. Bruce Low, the Council's inspector. Dr. Bruce Low was a man who came very late into public health service after twenty years of private practice—an invaluable asset for a medical officer of health—and he was a man who, quite apart from the narrower and more technical branches of medicine in which he laboured during his public service, was engaged in very wide investigations into cholera, plague, yellow fever, and other diseases in all parts of the world, and brought his experience in these subjects to bear upon his English practice. No characteristic of the public health service appealed to Dr. Low more than its breadth and its close association with the clinical aspects of medicine. Dr. Low regarded the present D.P.H. rules as obsolete. They had been surpassed by those of other nations. The rules did not deal with the problems with which the medical officer of health was now mainly confronted. Therefore he (Sir George) believed that the Council was justified in a substantial reform of the rules. Were the present proposals, then, the best that could be made under the circumstances? He thought, on the whole, they were. They removed from the present D.P.H. rules their main defects. Sanitary law and administration (including public medical service) was included among the subjects in which it was necessary for the candidate to take a certain minimum of instruction. A candidate for the D.P.H. should be equipped in the knowledge of those public medical services which had sprung up of recent years, including the new insurance service, and the school medical service. The amount of practical work required from the candidate was also being increased; and yet, further, the Council was virtually saying that it did not want medical men to sit for the D.P.H. who only intended to use it as an ornament, and did not wish to make their career in the public health service. The new rules would be so severe as practically to confine the D.P.H. to those who intended to take up public health as a career. For such men he could conceive nothing more important than that they should realize the clinical aspects of medicine as expressed in public health. Public health was one of the forms of preventive medicine. There was a preventive medicine which should permeate the whole curriculum, but there was also a preventive medicine which, interpreted administratively, became the public health service. He wanted to see a really practical co-operation between the medical officer of health and the general practitioner. He thought that the insurance service stood in very sore need of ten years of peace. (Hear, hear.) If it could be left alone for ten

years it would begin to yield those great fruits of which at present it carried only the promise. The co-operation in public health service of not only the 12,000 insurance practitioners, but of all medical practitioners, was badly wanted. The new rules would contribute more to that end than the old. The new rules would not escape criticism, and for this the Council must be prepared. There was always a fair share of criticism going about, but at the present time a great deal of criticism was directed at the public health service, partly on account of its remuneration, and partly on account of the disadvantage under which the public health servant laboured because he was not in a position to answer the criticisms levelled against him. These new rules would add to the body of objection. It would be said, and rightly, that they made it more difficult to get the D.P.H. than formerly. The first rule, concerned with the period between obtaining a registrable qualification and admission to the final examination, would be a bar to many men who, under the old rules, would have taken the diploma. It would be said that the D.P.H. was being removed from the sphere of the general practitioner. He thought it was; but at the same time the Council was loading up the general practitioner by the revision of the curriculum, so that he would be fully equipped for all the services which the holder of the former D.P.H. was expected to perform. The rules would also be criticized by the D.P.H. departments in the medical schools, because in only a few cases would they be able to live up to these rules; and the students also would complain that their path was made more difficult. But the centre of gravity in public health matters was changing, and the Council must change with it. It was obviously in the public interest that these new rules should be introduced.

Sir COEY BIGGER and Dr. MCVAIL also spoke in support of the new rules, the latter pointing out that although every rule had been criticized by the qualifying bodies and teaching institutions to which they had been sent, there had been a majority of those bodies in favour of every one of them. Sir A. CHANCE thought that the first rule, laying down a two-year period between qualification and admission to the final examination for the diploma, would be a bar to poor men, and this rule had been objected to by, among others, Cambridge, London, and Dublin Universities. He formally moved that the period be one year instead of two, but the amendment found only four supporters, and was lost by a large majority. The new rules were then approved and it was agreed, without dissent, that they should come into operation on January 1st, 1924.

Professional Examinations for Diplomas in Public Health.

Sir JOHN MOORE brought forward a further report from the Public Health Committee containing the returns of professional examinations in 1921 for diplomas in public health, and a list of exemptions granted by the licensing bodies from the rules of the Council with regard to such diplomas. During 1921 397 candidates were examined for the first examination, of whom 304, or 76.57 per cent., passed; and for the second and final examination 398 candidates presented themselves, of whom 292, or 73.37 per cent., were successful.

Before the Council concluded its business, Dr. MCVAIL, who said that this was his last opportunity of proposing any resolution in the Council, moved a vote of thanks to the President, whose able leadership of the assembly had been so conspicuous in that and in previous sessions. Any apparent autocracy about the President, he said, was really the result of his speed in thinking, and his desire to focus deliberations which often tended to become diffuse.

Sir DONALD MACALISTER, in reply to the vote of thanks, which was heartily carried, thanked Dr. McVail for his loyal co-operation, and said that on Dr. McVail's retirement from the Council the good wishes of his colleagues would follow him.

RESULTS OF QUALIFYING EXAMINATIONS.

Dr. NORMAN WALKER, on behalf of the Examination Committee, brought forward on May 27th an analysis of the annual tables showing for 1921 the results of examinations for qualifications primarily admitting to the *Medical Register*.

THE DENTAL CURRICULUM.

Sir JAMES HODSDON brought forward a report of the Dental Education and Examination Committee on the revision of the curriculum in dentistry. This was the culmination of a piece of work which began in 1914, in consequence of the alleged shortage of dentists at that time. The number of dentists in 1914 was 5,271; in 1921 it had risen to 5,831. (This is apart from those admitted under the Act of 1921, whose names are not on the printed *Register* as yet.) The Committee had considered various suggestions made by the Licensing Bodies and dental schools, and also the report of the Departmental Committee on the Dentists Act and the subsequent amendment of that Act. The aim of the Dental Committee had been to suggest a minimum curriculum without impairing the standard of efficiency; the Committee had also had it in mind that there was an increasing tendency for dentists to take a medical as well as a dental qualification. The recommendations of the Committee were that the curriculum should extend over four years of study; that instruction in chemistry, physics, and biology should be the same as that required for medical students; that the general subjects should be taught with a view to meeting the requirements of dental students; and that the special subjects should be so arranged as to ensure a sufficient scientific knowledge and the requisite skill in operative and mechanical procedures. The Committee was in accord with the Departmental Committee in believing that the teaching of dental mechanics at a dental school was preferable to private pupilage; it was not prepared, however, immediately to abolish private pupilage, but if this was permitted by a dental licensing body the time devoted to it should be twice the length of the corresponding time at a dental school. It was stated before the Departmental Committee that about 85 per cent. of students took their dental mechanics in private pupilage, but he believed the proportion now to be not much more than half that figure.

Sir GILBERT BARLING urged the inclusion of a course of instruction in *x* rays from the point of view of dental examination. This was supported by Dr. MACDONALD, Dr. BOLAM, Mr. TURNER, and others. Mr. GILMOUR, a dental member, did not think that the Council need be under any apprehension lest sufficient attention should not be given to this subject, but he was anxious not to overload the prescribed programme.

The motion to include the study of *x* rays in relation to dentistry was carried by 17 votes to 5.

After some further discussion the report was agreed to. The PRESIDENT pointed out that the revision of the dental curriculum went step by step with the revision of the medical curriculum, and the Council was entitled to congratulate itself and the Committee upon the completion of another long-continued piece of work.

Other Dental Matters.

Sir JAMES HODSDON said that the dental tables, consisting of the annual returns from the Licensing Bodies as to passes and rejections, presented no unusual feature. A number of colonial and foreign applications had been received and dealt with. The Committee had also considered an application for the recognition of the licence granted by the Provincial Dental Board of Nova Scotia. From the by-laws it did not appear that there was any dental school in the province at which a curriculum might be taken out, but that the Board permitted the holders of qualifications which it recognized to sit for its examination. The Committee did not feel that the Council would be justified in accepting the recognition by the Board of a course of study in dentistry, and it was recommended that the application be not acceded to. This recommendation was adopted.

Reports of Committees.

The PRESIDENT moved the report of the Pharmacopoeia Committee, which dealt only with matters of routine, and mentioned that Sir Nestor Tirard and Professor Greenish had become the Council's representatives on the advisory committee on the testing and marking of glassware for the purpose of scientific measurement in chemistry.

The Students' Registration Committee report, which was moved by Dr. NORMAN WALKER, referred only to claims which had been made for exceptional registration, the antedating of the commencement of professional study in some instances, and applications for the approval of certain recognized teaching institutions.

REVISED STANDING ORDERS.

The standing orders of the Council, as revised by the Executive Committee, were approved. The revision of these standing orders has occupied the Committee for a year, and the business procedure of the Council is now placed on an orderly basis. One of the alterations relates to the fee paid by the medical practitioner who is also on the *Dentists Register*. Formerly it was arranged that when a medical practitioner was placed first on the *Dentists Register* he

should pay a fee of £5, and that when afterwards he was placed on the *Medical Register* he should pay a fee of £2. With the new arrangements regarding the *Dentists Register* consequent upon the creation of the Dental Board the reason for the reduced fee has disappeared, and in future the practitioner who is eligible for both *Registers* will pay the usual fee in each case independently.

Restoration to Register.

The PRESIDENT announced that after a private deliberation the Council had directed the name of Bertie Cecil Eskell to be restored to the *Register*.

DISCIPLINARY CASES.

Convictions for Misdemeanours.

The case of Frederick Percy Richard Gover, registered as care of a firm in the City of London, L.R.C.P. and S.Edin., L.R.F.P.S.Glasg., came up for postponed judgement. The case was heard at the May session, 1921 (SUPPLEMENT, June 4th, 1921, page 212), when certain convictions for drunkenness while in charge of a motor car were proved against the practitioner, who was required to appear again at the present session, and to submit the names of some of his professional brethren who would testify as to his conduct in the interval. Dr. Gover brought forward a testimonial from only one medical man, Dr. W. G. Donald, of Walthamstow, but he also put in a communication from the Ministry of Health, which had held an inquiry into his case, to the effect that it was satisfied as to his conduct since the inquiry took place, and had decided not to remove his name from the list of insurance practitioners. He had 1,603 persons on his panel list. He declared that he had faithfully observed the pledge he had made on the previous occasion to refrain from intoxicants.

After private deliberation the Council did not see fit to instruct the Registrar to erase Dr. Gover's name.

The case was considered of William Joseph Ryan, registered as of the Overseas Club, Aldwych, London, L.R.C.S.Edin., L.F.P.S. Glasg., who was summoned to appear on the charge that, being a registered medical practitioner, he had been convicted of certain misdemeanours—namely, on two occasions (in 1918 and 1919) of being drunk, and in 1921, at Bow Street, of being drunk and riotous.

The Solicitor to the Council (Mr. Harper) said that there was no suggestion that Dr. Ryan was drunk while engaged on professional duty, but the case was the more serious because in 1916 Dr. Ryan was summoned before the Council on a similar charge, when three convictions for the same kind of offence were recorded against him, and in his absence his name was erased. He was a ship surgeon, and, being away on a voyage at the time, he did not receive the notice of inquiry in that instance, and subsequently he applied for a rehearing. This could not be granted, but in 1917 his name was restored, and since then there had been this further series of convictions.

Dr. Ryan stated that on no occasion was he engaged in the practice of his profession when the incidents occurred. While engaged on his work as a ship surgeon it was his practice to abstain altogether from intoxicants. During the war, for the whole term of which he served on vessels carrying troops, he contracted malaria, with the consequence that a very small amount of strong drink had an undue effect upon him. He was now about to start in private practice in London, and he intended to make his rule of total abstinence continuous.

After the Council had deliberated in private the PRESIDENT addressed Dr. Ryan as follows:

Mr. Ryan, I have to tell you that the convictions alleged against you in the notice have been proved to the satisfaction of the Council. These convictions and those previously recorded against you indicate a habit which is not only discreditable to your profession, but may become dangerous to your patients. In order to give you an opportunity of reconsidering your habit in this matter, and in order to enable you to show that you have adhered to your pledge to abstain from drink in future, the Council has postponed judgement on the convictions proved against you till the May session, 1923. Before that date you will be required to send to the Registrar of the Council the names of some of your professional brethren who may be willing, upon written application from the Registrar, to testify by letter, addressed to him for the use of the Council, as to your character and conduct in the interval, and in particular in regard to your habits in the matter of drink. You will receive in due course a formal written intimation of what I have just announced to you, and the intimation will specify the date to which I have referred, when you should be present, and should understand that in the event of any further conviction for a similar offence the Council may instruct the Registrar to erase your name from the *Medical Register*.

The case was also considered of William Young, registered as of Usworth, Durham, M.B., Ch.B.Edin., who was summoned on the charge that, being a registered medical practitioner, he had been convicted, in 1921 and 1922, on three occasions at Gateshead borough police court and once at Gateshead county police court; the misdemeanours in three cases were drunkenness whilst in charge of a motor car; and in one case, driving a motor car in a dangerous manner.

Mr. Young did not appear and was not represented, but he sent a letter stating that he did not deny the convictions, but alleging that after his first offence, which was a motor-car offence, the police were very zealous to entrap him. He pleaded worry and illness in answer to the charge of drunkenness. The police superintendent of the district, in a reply to the Solicitor to the Council, wrote that the cases were not serious in themselves, but that on each occasion the doctor was in charge of a motor car. He hoped that the doctor's name would not be erased, but thought it desirable in his own interests that he should be put on some kind of probation.

After the Council had deliberated in private, the PRESIDENT announced that the convictions had been found proved, but judgement would be postponed until November, when Mr. Young would have to appear in person.

Conviction for Manslaughter.

The Council considered the case of Edwin Ernest Willis, registered as of New Herrington, Durham, L.R.C.P. and S.Edin., L.F.P.S.Glasg., who was summoned to appear on the charge that, being a registered medical practitioner, he was convicted at the Durham Assizes in February last of unlawfully killing Eleanor Hannah Davison, and sentenced to twelve months' imprisonment in the second division. Defendant did not appear, nor was he represented.

The Council's Solicitor handed in the certificate of conviction, and said that this was a case of manslaughter by negligence. Dr. Willis was called to attend the wife of a miner. It was alleged that when he called at the house at 6 p.m. he was under the influence of drink. He was induced to leave the house, and came back the same evening at 11.30, by which time, according to the evidence of the woman's husband, he was no longer intoxicated. He brought with him a woman who had assisted him previously at operations; she administered chloroform in a handkerchief, but the evidence was clear that the patient was never wholly under the anaesthetic. Instead of removing the foetus Dr. Willis removed about three feet of intestine. The woman died, and he was prosecuted and convicted, and the judge said that he agreed with the verdict of the jury, and that the punishment he would inflict would not be the only punishment Dr. Willis would suffer because naturally the case meant his professional ruin. Dr. Willis in his evidence had declared that he was invariably temperate, but there seemed to be reason why his statement of facts should be received with caution. The husband, however, said that the doctor was no longer drunk when he came the second time, or he would not have allowed him to operate on his wife.

After deliberation in private by the Council, the PRESIDENT announced that the Registrar had been instructed to erase the name of Edwin Ernest Willis from the *Register*.

Removal of Name from Register.

The Registrar was instructed under the powers of Section 26 of the Medical Act, 1858, to remove from the Colonial List of the *Medical Register* the name of Joseph Ulric Geoffrion, the entry thereof having been made under some error on May 20th, 1920.

British Medical Association.

CURRENT NOTES.

Scholarships and Grants in Aid of Scientific Research.

INTENDING applicants for the British Medical Association's scholarships and grants are reminded that the last date for receipt of such applications is Saturday, June 24th. As has been stated in the notices which have appeared at intervals in the JOURNAL during the past three months, the Association is prepared to receive applications for the Ernest Hart Memorial Scholarship of the value of £200, and for three research scholarships each of the value of £150. The Council is also prepared to make grants for the assistance of research into the causation, treatment, or prevention of disease. The necessary forms of application can be obtained from the Medical Secretary, 429, Strand, W.C.2.

Dr. Kynaston and the Central Ethical Committee.

During the proceedings before the General Medical Council, Dr. Kynaston, as reported in the SUPPLEMENT of June 3rd (pp. 216-17), referred to the action taken by the Central Ethical Committee in connexion with the insertion, by Dr. Kynaston, in his book, *Enlarged Tonsils and Adenoids*, of a photograph of himself and a slip inviting correspondence from persons not necessarily his own patients. The action of the Central Ethical Committee was not placed in its true light on that occasion, and as reports of interviews with Dr. Kynaston which have appeared in the public press contain statements by him which are incorrect, it is well that the true facts should be made known. It was only upon receiving from Dr. Kynaston a definite assurance that the printed slip and his own photograph would in future be omitted from his publication, *Enlarged Tonsils and Adenoids*, that the Central Ethical Committee decided not to move further in the matter. The Committee was later informed that this promise was not being kept, but having learned that the matter was already in the hands of the General Medical Council it refrained from further action.

Fees for the Examination of Emigrants.

A large number of replies have been received to the British Medical Association's circular asking the medical referees appointed to examine emigrants for the Oversea Settlement Office to resign their appointments owing to the

fact that the fees were not approved by the Association. The bulk of those replying have signified their willingness to withdraw on hearing further from the Association, and others have already sent in their resignations. So far, less than 30 have declined to withdraw their names. It is quite evident from the replies received that a great many members had no notion that the fees were not approved by the Association. There also seems to be some misunderstanding as to why the Association took any steps in the matter, and it would be well to make it clear at once that it was in May, 1921, at the direct request of the Government of Australia Migration and Settlement Office, that the original suggestion of 10s. 6d. for each adult and 2s. 6d. for each child was put forward by the Association. It appears that the Government of Australia Migration and Settlement Office has issued a letter to medical referees pointing out that the British Medical Association has asked them to resign and asking them to carry on pending an agreement. This seems to be a reasonable request to make, in view of the proposal to hold a conference, and there is no reason why any member of the Association should not comply.

HOSPITALS POLICY OF THE ASSOCIATION.

MEETING OF THE WESTMINSTER AND HOLBORN DIVISION.

A MEETING of the Westminster and Holborn Division was held on June 1st at St. George's Hospital to discuss the hospitals policy of the Association. The chair was taken by Dr. A. E. COPE.

Dr. WILFRID FOX devoted his speech in opening almost entirely to the question of staff funds. He was convinced that the old method of running hospitals on purely voluntary and honorary lines, if it could be continued, would be the most satisfactory, but economic conditions made its continuance impossible. So long as hospitals were run by charitable people for the benefit of the necessitous poor, the medical staff on its side worked—and wished to work—on an honorary basis. The hospital authorities were not to be blamed for departing from that principle, but neither should medical staffs be blamed if, the principle having been departed from, they failed to fulfil their share of the bargain. As an individual he objected to receiving anything from a hospital, and returned the money even for his work in the venereal diseases clinic; but he was looking at this matter from the point of view of junior members of the staff, to whom it had an importance which it could never assume for the older men. He did not think that the great London hospitals would remain charitable institutions for the necessitous poor, nor did he think that they would be handed over to the municipalities or to the Government; there would probably always be a remnant of charity left, but a large and increasing number of people of moderate means would have to be looked after, the hospitals would become more and more institutions for people who were able to pay at least in part for what they received, and the formation of staff funds must be looked at in the light of this important consideration.

Lieut.-Colonel T. S. B. WILLIAMS, as a member of the Labour party, could not support the hospitals policy of the Association, though he thought it to the good that any policy should be brought forward, for the need was to have something concrete. He disagreed with any line of argument which would seem to separate the question of hospitals from the question of preventive medicine and of general and insurance practice, and also from the question of the economic condition of the people. The British Medical Association proposals were on the lines of capitalist policy. He went on to refer to the need for some form of inspection and control as a guarantee to the supporting public that the staffs of hospitals were giving that regular and punctual attention to the work which the public had a right to expect. The whole idea that the medical staff was unpaid was to him untenable. Although no money might pass, the staff got a *quid pro quo*, and in return the staff should give regular and courteous service. The speaker developed the socialist theory that the need for charitable hospitals was largely due to the unequal distribution of wealth which should never have occurred, and that a fairer distribution, enabling the people to be better fed and housed, would reduce the numbers of out-patients at least by more than half.

Dr. C. BUTTAR divided hospital patients apart from those who had practically private nursing home accommodation in hospitals) into four classes: (1) the indigent; (2) those who paid for apart or the whole of their maintenance; (3) those who came in under some contributory scheme; (4) the State patients. The medical profession would decline to accept any payment on behalf of the indigent; he thought the profession would be wise also to refuse to take any part of the contribution of patients in the second category. The third category was the one around which discussion must centre, and in the case of the fourth category there should undoubtedly be a contribution to the staff fund. He believed Colonel Williams's views to represent a hopeless idealism, and that such a plan would not be congenial to the workers themselves, who would prefer to select their own doctor and to have less of the regimentation which would be necessary under a nationalized scheme. Colonel Williams had rather suggested a lack of courtesy on the part of the doctor in the voluntary hospitals. It surprised him that he should imply that the State official would be more courteous. Possibly even the doctor would lose some of his courtesy if he became a State official. In conclusion, he protested against the idea that "charity" conveyed a stigma.

Dr. G. E. HASLIP believed that the staff should be paid for its services, but not on the system adopted by the Hospitals Committee. The Hospitals Report he thought the most unpractical he had ever read. He had one strong objection to the charitable basis of the hospital: the surgeon or physician gave so many hours gratuitously to hospital work that in order to earn sufficient money for a livelihood in the remaining hours he had to charge unduly high fees. He believed that 80 per cent. of the operations done in this country were done gratuitously. The Workmen's Compensation Act was the first nail knocked in the coffin of the voluntary hospital; the second was the National Insurance Act. If the Labour party did not want charity, why should charity be forced upon the workers? It seemed to him that the objection to the voluntary system from the point of view of the Labour party was that with voluntaryism one did not get responsibility.

Dr. HARVEY HILLIARD asked how Colonel Williams proposed to deal with indigent persons who objected to charity. Colonel WILLIAMS replied that the Labour party's conception was based on the assumption that the whole of the economic resources of the country could be so reorganized that everybody who was willing to work would become a wealth-producer, and would contribute according to his physical and mental ability towards the upkeep of the State, so that the hospital problem along with other problems would solve itself.

After some further discussion it was resolved to take a very broad and simple resolution:

> That the time has now arrived when the staffs of hospitals should receive remuneration for their services.

This was proposed by Dr. HASLIP, seconded by Colonel WILLIAMS, and carried with one dissentient, Dr. HILLIARD, who explained that his objection was to the simplicity of the resolution, which failed to define the particular classes of patients for whom payments to staff funds should be made. It was agreed that this resolution should go to the Representative Meeting.

Association Notices.

TABLE OF DATES.

June 10, Sat.	Nomination papers available, at Head Office, for election of 12 Members of Council by grouped Home Representatives.
June 14, Wed.	Council Meeting, 429. Strand, at 10 a.m.
June 23, Fri.	Last day for election of Representatives and Deputy Representatives.
June 24, Sat.	Supplementary Report of Council appears in SUPPLEMENT.
June 30, Fri.	Last day for receipt at Head Office of notification of election of Representatives and Deputy Representatives.
July 7, Fri.	Last day for receipt at Head Office of Amendments and Riders for Annual Representative Meeting Agenda.
July 21, Fri.	Annual Representative Meeting, Glasgow, 10 a.m. Nominations for election of 12 Members of Council by grouped Representatives to be received (at A.R.M., Glasgow) by this date.

ALFRED COX, *Medical Secretary.*

BRANCH AND DIVISION MEETINGS TO BE HELD.

EDINBURGH BRANCH.—The annual meeting of the Edinburgh Branch will be held at Galashiels on Wednesday, June 21st: 12.30 p.m., luncheon at the Douglas Hotel (charge 3s. 6d.); 1.30 p.m., golf, bowls, and motor drives; 4.30 p.m., tea, provided by the South-Eastern Counties Division, in the Technical College, Galashiels; 5 p.m., business meeting in the large Hall. Members who have not returned the reply postcard with answers to the questionnaire are requested to do so to the honorary secretary, Dr. John Stevens, 78, Polwarth Terrace, Edinburgh, by June 14th. The agenda includes—Report of Branch Council: (*a*) Annual Reports of Branch and of Divisions; (*b*) social functions, institution of Branch Golf Club; (*c*) revision of Branch rules of organization. Report of action of Branch Council in nominating two members to the Local Voluntary Hospital Committee for the

Lothians and Peebles; treasurer's annual report; election of trustee; election of office-bearers; proceedings of the Scottish Committee; correspondence from the Medical Secretary; annual report of Central Council and Annual Representative Meeting.

KENT BRANCH.—The ninth annual meeting of the Kent Branch will be held on Thursday, June 15th, at the Grand Hotel, Folkestone. The council will meet before lunch. The President-elect, Dr. P. G. Lewis, kindly invites members to luncheon at 1.15 p.m. The business meeting will be held at 2.30 p.m., after which Dr. P. G. Lewis will give his presidential address on "Nervous exhaustion." Tea will be provided at 4.30. Agenda: Minutes of last annual meeting, and any business arising. To receive (*a*) the report of the election of officers for 1922–23, (*b*) the annual report and financial statement. To make new rules, or alter or repeal existing rules. Members who intend to be present at the President-elect's luncheon are requested to notify Dr. Percy Lewis, 22, Manor Road, Folkestone, not later than the first post on Monday, June 12th. Ladies are not invited this year.

LANCASHIRE AND CHESHIRE BRANCH.—The eighty-sixth annual meeting of the Lancashire and Cheshire Branch will be held at Blackburn on June 28th. After luncheon there will be a reception by the Mayor of Blackburn. The new President, Dr. Orme of Clitheroe, will read his presidential address, and after the routine business of the meeting Dr. Arnold Renshaw (Manchester) and Dr. Daly (Blackburn) will contribute scientific papers. For the afternoon a series of interesting visits and excursions are being arranged, and the members will dine together at 7 p.m.

LANCASHIRE AND CHESHIRE BRANCH: MID-CHESHIRE DIVISION.—A meeting of the Mid-Cheshire Division will be held at the Unicorn Hotel, Altrincham, on Thursday, June 15th, at 3.15 p.m., when Dr. John Hay (Liverpool) will give a British Medical Association lecture on "Some aspects of cardiac disease." Tea will be provided at 4.30.

METROPOLITAN COUNTIES BRANCH.—The annual general meeting of the Metropolitan Counties Branch will be held at 429, Strand, W.C., on Friday, June 23rd, at 4 p.m. Business: (1) Report of scrutineers as to the election of new officers; (2) Annual Report of Council; (3) President's address by Mr. N. Bishop Harman, entitled "London: the triumph of medicine."

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—The annual general meeting of the City Division will be held at the Metropolitan Hospital, Kingsland Road, on Friday, June 16th, at 9.15 p.m. Agenda: Election of officers; balance sheet; programme for 1922–23; other business. Members wishing to bring forward any matter should give notice. It is hoped that members will endeavour to attend as the Executive wishes the Division to be run by the members, and hopes they will express their opinions on any matter.

METROPOLITAN COUNTIES BRANCH: HAMPSTEAD DIVISION.—The annual meeting of the Hampstead Division will be held at the Hampstead General Hospital on Thursday, June 15th, at 8.30 p.m. Agenda: To receive the annual report of the executive committee; election of (*a*) officers and executive committee, (*b*) of ethical committee; provisional agenda for the Annual Representative Meeting. Members are requested to bring the SUPPLEMENT of May 13th to the meeting.

METROPOLITAN COUNTIES BRANCH: LAMBETH DIVISION.—The annual meeting of the Lambeth Division will take place on Wednesday, June 14th, at 4 p.m., at Bethlem Royal Hospital.

NORTHERN COUNTIES OF SCOTLAND BRANCH.—The annual meeting of the Northern Counties of Scotland Branch will be held at the Highland Hotel, Strathpeffer, on Saturday, June 24th. Further particulars will be forwarded to members by circular at a later date.

NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH.—The annual meeting of the North Lancashire and South Westmorland Branch will be held at Colgarth Hospital, Windermere, on Thursday afternoon, June 22nd, when the President, Dr. Chapman, will introduce a discussion and Dr. Somervell will give a demonstration. Ladies are invited, and a motor boat will be provided if the weather is fine.

NORTH WALES BRANCH: NORTH CARNARVONSHIRE AND ANGLESEY DIVISION.—The annual meeting of the North Carnarvonshire and Anglesey Division will be held on Friday, June 16th, at 2.30 p.m., at the British Hotel, Bangor. Agenda: Election of officers; annual report of Council (SUPPLEMENT, May 6th, which members are requested to bring to the meeting); hospital policy of the Association (SUPPLEMENT, February 25th); instruction of Representative.

SOUTH WALES AND MONMOUTHSHIRE BRANCH.—The annual meeting of the South Wales and Monmouthshire Branch will be held at King Edward VII Hospital, Cardiff, on Thursday, June 22nd, at 3.15 p.m.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: MONMOUTHSHIRE DIVISION.—The annual meeting of the Monmouthshire Division will be held at the Royal Gwent Hospital, Newport, on Saturday, June 24th, at 3.30 p.m. Agenda: Correspondence; Election of Officers; Report of Executive Committee of the Division as to the Ebbw Vale Workmen's Medical Society, and resolution in connexion with the matter; Consider Agenda of Representative Meeting. A meeting of the Executive Committee will be held at 3 p.m.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: NORTH GLAMORGAN AND BRECKNOCK DIVISION.—A meeting of this Division will be held at Pontypridd on Thursday, June 29th, when a British Medical Association lecture will be delivered by Dr. H. Morley Fletcher on "Treatment in renal disease."

SOUTH-WESTERN BRANCH.—The eighty-third annual meeting will be held on Thursday, June 15th, at 3.15 p.m., at "Durracombe," Newton Abbot, by kind invitation of the President-elect, when Dr. Shaw will resign the chair to Mr. Haydon, who will deliver his inaugural address. The report of the Branch Council for the year 1921–22 and the Annual Financial Statement for 1921 will be presented, and the officers of the Branch for the year 1922–23 will be elected. Luncheon, also by kind invitation of the President-elect, will take place from 1.15 to 2.30 at "Durracombe." The annual dinner of the Branch will be held at 7 p.m. at the Globe Hotel. Tickets (7s. 6d. each, exclusive of wine) can be obtained from Dr. J. Culross, M.B.E., Roseneath, Newton Abbot. Early application for dinner tickets will greatly facilitate arrangements, and in any case should be made not later than the first post on Monday, June 12th. Mr. Haydon would be obliged if, when answering his invitation, members will state if they expect to come by train, when arrangements will be made to meet them by car at the station; he can also obtain dinner tickets for them if desired. Accommodation can be privately arranged for visitors intending to stay the night at Newton Abbot provided notice is received.

SOUTH-WESTERN BRANCH: EXETER DIVISION.—The annual meeting of the Exeter Division will be held in the Library of the Royal Devon and Exeter Hospital on Tuesday, June 13th, at 3.30 p.m. Tea at 4.30 p.m. Agenda: Report of executive committee. Election of officers for 1922–23. Consider (*a*) question of Devon county medical officers, (*b*) annual report of Council of the British Medical Association (SUPPLEMENT, May 6th, which members are requested to bring to the meeting).

YORKSHIRE BRANCH: WAKEFIELD, PONTEFRACT, AND CASTLEFORD DIVISION.—The annual meeting of the Wakefield, Pontefract, and Castleford Division will be held at the Clayton Hospital, Wakefield, on Tuesday, June 13th, at 3 p.m. Agenda: Correspondence; arrangements for annual meeting of Yorkshire Branch to be held at Wakefield on June 27th; election of officers; annual report of Council (SUPPLEMENT, May 6th, which members are asked to bring to the meeting).

Meetings of Branches and Divisions.

YORKSHIRE BRANCH: HARROGATE DIVISION.

A SPECIAL meeting of the Harrogate Division was held in the Imperial Café on May 25th, when Dr. GREENWOOD (Ripon) was in the chair. Dr. W. A. MURRAY, O.B.E., was elected Deputy Representative in Representative Body.

The Annual Report of Council, 1921–22, was discussed. Dr. GARRAD gave a summary of the financial statement. Afterwards he referred to the decreased membership of the Division, and expressed the hope that additional members would be obtained. The SECRETARY read a letter from the Deputy Medical Secretary of the Association regarding the British Medical Association lectures. It was unanimously agreed that it was desirable to arrange for a lecture, possibly at the end of October; the arrangements were left in the hands of the Executive Committee.

Dr. CALTHROP having informed the meeting of the Council's recommendations on medical ethics, it was agreed that the Representative should support the Council's recommendations at the Annual Representative Meeting. Dr. STEVEN referred to the good work of the Insurance Acts Committee, and proposed that every support should be given the Committee, and that Recommendation 174 be approved. Mr. D'OYLY GRANGE seconded the motion, which was carried unanimously. The CHAIRMAN outlined the hospital policy of the Association. An interesting discussion followed, in which Drs. JOHNSTONE, MANTLE, EDGECOMBE, MILBURN, and HOLMES took part. It was resolved to approve the report in so far as it does not interfere with the purely honorary status of the honorary medical staffs of hospitals.

YORKSHIRE BRANCH: SHEFFIELD DIVISION.

THE annual meeting of the Sheffield Division was held on May 26th. The following officers were elected for the year 1922-23.

Chairman: Dr. W. Helm. *Vice-Chairman:* Dr. A. Young. *Honorary Secretary:* Dr. H. Brown. *Representatives in Representative Body:* Dr. A. Forbes and Lieut.-Colonel J. Mackinnon, D.S.O. *Deputy Representative:* Dr. A. E. Barnes.

Report of Committee.

The report of the Executive Committee stated that during the past year four general meetings had been held, with an average attendance of thirty-two. The Executive Committee met eight times, the average attendance being fourteen. There had been also one joint meeting with the Sheffield Medico-Chirurgical Society. The membership of the Division had increased from 195 to 210.

The report on the first year's working of the Practitioners' Mutual Help Scheme was presented. The object of this scheme is to assure to each member one month's holiday in the year, during which time his work is shared amongst neighbouring practitioners, the patients thus having considerable choice of doctor. The deputizing doctors are credited for their services on a fixed scale of fees, which fees are, of course, debited against the absentee doctor. It is under this arrangement possible for a member of the scheme to earn back the cost of his holiday. A pool is formed and at the end of each half-year a balance is struck and the accounts settled. Some interesting figures were given of the cost to individual members of their holiday during the year. The largest amount paid by any member was £10 9s. 7d., for an absence of three weeks, but in this particular case the member did no work for his neighbours in return, and so earned back none of the cost

of his holiday. Another member who was away from home for one month was in pocket £2 3s. 6d. at the end of the year, and another member was away for a like period at a cost of 15s. 1d. The scheme had proved of value also in case of illness of practitioners, and one instance was quoted of a doctor who had died suddenly one afternoon and whose work was carried on without a break, the patients at the evening surgery being all attended, with a minimum of anxiety and inconvenience to those responsible. The committee working the scheme reported that so far they had not had to investigate any complaint.

On the motion of Mr. GARRICK WILSON, seconded by Dr. MYLAN, Dr. Caiger was cordially thanked for his services as chairman during the past year.

SCOTTISH COMMITTEE.

ELECTION OF DIRECT REPRESENTATIVES, 1922-23.

THIRTEEN members of the Scottish Committee of the British Medical Association are to be elected by the Scottish Divisions, grouped as follows:

	No. of Representatives.
Group I.—The Divisions in the Aberdeen and Northern Counties Branches	2
Group II.—The Divisions in the Dundee, Perth, Fife, and Stirling Branches	2
Group III.—The Divisions in the Edinburgh Branch, and the Dumfries and Galloway Division	3
Group IV.—The Glasgow City Divisions	3
Group V.—The remaining Divisions in the Glasgow and West of Scotland Branch	3

Nominations may be made (*a*) by a Division, or (*b*) by three Members in a group. The election, in cases of contest, will will be by postal vote of the members in each group.

Forms for nomination may be obtained from the Scottish Medical Secretary, 6, Rutland Square, Edinburgh, and must be returned to him not later than June 19th.

Correspondence.

Public Aspects of Control of Medical Benefit by Approved Societies.

SIR,—At the recent Conference of Panel Committees I moved on behalf of the Kent Panel Committee the following resolution:

> "That this Conference is of the opinion that no successful opposition can be made to approved society control of Insurance Acts administration except by enlisting the support and sympathy of the public, and that the time has now come for an extensive press and publicity campaign to this end."

Your report of this states "The resolution was carried, though many abstained from voting." On this, as on many other resolutions meeting with no opposition, a certain number of representatives had not the energy to hold up their hands, but the resolution was carried unanimously, one of only two so carried. I think I am therefore entitled to consider that it met with general approval. Dr. Brackenbury, however, stated that "he had not a notion what the Conference wanted" in this matter, and also that "approved society control of Insurance Acts administration was not in question." From this I must draw the inference, however humiliating, that my oratorical powers need further training if my Panel Committee's instructions are to be properly carried out. In the meantime I would ask to be allowed certain written explanations. My committee are quite distinctly of the following opinions:

1. That approved society control of Insurance Acts administration may be *nil*, or partial, or complete.
2. That we are in the presence of a threat of a shift to the right (in the dignified phraseology of M. Arneth)—that is, towards the direction of complete control. A movement to the right does not mean that the extreme right will be reached in one step.
3. That this movement would not be in the interests of the insured person for whose benefit the Acts exist.
4. That we know this but have no power to prevent it, or, at the best, very little power.
5. That the public does not realize it but has the power which we lack; and the public in this connexion includes some approved societies.
6. That it is therefore our duty as guardians of the public health to see that the public are told.
7. It is further to our self-interest to resist every possibility of a return to the degrading conditions of the battles of the clubs.

In all of these opinions I have no doubt that the Conference did deliberately support the views of my committee. As to ways and means, my committee did not desire to dictate ways and means to the Insurance Acts Committee, but I made one suggestion of my own—namely, that it should be referred to a small committee to consider this aspect of the question and that this committee should have and use powers of co-option. It should, I think, co-opt someone whose journalistic experience has been in association with daily papers and someone also with extensive experience of advertising. It might possibly be desirable to co-opt representatives of other bodies whose interests are similar to those of the Association. My committee was sufficiently impressed by the importance of the matter to make arrangements for collecting its share of the necessary expense—and the expense will be considerable. It is possible that the Insurance Acts Committee will prefer to keep complete control in its own hands. If that be the case, may I venture to make certain suggestions as to steps to be taken as part of an "extensive press and publicity campaign"? These are my own suggestions and not those of my committee, and include the following:

1. Authoritative articles in all medical papers. It is to be remembered that many of our own profession have no knowledge of our straits or of how often well-informed remarks from themselves might assist.
2. Meetings between Panel Committees and members of Parliament for their areas, a suggestion which I owe to Dr. Renton of Dartford.
3. Addresses to all bodies who can be persuaded to listen, particularly bodies of working men, members of "black coat" organizations, and such bodies as the National Citizens Union.
4. Adequate and paid lobbying.

Perhaps I may add that apart from the immediate object in view an attempt to further develop the interest of the public in health problems would be particularly worthy of the profession. Interest has grown lately, but has largely been guided by the lay press, and not always in paths which would meet with the approval of the profession.—I am, etc.,

Sevenoaks, June 1st. GORDON WARD.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following notifications are announced by the Admiralty:—Surgeon Commander G. Nunn, O.B.E., to the *Centurion*. Surgeon Lieutenant Commanders: J. P. Shorten, D.S.C., to the *Revenge*, for general and special duties in Ophthalmology in 1st Battle Squadron; G. L. Ritchie, M.C., to the *Resolution*; W. H. A. Sinclair-Loutit to the *Stuart*; M. J. Aitken to the *Ark Royal*, temporary, on commissioning.

ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon Lieutenant (late R.N.) W. H. Butcher has transferred to the permanent list as Surgeon Lieutenant, with seniority of May 30th, 1918, and attached to the London Division, list 11.

ROYAL ARMY MEDICAL CORPS.

Captains to be acting Majors: T. H. Sarsfield, from December 9th, 1919, to February 18th, 1920, and from March 17th to July 17th, 1920 (substituted for the notification in the *London Gazette*, December 1st, 1921); A. A. B. Scott, from February 19th to March 16th, 1920; W. K. Campbell, D.S.O., M.C., July 18th, 1921 (substituted for the notification in the *London Gazette*, May 10th, 1922).

Temporary Captain A. H. Marsh relinquishes his commission and retains the rank of Captain.

Lieutenant (temporary Captain) L. Handy to be Captain.

Lieutenant (temporary Captain) W. Y. Eccott to be placed temporarily on the half-pay list on account of ill health.

ROYAL AIR FORCE MEDICAL SERVICE.

W. D. Miller is granted a short service commission as a Flight Lieutenant, with effect from and with seniority of May 15th.

F. W. Squair, T.D., is granted a temporary commission as a Flight Lieutenant (Honorary Squadron Leader), with effect from and with seniority of May 16th.

VACANCIES.

AYR DISTRICT ASYLUM.—Junior Assistant Physician (male). Salary, £300 per annum.

BARNSLEY: BECKETT HOSPITAL.—Junior House-Surgeon (male). Salary, £200 per annum.

BRADFORD MUNICIPAL GENERAL HOSPITAL.—(1) House-Physicians. (2) House-Surgeons. Salary at the rate of £200 per annum.

BRISTOL ROYAL INFIRMARY.—(1) Obstetrician; (2) Senior Resident Officer; (3) Resident Obstetric Officer; (4) Ear, Nose and Throat House-Surgeon; (5) Casualty Ophthalmic House-Surgeon; (6) Two House-Physicians; (7) Four House-Surgeons. Salary for (2), £200 per annum, and for (3), (4), (5), (6), and (7), £120 per annum each.

CANCER HOSPITAL, Fulham Road, S.W.3.—(1) Anaesthetist. (2) Assistant to the Research Department; salary, £700 per annum.

CHESHIRE COUNTY COUNCIL, Chester.—Locumtenent for District Tuberculosis Officers. Fee, 10 guineas per week.

CHESTERFIELD BOROUGH.—Lady Assistant Medical Officer of Health (Maternity and Child Welfare), and Assistant School Medical Officer. Salary, £500 per annum.

CITY OF LONDON MATERNITY HOSPITAL, City Road, E.C.—Assistant Obstetric Surgeon.

DERBY BOROUGH MENTAL HOSPITAL.—Assistant Medical Officer (male). Salary, £400 per annum.

DERBYSHIRE SANATORIUM FOR TUBERCULOSIS, near Chesterfield.—Assistant Medical Officer. Salary, £300 per annum.

DONCASTER ROYAL INFIRMARY AND DISPENSARY.—Senior House-Surgeon (male). Salary, £220 per annum.

EAST SUSSEX COUNTY MENTAL HOSPITAL, Hellingly.—Junior Assistant Medical Officer (male). Salary, £300 per annum, rising to £400.

GLASGOW EYE INFIRMARY.—Visiting Surgeon.

GREAT YARMOUTH HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL, Haverstock Hill, N.W.3.—(1) House-Physician. (2) House-Surgeon. (3) Casualty Medical and Surgical Officers at Out-patient Department, Bayham Street, N.W. Salary at the rate of £150 per annum each.

KING EDWARD VII SANATORIUM, Midhurst, Sussex.—Pathologist. Salary, £400 per annum.

LONDON UNIVERSITY—William Dunn Chair of Pathology at Guy's Hospital Medical School. Salary at least £1,300 a year.

MACCLESFIELD GENERAL INFIRMARY.—Senior House-Surgeon (male).—Salary, £200 per annum.

MANCHESTER; ANCOATS HOSPITAL.—Honorary Radiologist.

MANCHESTER: ST. MARY'S HOSPITALS FOR WOMEN AND CHILDREN.—House-Surgeon for the Maternity Hospital. Salary at the rate of £100 per annum.

METROPOLITAN HOSPITAL, Kingsland Road, E.8.—Assistant Physician.

MINISTRY OF PENSIONS.—(1) Junior Medical Officer (Surgeon) at Pensions Hospital, Grangethorpe. (2) Two Junior Medical Officers (Surgeons), at the Highbury Group of Hospitals, Moseley. (3) Resident Medical Officers at the Bellahouston Hospital, Glasgow. Salary, £350 per annum.

NEWPORT (MON.): ROYAL GWENT HOSPITAL.—House-Surgeon. Salary, £200 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.—(1) Assistant Physician; (2) Assistant Surgeon; (3) Casualty House-Surgeon. Honorarium for (1) and (2) for travelling expenses, and for (3), salary, £100 per annum.

RICHMOND (SURREY) ROYAL HOSPITAL.—House-Surgeon (male). Salary, £150 per annum.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.—(1) House-Surgeon, (2) Assistant Casualty Officer. (3) Obstetric House-Surgeon. (4) Senior Obstetric Assistant. (5) House-Surgeon at Marlborough Maternity Centre. Salary, £50 per annum.

ST. BARTHOLOMEW'S HOSPITAL.—Two Junior Resident Anaesthetists. Salary, £80 per annum each.

ST. GEORGE'S HOSPITAL, S.W.1.—(1) House-Surgeon. (2) House-Physician. Remuneration, £50 per annum.

ST. HELENS COUNTY BOROUGH.—Assistant Medical Officer of Health. Salary, £450 per annum.

SALOP COUNTY COUNCIL.—Assistant Medical Officer for medical inspection of school children, and Maternity and Child Welfare. Salary, £550 per annum, rising to £700.

SHEFFIELD ROYAL INFIRMARY.—(1) Two House-Physicians; (2) House-Surgeon; (3) Ophthalmic House-Surgeon; (4) Assistant Casualty Officer. Salary, £150 per annum each.

SOUTH SHIELDS: INGHAM INFIRMARY.—Senior and Junior House-Surgeons (male). Salaries, £200 and £150 per annum respectively.

STAFFORDSHIRE, WOLVERHAMPTON, AND DUDLEY JOINT COMMITTEE FOR TUBERCULOSIS.—(1) Medical Superintendent of Prestwood Sanatorium. Salary, £800 per annum. (2) Locumtenent. Salary, £12 12s. a week.

STOKE-ON-TRENT EDUCATION COMMITTEE.—Assistant School Medical Officer (male). Salary commencing at £500 per annum.

SUNDERLAND CHILDREN'S HOSPITAL.—Junior Resident Medical Officer (female).—Salary, £130 per annum.

UNIVERSITY COLLEGE HOSPITAL, Gower Street, W.C.1.—(1) Non-Resident Clinical Assistant in the Ophthalmic Department. Honorarium, £50 per annum. (2) Second Clinical Assistant in Child Welfare Department.

WEST LONDON HOSPITAL, Hammersmith Road, W.—(1) Two House-Physicians. (2) House-Surgeon. Salary, £100 per annum.

WESTMINSTER HOSPITAL, S.W.—(1) Assistant House-Physician; (2) Assistant House-Surgeon. Honorarium at the rate of £52 per annum each.

CERTIFYING FACTORY SURGEONS.—The following vacant appointments are announced: Burton-in-Kendal (Westmorland), Stow-on-the-Wold (Gloucester).

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

APPOINTMENTS.

KING'S COLLEGE HOSPITAL.—The following appointments have been made:—Senior Casualty Officer: C. W. Roberts, M.B., B.S. House Anaesthetist: H. J. R. Surrage, M.R.C.S., L.R.C.P. Second Casualty Officer, Assistant House Anaesthetist, and House-Surgeon (Urological Department): E. A. Holmes, M.R.C.S., L.R.C.P. Resident Assistant Clinical Pathologist: C. H. Whittle, B.A., M.B., B.Ch. House-Physicians: H. L. Rayner, B.M., B.Ch., Charlotte K. J. Almond, M.R.C.S., L.R.C.P. House-Physician to Children's Department, and House-Surgeon to Eye Department: C. F. T. East, B.M., B.Ch., M.R.C.P. House-Surgeons: Christobel Charlesworth, M.B., B.S., H. K. Snell, M.R.C.S., L.R.C.P., G. de M. Rudolf, M.R.C.S., L.R.C.P., D.P.H.; A. Mitchell, M.R.C.S., L.R.C.P. Ear, Nose, and Throat Departments: F. A. Bryning, M.R.C.S., L.R.C.P. (Obstetric): Dorothy S. Chamberlain, M.B., B.S. Clinical Assistants (Urological Department): R. S. Roper, F.R.C.S.Edin.; (Radiological Department): F. T. Birkitt, M.B., B.Ch.

MANCHESTER ROYAL INFIRMARY.—Radiological Registrar: R. S. Paterson, M.B., Ch.B.Vict., D.M.R.E.Cantab. Medical Officer of Metabolism: R. S. Paterson, M.B., Ch.B.Vict., D.M.R.E.Cantab. Second Medical Registrar: Miss Ruth Conway, M.B., Ch.B.Vict. House-Physician: James W. Smith, M.B., Ch.B.Vict.

DIARY OF SOCIETIES AND LECTURES.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.—Tues. and Thurs., 5 p.m., Croonian Lecture by Dr. Gordon Holmes: The Symptoms of Cerebellar Disease and their Interpretation.

ROYAL SOCIETY OF MEDICINE.—*Section of Tropical Diseases and Parasitology:* Mon., 8.30 p.m., Sir Leonard Rogers: Leprosy: its Etiology and Epidemiology; Mr. Denham Pinnock: Quinine Necrosis of Muscles (with demonstration); Dr. J. Bamforth: Cortical Necrosis of the Kidney in a Fatal Case of Malaria (with demonstration). Social evening, Wed., 8.30 p.m., reception by the President and Lady Bland-Sutton; 9 p.m., address by Dr. T. M. Legge, C.B.E.: Industry and Art (illustrated). The Library will be open and various objects of interest will be exhibited. Music, light refreshments, and smoking. *Section of Dermatology:* Thurs., 4.30 p.m., Cases; 5 p.m., Mr. Jackson Clarke: Etiology of Molluscum Contagiosum.

POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE, 1, Wimpole Street, W.1.—Tues., 5 p.m.: Sir W. Hale-White: Clinical Symptoms of Coli Infection of the Urine.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—Thurs., 4 p.m., Dr. Thompson: Dwarfs.

INSTITUTE OF PATHOLOGY AND RESEARCH, St. Mary's Hospital, Paddington, W.2.—Thurs., 5 p.m., Sir Berkeley Moynihan, Bt.: Diverticula of the Alimentary Tract.

LONDON HOSPITAL MEDICAL COLLEGE, E.—Dr. M. Culpin: Psycho-Neuroses. Tues., 5.15 p.m., Association Methods. Fri., 5.15 p.m., General Review of Opinions. Surgical Unit: Fri., 4.15 p.m., Mr. Hugh Lett: Painful Micturition.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland Street, S.W1.—Mon., 5.30 p.m., Sir Sydney Russell-Wells: Failing Heart.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Mon., Tues., Thurs., and Fri., 2 p.m., Out-patient Clinics. Mon., 3.30 p.m., Mr. L. Paton: Papilloedema. Tues., 3.30 p.m., Dr. R. Russell: Syphilitic Diseases of the Nervous System. Wed., 2.15 p.m., Dr. G. Stewart: Clinical Demonstration. Thurs., 3.30 p.m., Dr. H. Howell: Sciatic Neuritis. Fri., 3.30 p.m., Fraenkel's Exercises. Mon. and Thurs., 12 noon, Dr. Greenfield: Neuro-Pathology. Tues. and Fri., 9 a.m., Operations; 12 noon, Dr. Wilson: Anatomy and Physiology of Nervous System. Wed., noon, Mr. S. Scott: Labyrinthine Tests.

ST. MARYLEBONE GENERAL DISPENSARY, Welbeck Street, W.1.—Dr. Eric Pritchard: Infant and Child Welfare, Mon., 6 p.m., Food Values.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, Springfield Mental Hospital.—Thurs., 4 p.m., Dr. R. Worth: Examination and Certification of Mental Disorders.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Daily, 10 a.m., Morning Work; 2 p.m., In-patients, Out-patients, Special Departments, Lectures, 5 p.m., Mon. and Wed., Mr. D. Armour: Surgery of the Spine and Spinal Cord. Tues., Sir R. Armstrong-Jones: Treatment of Mental Cases. Thurs., Mr. E. B. Turner: Epidemic Influenza and its Treatment. Fri., Mr. Macdonald: Urinary Surgery.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 1s. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS and ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London).
MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London).
EDITOR, *British Medical Journal* (Telegrams: Aitiology, Westrand, London).
Telephone number for all Departments: Gerrard 2630 (*3 lines*).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)
IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

JUNE.

13 Tues. Exeter Division: Annual Meeting, Royal Devon and Exeter Hospital, 3.30 p.m. Tea 4.30 p.m.
Wakefield, Pontefract, and Castleford Division: Annual Meeting, Clayton Hospital, Wakefield, 3 p.m.

14 Wed. London: **Council**, 10 a.m.
Lambeth Division: Annual Meeting, Bethlem Royal Hospital, 4 p.m.

15 Thurs. Hampstead Division: Annual Meeting, Hampstead General Hospital, 8.30 p.m.
Kent Branch: Annual Meeting, Grand Hotel, Folkestone, 2.30 p.m. Luncheon 1.15 p.m.
Mid-Cheshire Division, The Unicorn Hotel, Altrincham: British Medical Association Lecture by Dr. John Hay (Liverpool) on "Some Aspects of Cardiac Disease," 3.15 p.m. Tea at 4.30 p.m.
South-Western Branch: Annual Meeting, "Durracombe," Newton Abbot, 3.15 p.m. Luncheon, 1.15 to 2.30 p.m. Annual Dinner, Globe Hotel, 7 p.m.

16 Fri. City Division: Annual Meeting, Metropolitan Hospital, Kingsland Road, 9.15 p.m.
North Carnarvonshire and Anglesey Division: Annual Meeting, British Hotel, Bangor, 2.30 p.m.

21 Wed. Edinburgh Branch: Annual Meeting, Galashiels. Luncheon, Douglas Hotel, 12.30 p.m. Golf, Bowls, and Motor Drive, 1.30 p.m. Tea (Technical College), 4 p.m., to be followed by Business Meeting.

22 Thurs. London: Insurance Acts General Purposes Subcommittee, 2.30 p.m.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **9s.**, *which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.*

BIRTH.

HAYMAN.—On June 3rd, at 52, Caister Road, Great Yarmouth, to Mary (*née* Edwards), wife of F. Keith Hayman, M.B., F.R.C.S., a son.

MARRIAGE.

BIGGS—JEANS.—On May 30th, M. G. Biggs, M.D., to Laura Eleanor Jeans, St. Mary's, Lambeth.

DEATH.

ROBINSON.—On May 31st, at St. Mary's Infirmary, Highgate Hill, N., Arthur Henry Robinson, M.D., in his 68th year.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, JUNE 17TH, 1922.

CONTENTS.

BRITISH MEDICAL ASSOCIATION.

CURRENT NOTES: PAGE
- SECRETARIES' CONFERENCE AT GLASGOW ... 229
- INTERNATIONAL BOWLING MATCH AT THE GLASGOW MEETING ... 229
- EXPLOITING PUBLIC HEALTH OFFICERS: MILTON AND SITTINGBOURNE ... 229
- FEES FOR ATTENDANCE ON SOLDIERS ON LEAVE OR FURLOUGH 229
- EBBW VALE ... 229

MEETINGS OF BRANCHES AND DIVISIONS ... 231

NAVAL AND MILITARY APPOINTMENTS ... 271

ASSOCIATION NOTICES: PAGE
- NOTICES OF MOTION FOR ANNUAL REPRESENTATIVE MEETING ... 230
- SCOTTISH COMMITTEE: ELECTION OF REPRESENTATIVES ... 230
- TABLE OF DATES ... 230
- BRANCH AND DIVISION MEETINGS TO BE HELD ... 230

VACANCIES ... 232

DIARY OF SOCIETIES AND LECTURES ... 232

ASSOCIATION INTELLIGENCE AND DIARY ... 232

BIRTHS, MARRIAGES, AND DEATHS ... 232

British Medical Association.

CURRENT NOTES.

Secretaries' Conference at Glasgow.

THE Conference of Honorary Secretaries of Branches and Divisions will be held at Glasgow on Wednesday, July 26th, at 2 p.m. The Organization Committee, which by instruction of the Council deals with the matter, has drawn up the following agenda: (*a*) General question of the date of the conferences; (*b*) discussion, to be opened by Dr. T. W. H. Garstang (Chairman of the Grants Subcommittee), as to the inter-relationship of the Divisions, Branches, and Council on financial matters; (*c*) suggestions for the 1922–23 *Handbook*; (*d*) any other matters raised by Honorary Secretaries. It is hoped that Secretaries will as soon as possible send notice of any questions they would like to be discussed under (*d*) to the Medical Secretary, 429, Strand, W.C.2. The Secretaries' dinner in connexion with the Conference will be held at 6.30 p.m. on the same day at the University Union, and members of the Conference may bring ladies.

International Bowling Match at the Glasgow Meeting.

The Entertainments Committee having made arrangements that several of the best bowling greens in Glasgow shall be open to members of the Association for individual play during the meeting in Glasgow, it is proposed that an international match, North *v.* South, should be played on the Willowbank bowling green on Thursday, July 27th. Those who wish to take part in the game are requested to write as soon as possible to Dr. W. Snodgrass, 11, Victoria Crescent, Glasgow, W., stating their experience in match play and their usual position in rinks as leads, seconds, thirds, or skips. Lunch will be provided by Colquhoun, 225, Byres Road, at 1.15 p.m., and it is hoped to have the game finished in time to allow players to attend the civic reception in the Municipal Buildings in the afternoon. Application should be made soon, so that it may be known how many will play and final arrangements be made. Players will be provided with bowls at the club-house or may bring their own bowls if they so prefer.

Exploiting Public Health Officers: Milton and Sittingbourne.

Under the guise of economy local authorities are apparently inclined to revert to the bad old custom of asking their medical officers to provide locomotion and clerical assistance out of salaries which, to begin with, are inadequate. The latest attempt is that of the Milton and Sittingbourne Joint Committee, which proposes to appoint a medical officer of health to cover an area of 32,546 acres at a salary of £550 per annum, with £70 as medical officer to the child welfare centres, if he gets the latter appointment. The candidate must be a registered graduate in medicine of a British university holding a Diploma in Public Health. We invite the attention of possible candidates for this post to the following letter which the Medical Secretary of the British Medical Association has addressed to the Clerk to the Milton and Sittingbourne Joint Committee:

"I am instructed by my Association to express the great surprise and regret with which it finds that the joint committee for Milton and Sittingbourne is trying to get a medical officer of health for a salary which, with the probable additional appointment of medical officer to the child welfare centres, will only amount to £620 per annum. This is £80 below the minimum which this Association recognizes and which it considers is a very modest salary indeed for a man who has had the special training of a medical officer of health and is expected to undertake great public responsibilities. But the case is aggravated very considerably by the requirement that the officer appointed is to provide any means of locomotion and any clerical assistance he may require. In the view of my Association this is a thoroughly bad principle and must lead to one of two results: If the officer is a conscientious man he will, in the thorough discharge of his duties, reduce his own available salary to a figure which is quite incompatible with the standard of living required from an important public officer. If, on the other hand, he feels compelled to reserve as much as possible of the £620 for his own upkeep, the result will be that he will either spend more time over clerical work than he ought to do—clerical work which could quite well be done by someone without his special qualifications—or travel his district less than he ought to do. In either case the ratepayers of the area will be badly served owing to the wrong policy adopted by the local authority.

"I am instructed to express the hope that even at the twelfth hour the Council may see its way to offer a salary (without the conditions to which we take exception) which will enable us to advise our members that they may apply for the post. At the present time we shall certainly advise every medical man eligible for such a post to refrain from applying."

Fees for Attendance on Soldiers on Leave or Furlough.

In a Current Note on May 13th reference was made to the fact that Army Form O.1667, showing the obsolete scale of fees for attending soldiers on furlough, was still being issued to practitioners, and that the attention of the War Office had been called to the matter. As a result of the British Medical Association's representations the following Army Council Instruction has been published:

A.C.I.264.—The attention of all G.Os., C.-in-C., and G.Os. C. is called to A.C.I.643 of 1920. Complaints have been received that old copies of A.F.O.1667 are still being sent to civilian medical practitioners, necessarily called in to attend men taken sick while on furlough, etc., without being amended to show the revised scale of fees laid down in A.C.I.342 of 1920. Steps should therefore be taken to ensure that old forms are properly amended in every case before being issued to the practitioners.

Ebbw Vale.

Of the original nine doctors imported into the district five weeks ago to take the places of the doctors formerly employed by the Ebbw Vale Workmen's Medical Society, who refused to assist the society in its efforts to cut down the standard of medical remuneration in South Wales, we are informed that five have already left the district, though the places of some of them have been filled. An account in a local paper says that Mr. Evan Davies, M.P., addressed a large gathering on the doctors' question, and after a lengthy speech earnestly appealed to the people to stand by the committee and support the new doctors in the district. This local newspaper expresses the opinion that both sides, the doctors and the workmen, are equally certain of success, and that up to now there is no sign of a settlement.

Association Notices.

NOTICES OF MOTION BY DIVISIONS FOR THE ANNUAL REPRESENTATIVE MEETING, GLASGOW, 1922.

Medical Secrecy: Suggested Government Inquiry.

By HAMPSTEAD:

That the following Rider to the second Recommendation in para. 113 of the Annual Report be adopted:

That it be an instruction to the Council to press for a committee of inquiry by the Government into the whole question of medical secrecy.

Hospital Policy of the Association.

By WESTMINSTER AND HOLBORN:

That the time has now arrived when the staff of the hospitals should receive remuneration for their services.

That any change in hospital policy should, in the interest of the public, be accompanied by changes affording the coming generation of medical men greater opportunities of holding responsible appointments on the staffs of hospitals.

SCOTTISH COMMITTEE.

THIRTEEN members of the Scottish Committee are to be elected by the Scottish Divisions, grouped as follows:

	No. of Representatives.
Group I.—The Divisions in the Aberdeen and Northern Counties Branches	2
Group II.—The Divisions in the Dundee, Perth, Fife, and Stirling Branches	2
Group III.—The Divisions in the Edinburgh Branch, and the Dumfries and Galloway Division	3
Group IV.—The Glasgow City Divisions	3
Group V.—The remaining Divisions in the Glasgow and West of Scotland Branch	3

Nominations may be made (*a*) by a Division or (*b*) by three Members in a group. The election, in cases of contest, will be by postal vote of the members in each group. Nominations must reach the Scottish Medical Secretary, 6, Rutland Square, Edinburgh, not later than June 19th.

TABLE OF DATES.

June 23, Fri.	Last day for election of Representatives and Deputy Representatives.
June 24, Sat.	Supplementary Report of Council appears in SUPPLEMENT.
June 30, Fri.	Last day for receipt at Head Office of notification of election of Representatives and Deputy Representatives.
July 7, Fri.	Last day for receipt at Head Office of Amendments and Riders for Annual Representative Meeting Agenda.
July 21, Fri.	Annual Representative Meeting, Glasgow, 10 a.m. Nominations for election of 12 Members of Council by grouped Representatives to be received (at A.R.M., Glasgow) by this date.

ALFRED COX, *Medical Secretary.*

BRANCH AND DIVISION MEETINGS TO BE HELD.

ABERDEEN BRANCH.—The summer meeting of the Aberdeen Branch will be held in the Panmure Arms Hotel, Edzell, on Wednesday, June 21st, at 2 p.m. Lunch at 1.15 p.m. (3s. 6d.); dinner at 6.30 p.m. (6s.); tea, if desired (1s. 6d.). It is intended that members shall travel by private motor cars, and those intending to be present at the meeting are requested to notify the secretary before noon on Saturday, June 17th. Members providing cars may arrange their own parties. Cars will start from Holburn Junction at times arranged. For those who can travel early, golf (singles) can be arranged to be played before lunch; and, if desired, foursomes after lunch. Visits will be arranged to places of interest. Members may bring guests.

EDINBURGH BRANCH.—The annual meeting of the Edinburgh Branch will be held at Galashiels on Wednesday, June 21st: 12.30 p.m., luncheon at the Douglas Hotel (charge, 3s. 6d.); 1.30 p.m., golf, bowls, and motor drives; 4.30 p.m., tea, provided by the South-Eastern Counties Division, in the Technical College, Galashiels; 5 p.m., business meeting in the large hall. Members who have not returned the reply postcard with answers to the questionnaire are requested to do so to the honorary secretary, Dr. John Stevens, 78, Polwarth Terrace, Edinburgh, by June 14th. The agenda includes—Report of Branch Council: (*a*) Annual Reports of Branch and of Divisions; (*b*) social functions, institution of Branch Golf Club; (*c*) revision of Branch rules of organization. Report of action of Branch Council in nominating two members to the Local Voluntary Hospital Committee for the Lothians and Peebles; treasurer's annual report; election of trustee; election of office-bearers; proceedings of the Scottish Committee; correspondence from the Medical Secretary; annual report of Central Council and Annual Representative Meeting.

GLASGOW AND WEST OF SCOTLAND BRANCH: LANARKSHIRE DIVISION.—The annual meeting of the Lanarkshire Division will be held on Wednesday, June 21st, in St. Enoch's Station Hotel, Glasgow, at 3.30 p.m. Business: Election of (1) officers, (2) Representative; Reports by Executive Committee: (*a*) appointment of Assistant M.O.H. for Middle Ward, (*b*) appointment of Direct Representative on Scottish Committee; Secretary and Treasurer's annual report; Annual Meeting in Glasgow, 1922.

LANCASHIRE AND CHESHIRE BRANCH.—The eighty-sixth annual meeting of the Lancashire and Cheshire Branch will be held in the Public Buildings, Northgate, Blackburn, on Wednesday, June 28th. 12 to 1.30 p.m., Lunch at the Old Bull Hotel. 1.45 p.m., Reception by the Mayor (Alderman Fielding) in the Reception Room, Public Buildings, Northgate. Meeting of Branch Council at Public Buildings. 2 p.m., Annual Meeting in Lecture Hall, Public Buildings, when the chair will be taken by the President-elect, Dr. G. E. Orme, J.P. Agenda: Report of Branch Council and financial statement. Presidential address on "The general practitioner as an asset to the community." Election of officers and two auditors for the coming year. Votes of thanks to the retiring officers and Branch Council. Place of next annual meeting. Miscellaneous business. Communications: (*a*) Dr. A. Renshaw on "The etiology of diabetes"; (*b*) Dr. Daley, "Observations on changes in type of the acute infectious diseases." 3.30 p.m., Afternoon tea in large lecture hall. 4 p.m., Visits and excursions: (1) Royal Infirmary and Infectious Hospital; (2) Stonyhurst College; (3) Epileptic Colony, and Ribchester Museum and Roman Antiquities; (4) Visit to a spinning and weaving mill and the new electrical works; (5) Golf at Pleasington Golf Links. 7 p.m., Dinner. To facilitate arrangements for lunch and for the various visits and excursions, members are requested to notify the Blackburn Division Secretary, Dr. Shearer, The Colony, Langho, near Blackburn.

METROPOLITAN COUNTIES BRANCH.—The annual general meeting of the Metropolitan Counties Branch will be held at 429, Strand, W.C., on Friday, June 23rd, at 4 p.m. Business: (1) Report of scrutineers as to the election of new officers; (2) Annual Report of Council; (3) President's address by Mr. N. Bishop Harman, entitled "London: the triumph of medicine."

METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.—The annual meeting of the Kensington Division will be held, by kind permission of Mr. E. B. Turner, at 21, Westbourne Terrace, W., on Thursday, June 22nd, at 4.30 p.m.

METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.—A meeting of members of the Lewisham Division, and non-members resident in the area, will be held on Tuesday, June 20th, at 8.45 p.m., at St. George's Hall Annexe, Carholme Road, Forest Hill, S.E.23, when Dr. T. E. White will occupy the chair. Agenda: An address, "Intercommunicable diseases (man and the lower animals)," by Professor F. Hobday, C.M.G., F.R.C.V.S., F.R.S.E. Discussion on provisional agenda of Annual Representative Meeting, Glasgow, 1922 (SUPPLEMENT, May 13th).

METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.—A meeting of members of the Willesden Division, and non-members resident in the district, will be held at St. Andrew's Parish Hall (institute behind church), High Road, Willesden Green, N.W., at 3.45 p.m., on Wednesday, June 21st. Agenda: Correspondence, etc. 4.15 p.m., Clinical meeting, when Mr. A. W. Bourne, F.R.C.S., will open a discussion on "Pelvic pain in the absence of physical signs." Those who have not yet sent in their subscriptions to the Election and Emergency Funds are requested to do so at their earliest convenience.

NORTHERN COUNTIES OF SCOTLAND BRANCH.—The annual meeting of the Northern Counties of Scotland Branch will be held at the Highland Hotel, Strathpeffer Spa, on Saturday, June 24th, at 11.30 a.m. Business: Election of officers; Matters to be brought before Representative Meeting; Instructions to Representatives; Annual Report of Central Council; Election of members. The Branch Council hopes there will be a good attendance of members, and also wishes it to be noted that arrangements have been made to invite ladies to this meeting. Luncheon will be served at the Highland Hotel at 1 p.m. Arrangements have been made for a drive to the Falls of Rogie, and through the courtesy of the management of the Strathpeffer Spa the grounds of the Spa and the Baths will be open to members and their friends. The tennis courts will also be available to members. Through the courtesy of the Committee of the Golf Club the course will be open to members, and if sufficient players come forward, a match will be arranged. Members intending to be present are asked to notify the honorary secretaries.

NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH.—The annual meeting of the North Lancashire and South Westmorland Branch will be held at Colgarth Hospital, Windermere, on Thursday afternoon, June 22nd, at 3 p.m. Agenda: Election of office-bearers; annual report; financial report; the President (Dr. Chapman) will read a paper on "Birth control"; Dr. Somervell will give a lecture on and demonstrate "Modern orthopaedic methods." Ladies are invited. Tea will be provided by the President, and, weather permitting, a motor boat will be placed at the disposal of the ladies by the President. Will members who intend to be present please notify the secretary of the Kendal Division (Dr. Lang Cochrane, M.C., Stricklandgate, Kendal) or the Branch secretary, Dr. J. Livingston, 2, Hartington Street, Barrow.

NORTH OF ENGLAND BRANCH.—The annual meeting of the North of England Branch will be held at the King's Arms Hotel, Berwick-on-Tweed, on Thursday, July 6th, at 11.30 a.m. The Branch Council will meet immediately before the general meeting. Business: To receive the Annual Report of Council and Financial Statement. To elect officers for the ensuing year. President's address. Luncheon will be provided for members attending the

meeting, at 1 o'clock (3s. 6d. each). Those who intend to be present are requested to notify the honorary secretary, Dr. James Don, 7, Windsor Terrace, Newcastle-upon-Tyne, not later than July 4th. Only those who reply will be catered for. After lunch a golf match between North and South will be played on the Goswick Golf Course, kindly lent for the occasion. All players are invited to participate in this event, and those intending to do so are asked to notify the honorary secretary before July 4th. Tea will be provided at the course. Time-table: Leave Newcastle 9.15, arrive Berwick 11.6; Annual General Meeting, 11.30; luncheon, 1 o'clock; golf match and tea. Leave Berwick 6.32, arrive Newcastle 7.54; or leave 8.55, arrive 10.43.

OXFORD AND READING BRANCH. — The annual meeting and dinner of the Oxford and Reading Branch will be held in Reading in the second week of July. Members wishing to read papers or show cases should communicate at once with the Secretary, 223, King's Road, Reading. It might be possible to arrange a golf match in the morning if a sufficient number of members could assemble about 10 a.m. at the main G.W.R. station. Maidenhead, Newbury, and Oxford members are asked to note this, and write to the secretary if they wish golf to be arranged.

SHROPSHIRE AND MID-WALES BRANCH. — The forty-seventh spring meeting of the Shropshire and Mid-Wales Branch will be held at the Royal Salop Infirmary, on Tuesday, June 20th, at 4 p.m. The President (Dr. Hodges) will take the chair. A council meeting will be held at 3.30 p.m. By kind invitation of the President tea will be provided. Agenda: Report of Council and balance sheet for last year; election of (*a*) officers for 1922-23, (*b*) new members of the Association; general business.

SOUTHERN BRANCH.—The forty-ninth annual meeting of the Southern Branch will be held on Thursday, June 22nd, at 2.15 p.m., at the Old Government House, Guernsey, Channel Islands, when Dr. H. Bosworth Wright will resign the chair to Lieut.-Colonel A. C. Stamberg, O.B.E., D.C.M.S. Ministry of Pensions, Channel Islands Area, who will deliver his inaugural address, "The Pensioner—a clinical study." The report of the Branch Council for the year 1921-22 will be presented, and the officers of the Branch for the year 1922-23 will be elected. Tea will be provided at the conclusion of the meeting by kindness of the President, to be followed by a visit to Castle Cornet, to which the lady visitors are invited. Dinner at the Old Government House Hotel to visiting members at 8.15 p.m.

SOUTH MIDLAND BRANCH: BEDFORD DIVISION.—The annual meeting of the Bedford Division will be held on Tuesday, June 20th, at 3 p.m., at the Bridge Hotel, Bedford. The Chairman, Mr. W. A. Sharpin, invites the members of the Division to luncheon at the Bridge Hotel, Bedford, at 1.15 p.m. By kind permission of Dr. Colby Sharpin, tea will be provided at Castle Close after the meeting. Agenda: Presentation of annual report for 1921; election of officers; matters referred to Divisions (SUPPLEMENT, May 13th). Paper by Dr. Arthur Latham, Physician to St. George's Hospital, on "The treatment of febrile cases of pulmonary tuberculosis which do not yield to ordinary sanatorium treatment." An Executive Committee meeting will be held at 2.40 p.m.

SOUTH MIDLAND BRANCH: BUCKINGHAMSHIRE DIVISION.—The annual meeting of the Buckinghamshire Division will be held at the Crown Hotel, Aylesbury, on Friday, June 30th.

SOUTH WALES AND MONMOUTHSHIRE BRANCH.—The annual meeting of the South Wales and Monmouthshire Branch will be held at King Edward VII Hospital, Cardiff, on Thursday, June 22nd, at 3.15 p.m.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: MONMOUTHSHIRE DIVISION.—The annual meeting of the Monmouthshire Division will be held at the Royal Gwent Hospital, Newport, on Saturday, June 24th, at 3.30 p.m. Agenda: Correspondence; Election of Officers; Report of Executive Committee of the Division as to the Ebbw Vale Workmen's Medical Society, and resolution in connexion with the matter; Consider Agenda of Representative Meeting. A meeting of the Executive Committee will be held at 3 p.m.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: NORTH GLAMORGAN AND BRECKNOCK DIVISION.—A meeting of this Division will be held at Pontypridd on Thursday, June 29th, when a British Medical Association lecture will be delivered by Dr. H. Morley Fletcher on "Treatment in renal disease."

SURREY BRANCH.—The ninth annual meeting of the Surrey Branch will be held (by the invitation of the Reigate Division) at Reigate, on Wednesday, June 28th, at 5.15 p.m., in the Municipal Buildings, Reigate (by kind permission of the Mayor of Reigate). 12.30, Branch Council at White Hart Hotel; 1.15, Lunch (by the kind invitation of the Reigate Division) at the White Hart Hotel; 2.45, Cinema (medical and surgical) exhibition at the Hippodrome, Reigate; 4.30, Reception by the Mayor of Reigate, and tea at the Municipal Buildings; 5.15, Annual meeting for the election of officers and reception of the annual report and financial statement, and the report of the Boundaries Subcommittee; 6.45, Dinner (charge 7s. 6d., wines extra).

SUSSEX BRANCH.—The annual meeting of the Sussex Branch will be held at the Royal Pavilion, Brighton, on Wednesday, July 5th, 1922, at 2 p.m. Mr. George Morgan, F.R.C.S., the President-elect, will give an address on "Swellings and sinuses in the necks of children."

YORKSHIRE BRANCH. — The annual meeting of the Yorkshire Branch will be held at the Clayton Hospital, Wakefield, on Tuesday, June 27th, at 3.45 p.m.

Meetings of Branches and Divisions.

METROPOLITAN COUNTIES BRANCH: HARROW DIVISION.

THE annual meeting of the Harrow Division was held on May 30th under the chairmanship of Dr. H. J. HILDIGE, and a very enjoyable evening was spent. The King's health having been honoured, the Chairman, Dr. HILDIGE, reviewed in brief the work of the Division in the past session. He referred to the interesting papers and discussions that had taken place, and thanked those visitors who had provided the material for those discussions. He deplored the small attendance on one or two occasions, but hoped for better things in the future. In conclusion he referred to his successor, Dr. C. E. Goddard, for whom he vacated the chair. The health of the Division, proposed by Dr. HILDIGE, was honoured with enthusiasm. After a few words of welcome to the visitors of the evening by Dr. GODDARD, the following officers were elected:

Vice-Chairman: Dr. W. S. Darby. *Representative in Representative Body:* Dr. H. L. Hatch. *Deputy Representative:* Dr. R. M. Bronte. *Honorary Secretary and Treasurer:* Dr. C. F. Mayne, O.B.E.

At the conclusion of the elections the SECRETARY proposed the health of the retiring Chairman, Dr. H. J. Hildige, which was warmly responded to. Dr. C. F. T. SCOTT, Chairman of the Willesden Division, then delivered an admirable speech, telling of the good fight waged in Willesden against municipal bureaucracy, and how by unity and organization the British Medical Association had triumphed. He was enthusiastically applauded on conclusion. The meeting then turned to informal proceedings, which included bridge, and a very successful occasion only concluded at the approach of midnight.

BIRMINGHAM BRANCH: COVENTRY DIVISION.

THE annual meeting of the Coventry Division was held at the Coventry and Warwickshire Hospital on May 30th. The minutes of the last annual meeting were confirmed, and the following officers were elected for the ensuing year:

Chairman: Dr. J. T. H. Croft. *Vice-Chairman:* Dr. S. L. Heald. *Secretary:* Dr. N. J. Rollason.

A vote of thanks was passed to the hospital committee for the use of the board room for meetings. The annual report of the Council and agenda of the Annual Representative Meeting were considered and the Representative instructed. The following resolution was also passed:

That in the opinion of this Division the advertisement of births in the press mentioning the name of the doctor in attendance is contrary to medical ethics.

YORKSHIRE BRANCH: LEEDS DIVISION.

AT a meeting of the Division, held on April 21st, Professor RAPER of Leeds University gave an account of the gastro-intestinal movements in health. Dr. ROWDEN followed with a description of the movements of the alimentary tract as observed by opaque feeding and *x* rays. He was particular to point out that the movements seen were those only of the opaque material and not necessarily of the organ concerned unless there was actual contact between the two. Particular attention was paid to the stomach with regard to motility, tone, spasmodic contractions and peristalsis; he showed how abnormalities of these were of great importance in the diagnosis of disease. The passage of the meal through and the movements of the duodenum, jejunum, ileum, and a large intestine were described with the characteristics of each region. Dr. Rowden showed a large number of actual radiograms to illustrate the various points. Dr. S. T. ROWLING read a paper on the administration of anaesthetics, in which he introduced a simple method of giving chloroform in a definite percentage dose, and Dr. ALLAN showed a number of pathological specimens.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following notifications are announced by the Admiralty:—Surgeon Commanders W. K. D. Breton and S. H. Woods, O.B.E., to the *President* for hospital course, A. J. Hewitt to R.N. Hospital, Plymouth. Surgeon Lieutenant Commanders C. M. Williams to R.N. Hospital, Plymouth, T. Gwynne-Jones to the *Pembroke* for R.N. Barracks, Chatham.

G. G. Michell has entered as Surgeon Lieutenant, and has been appointed to R.N. Hospital, Haslar, for course.

ROYAL NAVAL VOLUNTEER RESERVE.

Late Surgeon Probationer W. Caithness has entered as Surgeon Lieutenant with seniority of May 17th, and attached to the London Division.

ROYAL ARMY MEDICAL CORPS.

Major-General E. G. Browne, C.B., C.M.G., late R.A.M.C., retires on retired pay.

Major-General Sir H. R. Whitehead, K.C.B. (retired pay), is appointed Colonel Commandant, vice Major-General T. J. Gallwey, K.C.M.G., C.B. (retired pay).

Colonel C. E. Pollock, C.B., C.B.E., D.S.O., late R.A.M.C., to be Major-General, vice Major-General E. G. Browne, C.B., C.M.G.

Lieut.-Colonel H. E. Staddon is placed on the half-pay list on account of ill health.

TERRITORIAL ARMY.

ROYAL ARMY MEDICAL CORPS.

To be Honorary Physician to the King: Colonel G. H. Edington, T.D., in succession to Colonel W. Kinnear, T.D. (rtd.). To be Honorary Surgeons to the King: Colonel A. D. Sharp, C.B., C.M.G., T.D., in succession to Colonel W. H. Bull, V.D., T.D. (deceased); Colonel J. Clay, C.B.E., T.D., in succession to Colonel J. A. Jones, V.D. (retd.).

VACANCIES.

BARNSLEY: BECKETT HOSPITAL.—Junior House-Surgeon (male). Salary, £200 per annum.

BRISTOL ROYAL INFIRMARY.—(1) Obstetrician; (2) Senior Resident Officer; (3) Resident Obstetric Officer; (4) Ear, Nose and Throat House-Surgeon; (5) Casualty Ophthalmic House-Surgeon; (6) Two House-Physicians; (7) Four House-Surgeons. Salary for (2), £200 per annum, and for (3), (4), (5), (6), and (7), £120 per annum each.

CANADA: QUEEN'S UNIVERSITY. Kingston.—Chair of Preventive Medicine. Salary, 3,500 dols., rising to 4,000 dols.

CANCER HOSPITAL, Fulham Road, S.W.3.—Assistant to the Research Department. Salary, £700 per annum.

DARLINGTON GENERAL HOSPITAL.—Senior House-Surgeon (male). Salary, £250 per annum.

DEVON MENTAL HOSPITAL, Exminster.—Third Assistant Medical Officer. Salary, £300 per annum.

EASTERN DISPENSARY, Leman Street, E.1.—Gynaecologist.

EAST SUSSEX COUNTY MENTAL HOSPITAL, Hellingly.—Junior Assistant Medical Officer (male). Salary, £300 per annum, rising to £400.

ELIZABETH GARRETT ANDERSON HOSPITAL, Euston Road, N.W.—Female Clinical Assistants in Out-patient Department.

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—Assistant House-Surgeon. Salary, £150 per annum.

GLASGOW EYE INFIRMARY.—Clinical Assistant.

GRIMSBY AND DISTRICT HOSPITAL.—House-Surgeon. Salary, £300 per annum.

HAMPSTEAD GENERAL HOSPITAL, Haverstock Hill, N.W.3.—Gynaecologist.

HOSPITAL OF ST. JOHN AND ST. ELIZABETH, Grove End Road, N.W.—Assistant Physician.

KENT COUNTY COUNCIL.—Assistant Medical Officer to the Lenham Sanatorium. Salary, £400 per annum, increasing to £450.

LEEDS CITY INFECTIOUS HOSPITALS, Seacroft.—Second Assistant Medical Officer. Salary £250 per annum.

LEWISHAM HOSPITAL, S.E.13.—Fourth Assistant Medical Officer. Salary, £400 per annum.

LINCOLN COUNTY HOSPITAL.—Junior House-Surgeon (male). Salary, £150 per annum, rising to £200.

LONDON: ALL SAINTS' HOSPITAL FOR GENITO-URINARY DISEASES.—Resident House-Surgeon. Salary, £120 per annum.

MACCLESFIELD GENERAL INFIRMARY.—Senior House-Surgeon (male). Salary, £200 per annum.

MANCHESTER: ANCOATS HOSPITAL.—Honorary Radiologist.

MANCHESTER ROYAL INFIRMARY.—Surgical Registrar.

MANCHESTER: ST. MARY'S HOSPITALS FOR WOMEN AND CHILDREN.—House-Surgeon for Maternity Hospital. Salary, £100 per annum.

METROPOLITAN HOSPITAL, Kingsland Road, E.8.—Assistant Physician.

MINISTRY OF PENSIONS.—Two Junior Medical Officers (Surgeons), at the Highbury Group of Hospitals, Moseley. Salary, £350 per annum.

NOTTINGHAM GENERAL HOSPITAL.—Two House-Physicians. Salary, £200 per annum each.

NEWCASTLE-ON-TYNE DISPENSARY.—Resident Medical Officer. Salary, £350 per annum, rising to £400.

NEWCASTLE-UPON-TYNE: HOSPITAL FOR SICK CHILDREN.—Junior Resident Medical Officer (male). Salary, £150 per annum.

PETERBOROUGH INFIRMARY.—House-Surgeon (male). Remuneration, £200 per annum.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone Road, N.W.—Assistant Resident Medical Officer. Salary at the rate of £60 per annum, increasing to £100 on appointment as Senior Resident Medical Officer.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.—(1) Assistant Physician; (2) Assistant Surgeon. Honorarium for (1) and (2) for travelling expenses.

ROYAL LONDON OPHTHALMIC HOSPITAL, City Road, E.C.—Senior House-Surgeon. Salary, £150 per annum.

ROYAL NATIONAL ORTHOPAEDIC HOSPITAL, Great Portland Street, W.—House-Surgeon. Salary, £150 per annum.

SALOP COUNTY COUNCIL.—Assistant Medical Officer for Medical Inspection of School Children, and Maternity and Child Welfare. Salary, £550 per annum, rising to £700.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W.—House-Surgeon. Salary, £100 per annum.

SHEFFIELD ROYAL INFIRMARY.—(1) Two House-Physicians; (2) House-Surgeon; (3) Ophthalmic House-Surgeon; (4) Assistant Casualty Officer. Salary, £150 per annum each.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House-Physician. Salary, £150 per annum.

SOUTHEND: VICTORIA HOSPITAL.—House-Surgeon. Salary, £200 per annum.

SOUTH LONDON HOSPITAL FOR WOMEN, Clapham Common, S.W.1.—(1) House-Surgeon; (2) House-Physician (females). Salary, £100 per annum each.

SOUTH SHIELDS: INGHAM INFIRMARY.—Senior and Junior House-Surgeons (male). Salaries, £200 and £150 per annum respectively.

STAFFORDSHIRE, WOLVERHAMPTON, AND DUDLEY JOINT COMMITTEE FOR TUBERCULOSIS.—Medical Superintendent of Prestwood Sanatorium. Salary, £800 per annum.

UNIVERSITY COLLEGE HOSPITAL, Gower Street, W.C.—Medical Officer (half time) to assist in Clinical Investigation and Research in the Treatment of Malignant Disease by Radium. Salary, £250 per annum.

WEST LONDON HOSPITAL, Hammersmith Road, W.—(1) Two House-Physicians. (2) House-Surgeon. Salary, £100 per annum.

WESTMINSTER HOSPITAL, S.W. — (1) Assistant House-Physician; (2) Assistant House-Surgeon. Honorarium at the rate of £52 per annum each.

WINCHESTER: ROYAL HAMPSHIRE COUNTY HOSPITAL.—House-Physician (male). Salary, £150 per annum.

CERTIFYING FACTORY SURGEONS.—The following vacant appointments are announced: Chirnside (Berwick), New Southgate (Middlesex), Royton (Lancaster), Wainfleet (Lincoln).

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

DIARY OF SOCIETIES AND LECTURES.

LONDON DERMATOLOGICAL SOCIETY, 49, Leicester Square, W.C.2.—Tues., 4.30 p.m., Annual General Meeting; 5 p.m., Clinical Meeting.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.—Tues., 5 p.m., Croonian Lecture by Dr. Gordon Holmes, C.M.G., C.B.E.: The Symptoms of Cerebellar Disease and their Interpretation.

ROYAL SOCIETY OF MEDICINE.—General Meeting of Fellows, Tues., 5 p.m.

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos Street, Cavendish Square, W.—Thurs., 7.15 p.m., Demonstration by Dr. A. C. Stevenson: Trypanosomes in the Brain of a Case of Chronic Sleeping Sickness. 8.15 p.m., Annual General Meeting. Dr. E. de Verteuil: Anopheles and Malaria Control in the Brighton-La-Brea Rural Sanitary District, Trinidad. Dr. Arthur Powell: House Incidence of Sprue, suggesting its Infective Nature. Dr. E. P. Minett: A Cheap Type of School Latrine for Country Districts in the Tropics, in relation to Ankylostomiasis and other Diseases.

POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE, 1, Wimpole Street, W.1.—Mon., 5 p.m., Professor H. Maclean: Recent Work on Albuminuria and Glycosuria.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—Thurs., 4 p.m., Dr. Gray: Tuberculosis of the Skin.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland Street, W.1.—Mon., 5.30 p.m., Dr. J. Parkinson: Auricular Flutter.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Mon., Tues., Thurs., and Fri., 2 p.m., Out-patient Clinics. Mon., 3.30 p.m., Mr. Paton: Optic Atrophy. Tues., 3.30 p.m., Dr. Russell: Treatment of Syphilis of the Nervous System. Wed., 2.15 p.m., Dr. Walshe: Clinical Demonstration. Thurs., 3.30 p.m., Dr. Bailey: Electrical Testing of Muscle and Nerve. Fri., 3.30 p.m., Dr. Holmes: Cerebral Tumours. Mon. and Thurs., 12 noon, Dr. Greenfield: Neuro-Pathology. Tues. and Fri., 9 a.m., Operations; 12 noon, Dr. Wilson: Anatomy and Physiology of the Nervous System.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Hospital, Ouseley Road, Balham, S.W.—Wed., 4 p.m., Dr. C. E. Lakin: Common Errors in Diagnosis in regard to the Chest.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Daily, 10 a.m., Morning Work; 2 p.m., Operations, In-patients, Out-patients, Special Departments. Lectures, 5 p.m., Mon., Dr. Saunders: Nephritis in Children. Tues., Mr. Gray: Paralytic Ileus. Wed., Mr. Armour: Surgery of the Spine and Spinal Cord. Thurs., Sir P. Bassett-Smith: Mediterranean Fever. Fri., Mr. Macdonald: Urinary Surgery.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 1s. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS and ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London).
MEDICAL SECRETARY (Telegrams: Mediseca, Westrand, London).
EDITOR, *British Medical Journal* (Telegrams: Aitiology, Westrand, London).
Telephone number for all Departments: Gerrard 2630 (*3 lines*).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)
IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

JUNE.

16 Fri. City Division: Annual Meeting, Metropolitan Hospital, Kingsland Road, 9.15 p.m.

20 Tues. Bedford Division, Annual Meeting, Bridge Hotel, Bedford, 3 p.m. Luncheon, 1.15 p.m. Executive Committee, 2.30 p.m.
Lewisham Division, St. George's Hall Annexe, Carholme Road, Forest Hill, S.E.23, 8.45 p.m.
Shropshire and Mid Wales Branch, Royal Salop Infirmary, 4 p.m. Council Meeting, 3.30 p.m.

21 Wed. Aberdeen Branch, Panmure Arms Hotel, Edzell, 2 p.m. Lunch, 1.15 p.m. Dinner, 6.30 p.m.
Edinburgh Branch: Annual Meeting, Galashiels. Luncheon, Douglas Hotel, 12.30 p.m. Golf, Bowls, and Motor Drive, 1.30 p.m. Tea 4.30 p.m. Business Meeting, 5 p.m.
Lanarkshire Division, Annual Meeting, St. Enoch's Station Hotel, 3.30 p.m.
Willesden Division, St. Andrew's Parish Hall, High Road, Willesden Green, N.W., 3.45 p.m. Clinical Meeting, 4.15 p.m.

22 Thurs. London: Insurance Acts General Purposes Subcommittee, 2.30 p.m.
Kensington Division, 21, Westbourne Terrace, 4.30 p.m.
North Lancashire and South Westmorland Branch: Annual Meeting, Colgarth Hospital, Windermere, 3 p.m.
Southern Branch, Annual Meeting, The Old Government House, Guernsey, 2.15 p.m. Dinner, 8.15 p.m.
South Wales and Monmouthshire Branch: Annual Meeting, King Edward VII Hospital, Cardiff, 3.15 p.m.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 9s., *which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.*

BIRTH.

VARIAN.—To George Varian, M.D., and Hilda Varian, M.D., Thornborough House, Watford, Hertfordshire, on June 9th—a son.

DEATHS.

THORBURN.—On June 11th, very suddenly, at Newbury, Victoria Park, Manchester, Augusta, Lady Thorburn, wife of Sir William Thorburn, Surgeon, and daughter of the late W. E. Melland, Esq.

TURTLE.—On June 6th, at Kirkmead, Woodford, E.18, Frederick Turtle, M.D.St. Andrews, M.R.C.S.Eng., L.S.A., in his 90th year.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, JUNE 24TH, 1922.

CONTENTS.

BRITISH MEDICAL ASSOCIATION.	PAGE
Supplementary Report of Council, 1921-22	233
Proceedings of Council	240
CURRENT NOTES:	
INSURANCE ACTS COMMITTEE: DISPENSING CAPITATION FEE ...	244
A GRIEVANCE OF THE EAST AFRICAN MEDICAL SERVICE ...	244
DAY EXCURSIONS AT THE GLASGOW ANNUAL MEETING ...	245
SCUNTHORPE AND FRODINGHAM M.O.H.	245
FEE FOR THE EXAMINATION OF EMIGRANTS	245
EAST AFRICAN MEDICAL SERVICE: REDUCTION OF LOCAL ALLOWANCE	245
ASSOCIATION NOTICES:	
TABLE OF DATES	246
BRANCH AND DIVISION MEETINGS TO BE HELD	246
MEETINGS OF BRANCHES AND DIVISIONS	247

	PAGE
Annual Meeting at Glasgow:	
PROGRAMME OF BUSINESS	249
THE SECTIONS	249
PROVISIONAL PROGRAMME AND TIME TABLE	252
PATHOLOGICAL MUSEUM	253
ACCOMMODATION IN GLASGOW AND VICINITY	253
SPORTS	254
CORRESPONDENCE:	
INSURANCE MEDICAL REMUNERATION	254
MR. KYNASTON AND THE CENTRAL ETHICAL COMMITTEE ...	255
NAVAL AND MILITARY APPOINTMENTS	255
VACANCIES	255
DIARY OF SOCIETIES AND LECTURES	256
ASSOCIATION INTELLIGENCE AND DIARY	256
BIRTHS, MARRIAGES, AND DEATHS	256

SPECIAL NOTICE TO MEMBERS.

Every Member is requested to preserve this "Supplement," which contains matters specially referred to Divisions, until the subjects have been discussed by the Division to which he or she belongs.

MATTERS REFERRED TO DIVISIONS.

British Medical Association.

SUPPLEMENTARY REPORT OF COUNCIL, 1921-22.

CONTENTS.

	PAGE
Preliminary	233
Finance	234
Organisation	234
"British Medical Journal"	235
Medical Ethics	235
Medico-Political	235
Public Health and Poor Law	236
Hospitals	236
National Health Insurance	237
Naval and Military	238
Oversea Branches	239
Appendix: National Insurance Defence Trust	239

Preliminary.

HONOURS.

260. The Council has pleasure in announcing the following additional list of Members upon whom honours have recently been conferred by H.M. The King:—

BARONETCY.—Sir Berkeley G. A. Moynihan, K.C.M.G., C.B., M.S.

K.C.B.—Major-General A. P. Blenkinsop, C.B., C.M.G., A.M.S.

K.C.V.O.—Mr. R. R. Cruise, C.V.O., F.R.C.S.

KNIGHTHOOD.—Dr. A. J. Rice-Oxley, C.B.E., J.P.

C.M.G.—Dr. R. A. Cook, O.B.E.; Dr. A. E. Horn.

KAISAR-I-HIND MEDAL.—Dr. Edith Mary Brown.

OBITUARY.

261. The following is a supplementary list of Members whose death the Association has to deplore:—

Name.	Offices held in the Association.
Dr. Francis Darby Boyd, C.B., C.M.G.	Secretary of Section, Medicine in Relation to Life Assurance, 1898; Secretary of Section of Medicine, 1903.
Dr. Joseph Dawson Crawford.	A former Member of the Executive Committee of the Dartford Division of the Kent Branch.
Sir Henry Davy, C.B., K.B.E.	A Vice-President of the Association; President, Exeter Meeting, 1907. At one time a Member of the Journal and Finance Committees; a former President of the South Western Branch, and for many years a Member of the Branch Council. A former Chairman of the Exeter Division.
Mr. Richard Cogswell Elsworth, F.R.C.S.	Secretary of Section of Surgery, 1903.
Dr. Hugh Ernest Fraser ...	A former Vice-President of the Dundee Branch.
Dr. Thomas Frederic Higgs ...	A former Chairman of the Dudley Division of the Birmingham Branch.
Mr. Gordon Ley, F.R.C.S. ...	Secretary of Section of Obstetrics and Gynæcology, 1921.
Dr. Wm. Joseph Collings Merry	A former Member of the Executive Committee of the Eastbourne Division of the Sussex Branch.
Dr. James Middlemass ...	A former Member of the North of England Branch Council, and at one time Chairman of the Sunderland Division of that Branch.
Dr. Evan James Neville ...	A Member of the Executive Committee of the Wigan Division of the Lancashire and Cheshire Branch.
Dr. Wm. Halse Rivers Rivers .	A Vice-President of Section of Neurology and Psychiatry, 1920.

Name.	Offices held in the Association.
Mr. William Dunnett Spanton, F.R.C.S.	An old Member of the Central Council; A Member of the Parliamentary Bills Committee; a former President of the Staffordshire Branch, at one time Chairman of North Staffs Division of that Branch, and for some years a Member of the Division Executive. A Vice-President of Section of Obstetrics and Gynaecology, 1908, and a Vice-President of Section of Surgery, 1911.
Dr. Wm. Charles Taylor ...	A former Member of the Executive Committee of the Stratford Division of the Metropolitan Counties Branch.
Dr. Arthur Edward Wilson ...	A former Secretary of the Boston and Spalding Division of the Midland Branch.

Dr. G. A. Bingham, Dr. A. W. Brookfield, Dr. Horace George Brown, Dr. John Joseph Callanan, Dr. John Cecil Carr, Dr. Reginald Morley Clarke, Dr. Hugh Alexander Deravin, Dr. Wm. Henry Edwards, Dr. George Elliott, Dr. Robert Ernest Elworthy, Dr. Robert Carl Fechter, Dr. Archibald Finlay, Dr. Richard Ernest Foott, Dr. Henry Marcus Culpeper Green, Dr. John Howell Knight Griffiths, Dr. Robert Edward Grigson, Dr. Gustav Hamel, M.V.O., Dr. Herbert Chamney Hodges, Dr. Percy Stanley Hopkins, Dr. Samuel Price Hosegood, Dr. John Robert Jones, Dr. Henry Wynyard Kaye, Dr. Harry Edmund Colquhoun Keith-Murray, Dr. Augustus Kinsey-Morgan, Dr. John Lambie, Dr. John Alfred Laycock, Dr. Robert Bruce Low, C.B., Dr. Hector Kenneth McDonald, Dr. Wm. Frederick McDonogh, Dr. Murdoch Mackenzie, Dr. Archibald Lang McLean, Dr. Wm. Miles, Dr. Wm. Cochrane Murray, O.B.E., Lt.-Col. Charles Wm. Owen, C.M.G., C.I.E., I.M.S.Ret, Dr. Albert Victor Peatling, Lt.-Col. Charles Thomas Peters, I.M.S. ret., Dr. James Maurice Skill, Dr. Ross Stewart Steele, Dr. Alec Boswell Timms, Dr. Alexander Wood.

Relief for Families of Russian Doctors Suffering from Famine.

262. The Council has received from the Russian Committee for Famine Relief a strong appeal on behalf of the starving medical men and their families in various parts of Russia. This appeal to the spirit of professional solidarity is one which the Council feels cannot be ignored. It has accordingly resolved to make a direct appeal to all Members of the Association in the first place, and through the *Journal* to all members of the medical profession, to subscribe to a fund which has for its object the provision of food parcels to be sent through the American Relief Administration. The help is needed at once and in order that it may be made as easy as possible for every member to respond the Council has fixed the subscription at 5s., which it hopes every member will at once subscribe.

Finance Committee.

(Continuation of para. 59 of Annual Report.)

Annual Balance Sheet—Reserve Fund.

263. Arising out of consideration of the Annual Balance Sheet the Council has had under consideration a proposal for the establishment of a Reserve Fund together with the views thereon of the Financial Secretary and the Auditors.

The Council recommends:

Recommendation: That the Council establish a Reserve Fund for the extension of the work and premises of the Association to which shall be transferred from the Revenue Account such annual sum as shall be decided upon by the Council.

Lists of Members.

264. The Council has had under consideration the question of the designation of members in the Annual and other official lists. The question is of some importance as these lists are not only required for addressing of *Journals* and other office purposes but are used to put in the hands of local printers and others for the addressing of notices of meetings, etc. It is therefore important that the lists should be in such form as to lend themselves to these various purposes. The Council has decided that in these lists all Members shall be described as "Dr." unless they prefer to be known as "Mr." or are known to be practising as surgeons, in which case "Esq." will be used with the addition of "F.R.C.S." or "M.S." if they have either of these qualifications.

Organisation.

(Continuation of para. 82 of Annual Report.)

Rules of Organisation of Divisions and Branches.

265. Pursuant to the standing instruction of the Representative Body, the Council reports that according to the register at the Head Office the following 43 Divisions in Great Britain are not in effective possession of Rules of Organisation:—

(NOTE.—The Branches named below are mentioned merely for purposes of reference, being already in possession of Rules of Organisation.)

(ABERDEEN)
Orkney.
Shetland.

(BIRMINGHAM)
Bromsgrove.
Dudley.
Warwick & Leamington.
West Bromwich.

(CAMBRIDGE AND HUNTINGDON)
Isle of Ely.

(EAST YORK AND NORTH LINCOLN)
North Lincoln.

(EDINBURGH)
Lothians.

(ESSEX)
North-West Essex.

(GLASGOW & WEST OF SCOTLAND)
Ayrshire.
Glasgow Central.
Renfrewshire & Buteshire.

(LANCASHIRE & CHESHIRE)
Birkenhead.
Chester.
Crewe.
Glossop.
Hyde.
Isle of Man.
Leigh.
Manchester.
Preston.
Wigan.

(METROPOLITAN COUNTIES)
Chelsea.
Ealing.
South Middlesex.

(NORTHERN COUNTIES OF SCOTLAND)
Banff, Elgin and Nairn.
Caithness and Sutherland.
Inverness.
Islands.

(OXFORD AND READING)
Oxford.

(SOUTHERN)
Channel Islands.

(SOUTH WALES & MONMOUTHSHIRE)
Cardiff.
Monmouthshire.
North Glamorgan and Brecknock.

(SOUTH-WESTERN)
East Cornwall.
Exeter.
West Cornwall.

(SURREY)
Wimbledon.

(YORKSHIRE)
Dewsbury.
Harrogate.
Huddersfield.
Rotherham.

266. The Council strongly urges all Divisions which are without Rules to take immediate steps for their adoption, as being essential for effective organisation.

Question of Admission of Non-Members to Meetings of Divisions and Branches.

267. The Council has considered the question of admission of non-members to meetings of Divisions and Branches and is of the opinion, (1) that as regards scientific meetings of those bodies, non-members eligible for membership should only be admitted once during the year, either by invitation of the Division or Branch or on the personal invitation of a member, the issue of which has been notified in writing to the Secretary of the body concerned; (2) that as regards meetings other than scientific, the presence of non-members should only be allowed if a General Meeting of the profession is considered advisable by the Executive of the body concerned or by the Council.

268. In connection with the foregoing, and applications received at the Head Office from non-members for the assistance of the Association, the Council would point out that, except where the interests of the profession or exceptional circumstances render it necessary, none of the privileges of membership of the Association is extended to a non-member.

Question of Organisation of Medical Profession in South Africa.

(Continuation of para. 75 of Annual Report.)

269. The Annual Representative Meeting, Newcastle, expressed itself as in favour, where such an arrangement was desired, of federation with any purely medical body or bodies representing

substantially an ex-Branch or group of ex-Branches of the Association outside Great Britain. As reported in para. 75 of its Annual Report, the Council has since been in communication with the South African Committee of the Association on the question of federation arrangements for South Africa, the matter having arisen in respect of the following resolution passed at the South African Medical Congress in October, 1921 :—

> "That it be an instruction to the South African Committee, acting as Executive of Congress, to communicate at once to the British Medical Association the result of the referendum (*i.e.*, the referendum of the profession in South Africa, taken in August, 1921), with a strongly worded request that steps be taken to secure at the 1922 Representative Meeting a definite decision on the federation proposals. Should such decision take the shape of approval of such proposals, steps be forthwith taken to act on the referendum vote. Should a contrary or no decision be arrived at, a second referendum be taken by the South African Committee on the following issues :—
>
> (A) Maintenance of existing position ;
>
> (B) The establishment of a South African Medical Association without any reference to affiliation or federation."

The referendum vote in question of the medical profession in South Africa and Rhodesia, taken in August, 1921, was to the effect (361 votes) that there should be a new "Medical Association of South Africa," federated with the B.M.A. in Great Britain, as against the opinion (308 votes) that the officially representative body of the profession in South Africa and Rhodesia should be the B.M.A. as at present. Of the 447 members of the Association who voted, 255 voted in favour of the maintenance of the B.M.A. Branches, 189 in favour of formation of a new body, and 3 expressed themselves as having no preference.

270. The South African Committee informed the Council that the proposals submitted by the Council (*see B.M.J.* Supplement, December 24th, 1921, page 240) were unacceptable, and it pressed for a definite decision at Glasgow on the question of federation for South Africa. In reply the Council has stated that the A.R.M. at Glasgow will be asked to re-affirm the decision arrived at at Newcastle in favour of federation with a medical body for South Africa. The Council has also informed the South African Committee that the Council is awaiting the opinions of the South African Committee on the proposals laid before the R.B. last year ; that it would give sympathetic consideration to any alternative proposals which the Committee may make ; but that its first duty being to the members of the Association in South Africa, it must be satisfied that it is their wish to sever their present relations with the Association in favour of a new relationship.

The Council recommends :—

Recommendation: That the Representative Body reiterates its previously expressed opinion in favour of federation with any purely medical body or bodies representing substantially an ex-Branch or group or ex-Branches of the Association outside Great Britain with the Association who desire it, and instructs the Council to continue the discussion of the scheme proposed to the South African Committee or any alternative scheme suggested by it.

Past-Treasurer.

271. Draft Article 32, published in the *B.M.J.* Supplement of December 24th, 1921 (page 242) provides, *inter alia*, that the immediate Past-Treasurer shall be *ex-officio* a member of the Council. Under By-law 63, the Treasurer holds office for three years. The intention of the R.B. (Min. 146 of A.R.M. 1921) was that the Past-Treasurer should be *ex-officio* a member of the Council only for the one year after expiration of his office as Treasurer. In order to make the position quite clear, the Council **recommends** that the following words be added to By-law 63 :—

> "During his term of office and for one year thereafter, he shall be a member of the Council *ex-officio*."

"British Medical Journal."

German and Austrian Advertisements.

272. Arising out of the consideration of a recommendation of the Journal Committee concerning the exclusion of German and Austrian advertisements from the pages of the *Journal*, the Council has reversed a former decision arrived at in 1920, and has decided by a majority that approved advertisements from German and Austrian sources be no longer excluded from the pages of the *Journal*.

Medical Ethics.

Professional Secrecy.

(Continuation of paras. 108-13 of Annual Report.)

273. The Council has further considered its report to the Divisions and Representative Body on the question of professional secrecy contained in the above-mentioned paras. of its Annual Report. The Council is of opinion that para. 110 of its Report is superfluous, and as this paragraph may lead to misunderstanding, the Council has decided to withdraw it.

Medico-Political.

(Continued from para. 165 of Annual Report.)

Motor Taxation.

274. Mr. Arthur Neal, M.P. (Parliamentary Under Secretary of Ministry of Transport), has stated in the House of Commons that the whole basis of motor taxation is to be considered afresh by the Departmental Committee. The Council will take appropriate action within the lines already laid down by the Representative Body.

Fees to Members of Ministry of Pensions Medical Boards.

(Continuation of para. 156 of Annual Report.)

275. The reduction in the remuneration of members of Ministry of Pensions Medical Boards (Chairmen from £1 16s. 9d. to £1 11s. 6d. ; ordinary members from £1 11s. 6d. to £1 6s. 3d.) came into force on 18th April, 1922. Meanwhile information had been collected, from those areas in which Ministry of Pensions Medical Board work was being done, as to the willingness or otherwise of the practitioners concerned to accept the reduction.

276. On 26th May, 1922, Sir Jenner Verrall, the Medical and Assistant Medical Secretaries, together with four practitioners engaged on Board work in the London region, were received as a deputation by the Minister of Pensions, accompanied by Mr. G. Chrystal, C.B., Secretary ; Mr. E. H. Hodgson, O.B.E., Establishment Officer; and Colonel Sir A. Lisle Webb, K.B.E., C.B., C.M.G., Chief Medical Officer.

277. An agreed report of the deputation was published in the Supplement of 3rd June, 1922, pages 218-9. From this report it will be seen that the Minister, who, though very courteous and considerate, was not encouraging, stated that he would give due consideration to the representations made.

Fees for Medical Examination of Intending Emigrants.

(Continuation of para. 137 of Annual Report.)

278. An examination of the roster of medical practitioners who had agreed to examine intending emigrants showed that it contained the names of 830 members and 439 non-members. Over 400 replies have been received to the circular which the Association issued to those members whose names appeared on the roster, from which it appears (a) that many members were ignorant of the fact that the fees offered were disapproved by the Association ; and (b) that the bulk of those replying were willing to withdraw.

279. The Oversea Settlement Office has asked those members who have withdrawn to withhold their resignation pending a settlement, and the Association has advised these members to accede to that request pending further instructions.

280. A letter has been received by the Association signed by the Directors of Migration of the Dominions commenting adversely upon the action of the Association in this matter and suggesting that the action of the Association in urging its members to withdraw from the roster constitutes a grave breach of faith. To this letter a detailed reply is being sent, in which a conference is being suggested.

British Pharmacopœia and Imperial Weights and Measures.

281. The Pharmaceutical Society of Great Britain has asked for the opinion of the Association as to whether or not in all future editions of the "British Pharmacopœia" the Imperial weights and measures should be printed in addition to the Metric scale of weights and measures. The Pharmaceutical Society has been informed that the Association is prepared to support representations in favour of the change.

FEES FOR MEDICAL PRACTITIONERS CALLED IN ON THE ADVICE OF MIDWIVES.

(Continuation of paras. 160-2 of Annual Report.)

282. A reply has been received from the Ministry of Health in regard to the Council's representations that the 1920 scale of fees for medical practitioners called in on the advice of midwives should be amended to include a fee for a doctor who when called in has, the help of any other doctor not being available, to administer an anæsthetic himself; also a fee for specialists. The Minister has stated that he does not feel justified in prescribing a fee in either case, but proposes to make the following additions to the scale and would be glad to consider any observations which the Association desires to make on these proposals:—

(1) After para. 6 of the scale:—

Fee for attendance on mother or child at the doctor's residence or surgery ... ... 2s. 6d.

(2) After para. 7 (2) of the scale:—

In respect of any services performed by the doctor on any date later than the 10th day after the date of his first attendance, unless he reports forthwith to the local supervising authority that he considers, for reasons stated by him, that his further attendance is necessary.

The 1920 scale of fees reads as follows:—

1. Fee for all attendances of a doctor at parturition (*i.e.*, from the commencement of labour until the child is born), whether operative assistance or not is involved, including all subsequent visits during the first ten days, inclusive of the day of birth ... ... £2 2s. 0d.

2. Fee for attendance of a second doctor to give an anæsthetic, whether on account of abortion or miscarriage, at parturition or subsequently ... ... £1 1s. 0d.

3. Fee for suturing the perineum, for the removal of adherent or retained placenta, for exploration of the uterus, for the treatment of post-partum hæmorrhage, or for any operative emergency arising directly from parturition, including all subsequent necessary visits during the first ten days, inclusive of the day of birth ... ... £1 1s. 0d.

This fee not to be payable when the fee under (1) is payable.

4. Fee for attendance at, or in connection with, an abortion or miscarriage, including all subsequent visits during the ten days after and including the first visit £1 1s. 0d.

5. Fee for visits to mother or child not included under (1) to (4):—

Day (9 a.m. to 8 p.m.) ... ... 5s.
Night (8 p.m. to 9 a.m.) ... ... 10s.

6. The usual mileage fee of the district to be paid for all attendances under (1) to (5) of this scale.

7. No fee shall be payable by the local supervising authority:—

(1) Where the doctor has agreed to attend the patient under arrangement made by or on behalf of the patient, or by any Club, Medical Institute, or other Association of which the patient or her husband is a member.

(2) Where the doctor receives or agrees to receive a fee from the patient or her representative.

(3) In respect of any services performed by the doctor after the expiry of four weeks from the day of birth.

MIDWIVES AND USE OF OPIUM AND PITUITARY EXTRACT.

283. Under the Dangerous Drugs Act, 1920, the Secretary of State issued an authority for midwives to be in possession of, and to administer preparations containing opium so far as is necessary for the practice of their profession, subject to records of the date, the quantity purchased, and the name and address from whom purchased, being kept. The rules of the Central Midwives Board provide that a midwife must note in her register of cases each occasion on which she is under the necessity of administering or applying in any way any drug other than a simple aperient, the name and dose of the drug and the time and cause of its application being entered.

284. Representations were made by the Council to the Ministry of Health and the Central Midwives Board that any condition of a patient which required the administration of opium should be considered an abnormal condition and one in which a midwife should send for a doctor; also that midwives should be forbidden to use pituitrin, a practice which has been reported to the Council from the County of Durham. The C.M.B. has replied defending the position and putting forward arguments why midwives should be allowed to use opium, and trusting midwives to use their discretion as regards other drugs. The Council has decided not to press its objection to the use of opium by midwives, but to maintain that midwives should not be allowed to administer pituitary extract.

NEWSPAPER INSURANCES: FEES FOR MEDICAL CERTIFICATES.

285. The Council in reply to a request for its opinion as to the fees which should be charged for medical certificates in respect of newspaper insurances against sickness and accident, has stated its opinion that it would be unwise to lay down any uniform fee for such services, having regard to the diversity of forms used by individual newspapers and the differences in the amount of information required.

Public Health and Poor Law.

(Continuation of para. 198 of Annual Report.)

MEDICAL INSPECTORS UNDER THE IRISH LOCAL GOVERNMENT BOARD.

(Continuation of para. 193 of the Annual Report.)

286. The Provisional Government of Ireland Committee of the Cabinet (Colonial Office) has stated in reply to the request of the Association that as the Medical Inspectors under the Irish Local Government Board are now Officers of the Provisional Government of Ireland, any question as to their position, salaries, etc., is solely one for the Provisional Government. The Council is of opinion that no further action can usefully be taken.

MILEAGE FEES FOR PUBLIC VACCINATORS.

287. For some time past the Council has had under consideration the formation of a scale of mileage fees for public vaccinators and has been in communication with the Association of Public Vaccinators in connection therewith. That Association has now reported that in its opinion public vaccinators in rural districts would in most cases prefer to make their own arrangements with the Guardians for inclusive fees which should be in conformity with the nature of the districts which they served, rather than be bound by a mileage scale laid down centrally. The Council therefore proposes to take no further action.

CONGRESS OF ROYAL SANITARY INSTITUTE AT BOURNEMOUTH, 24th-29th July, 1922.

288. In view of the fact that the date of the above Congress clashes with the date of the Annual Meeting of the Association in 1922 the Council has found itself unable formally to appoint delegates to the Conference. It has, however, asked those members of its Public Health Committee who are attending the Congress to act as Delegates of the Association, and Drs. W. J. Howarth, C.B.E., and E. H. Snell will do so. The Royal Sanitary Institute has been notified of the position and it is hoped that in future years it will be found possible to avoid the clashing of dates.

Hospitals.

(Continuation of para. 210 of Annual Report.)

HOSPITAL POLICY OF ASSOCIATION.

289. The Council has authorised the Chairman of the Hospitals Committee to accept at the A.R.M. amendments as follows to the Report on the Hospitals Policy of the Association as published in the Supplement of 25th February, 1922:—

(1) That the footnote to para. 2 of the Report should be incorporated in para. 1 of the Report and amended by the substitution of "e.g." for "namely";

(2) that para. 3 of the Report be amended by the deletion of the words "adequate treatment cannot be obtained" and the substitution therefor of the words "they cannot pay for or cannot obtain adequate treatment";

(3) that para. 19 (b) be amended by the deletion of the words "all those paid for by public authorities" and the substitution therefor of the words "all those for whom any payment has been made by public authorities";

(4) that in Section VIII. para. 22 (d) the suggested scale of limits of income be £200, £250, and £300, instead of £250, £300, and £350;

(5) that the heading of Section IX should be amended to read "IX (a) Private patients in Nursing Homes attached to Hospitals";

(6) that the first para. of para. 23 be amended to read as follows:—

Where it is desirable that special accommodation in the nature of a Nursing Home should be provided in connection with voluntary hospitals for the reception of private patients it should provide as follows:

(7) that the words "where voluntary hospitals provide accommodation for private patients" be deleted from para. 23 (d);

(8) that a new Section IX (b) be inserted in the Report as follows:—

IX (b) PRIVATE IN-PATIENTS IN HOSPITALS.

Where private patients are admitted under special arrangements into the public wards of a Voluntary Hospital:—

(a) Private patients should be admitted to such wards only on the recommendation of a private practitioner except in cases of emergency.

(b) The scale of charges for the private patient for maintenance shall be such as fully to cover every cost to the hospital.

(c) No fixed rate of payment for professional services rendered to such patients should be established; the fees so payable to remain, as at present, a matter of arrangement between patient and the member of the staff of the hospital.

(d) The accounts of the hospitals should be kept so as to show the cost of this hospital benefit.

(e) The ordinary hospital routine of admission, transference and discharge of patients should not be modified for these private patients, nor should any preferential treatment be given to them.

(9) That after para. 28 the following be inserted in the Report:—

In cases where treatment is given at an Out-patient department, the ordinary hospital routine should not be modified, nor should any preferential treatment be given to tariff or private patients.

(10) that the following words be added to para. 29 of the Report:—

"and for that purpose":—

(11) that para. 30 be renumbered "(a)";

(12) that the following new sub-para. (b) be inserted:—

"(b) Greatly increased facilities should be provided for the appointment of clinical and chief clinical assistants to the various departments of the larger hospitals."

(13) that para. 31 be renumbered "(c)" and amended to read as follows:—

"(c) When the number of tariff patients of voluntary hospitals increases the medical staff of all grades should be increased.'

(14) that para. 32 be renumbered "(d)";

(15) that the following be substituted for existing para. 42 of the Report:—

No contributory scheme should be considered complete unless dental, laboratory and X-ray facilities are provided for contributors who may be attended by private practitioners outside the hospital, and in order to protect the scheme in these cases, as also for consultations at the patient's own home, it might be found desirable for the patient to be required to pay some small additional fee for these special services.

(16) that para. 46 be omitted.

BRITISH HOSPITALS ASSOCIATION AND HOSPITAL POLICY OF ASSOCIATION.

290. In order that the Association's Hospital Policy may become known to the British Hospitals Association the Council has empowered the Chairman of the Hospitals Committee, Dr. H. Guy Dain, Dr. E. R. Fothergill, Dr. E. W. G. Masterman and Mr. H. S. Souttar, C.B.E., to meet representatives of the B.H.A. to discuss the matter.

291. The B.H.A. has also been informed that representatives of the Association will be welcomed at the A.R.M., 1922, during discussion of this policy.

SUBSIDISING BY GOVERNMENT OF HOSPITALS IN FINANCIAL DIFFICULTIES.

292. The A.R.M. 1921, passed the following resolution:—

Minute 219.—Resolved: That the following Motion and Amendment be referred to the Council:—

193. Motion by the Chairman of the Hospitals Committee:

That the following Recommendation of Council be adopted:—

That in times of financial difficulty it is desirable that the Voluntary Hospitals should be subsidised by the central Government, and that such subsidy in the case of any individual hospital should take the form of a contribution proportionate to the income received by the Hospital from voluntary and other contributions. The subsidies here proposed should be made through some central hospital fund.

194. Amendment by Brighton:

That the fourth Recommendation in para. 251 of the Annual Report of Council be deleted and the following substituted therefor:—

That at the present time of financial difficulty it is desirable that the central Government should subsidise Voluntary Hospitals. The subsidies here proposed should be made through some central hospital fund, and should not carry the right of any control in the management beyond that allowed to an ordinary private subscriber.

The Council recommends:—

Recommendation: That in the event of the Voluntary Hospitals being subsidised by the Central Government such subsidies should be made through some central hospital fund or organisation and not to the hospitals direct. Payment for work done by a hospital for a Government Department is not to be considered a subsidy.

HOSPITAL POLICY OF THE LABOUR PARTY.

293. A Special Sub-Committee of the Hospitals Committee has been appointed to consider and report on the Hospital Policy of the Labour party as enunciated in a pamphlet recently issued.

National Health Insurance.

(Continuation of para. 186 of Annual Report.)

SPECIAL CONFERENCE OF REPRESENTATIVES OF LOCAL MEDICAL AND PANEL COMMITTEES.

294. A Special Conference of representatives of Local Medical and Panel Committees was held under the Chairmanship of Dr. H. G. Dain of Birmingham, at the Central Hall, Westminster, on May 18th, for the purpose of considering the following questions: (a) Approved Societies and Medical Benefit, (b) Dispensing Capitation Fee, (c) Mileage and (d) National Insurance Defence Trust. A full report of the discussion was published in the *B.M.J.* Supplement of May 27th, 1922, and the principal decisions of the Conference are dealt with in the following paragraphs.

PROFESSION AND APPROVED SOCIETIES—NATIONAL HEALTH INSURANCE BILL.

295. The following are the principal resolutions passed by the Special Conference dealing with the question of Approved Societies and Medical Benefit, the first of which is identical with the recommendation in para. 174 of the Annual Report except that the two parts are transposed. As the first resolution was passed unanimously, it is evident that the Insurance Acts Committee correctly interpreted the opinion of insurance practitioners as a whole in taking the action set out in paras. 171—174 of the Annual Report.

"That this Conference insists upon the continuance of the system of negotiating the actual terms of the contract of service which has prevailed since the coming into force of the National Health Insurance system, *i.e.* direct negotiations between the Government and the profession without the intervention of any third party; but will continue to welcome the co-operation of all those interested in the development of the best possible medical service for insured persons."

That the question of holding Conferences with bodies interested in the administration of the National Insurance

Acts, be referred to the Insurance Acts Committee for consideration and report to the October Annual Conference.

That the Insurance Acts Committee be instructed to take steps, if necessary, to secure the insertion in the National Health Insurance Bill, now before Parliament, of an additional Clause providing that the acceptance by the Government of the proposed contribution out of the Benefit Funds of the Approved Societies shall not confer on the Approved Societies any right to any further measure of control in Insurance matters than they have at present.

That as the surplus funds at present in the possession of the Approved Societies do not belong to the Societies but are statutory funds and under the control of the State, the use of such funds by the State for the purpose of contributing to the cost of medical benefit does not and cannot legally in itself confer any right upon the Societies to claim any share whatever in the administration of medical benefit.

296. The National Health Insurance Bill, introduced by the Government with a view to legalising the arrangement for the payment by the Approved Societies out of their surplus funds of that portion of the capitation fee hitherto known as the "Treasury Grant," refers in this connection to "conditions which may be prescribed." It is understood from the Ministry of Health that the intention of the words in question was to continue under the new arrangements the conditions which at present attach under the Treasury Regulations to Exchequer grants. Efforts were made to obtain from the Minister a clear and detailed definition of what is meant by the words in question, or an undertaking that the conditions in question shall not vary from those at present in force; and in the House of Commons, on May 24th, on the second reading of the Bill, he made the following statement:—

"I understand that a certain amount of apprehension exists in the mind of the medical profession that the present Bill may make some change or enable some change to be made in the arrangements for the control of medical benefit. I have already said in answer to questions in the House that there is not a word in this Bill which modifies the existing statutory provision for the control of medical benefit, and I take this opportunity of formally repeating that statement. Having regard to the provision in this Bill for contributions in relief of State expenditure from the surplus funds of Approved Societies, I have thought it no more than reasonable to say that I shall give these Societies an opportunity of expressing their views before new terms of service are made with panel practitioners on the expiry of the existing contract of service. But the responsibility for settling that contract rests and will continue to rest with the Minister of Health. A question has been raised as to possible implications in the words 'subject to such conditions as may be prescribed' in Clause 1 (1) (a) of the Bill. Those words are intended solely to provide for detailed conditions which may arise in the field of administration. They will certainly not be used in any way inconsistent with the principle I have just laid down."

297. The question of what steps should be taken to organise the profession (including the provision of a public medical service) in case of the suspension of medical benefit or the refusal of the profession to accept the conditions offered at the end of 1923, is receiving consideration.

298. In order that the resolutions of the R.B. and the Panel Conference may be in harmony, the Council recommends that the Recommendation in para. 174 of the Annual Report be amended as follows:—

Recommendation: That the Representative Body insists upon the continuance of the system of negotiating the actual terms of the contract of service which has prevailed since the coming into force of the National Health Insurance system, *i.e.*, direct negotiations between the Government and the profession without the intervention of any third party; but will continue to welcome the co-operation of all those interested in the development of the best possible medical service for insured persons.

Co-Operation with Medical Practitioners' Union.

299. At the October 1921 Panel Conference, a Motion instructing the Committee to take such steps as might be necessary to ensure co-operation with the Medical Practitioners' Union was withdrawn upon the suggestion of the Chairman that it be left to the Insurance Acts Committee to use its discretion in its endeavours to obtain united action by the profession. The matter has received the attention of the Insurance Acts Committee at several of its meetings, and an informal meeting, initiated by the London Panel Committee, took place between three members of the Insurance Acts Committee and four members of the Union. From the report of the members present at that meeting it appeared that the Union would probably be willing to recognise the Panel Conference as the body which should determine policy, to recognise the Insurance Acts Committee as the Executive of that Conference and not to obstruct the Insurance Acts Committee in its duty, but that in the Union's opinion the crux of the matter was the unification of a fighting fund, from which might follow, as a corollary, unification on other points, and that no fund would, in its opinion, be safe or worth supporting if it were not protected by trade union registration. A formal Conference between representatives of the Insurance Acts Committee and the Medical Practitioners' Union is being arranged at which the chief subject for discussion will be the possible unification of an appeal for a defence fund. Members who subscribe through their Panel Committees to the National Insurance Defence Trust (of which the members for the time being of the Insurance Acts Committee are Trustees) may rest assured that the Council, before inaugurating the Trust, satisfied itself upon the best legal advice that the legal position of the Trust was sound and the possibility of its effective use fully safeguarded.

Dispensing Capitation Fee.

300. The notice given by the Ministry to reduce the dispensing capitation fee to insurance practitioners as from April 1st, was postponed pending the settlement of negotiations between the Ministry and the pharmacists with respect to the reduction of the dispensing fee to pharmacists. The Ministry has now notified the Pharmacists' Union and the Insurance Committees that a reduction will take place as from May 1st in the dispensing charges of pharmacists. No notice has been given as regards rural dispensing doctors and there appears good reason to believe, though there has not as yet been official confirmation, that there will be no reduction of the dispensing capitation rate for doctors, at any rate before 1924.

National Insurance Defence Trust.

301. The audited statement up to December 31st, 1921, of the above Trust, of which the members of the Insurance Acts Committee are the Trustees, is appended herewith for the information of the Representative Body and the Members of the Association (see Appendix).

Naval and Military.

Resignation of Lieut.-Colonel R. H. Elliot, I.M.S. (Ret.).

302. The Council has learned with great regret that, acting under medical advice, Lt.-Col. Elliot has been compelled to relinquish his Association work. Colonel Elliot has been Chairman of the Naval and Military Committee for the past five years, during which period he has represented first the Indian Medical Service and then the Grouped Indian Branches on the Council. Members of the Association in the Services, especially the Indian Medical Service, need no reminding of the work done by Colonel Elliot on their behalf. The Council has pleasure in placing on record its deep appreciation of Colonel Elliot's long and valuable services for the Association.

Question of Unification of the Royal Navy, Army, and Air Force Medical Services.

303. The Council has received a report that the Government has appointed a Committee with the following terms and reference:—

"That a technical Committee should be set up at once to make definite proposals for the amalgamation or, if this appeared impossible or undesirable, for the co-ordination, so far as possible, of the common services of the Navy, Army and Air Force, such as intelligence, supply, transport, education, medical, chaplains, and any other overlapping Departments, in order to reduce the cost of the present triplication. The Committee should consider each branch separately, and submit interim reports to the Cabinet as soon as possible."

The Committee consists of:—

The Minister of Health (Chairman).
The Rt. Hon. the Lord Weir.
Sir Archibald Williamson, M.P., Moray and Nairn.
Lt.-Col. Hon. Francis S. Jackson, M.P., Howdenshire.
Sir G. L. Barstow.
Sir Arthur I. Durrant.
Major-Gen. Sir F. A. M. Nash.

304. The Council is making enquiries as to whether the Association can render any assistance on the professional side of the Committee's reference; particularly with regard to the provision of a proper supply of medical men qualifying for the services, and with regard to the relationship between the medical services and the civil profession.

THE EARLIER COMPULSORY RETIREMENT OF SENIOR SURGEON COMMANDERS, R.N.

(Continuation of para. 213 of Annual Report.)

305. The Council has now received a reply from the Admiralty on this matter to the effect that it has carefully considered the representations made but does not see its way, more especially in the present financial circumstances, to press the Government to sanction a modification of the present rates of retired pay granted, or for an alteration in the ages of compulsory retirement at present laid down. An assurance is given, however, that the retired pay of Surgeon Commanders of seniority of 1st July, 1917, and earlier, that is, all officers on the Surgeon Commanders' List on the 1st July, 1919, who are retired compulsorily under the new regulations on reaching the age limit, shall not in any case have their pension reduced below £547 10s. 0d. under any re-assessment of the rate of retired pay which may be made in future consequent upon a fall in the cost of living.

306. The Council regards the reply as very unsatisfactory. Since its receipt, a new scheme of retirement for Naval Officers, in branches other than medical, owing to the reduction of personnel in the Navy, has been announced, and the Council notes that officers who are to leave the Service are to receive gratuities, the amount of which depends on the length of time by which their normal expectation of service is curtailed. The principle thus conceded is exactly what the Council has been trying to persuade the Admiralty to adopt for the Senior Surgeon Commanders for the past two years. In the light of this fact, the Council asked that terms of a similar nature be offered to the medical officers affected, but the Admiralty has finally stated that it does not see sufficient reason for departing from its former decision to make no concession. The Council is informing the Admiralty: (i) that the Association has received its decision with much regret, (ii) that it cannot but regard the Admiralty's action in the matter as a distinct injustice to officers of the medical services such as has not been meted out to other officers who have been obliged to retire before their time, and (iii) that it feels compelled therefore to advise the members of the profession seriously to consider the disadvantages to which they are liable if entering the Royal Navy. The Council has accordingly requested the Editor, through the *Journal*, to place the facts fully before the profession and particularly those who may be contemplating entering the Service.

Oversea Branches.

(Continuation of para. 259 of Annual Report.)

REPORTS OF OVERSEA BRANCHES.

307. Since publication of the Annual Report of Council, Annual Reports for 1921 have been received from the following Oversea Branches:—

British Guiana, Cape of Good Hope (Western), Malaya, Mesopotamia, New South Wales, New Zealand, Nyasaland, South Australian, Uganda, Victorian, and Western Australian.

308. The Reports show continued good work in all cases and remarkable progress in some. The following points appear to be of general interest.

309. The British Guiana Branch is proposing the foundation of a combined British Guiana and West Indian Medical Journal and the formation of a unified Laboratory Service for the West Indies.

310. The Ceylon Branch has held 16 Branch and 1 Council meetings, and 1 social function, and has discussed, among other things, the pay and prospects of the Medical and Sanitary Officers of the Civil Medical Department, and the removal of restrictions placed upon medical men and chemists in regard to prescribing and dispensing the official preparations of *Cannabis Indica* and the reformation of the Ceylon Medical Council. The Branch runs its own journal which has just completed its 18th year. The annual dinner (over 100 present) was presided over by His Excellency the Governor, Sir William Manning.

311. The Malaya Branch has been very active, and has held 7 Scientific meetings during the year.

312. The Mesopotamia Branch, the first to be formed in territory which is not British, instituted on August 20th, 1921, now has a membership of 39. It has held 3 Branch, 1 Scientific, and 2 Council meetings, at which the attendance has been highly satisfactory.

313. The New South Wales Branch has held 22 Branch meetings, 16 Scientific, 3 Medico-Political, and 8 Branch Council meetings; and 2 social functions. The Branch has the following Standing Committees which have all been very active: Executive and Finance; Ethics; Medico-Politics; and Organisation and Science.

314. The New Zealand Branch has had a very active year. A new Division—Taranaki—has been formed, and is now in full working order. Among the most important matters considered by the Branch during the year are the following:—Hospital Legislation; Contract Medical Practice for Friendly Societies; Radium Department; proposed Fellowship of Surgeons for New Zealand; Medical Curriculum; Venereal Diseases; and Maternal Mortality. The Branch has a Medical Benevolent Fund and a Medical Defence Insurance Scheme.

315. The Nyasaland Branch, formed on January 17th, 1920, has increased its membership from 9 to 13.

316. The Queensland Branch has held ten ordinary monthly meetings and three special meetings, the latter being called to consider (i.) alteration in the Model Lodge Agreement as affecting Metropolitan members; and (ii.) the attitude of the Branch towards the Australian Natives Association. As in previous years, a considerable part of the Branch Council's time was occupied with matters on which its intervention was requested particularly in respect of country hospitals, and it is satisfactory to note that such intervention, where members have been unfairly treated, is becoming more and more effective. The Branch owns a Library, and an attempt is being made to find a suitable place to house the museum specimens of the Branch.

317. The Uganda Branch reports excellent progress. It has attempted to improve the conditions of the East African Medical Service, and to get a unified service with pay and conditions as in the West African Medical Staff. It has also drawn attention to the need for increased isolation accommodation throughout the Protectorate.

318. The Witwatersrand Branch has Organisation, Clinical, Contract Practice, and District Surgeons' Grievances Sub-Committees, the latter two Sub-Committees co-operating with the South African Medical Association. The subscription to the Branch is £5 5s. 0d. without Defence Insurance. The Defence Insurance of the Branch is now on a legal basis, a Trust Fund having been inaugurated.

319. The Zanzibar Branch, formed on March 19th, 1921, has held 5 Branch meetings and 3 Scientific and 2 Medico-Political meetings.

QUESTION OF ORGANISATION OF MEDICAL PROFESSION IN SOUTH AFRICA.

320. For the report of Council under this heading, see para. 266 of this Report under "Organisation."

R. A. BOLAM,
Chairman.

APPENDIX.

NATIONAL INSURANCE DEFENCE TRUST.

RECEIPTS AND PAYMENTS ACCOUNT FOR THE YEAR ENDED DECEMBER 31ST, 1921.

RECEIPTS.	£ s. d.	£ s. d.
To BALANCE AT 31st DECEMBER, 1920, Represented by:		
Cash at Bank on Deposit A/c	6,209 0 0	
Cash at Bank on Current A/c	153 4 6	
National War Bond, 1922, A/c	100 0 0	
		6,453 4 6
,, SUBSCRIPTIONS Received ..		6,672 13 6
,, Dividends on Investments..		374 5 0
,, Interest on Deposit ..		409 10 7
,, Sale of Model A/c Books ..		9 5 3
,, Transfer of Balance Central Pool Account		161 1 8
,, Central Ins. Defence Fund. Transferred on Liquidation represented by:		
(i.) Cash ..	1,445 6 0	
(ii.) War Loan Bearer Bonds £10,550, 1929/47 @ 88 being value on Transfer ..	9,284 0 0	
		10,729 6 0
		£24,809 6 6

PAYMENTS.		£ s. d.
By Salaries		10 0 0
,, Printing & Stationery		107 8 6
,, Postages		5 0 0
,, Audit Fee		10 10 0
,, Refunded to British Medical Assoc. (cost of Annual Conference of Representatives and Election of Direct Representatives on Insurance Acts Com.)		413 10 7
,, Refund of Fines ..		37 0 0
		583 9 1
,, Surplus of Receipts over Payments, represented by:		
Cash at Bank on Deposit Account ..	£14,600 0 0	
Cash at Bank on Current Account ..	241 17 5	
National War Bond 1922 at par ..	100 0 0	
War Loan Bearer Bonds @ 88 (£10,550) ..	9,284 0 0	
		24,225 17 5
		£24,809 6 6

We have compared the above account of Receipts and Payments with the books and vouchers of the Trust and find it correct. We have verified the War Loan held by the Bank, and the Bank Balances at the 31st December, 1921.

(Signed) PRICE, WATERHOUSE & Co.

3, FREDERICK'S PLACE,
OLD JEWRY, E.C. 2.
7th June, 1922.

British Medical Association.

PROCEEDINGS OF COUNCIL.

Wednesday, June 14th, 1922.

A MEETING of the Council was held on June 14th, at 429, Strand, London. Dr. R. A. BOLAM (Chairman of Council) presided, and there were present:

Professor David Drummond, C.B.E., M.A., D.C.L. (President), The Right Hon. Sir T. Clifford Allbutt, K.C.B., LL.D., M.D., F.R.S. (Past President), Dr. R. Wallace Henry (Chairman of Representative Meetings), Dr. G. E. Haslip (Treasurer), Dr. T. Ridley Bailey, Surgeon Rear Admiral Sir Percy Bassett-Smith, K.C.B., C.M.G., R.N.(ret.), Dr. H. S. Beadles, Dr. J. W. Bone, Dr. H. B. Brackenbury, Dr. H. C. Bristowe, Colonel Sir W. J. Buchanan, K.C.I.E., I.M.S.(ret.), Dr. C. Buttar, Mr. Russell Coombe, Dr. J. Singleton Darling, The Right Hon. Lord Dawson of Penn, G.C.V.O., K.C.M.G., C.B., M.D., Dr. James Don, Dr. C. E. Douglas, Mr. T. P. Dunhill, Mr. W. McAdam Eccles, Dr. A. C. Farquharson, M.P., Dr. A. Forbes, Dr. E. Rowland Fothergill, Dr. T. W. H. Garstang, Dr. T. Duncan Greenlees, Mr. N. Bishop Harman, Dr. R. Langdon-Down, Dr. David Lawson, Major-General Sir Richard Luce, K.C.M.G., C.B., Dr. J. A. Macdonald, Dr. S. Morton Mackenzie, Major-General Sir Wm. Macpherson, K.C.M.G., C.B., A.M.S.(ret.), Dr. Hugh Miller, Mr. A. W. Nuthall, Dr. R. C. Peacocke, Dr. F. Radcliffe, Dr. D. A. Sheahan, Dr. F. O. Stedman, Dr. John Stevens, Dr. W. B. Crawford Treasure, Mr. E. B. Turner, Dr. E. O. Turner, Sir Jenner Verrall.

Personal Matters.

Among the apologies for absence was one from Dr. Snodgrass, who intimated that owing to ill health he was compelled to resign his membership of the Council and his chairmanship of the Scottish Committee. The Chairman voiced the extreme regret of the Council at Dr. Snodgrass's decision and its cause, and Dr. Stevens, on behalf of the Scottish members, associated himself with the sentiments expressed from the chair. A communication was received also from Lieut.-Colonel R. H. Elliot, I.M.S.(ret.), resigning his membership of the Council and its Committees, because he had been ordered by his medical adviser to cut down his work in every possible direction. He wrote of the pleasure it had been to him to work on the Council, and his regret at this severance. The Council authorized its Chairman to convey to Colonel Elliot its regret at the loss of a valued colleague.

The Council passed a vote of congratulation to seven members of the Association whose names appeared in the recent Honours List. Sir Percy Bassett-Smith was welcomed on his first appearance as a member of Council representing the Naval Medical Service. By a resolution adopted while the members stood, the Chairman was authorized to send letters of condolence to the families of the late Sir Henry Davy and Dr. W. D. Spanton. A letter was read from Sir Sydney Russell-Wells conveying his appreciation of the honour the Council had done him in approving on behalf of the Association his candidature for the parliamentary representation of the University of London. Mr. McAdam Eccles mentioned that since the last meeting of Council, the other medical candidate for the University, Dr. W. H. R. Rivers, had died suddenly, to the great loss of the profession.

THE ANNUAL MEETING.

A communication was received from the secretary of the Society of Medical Officers of Health, stating that four of its members had been asked by the Council of that body to attend the Annual Meeting of the Association as direct representatives of the Society. After discussion it was agreed that a letter should be sent to the Society, explaining that it was not the custom of the Association to ask for nominated representatives from other societies, but that the representatives would be welcomed at the Scientific Meeting and the associated functions.

Approval was given to the participation by certain non-members in the proceedings of Sections at Glasgow. It was agreed, on the motion of Sir Jenner Verrall, seconded by Dr. Farquharson, to direct the attention of Secretaries of Sections to some instances in which the permission of the Council for certain non-members had not been obtained before publication of the programme, and to express the desire that official requests should be now made in all these cases.

At a later stage, on the report of the Journal Committee, Dr. Macdonald raised the question of the reporting of the sectional proceedings. He said that some of the opening papers extended far beyond the 5,000 words to which they were supposed to be limited; the opening papers in a given discussion often numbered three or four, and some Sections whose proceedings were limited to one day met in the afternoon as well as the morning. It was very necessary that some arrangements should be made by the Council in good time for next year's meeting to deal with this situation. The Chairman said that the Office Committee was preparing a draft for the general conduct of the Annual General Meeting, and the memorandum for officers of Sections might be revised so that the rules on this matter might be made perfectly clear.

PLIGHT OF RUSSIAN MEDICAL PROFESSION.

A letter was considered from the Russian Committee for Famine Relief containing the substance of a communication from Dr. Zshbankoff of Moscow, secretary of the Russian Pirogoff Medical Society, appealing for help for starving medical men and their families in various parts of Russia. The form in which help was desired was the sending of food parcels through the American Relief Administration to individual medical men and to groups for distribution among their most suffering members. The Medical Secretary said that he had interviewed Professor Korenchevsky, Chairman of the Russian Academic Group in Great Britain, who declared that the state of the medical profession and indeed of all scientific people in Russia was about as bad as could be imagined. This was the first attempt to get the medical profession in other countries to come to the help of the profession in Russia. The American Relief Administration would guarantee that the parcels reached their destination. Any money subscribed would be earmarked for the benefit of the doctors. The Medical Secretary added that Professor Korenchevsky had certainly made him feel that if there was anything in the solidarity of the profession this was an occasion for exhibiting it. Sir Jenner Verrall said that the sum required to send fifty food parcels to each of three specified districts where the shortage of food was most serious would be about £1,000. Dr. Lawson moved that an appeal be made forthwith to all members of the Association for this object. The Treasurer and others urged that the speediest method of obtaining the money was by a direct appeal from the office to each member. To make the appeal through Branch and Divisional Secretaries would take a longer time, would give the honorary officers a great deal of work, and would not lessen the expenditure ultimately. Sir Jenner Verrall, as an amendment, proposed that a direct appeal be sent out to members on behalf of the fund, that the subscription asked for be five shillings a head, and that secretaries of Branches and Divisions be asked to further the appeal by all means in their power. This proposal was then agreed to unanimously, and it was also agreed that the Editor should be asked to bring the matter forward prominently in the JOURNAL. The subscriptions of all the officers, members of Council, and officials present were collected immediately.

THE ASSOCIATION'S FINANCES.

Dr. Haslip (the Treasurer) moved that the Council should establish a reserve fund, to which an annual sum to be decided by the Council should be transferred from the revenue account. He said that this was the outcome of a reference to the Finance Committee by the Council at the last meeting. The disadvantage of a reserve fund was that it might encourage members to think that the subscription could be reduced, but the recommendation to establish such a fund was arrived at after long and careful consideration by the Finance Committee.

Sir Jenner Verrall thought that the Treasurer had done less than justice to the acumen of the Representative Body and of the members generally. The demand for a reduced subscription always existed, apart from any question of a reserve fund, and he scarcely thought the demand would be intensified by the taking of such a proper and usual precaution.

Mr. Bishop Harman said that a society with a reserve fund was less likely to be subject to revolutionary agitation within, because members would be unwilling to jeopardize its funds. The financial stability denoted by a reserve fund was

also an inducement to members to join, and it made more remote the indefinable financial liability to which members were subject. This fund was necessary also on account of the increasing work of the Association. In the Finance Committee Dr. Lawson had urged that a propagandist society should not have a reserve, and he had instanced the finances of missionary societies, but the speaker found on reference to the financial statements of the Church Missionary Society and other organizations that these bodies had in fact large reserve funds, representing something over and above the legacies which had to remain in the form of investment.

Dr. Lawson said that the Association would not possess any more wealth as the result of having a specific reserve. The reason why business organizations built up a reserve fund was on account of their liability for the subscriptions of their shareholders and to equalize dividends, and neither of these reasons operated in this instance. He suggested that any surpluses, instead of being placed to reserve, should be expended on additional benefits. Dr. Morton Mackenzie thought that a large sum could be borrowed at any time upon the Association's building; in addition, the Association had certain investments, and then, again, there was the Insurance Defence Fund, which could be used for a particular kind of emergency. Dr. Brackenbury was of opinion that a reserve fund was useful to enlist those prospective members who desired before joining the Association to be assured as to its financial soundness, also as a means of averting hostilities which might be directed against an organization which it was thought had no particular financial backing. Mr. E. B. Turner supported the proposal for a reserve fund because so many persons had said to him, speaking of the Association, "You have not got a farthing behind you," and when he had pointed to the Association's property they had said that that was not a fluid asset. Dr. Farquharson said that the reserve of the Association was not in any case to be represented by a large money balance, but rather by the energy and vigour of its members; and that would be the true reserve, because it would be elicited most evidently by adversity.

The Chairman expressed some regret that the proposal should have come forward in its present form. As now proposed, its ideal was ambiguous and its purpose unspecified. He had hoped that the proposal of the Finance Committee would have been for the creation of a fund to meet a need which was really urgent, the enlargement of the premises and the extension of the work of the Association. This variation of the proposal was accepted by the Treasurer, and appeared to receive the general support of the Council. It was agreed, therefore, to specify that the reserve fund should be for the extension of the work and premises of the Association, and, on Dr. Fothergill's motion, that the matter should go forward as a recommendation to the Representative Body.

It was agreed, on the Treasurer's motion, that the valuation of the Association's building and its contents by a professional valuer should be undertaken, at a cost not to exceed £100. On certain other points of expenditure Dr. Fothergill raised the question of the printing of Committee minutes, which he considered largely a waste of money. Other members, however, spoke very decidedly in favour of the printing of the minutes as the only practicable means of making the record of Committee proceedings immediately and permanently available, and the matter then dropped.

NAVAL AND MILITARY: SENIOR SURGEON COMMANDERS, R.N.

Sir Richard Luce, in bringing forward the report of the Naval and Military Committee, said that the question of the compulsory retirement of surgeon commanders of the Royal Navy earlier than the stipulated age of 55, which had been before the Council on previous occasions, had now apparently reached final deadlock. In reply to a protest from the Committee, the Admiralty had stated that no modification of the present rates of retired pay could be granted, nor could any amelioration of the conditions as to age be promised, and the Admiralty could not accept the Committee's view that the earlier age of retirement constituted a breach of contract. His Committee had felt, however, that another effort might be made to induce a more yielding attitude, in view of the fact that a new scheme of retirement for naval officers in other than medical branches had been announced whereby officers who left the service received gratuities the amount of which depended on the length of time by which their normal expectation of service had been curtailed. A further letter to the Admiralty, however, elicited a reply as unfavourable as before, though no very definite reasons were given in support of this attitude. The present position undoubtedly constituted a hardship for officers who were compelled to retire before the retiring age, and accordingly he proposed that the Editor be requested to place the facts fully before the profession through the JOURNAL, and to point out to young medical men that if they entered the Royal Navy Medical Service they must do so with the knowledge of the risk that any terms under which they entered the service might at some future date be broken by the Admiralty.

During the discussion it was suggested that, as hitherto the correspondence had taken place between the Naval and Military Committee and the Admiralty, a letter from the Council itself should go to the Admiralty expressing the Council's regret at an action on the part of the Lords which amounted to a distinct injustice, and stating that it felt compelled to point out to members of the Association the disadvantages to which they were liable if they entered the naval service. This was put forward, not as an alternative, but as an addition to the action proposed by Sir Richard Luce. The view was expressed that the surgeon commanders who had retired or were being retired under this scheme had undoubtedly suffered a very great grievance. Many of these men had arranged their work, their insurances, and the education of their children on the understanding that they would retire at 55. The Council should take a very firm line and emphasize it to the Admiralty. The Admiralty in its replies had spoken of improvements in the general rate of pay, but the increase was less than 10 per cent. for medical officers, whereas the increase to the paymasters was 30 per cent. The service was full of discontent on other grounds, but it was preferable to urge this one definite injustice.

After discussion it was agreed that a letter should be sent in the terms proposed, and also that the Editor should be requested through the JOURNAL to place the facts fully before the profession. In reply to a question, Sir Richard Luce said that this discussion with the Admiralty had been going on for two years without inducing any modification in the attitude of Whitehall on the subject.

MEDICAL ETHICS: PROFESSIONAL SECRECY.

Dr. Langdon-Down, on behalf of the Central Ethical Committee, moved to delete paragraph 110 of the Annual Report of Council (see SUPPLEMENT, May 6th, p. 134) in the section dealing with professional secrecy. This was one of the "machinery" clauses which was not discussed as adequately as it should have been when the Central Ethical Committee presented its report, and it contained certain obscurities and ambiguities, and moreover was superfluous because paragraphs 109 and 111 were in sequence without it. The paragraph in question laid down the considerations which should actuate a member in disobeying an order of the court. Dr. Brackenbury agreed that this was a matter of form and not of substance; nothing would be lost by the deletion of the paragraph, and the situation would be made clearer. The question embodied in the paragraph would become important hereafter, but at the moment, from the point of view of setting out the intentions of the Council, it was better that the paragraph be deleted. Sir Jenner Verrall agreed that the paragraph should come out. He said that it laid down four considerations which must actuate a member in refusing to obey an order of the court, but as a matter of fact the evidence and reasons which would appeal to a medical man in a given case would generally be more subtle and delicate than could be classified in such formulae, just as moral conduct was determined by something which often could not be set out in the ten commandments.

The Chairman of Council, as promised at the last meeting, raised the question of the method to be adopted in opening up negotiations with representatives of the legal profession on the matter of professional secrecy. Lord Dawson said he believed that the profession had a large measure of support from the general public in the attitude it had taken on the question of professional secrecy, although such support would no longer be forthcoming if the public thought that the profession was contending for absolute privilege. The first step was to remove the erroneous idea that the profession was out for absolute privilege and the right to give evidence or not entirely at individual discretion. The attention of the Representative Meeting, therefore, should be directed to certain simple propositions, enunciating broad principles, which would make the real position plain. When the matter had been made clear in the Representative Meeting the way would be open for further steps. After further discussion it

was agreed that the matter should be raised again at the first meeting of Council after the Representative Meeting.

A letter was read from the Council of the National Union of Scientific Workers stating that that body had passed a resolution submitting that the sanctity of confidential communications of doctors to their patients was not primarily a matter for lawyers to decide, and that all support should be given to medical men in their action in the matter. The letter inquired as to the most effective method of publication of this resolution. The National Union of Scientific Workers was thanked for its expression of opinion, and informed that the British Medical Association would be glad if it would give publicity to the resolution of its Council.

METHODS OF ADVERTISING.

Dr. Fothergill brought forward a resolution calling for the appointment of a committee (later he altered it to a reference to the Ethical Committee), with power to co-opt representatives from other medical societies, to consider and report within what limitations, if any, it was desirable that registered medical practitioners should be confined in regard to their communications to the public press, and what steps should be taken in order to secure recognition and adoption of such limitations. He referred to some instances in which letters from private practitioners had appeared in the London newspapers. Very insidiously the profession was being invaded by American ideas of advertising. Apparently Harley Street consultants could air their views in the London press in a manner which would not be tolerated in provincial practitioners with regard to their local newspapers. If the General Medical Council could not move in the matter, he thought that the Association, in alliance with other bodies concerned for the dignity of the profession, might take some steps. Dr. Langdon-Down agreed that the appearance of letters in the press might be an evil, but it was not a new evil, and it was not wholly an evil. While many letters to the pr ss were open to objection, there were many others to which no objection could be taken. He pointed out certain difficulties attaching to any action in this matter. Mr. Bishop Harman said that this was a question of good taste rather than of exact regulation : it happened sometimes that very useful and necessary work was done by means of a letter to the press. Dr. Fothergill withdrew his resolution.

HOSPITAL POLICY : RECONSIDERATION OF REPORT.

Mr. Bishop Harman, Chairman of the Hospitals Committee, said that his committee had again considered the report on the hospital policy of the Association in the light of amendments sent in by Divisions for the Representative Meeting, and among these amendments there were certain suggestions the acceptance of which, he thought, would result in the improvement of the report. Only in one instance did the alterations proposed involve any matter of principle. One alteration was with regard to the income limits laid down in Section VIII. The income limits in the King's Fund were less by £50 in each of the three classes than the limits laid down in the original report, and therefore it was thought advisable for the sake of uniformity to reduce the income limits proposed in the report so that they conformed with those of the King's Fund. It was also proposed to insert a new section (Section IX (*b*)) dealing with private in-patients in hospitals, and corresponding almost exactly with the previous provision for private in-patients in annexes to hospitals, with the difference that it did not state that it should be open to any patient to select any private practitioner.

This new section, slightly amended after discussion in Council, read as follows:

Where private patients are admitted under special arrangements into the public wards of a voluntary hospital :

(*a*) Private patients should be admitted to such wards only on the recommendation of a private practitioner except in cases of emergency.

(*b*) The scale of charges for the private patient for maintenance shall be such as fully to cover every cost to the hospital.

(*c*) No fixed rate of payment for professional services rendered to such patients should be established ; the fees so payable to remain, as at present, a matter of arrangement between patient and members of the staff.

(*d*) The accounts of the hospitals should be kept so as to show the cost of this hospital benefit.

(*e*) The ordinary hospital routine of admission, transference, and discharge of patients should not be modified for these private patients, nor should any preferential treatment be given to them.

A further addition was in paragraph 42 of the report, in which dental facilities were now included with laboratory and *x*-ray facilities in the provision for contributors to a contributory scheme who might be attended by private practitioners outside the hospital. In reply to Dr. Mackenzie, Mr. Harman said that his committee had conceded the point that if a patient was taken into the ordinary public wards of a hospital he should be attended by the staff of the hospital and by no one else; but nothing had been conceded with regard to nursing homes or annexes. If there was a private paying ward it was regarded as an annexe, even though it might be in the main hospital building. Dr. Bone raised the question of quite small hospitals, where a ward might be at one moment a paying and at another a public ward. Mr. Harman said that such a case was covered by paragraph 43 of the report. The acceptance of the various amendments as proposed by the committee was then agreed to.

Mr. Harman, on behalf of the Hospitals Committee, moved a further recommendation to the Representative Body, that in the event of the voluntary hospitals being subsidized by the central Government, such subsidies should be made through some central hospital fund or organization, and not given to the hospitals direct. Payment for work done by a hospital for a Government department was not to be considered a subsidy. It was very desirable that the policy of the Association in regard to this matter should be free from ambiguity, especially as a political party had made recommendations with regard to subsidies to voluntary hospitals. The recommendation was agreed to.

NATIONAL INSURANCE.

Dr. Brackenbury, Chairman of the Insurance Acts Committee, drew attention to an alteration made by the recent Conference of Local Medical and Panel Committees in the principal resolution dealing with the question of approved societies and medical benefit. The Conference simply reversed the order of the first and second parts of this resolution, placing in the forefront the insistence upon the continuance of the present system of negotiation, and in the second place the expression of willingness to welcome the co-operation of those interested in the improvement of the service. It was agreed to alter the recommendation to the Representative Meeting so as to identify its form with that passed by the Conference.

Dr. Brackenbury reported on the negotiations arising out of the resolution of the Panel Conference, 1921, between the Insurance Acts Committee and the Medical Practitioners' Union. After informal conversations with some members of the Union, it was felt that it was scarcely worth carrying the matter farther, because of the conditions laid down by the Union as indispensable. With a view, however, to leaving no stone unturned to secure co-operation, the committee had authorized the commencement of formal (as distinct from the hitherto informal) negotiations with regard to one particular matter—namely, the possible unification of an appeal for a defence fund—and these were proceeding.

A resolution was considered from the Marylebone Division asking that the Non-Panel Committee of the Association be revived and reconstituted. Dr. Brackenbury thought this would be an unnecessary proceeding on the part of the Council. Mr. Harman said that he personally voted against the proposal in his Division, but was surprised at the body of feeling in its favour. Mr. Turner thought it unfortunate that this should be brought forward at the present time, because there was nothing to come before the committee if it were appointed. Any matters at the present time affecting non-insurance practitioners were quite well dealt with by other committees of the Association. It might be necessary next year in certain eventualities for the non-insurance practitioners to make themselves heard, but the Council had ample powers to deal with the matter when the occasion arose. Dr. Stevens, as a member of the former Non-Panel Committee, agreed with Mr. Turner, and it was decided to leave any action on this matter to the Representative Body.

THE "BRITISH MEDICAL JOURNAL."

Dr. Macdonald, Chairman of the Journal Committee, brought forward from the committee a proposal that, in view of the official ending of the war, the question of the exclusion of approved advertisements of German and Austrian goods should be reconsidered, In 1920 the Council rejected a recommendation from the committee no longer to exclude approved advertisements from these sources, the question being postponed until the official declaration of peace. The

Chairman of Council pointed out that advertisements from British agents for German and Austrian products were filtering through, and it was a question whether, in view of this fact, the Council could consistently refuse to accept advertisements directly from abroad. Dr. Buttar wished the matter to be referred back to the Journal Committee for a more definite expression of opinion, but it was pointed out that the Committee would probably only repeat its recommendation of 1920 in favour of the acceptance of such advertisements. The Treasurer moved that approved advertisements from German and Austrian sources should be no longer excluded from the pages of the JOURNAL. Dr. Sheahan seconded the proposition; he hoped the Council would take a broad outlook in this matter, and one which was worthy of the scientific mind. The motion was carried by a small majority. Dr. Morton Mackenzie then moved that the matter be included in the Supplementary Report of Council, and this was agreed to.

ORGANIZATION: THE POSITION IN SOUTH AFRICA.

Dr. Morton Mackenzie, Chairman of the Organization Committee, made a statement on the question of the organization of the medical profession in South Africa. He said that the situation had given considerable anxiety to his committee. There were three elements to be considered: (1) The members of the Association, numbering about 700, and representing practically half the profession in South Africa; (2) a number of practitioners who believed in trade union principles; (3) certain ultra nationalist practitioners, who did not wish to be associated with any British organization. A referendum was taken in South Africa in August last, when 1,500 cards were issued, of which 680 were returned. The votes in favour of continuance with the British Medical Association numbered 308, and the remainder were in favour of some new organization which would be federated with the Association. Of the members of the Association voting, two-thirds favoured the continuance of the existing position. In October the South African Medical Congress met, and by 58 votes to 21 passed a resolution instructing the South African Committee to communicate to the Association the result of the referendum, with a strongly worded request that steps be taken to secure at the next Representative Meeting a definite decision on the federation proposals. If the decision was in approval of such proposals steps would be taken to act on the referendum vote, but if the decision was otherwise, or if no decision was taken, a second referendum would be instituted, when the question would be the maintenance of the existing position or the establishment of a South African Medical Association, without any reference to affiliation or federation. In December the matter came before the Council, and as a result the draft scheme for federation (SUPPLEMENT, March 5th, 1921) was forwarded to South Africa, with the amendments necessary to give effect to the decision of the Representative Meeting, 1921, in favour of federation only with any purely medical body or bodies representing substantially an ex-Branch or group of ex-Branches of the Association outside Great Britain. Apparently the South African Committee did not take any further action until May, when it sent a cable stating that these amended proposals were unacceptable, and that a decision on the federation proposals by the forthcoming Representative Meeting was urgently necessary. No detailed objections to the scheme had come from South Africa, where, also, it did not appear to be understood that the Representative Meeting had decided on the question of principle involved in federation, and that proposals could not be hurried into by-law shape. The Organization Committee had cabled that the Representative Body had already approved of federation, and would be asked to reaffirm that decision at Glasgow, and that the criticism of the scheme already sent to South Africa was awaited.

Dr. Greenlees was afraid that the Organization Committee had not in the immediate past regarded the South African position sufficiently seriously. Another referendum might result in the replacement of the British Medical Association by an unaffiliated South African Medical Association; there was no room for two rival organizations in South Africa. The immediate thing to do was to instil enthusiasm into the South African Divisions, and this was the more difficult on account of the vast distances which separated the members. Sir Jenner Verrall said that the issue could not be avoided, and he feared there might be a breakaway, but it was obvious that nothing more could be done before the Representative Meeting. Dr. Macdonald said that the South African Medical Association had been in existence since October, 1920. There were really three bodies involved: the British Medical Association, the South African Medical Association, and the South African Scientific Association, which last included many Boer medical men. In addition a great many medical men in South Africa, as in this country, remained independent of all organization. In reply, Dr. Morton Mackenzie repudiated the idea that this subject had not received sufficiently serious consideration. On the contrary, the matter had been under anxious consideration for some years, and the Organization Committee was just as anxious to satisfy the members of the Association in South Africa as it had been to satisfy those in Australia.

The Council agreed to recommend to the Representative Body that it reiterate its previously expressed opinion in favour of federation with the Association of any purely medical body or bodies representing substantially an ex-Branch or group of ex-Branches outside Great Britain, when federation was desired by such bodies; also that the Representative Body should instruct the Council to continue the discussion of the scheme proposed to the South African Committee or any alternative scheme which South Africa might suggest.

ADMISSION OF NON-MEMBERS AND OTHER ORGANIZATION MATTERS.

In conformity with the discussion at the last meeting of Council, it was agreed that the opinion of the Council on the question of non-members should be crystallized as follows:

1. That as regards scientific meetings of the Branches or Divisions, non-members eligible for membership should only be admitted once during the year, either by invitation of the Division or Branch or on the personal invitation of a member, the issue of which has been notified in writing to the secretary of the body concerned.
2. That as regards meetings other than scientific the presence of non-members should only be allowed if a general meeting of the profession is considered advisable by the executive of the body concerned or by the Council.

Grants to various Branches were approved.

Dr. Mackenzie stated that the membership of the Association on June 12th was 23,290.

MEDICO-POLITICAL MATTERS.

Mr. E. B. Turner, Chairman of the Medico-Political Committee, referred to several items of interest in the report of his committee, among them a proposal that the committee be empowered to prepare a leaflet, for issue by St. Luke's Guild to clergymen, based on the lines of the Association's evidence before the Departmental Committee on Patent Medicines, drawing attention to the harmful effect of these supposed remedies, with a note of warning against the publication of advertisements in church magazines. This was agreed to.

Mr. Turner explained a controversy which had arisen between his committee and the emigration agencies with regard to the medical examination of intending emigrants. Having regard to the fact that most emigrants were poor persons the fees were fixed by the committee at 10s. 6d. for each adult and 2s. 6d. for each child, but the Oversea Settlement Office suggested a fee of 15s. for a man and wife, and of one guinea for a whole family. The committee objected to these figures, and it was found that very many of the members of the Association who had undertaken to conduct examinations at these fees did not know that the fees were disapproved by the Association; a large proportion were willing to withdraw from the roster. A letter had been received from the Directors of Emigration of the Dominions of the Empire, commenting adversely on the action of the Association, and the committee had replied, pointing out certain misapprehensions and misstatements. When the directors first asked the British Medical Association to fix the fees the Association was not informed that a certain amount of work had already been done at lower fees than those suggested by the Association. It was hoped that a meeting might be arranged with the directors, and it had been advised that resignations be withheld pending further negotiation. A medical man might remit his fee if he pleased in a particular instance, but that was no reason why an inadequate scale should be fixed, with a certainty that it would act as a precedent for other medical work.

Mr. Turner reported that the Home Secretary had issued authority to midwives under the Dangerous Drugs Act, 1920, to be in possession of and to administer preparations containing opium, so far as was necessary for the practice of

their profession, subject to certain conditions. The committee had also learned that certain midwives in county Durham were using pituitary extract. For his own part he thought that a woman who had been passed as fit to conduct normal labour and was sufficiently instructed to know when to send for medical help, might be allowed to use opium, under proper safeguards, and the committee did not press an objection to this course, but it maintained strongly that midwives should not be allowed to administer pituitary extract. Mr. Harman thought it unfortunate to concede the position with regard to opium, and Dr. Douglas and Dr. Stevens also objected, but a motion to withhold approval of this paragraph of the report was not carried.

Mr. Turner brought forward some correspondence with Sir George Newman regarding the relationship of school medical officers to the local education authority in a particular area, the committee maintaining that the education authority had acted contrary to the spirit of the statement of the Minister of Health to the deputation on the status of school medical officers which waited upon him on February 17th. Sir George Newman's reply, which dealt with many points, was also judged not to support the statement of the Minister of Health, and it was proposed to inform the Board of Education to that effect.

OTHER BUSINESS.

A report of the Public Health Committee was taken in private, at the instance of Dr. Garstang, because it involved a reference to certain delicate negotiations now proceeding. Certain matters of office administration were agreed to without discussion on the report of the Office Committee. Dr. Stevens, on behalf of the Scottish Committee, brought forward two propositions: one that the Committee be authorized to establish in the Scottish Office a bureau for the supply of locumtenents, which he was assured by the Scottish Medical Secretary would involve very little expense; and the other that a special grant of £100 be made to the committee for the purpose of conducting an investigation into the results of gastro-enterostomy. It was agreed that the first matter should be referred to the Finance and Journal Committees and the second to the Finance Committee for report.

Sir Jenner Verrall brought forward the question of the Association's representation on the Central Committee for the State Registration of Nurses. As this aim had been secured, and the body was now turning to other objects, he urged that the Council need not continue the representation, and this course was agreed to.

The draft Supplementary Annual Report of Council was then approved, and the Council concluded its business after a sitting of nine hours' duration.

British Medical Association.

CURRENT NOTES.

Insurance Acts Committee: Dispensing Capitation Fee.

THE following letter from the Ministry of Health, dated June 19th, 1922, has been received by the Medical Secretary:

> "I am directed by the Minister of Health to refer to the discussions which have taken place between representatives of this Department and your Committee in regard to the amount of the capitation fee to be paid to practitioners in rural areas in respect of those patients on their lists to whom they are required to supply all requisite drugs and prescribed appliances. In view of the strong representations which have been made in this matter on behalf of rural practitioners, the Minister, although these representations appear to him to be in part based upon a misunderstanding which has been fully discussed with your Committee, desires to meet the views which have been put before him by your Committee so far as may be at all compatible with the financial considerations involved. I am accordingly to inform you that the Minister, after careful consideration of all the circumstances, does not propose to make any reduction for the current year in the amount of the capitation fee referred to in the first paragraph of this letter. The question of the amount of the capitation fee for the year 1923 will receive further consideration."

A Grievance of the East African Medical Service.

The correspondence between the Dominions Committee of the British Medical Association and the Colonial Office, printed in the SUPPLEMENT at page 245, directs attention once again to the difficulties of the East African Medical Services. The facts leading up to the correspondence may be summarized as follows:

On the cessation of hostilities in 1918 one of the first matters to engage the attention of the Association was the position of the Colonial Medical Services. Amongst these the Services in the East African dependencies called for special consideration, both as regards conditions of service and scale of remuneration. The goal towards which the Association has to work is the ultimate assimilation of these Services to those in West Africa, and, as a preliminary step in that direction, the formation of a unified East African Service with improved conditions. Evidence in this sense was given before the Colonial Medical Services Committee appointed by the Secretary of State in 1919, and all possible steps were taken to secure redress of the more pressing grievances. It soon became clear, however, that for the moment the wider scheme of reform was impracticable, and the immediate advance made over a period of two years' effort was measured by revised salary scales representing an all-round increase in remuneration of from 40 to 50 per cent., together with certain concessions in respect of study leave and conditions of retirement. There the matter would have rested for the moment had it not been for the disturbing influence of a new currency issue in the East African dependencies.

Until April, 1920, the standard coin in Kenya and Uganda was the East Indian rupee, and sterling salaries were converted at the fixed rate of 15 rupees to the £, and paid in the local currency. This ratio was maintained throughout the war in spite of the breakdown of the gold exchange standard in India in 1917 and the subsequent appreciation of the rupee. Early in 1920 it was decided to establish a new ratio of 10 rupees to the £, as a preliminary to the introduction of a new sterling currency. This policy was confirmed by an Order in Council on April 26th, 1921, and immediately put into effect. Obviously this entailed an immediate reduction of one-third in the local purchasing power of sterling salaries. To meet this difficulty a local allowance of 50 per cent. was conceded on all sterling salaries drawn within the dependencies. This allowance was guaranteed until April 1st, 1922, when it was to be subject to revision in the light of the then cost of living —in other words, the then purchasing power of the florin. Towards the end of 1921 it was announced that, as from April 1st, 1922, half of the local allowance would be withdrawn. At the same time official or semi-official statements were made locally to the effect that the remainder of the allowance would be withdrawn on April 1st, 1923.

With the general currency policy of Colonial Governments we are not concerned. In the case of Kenya and Uganda the present policy has not so far been attended with conspicuous success, but it may be hoped that the end of the present period, with the issue on the 1st of this month of the new 1s. coinage, will mark the beginning of better times. What we are concerned with is the maintenance of the efficiency standard of remuneration established for the Kenya and Uganda medical services by the new scales as they stood on the eve of the currency change, or by the new scales *plus* the local allowance during the succeeding period. And it is just here that the letter from the Colonial Office indicates a very real danger, for it makes it abundantly clear that the present reduction in the local allowance is the direct outcome of the financial difficulties of the Government rather than of any increase in the purchasing power of the florin. For the present the significant portion of the letter is contained in paragraph 4:

> "In considering the question, it was necessary to take into account the financial situation prevailing in the dependencies; and the exigencies of that situation were such that the Secretary of State, after discussion with the Governors of Kenya and Uganda, decided that on the 1st April, 1922, the allowance must be reduced for all officials by 25 per cent. of sterling salaries and allowances."

The earlier portion of the paragraph quoted above is hardly relevant to the discussion, since it is clear that the real ground for the original concession was not the preservation of symmetry in the tale of coins received by the officers concerned, but the necessity for compensating them for a sudden reduction of one-third in the purchasing power of their pay. It is unfortunate that there is no effective attempt, either here or elsewhere in the official exposition, to deal with the question of cost of living.

So much for the present. For the future the outlook is hardly more satisfactory. It is true that we have here a definite statement that "no decision has been taken" on the ultimate fate of the allowance, but this is balanced by a clear indication in paragraph 7 that the financial decision will be dictated by the same considerations as those prevailing this year. To sum up, the standard secured in 1920 is definitely in danger and it is well in recognizing this fact to appreciate the very real gravity of the financial embarrassment of the Governments of Kenya and Uganda. That embarrassment is doubtless fully realized by the East African Branches of the Association, whose comments on the present correspondence have yet to be received. At the same time it is true that no amount of recognition of those difficulties and no patriotic desire on the part of individuals to assist in the necessary economy will alter the fact that it is impossible to maintain a fully efficient service on an inadequate rate of remuneration.

Day Excursions at the Glasgow Annual Meeting.

Three day excursions have been arranged for Saturday, July 29th, the last day of the Annual Meeting:

Firth of Clyde.—The turbine steamer, *Duchess of Argyll*, the finest of the Caledonian Steam Packet Company's fleet, specially chartered for the day, will leave the Broomielaw Quay in the city for a cruise on the River and Firth of Clyde. An opportunity will thus be afforded of viewing the shipbuilding yards as well as the loch and mountain scenery. The cruise will take the visitors close to several of the Clyde summer resorts and through the Kyles of Bute, between that island and Argyllshire, and thence, passing near to the Island of Arran, will return round Bute up the Firth to Gourock, where a special train will be waiting to take the company to Glasgow. This is the chief excursion and a large number can be accommodated. The price of the tickets, including lunch and tea on the steamer, will be 12s. 6d.

Land o' Burns.—This excursion is limited to about sixty visitors. A train will leave St. Enoch Station, Glasgow, for Ayr, whence charabancs will convey the visitors to many places sacred to the memory of Scotland's national bard. Included in the itinerary are Mauchline and the Burns Memorial, Burns's Cottage, Alloway Kirk, Brig o' Doon, Crossraguel Abbey, and Kirkoswald. Lunch will be provided at the Monument Hotel, Alloway, on the banks of the Doon, and tea on the return journey. Tickets for the trip, including lunch and tea, will not exceed 20s.

Stirling District.—This excursion is likewise limited to sixty persons. Arriving at Stirling by train from Buchanan Street Station, charabancs will take the visitors to view the Field of Bannockburn and return to Stirling Castle, where some time will be spent, and the High Church of Stirling, dating from the twelfth century, will also be visited. En route to Bridge of Allan, where lunch will be served, Stirling Bridge will be passed and a stop made at Abbey Craig to visit the Wallace Monument. In the afternoon the visitors will proceed to Dunblane Cathedral and returning by the Glen Road near the battlefield of Sheriffmuir will visit the Airthley Spa, Bridge of Allan, where the local doctors will entertain the party to tea. The excursion will thus include places of historical, balneological, and ecclesiastical interest. Tickets, including lunch, will cost 12s. 6d.

Scunthorpe and Frodingham M.O.H.

The Public Health Committee of the Association at its last meeting received a report that the Scunthorpe and Frodingham Urban District Council had tendered an advertisement for a M.O.H. and V.D. officer at a commencing salary of £600 per annum, and that this advertisement had been refused because the minimum commencing salary approved by the British Medical Association for a whole-time officer in the Public Health Service was £700 per annum. The medical officer to the council, who was retiring because he had been appointed elsewhere, had done his best to get the minimum salary for his successor raised to £700, and asked for assistance from the head office. This was given, and he subsequently wrote to say that he had been successful in obtaining a commencing salary of £700 for the new appointment, and that the letter sent from the head office on the subject to him was most useful, and was, in his opinion, the means of obtaining £700 as a commencing salary.

A note on the appointment of M.O.H. for Manchester appears in the JOURNAL this week at p. 1005.

Fees for the Examination of Emigrants.

Since the Current Note which was published in this column on June 10th the British Medical Association has been asked to meet the Directors of Migration to discuss the situation which has arisen as a result of the Association's request to its members to withdraw their names from the roster. As soon as any definite decision has been arrived at a further communication will be sent to members. Meanwhile it is hoped that they will continue to carry out examinations pending a settlement, as suggested in the Current Note referred to above.

EAST AFRICAN MEDICAL SERVICE.

REDUCTION OF LOCAL ALLOWANCE.

THE following correspondence has passed between the British Medical Association and the Colonial Office in regard to the position created in Eastern Africa, more especially in Uganda, by the reduction of the local allowance on sterling salaries originally granted in connexion with the revision of the local currency in 1920. The matter is discussed further in a Current Note at page 244.

Correspondence with Colonial Office.

British Medical Association,
429, Strand, W.C.,
May 5th, 1922.

Sir,

The Dominions Committee of this Association has recently had under consideration the position created in Eastern Africa, and more especially in Uganda, by the reduction and prospective withdrawal of the 50 per cent. local allowance on sterling salaries originally granted in connexion with the revision of the local currency in 1920.

It will be within your recollection that, prior to the currency changes, such substantial increases had been conceded to the Uganda Medical Services as went some way towards meeting the request of the Association for a 50 per cent. increase on pre-war remuneration. From information supplied locally, which includes copies of the memorandum submitted to the Colonial Office by the Uganda Civil Servants, we are forced to the conclusion that the Currency Reorganization, once the local allowance is withdrawn, will leave the officers in this service less favourably placed than they were in 1914 prior to the outbreak of war. The position thus created is naturally causing the Dominions Committee considerable anxiety, and although it realizes that the medical officers are not the only sufferers in this respect it feels that the efficiency of the medical service is liable to suffer owing to the fact that the remuneration of the present members of the service is worse instead of being, as it ought to be, better than in pre-war days, and this especially in view of the fact that the medical officers were led to believe that their position was to be permanently improved in this respect.

I am, Sir, your obedient servant,
G. C. ANDERSON,
Deputy Medical Secretary.

The Under-Secretary of State,
Colonial Office,
Whitehall, S.W.1.

Colonial Office, Downing Street,
May 12th, 1922.

Sir,

I am directed by Mr. Secretary Churchill to acknowledge the receipt of your letter of the 5th of May, regarding the recent reduction of the local allowance paid to Government officials in Kenya, Uganda, and the Tanganyika Territory.

2. As the Dominions Committee of the British Medical Association recognize, the reduction referred to is not one specially affecting medical officers, but affects all European officers in the dependencies concerned. Medical officers are not suffering any more hardship than officers in other branches of the service in those dependencies, and it would not be equitable to grant any special treatment in this respect to medical officers, whose rate of remuneration is, as a matter of fact, generally higher than that of other classes of officials.

3. The local allowance was instituted at the time of the introduction of the revised salaries in April, 1920, when the rupee in Kenya, Uganda, and the Tanganyika Territory was being established at 2s. sterling, with a view to its replacement by the florin as the standard coin. Before the 1st of April, 1920, sterling salaries were paid at 15 Indian rupees to the £ sterling, and while strictly after that date salaries should have been converted at the rate of 10 florins to the £, it was recognized that too abrupt an alteration of the rate of exchange would be undesirable; and for this reason the temporary local allowance of 50 per cent. on sterling salaries issued in respect of resident service was approved for a period of two years. It was made clear at the time that the allowance was subject to revision or abolition at the end of that period.

4. When the question of continuing the allowance came up for review, the original object of the allowance—to give officials the same number of the local standard coins for each pound of salary as before—had lost its force, owing to the decision to adopt a shilling as the local standard coin. In considering the question it was necessary to take into account the financial situation prevailing

in the dependencies, and the exigencies of that situation were such that the Secretary of State, after discussion with the Governors of Kenya and Uganda, decided that, on the 1st of April, 1922, the allowance must be reduced for all officials to 25 per cent. of sterling salaries and allowances.

5. The Secretary of State has received and considered various representations from the officials in the dependencies concerned with regard to this decision, but while sympathizing fully with the hardship involved, particularly in the case of the lowest paid officials, he has, for financial reasons, felt himself absolutely precluded from varying the original decision.

6. Mr. Churchill is not altogether clear as to the ground for the suggestion that if the local allowance is withdrawn altogether the position of the medical staff in these dependencies will be less favourable than before the war. So far as substantive and pensionable sterling salaries are concerned, the position of medical officers in Kenya, Uganda, and the Tanganyika Territory has been very considerably improved within the last few years, even more in proportion than that of officers in most other branches of the Government service, and this improvement has been given in a permanent form and not in the form of a temporary bonus, as has been the case in the Civil Service at home. In addition to the improvements in salary, important concessions have been made with respect to the conditions of service, not only concessions shared with other officials but special concessions (for example, gratuities on retirement and generous provision for study leave) peculiar to the medical staff.

7. Mr. Churchill presumes that your remarks have reference solely to the local purchasing value of salary, since it is this alone which a withdrawal of the local allowance could affect. As regards this I am to make it clear in the first place that the continuance of the allowance at the reduced rate of 25 per cent. of salary has been approved up to the 31st of March, 1923, and that no decision has been taken as to what is to be done with regard to its continuance or otherwise after that date. It is obviously impossible to predict what the local value of money will be in 1923, since this will be affected not only by any general fluctuations in prices between now and then, but also by the change of the local currency to shillings, the result of which it is not now possible to forecast. It would in any case be an almost impossible task to arrive at a just comparison of the value to the recipient of salaries paid in different currencies and under different conditions of living, as is the case with regard to pre-war and present salaries in Kenya or Uganda, but even if it could be shown that the present salaries of medical officers in those dependencies would, if paid without local allowance, necessitate a curtailment of the standard of living as compared with that obtaining before the war, the fact would remain that such a curtailment has been a general experience as a result of the war, and is not confined to medical men or to officials in the East African dependencies; and the Secretary of State would not be able on such a ground to direct the continuance of the local allowance at its present rate after the 31st of March, 1923, if he felt that the public interest necessitated its further reduction or withdrawal.

8. Mr. Churchill is fully alive to the importance of maintaining the efficiency of the medical services in the East African dependencies. The governing factor in fixing salaries must, however, be the ability of the Government to pay. As already stated, the Secretary of State, after careful examination, has been convinced that the financial position of the dependencies concerned necessitated the general reduction of the local allowance; and while he regrets the hardship which he fully recognizes may be caused in individual cases, he looks to medical officers to assist him by accepting loyally a decision which affects others equally with themselves, and of which the brunt has chiefly to be borne not by the professional officers with comparatively high salaries, but by the far larger number of lower paid officials, in many of whose cases the plea of financial hardship is a very real one, and yet for whom the Secretary of State, after careful consideration, has been unable to approve of any exemption from the general reduction.

I am, Sir, Your obedient servant,

H. J. READ.

Association Notices.

TABLE OF DATES.

June 30, Fri.	Last day for receipt at Head Office of notification of election of Representatives and Deputy Representatives.
July 7, Fri.	Last day for receipt at Head Office of Amendments and Riders for Annual Representative Meeting Agenda.
July 21, Fri.	Annual Representative Meeting, Glasgow, 10 a.m.
	Nominations for election of 12 Members of Council by grouped Representatives to be received (at A.R.M., Glasgow) by 11 a.m. on this date.
	An Extraordinary General Meeting will be held in Bute Hall, The University, Glasgow, *re* alteration of Articles of Association, 4.45 p.m.
July 25, Tues.	The Annual General Meeting will be held in the Bute Hall, The University, Glasgow, at 2 p.m. Business: (1) Minutes of last meeting; (2) appointment of auditors; (3) report of election of President for year 1923–24.

ALFRED COX, *Medical Secretary.*

FORMATION OF A NORTH BENGAL BRANCH OF THE ASSOCIATION.

NOTICE is hereby given to all concerned that the Council has sanctioned the formation of a North Bengal Branch of the Association of area comprised as follows:

> Darjeeling, Terai, Bengal, Dooars, the latter as far south as a line drawn due east from Jalpaiguri to the Santos River. The Northern Boundary is the Bhutan Country; East, Assam; West and South, Bengal;

the Branch to come into existence as from the date of publication of this notice.

BRANCH AND DIVISION MEETINGS TO BE HELD.

BIRMINGHAM BRANCH: BROMSGROVE DIVISION.—A meeting of the Bromsgrove Division will be held at the Smallwood Hospital, Redditch, on Wednesday, June 28th, at 3.30 p.m., to consider Annual Report of Council and to instruct Representative for Annual Representative Meeting.

EAST YORK AND NORTH LINCOLN BRANCH.—The sixty-sixth annual meeting of the East York and North Lincoln Branch will be held at Withernsea on Friday, July 14th. Business: Financial statement and annual report, election of officers, presidential address. Further details later. Nominations must be in the hands of the secretary on or before July 1st.

ESSEX BRANCH.—The annual meeting of the Essex Branch will be held at 2.30 p.m. at the Palace Hotel, Southend-on Sea, on July 14th; lunch at 1.30 p.m. Dr. Charles Forsyth, President of the Branch, will read a paper on "Some remarks on tuberculosis and milk," and Mr. P. Jenner Verrall, F.R.C.S., will give an address on "Minor traumatic disabilities of the upper limb." By the kind invitation of the President members are invited to tea after the meeting. The Branch Council will meet before the lunch.

LANCASHIRE AND CHESHIRE BRANCH.—The eighty-sixth annual meeting of the Lancashire and Cheshire Branch will be held in the Public Buildings, Northgate, Blackburn, on Wednesday, June 28th. 12 to 1.30 p.m., Lunch at the Old Bull Hotel. 1.45 p.m., Reception by the Mayor (Alderman Fielding) in the Reception Room, Public Buildings, Northgate. Meeting of Branch Council at Public Buildings. 2 p.m., Annual Meeting in Lecture Hall, Public Buildings, when the chair will be taken by the President-elect, Dr. G. E. Orme, J.P. Agenda: Report of Branch Council and financial statement. Presidential address on "The general practitioner as an asset to the community." Election of officers and two auditors for the coming year. Votes of thanks to the retiring officers and Branch Council. Place of next annual meeting. Miscellaneous business. Communications: (*a*) Dr. A. Renshaw on "The etiology of diabetes"; (*b*) Dr. Daley, "Observations on changes in type of the acute infectious diseases." 3.30 p.m., Afternoon tea in large lecture hall. 4 p.m., Visits and excursions: (1) Royal Infirmary and Infectious Hospital; (2) Stonyhurst College; (3) Epileptic Colony, and Ribchester Museum and Roman Antiquities; (4) Visit to a spinning and weaving mill and the new electrical works; (5) Golf at Pleasington Golf Links. 7 p.m., Dinner. To facilitate arrangements for lunch and for the various visits and excursions, members are requested to notify the Blackburn Division Secretary, Dr. Shearer, The Colony, Langho, near Blackburn.

METROPOLITAN COUNTIES BRANCH: CHELSEA DIVISION.—A meeting of the Chelsea Division will be held at the Fulham Town Hall on Wednesday, June 28th, at 5 p.m., when Dr. A. S. Woodwark, C.M.G., C.B.E., will deliver a British Medical Association Lecture on Organo-therapy. Tea will be provided at 4.30 p.m.

NORTHERN COUNTIES OF SCOTLAND BRANCH.—The annual meeting of the Northern Counties of Scotland Branch will be held at the Highland Hotel, Strathpeffer Spa, on Saturday, June 24th, at 11.30 a.m. Business: Election of officers; Matters to be brought before Representative Meeting; Instructions to Representatives; Annual Report of Central Council; Election of members. The Branch Council hopes there will be a good attendance of members, and also wishes it to be noted that arrangements have been made to invite ladies to this meeting. Luncheon will be served at the Highland Hotel at 1 p.m. Arrangements have been made for a drive to the Falls of Rogie, and through the courtesy of the management of the Strathpeffer Spa the grounds of the Spa and the Baths will be open to members and their friends. The tennis courts will also be available to members. Through the courtesy of the Committee of the Golf Club the course will be open to members, and if sufficient players come forward a match will be arranged. Members intending to be present are asked to notify the honorary secretaries.

NORTH OF ENGLAND BRANCH.—The annual meeting of the North of England Branch will be held at the King's Arms Hotel, Berwick-on-Tweed, on Thursday, July 6th, at 11.30 a.m. The Branch Council will meet immediately before the general meeting. Business: To receive the Annual Report of Council and Financial Statement. To elect officers for the ensuing year. President's address. Luncheon will be provided for members attending the meeting, at 1 o'clock (3s. 6d. each). Those who intend to be present are requested to notify the honorary secretary, Dr. James Don, 7, Windsor Terrace, Newcastle-upon-Tyne, not later than July 4th. Only those who reply will be catered for. After lunch a golf match between North and South will be played on the Goswick Golf Course, kindly lent for the occasion. All players are invited to participate in this event, and those intending to do so are asked to notify the honorary secretary before July 4th. Tea will be provided

at the course. Time-table: Leave Newcastle 9.15, arrive Berwick 11.6; Annual General Meeting, 11.30; luncheon, 1 o'clock; golf match and tea. Leave Berwick 6.32, arrive Newcastle 7.54; or leave 8.55, arrive 10.43.

NORTH WALES BRANCH: SOUTH CARNARVON AND MERIONETH DIVISION.—A meeting of the South Carnarvon and Merioneth Division will be held at the George Hotel, Criccieth, on Tuesday, July 4th.

SOUTH MIDLAND BRANCH: BUCKINGHAMSHIRE DIVISION.—The annual meeting of the Buckinghamshire Division will be held at the Crown Hotel, Aylesbury, on Friday, June 30th.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: NORTH GLAMORGAN AND BRECKNOCK DIVISION.—A meeting of this Division will be held at Pontypridd on Thursday, June 29th, when a British Medical Association lecture will be delivered by Dr. H. Morley Fletcher on "Treatment in renal disease."

SUFFOLK BRANCH: NORTH SUFFOLK DIVISION.—A meeting of the North Suffolk Division will be held at the Lowestoft Hospital on Tuesday, June 27th, at 4 p.m. Agenda: Election of officers; to consider reports of Council and resolutions of Divisions thereon, and to instruct the Representative for the Glasgow meeting. (Members are requested to bring to the meeting the SUPPLEMENTS of May 6th, 13th, 20th, and 27th, and June 17th and 24th.)

SURREY BRANCH.—The ninth annual meeting of the Surrey Branch will be held (by the invitation of the Reigate Division) at Reigate, on Wednesday, June 28th, at 5.15 p.m., in the Municipal Buildings, Reigate (by kind permission of the Mayor of Reigate). 12.30, Branch Council at White Hart Hotel; 1.15, Lunch (by the kind invitation of the Reigate Division) at the White Hart Hotel; 2.45, Cinema (medical and surgical) exhibition at the Hippodrome, Reigate; 4.30, Reception by the Mayor of Reigate, and tea at the Municipal Buildings; 5.15, Annual meeting for the election of officers and reception of the annual report and financial statement, and the report of the Boundaries Subcommittee; 6.45, Dinner (charge 7s. 6d., wines extra).

SUSSEX BRANCH.—The annual meeting of the Sussex Branch will be held at the Royal Pavilion, Brighton, on Wednesday, July 5th, 1922, at 2 p.m. Mr. George Morgan, F.R.C.S., the President-elect, will give an address on "Swellings and sinuses in the necks of children."

SUSSEX BRANCH: HASTINGS DIVISION.—A meeting of the Hastings Division, to which also non-members residing in the area are being invited, will be held at the Eversfield Hotel, St. Leonards, on Thursday, June 29th, at 8 p.m. Agenda: Treatment of school children (Drs. Conway Morgan and Larking have discussed this with the school medical officer and will report to the meeting.) Fees for dental anaesthesia to insured persons. Fees to be charged for medical certificates to registered readers of newspapers claiming insurance. Letter from Dr. Cox as to fees for medical examination of emigrants. Instructions to Representative at Annual Representative Meeting. Proposed golf competition.

YORKSHIRE BRANCH.—The annual meeting of the Yorkshire Branch will be held at the Clayton Hospital, Wakefield, on Tuesday, June 27th, at 3.45 p.m.

Meetings of Branches and Divisions.

STAFFORDSHIRE BRANCH.

A MEETING of the Staffordshire Branch was held at the Victoria Hotel, Wolverhampton, on May 25th, with the President (Dr. FREDERICK EDGE) in the chair. The usual business was curtailed on account of the illness of the honorary secretary, Dr. Wm. Webster, to whom the meeting unanimously accorded a resolution of sympathy and good wishes for a speedy recovery.

Medical Aspects of School Attendance.

Dr. BADGER read a paper on the general practitioner, the school medical, officer and school attendance. He likened the patience of the British taxpayer under the burden of present-day demands for income tax to that of the general practitioner in meeting the perennial demands made upon him for medical certificates exempting children from attendance at school. Moreover, it must sometimes appear that the demand was not limited to cases where the genuineness of the excuse for absence was in doubt, but that it applied with equal impartiality to the child seriously ill and to the child sent with a note asking for a medical certificate because there was no one at home to mind the baby. In this connexion the attendance officer appeared to play the part of an unwelcome intruder and disturber of the domestic peace. A medical meeting at Stafford recently expressed the opinion that there was a tendency for the health official, whether the school medical officer or medical officer of health, to maintain far too much an attitude of Olympian seclusion, and from his exalted position to look down on his colleagues in general practice, regarding them collectively as rogues; on the other hand, for this view to be counterbalanced by the general practitioner regarding the school medical officer merely as a fool. It was a distinct advantage for a school medical officer to have himself been in general practice and to know something of the special circumstances and difficulties of that arduous calling. The object of Dr. Badger's paper was to elucidate one or two points where misunderstandings were likely to arise.

In the course of his remarks he brought out very clearly that the services of the general practitioner were of value not only to the public health, but also to the administration of education authorities. In concluding an instructive paper he said: "To a certain extent general practitioners and school medical officers suffer alike from national developments beyond their control that present many opportunities for friction and give little encouragement to the promotion of understandings. Happily my experience has been that general practitioners frequently go out of their way to help the school medical officer; and I gratefully recognize their forbearance and valuable co-operation. It is quite certain that without this co-operation the school medical service cannot attain its full measure of success. On the other hand, with good will it should always be the care of the school medical officer to see that the interests of his colleagues in general practice are not entirely forgotten." In the subsequent discussion Drs. MACTIER, LAYTON, WILKINS, and CLENDINNEN took part.

Dr. SHELDON showed a case diagnosed as Paget's disease, and Mr. MASLIN JONES, M.S., reported a case of early concealed accidental haemorrhage. Mr. Jones's patient was a primipara of 29, who after a heavy day's housework commenced to lose blood-stained serum per vaginam, being then eighteen weeks pregnant. When first seen the uterus was midway between the pubes and umbilicus. During the next twenty-four hours the uterus enlarged steadily until it was the size of a full-term pregnancy and very tense. There was no dilatation of the cervix and no attempt at uterine contraction. The patient's general condition at first was good. Pulse 94, temperature 99°, and no pallor, but she complained of a tight constricting pain round the abdomen. There was no albuminuria. The uterus was opened by the abdominal route and dead four and a half months twins removed. The lower half of the uterus was full of blood clot, two and a half to three pints being removed. Retraction was obtained and the uterus sutured and replaced. Uneventful recovery followed. Recent investigations had found accidental haemorrhage was associated with toxaemic albuminuria in 84 per cent. (Gordon Ley) and 90 per cent. (Young and Miller) of the cases, and that the uterus showed areas of necrosis and extensive haemorrhagic infiltration. The case now reported was of particular interest in view of (1) the absence of any signs or symptoms of toxaemia and of the associated uterine lesions; (2) the very early date of the onset—eighteenth week, whereas the thirty-third week was the earliest in a large series of cases seen in London; and (3) the entire absence of signs of the shock usually seen in such cases. Mr. Maslin Jones suggested that the typical picture of shock seen in cases of concealed haemorrhage was due not so much to the loss of blood and distension of the uterus as to the actual stretching and tearing of the uterine muscle by the interstitial haemorrhage.

The PRESIDENT then opened a discussion on fatal post-operative thrombosis and embolism, and was followed by Dr. SHELDON, Mr. CHOLMELEY, and Dr. MACTIER.

STAFFORDSHIRE BRANCH: SOUTH STAFFORDSHIRE DIVISION.

THE annual meeting of the Division was held in the Board Room of the General Hospital, Wolverhampton, on June 8th, when the Vice-Chairman, Dr. F. R. TURTON, was in the chair. The following officers were elected for 1922-23:—*Chairman:* Dr. T. Ridley Bailey. *Vice-Chairman:* Dr. F. A. Cooke. *Honorary Secretary:* Dr. H. C. Mactier, M.B.E.

The Representative in Representative Meetings (Dr. H. C. Mactier) and the Deputy Representative (Dr. T. Ridley Bailey) were appointed at the last meeting. The annual report of Council and the notices of motion for the Annual Representative Meeting were then received, and the meeting instructed the Representative to use his own discretion in voting. Dr. Turton then vacated the chair in favour of Dr. RIDLEY BAILEY, who thanked the Division for electing him chairman for a second time, he having held that office in 1907-08. Dr. MACTIER proposed that a Clinical Section of the Division should be started, and Dr. Sheldon having consented to act as honorary secretary for the section the organization of it was left to Drs. Sheldon and Mactier.

KENT BRANCH.

THE annual meeting of the Kent Branch was held at the Grand Hotel, Folkestone, on June 15th.

The President-elect, Dr. Percy Lewis, received the members and local practitioners who were non-members, and kindly entertained them to luncheon to the number of forty. After lunch the annual report of the Council for 1921 and the financial statement were presented.

The annual report showed that the membership of the Branch numbered 364, one more than in the previous year. The Council had held five meetings. Objection had been taken to the regulations first drafted for the supply of dangerous drugs. A communication had been sent to the General Medical Council calling attention to the difficulty arising under the new Dentists Act in medical men being asked to administer anaesthetics to unqualified dentists, and members had been urged to ascertain that dentists were registered before co-operating with them. The payment of fees to medical men by the Kent County Constabulary for emergency police calls had been settled in favour of the profession. Steps had been taken to institute a medical advisory council for Kent on the lines of the Dawson report. The financial statement showed a credit balance of £21. The retiring officers were thanked for their services and the following were elected for 1922-23:

President: Dr. Percy G. Lewis (Folkestone). *President-elect:* Dr. A. Tennyson-Smith (Bromley). *Vice-Presidents:* Dr. T. E. Knowles Stansfield, C.B.E. (Dartford), Dr. W. J. Best (Dover). *Hon. Secretary and Treasurer:* Dr. E. A. Starling (Tunbridge Wells).

President's Address.

Dr. PERCY G. LEWIS then delivered his presidential address on "Nervous exhaustion." His object was to show that there were more simple ways of treating functional nervous disorders than

those now in vogue. All these conditions, he held, were due to lack of sufficient nerve force—a deficiency found in an infinite variety of morbid complaints. Nervous exhaustion was characterized as irritability of the lower nerve centres owing to there being less control from the higher ones. Irritability meant too much reaction to slight causes, and therefore led to early exhaustion of the capital of nerve force, and also rendered those so suffering extremely susceptible to microbic invasions. Among physical causes far transcending all others was a neuropathic inheritance. Other physical causes were various poisons from septic foci—poisons produced by such diseases as phthisis, diabetes, puerperal fever, various drugs and metallic substances, and disturbances of the endocrine system apt to occur at puberty, adolescence, gestation, lactation, and at the climacteric.

The President drew attention to the works of Drs. Cotton, Draper, and Lynch, who cured 75 per cent. of their functional psychoses cases in eighteen months by removal of septic foci and treatment by serums and vaccines. Drugs were one very useful means in building up a weak nervous system. Belladonna had an inhibitory effect on the thyroid gland and antipyrin often at once relieved the various phobias. As a neuropathic inheritance was the chief factor, it was obvious that considerable time was required to build up a damaged system that was weak to begin with. Dr. Lewis was of opinion that the Ministry of Pensions had not paid enough attention to this fact, but had begun at the wrong end by expecting psychotherapy to do nearly everything. The psychical causes of nervous exhaustion were discussed and special attention drawn to the state of nervous and muscular tenseness found in most cases. This represented a waste of nerve force by which the rest of the body became starved of vitality. This tenseness, which meant always being in a condition for "fight or flight," was the key to the whole situation. Unless this was removed recovery was impossible. Details were given as to how this habit of tenseness could be removed, when the patient would then be in a receptive state for psychic lessons. An example of such a lesson was given in the treatment of insomnia. Dr. Lewis held that the method advocated was much simpler than the Freudian method of psycho-analysis, and more successful. M. Coué's treatment was a step farther in the same direction, for he too advocated "relaxations" as an essential part of it. Hypnotism had been useful in showing the laws which govern mind, but hypnotism was difficult, the results not permanent, and the patient's intellect not affected. It would seldom be required if the methods advocated were thoroughly carried out.

LANCASHIRE AND CHESHIRE BRANCH.

The Year's Record.

THE annual report of the Branch Council opens by recording with sorrow the death of the President, Dr. Elliott. Up to a few days before his death he continued to take the keenest interest in the work of the Branch, attending every meeting of Council and Committee. Pending the annual meeting, the office of President has been carried on by the President-elect, Dr. Orme of Clitheroe. During the year five meetings of the Branch Council, two meetings of the Organization and Finance Committee, and one meeting of the Ethical Committee have been held. As in the past, the chief activities of the Association have been centred in the Divisions. The average attendance at Branch Council meetings was 13 out of a possible 52, and it is not surprising, says the report, that a Division from time to time finds itself out of touch with the general feeling of the Branch, and *vice versa*. Now that additional responsibilities and duties are about to be thrown on Branch Councils it becomes more than ever important that the Divisional representatives should attend.

In Lancashire and Cheshire, as elsewhere, the Association is taking action with increasing frequency on matters associated with public health, either to secure adequate remuneration for public health officials or in an endeavour to prevent the transfer of various forms of treatment to full-time officials. In the opinion of the Branch Council these two questions act and react on one another. There is a continuous tendency on the part of local authorities, on the advice of medical officers of health, to increase the number of their full-time staff as providing a cheaper and more easily managed service than that obtained by the part-time employment of suitably qualified local practitioners. The immediate result is a lessening of the remuneration of the profession as a whole, the more remote effects include a continual struggle by the Association to obtain for these full-time officials in after-years a remuneration suitable to their seniority. In this matter the public suffers as much as the profession. Public bodies cannot expect to obtain the best and most experienced workers for whole-time posts of £500 to £600 a year; and, on the other hand, the valuable experience which the whole-time officer must in course of time accumulate is never made available for the treatment of private patients and the public generally. Following on the struggle for an adequate salary for the post of M.O.H. of Manchester (which on behalf of the Association was conducted by the Central Council), the Branch is now insisting on the inadequacy of a salary of £600 for a full-time tuberculosis officer whose duty will include consulting with and giving expert advice to practitioners in the area. "In another part of the Branch area the local authority is taking the opportunity of making a wholesale clearance of part-time officers, apparently because it is dissatisfied with the control it can exercise over certain practitioners. The Branch Council considers that the position as regards the whole question is serious, is not improving, and calls for vigorous action by the Divisional, Branch, and Central authorities of the Association."

During the year the Medical Secretary of the Association again visited the Branch and delivered addresses in Chester, Birkenhead, Preston, Blackburn, and Burnley. He was received cordially everywhere, and left with a hopeful view of the future of the Association in the area. The membership has increased by four during the year.

LANCASHIRE AND CHESHIRE BRANCH: BLACKPOOL DIVISION.

THE annual meeting of the Blackpool Division was held in Blackpool on June 13th, when Dr. JOHN T. JOHNSTON was in the chair. The following officers were elected for the ensuing year:—*Chairman:* Dr. Penistan. *Vice-Chairman:* Dr. Godley. *Honorary Secretary:* Dr. Baird.

At the joint meeting of the Blackpool and Isle of Man Divisions held subsequently Dr. Barton was appointed the Representative in the Representative Body. The annual report of the Council was discussed by the meeting, and instructions thereon given to the Representative.

METROPOLITAN COUNTIES BRANCH: EAST HERTFORDSHIRE DIVISION.

THE annual meeting of the East Hertfordshire Division was held at the Shire Hall, Hertford, on May 31st, when Dr. LAWSON SMITH was in the chair. The following officers were elected:

Chairman: Dr. H. D. Ledward (Letchworth). *Vice-Chairman:* Dr. T. Burnett Smith (Hertford). *Honorary Secretary and Treasurer:* Dr. Arthur de Vine (Stevenage). *Representative on Branch Council:* Dr. W. Howard Sturge (Hoddesden). *Representative in Representative Body:* N. Macfadyen, M.B. (Letchworth).

The report of Council and the business of the Annual Representative Meeting were considered, and the following amendment to Motion 22 of the Provisional Agenda (Hospital Policy of the Association) was passed:

> That it is not wise at the present moment to adopt the policy suggested as it will alter the present status of the medical staff of a voluntary hospital in a manner detrimental to the interests of the profession.

The Representative was instructed to bring this before the Representative Body at the Glasgow meeting.

After the meeting members and their wives were entertained in an adjoining room by Dr. and Mrs. Lawson Smith.

SOUTH MIDLAND BRANCH: BUCKINGHAMSHIRE DIVISION.

A MEETING of the Buckinghamshire Division was held at High Wycombe on June 7th. Dr. J. A. BENJAFIELD read a most interesting paper on vaccine therapy, especially in relation to rheumatoid arthritis, which was highly appreciated by the few members present. Dr. Rose was re-elected as Representative in the Representative Body, and Dr. G. F. S. Bailey as Deputy. The annual report of the Council was considered, also points from the Medical Secretary's monthly circulars of April and May. The annual meeting of the Division will be held at the Crown Hotel, Aylesbury, on Friday, June 30th.

SUSSEX BRANCH: HORSHAM DIVISION.

A MEETING of the Horsham Division was held on June 2nd, 1922, when Dr. VERNON was in the chair.

The following officers were elected:—*Chairman:* Dr. Vernon. *Vice-Chairman:* Dr. Matthews. *Secretary:* Dr. Dew.

Sympathy was expressed with Dr. Wood-Hill upon the result of the action against him, and the secretary was instructed to write to members inviting subscriptions.

The Hospital Policy of the Association was discussed, and the following resolutions were adopted:

1. That in view of the present impecunious position of the hospitals, the Division agrees that this is an inopportune moment to make any alteration in the present recognized system of non-payment of the honorary medical staff for services rendered to the ordinary hospital patients.
2. Any scheme for encouraging admission into hospital of patients who can afford treatment outside is detrimental to the interests of the public, the hospitals, and the medical profession.

It was unanimously agreed that the question of reduction of fees should be deferred for at least six months.

The fees suggested by the Overseas Settlement Office for examination of immigrants were considered satisfactory considering the class of persons concerned, and it was decided to advise members to continue to examine at this tariff unless a definite request to remove their names from the list of examiners was sent by the Association.

WILTSHIRE BRANCH.

DR. ARTHUR F. HURST, physician, Guy's Hospital, gave a British Medical Association lecture on "Causes and treatment of constipation" to the Wiltshire Branch on Wednesday, May 10th. Twenty-six members of the Branch were present, and there also attended twelve visitors, mainly from the Bath Division. Dr. Hurst's lecture, which was thoroughly practical and very valuable to the general practitioner, was greatly appreciated by all who heard it.

YORKSHIRE BRANCH: SCARBOROUGH DIVISION.

A MEETING of the Scarborough Division was held at Scarborough Hospital on June 14th.

The provisional agenda of the Annual Representative Meeting was discussed, and instructions were given to Dr. Candler-Hope, the Representative, who was instructed to vote steadfastly against any arrangement whereby the approved societies act as third party in insurance negotiations between the Government and the medical profession. In regard to the Panel Conference held on May 18th it was resolved:

> That this Division strongly protests against the action of the Insurance Acts Committee in sending resolutions to the Ministry of Health before they have been submitted to the special Conference (May 18th) which was called to discuss the same.



Photograph by] THE UNIVERSITY, GLASGOW. *[Annan, Glasgow.*

British Medical Association.

NINETIETH ANNUAL MEETING, GLASGOW, JULY 25th, 26th, 27th, & 28th, 1922.

Patron: HIS MAJESTY THE KING.

President: DAVID DRUMMOND, C.B.E., M.A., M.D., D.C.L., Vice-Chancellor and Professor of the Principles and Practice of Medicine, University of Durham.

President-Elect: Sir WILLIAM MACEWEN, C.B., D.Sc., D.C.L., M.D., F.R.S., Regius Professor of Surgery, University of Glasgow, one of the Honorary Surgeons to H.M. the King in Scotland.

Chairman of Representative Meetings: R. WALLACE HENRY, B.A., M.D.

Chairman of Council: ROBERT ALFRED BOLAM, M.D., F.R.C.P.

Treasurer: GEORGE ERNEST HASLIP, M.D.

PROGRAMME.



GLASGOW CATHEDRAL.

THE ANNUAL MEETING of the REPRESENTATIVE BODY will begin on Friday, July 21st, at 10 a.m., in the Bute Hall of the University, and be continued on the following three week-days.

The Representatives' Dinner will be held on Friday, July 21st, at 7.15 p.m.

The Statutory ANNUAL GENERAL MEETING will be held in the Bute Hall of the University, on Tuesday, July 25th, at 2 p.m., and the Adjourned General Meeting at 8 p.m., when the oversea delegates and foreign guests will be received, and the President, Sir William Macewen, C.B., will deliver his address.

The official Religious Service will be held in Glasgow Cathedral on the same day at 5 p.m.

The Conference of Secretaries will be held in the University Union on Wednesday, July 26th, at 2 p.m., and the Secretaries' Dinner will take place on the same evening.

The Annual Dinner of the Association will be held in St. Andrew's Hall on Thursday, July 27th, at 7 p.m.

The Popular Lecture will be delivered by Professor Graham Kerr, F.R.S., on Friday, July 28th, at 7.30 p.m.; subject: "The Physician—Naturalist, Teacher, Benefactor."

THE SECTIONS.

The Scientific Sections will meet in the classrooms of the University for papers and discussions from 10 a.m. to 1 p.m. on Wednesday, Thursday, and Friday, July 26th, 27th, and 28th. Laboratory and clinical demonstrations in connexion with the work of the Sections will be given at other hours on the same days either in the University or in some of the hospitals.

Speakers desiring to take part in any of the discussions or to make any communications should get in touch with the secretary of the Section concerned. The Director of Demonstrations is Mr. R. H. Parry, 25, Blythswood Square, Glasgow.

The following Sections meet on three days—Wednesday, Thursday, and Friday, July 26, 27, and 28.

MEDICINE.

President: Professor THOMAS KIRKPATRICK MONRO, M.D., F.R.F.P.S.

Vice-Presidents: JOHN M. COWAN, M.D., F.R.F.P.S., D.Sc.; Sir ARCHIBALD E. GARROD, K.C.M.G., M.D., F.R.C.P., F.R.S.; GEORGE HALL, C.M.G., M.D., M.R.C.P.; C. O. HAWTHORNE, M.D., F.R.C.P.; JOHN HAY, M.D., F.R.C.P.

Honorary Secretaries: ADAM PATRICK, M.D., F.R.F.P.S., 16, Buckingham Terrace, Glasgow; H. LETHEBY TIDY, M.D., F.R.C.P., 39, Devonshire Place, London, W.1.

The following provisional programme has been arranged:

July 26th (10 a.m.).—Discussion: The Prognosis and Treatment of Chronic Renal Disease. To be opened by Professor HUGH MACLEAN, D.Sc., M.D.

July 27th (10 a.m.).—Discussion: Exophthalmic Goitre. To be opened by Professor GEORGE R. MURRAY, M.D., F.R.C.P. (Manchester).

July 28th (10 a.m.).—Discussion: Degenerative Diseases of the Liver. To be opened by Sir HUMPHRY D. ROLLESTON, K.C.B., M.D., P.R.C.P.

MICROBIOLOGY (INCLUDING BACTERIOLOGY).

President: ROBERT MACNEIL BUCHANAN, M.B., F.R.F.P.S.

Vice-Presidents: JOHN ANDERSON, M.A., B.Sc.; Professor HY. ROY DEAN, M.D., F.R.C.P.; Sir WM. B. LEISHMAN, K.C.M.G., C.B., F.R.S.

Honorary Secretaries: S. PHILLIPS BEDSON, M.D., Lister Institute, Chelsea, London, S.W.; J. L. BROWNLIE, M.D., D.P.H., 12, St. James Terrace, Glasgow.

The following provisional programme has been arranged:

July 26th, 27th, and 28th.—Discussions:

Dr. F. D'HERELLE (Pasteur Institute, Paris) and Dr. F. W. TWORT: The Bacteriophage (Bacteriolysin); followed by Drs. ANDRÉ GRATIA, LEDINGHAM, MCLEOD, FLEMING, and ELLIS.

Dr. MERVYN H. GORDON, C.M.G., C.B.E.: The Bacteriology of Influenza; followed by Drs. MCINTOSH and DIBLE.

Professor V. H. BLACKMAN, F.R.S.: Some Similarities and Dissimilarities in the Microbiology of Plant and Animal Diseases, with special reference to Immunity and "Virus" Diseases; followed by Dr. E. J. BUTLER, C.I.E., Dr. W. B. BRIERLEY, Dr. S. G. PAINE, and Mr. J. RAMSBOTTOM, F.L.S.

W. B. BRIERLEY, D.Sc.: Mutation of Species; followed by Professor DAVID ELLIS, D.Sc. (Glasgow).

Papers:

Dr. W. R. WISEMAN (Glasgow): *B. aertrycke* as a Cause of Epidemic Poisoning by Milk.

Professor DAVID ELLIS: The Intimate Structure of the Bacterial Cell.

Dr. R. CECIL ROBERTSON (Glasgow): On the Toxin of *B. dysenteriae* (Shiga).

Dr. ANDREW CONNAL (Director, Medical Research Institute, Lagos): The Development of *Loa loa* in Chrysops (with demonstration).

Demonstrations in the Laboratory adjoining the Section room:

Sir WILLIAM LEISHMAN: Leishmaniasis; Spirochaetosis of Tick Fever.

Professor GRAHAM KERR and J. S. DUNKERLEY, B.Sc., Ph.D.: Protozoal Parasites.

Dr. R. ST. JOHN BROOKS: Cultures of Organisms Pathogenic for Man, Animals, and Plants.

Professor DAVID ELLIS: Iron Bacteria; Sulphur Bacteria; Fossil Iron-moulds.

NEUROLOGY AND PSYCHOLOGICAL MEDICINE.

President: Professor GEORGE M. ROBERTSON, M.D., F.R.C.P.Edin.

Vice-Presidents: A. STANLEY BARNES, M.D., F.R.C.P.; C. C. EASTERBROOK, M.D., F.R.C.P.Edin.; J. H. MACDONALD, M.B., F.R.F.P.S.; Sir JAMES PURVES STEWART, K.C.M.G., C.B., M.D., F.R.C.P.

Honorary Secretaries: HILDRED CARLILL, M.D., M.R.C.P., 146, Harley Street, London, W.1; D. K. HENDERSON, M.D., F.R.F.P.S., 17, Whittinghame Drive, Glasgow.

The following provisional programme has been arranged:

July 26th (10 a.m.).—Discussion: Psychotherapy. To be opened by Dr. T. W. MITCHELL, on Psycho-therapeutics and Psycho-pathology; followed by J. A. HADFIELD, on the Making of a Neurotic; Dr. JANE SUTTIE, on Mental Stresses of Adjustment in Women; and by Dr. CRICHTON MILLER, on the Psychic and Endocrine Factors in Functional Disorders.

July 27th (10 a.m.).—Discussion: The Treatment of Neuro-syphilis. To be opened by Sir JAMES PURVES STEWART; followed by Dr. KINNIER WILSON, on Observations on the Treatment of Neuro-syphilis; Dr. DOUGLAS K. ADAMS, on the Treatment of Neuro-syphilis, with Special Reference to the Changes in the Cerebro-Spinal Fluid; and Dr. ERNEST M. DUNLOP, on the Bearing of the Wassermann Reaction on Diagnosis and Control of Treatment of Nervous Syphilis.

July 28th (10 a.m.).—Paper by Dr J. H. MACDONALD on the Elements of Contrast in the Psychic Mechanism.

OBSTETRICS AND GYNAECOLOGY.

President: Professor EWEN J. MACLEAN, M.D., F.R.C.P., F.R.S.E.

Vice-Presidents: H. RUSSELL ANDREWS, M.D., F.R.C.P.; Professor J. M. MUNRO KERR, M.D., F.R.F.P.S.; Professor LOUISE MCILROY, M.D., D.Sc.; E. FARQUHAR MURRAY, M.D., F.R.C.S.

Honorary Secretaries: S. J. CAMERON, M.B., F.R.F.P.S., 30, Lynedoch Street, Charing Cross, Glasgow; W. D. MACFARLANE, M.B., F.R.F.P.S., 17, Woodside Crescent, Glasgow; H. G. TAYLOR, M.B., 15, Cavendish Place, London, W.1.

The following provisional programme has been arranged:

July 26th (Morning Session).—Discussion: Stillbirths and Neo-natal Deaths. Speakers: Dr. J. W. BALLANTYNE: Ante-natal, Intra-natal, and Neo-natal Death; Causes, Pathology, and Prevention, with special reference to Ante-natal Death. Dr. EARDLEY HOLLAND: Intra-natal Death. Professor A. M. KENNEDY and Dr. F. J. BROWNE: Neo-natal Death. Professor LOUISE MCILROY: Ante-natal Death due to Toxaemia of Pregnancy. Dr. J. N. CRUICKSHANK and Dr. GILBERT STRACHAN.

In the afternoon there will be a demonstration of Professor A. M. Kennedy's specimens in the museum.

July 27th (Morning Session).—Papers:

Dr. W. FOTHERGILL: Surgical Treatment of Uterine Prolapse.

Dr. T. W. EDEN: Treatment of Eclampsia.

Dr. W. OSBORNE GREENWOOD: Anaesthetics and Analgesics in Labour.

July 28th.—Papers:

Dr. ROBERT KNOX: Use of Radium and *X* Rays in Relation to Gynaecology.

Dr. JOHN CAMPBELL (Belfast): Treatment of Salpingo-oöphoritis.

OPHTHALMOLOGY.

President: A. S. PERCIVAL, M.B., M.R.C.S.

Vice-Presidents: A. J. BALLANTYNE, M.D., F.R.F.P.S.; Sir WILLIAM T. LISTER, K.C.M.G., M.D., F.R.C.S.; JOHN ROWAN, M.B., F.R.F.P.S.

Honorary Secretaries: PERCIVAL J. HAY, M.D., 350, Glossop Road, Sheffield; W. H. MANSON, M.D., F.R.F.P.S., 17, Royal Terrace, Glasgow.

The following provisional programme has been arranged:

July 26th (10 a.m.).—Discussion: The Etiology of Optic Atrophy. To be opened by C. O. HAWTHORNE, M.D., F.R.C.P., Mr. J. HOGARTH PRINGLE, M.B., C.M., F.R.C.S. (Glasgow), and H. MOSS TRAQUAIR, M.D., F.R.C.S.Edin.

July 27th (10 a.m.).—Discussion: The Clinical Significance and Treatment of Heterophoria. To be opened by Mr. A. S. PERCIVAL, M.A., M.B., B.Ch. (Newcastle-upon-Tyne), and Dr. L. WEBSTER FOX (Philadelphia).

July 28th.—Clinical Demonstration at the Glasgow Eye Infirmary.

PATHOLOGY (HUMAN AND COMPARATIVE).

President: Professor ROBERT MUIR, M.D., F.R.C.P.Edin., F.R.S.

Vice-Presidents: J. S. C. DOUGLAS, M.D.; Professor JOHN SHAW DUNN, M.D.; ARCHIBALD LEITCH, M.D.; Professor JOHN H. TEACHER, M.D., F.R.F.P.S.

Honorary Secretaries: JOHN ANDERSON, M.B., C.M., "Westerhill," St. Bride's Road, Newlands, Glasgow; ROBERT DONALDSON, M.D., F.R.C.S.Edin., St. George's Hospital, London, S.W.1.

The following provisional programme has been arranged:

July 26th (10 a.m.).—Discussion: The Origin of Cancer in relation to Specific Forms of Irritation. To be opened by Professor FIBIGER (Copenhagen).

July 27th (10 a.m.).—Discussion: Animal and Vegetable Pathology in relation to Human Disease. To be opened by Professors F. G. HOBDAY, F.R.C.V.S., and W. H. LANG, F.R.S.

July 28th (10 a.m.)—Papers.

The Pathological Museum will be housed in the Anatomical and Natural History Departments, in the same block as that in which the Section will meet.

PUBLIC HEALTH.

President: A. K. CHALMERS, M.D., F.R.F.P.S., D.P.H.

Vice-Presidents: R. J. REECE, C.B., M.D., M.R.C.P., D.P.H.; F. E. FREMANTLE, O.B.E., M.P., M.B., F.R.C.P., D.P.H.; HAROLD KERR, O.B.E., M.D., D.P.H.

Honorary Secretaries: R. S. FULLARTON, M.A., M.D., F.R.F.P.S., D.P.H., Sanitary Chambers, Glasgow; J. J. PATERSON, M.D., D.P.H., The Guildhall, Maidenhead; RICHARD PATON, M.B., D.P.H., Sanitary Chambers, Glasgow.

The following provisional programme has been arranged:

July 26th.—Discussion: Puerperal Fever. To be opened by Dr. T. F. DEWAR (Scottish Board of Health).

Papers:

Dr. RICHARD J. REECE: Port Sanitation in Relation to the Public Health of the Country.

Dr. F. E. FREMANTLE, M.P.: Public Health Economics.

Dr. JOHN BROWNLEE: Statistics.

July 27th.—Papers:

Dr. ROBERT BRUCE: Defects in Children on Attaining School Age.

Dr. MCKAIL: Industrial Fatigue and Vocational Selection on a Basis of Physical Inquiry.

Dr. J. P. KINLOCH: The Constituents of Fresh and Vitiated Air, and their Significance in Problems of Ventilation.

Dr. F. E. WYNNE (Sheffield): The "Wrong Turning" in Public Health.

July 28th.—Papers:

Councillor W. B. SMITH: Smoke Abatement.

Discussion: The Training for the D.P.H. and the New Regulations. To be opened by Dr. E. W. HOPE (Liverpool).

11.30 a.m., Discussion: The Administrative Requirements for the Various Types of Tuberculosis. To be opened by Dr. A. S. M. MACGREGOR (Glasgow).

A Public Health Exhibition, organized by the Corporation of Glasgow, will be held in the Kelvin Hall from July 25th to 28th inclusive.

SURGERY.

President: Professor H. ALEXIS THOMSON, C.M.G., M.D.Edin., F.R.C.S.

Vice-Presidents: JAMES BERRY, F.R.C.S.; Sir KENNEDY DALZIEL, M.B., F.R.F.P.S.; A. ERNEST MAYLARD, M.B., F.R.F.P.S.; G. GREY TURNER, M.S., F.R.C.S.; R. J. WILLAN, M.V.O., O.B.E., M.S., F.R.C.S.

Honorary Secretaries: J. A. C. MACEWEN, M.B., F.R.F.P.S., 3, Woodside Crescent, Charing Cross, Glasgow; JOHN PATRICK, M.B., F.R.C.S.Edin., 9, Newton Place, Glasgow; H. S. SOUTTAR, C.B.E., M.Ch., F.R.C.S., 58, Queen Anne Street, London, W.

The following provisional programme has been arranged:

July 26th (10 a.m.).—Discussion: The Diagnosis and Treatment of Cholelithiasis. To be opened by Professor J. RUTHERFORD MORISON, LL.D., Dr. DE MARTEL (Paris), and Mr. FARQUHAR MACRAE.

July 27th (10 a.m.).—Discussion: Surgical Treatment of Non-traumatic Affections of the Spleen. To be opened by Dr. JAMES CARSLAW, Sir KENNEDY DALZIEL, and Dr. E. H. KETTLE.

Paper: The Surgery of the Pituitary Gland, by Mr. A. J. WALTON.
July 28th (10 a.m.).—Discussion: The Surgical Treatment of Non-malignant Affections of the Colon. To be opened by Sir WILLIAM ARBUTHNOT LANE, Mr. WAUGH, and Sir H. M. W. GRAY.

The following Sections will meet on two days.

DERMATOLOGY.

President: H. LESLIE ROBERTS, M.D., C.M.
Vice-Presidents: A. M. H. GRAY, C.B.E., M.D., F.R.C.P.; G. H. LANCASHIRE, M.D.; J. G. TOMKINSON, M.D.
Honorary Secretaries: WM. HERBERT BROWN, M.D., 20, Park Circus, Glasgow; HALDIN DAVIS, M.B., F.R.C.S., 17, Cavendish Place, London, W.1.

The following provisional programme has been arranged:
July 26th.—Discussion: Etiology of Seborrhoea and Seborrhoeic Dermatitis. Opening paper by Dr. CRANSTON LOW. The discussion will be opened by Dr. HAROLD W. BARBER.
July 27th.—Discussion: Occupational Dermatitis. Opening paper by Dr. WM. JAS. O'DONOVAN.
The following short private papers will be introduced:
Dr. GEORGE HERBERT LANCASHIRE: Dermatitis Artefacta.
Professor J. GOODWIN TOMKINSON: Alopecia Areata and Strabismus, a Family Group of Cases.
Clinical Demonstrations will be arranged on both days; the hour probably 9 a.m.

DISEASES OF CHILDREN.

President: Sir HERBERT F. WATERHOUSE, M.D., F.R.C.S.
Vice-Presidents: LEONARD FINDLAY, M.D., F.R.F.P.S.; ROBERT HUTCHISON, M.D., F.R.C.P.; ALEX. MCLENNAN, M.B., C.M.; R. H. A. WHITELOCKE, M.D., F.R.C.S.
Honorary Secretaries: GEOFFREY BOURNE, M.D., M.R.C.P., 150, Harley Street, London, W.1; G. B. FLEMING, M.B.E., M.D., 13, Lynedoch Crescent, Glasgow.

The following provisional programme has been arranged:
July 26th (Morning Session).—Joint Discussion with the Section of Physiology: Etiology of Rickets. To be opened by Dr. LEONARD FINDLAY and Professor MELLANBY, and followed by Dr. ROBERT HUTCHISON and Professor NOËL PATON.
Afternoon Session.—Clinical Demonstrations at the Royal Hospital for Sick Children (medical and surgical). Mr. ALEX. MCLENNAN will give a demonstration on scoliosis.
July 27th (Morning Session).—Discussion: Treatment of Tuberculous Cervical Glands. To be opened by Mr. JOHN FRASER.
Afternoon Session.—Clinical Demonstrations at the Royal Hospital for Sick Children (medical and surgical). Mr. ALEXANDER MITCHELL will show skiagrams of Regeneration of Bone in Osteomyelitis.

INDUSTRIAL DISEASES AND FORENSIC MEDICINE.

President: Professor JOHN GLAISTER, M.D., F.R.F.P.S., D.P.H., F.R.S.E.
Vice-Presidents: GODFREY CARTER, M.B., M.R.C.P.Edin., D.P.H.; WILLIAM LEDINGHAM RUXTON, M.B.; Sir WILLIAM H. WILLCOX, K.C.I.E., C.B., C.M.G., M.D., F.R.C.P.
Honorary Secretaries: ANDREW ALLISON, M.B., F.R.F.P.S., D.P.H., St. Vincent Park, Paisley Road, W. Ibrox, Glasgow; JAMES R. KERR, C.B.E., Ch.M., The Pilkington Special Hospital, St. Helens, Lancs.

The following provisional programme has been arranged:
July 26th and 27th.—Opening address by Professor GLAISTER.
Papers:
Sir THOMAS OLIVER: Some Circumstances which make for Industrial Efficiency.
Sir W. H. WILLCOX: Dangers to Health arising from Use of Preparations of Arsenic in Various Industries.
Dr. JOHN GLAISTER, jun.: New Apparatus for the Assessment of Efficiency after Injuries.
Dr. R. A. LYSTER: The Importance of Teaching Forensic Medicine to Students of Medicine and Law.

PHYSIOLOGY.

President: Professor J. A. MACWILLIAM, M.D., C.M., F.R.S.
Vice-Presidents: Professor EDWARD MELLANBY, M.D.; Professor D. NOËL PATON, M.D., F.R.C.P., F.R.S.
Honorary Secretaries: GEORGE GRAHAM, M.D., F.R.C.P., 37, Queen Anne Street, London, W.1; W. F. SHANKS, M.B., Ch.B., Physiological Institute, University of Glasgow.

The following provisional programme has been arranged:
July 26th (Morning Session).—Joint meeting with the Section of Diseases of Children: Discussion on Rickets. To be opened by Dr. LEONARD FINDLAY (Glasgow) from the clinical side, and Professor E. MELLANBY (Sheffield) from the physiological side. Paper by Dr. J. SIM WALLACE (London): Dental Hypoplasia and Rickets.
Afternoon Session: Demonstrations in the Physiological Institute.
July 27th (Morning Session).—Discussion on Basal Metabolism. To be opened by Professor E. P. CATHCART (Glasgow).
Afternoon Session: Demonstrations in the Physiological Institute.

RADIOLOGY AND ELECTROLOGY.

President: LEONARD A. ROWDEN, M.B., C.M.
Vice-Presidents: E. P. CUMBERBATCH, M.B., M.R.C.P.; JAMES ROBERTSON RIDDELL, F.R.F.P.S.
Honorary Secretaries: F. HERNAMAN-JOHNSON, M.D., 66, Harley Street, London, W.1; D. O. MACGREGOR, M.B., C.M., Langside Cottage, Langside, Glasgow.

The following provisional programme has been arranged:
July 26th (10 to 11.30 a.m.).—Discussion: The *X*-ray Treatment of Deep-seated Cancers, with special reference to Erlangen Methods. To be opened by Dr. J. R. RIDDELL (Glasgow), followed by Dr. DOUGLAS WEBSTER, Dr. F. HERNAMAN-JOHNSON, and Dr. C. W. SALEEBY, the last from the point of view of a non-practising medical man.
11.30 a.m. to 12 noon.—Dr. J. A. LONGLEY (Middlesbrough): Comparison of Coil and High-Tension Transformer in *X*-ray Therapy.
12 to 1 p.m.—Discussion on the Value of Gas Inflation in *X*-ray Diagnosis. To be opened by Dr. F. HERNAMAN-JOHNSON (London), followed by Dr. J. MAGNUS REDDING (London).
July 27th (10.30 a.m.).—Papers:
Dr. H. E. GAMLEN (Newcastle-upon-Tyne): A Short Account of the Bucky-Potter Diaphragm and the Lead-Glass Shield for the 7 in. Coolidge Tube.
Dr. C. W. S. SABERTON (Harrogate): Points in the Differential Diagnosis of Simple and Malignant Bone Disease.
Dr. JAMES CROCKET (Glasgow): The Differentiation of Active from Quiescent Tuberculosis of the Lung.
Dr. E. W. REED (Manchester): *X* Rays in Diseases of the Skin.
Dr. J. GIBSON GRAHAM (Glasgow): *X*-Ray Treatment of Tinea.
11.30 a.m. to 1 p.m.—Discussion on the Therapeutic Value of High-Frequency Currents and Static Electricity. To be opened by Dr. E. P. CUMBERBATCH (London), Dr. F. HOWARD HUMPHRIS (London), and Dr. W. F. SOMERVILLE (Glasgow).

The following Sections will meet each on one day.

ANAESTHETICS.

President: W. J. MCCARDIE, M.B., B.Ch.
Vice-Presidents: JAMES PATON BOYD, M.B., F.R.F.P.S.; L. MABEL RENWICK CAMPBELL, M.B., Ch.B.
Honorary Secretaries: H. PRESCOT FAIRLIE, M.D., 19, Bute Gardens, Glasgow; HUBERT PINTO-LEITE, M.R.C.S., L.R.C.P., 24, Fellows Road, South Hampstead, London, N.W.3.

The following provisional programme has been arranged:
July 26th (10 a.m.).—Discussion on Broncho-pulmonary Complications following Operation under Anaesthesia. To be opened by Dr. DAVID LAMB. Offers from those desiring to take part in the discussion should be sent to one of the Secretaries.
Paper and demonstration by Dr. A. L. FLEMMING: Different Effects produced by Exposing Tissues to various Concentrations of Anaesthetic Vapour.
Demonstrations of Anaesthetic Apparatus.

ANATOMY.

President: Professor ALEXANDER MACPHAIL, M.B., C.M., F.R.F.P.S.
Vice-Presidents: Professor J. C. BRASH, M.C., M.B., Ch.B.; Professor J. T. WILSON, M.B., F.R.S.
Honorary Secretaries: JAMES BATTERSBY, F.R.C.S., F.R.F.P.S., 616, Great Eastern Road, Glasgow; JOHN GRAHAM, M.B., F.R.F.P.S., 351, Renfrew Street, Glasgow.

The following provisional programme has been arranged:
July 28th.—Papers:
Professor J. C. BRASH (Birmingham): The Relation of the Ureters to the Vagina.
Dr. ALFRED PINEY (Birmingham): The Naked-Eye Anatomy of the Bone Marrow with Age Changes.
Dr. J. M. WOODBURN MORISON (Manchester): The Teaching of Anatomy by Radiology, in the Anatomy Department.
Dr. W. B. PRIMROSE (Glasgow): The Problem of the Structure of the Vertebrate Head.
Dr. W. K. CONNELL (Glasgow): Observations on the Form of the Palate in Children.
Dr. JOHN T. HUNTER (Sydney): Intestinal Diverticulum with Retroposition of the Transverse Colon.
Discussion: The Administration of the Anatomy Act. To be opened by Dr. ALEX. MACPHAIL.
Demonstration of a series of embryological models by Professor THOMAS H. BRYCE, F.R.S.

LARYNGOLOGY.

President: JOHN MACINTYRE, M.B., C.M., F.R.F.P.S.
Vice-Presidents: A. BROWN KELLY, M.D., F.R.F.P.S.; Sir STCLAIR THOMSON, M.D., F.R.C.P., F.R.C.S.
Honorary Secretaries: F. F. MUECKE, C.B.E., M.B., F.R.C.S., 36, Cavendish Square, London, W.; W. S. SYME, M.D., F.R.F.P.S., 11, Lynedoch Crescent, Glasgow.

The following provisional programme has been arranged:
July 27th.—Discussion: Diseases of the Oesophagus, their symptomatology and differential diagnosis. To be opened by Dr. D. R. PATERSON (Cardiff) and Mr. W. G. HOWARTH, F.R.C.S. (London).
Papers:
Mr. A. J. WRIGHT (Bristol): Congenital Occlusion of the Posterior Choanae.
Dr. HENRY HALL FORBES (New York): The Bronchoscopic Treatment of Abscess of the Lung.

MEDICAL SOCIOLOGY.

President: E. ROWLAND FOTHERGILL, M.B., B.S.
Vice-Presidents: CHARLES E. S. FLEMMING, M.R.C.S., L.R.C.P.; JAMES HUDSON, M.D., C.M.; PETER MACDONALD, M.D.
Honorary Secretaries: ALEX. FORBES, M.B., C.M., Hillsboro' Lodge, Sheffield; DAVID MCKAIL, M.D., F.R.F.P.S., D.P.H., 2, Morris Place, Monteith Row, Glasgow.

The following provisional programme has been arranged:

July 28th.—Section will meet in the Debating Hall of the University Union. Subject for discussion: Alcohol as a Beverage, and its relation to Certain Social Problems.

10 a.m.—Action of Alcohol on the Human Economy, by Professor E. MELLANBY; to be followed by Professor A. R. CUSHNY, and the Rev. C. C. WEEKS, M.R.C.S.

Alcohol in Relation to the Problems of Mental Disorders, to be opened by Sir FREDERICK W. MOTT, K.B.E., and Dr. THOMAS W. SALMON (U.S.A.), followed by Dr. C. HUBERT BOND and Dr. AUGUST LEY (Brussels).

2.15 p.m.—Alcohol and Industrial Efficiency, to be opened by Professor EDGAR L. COLLIS and Dr. M. HINDHEDE (Copenhagen), followed by Sir THOMAS OLIVER and Dr. W. E. ELLIOT, M.P.

Alcohol and Infant Mortality, to be opened by Dr. J. W. BALLANTYNE and Professor C. R. STOCKARD (Cornell University, U.S.A.), followed by Dr. C. W. SALEEBY, Dr. T. N. KELYNACK, Miss IVENS, M.S., Professor LOUISE MCILROY, D.Sc., M.D., and Mrs. STACEY CLEMINSON, M.B.

Lay persons specially interested may be present only by invitation, a request for which should be made to one of the Honorary Secretaries.

OTOLOGY.

President: ALBERT ALEX. GRAY, M.D., F.R.F.P.S.

Vice-Presidents: J. G. CONNAL, M.B., F.R.F.P.S.; W. F. WILSON, M.B.

Honorary Secretaries: F. J. CLEMINSON, M.Ch., F.R.C.S., 32, Harley Street, London, W.1; J. W. LEITCH, M.B., 6, Clairmont Gardens, Charing Cross, Glasgow.

The following provisional programme has been arranged:

July 26th.—Discussion: Septic Sinus Thrombosis, its Diagnosis and Treatment. To be opened by Sir WILLIAM MILLIGAN and Mr. LIONEL COLLEDGE. The following members will take part in the discussion: Mr. G. J. JENKINS, Mr. T. B. LAYTON, Mr. ARCHER RYLAND, and Dr. T. RITCHIE RODGER.

Papers:

Professor HOLGER MYGIND: Benign Forms of Otogenic Meningitis.

Dr. J. S. FRASER and Dr. STEPHEN YOUNG: Is it worth while to Remove Aural Polypi?

TUBERCULOSIS.

President: Professor Sir ROBERT PHILIP, M.D., LL.D., P.R.C.P.E.

Vice-Presidents: JAMES CROCKET, M.D., D.P.H.; Professor S. LYLE CUMMINS, C.B., C.M.G., M.D.; WM. HY. DICKINSON, O.B.E., M.B., D.P.H.

Honorary Secretaries: A. HOPE GOSSE, M.D., M.R.C.P., 75, Harley Street, London, W.; A. S. M. MACGREGOR, O.B.E., M.D., D.P.H., 488, Clarkston Road, Muirend, Cathcart, Glasgow.

The following provisional programme has been arranged:

July 27th (10 a.m.).—Discussions: (1) The Clinical Differentiation of Pulmonary Tuberculosis from other Respiratory Affections. To be opened by Professor RIST (Paris). (2) Some Aspects of the Treatment of Surgical Tuberculosis. To be opened by Mr. JAMES TAYLOR, O.B.E., F.R.C.S.E. (Glasgow).

In the afternoon Dr. ROLLIER (Leysin) will give a cinematograph demonstration in the Kelvin Hall at 2.15 p.m. illustrating "The Share of the Sun in the Treatment and Prevention of Tuberculosis."

On Friday, July 28th, at 11.30 a.m., there will be a joint meeting with the Section of Public Health, when Dr. A. S. M. MACGREGOR will open a discussion on the administrative requirements of the various types of tuberculosis.

There will be a demonstration in the Kelvin Hall of radiographs illustrative of chest conditions by Dr. HENDERSON (Glasgow), open for inspection during the currency of the annual meeting.

Honorary Local General Secretary:

Dr. GEO. A. ALLAN, 22, Sandyford Place, Glasgow, W.

PROVISIONAL PROGRAMME AND TIME-TABLE.

THE Headquarters of the Annual Meeting of the Association will be in the University of Glasgow.

MEETINGS OF COUNCIL, REPRESENTATIVE BODY, ETC.

Friday, July 21st.
10 a.m.—Meeting of Representative Body, Bute Hall, University.
4.45 p.m.—Extraordinary General Meeting, Bute Hall.
7.15 p.m.—Representatives' Dinner, Grand Hotel, Charing Cross.

Saturday, July 22nd.
9.30 a.m.—Representative Meeting, Bute Hall.
8 p.m.—Smoking Concert, Grand Hotel.

Sunday, July 23rd.
11 a.m.—Services in Glasgow Cathedral and St. Mary's Cathedral. Sail to the Firth of Clyde on ss. *Skirmisher*, by invitation of Messrs. Henderson Bros.

Monday, July 24th.
9 a.m.—Council Meeting, Randolph Hall, University.
10 a.m.—Representative Meeting, Bute Hall.
9 p.m.—Music Hall Entertainment, Alhambra, by invitation of Local Committee.

Tuesday, July 25th.
9.30 a.m.—Representative Meeting, Bute Hall.
2 p.m.—Annual General Meeting, Bute Hall (short session).
5 p.m.—*Official Religious Service, Glasgow Cathedral.
8 p.m.—*Adjourned General Meeting and President's Address.

Wednesday, July 26th.
9 a.m.—Council Meeting, Randolph Hall.
2 p.m.—Secretaries' Conference, Debating Hall, University Union.
6.30 p.m.—Secretaries' Dinner, University Union.

ENTERTAINMENTS FOR LADIES ACCOMPANYING REPRESENTATIVES.

July 21st.
8 p.m.—Reception and Social Evening in the Ladies' Club (Burlington House, 183, Bath Street) to meet the members of the Ladies' Committee.

July 22nd.
Afternoon—Visit to the Cathedral and Provand's Lordship (St. Nicholas' Hospital, date 1471).
Evening—Picture House Entertainment.

July 23rd.
Church Services at the Cathedrals.
Sail on ss. *Skirmisher*.

July 24th.
Afternoon—Motor run, probably to Loch Lomond, by invitation of the Ladies' Committee.
Evening—Either a Musical Evening at Burlington House or join the Representatives at the Alhambra.

July 25th.
No special arrangements; see general programme.

SECTION MEETINGS AND EXHIBITIONS.

(*For Sections see detailed list.*)

The *Pathological Museum* will be open from July 25th to 28th inclusive, and will be housed in the Anatomical and Natural History Departments, in the same quadrangle as most of the Sections (see descriptive note at p. 253).

A *Public Health Exhibition*, organized by the Corporation, will be held in the Kelvin Hall, immediately opposite the south-west gate of the University, and will be open from July 25th to 28th inclusive. It will be designed to demonstrate the bearing of the various municipal activities on the health of the public.

The *Annual Exhibition* of surgical instruments, electrical appliances, drugs, foods, and books will be on view in the Kelvin Hall on the same days.

The *Kelvin Hall* will be the only official place for daily lunches during the time of the general meetings, and the Exhibitors' Club will also be available for the use of members.

GENERAL MEETINGS, SOCIAL AND OTHER FUNCTIONS, AND ENTERTAINMENTS.

Tuesday, July 25th.
10 a.m.—Official Opening of Exhibition.
2 p.m.—Annual General Meeting, Bute Hall (short session).
5 p.m.—*Official Religious Service, Glasgow Cathedral.
8 p.m.—*Adjourned General Meeting and President's Address in Bute Hall.

Wednesday, July 26th.
8 a.m.—Holy Communion at St. Mary's Cathedral (Church of England), Great Western Road.
2 p.m.—Party of 300 will leave by charabancs for Bridge of Weir, to visit Quarrier's Homes and the Consumption Sanatoria of Scotland, and will be entertained at Duchal by Sir Joseph and Lady Maclay.
2.15 p.m.—Party will leave by motors to visit Glasgow Waterworks at Mugdock, and will be entertained at Craigend Castle by Mr. and Mrs. Harold E. Yarrow.
2.15 p.m.—Charabancs will leave for short trips to places of interest in or near the city.
Visits have also been arranged to the Glasgow Art Galleries and Museum, Kelvingrove Park, the Glasgow Observatory, and to two of the Sugar Refineries at Greenock, where the party will be entertained to tea at the Greenock Royal Infirmary.
3.30 p.m.—Royal Infirmary, Royal Hospital for Sick Children, and the Royal Maternity Hospital will entertain parties to tea, and they will have an opportunity of seeing round the hospitals.
8.30 p.m.—*Reception by the Vice-Chancellor and Court of the University in the Bute Hall and Hunterian Museum.

Thursday, July 27th.
8 a.m.—Temperance breakfast, University Union, by invitation of the National Temperance League.
9 a.m.—*Celebration of Mass at St. Andrew's Cathedral, Great Clyde Street.

Thursday, July 27th (continued):

2 p.m.—Golf Competition for the Ulster Cup, and Gold Medal to be presented to the winner by the Glasgow Medical Golf Club, at Killermont (Glasgow Golf Club); party of 200 will be entertained to tea by Professor Munro Kerr (Captain of the Club) and Mrs. Munro Kerr.

2 p.m.—Charabancs will leave for short trips to places of interest in the city.

3.30 p.m.—*Civic Reception in the City Chambers, by invitation of the Lord Provost, Magistrates, and Councillors of the City of Glasgow.

7 p.m.—Annual Dinner of the Association, in St. Andrew's Halls (Grand Hall), Charing Cross.

10 p.m.—Dance in St. Andrew's Halls, Ball Room Suite, by invitation of Local Committee.

Friday, July 28th.

2 p.m.—Train leaves Partick Central Station for Erskine House (Princess Louise Scottish Hospital for Limbless Sailors and Soldiers), where a party of 500 will be entertained.

2 p.m.—Motors leave for a trip to the birthplace of William and John Hunter, and will be entertained to tea by Dr. Livingstone Loudon at Hamilton (party limited to 40).

2.15 p.m.—Charabancs leave for short trips to places of interest in or near the city.

Visits have also been arranged to the Art Galleries and Museum, and to the Broadstone Jubilee Hospital, Port Glasgow.

3.30 p.m.—Western Infirmary, Victoria Infirmary, and Royal Samaritan Hospital will entertain parties to tea and they will have an opportunity of seeing round the hospitals.

7.30 p.m.—Popular Lecture by Professor Graham Kerr, F.R.S. Subject: "The Physician—Naturalist, Teacher, Benefactor."

8.30 p.m.—*Reception by the President and Fellows of the Royal Faculty of Physicians and Surgeons of Glasgow (500 guests).

9 p.m.—Music Hall Entertainment, Alhambra, by invitation of the Local Committee (450 guests).

* It is requested that Academic Dress be worn at the functions marked with an asterisk.

Saturday, July 29th.

DAY EXCURSIONS.

Three day excursions have been arranged:

Firth of Clyde.—The turbine steamer, *Duchess of Argyll*, specially chartered, will leave the Broomielaw for a cruise on the Firth of Clyde and through the Kyles of Bute, returning to Gourock for special train about 5.30 p.m. Tickets, inclusive of lunch and tea, 12s. 6d. This is the principal excursion.

Land o' Burns.—An excursion, limited in numbers, has been arranged to Ayr and the "Land o' Burns." Train to Ayr, thence charabancs to Mauchline (Burns Museum), Alloway (Burns Cottage), Crossraguel Abbey, etc. Tickets, inclusive of lunch at Alloway Hotel (Banks of Doon) and tea, about 20s.

Stirling and Bannockburn.—An excursion, limited in numbers, has been arranged to Stirling, Bannockburn, Bridge of Allan, and Dunblane, thus including places of historical, balneological, and ecclesiastical interest. Tickets, including lunch and tea, 12s. 6d.

ACADEMIC DRESS.

Academic Dress for the Scottish Universities may be hired from Messrs. Thomson, Son, and Laidlaw, 159, St. Vincent Street, Glasgow, Official Robe Makers to the University of Glasgow, who will attend for that purpose in the University Union during the meeting. Those desiring Robes, etc., for English degrees should communicate with Messrs. Ede and Ravenscroft, 93 and 94, Chancery Lane, London, W.C.2, Official Robe Makers for the Association, or with the robe makers of their own university before coming to the meeting.

PATHOLOGICAL MUSEUM.

The Subcommittee responsible for the organization of the Pathological Museum wishes to draw the attention of members to this branch of the Annual Meeting. It is particularly desired that specimens should be shown which illustrate subjects to be discussed. The Museum will be situated in the Anatomical Department of the University, and will therefore be convenient to the various Sections. Provision will be made for the display of museum preparations of all kinds, photographs or drawings, microscopic specimens, lantern slides, radiographic negatives, and instruments. An endeavour is being made to get together a collection of specimens illustrating disease of animals and plants of economic importance, and the development of malignant disease in relation to specific forms of irritation.

Whilst the exhibits are primarily intended to illustrate the work of the various Sections, the Committee wishes it to be understood that individual specimens of special interest or a series demonstrating some special subject, specimens and illustrations relating to any recent research, and instruments relating to clinical diagnosis and pathological investigations, will be welcomed. Every care will be taken of specimens, and the contents of the Museum will be insured.

In order that arrangements may be made and the necessary forms for the description of specimens supplied, intending exhibitors are requested to communicate at once with the Honorary Secretary of the Pathological Museum Subcommittee, Dr. G. Haswell Wilson, Glasgow University.

A special feature of the Museum will be the anatomical and pathological preparations of William Hunter. The anatomical collection, which is of great intrinsic and historical interest, has recently been displayed in the gallery of the museum of the Anatomical Department along with the preparations of the late Professor Allen Thomson and Emeritus Professor Cleland. The pathological specimens of William Hunter and Professor Cleland are exhibited in other sections of the Department.

PUBLIC HEALTH EXHIBITION BY THE CORPORATION OF GLASGOW.

In view of the Annual Meeting of the British Medical Association to be held in Glasgow in July, and of the prominent place which the city has acquired in the advancement of public health, the Corporation has cordially responded to the desire for an exhibition portraying its diversified activities in safeguarding the health of the community. Towards the fulfilment of this object twenty-one departments of municipal work are co-operating with the Health Department. The exhibits will illustrate as far as possible the varied work of the public health administration of the city, and the closely related departments of work represented in bacteriology, chemistry, and the inspection of meat and milk. The other departments will similarly indicate and exemplify their important functions in contributing to the maintenance and promotion of the well-being of the citizens, and will have reference to the water, gas, and electricity supplies; to street construction, street lighting, and the tramway service; to housing and city improvements; to public baths and washhouses, cleansing, and the disposal of sewage; to public parks and open spaces, museums, and libraries; and to markets, the standardization of weights and measures, and the prevention of fire.

The Exhibition will be accommodated in the Kelvin Hall, in which a space of 20,000 square feet has been set apart by the Corporation and will be open from July 25th to 28th. The City Bacteriologist is in charge of the arrangements for the collection of the exhibits to be supplied by the various departments.

ACCOMMODATION AT THE ANNUAL MEETING.

THE Hotels and Lodgings Committee wishes to impress on members the advisability of making their arrangements as early as possible. Most of the hotels are unwilling to reserve rooms, and accommodation in them can only be secured by early and definite booking.

A list of hotels and hydros in Glasgow and vicinity is appended. Information regarding train service for those out of town was given in the SUPPLEMENT of April 29th (p. 122).

A number of beds will be available in students' hostels, which are being specially reopened for the time of the meetings, and for these the Committee has had to guarantee a minimum number of residents. The charge for bed and breakfast is 8s. 6d. per person.

A list of private lodgings, which have been personally inspected, will be published in an early issue of the SUPPLEMENT.

The Secretary of the Committee is Dr. James Hendry, M.B.E., 4, Clifton Place, Glasgow, W., to whom all applications or inquiries should be sent.

HOTEL AND HYDRO ACCOMMODATION IN GLASGOW AND VICINITY.

GLASGOW.

	Bedroom and Breakfast.
Central Station Hotel (Caledonian Railway) ...	12/- to 15/6
North British Station Hotel	12/6 to 14/-
St. Enoch Station (G. and S.W. Railway) ...	From 11/-
Grand Hotel, Charing Cross	10/- to 10/6
Green's Private Hotel, Woodlands Terrace ...	From 12/6
Claremont Private Hotel, Claremont Terrace ...	From 12/6
More's Private Hotel, India Street	From 9/6
Bath Hotel, 152, Bath Street	From 8/6
Waverley (Cranston's) Temperance Hotel, 172, Sauchiehall Street	From 8/-

CLYDE COAST RESORTS.

Helensburgh:
Queen's Hotel: Bedroom and breakfast, 11/- per person.
Imperial Hotel: Bedroom and breakfast, 8/6 per person.

Shandon:
Shandon Hydro Hotel: Offers special terms for bedroom and breakfast at 12/6 per person. Will arrange for their motor to meet at Helensburgh the train which leaves Glasgow at 10.40 p.m.

Greenock:
Tontine Hotel: Bedroom and breakfast, 10/- to 11/6 per person.

Gourock:
Ashton Hotel: Bedroom and breakfast, 9/6 to 10/6 per person.

Wemyss Bay:
Wemyss Bay Hydropathic, Skelmorlie: Requires very early notice, and gives inclusive terms only at 16/- and upwards per day per person.

Dunoon:

Argyll Hotel	8/6 per person.
Crown Hotel	8/6 ,, ,,
McColls's Hotel	8/6 ,, ,,
Wellington Hotel	7/6 ,, ,,
Royal Hotel	7/6 ,, ,,
Queen's Hotel, Kirn	10/6 ,, ,,

Innellan:
Royal Hotel, Innellan: Bedroom and breakfast, 10/- per person.

Rothesay:
Glenburn Hotel Hydro: Offers special terms for dinner, bedroom, and breakfast at 15/- per person.
Kyles of Bute Hydropathic, Port Bannatyne, Rothesay: Offers inclusive terms only at 18/- per person per day.

AYRSHIRE COAST RESORTS.

Ayr:
Ayr Station Hotel: Bedroom and breakfast, 11/- and upwards per person.

Prestwick:
Royal Hotel, Prestwick: Bedroom and breakfast, 8/6 per person.

Troon:
Marne Hotel: Beautiful situation on the edge of the links. Bedroom and breakfast from 11/- to 12/- per person.
Craiglea Hotel: Bedroom and breakfast, 10/- per person.

INLAND HOTELS.

Peeblesshire:
Peebles Hydro, about one and a half hours from Glasgow: Inclusive terms, 15s. per person.

Renfrewshire:
Kilmalcolm Hydropathic: The Hydro offers only inclusive terms at 15/- to 21/- per person.

Loch Lomond Side:
Tarbet Hotel, Loch Lomond: Bedroom and breakfast, 10/- per person.

Trossachs District.

Bridge of Allan:
Allan Water Hotel: Bedroom and breakfast, 9/- and upwards per person.
Queen's Hotel: Bedroom and breakfast, 11/- per person.

Dunblane:
Dunblane Hotel Hydro: Bedroom and breakfast, 12/- per person.

Crieff:
Drummond Arms Hotel: Bedroom and breakfast, 10/- per person.

SPORTS.

GOLF.

COMPETITION for the Ulster Cup and the Glasgow Medical Golf Club's Medal on Thursday, July 27th, at 2 p.m., at Killermont, by permission of the Glasgow Golf Club. Entries will be received by Dr. J. Glaister McCutcheon, 14, Belmont Street, Glasgow, W., or at the Reception Room, up to Wednesday, July 26th.

Facilities for golf during the week have been granted by the following clubs: Glasgow Golf Club, Killermont (gentlemen only); Erskine Golf Club; Pollok Golf Club; Bishopbriggs Golf Club. Arrangements have also been made for play at Gailes (Western Golf Club), and at Prestwick Championship Course. (This last privilege is granted contingent on the course not being closed after the amateur championship.)

BOWLING.

Several of the best bowling greens in Glasgow will be open to members of the Association for individual play during the meeting in Glasgow. It is proposed that an international match, North *v.* South, should be played on the Willowbank bowling green on Thursday, July 27th. Those who wish to take part in the game are requested to write as soon as possible to Dr. W. Snodgrass, 11, Victoria Crescent, Glasgow, W., stating their experience in match play and their usual position in rinks as leads, seconds, thirds, or skips. Lunch will be provided by Colquhoun, 225, Byres Road, at 1.15 p.m., and it is hoped to have the game finished in time to allow players to attend the civic reception in the Municipal Buildings in the afternoon. Application should be made soon, so that it may be known how many will play and final arrangements be made. Players will be provided with bowls at the club-house or may bring their own bowls if they so prefer.

Facilities for bowling have been granted on the following greens: Willowbank, Partick, Burnbank, Queen's Park, Bellahouston, and Titwood.

LAWN TENNIS.

Facilities for lawn tennis have been granted on the following courts: Partick, Pollokshields, and Titwood.

CLUBS, ETC.

Honorary membership of the University Union will be granted to all members registering at the Annual Meeting. Lunches will be provided during the Meeting of Representatives, but later the official place for daily lunches will be at Kelvin Hall.

Daily privileges (not residence) have also been granted by the Royal Scottish Automobile Club, the Liberal Club, the Conservative Club, the Royal Faculty of Physicians and Surgeons, and the Arlington Baths Club.

Cards will be provided at the Reception Room.

ARRANGEMENTS FOR LADIES DURING GENERAL MEETINGS.

LADIES' CLUBS.

Burlington House, 183, Bath Street, adjoining Sauchiehall Street, has been reserved for the use of ladies during the whole period of the meetings. Meals will be provided as required. It may be used as an address for letters, and it will be convenient for those living out of town as a place for changing for evening entertainments.

Queen Margaret College Union, Ann Street, off University Avenue and adjoining the University, has been specially reserved for the use of medical women attending the meetings; tea will be provided as required.

Short charabanc trips to places of interest in Glasgow will be specially reserved for ladies on the forenoons of Wednesday, Thursday, and Friday, July 26th, 27th, and 28th.

For information regarding afternoon and evening arrangements ladies are referred to the General Programme.

In addition, the Gaumont Film Company has arranged to provide a display of special films in one of the Picture Houses on the forenoon of Thursday, July 27th.

SPORTS.

There will be a Ladies' Golf Competition over the course of Hillfoot Golf Club on the forenoon of Wednesday, July 26th, and the course will be open to ladies during the remainder of the week. The courses mentioned on the General Programme are also open to ladies, with the exception of that at Killermont. Facilities have also been arranged for Tennis and Bowling (see General Programme).

Correspondence.

Insurance Medical Remuneration.

SIR,—We have again reached the time of year when the big friendly societies hold their annual conferences. The Manchester Unity of Oddfellows is this year combining business and pleasure at Guernsey. When one reads the address of the Grand Master one sees a great deal to agree with, but there is also something not quite *friendly* to the doctors. This year we read the following: "The time would come when authorities would have seriously to consider the curtailment of the amount allowed for medical benefit."

In this society alone the first valuation since National Insurance work started reveals a gross surplus of £1,266,073. Now I claim that some of the credit of this large surplus must be given to the panel doctors. Surely the panel medical service cannot be so bad as it is often made out to be when a handsome surplus like this is left. In calling for a reduction of the capitation fee does the Grand Master realize that we are only getting 9s. 6d. a head compared with 7s. pre-war—an increase of only 36 per cent.? Is any other class of earners receiving now such a small percentage of increase over pre-war rates?

The present cost of living works out at about 80 per cent. above 1914. Let me put the panel doctor's case. All through the war he received no increase, he did not agitate for it on patriotic grounds as he was not wishful to add to the difficulties of the Government (what a long-suffering creature he is!). Other classes were not so patriotic. It was more than a year after the armistice

that he got an increase of 57 per cent., which in two years more (January, 1922) was brought down to 36 per cent. over pre-war rates, and at which it is to stand until December, 1923. One of the delegates at Guernsey stated that he paid 1s. 2d. a week to Lloyd George for national sickness and unemployment insurance, and another 4d. to the doctor. The doctor would be very pleased with this 4d. a week, which would amount to 17s. 4d. per annum, whereas at present the doctor and chemist combined only receive 11s. 6d. Suppose half of this 1s. 2d. goes for sickness benefit and this is added to the 4d. for the doctor, the sum that he says he pays for national insurance totals 11d. I was always under the impression that at the beginning a 7d. stamp a week was the contribution, 4d. of which was paid by the workman, and lately the workman pays 5d. Fivepence a week, then, is the total which a workman has to pay towards national insurance, and this payment gives him sickness benefit, medical attendance, and medicine.

I maintain that the great majority of panel doctors are *personae gratae* to their panel patients, and that it is principally the officials who are antagonistic. Are the working classes pleased when a reduction of wages is put before them? Do they not kick against it and strike? Then let them do as they would be done by and remember that the doctors are quite as opposed as they are to any reduction of the money paid them.

Look at the amounts paid in salaries for education. Women education staff inspectors receiving £900 per annum, as against pre-war £400, and the chief women inspector £925 with a bonus of £300, as against a pre-war salary of £650. In the opinion of the Select Committee on Estimates these salaries could be reduced without injuring the work.

We doctors must stir ourselves or else at the end of 1923 we shall be in the same state of unpreparedness as that in which we were caught before, and our present inadequate remuneration will be still further reduced. We must be up and doing and let the Government and the friendly societies see that we will not be ground down. We must lose no opportunity of stating our case: it will lose nothing in the telling. We must discuss the matter at club festivals and such-like meetings, and show our panel patients that we are not paid sufficiently to give them the attention they require. The British working man is a reasonable fellow and only wants the matter put before him in a reasonable way.—I am, etc.,

Steeple Claydon S.O., Bucks, June 19th. P. L. BENSON.

Mr. Kynaston and the Central Ethical Committee.

SIR,—With reference to a note in your issue of the 10th inst. it is true that the Ethical Committee objected to the slip and photograph, and that I gave an assurance that these would be omitted in the future. Since then there has been no fresh publication.

I trust, therefore, that you will withdraw the imputation that I have broken my word, and that I have made incorrect statements. I am meticulously accurate in such matters.

I am, yr. obdt. servant,

JOHN KYNASTON, Lt.-Colonel,
Retd. Pay, R.A.M.C.

London, W.1, June 16th.

*** In fairness to Mr. Kynaston we publish the above letter, but in justice to the Central Ethical Committee we should point out that the printed slip to which exception was taken could, in our opinion, have been removed from any prints of the edition still in stock without in any way mutilating the book. This circumstance, and also the fact that these printed slips were still inserted in copies of the book purchased nine months after Mr. Kynaston gave his assurance to the Committee, was regarded as warranting the opinion that he had not taken adequate steps to fulfil his promise to omit these in future from his publication.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following appointment is announced by the Admiralty:—Surgeon Commander J. C. G. Reed to the *President*, additional for R.N. College and Hospital School, Greenwich, temporary.

ROYAL ARMY MEDICAL CORPS.

The following Lieutenant-Colonels retire on retired pay: J. Cowan on account of ill health, May 17th (substituted for notification in the *London Gazette* of May 16th), T. C. Lauder.

Major and Brevet Lieut.-Colonel W. F. Tyndale, C.M.G., D.S.O., to be Temporary Lieutenant-Colonel whilst employed as Assistant Director of Hygiene.

Captain J. L. Ritchie retires, receiving a gratuity, August 9th, 1921, and is granted the rank of Major (substituted for notification in the *London Gazette* of August 8th, 1921).

Captain E. Davies is placed on the half-pay list on account of ill health.

Temporary Captain J. O. Cuthbertson relinquishes his commission and retains the rank of Captain.

Temporary Captain S. McNair resigns his commission but retains his rank.

Lieutenant (Temporary Captain) M. J. Whelton to be Captain.

REGULAR ARMY RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Major and Brevet Lieut.-Colonel F. G. Faichnie, having attained the age limit of liability to recall, ceases to belong to the Reserve of Officers.

ROYAL AIR FORCE MEDICAL SERVICE.

J. Prendergast is granted a short service commission as Flying Officer (Honorary Flight Lieutenant), with effect from and seniority of May 15th.

E. Huntley is granted a temporary commission as Squadron Leader, with effect from and seniority of May 22nd.

Captain W. E. Hodgins, R.A.M.C., is granted a temporary commission as Flight Lieutenant, with effect from and with seniority of May 24th, on seconding for three years' duty with R.A.F.

MILITIA.

ROYAL ARMY MEDICAL CORPS.

Captain J. R. R. Trist, M.C., to be Major.

Captain W. G. Burns resigns his commission and retains his rank.

TERRITORIAL ARMY.

ROYAL ARMY MEDICAL CORPS.

Colonel R. Pickard, C.B., C.M.G., T.D., vacates the appointment of A.D.M.S., 43rd (Wessex) Division, T.A., resigns his commission and retains his rank with permission to wear the prescribed uniform.

Lieut.-Colonel H. J. Walker, from 2nd Eastern General Hospital, to be Lieutenant-Colonel, with precedence as from June 1st, 1921.

The following officers having attained the age limit are retired and retain their rank except where otherwise stated: Lieut.-Colonel R. R. Sleman, V.D., T.D., and is granted the rank of Colonel with permission to wear the prescribed uniform; Lieut.-Colonels W. L. Bentley, T.D., S. Nesfield, T.D., A. K. Chalmers, T.D., J. J. O'Hogan, T.D., T. Holt, T.D., T. Stevenson, T.D., J. R. Whait, D.S.O., C. O. Parsons, T.D., with permission to wear the prescribed uniform; Majors A. Elliot, T.D., and J. Wood, D.S.O., T.D., and are granted the rank of Lieutenant-Colonel with permission to wear the prescribed uniform; Major E. B. Waggett, D.S.O., T.D., with permission to wear the prescribed uniform; Captains E. L. Forward and L. Rawes, and are granted the rank of Major; Major J. Bruce, and is granted the rank of Lieutenant-Colonel; Major W. Patterson, V.D., with permission to wear the prescribed uniform; Captains W. H. E. Brand, H. J. Brownrigg, R. T. Bruce, R. A. Freeman, E. K. Goodwin, F. S. Jackson, A. Maude, H. T. N. Merrick, J. A. Stephen, J. Tait (and is granted the rank of Lieutenant-Colonel), H. England, F. Jeeves, W. W. Maxwell, T. Aspinall, W. Clegg-Newton, L. S. Gaskell, T. S. Worboys.

The following officers relinquish their commissions and retain their rank except where otherwise stated: Major H. J. Gorrie, O.B.E., Captain J. M. A. Costello, M.C., and is granted the rank of Lieutenant-Colonel.

To be Majors: Captains (Brevet Major) D. W. Boswell (Jan. 2nd, 1921), W. J. Harrison, C. D. S. Agassiz, M.C.

Major A. D. Kennedy resigns his commission and retains the rank of Major.

Captain W. D. Frew, M.C., resigns his commission and is granted the rank of Major.

Lieutenant F. T. Rees, M.C., to be Captain.

Captain J. S. Cooper, from T.F.Res., to be Captain, with precedence as from March 16th, 1917.

The announcement regarding Captain N. H. H. Haskins, M.C., which appeared in the *London Gazette* of May 2nd, is cancelled.

General Hospitals.—To be Majors: Captain W. H. P. Hey, Major D. Dougal, M.C. (late R.A.M.C.S.R.).

Supernumerary for Service with O.T.C.—Lieutenant (temporary Captain) A. W. W. Baker resigns his commission and is granted the rank of Captain.

Sanitary Companies.—Surgeon-Major (Brevet Lieut.-Colonel) R. E. Lauder (late Hampshire Regiment) to be Major (Brevet Lieutenant-Colonel), with precedence as from August 6th, 1916, and to command 7th (S) Sanitary Company.

TERRITORIAL ARMY RESERVE.

ROYAL ARMY MEDICAL CORPS.

Captain N. H. H. Haskins, M.C., from General List, to be Major.

Sanitary Companies.—Captain H. H. Fowler, from 1st London (C. of L.) Sanitary Company, to be Captain.

VACANCIES.

BIRMINGHAM: GENERAL HOSPITAL.—(1) House-Physician; (2) House-Surgeon; (3) House-Surgeon to Special Departments (Skin and Venereal). Salary for (1) and (2), £100 per annum, and for (3) £125 per annum. Salaries to be reduced by £30 on October 1st.

BLACKBURN AND EAST LANCASHIRE ROYAL INFIRMARY.—Second House-Surgeon (male). Salary, £250 per annum.

BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.11.—House-Surgeon. Salary at the rate of £120 per annum.

BRADFORD: ROYAL EYE AND EAR HOSPITAL.—(1) Honorary Ophthalmic Surgeon; (2) Honorary Assistant Ophthalmic Surgeon; (3) Honorary Aural Surgeon.

BRISTOL GENERAL HOSPITAL.—Honorary Dental Surgeon.

CAMBERWELL INFIRMARY.—Assistant Medical Superintendent. Remuneration, £500 per annum, rising to £650.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—House-Surgeon (male). Salary at the rate of £130 per annum.

CANADA: QUEEN'S UNIVERSITY, Kingston.—Chair of Preventive Medicine. Salary, 3,500 dols., rising to 4,000 dols.

CANCER HOSPITAL, Fulham Road, S.W.—Assistant to the Electrical and Radio-Therapeutic Department.

COUNTESS OF DUFFERIN FUND.—Professor in Pathology in the Lady Hardinge Memorial College and Pathologist to the Hospital. Salary, Rs. 750 per mensem.

DEVON MENTAL HOSPITAL, Exminster.—Third Assistant Medical Officer. Salary, £300 per annum.

DEWSBURY AND DISTRICT GENERAL INFIRMARY.—House-Surgeon. Salary, £200 per annum.

DUNDEE DISTRICT ASYLUM.—Assistant Medical Officer (male). Salary, £293 per annum.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.1.—(1) Assistant Surgeon. Honorarium, £50. (2) House-Surgeon (male). Salary, £125 per annum.

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—Assistant House-Surgeon. Salary, £150 per annum.

FESTINIOG UNION.—Medical Officer and Public Vaccinator for (1) the Deudrath District, and (2) Poor Law Institution. Salary for (1) £45, and for (2) £115 per annum and vaccination fees.

HOSPITAL OF ST. JOHN AND ST. ELIZABETH, Grove End Road, N.W.—Assistant Physician.

ISLINGTON INFIRMARY, Highgate Hill.—Medical Superintendent. Salary, £1,000 per annum.

LEEDS CITY INFECTIOUS HOSPITALS, Seacroft.—Second Assistant Medical Officer. Salary, £250 per annum.

LEEDS PUBLIC DISPENSARY.—Locumtenent. Salary, 5 guineas and third-class railway fare.

LEEDS TOWNSHIP INFIRMARY.—Assistant Medical Officer for the Indoor Institutions. Salary, £380 per annum.

LIVERPOOL STANLEY HOSPITAL.—Two House-Surgeons. Salary, £120 per annum.

LONDON: ALL SAINTS' HOSPITAL FOR GENITO-URINARY DISEASES.—Resident House-Surgeon. Salary, £160 per annum.

MANCHESTER: ANCOATS HOSPITAL.—Honorary Radiologist.

MANCHESTER CITY.—Medical Officer of Health. Salary, £1,700 per annum, rising to £2,000.

METROPOLITAN ASYLUMS BOARD.—Senior and Junior Assistant Medical Officers at Queen Mary's Hospital for Children, Carshalton. Salary, including bonus, £645 5s. and £515 6s. respectively, the former rising with bonus at present rate to £709 13s.

MIDDLESEX HOSPITAL, W.—Casualty Medical Officer. Salary, £104 per annum.

MINISTRY OF PENSIONS.—Two Junior Medical Officers (surgeons), at the Highbury Group of Hospitals, Moseley, Birmingham. Salary, £350 per annum.

NEWCASTLE-UPON-TYNE DISPENSARY.—Resident Medical Officer. Salary, £350 per annum, rising to £400.

NEWCASTLE-UPON-TYNE: HOSPITAL FOR SICK CHILDREN.—Junior Resident Medical Officer (male). Salary, £150 per annum.

NEWCASTLE-UPON-TYNE: ROYAL VICTORIA INFIRMARY.—Secretary and House Governor. Salary, £700 per annum.

NORTHAMPTON GENERAL HOSPITAL.—House-Surgeon (male), from July 1st to September 16th. Remuneration, 45 guineas.

NORWICH INCORPORATION OF THE POOR.—Resident Medical Officer for the Institution (male). Salary, £500 per annum.

PETERBOROUGH INFIRMARY.—House-Surgeon (male). Remuneration, £200 per annum.

PORT SAID: BRITISH HOSPITAL.—Assistant to the Medical Superintendent. Salary, £500 per annum.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone Road, N.W.—Assistant Resident Medical Officer. Salary at the rate of £60 per annum, increasing to £100 on appointment as Senior Resident Medical Officer.

RICHMOND (SURREY): ROYAL HOSPITAL.—House-Surgeon (male). Salary, £150 per annum.

ROTHERHAM COUNTY BOROUGH.—School Medical Officer. Salary, £700 per annum.

ST. BARTHOLOMEW'S HOSPITAL.—Pathologist to Venereal Department (part-time). Salary, £300 per annum.

ST. GEORGE'S HOSPITAL, S.W.—Resident Medical Officer (male), for the Convalescent Branch, Wimbledon. Salary, £300 per annum.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.13.—Honorary Anaesthetist.

SHEFFIELD ROYAL INFIRMARY.—Ophthalmic House-Surgeon. Salary, £150 per annum.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House-Physician. Salary, £150 per annum.

SOUTH LONDON HOSPITAL FOR WOMEN, Clapham Common, S.W.1.—(1) House-Surgeon; (2) House-Physician (females). Salary, £100 per annum each.

SOUTH SHIELDS: INGHAM INFIRMARY.—Senior and Junior House-Surgeons (male). Salaries, £200 and £150 per annum respectively.

SUNDERLAND: MONKWEARMOUTH AND SOUTHWICK HOSPITAL.—House-Surgeon. Salary, £200 to £250.

THROAT HOSPITAL, Golden Square, W.—Resident House-Surgeon. Salary, £100 per annum.

UNIVERSITY COLLEGE HOSPITAL, Gower Street, W.C.—Medical Officer (half time) to assist in Clinical Investigation and Research in the Treatment of Malignant Disease by Radium. Salary, £250 per annum.

WEST BROMWICH AND DISTRICT HOSPITAL.—Resident Assistant House-Surgeon (male). Salary, £180 per annum.

WEST LONDON HOSPITAL, Hammersmith Road, W.—Honorary Medical Radiographer.

WESTMINSTER HOSPITAL, S.W.—(1) Assistant House-Physician; (2) Assistant House-Surgeon. Honorarium at the rate of £52 per annum each.

YORKSHIRE: WEST RIDING COUNTY COUNCIL.—Chief Tuberculosis Officer. Salary, £750 per annum, rising to £800 per annum.

CERTIFYING FACTORY SURGEON.—The appointment at Stornoway (Ross and Cromarty) is vacant.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found.

APPOINTMENTS.

CHIENE, George L., F.R.C.S.Edin., promoted Surgeon, with charge of wards, to the Edinburgh Royal Infirmary.

WILSON, J. E., M.D., D.P.H., Medical Officer of Health and Schools Medical Officer to the Borough of Mansfield (Nottinghamshire).

DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.—*Section of Odontology:* Mon., 8 p.m., Mr. F. Coleman: Difficult Extraction. *Occasional Lecture:* Wed., 5 p.m., Lieut.-Colonel H. Watkins-Pitchford, R.A.V.C.: Poisonous Snakes of Africa. *Section of Urology:* Thurs., 8.30 p.m., Mr. Frank Kidd: A Miner's Egg. Sir Thomas Horder: Report on Renal Function Tests. Mr. Kenneth Walker: The Accessory Sexual Glands of the Rhinoceros, the Flying Wombat, the Ornithorhynchus, the Zebra, and the Tapir. *Section of Laryngology:* Fri., 4 p.m., Cases. *Section of Study of Disease in Children:* At Oxford. Fri., 2.30 p.m., Radcliffe Infirmary: Cases. Sat., 10.30 a.m., Wingfield Orthopaedic Hospital: Cases and Operations.

POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE, 1, Wimpole Street, W.1.—Thurs., 5 p.m., Mr. H. J. Paterson: Diagnosis of Gastric Disease.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—Thurs., 4 p.m., Dr. Thursfield: Rickets, Marasmus, Scurvy.

MEDICAL OFFICERS OF SCHOOLS ASSOCIATION, 11, Chandos Street, W.1.—Mon., 5 p.m., Discussion: Cardiac Children as a Public Health Problem. To be opened by Professor F. S. Langmead, Dr. W. P. S. Branson, and Dr. James Kerr.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland Street, W.1.—Mon., 5.30 p.m., Dr. J. S. Goodall: Heart Block.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.1.—Mon., Tues., Thurs., and Fri., 2 p.m., Out-patient Clinics. Mon., 12 noon, Dr. Greenfield: Pathology of Cerebral and Spinal Tumours; 3.30 p.m., Dr. Reynolds: *X*-Ray Demonstration. Tues. and Thurs., 3.30 p.m., Dr. Howell: Hysteria. Wed., 2.15 p.m., Dr. Collier: Clinical Demonstration. Fri., 3.30 p.m., Dr. Gordon Holmes: Cerebellar Disorders. Tues. and Fri., 9 a.m., Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Daily, 2.30 p.m., In- and Out-patient Clinics, Operations, etc. Lectures: Mon., 4.30 p.m., Dr. J. B. Alexander: Clinical Significance of Pulmonary Symptoms—Haemoptysis. Tues., Mr. C. H. Hayton: Diseases of the External Auditory Meatus. Wed., Mr. N. B. B. Fleming: Eye Injuries.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Hospital, Ouseley Road, Balham, S.W.12.—Tues., 4.30 p.m., Dr. H. C. Cameron: Children's Ailments.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith, W.—Daily, 10 a.m., Morning Work; 2 p.m., Operations, In-patients, Out-patients, Special Departments. Lectures, 5 p.m., Mon., Dr. Saunders: The Young Rheumatic Heart and its Treatment. Tues., Mr. Addison: Acute Infections of Bone. Wed., Dr. Owen: Clinical Diagnosis of Structural Heart Disease. Thurs., Sir J. Thomson Walker: Diagnosis of Hydronephrosis and of Stone in the Kidney and Ureter. Fri., Dr. Owen: Clinical Diagnosis of Structural Heart Disease.

British Medical Association.

OFFICES AND LIBRARY, 429, STRAND, LONDON, W.C.2.

Reference and Lending Library.

THE READING ROOM, in which books of reference, periodicals, and standard works can be consulted, is open to members from 10 a.m. to 6.30 p.m., Saturdays 10 to 2.

LENDING LIBRARY: Members are entitled to borrow books, including current medical works; they will be forwarded, if desired, on application to the Librarian, accompanied by 1s. for each volume for postage and packing.

Departments.

SUBSCRIPTIONS and ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westrand, London).
MEDICAL SECRETARY (Telegrams: Medisecra, Westrand, London).
EDITOR, *British Medical Journal* (Telegrams: Aitiology, Westrand, London).
Telephone number for all Departments: Gerrard 2630 (*3 lines*).

SCOTTISH MEDICAL SECRETARY: 6, Rutland Square, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)
IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

JUNE.

23 Fri. Metropolitan Counties Branch: Annual Meeting, 429, Strand, W.C.2, 4.30 p.m.

24 Sat. Monmouthshire Division: Annual Meeting, Royal Gwent Hospital, Newport, 3.30 p.m. Executive Committee, 3 p.m.
Northern Counties of Scotland Branch, Annual Meeting, Highland Hotel, Strathpeffer Spa, 11.30 a.m. Luncheon, 1 p.m.

27 Tues. North Suffolk Division, Lowestoft Hospital, 4 p.m.
Yorkshire Branch, Annual Meeting, Clayton Hospital, Wakefield, 3.45 p.m.

28 Wed. Bromsgrove Division, Smallwood Hospital, Redditch, 3.30 p.m.
Surrey Branch, Annual Meeting, Municipal Buildings, Reigate. Branch Council, 12.30 p.m. Lunch, 1.15 p.m. Cinema exhibition, 2.45 p.m. Reception by the Mayor of Reigate, 4.30 p.m. Annual Meeting, 5.15 p.m. Dinner, 6.45 p.m.
Lancashire and Cheshire Branch: Annual Meeting, Public Buildings, Northgate, Blackburn. Lunch, 12 to 1.30 p.m. Reception by the Mayor, 1.45 p.m. Annual Meeting, 2 p.m. Tea, 3.30 p.m. Visits and Excursions, 4 p.m. Dinner 7 p.m.
Chelsea Division, Fulham Town Hall: Tea, 4.30 p.m. British Medical Association Lecture by Dr. A. S. Woodwark, C.M.G.: Organo-therapy, 5 p.m.

29 Thurs. Hastings Division, Eversfield Hotel, St. Leonards, 8 p.m.
North Glamorgan and Brecknock Division: At Pontypridd, British Medical Association Lecture by Dr. H. Morley Fletcher on "Treatment in Renal Disease."

30 Fri. London: Dominions Committee, 2.30 p.m.
Buckinghamshire Division, Annual Meeting, Crown Hotel, Aylesbury.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

BIRTH.

CRAWFORD.—On June 9th, 1922, the wife of Lieut.-Colonel V. J. Crawford, D.S.O., R.A.M.C., of the Royal Herbert Hospital, Woolwich, of a daughter.

MARRIAGE.

SOUTTER—RAMSAY.—On June 5th, G. C. Soutter, M.D., to Olga Mary Ramsay, St. Peter's, West Bromwich.

DEATH.

MCDONALD.—On June 16th, at 59, Abbott's Road, Southall, Charles Archibald McDonald, M.B., in his 37th year.

Printed and published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

610.5
BR

THE

British Medical Journal.

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

EPITOME

OF

Current Medical Literature.

JANUARY TO JUNE, 1922.

London:

PRINTED AND PUBLISHED AT THE OFFICE OF THE BRITISH MEDICAL ASSOCIATION,
429, STRAND, W.C.

INDEX TO THE EPITOME FOR VOLUME I, 1922.

READERS in search of a particular subject will find it useful to bear in mind that the references are in several cases distributed under two or more separate but nearly synonymous headings—such, for instance, as Brain and Cerebral; Heart and Cardiac; Liver and Hepatic; Renal and Kidney; Cancer and Carcinoma; Epithelioma, Malignant Disease, New Growth, Sarcoma, etc.; Child and Infant; Bronchocele, Goitre, and Thyroid; Diabetes, Glycosuria, and Sugar; Eye, Ophthalmia, and Vision, etc.

The Figures in this Index refer to the Number of the Paragraph, NOT the Page.

A.

AASER: Methyl violet in suppurating wounds, 63
Abdominal arterio-sclerosis, 104
Abdominal colic with porphyrinuria, 476
Abdominal disease, diagnosis of, 286
Abdominal muscles, congenital insufficiency of, 259
Abortion, frequency of in Germany, 121
Abortion, operative treatment of infection following, 560
Abortion and pelvic suppuration followed by tetanus, 120
ABRAMOWITZ: Phenolphthalein eruptions, 499
Abscess, ischio-rectal, etiology and treatment of, 159
Abscesses, cold: Treatment of, 339—Treated with injections of cod-liver oil, 191
Abscesses of liver, gas-containing, 359
Accommodation, paralysis of, 573—Due to arsenobenzol, 361
Acetyl-salicylic acid, local use of, 263
Acidosis and diabetic oedema, 277
Acridine dyes in dermatology, 8
Actinomycosis, human, 475
Actinomycosis of the tongue, 601
Actinomycosis and echinoccccosis of the spine, 164
Adeno-fibroma of the breast showing malignant evolution, 73
Adenoid tissue, *x*-ray treatment of, 282
Adenoids, the palate in relation to, 110
Adenoids and tonsils operations, end-results of, 310
Adenoma of the corpus uteri, post-climacteric, 218
Adipose tissue in malignant disease, the fat of, 522
ADLER: Treatment of cervical carcinoma, 442
Adnexal disease, operative treatment of, 93
Adnexal inflammation, chronic, treatment of, 342
Adrenaline, intracardiac injections of in acute heart failure, 137
Adrenaline and shock, 540
AGNELLO, F.: Post-encephalitic blindness without lesion of fundus, 577
ALBECK: Thyroid extract in the vomiting of pregnancy, 318
ALBERTARIO: Tubercle bacilli in the blood, 299
ALBRECHT: Elimination of arsphenamin and neo-arsphenamin in the urine, 271
Albumin in diabetes, the sparing action of fats on the destruction of, 269
Albuminuria, orthostatic, Strauss's water test in, 154
ALCHECK: Malarial neuritis, 100
ALMKVIST: Mercurial tonsillitis, 9
Ambulatory treatment for chronic ulcers of the leg, 288
AMMANN: Ammonium carbonate in erythema nodosum, 456
Amoebic dysentery. *See* Dysentery
Ammonium carbonate in erythema nodosum, 456
Ammonium chloride in treatment of infantile tetany, 357
Anaemia pernicious, significance of the haemosiderosis of, 520
Anaemia, post-influenzal, iron in, 526
Anaesthesia, ethyl chloride, 114
Anaesthesia, general, danger of in cyclic vomiting, 534
Anaesthesia, local, Caesarean section under, 394
Anaesthesia, local, diagnostic exploitation of, 289
Anaesthesia, local, the secondary effects and sequels of, 391
Anaphylactic shock, the antitryptic power of the blood in, 324
Anaphylactic symptoms of alimentary origin, treatment of, 54
ANDÉRODIAS: Treatment of puerperal infection by douches of Dakin's fluid, 169
Aneurysms of peripheral arteries, mycotic embolic, 270
Angina pectoris, diagnosis of, 156
Anthrax, treatment of, 213
Anti-anaphylactic action of lipoids, 348
Antibodies, identity of, 25
Antibody content of the serum in phthisical patients, variations in, 610
Antimony in the treatment of leprosy and hydatid disease, 545
Antimony. *See also* Tartar emetic
Antiscorbutic value of dried fruits 328
Antiseptics, action of, and surface tension, 149, 298
Antistreptococcal serum. *See* Serum
Antisyphilitic treatment during pregnancy, importance of, 603
Antivenereal prophylaxis, experiments with, 17
ANTOINE: Indications for operation in cholelithiasis, 314
Aorta, thrombosis of, 428
Aortic disease in pregnancy, 584
APERT: Insufficiency of the soft palate, 389
Appendicitis, chronic, infantilism in, 312
Appendicitis simulated by influenza, 464
Appendicitis, treatment of, 237
Appendix stump, treatment of, 485
ARCHAMBAULT: Complications of salvarsan treatment, 230
ARCHER: End-results of tonsils and adenoids operations, 310
ARCHIBALD: Tubercular leprosy, 152
ARMAND-DELILLE: Displacement of the trachea, 178—Variations in the antibody content of the serum in phthisical patients, 610
ARNOLD: Haemorrhagic osteomyelitis, 60
Arrhythmia perpetua, quinidine and digitalis in, 459
Arsenic, the fatal dose of, 203
Arsenical treatment of general paralysis, 458
Arsenobenzol causing paralysis of accommodation, 361
Arsphenamin and neo-arsphenamin in the urine, elimination of, 271
Arsphenamin, silver, 131. *See also* Salvarsan, silver
Arterial hypertension, treatment of, 505
Arteries, peripheral, mycotic embolic aneurysms of, 270
Arterio-sclerosis, abdominal, 104
Artery, epigastric, spontaneous rupture of, 261
Arthritis, chronic, sulphur injections in, 256
Arthritis, gonococcal, treated by intramuscular injections of synovial fluid, 87
Arthroplasty of knee-joint, 283
Artificial pneumothorax, 402
Ascariasis of the bile ducts, 569
Ascites in chronic malaria, 593
Asthma due to constipation, 155
Asthma, saturnine, 183
Asthma, treatment and pathology of, 232
Atresia of the vagina, a rare cause of, 470
AUBERTIN: Thrombosis of the aorta, 428
AUBRY: Arsenical treatment of general paralysis, 458
Auricular fibrillation, quinidine in, 56
Auto-haemotherapy in the treatment of dermatoses, clinical reactions in, 99

B.

Babinski's reflex, 350
Bacillary dysentery. *See* Dysentery
Bacilli, haemophilic, 612
Bacillus aerogenes capsulatus infection complicating typhoid fever, 251
Bacillus bacteriaemia, fusiform, 496
B. diphtheriae. *See* Diphtheria bacillus
Bacillus, Pfeiffer's, differentiations of, 448
Bacillus, Pfeiffer's, and influenza, 401, 449
Back, unusual injury to, 258
BACKER: Menorrhagia treated by radium, 119—Fatalities from calomel injections, 304
Bacteria, metabolism of, 371
Bacterial flora of infants' throats, 400
Bacterial virulence in relation to vaccine production, 587
Bactericidal power of certain disinfectants and surface tension, 149, 298
Bacteriology of peridental tissues radiographically suggesting infection, 224
BAILEY: Experimental researches on diabetes insipidus, 613
BALLENGER: Treatment of gonococcal arthritis by intramuscular injections of synovial fluid, 87
BALZER: Syphilis of the bronchi and lungs, 527
BANÚS: Muscular tonus, 201
BARR: Pleuro-pulmonary fistulae, 433
BARINETTI: Ascites in chronic malaria, 593
BARKMAN: Injury to the pituitary body by epidemic encephalitis, 503
BARNETT: Hydatid thrill, 109
BARRAQUER operation for cataract, 112
BARRÉ: Treatment of sciatica, 334
BARRINGER: Carcinoma of the prostate, 506
Basal metabolic rate, 225
Basic metabolism in exophthalmic goitre, 588
Baths, general carbon arc light, in treatment of lupus, 409
BÉCLÈRE: *X*-ray treatment of uterine fibroids, 44
BEDFORD: The gold-sol test in mental disease, 295
BEDSON: The experimental production of purpura, 245
BEESON: Elimination of arsphenamin and neo-arsphenamin in the urine, 271
BELL: The serological differentiation of some strains of *B. diphtheriae*, 147
BÉNARD: Complications of rubella, 228
BENTHIN: Perforation of uterus without destruction of ovum, 367
BÉRARD: Paralysis of the recurrent laryngeal nerve after thyroidectomy, 416
BERGHAUSEN: Silver arsphenamin, 131
Beri-beri, treatment of, 1
BERLIN: Pyelitis, 484
BERNER: The incidence of cancer in extreme old age, 186
BERNSTEIN: Dysentery in Vienna, 29
BERREITTER: The frequency of malignant metastasis in myoma, 66
BERTIER: Treatment of haemoptysis due to tuberculosis, 106
BERWICK: The bacteriology of peridental tissues radiographically suggesting infection, 224
BETH: The diagnosis of uraemic conditions, 233
BEZANÇON: Apparent increase of tubercle bacilli in sputum undergoing putrefaction, 541
BIGELOW: Yaws and syphilis, 346
BIGOT: Insufficiency of the soft palate, 389
Bile ducts, *x*-ray examination of, 358—Ascariasis of, 569
Bilharzia, treatment of, 180
Bilirubinaemia in the newborn, 126
BINETTI: A new cancer-serum reaction, 422
BIONDO: Vitamins and immunity, 372
Bird-mite dermatitis, 130
BIRNBAUM: Venous ligature for puerperal pyaemia, 90
Birth, five children at a, 369
Births during war time, 608
Bismuth and mercury, 52
Bismuth treatment of syphilis, 51
Bladder epithelium, desquamation of in scarlatina, 571
Bladder, hernia of, etiology of, 580
Bladder, treatment of spontaneous rupture of, 600
Bladder, syphilis of. *See* Syphilis
Blindness, post-encephalitic, without lesion of fundus, 577
BLOCH: Displacements of the trachea, 178—Epileptiform attacks in sero-fibrinous pleurisy, 570
BLOEMEN: Scabies norvegica, 3
Blood, antitryptic power of in anaphylactic shock, 324
Blood cells, red, in cancer, 297
Blood corpuscles, red, diameter of at different ages, 347
Blood culture in the diagnosis of typhoid fever, 172
Blood, effused, reinjection in, 188
Blood groups, relationship of to disease, 273
Blood in high blood pressure, vaso-constrictor substances in, 374
Blood pressure, high, with tachycardia, 405
Blood, pyramidon test for, 562
Blood reaction in dyspnoea, 609
Blood in renal disease, indican in, 611
Blood, reinfusion of after rupture of an extra-uterine pregnancy, 219
Blood in tetrachlorethane poisoning, 171
Blood, tubercle bacilli in, 299
BLOOMFIELD: Bacterial flora of infants' throats, 400

BLUM: The antiphlogistic action of calcium salts, 146
BOAS: Importance of antisyphilitic treatment during pregnancy, 603
BOELSTRA: Fox and Fordyce's disease, 31
BOEZ: Synthetic medium for growing tubercle bacilli, 445
BOISSERIE-LACROIX: Treatment of erysipelas in the newborn, 207
Bone grafts from the tibia in cranioplasty, 35
Bones, cancer and metastases in, 189
BONNET: The intradermal reaction in experimental tuberculosis, 494
BONNIN: Glomerular haemangiectases in the nephritis in typhoid fever, 70
BOOT: Typhoid spondylitis, 140
Borax and potassium tartrate in treatment of epilepsy, 353
BORDEN: Diaphragmatic hernia, 533
BORDIER: Infantile paralysis, 157
BORINSKI: Marking-ink poisoning, 179
BORREL: Synthetic medium for growing tubercle bacilli, 445
BOULIN: Treatment of ringworm of the beard, 250
BOULLAND: Adeno-fibroma of the breast showing malignant evolution, 73
BOUQUIER: Tuberculosis of the first metatarsal in a child, 338
BRAHMACHARI: Cutaneous leishmaniasis, 544
Brain, extraction of foreign bodies from, 488
BRAM: Exophthalmic goitre and digitalis, 501
Breast, massive hypertrophy of 84
BREMER: Experimental researches on diabetes insipidus, 613
BRENNER: Perforated ulcers of the duodenum, 460
BRISOTTO: The pathogenesis of gastric ulcer, 413, 509
Broad ligament. *See* Ligament
Bromide delirium, 57
Bromide eruption, circumscribed, 32
Bronchi and lungs, syphilis of, 527—In typhoid fever in children, 548
Bronchotetany, 80
Brow presentations, 538
BROWN: Plastic operations on the lip, 135—Relationship of *Treponema pallidum* to lymphoid tissues in experimental syphilis, 170—Treatment and pathology of asthma, 232
Bruits, cephalic, in children, 150
BRUTSCH: Giant vesical calculi, 333
BUCHANAN: The relationship of blood groups to disease, 273
BUERGER: Non-operative treatment of ureteral calculi, 530
BULL: The relation of embolism in the limbs to heart disease, 303
BURCHARDI: The slightness of the contagion of lupus vulgaris, 355
BURROWS: Radiotherapy for cancer of the cervix, 490
BUSACCA: An intracutaneous reaction for tuberculosis of the skin, 199
BUTLER: Ovarian torsion, 91
Butter-flour food in infancy, value of, 33

C.

Caesarean section, indications for, 21
Caesarean section *versus* induction of labour, 341
Caesarean section under local anaesthesia, 394
Caesarean section, vaginal, indications for, 537
Caffeine, morphine, and strychnine in labour, 144
Calcium in salvarsan poisoning, 574
Calcium chloride in treatment of diarrhoea in tuberculosis, 7
Calcium chloride, intravenous injection of in pulmonary tuberculosis, 77
Calcium lactophosphate in cyclic vomiting, 383
Calcium salts, antiphlogistic action of, 146
Calculi, giant vesical, 333
Calculus, ureteral, non operative treatment of, 530
Calculus, urinary, 39
CALDAROLA: Differentiation of Pfeiffer's bacillus, 448
CALICETE: Cutaneous leisbmaniasis, 62
Calomel, a new technique for intramuscular injections of, 275
Calomel injections, fatalities from, 304
CAMPBELL: Composition of the urine, 71
CAMPICHE: Injuries to the semilunar cartilage, 284
CAMUS: The pathology of diabetes insipidus, 543
Cancer, acquired resistance to, 497
Cancer of cervix and chancre, differential diagnosis of, 517
Cancer of cervix and pregnancy, 559
Cancer of cervix, early diagnosis of, 118
Cancer of cervix, inoperable, abdominal application of radium for, 195, 196
Cancer of cervix, radium in, 94, 195, 196, 490, 491, 492
Cancer of cervix, rate of growth of, 583
Cancer of cervix, treatment of, 441, 442
Cancer and chronic cystic mastitis, 36
Cancer in extreme old age, the incidence of, 186
Cancer of Fallopian tube, 467
Cancer of gall bladder and cholelithiasis, 262
Cancer, hepatic, and schistosomiasis, 222
Cancer of the jejunum, 529
Cancer of lung, diagnosis of, 227
Cancer and metastases in bones, 189
Cancer mortality, 472
Cancer of ovary, treatment of, 536
Cancer of the prostate 506
Cancer of rectum, abdominal hysterectomy before removal of, 68
Cancer of rectum, operations for, 410
Cancer, red blood cells in, 297
Cancer-serum reaction, a new, 422
Cancer of the spine, 581
Cancer, tar, in mice, 321
Cancer of the tongue, radium therapy in, 214
Cancer of uterus, duration of life in, 294
Cancer of uterus, end-results of treatment of, 606
Cancer of pregnant uterus treated by radium, 266
Cancer of vagina, end-results of treatment of, 606
Cancer of vagina, primary, 315
CANTANI: Hilum tuberculosis, 210
Carbon arc light baths in treatment of lupus, 409
Carcinoma *See* Cancer
Cardiac therapy, quinidine in, 175
Cardio-tuberculous cirrhosis (Hutinel's disease), 14
CARISI: Treatment of prostatic hypertrophy, 438
CARLWITH: Lupus treated with general carbon arc light baths, 409
CARRIEU: The presence of *Leptospira icterohaemorrhagiae* in rats, 565
CASTANO: Pelvic varicocele, 197
Cataract, the Barraquer operation for, 112
CATSARAS: Cancer and metastases in bones, 189
Cavernous sinus, thrombophlebitis of, of dental origin, 41
CAWSTON: Antimony in the treatment of leprosy and hydatid disease, 545
Cedar-wood oil in treatment of gonorrhoea, 34
Cephalic bruits in children, 150
Cerebral hemiplegia, progressive, 549
Cerebral injury and cranioplasty, 486
Cerebral lesions after salvarsan treatment, fatal, 354
Cerebro-spinal fluid, the colloid benzoin reaction in, 474
Cerebro-spinal fluid, virulence of in genital herpes, 124
Cervical gland. *See* Gland
Cervical vertebrae. *See* Vertebrae
CHAHOVITCH: Pandy's reaction for differential diagnosis between meningitis and meningismus, 446
Chancre and cervical cancer, differential diagnosis of, 517
Chancre, soft, 563
CHANDRON: Glomerular haemangiectasis in the nephritis of typhoid fever, 70
CHARRIER: Carcinoma of the jejunum, 529
Chemical investigation of pregnancy toxaemias, 535
Chicken sarcoma. *See* Sarcoma
CHIDICHIMO: Morphine, strychnine, and caffeine in labour, 144
Child, the nervous, 596
Children, five at a birth, 369
China, filariasis in, 352
Chlorosis, periodicity of the incidence of, 301
CHMELAR: Treatment and prophylaxis of puerperal fever, 268
Cholelithiasis and carcinoma of the gall bladder, 262
Cholera, 590
Cholera, the mechanism of infection with, 498
Cholera, pathogenicity of, 72
Cholera vaccine, living sensitized, 473
Cholelithiasis, indications for operation in, 314
Chondritis, post-typhoid, 187
Chorion-epithelioma and hydatidiform mole, 604
CIGNOZZI: Infantilism in chronic appendicitis, 312
Cinchonine and malaria, 204
Circulation, the intraocular, 558
Circumcision followed by tuberculosis, 417
Cirrhosis, cardio-tuberculous (Hutinel's disease), 14
CLARET: Treatment of anaphylactic symptoms of alimentary origin, 54
CLARK: Epileptoid attacks in hypopituitarism, 307—Re-educational treatment of confirmed stammerers, 523
CLODI: Gonococci in the preputial folds, 605
Club-foot, congenital, treatment of, 83
COAKLEY: Haemorrhage during and after tonsillectomy, 185
COBB: Neuro-psychiatric examinations, 280
Cod-liver oil injections in treatment of cold abscesses, 191
COLE: Early diagnosis of pneumonia, 5
Colectomy for chronic intestinal stasis, 556
Colic, abdominal, with porphyrinuria, 476
Colles's fracture followed by "spontaneous" rupture of the extensor longus pollicis tendon, 136
Colles's fracture, statistics of, 576
Colles's law, an explanation of, 317
COLLIN: Treatment of appendicitis, 237
Colloid benzoin reaction in the cerebro-spinal fluid, 474
COLOMBINO: Heliotherapy in gynaecological practice, 344
Colon, pelvic, *x*-ray examination of in gynaecological diagnosis, 365
Colon, post-operative ulceration of the, 599
COMESATTI: Malaria, 477
Complement fixation reaction in tuberculosis, 226
Conjunctivitis, relation of to rainfall, 287
Constipation causing asthma, 155
Consumption. *See* Tuberculosis
CONTI: Statistics of Colles's fracture, 576
COOMBS: Streptococcal infections of the heart, 296
COOPERMAN: Osteitis fibrosa, 597
Corpus luteum in diagnosis and therapeutics, 45
Corpus uteri, post-climacteric adenoma of, 218
COSACESCO: Syphilis of the bladder, 212
COSCERA: The regional cuti-reaction, 125
COSENTINO: Five children at a birth, 369
COSTATINI: Tumours of the temporal lobe, 336
COTTON: Post-typhoid chondritis, 187
COULON: Synthetic method for growing tubercle bacilli, 445
COVISA: The Wassermann reaction, 98
COZZOLINO: Deficiency of fat-soluble vitamins in rickets, 320
Cranioplasty with bone grafts from the tibia, 35
Cranioplasty and cerebral injury, 486
Craniotabes and syphilitic rickets, 331
CREYX: Diagnosis of cancer of the lung, 227
CRILE: Operations on the thyroid gland, 238
CRON: Obstetric uses of pituitary extract, 466
Crucial ligaments of knee. *See* Knee
CUMMER: Giant vesical calculi, 333
CURCHOD: Cardio-tuberculous cirrhosis (Hutinel's disease), 14
CURRIE: The fat of adipose tissue in malignant disease, 522
CURTIS: Chronic inflammatory conditions of the Fallopian tubes, 18
Cutaneous leishmaniasis, 62
Cuti-reaction, regional, 125
Cyclic vomiting. *See* Vomiting
Cyst, hydatid, 363. *See also* Hydatid
Cyst of pancreas treated by enucleation, 462
Cystic kidney, bilateral, 463
Cystic tumours of the uterus, 582
Cysts of ovary, perforating haemorrhagic, 117

D.

DAELS: A method of intrapelvic radium therapy, 143
Dakin's fluid, douches of in treatment of puerperal infection, 169
DALLA VEDOVA: The treatment of tuberculous spondylitis, 240
DANGSCHAT: Congenital perineal ectopia of the testis, 38
DANZIN: Diagnosis of angina pectoris, 156
DA SILVA: The presence of *Leptospira icterohaemorrhagiae* in rats, 565
DAVID: Births during war time, 608
DAVIDE: Experimental epidemic encephalitis in rabbits, 26
DAVIES: Endocrine disorder and mental disease, 453
DAVIS: Exudative erythema, 194
DAVIES: Basal metabolic rate, 225
DAVIES, Morriston: Pulmonary tuberculosis and intestinal stasis, 252
Death, a method for the diagnosis of, 425
DE BEULE: Acute haemorrhagic pancreatitis, 285
DEBRÉ: The intradermal reaction in experimental tuberculosis, 494
DE BRUIN: The development of tumours in children, 64
DEIBERT: Soft chancre, 563
DE LA ROQUETTE, Miramond: Treatment of favus, 184
DELATER: A mental form of epidemic encephalitis, 132
DELCHEF: Congenital dislocation of the hip, 602
DE LISI: The Parkinsonian syndrome in epidemic encephalitis, 327
DELLA TORRE: Traumatic separation of the crucial ligaments of the knee, 111
DE MARTEL: Indications for operation in cholelithiasis, 314
DEMEL: Sliding hernia, 411
Dementia praecox, 430
DE MEYER: Intermittent sinus acceleration, 591
DENÉCHAU: Gangrene of the lung, 108
DENIS: Carcinoma of the jejunum, 529
Dental caries, the reaction of saliva and its influence on, 424
Dental defects, results of, 546
DENUCÉ: The pathogeny of Volkmann's syndrome, 22
DENZER: Diagnosis of peritonitis in infants, 412
DE QUERVAIN: Treatment of gastric and duodenal ulcer, 211
Dermatitis, industrial, 524
Dermato-polyneuritis and erythro-oedema, 550
Dermographia, icteric, 592
DE ROUVILLE: The cause of "idiopathic" haemorrhage, 242—Cancer of the pregnant uterus treated by radium, 266
Dermatitis, bird-mite, 130
Dermatology, acridine dyes in, 8
Dermatology, intravenous injections of grape sugar in, 103
Dermatoses treated by auto-haemotherapy, clinical reactions in the treatment of, 99
Dermoids, extraperitoneal, 421
DE STEFANO: Lumbar puncture in intracranial haemorrhage of the newborn, 192
DE VEVEY, Artault: Treatment of paralysis agitans by intramuscular injections of magnesium sulphate, 253
DEVINE: Operations for carcinoma of the rectum, 410
DE WESSELOW: Chemical investigation of pregnancy toxaemias, 535

Diabetes, albumin in, the sparing action of fats on the destruction of, 269
Diabetes and glycosuria in pregnancy, differential diagnosis of, 167
Diabetes and hypertonus, 127
Diabetes, influence of underfeeding on, 479
Diabetes insipidus, pathology of, 543—Experimental researches on, 613
Diabetes, minor, ocular signs of, 4
Diabetic oedema and acidosis, 277
Diarrhoea, infantile, administration of fluid in, 306
Diarrhoea in tuberculosis treated by calcium chloride, 7
DICE: Heart disease in pregnancy, 292
Diet in the first year of life, a mixed, 53
Diet and sterility, 97
Digitalis and exophthalmic goitre, 501
Digitalis treatment, recent work on, 274
Digitalis and quinidine in arrhythmia perpetua, 459
Diphtheria bacilli, virulent, experimental inoculation of human throats with, 122
Diphtheria bacillus, the serological differentiation of some strains of, 147
Diphtheria, Schick reaction, 471. *See also* Schick
Diphtheria, serum treatment of, 134
Diphtheritic gangrene of the vagina, 69
Disease, the relationship of blood groups to, 273
Disinfectants, surface tension and the bactericidal power of, 149, 298
Diverticulum, oesophageal, 507
Doctor as carrier of poliomyelitis, 408
DÖDERLEIN: Radiotherapy for cancer of the cervix, 492
DÓLANSKY: The corpus luteum in diagnosis and treatment, 45
DOMINGUEZ: Rhinoscleroma, 542
DONNELLY: Administration of fluid in infantile diarrhoea, 306
DREYER: Reaction of the blood in dyspnoea, 609
DRUECK: Prolapse of the rectum, 552
DUBOIS-ROQUEBERT: Treatment of diarrhoea in tuberculosis by calcium chloride, 7
DUBREUILH: Mycotic intertrigo, 594
DUBS: Influenza simulating appendicitis, 464
DUDLEY: The etiology and treatment of ischiorectal abscess, 159
DUFOUR: Early formation of gall stones in typhoid fever, 387
DUFOURT: Sandy's reaction for differential diagnosis between meningitis and meningismus, 446
Duodenal ulcer. *See* Ulcer
Duodenum, extreme dilatation of due to chronic obstruction, 386
Duodenum, tuberculous stricture of, 554
DUPASQUIER: Clinical relations in the treatment of dermatoses by auto-haemotherapy, 99
DUPREZ: The anti-anaphylactic action of lipoids, 348
DURANTE: Adeno-fibroma of the breast showing malignant evolution, 73
Dysentery, bacillary, vaccination against, 47
Dysentery, infantile amoebic, 182
Dysentery in Vienna, 29
Dyspepsia, syphilitic, 378
Dyspnoea, reaction of the blood in, 609
Dystrophy, progressive muscular, 27

E.

Ear disease in infants, 332
EAVES: Injuries to the semilunar cartilage, 284
EBELING: The cicatrization of wounds, 564
Ecchinococcosis and actinomycosis of the spine, 164
ECKMAN: Antiscorbutic value of dried fruits, 328
Eclampsia, treatment of, 165, 166
Ectopic gestation. *See* Gestation
EDENS: Recent work on digitalis treatment, 274
EHRENBERG: Ligation of the limbs for the pulmonary oedema of acute nephritis, 481
EINHORN: Gall-bladder lesions, 260
EKVALL: Gas oedema complicating typhoid fever, 429
ELDER: Treatment of gonococcal arthritis by intramuscular injections of synovial fluid, 87
Elephantiasis, treatment of, 439
ELIZALDE: Pathological anatomy of influenza, 46
ELLIS: Unusual injury to back, 258
ELVING: The efficiency of various haemostatics, 362
Embolism of the limbs, operative treatment of, 510
Embolism of the limbs, relation of to heart disease, 303
Embolism, occipital lobe, 525
Emetine, action of on the uterus, 419
Empyema, non-operative treatment of, 575
Encephalitis, epidemic, experimental, in rabbits, 26
Encephalitis, epidemic, a mental form of, 132
Encephalitis, epidemic, the Parkinsonian syndrome in, 327
Encephalitis, epidemic, injury to the pituitary body by, 503
Encephalitis, epidemic, prognosis of, 478
Encephalitis lethargica, 519
Encephalitis lethargica, an experimental study of, 248
Encephalitis lethargica and pregnancy, 89
Encephalitis lethargica, sequelae of, 404
Endocarditis, infective, 351
Endocrine disorder and mental disease, 453
Endometrical and ovarian cycles, the relation of, 420
ENGELKENS: Primary cancer of the vagina, 315
ENGELMANN: Varicocele of the broad ligament, 366
Epididymis and tunica vaginalis, gonorrhoeal infection of, 85
Epigastric artery, spontaneous rupture of, 261
Epilepsy, luminal in, 177
Epilepsy and marriage, 431
Epilepsy treated by borax and potassium tartrate, 353
Epilpesy, incipient, 567
Epilepsy treated by operation, 360
Epilepsy following skull injuries: Possibility of cure by operation, 432
Epileptiform attacks in sero-fibrinous pleurisy, 570
Epileptoid attacks in hypopituitarism, 307
Epinephrin hydrochloride test in normal individuals, 447
Episcleritis, 13
Erysipelas in the newborn, treatment of, 207
Erythema, exudative, 194
Erythema nodosum, 55—Ammonium carbonate in, 456
Erythrocytes, sedimentation of as an aid to surgical diagnosis, 257
Erythrodermia, lymphoblastic, 123
Erythro-oedema and dermato-polyneuritis, 550
ESAU: Tetanus after abortion and pelvic suppuration, 120
ESTÈVE: Gangrene of the lung, 108
ESTOR: Hydatid cyst of the kidney, 363—Fracture of the patella, 579
Ethyl chloride anaesthesia 114
ETIENNE: Vascular syphilis, 206
Exanthem resembling measles in infants, 406
Exophthalmic goitre. *See* Goitre
Extensor longus pollicis tendon, "spontaneous" rupture of after Colles's fracture, 136
EYMER: Brow presentations, 538

F.

FABRE, Maurice: Treatment of metrorrhagia by pituitary extract, 516
Facial contracture of central origin, 434
FAIRLEY: Failure of tartar emetic in hydatid disease, 377
FALK: Treatment of hyperemesis gravidarum, 518
Fallopian tubes, chronic inflammatory conditions of, 18
FALQUE: The antitryptic power of the blood in anaphylactic shock, 324
FARRAN-RIDGE: Premature senility (progeria), 305
Fat of adipose tissue in malignant disease, 522
Favus, treatment of, 184
FAWCETT: Decapsulation of the kidneys, 531
FEHLING: An explanation of Colles's law, 317
FELETI: Aortic disease in pregnancy, 584
Femur, fracture of the neck of, 384
FERIZ: Powdered yeast in the prophylaxis of sore throat, 65
FERRARO: The colloid benzoin reaction in the cerebro-spinal fluid, 474
FERRY: Oesophageal diverticulum, 507
Fever, enteric, atypical, 502
Fever, enteric, complicated by *Bacillus aerogenes capsulatus* infection, 251
Fever, enteric, blood culture in the diagnosis of, 172
Fever, enteric, bronchi and lungs in, in children, 548
Fever, enteric, in children, 455
Fever, enteric, early formation of gall stones in, 387
Fever, enteric, complicated by gas oedema, 429
Fever, enteric, glomerular haemangiectasis in the nephritis of, 70
Fever, puerperal, antistreptococcal serum in, 193
Fever, puerperal, treatment and prophylaxis of, 267, 268
Fever, relapsing, cultivation of the spirochaete of, 495
Fever, scarlet, orchitis in, 379
Fever, typhus, Rickettsia in lice fed on cases of, 50
Fevers, haemolytic and water, 322
Fibroids of uterus, *x*-ray treatment of, 44, 444
FIESSINGER: Complications of rubella, 228
FIGI: Actinomycosis of the tongue, 601
Filariasis in China, 352
First year of life, a mixed diet in, 53
FISCHER: Haemostasis in suprapubic prostatectomy, 160
FISKE: The treatment of congenital club-foot, 83
Fistula, biliary, *x*-ray examination of, 358
Fistulae, pleuro-pulmonary, 433
Five children at a birth, 369
Fixation reaction in diagnosis of tuberculosis, 173
FLEISCHMANN: Development of myoma after ovarian grafting, 244
FLETCHER: Melioidosis, a new disease of the tropics, 148
Flies and small-pox, 595
FLORAND: Complications of rubella, 228
Fluid in infantile diarrhoea, administration of 306
Foetal malformations, syphilis as a cause of, 539
FOLEY: Rickettsia in lice fed on cases of typhus fever, 50
FÖLDES: Diabetic oedema and acidosis, 277
Fordyce and Fox's disease. *See* Fox
Foreign bodies in the brain, extraction of, 488
FORTWAENGLER, A.: The pyramidon test for blood, 562
FOURCADE: The bismuth treatment of syphilis, 51
FOURNIER: The bismuth treatment of syphilis, 51
FOWLER: Familial syphilis, 300—Results of sanatorium treatment of tuberculosis, 504
Fox and Fordyce's disease, 31
Fracture of the anterior superior spines, 440
Fracture, Colles's, followed by "spontaneous" rupture of the extensor pollicis tendon, 136
Fracture and dislocation of cervical vertebrae without paralysis, 435
Fracture of the neck of femur, 384
Fracture of the patella, 579
Fracture of the semilunar bone, 418
Fractures, a statistical survey of the treatment of, 557
Fractures of the ulnar styloid, 141
FRANK: Abdominal hernia, 309
FRASER: Standard of cure in syphilis, 568—Reaction of the blood in dyspnoea, 609
FREE: Luminal in epilepsy, 177
FREI: The coexistence of syphilis and tuberculosis in lymph glands, 457
FREUDENBERG: Treatment of infantile tetany with ammonium chloride, 357
FREY-BOLLI: Caesarean section under local anaesthesia, 394
FRIEDMAN: Progressive muscular dystrophy, 27
Fruits, dried, antiscorbutic value of, 328
FUCHS: The kidney affections of pregnancy, 221
FURUHATA: Distribution of the nitrogen in the protein of chicken sarcoma, 349
Fusiform bacillus bacteriaemia, 496

G.

Galactocele, 489
GALAGUIER: Treatment of the appendix stump, 485
Gall bladder, cholelithiasis and carcinoma of, 262
Gall bladder lesions, 260
Gall stones, early formation of in typhoid fever, 387
GAND: Hypertrophic rhinitis in the child, 551
GANDUCHEAU: Experiments with antivenereal prophylaxis, 17
Gangrene, diphtheritic, of the vagina, 69
Gangrene of the lung, 108
Gangrene, post-pneumonic, 163
Gangrene, pulmonary, treatment of, 79, 108
Gangrene of a uterine myoma after the menopause, 19
GARDEN: Lethargic encephalitis and pregnancy, 89
Gas-containing abscesses of the liver, 359
Gas oedema complicating typhoid fever, 429
GASTINEL: The unity of herpes, 247
Gastric ulcer. *See* Ulcer
GATÉ: Clinical reactions in the treatment of dermatoses by auto-haemotherapy, 99
GELLHORN: Present tendencies in gynaecological treatment, 392
Germany, frequency of abortion in, 121
Gestation, ectopic, 368
Gestation, tubal, salpingotomy for, 468
Gestation, coexisting uterine and ectopic, 42
Gestation. *See also* Pregnancy
GETTINGS: Administration of fluid in infantile diarrhoea, 306
GIBBON: Non-operative treatment of empyema, 575
GIESECKE: End-results of treatment of cancer of the uterus and vagina, 606
GIFFORD: Peripheral iridotomy in glaucoma, 337
GIRARDI: Sequelae of encephalitis lethargica, 404
GIVEN: Results of dental defects, 546
Gland, cervical, neoplasms of, 291
Gland, thyroid, operations on, 238—And immunity, 614. *See also* Thyroid
Glands, lymph, the coexistence of syphilis and tuberculosis in, 457
Glaucoma, peripheral iridotomy in, 337
Glaucoma, trephine operations for, 578
Glomerular haemangiectasis. *See* Haemangiectasis
Glucose, intravenous injections of in pruriginous skin diseases, 279
Glycosuria and diabetes in pregnancy, differential diagnosis of, 167
Glycosuria, renal, 586—As an early sign of pregnancy, 220
GOEDHART: Nonne's four reactions in syphilis, 229
Goitre, exophthalmic: *X*-ray treatment in, 407—And digitalis, 501—Basic metabolism in, 588. *See also* Graves's disease
Gold salts in the treatment of tuberculosis, 480
Gold-sol test in mental disease, 295
GONNELLA: Desquamation of the bladder epithelium in scarlatina, 571
Gonococcal arthritis treated by intramuscular injections of synovial fluid, 87
Gonococci in the preputial folds, 605
Gonorrhoea treated by cedar-wood oil, 34
Gonorrhoea, results of treatment for, 86

Gonorrhoeal infection of epididymis and tunica vaginalis, 85
GORDON: Progressive cerebral hemiplegia, 549
GOSIO: Pfeiffer's bacillus and influenza, 449
GOUGEROT: Syphilis without a chancre, 128
GOUILLIOUD: Myomectomy, 561
GRAEBKE: Rapidity of development of uterine myomata, 43
GRAM: Strauss's water test in orthostatic albuminuria, 154
Grape-sugar injections in dermatology, 103
Grape-sugar injections and salvarsan, 102
Graves's disease, influence of underfeeding on, 479. *See also* Goitre
GREEN: Calcium lactophosphate in cyclic vomiting, 383
GREENE: Chronic diffuse nephritis in childhood, 566
GREENBAUM: Yeast infections of the skin, 325
GREENTHAL: Unusual exanthem resembling measles in infants, 406
GREIG: Naevus of the meninges, 437
GRIFFITH: Value of butter-flour in infancy, 33
GRON: Bird-mite dermatitis, 130
GROSS: Cervical carcinoma and pregnancy, 559
GRYNFELTT: Galactocele, 489
GUEISSAZ: Erythema nodosum, 55
GUÉNOT: The bismuth treatment of syphilis, 51
GUILLAIN: Lethargic encephalitis and pregnancy, 89
GULEKE: Echinococcosis and actinomycosis of the spine, 164
GUNSETT: Treatment of sciatica, 334
GURD: Ambulatory treatment of chronic ulcers of the leg, 288
GUTHRIE: Experimental inoculation of human throats with virulent diphtheria bacilli, 122
Gynaecological diagnosis, *x*-ray examination of the pelvic colon in, 365
Gynaecological practice, heliotherapy in, 344
Gynaecological treatment, present tendencies in, 392, 393
GYÖRGY: Treatment of infantile tetany with ammonium chloride, 357

H.

Haemangiectases, glomerular, in the nephritis of typhoid fever, 70
Haematuria, a phenolphthalein test for, 246
Haematuria from rupture of a vesical varix, 508
Haemolysin, streptococcal, 521
Haemolytic streptococci and obstetric prognosis, 340
Haemophilic bacilli, 612
Haemoptysis and pulmonary tuberculosis, 380
Haemoptysis due to tuberculosis, treatment of, 106
Haemorrhage, "idiopathic," the course of, 242
Haemorrhage, intracranial, of the newborn, lumbar puncture in, 192
Haemorrhage during and after tonsillectomy, 185
Haemorrhage from the non-pregnant uterus, pathology of, 142
Haemosiderosis of pernicious anaemia, significance of, 520
Haemostasis in suprapubic prostatectomy, 160
Haemostatics, various, the efficiency of, 362
Hair, brittleness of, 2
HALBAN: Peritoneal tears produced by myomata, 92
HALLOPEAU: Vaccines in osteomyelitis, 58
HALPHEN: Treatment of whooping-cough 151
HANSEN: Surface tension and the action of antiseptics, 149, 298
HANSSEN: A statistical survey of the treatment of fractures, 557
HARRIS: The prostatic syndrome without evident enlargement, 11
HARTSHORN: Fracture and dislocation of cervical vertebrae without paralysis, 435
HARVEY: Bacterial virulence in relation to vaccine production, 587
HARVIER: An experimental study of lethargic encephalitis, 248—Encephalitis lethargica, 519
HASSENCAMP: Novasurol as a diuretic, 254
HAUDEK: *X*-ray treatment in exophthalmic goitre 407
HAVERKATE: Late recovery from katatonia, 129
Headache, relation of to functional monocularity, 414
Heart disease, relation of embolism of the limbs to, 303
Heart disease in pregnancy, 292
Heart disease, prognosis in, 255
Heart disease, the pulse deficit in the control of, 28
Heart failure acute, intracardiac injections of adrenaline in, 137
Heart, streptococcal infections of, 296
Heat-stroke, experimental immunity to, 95
Hegar's signs of pregnancy, 243
HEIBERG: Lupus treated with general carbon arc light baths, 409
Heliotherapy in gynaecological practice, 344
HELLER: Local use of acetyl-salicylic acid, 263—The effect of mercury in syphilis, 451
HELLMUTH: Bilirubinaemia in the newborn, 126
Hemiplegia, progressive cerebral, 549
HENNEBERG: Fatal cerebral lesions after salvarsan treatment, 354
HENROTAY: Syphilis as a cause of foetal malformations, 539
HEPBURN: Trephine operations for glaucoma, 578
HERBERT: After-treatment of small-flap sclerotomy, 532
Hernia, abdominal, 309
Hernia of the bladder, etiology of, 580
Hernia, diaphragmatic, 533
Hernia, femoral, radical cure of, 308
Hernia, sliding, 411
Herpes of genitals, virulence of the cerebrospinal fluid in, 124
Herpes, intercostal, following tuberculous pleurisy, 356
Herpes, unity of, 247
HERRMAN: *X*-ray treatment of tonsillar and adenoid tissue, 282
HEUBNER, O.: The nervous child, 596
HEWAT: Acute otitis media and mastoiditis treated by Schwartze operation, 115
Hiccup, epidemic, 158
Hiccup, treatment of, 302
HIESS: Treatment and prophylaxis of puerperal fever, 267
HIGLEY: Relationship of blood groups to disease, 273
HILLEMAND: Displacements of the trachea, 178—Variations in the antibody content of the serum in phthisical patients, 610
Hilum tuberculosis. *See* Tuberculosis
Hip, congenital dislocation of, 602
HIRSCHENHAUSER: Treatment and prophylaxis of puerperal fever, 267
HITZENBERGER: Static and respiratory displacement of the normal kidney, 30
HOFBAUER: Treatment of eclampsia, 165
HÖGLER: Treatment of sciatica, 161
HOLDEN: Operative treatment of chronic adnexal disease, 93
HOLST: Rheumatic myocarditis, 48
HOLTEN: Diagnostic value of the exercise temperature in tuberculosis, 547
HOLZAPFEL: A rare cause of atresia of the vagina, 470
HOUGHTON: Treatment of arterial hypertension, 505
HOWE: Staphylococcal haemolysin, 521
HÜLSE: Vaso-constrictor substances in the blood in high blood pressure, 374
Humerus, erect dislocation of the, 465
HUNZIKER: Small-pox and flies, 595
HURD: Acute infections of the nasal vestibule, 415
Hutinel's disease, 14
Hydatid cyst of the kidney, 363
Hydatid disease, antimony treatment of, 545
Hydatid disease of the spleen, 511
Hydatid disease, failure of tartar emetic in, 377
Hydatid thrill, 109
Hydatidiform mole and chorion epithelioma, 604
Hydrocele of the kidney, 37
Hyperemesis gravidarum, 398—Treatment of, 518
Hypertonus and diabetes, 127
Hypodermiasis, 454
Hypopituitarism, epileptoid attacks in, 307
Hysterectomy, abdominal, before removal of the cancerous rectum, 68
Hysterectomy, pre-Caesarean, 514
Hysterectomy, supravaginal, combined with interposition for procidentia, 67

I.

ICHOK: Diagnosis of tuberculosis by the reaction of fixation, 173
Icteric dermographia, 592
Icterohaemorrhagiae. *See* Jaundice
"Idiopathic" haemorrhage. *See* Haemorrhage
Immunity and vitamins, 372—And the thyroid gland, 614
Indican in the blood in renal disease, 611
Industrial dermatitis, 524
Infancy, value of butter-flour food in, 33—A mixed diet in the first year of life, 53—Rumination in, 105—The importance of otitis media in, 162
Infantile paralysis, 157
Infantilism in chronic appendicitis, 312
Infants: Pneumococcal infection in, 209—Ear disease in, 332—Unusual exanthem resembling measles in, 406—Diagnosis of peritonitis in, 412—Osteomyelitis of the superior maxilla in, 487
Infants' throats, bacterial flora of, 400
Infection following abortion, operative treatment of 560
Infections, acute, vaccine therapy in, 217
Inflammation of the orbit, post scarlatinal, 513
Influenza, etiological importance of Pfeiffer's bacillus in, 401, 449
Influenza, pathological anatomy of, 46
Influenza simulating appendicitis, 464
Insomnia, post-encephalitic, treatment of, 133
Interposition combined with supravaginal hysterectomy for procidentia, 67
Intertrigo, mycotic, 594
Intestinal stasis: Chronic, 239—Colectomy for, 556
Intestinal stasis and pulmonary tuberculosis, 252
Intraocular circulation, 558
Intestine, length of and the sitting height, 208
Iridotomy, peripheral, in glaucoma, 337
Iron in post-influenzal anaemia, 526
Ischio-rectal abscess. *See* Abscess
ISELIN: The danger of general anaesthesia in cyclic vomiting, 534
IYENGAR: Bacterial virulence in relation to vaccine production, 587
IZAR: The diagnosis of abdominal disease, 286

J.

JACKSON: Luminal in epilepsy, 177
JACOBAEUS: Veronal in the vomiting of pregnancy, 168
JACOBOVICI: Acute haemorrhagic pancreatitis, 236
JACOBSON: Lymphatic diseases, 145
JANNEY: Uterine tissue in the ovary, 375
JAULIN: Fracture of the anterior superior spines, 440
Jaundice: Icteric dermographia, 592
Jaundice: The presence of *Leptospira icterohaemorrhagiae* in rats, 565
JEANDELIZE: Paralysis of accommodation, 573
JELLINEGG: The length of the intestine and the sitting height, 208
JOACHIMOGLU: The fatal dose of arsenic, 203
JOHANNESSEN: A phenolphthalein test for haematuria, 246
JOSEFSON: The dangers of diagnostic pneumoperitoneum, 335
JOULIA: Mycotic intertrigo, 594
JUNDELL: A mixed diet in the first year of life, 53—Etiology and treatment of rickets, 174
JUVARA: Prolapse of the rectum, 553
JUVIN: Chronic lumbago of traumatic origin, 311

K.

KAMPSCHUTTE: Extraperitoneal dermoids, 421
KAPFF: Quinidine and digitalis in arrhythmia perpetua, 459
KARPMAN: Bromide delirium, 57
Katatonia, late recovery from, 129
KAWAMURA: Studies on measles, 423
KAZANJIAN: Plastic operations on the lip, 135
KEEGAN: Signs of pituitary tumour, 116
KELLOGG: Pregnancy toxaemia and uterine sepsis, 493
KENDALL: Metabolism of bacteria, 371
KENEDY: Calcium in salvarsan poisoning, 574
Keratitis parenchymatous, the value of specific treatment in, 329
KEY: Operative treatment of embolism of the limbs, 510
KEYSER: Massive hypertrophy of the breast, 84
KEYSSER: Inoculation of human malignant tumours in mice, 345
Kidney affections of pregnancy, 221
Kidney, bilateral cystic, 463
Kidney, hydatid cyst of, 363
Kidney, hydrocele of, 37
Kidney, normal, static and respiratory displacement of, 30
Kidneys, decapsulation of the 531
KIJZER: Treatment of cold abscesses with injections of cod-liver oil, 191
KILDUFFE: The Wassermann reaction, 319
KINDBERG: Treatment of pulmonary gangrene, 79
KIRKENDALL: Vaccine therapy in acute infections, 217
KIRSTEIN: Haemolytic streptococci and obstetric prognosis, 340
KISSMEYER: Acridine dyes in dermatology, 8
KLAUDER: Yeast infections of the skin, 325
KLEINBERG: Fracture of neck of femur, 384
KLIGLER: Cultivation of *Spirochaeta obermeiri*, 495
KLING: Experimental epidemic encephalitis in rabbits, 26—Dysentery in Vienna, 29
Knee, traumatic separation of the crucial ligaments of the, 111
Knee-joint, arthroplasty of, 283
KNEIER: Intracardiac injections of adrenaline in acute heart failure, 137
KOBAYASHI: The serum treatment of tetanus, 96
KOOY: Syringomyelia, 427
KOTZAREFF: Spontaneous rupture of the epigastric artery, 261
Knee splint in leg injuries, the Thomas, 483
KRAMER: Treatment of malaria, 101—Meningococcal meningitis following septicaemia, 330
KRAMER-PETERSEN: Asthma due to constipation, 155
KRANZ: The teeth and congenital syphilis, 231
KREFTING: Treatment of syphilis with salvarsan alone, 176
KRISER: *X*-ray treatment in exophthalmic goitre, 407
KRISTENSEN: Etiological importance of Pfeiffer's bacillus in influenza, 401
KROGIUS: Hydrocele of the kidney, 37
KROH: Treatment of hiccup, 302
KRONGOLD-VINAVER: Antistreptococcal serum in puerperal fever, 193
KUBINYI: Mortality of Wertheim's operation, 293
KÜHN: Diphtheritic gangrene of the vagina, 69
KÜTTNER: Division of the spermatic vessels for undescended testicle, 139
KYLIN: Hypertonus and diabetes, 127

L.

LABBÉ: Basic metabolism in exophthalmic goitre, 588
LABEAU: X-ray treatment of fibroids, 444
Labour, brow presentations, 538
Labour, induction of *versus* Caesarean section, 341
Labour, morphine, strychnine, and caffeine in, 144
Labour, myomata complicating, 241
Labour, routine podalic version, 316
LAFARGA: The reaction of saliva and its influence in dental caries, 424
LANDI: Epidemic hiccough, 158
LANGENDORFF: The value of specific treatment in parenchymatous keratitis, 329
LARIMORE: Significance of the haemosiderosis of pernicious anaemia, 520
Laryngeal symptoms in syringomyelia, 290
Laryngoscope, a thermo-, 190
LAUBRY: Displacements of the trachea, 178—Epileptiform attacks in sero-fibrinous pleurisy, 570
LAUNOY: The antitryptic power of the blood in anaphylactic shock, 324
LAURET: Thrombophlebitis of the cavernous sinus of dental origin, 41
LAUTIER: Treatment of gonorrhoea by cedarwood oil, 34—Sodium cinnamate in tuberculosis, 78
LAVENANT: Gonorrhoeal infection of epididymis and tunica vaginalis, 85—Chronic nephritis and enlarged prostate, 215
LECÈNE: Perforation of malignant ulcer of the pylorus, 512—Post-operative ulceration of the colon, 599
Leg injuries, the Thomas knee-splint in, 483
Leg ulcers, chronic, ambulatory treatment for, 288
LE GRAND: The pathology of diabetes insipidus, 543
Leishmaniasis, cutaneous, 544
LEMIERRE: Treatment of pulmonary gangrene, 79
LENORMANT: Thyroid malignancy with secondary deposits in bones, 40
LEPLAT: The intraocular circulation, 558
Leprosy, antimony in treatment of, 545
Leprosy, tubercular 152
Leptospira ictero haemorrhagiae in rats, 565
LEREBOULLET: Serum treatment of diphtheria, 134
LEROUX: Tar cancer in mice, 321—Cancer mortality, 472
LESTOCQUOY: Displacement of the trachea, 178—Variations in the antibody content of the serum in phthisical patients, 610
Leucorrhoea, yeast in the treatment of, 607
LEVADITI: The bismuth treatment of syphilis, 51 - An experimental study of lethargic encephalitis, 248—Encephalitis lethargica, 519
LEVI: Protein therapy in pregnancy toxaemias, 343
LEVIN: Episcleritis, 13
LEWIN: Osteitis deformans, 436
LEWIS: Endocrine disorder and mental disease, 453 — Pericarditic pseudo - pneumonia in children, 482—Renal glycosuria, 586
LEY: Ethyl chloride anaesthesia, 114
Lice fed on cases of typhus fever, Rickettsia in, 50
Lichen, abnormal forms of (Lichen obtusus), 381
LICHTENSTEIN: Treatment of eclampsia, 166
Ligament, broad, varicocele of, 366
LILJENQUIST: Experimental epidemic encephalitis in rabbits, 26
LINCOLN: Typhoid fever complicated by *Bacillus aerogenes capsulatus* infection, 251
LINDBERG: Iron in post-influenzal anaemia, 526
Lip, plastic operations on, 135
Lipoids, the anti-anaphylactic action of, 348
LITTLE: The operative treatment of epilepsy, 360
Liver abscess. *See* Abscess
Liver cancer. *See* Cancer
Liver diseases, statistics of, 572
LLAMBIAS: Pathological anatomy of influenza, 46
Lochia, pathology of the, 272
LOEW, A.: Tuberculous stricture of the duodenum, 554
LÖHR: Sedimentation of erythrocytes as an aid to surgical diagnosis, 257
LOLL: The diagnosis of intestinal tuberculosis, 313
LOSCHI: Partial symphysiectomy for pelvic contraction, 88
LOUBAT: Gangrene of a uterine myoma after the menopause, 19
LOWER: Operations on the thyroid gland, 238
LUBBERS: Hydatid disease of the spleen, 511
LUCIO: Mental symptoms following artificial menopause, 395
LUKOWSKY: Chronic cystic mastitis and carcinoma, 36
Lumbago, chronic, of traumatic origin, 311
Lumbar puncture in intracranial haemorrhage of the newborn, 192
Lumbar vertebra, fifth, sacralization of, 385
LUMBROSO: Observations on the significance of Prowazek's corpuscles in trachoma, 198
Luminal in epilepsy, 177
LUND: Treatment of acute and chronic pancreatitis, 138
LUNDSGAARD: The pulse deficit in the control of heart disease, 28—Clinical examination of pulse irregularity, 376
Lung, gangrene of, 108
Lungs and bronchi: Syphilis of, 527—In typhoid fever in children, 548
Lupus treated with general carbon arc-light baths, 409
Lupus vulgaris, the slightness of the contagion of, 355
LUSSANA: Fusiform bacillus bacteriaemia, 496
LUST: The treatment of post-encephalitic insomnia, 133
Lymph glands. *See* Glands
Lymphatic diseases, 145
Lymphoblastic erythrodermia, 123
Lymphoid tissues and *Treponema pallidum*, relationship of in experimental syphilis, 170
LYONS: Radium treatment of nasal polypi, 12

M.

MACCABRUNI: Cystic tumours of the uterus, 582
MCCOLLUM: Treatment of rickets by starvation, 249
MCCOLLUM: Is there more than one kind of rickets? 399
MACDONALD: Physical estimate of malarial disability, 326
MCKENNA: Stone in the ureter, 15
MACLACHLAN: Mycotic embolic aneurysms of peripheral arteries, 270—Industrial dermatitis, 524
MCMASTER: Significance of the haemosiderosis of pernicious anaemia, 520
MCNEAL: Prophylaxis of measles, 278
MACOMBER: Diet and sterility, 97
MAENDL: Intravenous injection of calcium chloride in pulmonary tuberculosis, 77
Magnesium sulphate, intramuscular injections of in treatment of paralysis agitans, 253
MAGUNNA: Treatment of trigeminal neuralgia with trichlorethylene, 528
MAIGNON: The sparing action of fats on the destruction of albumin in diabetes, 269
Malaria, 477
Malaria, chronic, ascites in, 593
Malaria, cinchonine in, 204
Malaria, treatment of, 101, 500
Malarial disability, physical estimate of, 326
Malarial neuritis, 100
Malignant disease, the fat of adipose tissue in, 522
Malignant metastasis in myoma, the frequency of, 66
MALLET: Displacements of the trachea, 178
MANNABERG: High blood pressure with tachycardia, 405
MANTOUX, Ch.: Treatment of pulmonary tuberculosis, 74
MARAGLIANO: Treatment of pulmonary tuberculosis, 75
MARAIS: Artificial pneumothorax, 402
MARCHAND: Cholelithiasis and carcinoma of the gall bladder, 262
MARFAN: Craniotabes and syphilitic rickets, 331
MARIE: The bismuth treatment of syphilis, 51
MARINGER: Results of treatment for gonorrhoea, 86
MARION: Haematuria from rupture of a vesical varix, 508
Marking-ink poisoning, 179
Marriage and epilepsy, 431
MARSHALL: Experimental inoculation of human throats with virulent diphtheria bacilli, 122
MARSHALL, Balfour: Myomata complicating pregnancy, labour, and the puerperium, 241
MARTEL: Colectomy for chronic intestinal stasis, 556
MARTELLI: The Wassermann reaction, 223
MARTIN: Chronic lumbago of traumatic origin, 311—Action of emetine on the uterus, 419
MARTINEZ: Abdominal arterio-sclerosis, 104
MARX: Osteomyelitis of the superior maxilla in infants, 487
MASAKI: Living sensitized cancer vaccine, 473——The mechanism of infection with cholera, 498
MASSARI: Gas-containing abscesses of the liver, 359
MASSINI: Tuberculous myocarditis, 76
Mastitis, chronic cystic, and carcinoma, 36
Mastoiditis and acute otitis media treated by Schwartze operation, 115
MATHIEU: Pancreatic cyst treated by enucleation, 462—Apparent increase of tubercle bacilli in sputum undergoing putrefaction, 541
MATTHEWS: Pregnancy after nephrectomy, 469
MATTSON: Human actinomycosis, 475
MAUCLAIRE: Sacralization of the fifth lumbar vertebra, 385
Maxilla, superior, osteomyelitis of in infants, 487
MAXWELL: Filariasis in China, 352
MAYER: Post-pneumonic gangrene, 163—Present tendencies in gynaecological treatment, 392—Treatment of malaria, 500
MEAKINS: Basal metabolic rate, 225
Measles, unusual exanthem res mbling measles in infants, 406
Measles, prophylaxis of, 278
Measles, studies on, 423
MEDI: Orchitis in scarlet fever, 379
Melioidosis, a new disease of the tropics, 148
MELVILLE: Hilum tuberculosis, 6
MENGE: Post-climacteric adenoma of the corpus uteri, 218
Meninges, naevus of, 437
Meningitis and meningismus, Pandy's reaction for differential diagnosis between, 446
Meningitis, meningococcal, following septicaemia, 330
Meningitis, mumps, experimental, 49
Menopause, artificial, followed by mental symptoms, 395
Menorrhagia treated by radium, 119
Mental disease and endocrine disorder, 453
Mental disease, gold-sol test in, 295
Mental symptoms following artificial menopause, 395
Mercurial tonsillitis, 9
Mercury and bismuth, 52
Mercury in syphilis, the effect of, 451
MERKLEN: Treatment of diarrhoea in tuberculosis by calcium chloride, 7
MESSERSCHMIDT: Destruction of tuberculous sputum, 323
Metastasis, malignant, frequency of in myoma, 66
Metatarsal, tuberculosis of the first, 338
Methyl violet in suppurating wounds, 63
Metrorrhagia treated by pituitary extract, 516
Mice, tumours in. *See* Tumours
MILIAN: Mercury and bismuth, 52—Paralysis of accommodation due to arsenobenzol, 361
MILIO: Whooping-cough in the newborn, 452
MINOT: The blood in tetrachlorethane poisoning, 171
MISSIROLI: Pfeiffer's bacillus and influenza, 449
MOENCH: Hegar's signs of pregnancy, 243
Mole, hydatidiform, and chorion-epithelioma, 604
MOLNAR: Sulphur injections in chronic arthritis, 256
MOLNÁR: The kidney affections of pregnancy, 221
MONDOLFO: The regional cuti-reaction, 125
Monocularity, functional, relation of headache to, 414
MONTELEONE: Treatment of anthrax, 213
MOON: Prognosis in heart disease, 255
MOOREHEAD: Plastic operations on the lip, 135
Morbilli bullosi, 181
MORIET: Hereditary optic atrophy, 264
Morphine, strychnine, and caffeine in labour, 144
MORTON: Morbilli bullosi, 181
MOSCHINI: Bronchotetany, 80
MOSS: Experimental inoculation of human throats with virulent diphtheria bacilli, 122—Yaws and syphilis, 346
MOSSÉ: Treatment of metrorrhagia by pituitary extract, 516
MOUCHET, A.: Osteomyelitis of the patella, 59—Fracture of the semilunar bone, 418
MOUKAYE: Neoplasms of the cervical glands, 291
MOZZETTI - MONTERUMICI: Heliotherapy in gynaecological practice, 344
MÜLLER: Statistics of liver diseases, 572
MULLER: Typhoid fever complicated by *Bacillus aerogenes capsulatus* infection, 251
MULS: The palate in relation to adenoids, 110
Mumps meningitis, experimental, 49
Muscles, abdominal, congenital insufficiency of, 259
Muscular dystrophy, progressive, 27
Muscular tonus, 201
MUTERMILCH: Cholera, 590
Mycotic intertrigo, 594
Myocarditis, rheumatic, 48
Myocarditis, tuberculous, 76
Myoma, the frequency of malignant metastasis in, 66
Myoma after ovarian grafting, development of, 244
Myoma of uterus, gangrene of after the menopause, 19
Myomata complicating pregnancy, labour, and the puerperium, 241
Myomata, peritoneal tears produced by, 92
Myomata, indications for radium treatment of, 443
Myomata, uterine, rapidity of development of, 43
Myomectomy, 561

N.

Naevus of the meninges, 437
NAKAHARA: Acquired resistance to cancer, 497
Nasal polypi, radium treatment of, 12
Nasal vestibule, acute infections of, 415
NAVARRO: Ectopic gestation, 368
NEBEL: Frequency of abortion in Germany, 121
Neo-arsphenamin and arsphenamin in the urine, elimination of, 271
Neoplasms of the cervical glands, 291
Nephrectomy, pregnancy after, 469
Nephritis, acute, ligation of the limbs for the pulmonary oedema of, 481
Nephritis, acute infections, etiology of, 16
Nephritis, chronic and enlarged prostate, 215
Nephritis, chronic diffuse, in childhood, 566
Nephritis of typhoid fever, glomerular haemangiectases in, 70
Nerve, recurrent laryngeal, paralysis of, after thyroidectomy, 416
Nervous child, the, 596
NEUDÖRFER: Ascariasis of the bile ducts, 569
NEULAND: Etiology and prognosis of serous pleurisy in children, 382
Neuralgia, trigeminal, treated by trichlorethylene, 528
Neuritis, malarial, 100
Neuro-psychiatric examinations, 280

NEW: Actinomycosis of the tongue, 601
Newborn, bilirubinaemia in, 126—Lumbar puncture in intracranial haemorrhage of, 192—Treatment of erysipelas in, 207—Whooping-cough in, 452
NICOLAS: Clinical reactions in the treatment of dermatoses by auto-haemotherapy, 99
NICOLAU: An experimental study of lethargic encephalitis, 248—Encephalitis lethargica, 519
NICOLAYSEN: Treatment of spontaneous rupture of the bladder, 600
NIEMEYER: Prostatic hypertrophy, 10
"Nitritoid crisis," 24
Nitrogen distribution in the protein of chicken sarcoma, 349
NOBECOURT: The bronchi and lungs in typhoid fever in children, 548
NOICA: Facial contracture of central origin, 434
Nonne's four reactions in syphilis, 229
NOORDENBOS: Hydatid disease of the spleen, 511
Novasurol as a diuretic, 254
NYE: Studies on the pneumonic exudate, 373

O.

Obstetric prognosis and haemolytic streptococci, 340
Occipital lobe embolism, 525
Ocular signs of diabetes, minor, 4
Oculo-cardiac reflex in tuberculosis, 200
ODESCALCHI: *X*-ray examination of the pelvic colon in gynaecological diagnosis, 365
Oedema, diabetic, and acidosis, 277
Oedema, gas. *See* Gas
Oesophageal diverticulum, 507
OGILVY: Arthroplasty of knee-joint, 283
Oil, cedar-wood, in treatment of gonorrhoea, 34
Oil, cod-liver, injections of in treatment of cold abscesses, 191
OPPENHEIMER: Carcinoma of the spine, 581
Optic atrophy, hereditary, 264
Orbit, post-scarlatinal inflammation of, 513
Orchitis in scarlet fever, 379
ORCUTT: Staphylococcal haemolysin, 521
Osteitis deformans, 436
Osteitis fibrosa, 597
Osteomyelitis, haemorrhagic, 60
Osteomyelitis of the superior maxilla in infants, 787
Osteomyelitis of the patella, 59
Osteomyelitis, vaccines in, 58
OTIS: Pulmonary diseases confused with tuberculosis, 276
Otitis media, acute, and mastoiditis, treated by Schwartze operation, 115
Otitis media, importance of, in infancy, 162
Otitis, scarlatinal, treatment of, 388
OTT: Treatment of cold abscesses, 339
Ovarian cysts. *See* Cyst
Ovarian and endometrical cycles, relation of, 420
Ovarian grafting, development of myoma after, 244
Ovarian torsion, 91
Ovary, uterine tissue in, 375

P.

Paget's disease. *See* Osteitis deformans
PAISSEAU: Malarial neuritis, 100
Palate in relation to adenoids, 110
Palate, soft, insufficiency of the, 389
Pancreatic cyst treated by enucleation, 462
Pancreatitis, acute and chronic treatment of, 138
Pancreatitis, acute haemorrhagic, 235, 236, 285
PANE: A simple method for the detection of the tubercle bacilli, 589
Pandy's reaction for differential diagnosis between meningitis and meningismus, 446
PANTON: Lymphoblastic erythrodermia, 123
Paralysis of accommodation, 573—Due to arsenobenzol, 361
Paralysis agitans treated by intramuscular injection of magnesium sulphate, 253
Paralysis, general, diagnosis of, 153—Arsenical treatment of, 458
Paralysis, infantile, 157
Paralysis of the recurrent laryngeal nerve after thyroidectomy, 416
PARDO-CASTELLO: Rhinoscleroma, 542
Parenchymatous keratitis. *See* Keratitis
PARIS: Epilepsy and marriage, 431
PARK: Is there more than one kind of rickets? 399
Parkinsonian syndrome in epidemic encephalitis, 326
PARSONS-SMITH: Infective endocarditis, 351
Patella, fracture of, 579
Patella, osteomyelitis of the, 59
Patella strained, 216
PATERSON: Dermato-polyneuritis and erythro-oedema, 550
PATHAULT: Syphilitic dyspepsia, 378
PATTERSON: *X*-ray examination of bile ducts and biliary fistula, 358
PAUCHET: Chronic intestinal stasis, 239
PAUTRIER: Abnormal forms of lichen, 381
PAUZAT: Congenital insufficiency of the abdominal muscles, 259
PEARCE: Relationship of *Treponema pallidum* and lymphoid tissues in experimental syphilis, 170
PEARSON: The Thomas knee-splint in leg injuries, 483
Pelvic colon, *x*-ray examination of in gynaecological diagnosis, 365
Pelvic contraction, partial symphysiectomy for, 88
Pelvic inflation, *x*-ray diagnosis after, 396
Pelvic varicocele, 197
Pelvis, female, variations in, 515
PENFOLD: Haemolytic and water fevers, 322
PERAZZI: Pathology of the lochia, 272
Pericarditic pseudo pneumonia in children, 482
Peridental tissues, the bacteriology of, radiographically suggesting infection, 224
PÉRIN: Paralysis of accommodation due to arsenobenzol, 361
Perineal ectopia of testis. *See* Testis
Peripheral arteries. *See* Arteries
Peripheral iridotomy in glaucoma, 337
Peritoneal tears produced by myomata, 92
Peritonitis, 598
Peritonitis in infants, diagnosis of, 412
PERRIN: Gangrene of the lung, 108
Pessary, intrauterine, the dangers of, 370
PETIT-DUTAILLIS: Indications for radium treatment of myomata, 443
PETTIT: The infectious nature of disseminated sclerosis, 585
PEYRE: Tar cancer in mice, 321
Pfeiffer's bacillus, differentiation of, 448
Pfeiffer's bacillus in influenza, 449—Etiological importance of, 401
PHANEUF: Indications for vaginal Caesarean section, 537
Phenolphthalein eruptions, 499
Phenolphthalein test for haematuria, 246
Phthisis. *See* Tuberculosis
PHILIBERT: Apparent increase of tubercle bacilli in sputum undergoing putrefaction, 541
PIÉDELIÈVRE: Treatment of pulmonary gangrene, 79
PIGNATTI: Treatment of elephantiasis, 439
PILOD: The Schick reaction, 471
PINEDA: The Wassermann reaction, 98
PIOTROWSKI: Radical cure of femoral hernia, 308
PIRIE: Schistosomiasis and hepatic carcinoma, 222
PIRRI: Radium in cancer of the cervix, 94
PISSAVY, A.: Splenopneumonia and tuberculous pneumonia, 107
Pituitary body, injury to by epidemic encephalitis, 503
Pituitary extract in metrorrhagia, 516
Pituitary extract, obstetric uses of, 466
Pituitary tumour, signs of, 116
Plastic operations on the lip, 135
Pleurisy, sero-fibrinous, epileptiform attacks in, 570
Pleurisy, serous, in children, etiology and prognosis of, 382
Pleurisy, tuberculous, followed by intercostal herpes, 356
Pleuro-pulmonary fistulae, 433
Pneumococcal infection in infants, 209
Pneumococcus, serological and morphological characteristics of the, 426
Pneumonia, early diagnosis of, 5
Pneumonia, relapses in, 81
Pneumonia, tuberculous, and splenopneumonia, 107
Pneumonic exudate, studies on the, 373
Pneumoperitoneum, 82—Dangers of diagnostic, 335
Pneumothorax, artificial, 402
POATE: Tendon transplantation, 61
Podalic version, routine, 316
Poisoning, marking-ink, 179
Poisoning by salvarsan, calcium in, 574
Poisoning, tetrachlorethane, the blood in, 171
Poliomyelitis, the doctor as carrier of, 408
Polypi, nasal, radium treatment of, 12
POMARET: The "nitritoid crisis," 24
PONTOPPIDAN: A new technique for intramuscular injections of calomel, 275
Porphyrinuria with abdominal colic, 476
PORTMANN: *X*-ray treatment of enlarged tonsils, 390
Potassium tartrate and borax in the treatment of epilepsy, 353
Potter's version, 316
Pregnancy, importance of antisyphilitic treatment during, 603
Pregnancy, aortic disease in, 584
Pregnancy and cervical carcinoma, 559
Pregnancy, differential diagnosis of glycosuria and diabetes in, 167
Pregnancy, extrauterine, reinfusion of blood after rupture of, 219
Pregnancy, heart disease in, 292
Pregnancy, Hegar's sign of, 243
Pregnancy, kidney affections of, 221
Pregnancy, labour, and the puerperium complicated by myomata, 241
Pregnancy and lethargic encephalitis, 89
Pregnancy after nephrectomy, 469
Pregnancy, renal glycosuria as an early sign of, 220
Pregnancy, suprarenal insufficiency in, 397
Pregnancy toxaemias, chemical investigation of, 535
Pregnancy toxaemias treated by protein therapy, 343
Pregnancy toxaemias treated by intravenous injections of sodium chloride and carbonate, 20
Pregnancy toxaemias and uterine sepsis, 493
Pregnancy and tuberculosis, 265
Pregnancy, vomiting of, veronal in, 168—Thyroid extract in, 318
Pregnancy. *See also* Gestation
PRINGLE: Erect dislocation of the humerus, 465
PROBSTNER: Treatment of chronic adnexal inflammation, 342
Procidentia, interposition combined with supravaginal hysterectomy for, 67
Progeria, 305. *See also* Senility, premature
Prostate, carcinoma of, 506
Prostate, enlarged, and chronic nephritis, 215
Prostatectomy, suprapubic, haemostasis in, 160
Prostatic hypertrophy, 10—Treatment of, 438
Prostatic syndrome without evident enlargement, 11
Protein therapy in pregnancy toxaemias, 343
Proteins, foreign, skin tests with, 202
PROUST: Pneumoperitoneum, 82—Abdominal application of radium in inoperable cancer of the cervix, 196
Prowazek's corpuscles in trachoma, observations on the significance of, 198
Pruriginous skin diseases, intravenous treatment of, 279
Pseudo-pneumonia, pericarditic, in children, 482
PUENTE: The staining of spirochaetes in films, 450
Puerperal fever, antistreptococcal serum in, 193,
Puerperal fever, treatment and prophylaxis of, 267, 268
Puerperal infection treated by douches of Dakin's fluid, 169
Puerperal pyaemia, venous ligature for, 90
PUIG Y ROIG: Suprarenal insufficiency in pregnancy, 397
Pulmonary diseases confused with tuberculosis, 276
Pulmonary oedema of acute nephritis, ligation of the limbs for, 481
Pulmonary tuberculosis. *See* Tuberculosis
Pulse deficit in the control of heart disease, 28
Pulse irregularity, clinical examination of, 376
PULVIRENTI: Circumscribed bromide eruption, 32
Purpura, the experimental production of, 245
Pyaemia, puerperal, venous ligature for, 90
Pyelitis, 484
Pyelonephritis, acute, etiology of, 16
Pyramidon test for blood, 562

Q.

QUARTIER: Gangrene of the lung, 108
QUIMAUD: Synthetic method for growing tubercle bacilli, 445
Quinidine in auricular fibrillation, 56—In cardiac therapy, 175
Quinidine and digitalis in arrhythmia perpetual 459

R.

RABEAU: The virulence of the cerebro-spinal fluid in cases of genital herpes, 124
RACKEMANN: Skin tests with foreign proteins, 202
Radium in cancer of the cervix, 94, 195, 196, 490, 491, 492
Radium therapy in cancer of the tongue, 214
Radium therapy, a method of intrapelvic, 143
Radium treatment of cancer of the pregnant uterus, 266
Radium treatment of menorrhagia, 119
Radium treatment of myomata, indications for, 443
Radium treatment of nasal polypi, 12
Rats, the presence of *Leptospira ictero-haemorrhagiae* in, 565
RAVAUT: The virulence of the cerebro-spinal fluid in cases of genital herpes, 124—Treatment of ringworm of the beard, 250
RAVINA: Early formation of gall stones in typhoid fever, 387
REBELLO: A method for the diagnosis of death, 425
Rectum, cancer of. *See* Cancer
Rectum, prolapse of, 552, 553
Red blood corpuscles. *See* Blood
REESE: Small-pox and flies, 595
Regional cuti-reaction, 125
REICH: Static and respiratory displacement of the normal kidney, 30
REILLY: The unity of herpes, 247
Relapsing fever. *See* Fever
Renal disease, indican in the blood in, 611
Renal glycosuria, 586—As an early sign of pregnancy, 220
RENARD: Pneumococcal infection in infants, 209
RENAUD: The importance of otitis media in infancy, 162
REYNOLDS: Diet and sterility, 97
Rheumatic myocarditis, 48
Rhinitis, hypertrophic, in the child, 551
Rhinoscleroma, 542
RICE: Adrenaline and shock, 540
RICHARD: Abdominal hysterectomy before removal of cancerous rectum, 68
RICHET: Experimental immunity to heat-stroke, 95
RICHEY: Mycotic embolic aneurysms of peripheral arteries, 270

RICHTER: Intravenous injections of grape sugar in dermatology. 103
Rickets, deficiency of fat-soluble vitamins in, 320
Rickets, etiology and treatment of, 174
Rickets: Is there more than one kind of rickets? 399
Rickets treated by starvation, 249
Rickets, syphilitic, and craniotabes, 331
Rickettsia in lice fed on cases of typhus fever, 50
RICKMANN: Haemoptysis and pulmonary tuberculosis, 380
Ringworm of the beard, treatment of, 250
RIVERS: Haemophilic bacilli, 612
ROBERT: The bismuth treatment of syphilis, 51
ROBERT-LEROUX: Ear disease in infants, 332
ROBERTS: Extreme dilatation of the duodenum due to chronic obstruction, 386
ROBERTSON: Haemolytic and water fevers, 322—Cultivation of *Spirochaeta obermeiri*, 495
ROBIN: The red blood cells in cancer, 297
ROCHER: Cranioplasty with bone grafts from the tibia, 35
ROLANDO: Bilateral cystic kidney, 463
ROQUETTE: Treatment of favus, 184
ROSENBLATT: Dysentery in Vienna, 29
ROSS: Reaction of the blood in dyspnoea, 609
ROUBITSCHEK: Renal glycosuria as an early sign of pregnancy, 220
ROUQUIER: A mental form of epidemic encephalitis, 132
ROUS: Significance of the haemosiderosis of pernicious anaemia, 520
ROUSLACROIX: Complement fixation reaction in tuberculosis, 226
ROUSSY: Tar cancer in mice, 321—Cancer mortality, 472—Pathology of diabetes insipidus, 543
Rubella, complications of, 228
RUDOLF: Babinski's reflex, 350
Rumination in infancy, 105
RUNEBERG: Etiology of acute infectious nephritis and pyelonephritis, 16

S.

SABOURAUD: Brittleness of the hair, 2
SABRAZÈS: Glomerular haemangiectases in the nephritis of typhoid fever, 70
SACKS: Episcleritis, 13
SACQUÉPÉE: Relapses in pneumonia, 81
Sacralization of the fifth lumbar vertebra, 385
Saliva, the reaction of, and its influence on dental caries, 424
SALOMON: Differential diagnosis of glycosuria and diabetes in pregnancy, 167
SALOMONSEN: Treatment of scarlatinal otitis, 388—Post-scarlatinal inflammation of the orbit, 513
Salpingotomy for tubal gestation, 468
Salvarsan alone in treatment of syphilis, 176
Salvarsan and grape-sugar injections, 102
Salvarsan poisoning, calcium in, 574
Salvarsan, silver, 131. *See also* Arsphenamin
Salvarsan treatment, complications of, 230
Salvarsan treatment, fatal cerebral lesions after, 354
Salvarsan. *See also* Syphilis
SAMENGO: A thermo-laryngoscope, 190
SAMPSON: Perforating haemorrhagic cysts of the ovary, 117
SANARELLI: Pathogenicity of cholera, 72
Sanatorium treatment of tuberculosis, results of, 504
SANGUINETTI: Cinchonine and malaria, 204
SANTON: The bismuth treatment of syphilis, 51
SANZ: Prognosis of epidemic encephalitis, 478
SAPPEY: The cause of "idiopathic" haemorrhage, 242
SARAGEA: The diameter of human red blood corpuscles at different ages, 347
Sarcoma, chicken, distribution of nitrogen in the protein of, 349
Sarcoma of uterus, *x*-ray treatment of, 364
Saturnine asthma, 183
SAUVE: Extraction of foreign bodies from the brain, 488
SAZERAC: The bismuth treatment of syphilis, 51
Scabies norvegica, 3
Scarlatina, desquamation of the bladder epithelium in, 571
Scarlatinal otitis, the treatment of, 388
SCHAEFFER: Malarial neuritis, 100
SCHÄFER: Treatment of ovarian carcinoma, 536
SCHAUMAN: Periodicity of the incidence of chlorosis, 301
SCHELLENBERG: Gold salts in the treatment of tuberculosis, 480
Schick reaction, 471. *See also* Diphtheria
SCHIFFMANN: Indications for Caesarean section, 21
Schistosomiasis and hepatic carcinoma, 222
SCHOLL: Diagnostic exploitation of local anaesthesia, 289
SCHOLTZ: Intravenous injections of grape-sugar in dermatology, 102
SCHOPPER: Gonococci in the preputial folds, 605
SCHREIBER: Intercostal herpes following tuberculous pleurisy, 356
SCHÜRER: Icteric dermographia, 592
SCHWARTZ: Abdominal application of radium in inoperable cancer of the cervix, 195—Acute haemorrhagic pancreatitis, 235
Schwartze operation in treatment of acute otitis media and mastoiditis, 115
SCHWEITZER: Treatment of cervical carcinoma, 441 — Hydatidiform mole and chorion-epithelioma, 604
Sciatica, saturnine, 281
Sciatica, treatment of, 161, 334
Sclerosis, disseminated, the infectious nature of, 585
Sclerotomy, small-flap, after-treatment of, 532
SCOTT: Pathology of haemorrhage from the non-pregnant uterus, 142
SEDELMEIER: Hyperemesis gravidarum, 398
SEITZ: *X*-ray treatment of sarcoma of the uterus, 364—Radiotherapy for cancer of the cervix, 491—Brow presentations, 538
Semilunar bone, fracture of, 418
Semilunar cartilage, injuries to, 284
Senility, premature (progeria), 305
Septicaemia followed by meningococcal meningitis, 330
SEQUEIRA: Lymphoblastic erythrodermia, 123
SERGENT: Rickettsia in lice fed on cases of typhus fever, 50
Serum, antistreptococcal, in puerperal fever, 193
Serum treatment of diphtheria, 134
Serum in phthisical patients, variations in the antibody content of, 610
Serum treatment of tetanus, 96
SESTINI: The thyroid gland and immunity, 614
SEUCERT: Oesophageal diverticulum, 507
SHERWIN: Induction of labour *versus* Caesarean section, 341
SHIPLEY: Is there more than one kind of rickets? 399
Shock and adrenaline, 540
SICHEL: Relation of conjunctivitis to rainfall, 287
SIEGEL: Duration of life in cancer of the uterus, 294
Silver arsphenamin. *See* Arsphenamin
Silver salvarsan. *See* Salvarsan
SIMMONDS, Nina: Treatment of rickets by starvation, 249—Is there more than one kind of rickets? 399
SINDING LARSEN: Strained patella, 216
SINSKEY: Episcleritis, 13
Sinus acceleration, intermittent, 591
Skin diseases, pruriginous, intravenous treatment of, 279
Skin tests with foreign proteins, 202
Skin, tuberculosis of, an intracutaneous reaction for, 199
Skin, yeast infections of, 325
SLUYS: Radium therapy in cancer of the tongue, 214
Small-pox and flies, 595
SMITH: Ovarian torsion, 91—The Barraquer operation for cataract, 112—The blood in tetrachlorethane poisoning, 171
SMITH, Hardwick: Peritonitis, 598
SNAPPER: Abdominal colic with porphyrinuria, 476—Indican in the blood in renal disease, 611
SNELL: The relation of headache to functional monocularity, 414
Sodium chloride and carbonate, toxaemias of pregnancy treated by intravenous injections of, 20
Sodium cinnamate in tuberculosis, 78
SOLIERI: Pre-Caesarean hysterectomy, 514
SOLLIER: The presence of *Leptospira icterohaemorrhagiae* in rats, 565
Sore throat. *See* Throat
SPEIDEL: Routine podalic version, 316
Spermatic vessels, division of for undescended testicle, 139
Spine, carcinoma of, 581
Spines, fracture of the anterior superior, 440
Spirochaeta obermeiri, cultivation of, 495
Spirochaetes in films, the staining of, 450
SPITZER: The coexistence of syphilis and tuberculosis in lymph glands, 457
Spleen, hydatid disease of the, 511
Splenopneumonia and tuberculous pneumonia, 107
Splint, knee (Thomas's), in leg injuries, 483
SORREL: Tuberculosis of the first metatarsal in a child, 338
SPOLVERINI: Infantile amoebic dysentery, 182
Spondylitis, tuberculous, treatment of, 240
Spondylitis, typhoid, 140
Sputum, tuberculous, destruction of, 323
Stammerers, confirmed, re-educational treatment of, 523
STANCA: Tubal carcinoma, 467
STANTON: Melioidosis, a new disease of the tropics, 148
STAPELMOHR: "Spontaneous" rupture of the extensor longus pollicis tendon after Colles's fracture, 136
Staphylococcal haemolysin, 521
Starvation treatment of rickets, 249
STEINBERG: Salvarsan and grape-sugar injections, 102
STEINWEG: Yeast in the treatment of leucorrhoea, 607
Sterility and diet, 97
STEVENIN: Basic metabolism in exophthalmic goitre, 588
STEWART: Pregnancy and tuberculosis, 265
STILL: Cephalic bruits in children, 150
Stone in the ureter, 15
STRASSBERG: Intravenous treatment of pruriginous skin diseases, 279
STRASSMANN: Treatment of ovarian carcinoma, 536
Strauss's water test in orthostatic albuminuria, 154
Streptococcal infections of the heart, 296
Streptococcal sore throat, 403
Streptococci, haemolytic, and obstetric prognosis, 340
STROPENI: Coexisting uterine and ectopic gestation, 42
Strychnine, morphine, and caffeine in labour, 144
Sulphur injections in chronic arthritis, 256
Suppurating wounds. *See* Wounds
Suprarenal insufficiency in pregnancy, 397
Surface tension and the action of antiseptics, 149, 298
Surgical diagnosis, sedimentation of erythrocytes as an aid to, 257
SVARTZ: Blood culture in the diagnosis of typhoid fever, 172
SWOLFS: Dementia praecox, 430
Symphysiectomy, partial, for pelvic contraction, 88
Synovial fluid, intramuscular injections of, in treatment of gonococcal arthritis, 87
Syphilis, bismuth treatment of, 51
Syphilis of the bladder, 212
Syphilis of the bronchi and lungs, 527
Syphilis without a chancre, 128
Syphilis and Colles's law, explanation of, 317
Syphilis, congenital, the teeth and, 231
Syphilis, experimental, relationship of *Treponema pallidum* to lymphoid tissues in, 170
Syphilis, familial, 300
Syphilis as a cause of foetal malformations, 539
Syphilis, the effect of mercury in, 451
Syphilis, Nonne's four reactions in, 229
Syphilis, salvarsan treatment of, complications of, 230
Syphilis, silver arsphenamin in, 131
Syphilis treated by modern methods, results of, 205
Syphilis treated by salvarsan alone, 176
Syphilis, standard of cure in, 568
Syphilis and tuberculosis coexisting in lymph glands, 457
Syphilis, vascular, 206
Syphilis, Wassermann test in. *See* Wassermann
Syphilis and yaws, 346
Syphilitic dyspepsia, 378
Syphilitic rickets. *See* Rickets
Syringomyelia, 427
Syringomyelia, laryngeal symptoms in, 290
SZYMANOWICZ: The relation of ovarian and endometrical cycles, 420

T.

Tachycardia with high blood pressure, 405
TALLQVIST: The influence of underfeeding on Graves's disease and diabetes, 479
Tar cancer. *See* Cancer
TARGOWLA: Diagnosis of general paralysis, 153
Tartar emetic in hydatid disease, 545—Failure of, 377
TEAGUE: Soft chancre, 563
TEDESCHI: Saturnine asthma, 183—Saturnine sciatica, 281
Teeth: The bacteriology of peridental tissues radiographically suggesting infection, 224
Teeth and congenital syphilis, 231
TEISSIER: The unity of herpes, 247
Temporal lobe, tumours of, 336
Tendon, extensor longus pollicis, "spontaneous" rupture of, after Colles's fracture, 136
Tendon transplantation, 61
TENNEY: *X*-ray examination of bile ducts and biliary fistula, 358
TERRIEN: The minor ocular signs of diabetes, 4
Testicle, undescended, division of the spermatic vessels for, 139
Testis, congenital perineal ectopia of the, 38
Tetanus after abortion and pelvic suppuration, 120
Tetanus, infantile, treated with ammonium chloride, 357
Tetanus, serum treatment of, 96
Tetrachlorethane poisoning, the blood in, 171
THERASSE: The optimum dose of tuberculin, 234
Thermo-laryngoscope, 190
THIES: Reinjection of effused blood, 188
THJÖTTA: Streptococcal sore throat, 403
THOMAS: A new cancer serum reaction, 422
Thomas splint. *See* Splint
THOMSON: Urinary calculus, 39
Throat infections: *X*-ray treatment of, 461
Throat, sore, powdered yeast in the prophylaxis of, 65
Throat, sore, streptococcal, 403
Throats of infants, bacterial flora of, 400
Thrombophlebitis of the cavernous sinus of dental origin, 41
Thrombosis of the aorta, 428
THURSFIELD: Dermato-polyneuritis and erythro-oedema, 550
Thyroid extract in the vomiting of pregnancy, 318
Thyroid gland, operations on, 238—And immunity, 614
Thyroid malignancy with secondary deposits in bones, 40
Thyroidectomy followed by paralysis of the recurrent laryngeal nerve, 416
TILMAN: Epilepsy following skull injuries; possibility of cure by operation, 432
Tongue, actinomycosis of, 601

Tongue, cancer of. *See* Cancer
Tonsillar tissue, *x*-ray treatment of, 282
Tonsillectomy, haemorrhage during and after, 185
Tonsillitis, mercurial, 9
Tonsils and adenoids operations, end-results of, 310
Tonsils, enlarged, *x*-ray treatment of, 390
TOOMEY, Noxon: Hypodermiasis, 454
TÖPLER: Reinfusion of blood after rupture of an extrauterine pregnancy, 219
Toxaemias of pregnancy. *See* Pregnancy
Trachea, displacements of, 178
Trachoma, observations on the significance of Prowazek's corpuscles in, 198
TRACY: Incipient epilepsy, 567
TRAMPOL: Arsenical treatment of general paralysis, 458
Trephine operations for glaucoma, 578
Treponema pallidum and lymphoid tissues in experimental syphilis, relationship of, 170
Trichlorethylene in treatment of trigeminal neuralgia, 528
Trigeminal neuralgia. *See* Neuralgia
TROCELLO: Treatment of epilepsy by borax and potassium tartrate, 353
Tropics, a new disease of the (melioidosis), 148
TSYKALAS: Treatment of bilharzia, 180
Tubercle bacilli in the blood, 299
Tubercle bacilli, a synthetic method for growing, 445
Tubercle bacilli, apparent increase of in sputum undergoing putrefaction, 541
Tubercle bacillus, a method of obtaining a homogeneous culture of, 23
Tubercle bacilli, a simple method for the detection of the, 589
Tubercular leprosy. *See* Leprosy
Tuberculin cuti-reaction, 125. *See also* Cuti-reaction
Tuberculin, the optimum dose of, 234
Tuberculosis following circumcision, 417
Tuberculosis, complement-fixation reaction in, 226
Tuberculosis, diagnosis of by the reaction of fixation, 173
Tuberculosis, diarrhoea in, treated by calcium chloride, 7
Tuberculosis, exercise temperature in, diagnostic value of, 547
Tuberculosis, experimental, the intradermal reaction in, 494
Tuberculosis, gold salts in the treatment of, 480
Tuberculosis, haemoptysis due to, treatment of, 106
Tuberculosis, hilum, 6, 210
Tuberculosis, intestinal, diagnosis of, 313
Tuberculosis of the first metatarsal in a child, 338
Tuberculosis, the oculo-cardiac reflex in, 200
Tuberculosis and pregnancy, 265
Tuberculosis, pulmonary, and haemoptysis, 380
Tuberculosis, pulmonary, and intestinal stasis, 252
Tuberculosis, pulmonary, intravenous injection of calcium chloride in, 77
Tuberculosis, pulmonary, treatment of, 74, 75
Tuberculosis, pulmonary diseases confused with, 276
Tuberculosis, sanatorium treatment of, results of, 504
Tuberculosis, sodium cinnamate in, 78
Tuberculosis of the skin, an intracutaneous reaction for, 199
Tuberculosis and syphilis coexisting in lymph glands, 457
Tuberculous myocarditis, 76
Tuberculous patients, variations in the antibody content of the serum in, 610
Tuberculous pleurisy followed by intercostal herpes, 356
Tuberculous pneumonia and splenopneumonia, 107
Tuberculous spondylitis, treatment of, 240
Tuberculous sputum, destruction of, 323
Tuberculous stricture of the duodenum, 554
Tumour, pituitary, signs of, 116
Tumours in children, development of, 64
Tumours in mice, inoculation of human malignant, 345
Tumours of the temporal lobe, 336
Tumours of the uterus, cystic, 582
Tunica vaginalis and epididymis, gonorrhoeal infection of, 85
TURPIN: Treatment of diarrhoea in tuberculosis by calcium chloride, 7
Typhoid fever. *See* Fever, enteric
Typhoid spondylitis, 140
Typhus fever. *See* Fever
TZÉLÉPOGLOU: Galactocele, 489

U.

UGÓN: Typhoid fever in children, 455
Ulcer, duodenal, perforated, 460
Ulcer, duodenal, treatment of, 211
Ulcer, gastric, the pathogenesis of, 413, 509
Ulcer, gastric, treatment of, 211
Ulcer of the pylorus, perforation of malignant, 512
Ulceration of colon, post-operative, 599
Ulcers of leg, chronic, ambulatory treatment for, 288
Ulnar styloid, fractures of, 141
Underfeeding and internal secretion, 479
Uraemic conditions, the diagnosis of, 233
Ureter, stone in the, 15
Ureteral calculus, non-operative treatment of, 530
Urinary calculus, 39
Urinary tract, vaccine treatment of infections of, 555
Urine, elimination of arsphenamin and neo-arsphenamin in, 271
Urine, composition of, 71
Urine retention, prevention of post-operative, 113
URQUHART: Serological and morphological characteristics of the pneumococcus, 426
Uterine fibroids. *See* Fibroids
Uterine gestation. *See* Gestation
Uterine myomata. *See* Myomata
Uterine sarcoma. *See* Sarcoma
Uterine sepsis and pregnancy toxaemia, 493
Uterine tissue in the ovary, 375
Uterus, action of emetine on, 419
Uterus, non-pregnant, pathology of haemorrhage from, 142
Uterus, perforation of without destruction of ovum, 367
Uterus, post-climacteric adenoma of, 218
Uterus, tumours of. *See* Tumours

V.

Vaccination against bacillary dysentery, 47
Vaccine, cholera, living sensitized, 473
Vaccine production, bacterial virulence in relation to, 587
Vaccine therapy in acute infections, 217
Vaccines in osteomyelitis, 58
Vaccines in infections of the urinary tract, 555
Vagina, diphtheritic gangrene of the, 69
Vagina, a rare cause of atresia of, 470
VAN DER HEUVEL: Results of the modern treatment of syphilis, 205
VANVERTS: Operative treatment of infection following abortion, 560
VAN VLOTEN: Indican in the blood in renal disease, 611
VAN WAGENEN: Observations on the epinephrin hydrochloride test in normal individuals, 447
VAN ZWALUWENBURG: *X*-ray diagnosis after pelvic inflation, 396
Varicocele of the broad ligament, 366
Varicocele, pelvic, 197
Vaso-constrictor substances in the blood in high blood pressure, 374
VAUDREMER: A method of obtaining a homogeneous culture of the tubercle bacillus, 23
VEDOVA, Dalla: The treatment of tuberculous spondylitis, 240
Venereal. *See* Antivenereal
Venous ligature for puerperal pyaemia, 90
VERNET: Epilepsy and marriage, 431
Veronal in the vomiting of pregnancy, 168
Version, routine podalic, 316
Vertebra, fifth lumbar, sacralization of, 385
Vertebrae, cervical, fracture and dislocation of without paralysis, 435
Vesical varix, haematuria from rupture of a, 508
VIALATTE: Rickettsia in lice fed on cases of typhus fever, 50
Vienna, dysentery in, 29
VINCENT: Vaccination against bacillary dysentery, 47—The Schick reaction, 471
VINEBERG: Interposition combined with supra-vaginal hysterectomy for procidentia, 67
Vitamins and immunity, 372
VOGT: Prevention of post-operative retention of urine, 113
Volkmann's syndrome, the pathogeny of, 22
Vomiting, cyclic: calcium lactophosphate in, 383—Danger of general anaesthesia in, 534
Vomiting of pregnancy. *See* Pregnancy
V. FEKETE: The kidney affections of pregnancy, 221
VON OETTINGEN: Treatment of pregnancy toxaemias by intravenous injections of sodium chloride and carbonate, 20

W.

WAKELEY: Fractures of the ulnar styloid, 141
WALLGREN: The doctor as carrier of poliomyelitis, 408
WARTHIN: Differential diagnosis of cervical cancer and chancre, 517
Wassermann reaction, 98, 223, 319
Water fevers. *See* Fevers
WATSON: The etiology of hernia of the bladder, 580
WEBER, Parkes: Dermato-polyneuritis and erythro-oedema, 550
WEBSTER: Composition of the urine, 71
WEGELE: Treatment of hiccup, 302
WEIL: Pandy's reaction for differential diagnosis between meningitis and meningismus, 446
WEISSHAPFEL: Laryngeal symptoms in syringomyelia, 290
WELLS: Treatment of beri-beri, 1
WERNSTEDT: Rumination in infancy, 105
Wertheim's operation, mortality of, 293
WETTERWALD: The dangers of the intrauterine pessary, 370
WHITEHOUSE: Salpingectomy for tubal gestation, 468
Whooping-cough in the newborn, 452
Whooping-cough, treatment of, 151
WIEDKOPF: The secondary effects and sequels of local anaesthesia, 391
WILLIAMS: Variations in the female pelvis, 515
WINTER: Early diagnosis of cervical cancer, 118
WINTZ: *X*-ray treatment of sarcoma of the uterus, 364
WISE: Post-pneumonic gangrene, 163—Phenolphthalein eruptions, 499
WITHERBEE: *X*-ray treatment of throat infections, 461
WOLFERTH: Quinidine in auricular fibrillation, 56
WOLFF: Tuberculosis following circumcision, 417
WOLLF: The rate of growth of cervical cancer, 583
WOLLSTEIN: Experimental mumps meningitis, 49
WOODS: Occipital lobe embolism, 525
Wounds, cicatrization of, 564
Wounds, suppurating, methyl violet in, 63
WRIGLEY: End-results of tonsils and adenoids operations, 310
WULFF: Vaccines in infections of the urinary tract, 555
WÜRTZEN: The diagnostic value of the exercise temperature in tuberculosis, 547
WYBAUW: Quinidine in cardiac therapy, 175

X.

X-ray diagnosis after pelvic inflation, 396
X-ray examination of bile ducts and biliary fistula, 358
X-ray examination of the pelvic colon in gynaecological diagnosis, 365
X-ray treatment in exophthalmic goitre, 407
X-ray treatment of fibroids, 444
X-ray treatment of throat infections, 461
X-ray treatment of tonsillar and adenoid tissue, 282
X-ray treatment of enlarged tonsils, 390
X-ray treatment of uterine fibroids, 44, 444
X-ray treatment of uterine sarcoma, 364

Y.

Yaws and syphilis, 346
Yeast infections of the skin, 325
Yeast, powdered, in the prophylaxis of sore throat, 65
Yeast in the treatment of leucorrhoea, 607
YOUNG: Cerebral injury and cranioplasty, 486—Osteitis fibrosa, 597

Z.

ZINSSER: Identity of antibodies, 25
ZOELLER: The Schick reaction, 471
ZWEIG: Atypical typhoid fever, 502

Printed and published by the British Medical Association at their Office, No. 429 Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

1. Treatment of Beri-beri.

NUMEROUS investigations have, as is well known, shown that beri-beri is a deficiency disease, which frequently occurs by continued living on decorticated rice. WELLS (*Philippine Journ. of Science*, July, 1921) now describes a method whereby the rice polishings can be treated in such a manner as to yield a liquid containing a large proportion of the active antineuritic factor, which can then be used for the cure of cases of the disease. The general technique is to extract the polishings of white rice with alcohol, to separate off the inactive substances obtained at the same time, and to concentrate the fluid to the consistency of a syrup, in which form it is finally collected and dispensed in bottles. The action of this preparation would appear to be highly favourable. It has been used in the Philippine Islands since 1914 in increasing quantities and has proved of great value in the treatment of beri-beri in children. It will be remembered that a similar extract prepared from yeast, and distributed under the commercial name of Marmite, was employed with considerable success amongst the troops in Mesopotamia during the recent war.

2. Brittleness of the Hair.

IN *Ann. de Derm. et de Syph.*, November, 1921, SABOURAUD discusses the three diseases, trichoclasia, trichorrhexis, and trichoptilosis, in all of which the hair is found to be excessively brittle. In simple trichoclasia the hair fractures transversely; in trichorrhexis small grey swellings are found on the last few centimetres of its free extremity; when the end of the hair is found to be frayed the name trichoptilosis is applied. This brittle condition of the hair was at one time thought to be due to infection by a parasite, in proof of which the fact was cited that false hair in contact with natural hair would come to manifest the same fragile condition. Sabouraud declares that hair so affected is not diseased; it is suffering from traumatism. The repeated application of basic lotions and strong soaps and alkaline shampoos robs the hair of its protective covering of fat and induces this brittle condition. This state of affairs is very widespread and the usual treatment recommended is the more vigorous application of those very measures which aggravate the traumatism. Sabouraud does not maintain that the wrong use of lotions is the only cause of trichorrhexis, but cases which cannot be explained by the above causes are very rare.

3. Scabies Norvegica.

ACCORDING to BLOEMEN (*Nederl. Tijdschr. v. Geneesk.*, October 29th, 1921), who records a case in a Rotterdam woman aged 80, scabies Norvegica is a special form of scabies which was described by Boeck and Danielssen in Norway as occurring in lepers, especially old and helpless persons, which affects sites which are atypical for scabies, such as the head, palms, and soles, and after a period of varying duration gives rise to the formation of crumbling masses of scaly crusts. Leprous patients suffer no irritation from the eruption which may last throughout life. Bloemen's patient, who was not a leper, had suffered from considerable itching for some months, but was cured after about six weeks' treatment. Jordan stated that there were only 32 cases of scabies Norvegica on record in 1914, since when he has seen 2 cases, and Rille of Leipzig has also seen 2, so that with Bloemen's case there is a total of 37 reported cases. As regards the histological picture, according to Török and Unna the mites in scabies Norvegica are found in the stratum corneum only, which is much thickened. Bloemen found that here and there the mites penetrated into the rete Malpighii, giving rise to keratinization. There were also parakeratosis, cellular infiltration of the papillae in the subcutaneous tissue, perivascular infiltration and elongation of the papillae.

4. The Minor Ocular Signs of Diabetes.

TERRIEN (*Paris méd.*, October 22nd, 1921) states that ocular complications in diabetes are frequent and various, being met with in more than 10 per cent. of all cases in the form of lesions of the cornea, iris and choroid, cataract, retinal haemorrhages, changes in the optic nerve, amblyopia, affections of the vitreous, ocular palsies, and palpebral and orbital abscesses. In addition to these serious complications there are certain ocular manifestations, which, though of much less gravity, are of diagnostic value owing to their frequency and sudden development. Terrien classifies them under the headings of disturbances of accommodation and refraction. Changes in accommodation consist in presbyopia which occurs at an unusually early age, and in more marked cases in actual paralysis of accommodation. In 80 diabetic patients examined by Terrien, 11, or nearly 14 per cent., presented some diminution of the power of accommodation. The changes in refraction consist in either hypermetropia, which in diabetes may develop suddenly without any previous ocular disturbance, or on the other hand a transient myopia, the most probable explanation of which, according to Terrien, is an increase in the refringency of the lens.

5. Early Diagnosis of Pneumonia.

COLE (*Med. Record*, November 19th, 1921) points out that the pitch and timbre of the voice and whisper are always changed in infiltration and consolidation of the lung, and that the ear can detect a patch of infection quite as early as it can be discovered by *x* rays. The metallic timbre of the voice in consolidation carries through fluid with even increased intensity, and lung tissue compressed by new growth gives a well-marked change in pitch and timbre of both voice and whisper. In the early recognition of pneumonic infection these changes in the voice and whisper give definite information before there is any appreciable change in the respiratory or percussion sound. Such early commencing limited areas can thus be detected when they are no larger than the chest-piece of a stethoscope, often before the occurrence of sputum, râles, or cough, and at a stage when percussion is of no practical value. While both bronchopneumonia and lobar pneumonia may occur in the same or in different lobes at the same time, a single spot in an individual lobe always indicates a lobar pneumonia. While diagnosis by voice and whisper is absolute and easy, the author admits that frequent corroborative *x*-ray examinations are of value.

6. Hilum Tuberculosis.

MELVILLE (*Arch. Radiol. and Electrotherapy*, November, 1921) raises some points in the diagnosis of hilum tuberculosis in the adult by means of *x*-rays, considering that further investigations are needed into the significance of abnormal lung shadows and their correlation to clinical evidence. While clinically the diagnosis rests upon paravertebral areas of dullness, the transverse narrowing of apical expansion, and the fact that the affection is bilateral, confirmation is further obtained by the radiographic appearances of thickening and increased density of both lung roots, with marked narrowing and lessened expansion at both lung apices. Exaggeration of the shadows at the hilum or peribronchial tissue is *per se* of no value as positive evidence of pulmonary tuberculosis, since any irritative affection of the bronchial tube element will produce shadows of equal density and significance. The necessity for the closest co-operation between the clinician and the radiologist is pointed out, the latter being ever on his guard in his interpretation of the clinical significance of hilar and peribronchial shadows.

7. Treatment of Diarrhoea in Tuberculosis by Calcium Chloride.

MERKLEN, DUBOIS-ROQUEBERT, and TURPIN (*Bull. Soc. de Thér.*, November 9th, 1921) state that the use of calcium chloride for the gastro-intestinal complications of tuberculosis was introduced by Mandel, who employed it in 5 per cent. solution. Subsequently Saxtorph raised the strength of the solution to 10 per cent., and Rist and his collaborators Ameville and Ravina to 50 per cent. The present writers have treated fifteen tuberculous patients suffering from diarrhoea with intravenous injections of calcium chloride in the strength used by Rist. They started by giving 1 gram of calcium chloride and repeated the dose three or four times, if necessary. The results were as follows: Eight patients were regarded as cured, six were considerably improved, and in only one did the treatment have no effect.

8. Acridine Dyes in Dermatology.

KISSMEYER (*Ugeskrift for Laeger*, October 27th, 1921) states that trypaflavine has been used for more than a year at the Finsen Institute in Copenhagen, and that the results obtained fully justify the enthusiasm of its early sponsors. The drug is used as an ointment and in both alcoholic and aqueous solution, and a 1 in 1,000 trypaflavine gauze dressing has also been used with success. The diseases reacting most satisfactorily are the various septic conditions of the skin, such as sycosis barbae, folliculitis, and the like, as well as secondary

septic conditions, such as those due to ulcers of the leg. After operations prophylactic painting of the wound with trypaflavine in alcohol has proved effective, and trypaflavine dermophil (2 in 1,000) is applied to areas of lupus where Finsen treatment has provoked a severe reaction. Trypaflavine has, however, proved disappointing in gonorrhoea.

9. Mercurial Tonsillitis.

ALMKVIST (*Hygiea*, October 31st, 1921), who has observed 26 cases of mercurial tonsillitis in 24 persons (two persons suffered twice since 1906, points out that angina mercurialis is often wholly overlooked or taken for some other disease. He attributes this to the comparative rarity of this form of mercurial poisoning, to its similarity to other diseases of the fauces, and to the scanty notice given this disease by the textbooks. As his records show, angina mercurialis may break out early in the course of treatment, and even when the dosage of mercury has been timid. In other cases it may not occur till some time after the completion of a vigorous course of mercury. The factors determining the development of angina mercurialis are the same as for mercurial stomatitis; there must be a certain concentration of mercury in the tissues, and there must be a luxuriant bacterial flora in crypts and recesses favourable to the persistence of germs. The author has found this second factor so essential to the development of angina mercurialis that he even continues to give mercury after its appearance, provided he can control the growth of bacteria by antiseptics applied locally. He recommends local applications of 50 per cent. silver nitrate, hydrogen peroxide, iodine in alcohol, and a mixture containing equal parts of ether and concentrated sulphuric acid. Intravenous injections of salvarsan may either prove dramatically effective in controlling mercurial angina and stomatitis, or may fail entirely.

SURGERY.

10. Prostatic Hypertrophy.

NIEMEYER (*Deut. Zeit. f. Chir.*, Band 167, Hefte 1 and 2, 1921), who has examined thirty-five enlarged prostates in the course of nine months at the Pathological Institute of Cologne University, has come to the following conclusions: (1) The essence of so-called hypertrophy of the prostate consists, when the lesions are slight, of compensatory hyperplasia in an organ undergoing senile involution. When the changes are well marked there is a tumour formation, such as fibro-adenoma or, less frequently, fibromyoma. (2) Fibro-adenomata, in which the glandular content is well developed, stand out on section as sharply circumscribed nodules; but when the glandular content in fibro-adenomata is scanty, or in fibromyomata, the section on naked-eye examination differs but little from that of the normal prostate, and the diagnosis in such cases is only possible microscopically. (3) Inflammatory processes are a frequent complication, but not the cause, of prostatic hypertrophy. (4) Arterio-sclerosis is not a cause of prostatic hypertrophy, as maintained by French writers. Only 6 of Niemeyer's 35 cases showed arterio-sclerosis of the prostatic arteries, and in only 2 of these were the smaller arteries involved. (5) Niemeyer's view is allied to Virchow's conception of prostatic hypertrophy as a tumour formation, but associates the new growth with senile involution and the subsequent reaction.

11. The Prostatic Syndrome without Evident Enlargement.

HARRIS (*Med. Journ. of Australia*, October 29th, 1921), under the title of *Prostatisme sans prostate*, draws attention to a condition where the prostate, though actually smaller than the normal gland, gives rise to the usual prostatic syndrome. This condition is due to the so-called median prostatic bar, and it was found present in 20 per cent. of cases of prostatism seen during a period of four and a half years. Three definite types of median bar formation may be recognized: (1) The glandular bar, the most common type, due to an adenomatous overgrowth in the subcervical group of glands. This occurs as a localized projection in the posterior segment of the bladder sphincter and prostatic urethra. This later may be projected into the bladder and form one type of middle lobe. It differs from the true middle lobe of the prostate in that the true middle lobe is part of a general hypertrophy and grows up outside the bladder sphincter, whereas in the condition described it is wholly within the vesical sphincter. After the sixth decade the two conditions may be associated. The median glandular bar, even when quite small, may cause marked obstruction of the ball and socket type. (2) The fibrous bar is composed of dense sclerotic tissue and is stretched across the vesical orifice; it is due to fibrous degeneration of the muscle of the sphincter. The rest of the prostate is usually normal. (3) The collar type of obstruction occurs as a circumferential fibrous deposit around the sphincteric orifice causing contracture of the vesical outlet. The prostate as a rule shows a general fibrous degeneration—the so-called small fibrous prostate—and does not, as usually stated, require enucleation. The symptoms resemble those of general prostatic hypertrophy, but no enlargement of the gland is felt on rectal examination, hence the appellation *prostatisme sans prostate* of the French. The age at which it occurs is distinctly earlier. Diagnosis is easy to the practised cystoscopist and the changes above described are readily seen. The treatment resolves itself into the removal of the obstruction and treatment of any associated lesions. Suprapubic cystotomy, with the removal of a wedge of tissue from the posterior segment of the vesical neck, was adopted for the collar type in nine cases. The second method described is not satisfactory in these cases. Young's prostatic punch was used in forty-four cases. The obstruction is removed by inserting the instrument along the urethra into the bladder, and the median bar is entrapped and excised. The operation is a minor procedure and can be done under local anaesthesia if desired. Severe haemorrhage occurred in three cases, necessitating a suprapubic cystotomy. The after-results were good and no patient appears to have had recurrence of symptoms. The operation can be performed with safety where open operation would be fraught with grave risk. This operation is, of course, useless in the presence of an associated hypertrophy of the prostate.

12. Radium Treatment of Nasal Polypi.

ACCORDING to LYONS (*Amer. Journ. of Roentgenology*, 1921, viii) the unsatisfactory results which not infrequently follow operative treatment of myxomatous nasal polypi are attributable to the circumstances that the tumours are attached to the mucosa of a turbinate bone or of a sinus by a pedicle which is not well defined, and that even after removal of the tumour, pedicle, and adjacent portion of mucosa, the neighbouring tissue continues to undergo a myxomatous change which leads before long to the appearance of a second polypus. Radium inserted into a nasal polypus does not cause its disappearance, and applied post-operatively does not prevent its recurrence. The use of radium in obstinate cases depends solely on its power of stimulating the production of fibrous tissue, so that after two or three applications the polypus recurs in the form of a fibromyxoma or fibro-adenomyxoma, the operative ablation of which is easier. Subsequent recurrences take place at much less frequent in ervals. In early cases Lyons applies a 50 mg. tube, packed in by means of sterile vaseline gauze, for two hours. Subsequent treatments are given at weekly intervals.

13. Episcleritis.

SINSKEY, LEVIN, and SACKS (*Archiv. Ophthalm.*, November, 1921) discuss a new method of approach in the treatment of episcleritis, based upon a case which resisted all the usual treatment, and which appeared to be of metabolic origin. No obvious etiological agent was present, but on withdrawal from the diet of carbohydrates in the shape of cereals, potato, bread, and sugar, reducing the fat intake, and allowing moderate amounts of protein and carbohydrates of the vegetable and fruit type, the symptoms disappeared. Any laxity in the diet was followed by recurrence, and it was possible, by giving and withdrawing the forbidden foods, to cause the reappearance and subsidence of the ocular symptoms. On two occasions—one after tonsillectomy and another after a paranasal sinus operation—relief of symptoms occurred for ten and twelve days respectively, which was attributed to the restriction of the offending foods during the post-operative periods when the patient ate very little. The case suggests that in the study of the cause and treatment of cases of episcleritis of obscure origin dietetic factors should be considered.

14. Cardio-tuberculous Cirrhosis (Hutinel's Disease).

CURCHOD (*Rev. méd. Suisse rom.*, October, 1921) states that the disease described by Hutinel in 1893 under the name of cardio-tuberculous cirrhosis corresponds to Kussmaul's mediastino-pericarditis. The disease commences in childhood with bronchitis or pleurisy and is followed by enlargement of the liver, ascites, and circulatory disturbance such as cyanosis and swelling of the hands and feet. The disease may also develop insidiously with a primary cardiac symphysis without ever having been preceded by pleuro-pulmonary or glandular symptoms. On examination of the heart no enlargement or murmur is found, but the apex beat is not displaced and the precordial dullness is the same in inspiration and expiration. The autopsy shows a large cirrhotic liver, pericarditis, pleurisy, and perivascular adhesive mediastinitis. The subdiaphragmatic peritoneum is

often affected. Hutinel maintains that two factors are required to produce the cirrhosis—namely, passive congestion in the form of a nutmeg liver, which occurs in all diseases of the heart at an advanced stage, and tuberculous infection. The course of the disease is very slow. The condition must be distinguished from disease of the liver due to syphilis, malaria, alcoholism, hydatid cyst, hepatic abscess, and amyloid degeneration. Curchod emphasizes the three following points in diagnosis: (1) Disproportion between the signs of cardiac disease, which are almost always negative, and the gravity of the peripheral asystole. (2) Absence of the ordinary signs of pericarditis, such as retraction of one or more intercostal spaces. Immobility of the cardiac dullness and especially of the apex beat should rather be sought for. (3) The distribution of the oedema, which at the onset appears on the face and often on the hands and does not last long, being due to compression of the superior vena cava by adhesive mediastinitis. Curchod records three cases, in two of which Brauer's operation of precordial thoracectomy was performed, in one with satisfactory results and in the other without effect. He considers that this operation should be reserved for cases of adhesive tuberculous pericarditis or for those in which there are no valvular lesions or signs of cardiac cirrhosis of the liver. Fever and active tuberculosis should be regarded as absolute contraindications.

15. Stone in the Ureter.

MCKENNA (*New York Med. Journ.*, November 2nd, 1921) records a case of stone in the ureter which was voided after fulguration. At first seen in the lower calyx of the left kidney the stone eventually became lodged low down in the ureter at its junction with the bladder. The meatus was incised and the ureter dilated twice without result, and about three months later the lower end of the ureter in its course through the bladder was fulguated, almost all the bridge of membrane, and some of the muscle, being destroyed. No result followed until a fortnight later, when the stone with symptoms of colic and haematuria passed into the bladder and was eventually voided. The calculus measured 2/8 in. at its narrowest diameter, 7/8 in. in length, and 3/8 in. in width, and weighed 17 grains. Fulguration, after subsidence of reaction, leaves a more or less permanently relaxed lower ureter, thus permitting passage when a colic occurs, and, should another stone form, a partly patent ureteral orifice is of value. A month later cystoscopy showed that the orifice was unimpaired in function.

16. Etiology of Acute Infectious Nephritis and Pyelonephritis.

RUNEBERG (*Finska Läkaresällskapets Handlingar*, September and October, 1921) discusses the etiology of the nephritis and pyelonephritis which develop spontaneously and more or less suddenly without any previous history of disease of the urinary system. Having investigated about 250 such cases at his surgical hospital in Helsingfors, he has come to the conclusion that the disease is haematogenous, and that, the kidneys being the chief portal of exit for germs circulating in the blood, it is natural that time and again they should suffer injury during this exit. He found considerable differences in these cases according as infection was due to the coliform group or staphylococci. In the first group 80 per cent. of the patients were females, whereas in barely 20 per cent. of the staphylococcal cases were the patients females. Again in the coliform group bacteriuria was often the last sign of disease; it might, indeed, persist although in every other respect complete recovery had been effected. In the staphylococcal cases, on the other hand, the germs often disappeared from the urine before severe pyuria and other manifestations of infection had subsided. In both groups the disease showed a remarkable capacity for spontaneous cure, and in this connexion the author deprecates hasty operative interference. Unfortunately the coliform cases often relapse even after complete recovery seems to have occurred, and in view of the fact that these cases are often unilateral, at any rate clinically and for all practical purposes, nephrectomy may ultimately prove the best treatment. Of more conservative measures the use of permanent catheterization of one ureter is warmly recommended. Its action is particularly effective in acute cases of pyelonephritis in which inflammation leads to spasmodic closure of the ureter and retention of pus and urine in the pelvis of the kidney.

17. Experiments with Antivenereal Prophylaxis.

GANDUCHEAU (*Rev. d'hyg.*, October, 1921) describes four laboratory experiments with a prophylactic ointment of the following composition: Cyanide of mercury 0.075 gram, thymol 1.750 grams, calomel 25 grams, lanoline 50 grams, vaseline 23.175 grams. In the first experiment two drops of the ointment are placed in a watchglass, one drop of a fluid containing active spirochaetes (*Spirochaeta pallida* and spirochaetes of dental tartar) is added, and the ointment and spirochaetes are carefully mixed. Three or four drops of broth are then added, and the mixture is examined with the ultramicroscope, as well as control suspensions of spirochaetes in the same broth. It will be found that the spirochaetes treated by the ointment are motionless, while the controls retain their movements for several hours. In the second experiment the action of ordinary vaseline is compared with that of the ointment. Two drops of the vaseline and six drops of a suspension of spirochaetes are placed in a watchglass and mixed for a minute with a platinum loop, and in another watchglass six drops of the same suspension are mixed with two drops of the ointment. After ten minutes, at most, all the spirochaetes are motionless in the fluid treated with the ointment, while they still remain active in the fluid containing simple vaseline. The third test consists in inoculating four male rabbits on the prepuce with active spirochaetes and applying the prophylactic ointment to two of the animals one hour after the inoculation. In three weeks' time the two controls showed the characteristic lesions of experimental syphilis, while the two animals treated by the ointment showed no lesions at the end of forty days. The fourth test, which shows the action of the ointment on pyogenic micro-organisms, consists in depositing two drops of vaseline on the inner wall of an agar-agar culture tube on the side opposite the medium. The vaseline is then inoculated with a young culture of *Staphylococcus aureus*, and the mixture is spread over the medium. The same procedure is carried out with the prophylactic ointment in place of vaseline. After two days in the incubator the first tube shows a rich growth, whereas in the second tube no colonies will have formed.

OBSTETRICS AND GYNAECOLOGY.

18. Chronic Inflammatory Conditions of the Fallopian Tubes.

ACCORDING to CURTIS (*Amer. Journ. of Obstet. and Gynec.*, November, 1921), gonorrhoeal infection is responsible for at least three-fourths of all inflammatory lesions of the Fallopian tubes. Such an infection usually runs a quickly self-limited course, and provided two weeks have elapsed since the return of temperature and leucocyte count to normal, modern cultural methods fail to yield growth when the entire diseased tube is thoroughly ground and inoculated into culture media. It is permissible to conclude that the Fallopian tube is not a focus for chronic gonorrhoeal infection; there is, however, possibility of repeated infection from without or recurrent invasion of bacteria from the chronically infected lower genital tract. The next most frequent variety of infection is that due to various types of streptococci; tubal infection forms usually an inconspicuous part of the clinical picture, and perisalpingitis is the most common type of lesion, although typical salpingitis, and notably hydrosalpinx, occur with moderate frequency. Tuberculosis, exclusive of generalized tuberculous peritonitis, is next most common, and is likely to be overlooked if routine microscopical examinations be not made. Infections with bacteria of the colon and other groups are comparatively rare; *B. coli*, although frequent in large tubo-ovarian abscess, is of little importance as a primary cause of salpingitis.

19. Gangrene of a Uterine Myoma after the Menopause.

LOUBAT (*La Gynéc.*, July, 1921) records the case of a woman, aged 52, who two years after the menopause suffered from pain in the lower abdomen unaccompanied by fever, vomiting, or discharge. The general condition was good, and examination showed only a rounded mobile tumour in connexion with the corpus uteri. Histological examination of the specimen after removal showed a myoma exhibiting necrobiosis and gangrene; the cause of these complications could be found in a subcapsular haemorrhage 3 to 4 mm. in thickness which surrounded the tumour. This case is quoted in further proof of the statement that after the menopause retrogression or quiescence of myomata is not the invariable rule.

20. Treatment of Pregnancy Toxaemias by Intravenous Injections of Sodium Chloride and Carbonate.

VON OETTINGEN (*Zentralbl. f. Gynäk.*, October 22nd, 1921) records two cases of pregnancy toxaemia, characterized by albuminuria and diminished secretion of the urine, in which diuresis was re-established and toxic symptoms disappeared after intravenous injections of a solution of 14 parts of sodium chloride and 10 parts of sodium carbonate dissolved in 1,000 parts of distilled water; rectal injections were also employed containing 14 parts per thousand of sodium chloride and 20 parts of sodium carbonate. This treatment is substantially that advocated for nephritis and oedema by Fischer, who seeks to explain the occurrence of both as due to

increased acidity of the tissue (renal and other), with consequent physico-chemical alterations leading to swelling of the cells and cell membranes. Von Oettingen endeavours to explain on a somewhat similar physico-chemical basis both the toxaemic nephritis and also the eclamptic conditions which may complicate pregnancy. In normal pregnancy the colloidal stability of the blood plasma is diminished, and Fahrens has shown that the sedimentation rate of the erythrocytes is increased. In eclampsia these findings are exaggerated, and a swelling of the cells, and especially of vascular endothelial cells, is demonstrable in the kidneys and other viscera.

21. Indications for Caesarean Section.

ACCORDING to SCHIFFMANN (*Zentralbl. f. Gynäk.*, October 22nd, 1921), Caesarean section may be indicated (*a*) in the maternal interest, when the true conjugate diameter is 6 cm. or less—an absolute indication; (*b*) when in the interest of mother or foetus it is desirable to avoid the process of labour—for example, in contracted pelvis, pelvic tumours, placenta praevia, maternal cardiopathy; (*c*) when the interest of the mother demands speedy termination of pregnancy, as in eclampsia, nephritis, premature placental detachment (accidental haemorrhage), endemic encephalitis; (*d*) in the interest of the child, in certain cases in which it is probable that natural labour would diminish considerably its chances of viability. As examples of the fourth group of cases, in which the Caesarean operation is described as "prophylactic," the writer records the cases of (1) a primipara, aged 38, with long narrow rigid vagina and a true conjugate of 9.5 cm., breech presentation; (2) a two-para, aged 42, whose first labour, occurring six years previously, had terminated in instrumental delivery of a stillborn foetus, weighing 4,000 grams; the conjugate measured 9.5 cm.; (3) a two-para, aged 35, married eight years, whose previous labour had given a stillborn foetus weighing almost 4,000 grams. These cases, in which the mothers, ardently desiring to have a living child, elected to undergo a Caesarean operation, terminated in live births, without maternal mortality. Schiffmann concludes that in cases in which the patient has had one or two pregnancies terminating in natural labour which in spite of skilful treatment has ended in the birth of a dead child, has shown relatively small degree of ability to conceive, and is nearer the end than the beginning of the reproductive period, Caesarean section is justifiable quite apart from the presence of pelvic contraction, provided that infection of the genital tract can be excluded.

PATHOLOGY.

22. The Pathogeny of Volkmann's Syndrome.

ACCORDING to DENUCÉ (*Gaz. hebd. des Sci. Méd. de Bordeaux*, September 25th, 1921), the pathogeny of Volkmann's syndrome includes more than ischaemia. The cases in which ischaemia alone is present are examples of flaccid paralysis. In those in which contractures and dystrophy occur, especially transformation into fibrous tissue, the sympathetic plays an important part. Marie, Meige, and Benisty have recently shown that certain reactions of the nerves, especially those of a painful nature, are peculiar to nerves with a nutrient artery or to those situated in the neighbourhood of a large artery. At the same time that an injury affects a vessel, whether it produces ischaemia or not, it injures the fibres and ganglia of the perivascular sympathetic sheath. Even in the absence of a wound in the strict sense of the term the fibres and ganglia of the perivascular sympathetic may be affected by mere compression of the limb. The influence of the sympathetic in Volkmann's syndrome cannot therefore be denied. In cases which require operation, sympathectomy according to Leriche's method, should be associated with tenoplasty.

23. A Method of Obtaining a Homogeneous Culture of the Tubercle Bacillus.

VAUDREMER, who was recently able to grow certain strains of *B. tuberculosis* on ordinary agar, now (*C. R. Soc. Biologie*, December 10th, 1921) claims to have succeeded in obtaining a homogeneous culture of this organism by seeding it into the depths of a medium of potato broth. If a small piece of the surface film of a growth on this medium is transplanted to a fresh flask and immersed below the surface it is found that in forty-eight hours there is an abundant growth, producing a uniform turbidity and consisting microscopically of numerous separate immobile bacilli. In shape they resemble the bacteria on the nodes of the Leguminosae; some are branched, some show a moniliform appearance, some are ovoid, and some recall the aspect of capsulated diplococci. They are readily stainable by Gram's method. On the other hand, they have lost the capacity of retaining the stain in Ziehl-Neelsen's method. Yet they are easily agglutinable by an antituberculous serum. Moreover, when seeded on to glycerin potato they furnish a growth in ten days of typical tubercle bacilli. Injected into the guinea-pig they fail to give rise to any reaction, either local or general. He has assured himself that no question of contamination entered into these changes.

24. The "Nitritoid Crisis."

A SUGGESTION is put forward by POMARET (*La Médecine*, November, 1921) to explain the genesis of the condition of shock which not infrequently occurs after injection of the arsenobenzol compounds, and which from the coincident lowering of the blood pressure accompanying it has been named the nitritoid crisis. His physiological researches go to show that the chief factor involved is the phenol radical in the arsenic preparation. If a solution of "606," which is normally slightly acid, be added to an albuminous solution *in vitro*, a precipitate occurs consisting of a combination of the protein with the arsenophenol; this precipitate is soluble in alkalies. If given *in vivo* the "606" is able in certain cases to give rise to an intravascular flocculation of the minute colloidal particles suspended in the plasma with the resulting production of a marked fall in blood pressure. Not only, however, has he been able to obtain these effects with "606," but by using phenol alone or trinitrophenol the same fall in blood pressure has been reproduced. He therefore considers that the nitritoid crisis can be explained by the simple physical alterations ensuing in the blood on the introduction of a compound of phenol, and to express this meaning he would call the condition one of "phenolic shock." Unfortunately, an absence of experimental data precludes one from criticizing such a conception as this. It would appear, though, from the paper that the sole criterion he adopts for the presence of a condition of shock is a fall in blood pressure; if no other considerations than this are taken into account, it would be possible to produce shock with any one of the numerous vaso-dilators, one of which—namely, trinitrophenol—he himself uses to support his theoretical explanation.

25. Identity of Antibodies.

ZINSSER (*Journal of Immunology*, September, 1921) discusses what is known as the "unitarian" view of antibody production. He points out that precipitins, agglutinins, lysins, opsonins, and complement-deviating substances are only manifestations of the behaviour of sensitized antigen under different environmental conditions. There is no essential difference in the nature of the antibody; the difference is in the physical state of the antigen itself. Thus, if the antibody comes in contact with finely divided antigen, as in a bacterial extract, and if electrolytes are present and the necessary physical factor furnished by the presence of the serum, then precipitation occurs. On the other hand, when dealing with whole bacteria of relatively large mass and correspondingly small surface exposure, then agglutination is the result. When complement is present then haemolysis or bactericidal effects will be noticed, since the changes produced by sensitization have now permitted union with the complement. When leucocytes are present the union makes possible the phagocytosis of the antigen, and when the antibody is absorbed by the cells of the animal, anaphylactic sensitization occurs. In face of the simplicity of the "unitarian" theory the burden of proof of the multiple nature of antibodies would seem to fall on those who claim separate origin.

26. Experimental Epidemic Encephalitis in Rabbits.

KLING, DAVIDE, and LILJENQUIST (*Hygiea*, November 16th, 1921) make a further report (see EPITOME, November 26th, 1921, para. 518) on their experimental work in inducing typical epidemic encephalitis in rabbits by the intracerebral injection of material obtained from the brains, throats, and faeces of patients who had died or were suffering from typical epidemic encephalitis. In a few instances the rabbits died in a week or two after inoculation, but as a rule the disease lasted several weeks or months, and one of the rabbits did not die till seven months after inoculation. Even when rabbits were killed during the incubation period, and before the appearance of definite cerebral symptoms, marked changes in the brain, characteristic of typical epidemic encephalitis, were sometimes found. The authors suggest that the same events may occur in man, the disease existing in the brain but running an abortive and more or less symptom-free course. Like syphilis, epidemic encephalitis appears to run a capricious and, at times, seemingly inactive course in the central nervous system, and the duration of the disease may be one of weeks, months, and even years. The authors found the virus to pass a Berkefeld filter, to be invisible, refractory to culture, and glycerin resistant.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

27. Progressive Muscular Dystrophy.

FRIEDMAN (*Journ. Nerv. and Ment. Dis.*, October, 1921) records a case of progressive muscular dystrophy in which the knee-jerks were absent, the symptoms representing a cross between the Erb type of dystrophy and the Werdrig-Hoffman type of progressive muscular atrophy. The attitude and gait, the combination of atrophy and hypertrophy, the absence of fibrillation and reaction of degeneration, and the involvement of the proximal muscles, were characteristic of muscular dystrophy. A boy, aged 16, had had weakness of both legs for fifteen years, with waddling gait and marked lordosis, the chief muscles affected being the left sternomastoid, the right infra- and supra-spinati, the deltoids, the left pectoral and biceps, the erector spinae, the quadriceps and the adductors of the thighs, and the extensor longus hallucis. *X*-ray examination of the skull was negative, and there was no pineal shadow, but the metacarpal and metatarsal bones were shorter than normal. Blood sugar was normal, and the thymus was not enlarged. There was no response to galvanism or faradism in the quadriceps muscles. The prognosis in progressive muscular dystrophy is good unless the respiratory muscles become involved. The condition has to be differentiated chiefly from polymyositis, in which there is usually pain and no pseudo-hypertrophy; from poliomyelitis, which can be excluded on the history and the electrical changes in the muscles; from congenital muscle defects in which there is no progression; and from myotonia congenita.

28. The Pulse Deficit in the Control of Heart Disease.

LUNDSGAARD (*Ugeskrift for Laeger*, November 24th, 1921) remarks that practitioners are apt to be overawed by the complicated technique of modern methods in the diagnosis of heart disease and to leave it to specialists. He considers this attitude the more unjustifiable as recent research has added to, rather than subtracted from, the value of simple clinical methods, one of which is the observation of the pulse deficit. This deficit—that is, the difference between the number of pulse and heart beats—can be best determined by two persons, one auscultating the heart the other counting the pulse, while both count by the same watch. The test may be carried out single-handed, the heart and pulse rate being counted in successive minutes by the same person; but though this gives a fairly reliable pulse deficit at rest the pulse deficit after exercise changes too quickly for this single person test to be satisfactory. The author publishes several tables showing the pulse deficit of numerous patients with arrhythmia perpetua, and he points out how misleading and futile it is to control the effects of digitalis by counting only the pulse from day to day. Under digitalis the heart rate may be slowed, but owing to the improved action of the heart a greater number of heart beats will reach the radial pulse, and the observer who relies only on the pulse rate will be misled to think that the digitalis is quickening the heart rate and is doing more harm than good.

29. Dysentery in Vienna.

ACCORDING to BERNSTEIN, KLING, and ROSENBLATT (*Wien. klin. Woch.*, November 3rd and 10th, 1921), immediately before the war Vienna, like all large cities in Europe, was practically free from bacillary dysentery, only 70 cases being notified in 1913. In 1914, 1,279 cases were notified in soldiers, and in 1915, 2,075, but the number of notifications rapidly decreased with the progress of the war and the building of field hospitals. After 1916 there was an average of only 300 notifications from the military hospitals to the sanitary authorities. During the first three years of the war dysentery did not spread much among the civilian population, there being about 300 cases in 1914, only 150 in 1915, and 200 in 1916. It was not until the summer of 1917 that the first epidemic of dysentery broke out among the civilian population, 2,229 cases being notified. In the subsequent years fresh epidemics occurred, there being 2,316 notifications in 1918 and 3,355 in 1919. In 1920 isolated cases occurred throughout the winter and spring, the average number of notifications being 20 a month, but the period of fourteen weeks between July 1st and October 14th was characterized by the occurrence of an epidemic wave. In the first week of July there were 9 cases, in the second 73, and the height of the epidemic was reached in the third week of August with 244 cases. In the second week of September the cases had dropped to 72. The total number of clinical cases in the fourteen weeks was 1,439, of whom 166, or 11.5 per cent., died within these three months and 14 later, making a total mortality of 12.4 per cent. The number of cases between the ages of 1 and 40 was 901, or 64.8 per cent., with a mortality of 4 per cent., while those between 40 and 80 numbered 538, or 35.2 per cent., with a mortality of 24 per cent., thus illustrating the characteristic malignancy of the disease in the second half of life. The writers point out that the endemic occurrence of dysentery in Vienna from which the recent epidemics have originated is the result of want, and can only be successfully combated by improvement of feeding conditions, housing accommodation, and personal cleanliness.

30. Static and Respiratory Displacement of the Normal Kidney.

HITZENBERGER and REICH (*Wien. klin. Woch.*, November 10th, 1921) state that the question whether the kidneys in health are displaced or not on respiration has received the most contradictory answers, most writers holding the view that these organs are not displaced. Hitherto palpation and percussion have been the only diagnostic methods to settle the matter. The present writers, however, have employed a method which is more reliable than palpation or percussion for determining the static and respiratory displacement of the kidneys. The renal pelvis of a healthy person is rendered visible on *x*-ray examination by filling it with a 10 per cent. solution of sodium iodide after catheterization of the ureters. On quiet respiration, with the patient in the supine position, there is a striking uniformity in the distance between the renal pelvis and the diaphragm. On changing to the erect position the distance is increased by 10 to 20 mm., showing that the kidney has sunk lower. Both in the recumbent and erect postures the kidney is seen to make definite respiratory excursions which are just as extensive as those of the diaphragm. On deep expiration and inspiration, both in the recumbent and erect postures, the renal pelvis rises or falls to the same extent as the diaphragm, so that the distance between the renal pelvis and the diaphragm remains the same in each of these respiratory phases. The same holds good when the subject distends or retracts the abdominal wall. In patients with enteroptosis the amount of displacement shows such a characteristic variation that even a slight degree of nephroptosis can be detected.

31. Fox and Fordyce's Disease.

BOELSTRA (*Nederl. Tijdschr. v. Geneesk.*, October 29th, 1921) records the first example to be published in Holland of the condition described by Fox and Fordyce in America in 1902, since when about a dozen cases have been reported. The clinical picture is characterized by a typical localization, namely, in the axillae, areolae of the breasts, mons veneris and labia, and in two cases round the umbilicus. With one exception, in which the patient was a young man, all the cases have been found in women, mostly of Jewish or Eastern origin, and of a very nervous disposition. The lesions are formed by minute pruriginous papules on the more or less strongly pigmented skin without lichenification, and consist histologically in hyperplasia of the sweat glands. All the cases, including Boelstra's, which occurred in a very nervous woman, aged 19 (not a Jewess), proved extremely refractory to treatment. The condition is usually classified as a neurodermatitis.

32. Circumscribed Bromide Eruption.

PULVIRENTI (*Il Policlinico*, Sez. Prat., October 24th, 1921), who records an illustrative case, remarks that though the use of bromides in large doses and for long periods is frequent, especially in epilepsy, bromide eruptions are comparatively rare, so that predisposing causes must obviously be responsible for their occurrence. Age has a certain importance, for though the eruption may occur in children, it is much more frequent in adults, and particularly in old persons. Chronic cardiac, renal, or pulmonary disease, and alcoholism often figure in the history. Writers usually attach much importance to the functional condition of the gastro-intestinal canal, and especially the stomach and the diet. Pulvirenti's case occurred in a woman aged 26, who had suffered from epilepsy since puberty. She had been taking bromides from the age of 15, and for the last three years in doses of 1 to 2 grams a day. There were no general causes, such as cardiac, renal, or pulmonary disease, to account for the eruption, which appeared in the middle third of the left

leg, but the localization was attributed to a recent scald. Similar cases of circumscribed bromide eruption have developed round varicose veins (Hallopeau and Viellard), at the site of a scar (Giovannini), or in the neighbourhood of vaccination cicatrices (Crocker), bed-sores (Lucchetti), or contused wound of the leg (Lucchetti).

33. Value of Butter-flour Food in Infancy.

GRIFFITH (*Therapeutic Gazette*, November 15th, 1921) calls attention to the value of the Czerny-Kleinschmidt "butter-flour" food in the feeding of premature, or underweight, infants without any active digestive symptoms. Based on an attempt to approximate the composition of human milk, the preparation is made by using 2 tablespoonfuls of melted butter, 2½ level tablespoonfuls of flour, 1½ level tablespoonfuls of cane sugar, and 10 fluid ounces of water. The melted butter is heated over a fire for from three to five minutes until foaming occurs and all odour of volatile fatty acids disappears, and this is then mixed with the flour, and the mass again boiled, with constant stirring for from four to five minutes, until it becomes thin and brownish. After adding the water and sugar the mixture is again boiled, rubbed through a fine sieve, and then mixed with the desired amount of boiled and cooled milk and the whole kept in bottles till required. The proportions for children under 3,000 grams in weight should be one-third milk to two-thirds butter-flour mixture, and for those over 3,000 grams two-fifths and three-fifths of the butter-flour stock are used. Not more than 3 fluid ounces per pound should be given daily, and usually small amounts are required on account of the high caloric value of the food. Results were remarkable, the steady gain in weight, and the improvement in general appearance, colour, and fat distribution resembling that seen in breast-fed infants.

SURGERY.

34. Treatment of Gonorrhœa by Cedarwood Oil.

LAUTIER (*Bull. Soc. de Thér.*, October 12th, 1921) has treated cases of acute and chronic gonorrhoea, with or without prostatitis, cystitis, vesiculitis, and orchi-epididymitis, by administration of cedarwood oil. The doses ranged from 2 to 8 grams a day. The dose was at first 2 to 3 grams, and was gradually increased to 25 to 50 eg., the maximum dose being continued until recovery was complete—that is to say, when the following requirements were fulfilled: (1) Disappearance of all discharge; (2) disappearance of all filaments in the first jet of urine passed on getting up in the morning; (3) disappearance of all subjective symptoms in the patient. Lautier's conclusions are as follows: (1) Cedarwood oil was very well borne by the patients, even in such large doses as 6 to 8 grams a day. It did not cause any digestive disturbances, lumbar pain, or albuminuria, which cannot always be avoided even with the purest sandalwood oil. No nervous symptoms were ever observed, such as vertigo, headache, excitement, or depression. (2) In acute gonorrhoea the various oils of cedarwood have a rapid action, a cure being all the more readily obtained the earlier treatment is commenced. The previous use of antiseptics appeared to delay recovery. (3) In cases of gonorrhoea treated exclusively by cedarwood oil from the commencement of the disease no urogenital or general complications were ever observed. (4) In cases of old-standing gonorrhoea which were refractory to all other treatment a very rapid cure was sometimes obtained by the use of cedarwood oil. In other cases it had to be given regularly for one and a half to two months to obtain a permanent cure. A few chronic cases proved refractory even to large doses of cedarwood oil. These failures were exceptional with the oil of *Juniperus virginiana* or *bermudiana*, and more frequent with the oil of *Cedrus atlantica*. (5) In cases of prostatitis, cystitis, vesiculitis, and orchi-epididymitis a rapid cure was obtained except in cases where the gonococcus was associated with other micro-organisms, when 1 or 2 grams of hexamethylenetetramine were required to obtain a satisfactory result.

35. Cranioplasty with Bone Grafts from the Tibia.

ROCHER (*Gaz. hebd. des Sci. Méd. de Bordeaux*, October 23rd, 1921) describes his technique—a modification of that adopted by Delagenière—for closing gaps in the skull by means of osteo-periosteal grafts removed from the tibia. He has carried out this operation on forty-three occasions. The number of grafts used varied with the size of the defect to be closed; as many as five have been employed. He lays stress on the following points: (1) Local anaesthesia with cocaine and adrenaline should be used. With general anaesthesia venous haemorrhage was troublesome and a haematoma developed under the graft and caused an epileptic fit the same night in one case. (2) The excision of the painful scar and freeing all parts adherent to the meninges, as these may cause the starting point of future troubles. (3) The graft is taken from the inner surface of the tibia. It consists of both bone and periosteum, being 1 mm. in thickness, and is removed with a sharp chisel, taking care that the bone surface is quite smooth. It is modelled with forceps to the curvature of the skull, and is never touched with the fingers during these manipulations. The grafts are fixed side by side and under the periosteum of the skull, being held in place with a few catgut sutures. Drainage is avoided if possible. Rocher never uses more than a single thickness of graft to fill up the gap and places the bony surface of the graft towards the brain. Delagenière advises that the periosteal surface should be turned towards the brain to avoid possible compression or irritation of the brain from overgrowth; in the light of experience this does not appear to take place. He states that the aesthetic results have been excellent, and the headache, feeling of dullness, and other troubles present before operation, have, in most cases, rapidly improved or disappeared. The operation does not claim to cure all the troubles of the trephined, but it has a threefold value: aesthetic, preventive of external trauma to the trephined area, and curative in restoring the normal intracranial pressure. The closure of the gap by the graft is rapid, and at the end of fifteen days it is fixed firmly in position. When practised in young subjects cranioplasty is satisfactory and no subsequent trouble has been caused by the graft.

36. Chronic Cystic Mastitis and Carcinoma.

LUKOWSKY (*Deut. Zeit. f. Chir.*, Bd. 167, Hefte 1 and 2, 1921), after a review of the literature and a record of twelve cases examined at the Pathological Institute of Cologne University, comes to the following conclusions: (1) Diffuse mammary fibromatosis or chronic cystic mastitis is neither a true tumour nor an inflammatory process, but a chronic irritative condition accompanied by abundant growth of connective tissue, involution processes, and proliferation of epithelium. The primary change is hyperplasia of the connective tissue. (2) The formation of cysts is a secondary phenomenon. It originates from constriction of the acini by the growth of connective tissue and the retention of a pathological secretion. Proliferation of epithelium, which occurs relatively late and is therefore to be regarded as secondary, may possibly be explained by the irritation of the retained secretion. (3) Carcinoma readily develops in diffuse mammary fibromatosis, either from the epithelium of the efferent ducts or from the acini, the frequency of this complication, according to various writers, being 7 per cent. (Schimmelbusch), 15 per cent. (Theile), 45 per cent. (Morris Wolff), and 50 per cent. (Bloodgood). The existence of carcinomata can only be proved by the presence of destructive growths, and not by the structure of the cells. Destructive growth, however, may be detected at an early stage, either in relation to the surrounding connective tissue or the adjacent epithelium.

37. Hydrocele of the Kidney.

KROGIUS (*Finska Läkaresällskapets Handlingar*, September and October, 1921) describes a condition which has been variously termed "hydronéphrose externe ou sous-capsulaire," "perirenal hydronephrosis," "perinephritis serosa," or "hydrocele of the kidney." The term "perirenal hydronephrosis" is misleading, as it suggests that the fluid surrounding the kidney consists of urine. From the scanty records of these cases it is impossible to obtain a clear conception of their etiology, but in some cases it would appear that it is provoked by stasis in the lymphatic system. In one case, recorded by Minkowski, complete recovery was effected by simple incision of the renal hydrocele and packing the cavity with a tampon. This simple operation is therefore indicated in cases uncomplicated by hydronephrosis or other morbid conditions. In the author's case the patient, aged 67, suffered also from cancer of the uterus, and the large renal hydrocele was associated with a moderate degree of hydronephrosis.

38. Congenital Perineal Ectopia of the Testis.

DANGSCHAT (*Deut. Zeit. f. Chir.*, August, 1921) records a case of perineal ectopia of the right testis in a man, aged 50, in whom death was due to cancer of the rectum. The author holds that perineal displacement of the testis differs from inguinal displacement in that whereas atrophy is almost the rule in the latter, and is even visible to the naked eye, the perineal testis is almost invariably of normal size, as in the present case. Although numerous histological studies have been made of the inguinal testes, showing atrophy of the seminal tubules and complete absence of spermatogenesis associated with a predominance of the interstitial cells, hardly any microscopical examinations have been made of

the perineal testis. A. Ledwich, the only previous observer who has made a microscopical examination of a perineal testis, found that the procreative power of the organ had not suffered from its displacement, and that the function of the cells was quite normal. His investigations were confirmed by those of Dangschat, who found that the structure of both testes was the same. As regards the occurrence of malignant degeneration, no example of a malignant growth has yet been observed in a perineal testis, whereas this is by no means a rare event in inguinal testis. This has been attributed by Finotti to the greater richness of the inguinal testis in interstitial tissue, which in the perineal testis is not more abundant than in the normal organ.

39. Urinary Calculus.

THOMSON (*Nat. Med. Journ. of China*, September, 1921) reviews the experience gained in the treatment of urinary calculus at the Canton Hospital, based upon 3,500 operations. For the general surgeon, with comparatively small experience in this work, cystotomy is the operation of choice, but in each case the age, general condition of the patient and of the urinary tract, and the size, consistency, and mobility of the stone, have to be taken into consideration. Cystotomy can be performed rapidly with comparative safety, and it is the operation of necessity with large hard stones, abnormalities, or disease of the urethra, prostate, or bladder, and in young persons. Recurrence is rare, and the operative mortality in uncomplicated cases was 3 per cent. Median or lateral perineal section is the operation of choice for medium-sized stones impacted in the perineal urethra, and the mortality in uncomplicated cases was 3.8 per cent. Litholapaxy requires practical skill, and is indicated for small hard stones in adults whose urinary passages are otherwise healthy. Recurrence is more frequent than with cystotomy or the perineal operation, and the mortality in uncomplicated cases was 4.4 per cent. In females small calculi may be extracted per urethram, and primary union may be expected after suprapubic lithotomy if the bladder is closed. Vaginal cystotomy is contraindicated on account of a possible resulting fistula. In dealing with urethral calculi the bladder should always be sounded, cystoscoped, or *x*-rayed for possible vesical stones.

40. Thyroid Malignancy with Secondary Deposits in Bones.

LENORMANT (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, December 6th, 1921) refers to the case of a woman, 53 years of age, with a goitre, living in a district where goitres were common. The enlargement in her case was slight until at the age of 48 years it became larger and caused difficulty in breathing, with attacks of dyspnoea. Later she suffered from pain and swelling of both arms, and finally loss of use of the left arm. There was also found a tumour, the size of a pigeon's egg, arising from the manubrium sterni. Radiographic examination showed that the tumours of the arms arose from both humeri, and caused extensive destruction of bone. Later there was spontaneous fracture of both bones. Microscopical examination of a portion of the enlarged thyroid showed that it had the definite characteristics of malignancy, whilst examination of a portion of the deposit in the humerus proved it to be a colloid carcinoma. He points out how in this case a slightly enlarged thyroid had for over thirty years all the appearances of being a benign goitre, until the menopause was reached; then it commenced to grow and to cause symptoms of respiratory distress. This increase in size of the thyroid after years of complete tolerance is characteristic of malignancy, as Kocher has shown. Every goitre which, in an adult, gets larger without reason or cause should be suspected of malignancy if there is neither haemorrhage nor inflammation present to explain this change. Metastases in bone are common in thyroid malignancy, and manifest themselves during life by paraplegia when arising in the spine, or by spontaneous fracture when occurring in the bones of the limbs. Lenormant doubts whether a benign goitre ever gives rise to metastases in the skeleton, and considers that every tumour of the thyroid which gives rise to secondary deposits in the bones is carcinomatous.

41. Thrombophlebitis of the Cavernous Sinus of Dental Origin.

LAURET (*Paris méd.*, October 15th, 1921), who records a fatal case of a girl, aged 7½ years, remarks that propagation by the veins to the cranial sinuses and meninges of an ordinary dental infection, though by no means common, is worthy of attention on account of its gravity. Delay in operating and stagnation of pus play an important part in the pathogenesis. Early and energetic treatment is required on the first manifestations of a dental infection of this kind.

OBSTETRICS AND GYNAECOLOGY.

42. Coexisting Uterine and Ectopic Gestation.

ACCORDING to STROPENI (*Annali di Ostetricia e Ginecologia*, November, 1921), the occurrence of gestation in both uterus and Fallopian tube at the same time is not very infrequent, although five or six instances only have been recorded in the literature since Neugebauer, in 1913, collected 243 cases. In about one-third of these cases the uterine pregnancy continued to term, in spite of the performance in many instances of laparotomy and removal of the ruptured or intact extrauterine gestation sac. Since tubal abortion or rupture is accompanied by uterine contractions there is, however, a greater chance of survival of the uterine embryo if the operative intervention takes place at a time antecedent to that of such abortion or rupture. Stropeni relates the case of a primipara, aged 37, who after seven weeks' amenorrhoea suffered from acute abdominal pain. Her general condition, at first critical, underwent slow improvement as a haematocele was formed in the pouch of Douglas, but in the course of a few weeks operation became necessary on account of subacute intestinal obstruction. Removal of the blood clot from the pelvis, together with ablation of the ruptured gravid tube, were followed by speedy recovery. The early uterine pregnancy was not noticed at the time, but becoming manifest in the next weeks continued to full term and led to the birth of a hydrocephalic dead foetus weighing 3,700 grams. With regard to the principles of treatment of coexisting uterine and extrauterine pregnancy, the author is in accord with Bichet and with Costa in advocating (1) in cases in which both embryos are living but the gestations are of the earlier months, ablation of the ectopic gestation sac; (2) when the extrauterine foetus is alive in the later months of pregnancy, expectant treatment followed by laparotomy at the commencement of labour; (3) in cases in which the ectopic foetus is dead, treatment according to the ordinary methods used in simple extrauterine pregnancy. There is no recorded instance in which adhesions consequent on rupture of ectopic gestation have interfered with the normal course of labour at the termination of the uterine pregnancy.

43. Rapidity of Development of Uterine Myomata.

ACCORDING to GRAEBKE (*Zentralbl. f. Gynäk.*, October 22nd, 1921), precise data as to the rate of development of uterine myomata are few. The chief governing factors are the histological structure of the tumour and hormonic ovarian influences; in addition, factors which, like pregnancy or treatment by diathermy, lead to increased pelvic blood supply may cause increasingly rapid growth of myomata. Cancer of the uterus is, as a rule, associated with diminished rapidity of growth in pre-existing myomata. The author relates the case of a 13-para, aged 48, who suffered from uterine haemorrhage of three months' duration, and was found by examination under a general anaesthetic to have a uterus which, although somewhat irregular in consistency, was scarcely enlarged, contained no palpable tumour, and freely admitted the sound for a distance of 9 cm. The histological examination of the scrapings confirmed the diagnosis of chronic endometritis, and *x*-ray treatment was carried out with a view to inducing sterilization and amenorrhoea. The haemorrhage persisted in greater or less degree during the ensuing three months, at the end of which the uterus exhibited a solid enlargement palpable above the symphysis pubis, and a fibroid polypus (weighing after removal 35 grams) presented in the vagina. Four months later the uterus had become smaller, and the patient was free from pain or haemorrhage. In explanation of the rapid increase of the uterine myomata following *x*-ray treatment it is suggested that the ovaries of this patient, who had borne thirteen children, were unusually active, and that the initial stimulating effect of the irradiation was to increase the production or absorption of ovarian internal secretion, and thus to cause increased activity in the tumour tissue.

44. X-ray Treatment of Uterine Fibroids.

BÉCLÈRE (*Journ. de radiol. et d'électrol.*, October, 1921), who two years previously had reported his observations on 400 cases of uterine fibroids treated by radiotherapy, gives the following account of 300 more cases which he had treated in the same way. Forty-eight, or 16 per cent., of the patients were aged 50 years and upwards; 205, or 67.66 per cent., were aged between 40 and 49; 48, or 16 per cent., between 30 and 39; and 1, or 0.33 per cent., was under 30. In 124 cases, or 8 per cent., the tumour was intrapelvic, and in 276, or 92 per cent., it was abdominal; 157, or 57 per cent., of these abdominal tumours, reached or exceeded a level of 10 cm. above the pubis, and 8 at least by extending 25 cm. above that level, as well by their large size and anterior protrusion, were

entitled to be called "giant tumours." In the majority of patients the predominant symptom was more or less profuse, prolonged, and regular metrorrhagia. The size of the uterine tumour, its protrusion and rapid growth, as well as the compression of neighbouring organs, especially the bladder, were the chief causes of the treatment. The two principal results of treatment were, first, the disappearance of metrorrhagia, and suppression of menstruation in the 294 patients who had not yet reached the menopause, and secondly, a more or less rapid and pronounced diminution in size of the uterine tumour in all the patients treated. In 81 per cent. of the cases the monthly periods did not reappear more than twice before they finally ceased. Among the 294 patients who had not reached the menopause there were only 10 cases of relapse, or a proportion of 3.40 per cent., the periods returning after amenorrhoea of from three to sixteen months' duration; in only 3 cases, or 1 per cent., did the treatment fail, subtotal hysterectomy being required. The only contra-indications to *x*-ray treatment, according to Béclère, are septic complications, suppuration, and gangrene, which require immediate operation.

45. The Corpus Luteum in Diagnosis and Therapeutics.

DOLANSKY (*Casopis lékaruvceskych*, 1921, 6), in 191 cases of menorrhagia or metrorrhagia, has made subcutaneous injections, repeated if necessary at daily intervals, of portions of the fluid removed from a corpus luteum cyst of the human ovary. He claims that, in cases in which the haemorrhage comes to a standstill after one to five injections, the bleeding may be regarded as having been due to causes connected with the internal secretion of the ovary. The cases in which the bleeding was not affected numbered 32, including 11 tuberculous or syphilitic, 6 of malignant disease, and 9 of pregnancy. Of the remaining 159 cases which reacted successfully 29 were instances of haemorrhage at or shortly after puberty; permanent cure was established after five injections at most. Forty-five cases (corresponding to cases of endometritis, or metritis according to the more usual nomenclature) of "ovarian" bleeding occurring in the absence of pelvic inflammation during the period of sexual activity became cured with equal speediness and a similar lasting effect. In 31 cases of "ovarian" bleeding associated with pelvic inflammation the injections were followed by a subjective betterment and by temporary cessation of the haemorrhage. Thirty-one cases of haemorrhage of the climacteric were brought to a temporary standstill after the injections, and injections given three or four days before the expected onset of a haemorrhage appeared to modify its characters so as to make them resemble those of a normal menstruation. The author attaches much diagnostic significance to the mode in which haemorrhages of doubtful etiology respond to an injection of corpus luteum cyst fluid: in cases in which there is a suspicion of malignant disease the failure of such injections to control the haemorrhage is a sign that the bleeding is not of ovarian origin and confirms the necessity for the removal of a specimen for microscopic examination.

PATHOLOGY.

46. Pathological Anatomy of Influenza.

DURING the influenza epidemics of 1918-19 and 1921, LLAMBIAS and ELIZALDE (*C. R. Soc. Biologie*, November 26th, 1921) conducted 91 *post-mortem* examinations on patients who had died with pulmonary lesions. Amongst these were 45 with pneumonia, 52 with bronchopneumonia, 19 with pleural effusions, 5 with acute endocarditis, and 6 with pericarditis. After enumerating a series of lesions affecting certain organs, they draw attention to some of the features which appeared to be peculiar to the epidemic. Of such are the following: The abundant sero-sanguineous exudate in the lungs affected with pneumonia and bronchopneumonia; the distinctly haemorrhagic tendency of the fluid exudates in the early stages; the frequent parenchymatous degeneration and necrosis; the presence of infarcts of various sizes in the lungs due to local thrombosis, the generalized subpleural capillary haemorrhages; and the large number of cases exhibiting parenchymatous degeneration of the liver, heart, kidneys, and suprarenals.

47. Vaccination against Bacillary Dysentery.

VINCENT (*C. R. Soc. Biologie*, November 26th, 1921) gives the results of a fairly extensive trial of vaccination against bacillary dysentery, conducted on a series of 2,175 individuals. During the progress of an epidemic due to the *B. dysenteriae* Shiga, prophylactic inoculation was commenced, the vaccine used being a polyvalent one. As a result the number of cases developing the disease was reduced to a proportion of 1.6 per cent. in the vaccinated as compared with one of 22.8 per cent. in the uninoculated controls. In a subsequent epidemic, apparently due to a mixed infection with the Flexner and the Shiga types of dysentery bacilli, a polyvalent vaccine containing 2,000 million organisms per cubic centimetre was administered to a part of the population, with the result that the morbidity in the vaccinated was only 0.8 per cent., as against one of 7.1 per cent. in the unvaccinated. Further, while the mortality in the latter was 0.16 per cent., amongst those who had been inoculated there were no deaths at all. Unfortunately the total number of patients involved in this outbreak is not recorded.

48. Rheumatic Myocarditis.

HOLST (*Norsk Mag. for Laegevidenskaben*, December, 1921) has examined clinically and after death the hearts of 66 patients, 7 of whom died during or shortly after an attack of acute rheumatic fever. The *post-mortem* examinations of these hearts were conducted on Krehl's lines, and the systematic microscopic sections showed typical Aschoff-Tawara nodes in 4 of the 7 hearts. In the remaining 3 there were definite signs of myocarditis with round-cell infiltration. In none of the other 59 hearts could Aschoff-Tawara nodes be found, and though the author admits that their relation to the virus of acute rheumatism is not yet established, he is inclined to regard them as the foci from which new attacks of acute rheumatism start. They would thus be comparable with tubercles and latent foci of syphilis, and acute rheumatic fever might be regarded, not as an acute short-lived disease, but as a chronic disease with acute exacerbations. If this view is correct, the disease would best be combated by systematic, intermittent, specific treatment with salicylates, even in the intervals between acute exacerbations, just as syphilis is treated. The author considers rheumatic myocarditis to be a comparatively common condition, although it is practically impossible to diagnose it with certainty during life, and even after death the diagnosis cannot be made without the microscope. His opinion of digitalis in acute rheumatic myocarditis is not favourable.

49. Experimental Mumps Meningitis.

MENINGO-ENCEPHALITIS is an occasional complication of mumps in the human being. WOLLSTEIN (*Journ. Exper. Med.*, December, 1921) has been successful in reproducing this condition in cats by the intrathecal inoculation of the sterile filtrate from the combined mouth washings of four children on the second and third days of a typical attack of parotitis. The day following the injection the cat developed strabismus; subarachnoid occipito-atlantoid puncture withdrew turbid fluid under greatly increased pressure, which on examination was found to contain a large amount of globulin, 22,000 cells per cubic millimetre, of which 84 per cent. were polymorphs and 16 per cent. mononuclears. Bacteriologically the fluid was sterile. After lasting for five days the condition cleared up and the cat recovered. Another cat, similarly injected, was chloroformed on the third day. *Post mortem*, the pia was cloudy and oedematous and the vessels deeply congested. No organisms could be grown from the brain. It was further found possible to transfer this condition from one cat to another. Three control animals remained unaffected. As to the exact nature of the original substance in the salivary filtrate which gave rise to the aseptic meningitis—whether of toxic nature or of the nature of a filter-passing virus—no experiments are recorded and no opinion expressed.

50. Rickettsia in Lice Fed on Cases of Typhus Fever.

RICKETTS and WILDER in 1910 noticed the presence of small bipolar micro-organisms in the bodies of lice fed on cases of typhus fever. Since that date similar bodies have been encountered in lice from cases of trench fever and of Rocky Mountain fever. These have been given the general name of Rickettsia. SERGENT, FOLEY, and VIALATTE (*Arch. des Instituts Pasteur de l'Afrique du Nord*, September, 1921) now recall the fact that in 1914 they also were able to substantiate the presence of similar organisms in lice taken from cases of typhus fever occurring in two epidemics situated at a distance of 900 kilometres from one another. In size they vary from 0.2μ in diameter to 3μ. They show bipolar staining and are arranged singly, in pairs, or in short chains. Lice taken from patients in the incubation stage of the fever are free from these bodies; during the first few days of the illness only a small proportion are infected, while those examined between the twentieth and twenty-fifth days are found to be heavily infected. In this stage they are able to transmit the disease to healthy men and monkeys. Further, the infection appears to be capable of being handed on herditarily to the offspring of the lice. Amongst the several thousand lice coming from healthy persons which they have dissected during the past ten years no such bodies have ever been found. The exact part that these micro-organisms play in the etiology of typhus fever is as yet unknown.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

51. The Bismuth Treatment of Syphilis.

IT seems possible that the treatment of syphilis by salts of bismuth may prove effective. In 1916 SANTON and ROBERT (*Annales de l'Institut Pasteur*, 1916, xxx, 261) showed that bismuth had a preventive, and up to a certain point a curative action on the spirillosis of poultry and also on trypanosomiasis. In May, 1921, SAZERAC and LEVADITI (*C. R. de l'Acad. des Sciences*, 1921, clxxii, 1391) reported the results of their treatment by the tartro-bismuthate of potassium and sodium of experimentally produced syphilis in rabbits, the spirochaetes being supplied by a dermotropic virus from a case of primary syphilis in man, passed several times through rabbits, and also by a virus from a general paralysis; they also used a virus of the spontaneous spirillosis of the rabbit. When the lesions of the experimentally induced syphilis were fully developed and contained numerous spirochaetes they were treated by hypodermic or intramuscular injections of the bismuth salt. An undoubtedly curative therapeutic action was manifested, they state, not only on the experimental syphilis of the rabbit (the dermotropic and the neurotropic virus), but also on the spontaneous spirillosis (*Spirochaeta cuniculi*). The curative effects on the trypanosomiasis of nagana were less powerful. In syphilis the spirochaetes disappeared in two to four days, and in one case there was no relapse after four months. In August, 1921, Sazerac and Levaditi reported (*C. R. de l'Acad. des Sciences*, 1921, clxxiii, 338) further studies on the treatment of five human cases of primary, secondary, and tertiary syphilis by bismuth salts. There was rapid disappearance of the treponemata of open lesions and cicatrization of the latter within a few days; the treatment was successful on primary and secondary syphilitic adenopathies and also in tertiary syphilis. In one case, treated from the onset, the Wassermann reaction, which was positive, became negative and remained so for the two months of the treatment. In the other cases it remained positive. In one there was stomatitis, readily cured by methylene blue, and in another the gums were affected. The writers used intramuscular injections of the bismuth salt suspended in oil, and they advise avoidance of hypodermic and intravenous injections in the treatment of human syphilis. The number of injections varied from six to ten; the total dose during the treatment varied from 1 to 1½ grams. Four other physicians reported to Sazerac and Levaditi their favourable results by this treatment in man. In October, 1921, A. MARIE and FOURCADE (*Soc. de Méd. de Paris*, October 22nd, 1921) obtained good results by the tartro-bismuthate of potassium in ten cases of neurotropic syphilis; cases of diffuse syphilitic lesions were more rebellious. In October, 1921, FOURNIER and GUÉNOT (*C. R. de l'Acad. des Sciences*, 1921, clxxiii, 674) reported their experience of the treatment of 110 cases of human syphilis at various stages by the tartro-bismuthate of potassium and sodium in oily suspension. They confirm the findings of Sazerac and Levaditi. The action on the chancre is that the treponemata disappear sometimes after the first injection, generally after the second. Small chancres cicatrize in six or seven days, large ones in twenty. The adenopathy was lessened, the treponemata disappeared from those syphilitic lymph-nodes which were examined, and clinically the course of the disease seemed to be checked; no cases showed any secondary signs. Action on secondary syphilis, they state, is that the treponemata disappear on the surface and in the depth of the lesions; eroding lesions dry up and cicatrize extraordinarily quickly, but papular and hypertrophic lesions rather more slowly. A case of palmar syphilis recovered in fifteen days. General symptoms, such as headache, lassitude, and bone pains, disappeared after the first injection. In five patients who had resisted all treatment (even as many as 700 arsenical or mercurial injections in four years), all the syphilitic lesions vanished after three or four injections of the tartro-bismuthate; but after three months the syphilitic manifestations recurred to some extent. In a case of acute syphilitic meningitis all the symptoms, including the lymphocytosis of the cerebro-spinal fluid, disappeared after three or four injections. In this case bismuth was recovered from the spinal fluid. The action on tertiary syphilis is that bismuth is very efficacious in all sorts of lesions—gummata, osteoperiostitis, and large scabby ulcers of abdomen and thorax. In one case of lingual leucoplasia the lesion diminished considerably without entirely disappearing. The effect on the Wassermann reaction was that in 6 out of 20 cases treated for more than three months the reaction became completely negative. Further study, however, is needed on this head to judge of the depth of the action of bismuth in syphilis. The first results, however, have been very satisfactory. The intramuscular injections of the tartro-bismuthate are given every other day, at the beginning of the treatment, in a dose of 0.20 gram, or every three days in a dose of 0.30 gram. Later the interval is slightly lengthened, especially if stomatitis appears. The total dose given during the first series of injections should reach 2 to 2½ grams in the three or four weeks. The injections are well borne; the only trouble (rather frequent) is a stomatitis, but it is much milder than mercurial stomatitis. It can be prevented by care of the gums and teeth, and by local application of the bismuth salt, methylene blue, or arsenical compounds. The writers recovered bismuth from the blood, urine, saliva, bile, and faeces; sometimes there was slight polyuria and albuminuria. Their general conclusion is that bismuth must be regarded as an energetic antisyphilitic agent. Prolonged and numerous observations are, however, needed to show whether it can definitely cure syphilis. Not only has it a rapid and a lasting effect on all sorts of syphilitic lesions, but it has great value from a social point of view, for it acts on the contagiousness of syphilitic lesions. The researches of Sazerac and Levaditi may possibly thus prove to have found a new therapeutic weapon against syphilis; certain bismuth derivatives tried by these writers were found to be much more toxic than the tartro-bismuthate salts.

52. Mercury and Bismuth.

MILIAN (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, November 17th, 1921) remarks that though absolute intolerance for mercury is rare, all gradations may be found between perfect tolerance and absolute intolerance, and that many persons suffer in some degree from mercurial medication. Some patients are unable to take mercury pills for more than a fortnight at a time, and others have more or less acute attacks of enteritis with or without haemorrhage after injections of cyanide of mercury. During the last ten months Milian has been using subnitrate of bismuth in cachets combined with calomel when mercury is given by mouth. In the case of intravenous or intramuscular injections he orders a cachet of 1 gram of subnitrite of bismuth daily. In this way stomatitis and gastric and intestinal disturbances are prevented.

53. A Mixed Diet in the First Year of Life.

JUNDELL (*Acta Paediatrica*, vol. i, fasc. 2, 1921) challenges the orthodox view that infants under 12 months should not be given a mixed diet. Since 1914 he has given a mixed diet in the second half of the first year to infants in an orphan asylum in Stockholm, and of the 2,186 children under one year, 382 were given a mixed diet including porridge, gruel, tea with milk, beef-tea, fruit-juice, soups, cocoa, scrambled eggs, minced meat and fish, rusks, mashed potatoes and vegetables, and stewed fruit. Between 300 and 550 c.cm. of milk were given daily, and the infants were allowed to eat as much as they liked of the above dishes. The author publishes numerous tables showing the effects of this dietary, and he claims that, on the whole, the results were satisfactory, and in a certain number of cases this mixed feeding proved of the greatest value. He concludes that there is no risk in giving a mixed diet to an infant after the age of nine months, and that such feeding may, in certain cases, have a very favourable effect on the infant's health and development.

54. Treatment of Anaphylactic Symptoms of Alimentary Origin.

CLARET (*Bull. Soc. de Thér.*, October 12th, 1921) states that after unsuccessful treatment of this condition by various drugs he has given hexamethylene tetramine by mouth with success, being guided by the following considerations: (1) The drug raises the blood pressure and increases its viscosity; these conditions, as Lumière has shown, tending to inhibit the development of anaphylaxis. (2) Insufficiency of the liver and kidneys, on which this drug has a selective action, creates a condition favourable for the development of anaphylaxis. Rapid recovery followed administration of uroformine in doses of 1 to 1½ grams daily.

55. Erythema Nodosum.

GUEISSAZ (*Rev. méd. Suisse rom.*, October and November, 1921) discusses the following theories as to the etiology of erythema nodosum, which was first described by Willan. (1) The oldest view, that it is a rheumatic manifestation, was maintained by Barthez (1802), Schönlein (1829), and Bouillaud (1840), this theory being founded on the presence of pains in the joints which are almost constant. (2) Writers such as Cruveilhier, Chomel, Tardieu, Griselle, Trousseau and Germain Sée contest its rheumatic origin, and maintain that it is an independent infectious disease. (3) During the last fifteen years almost all writers have been inclined to regard erythema nodosum as closely connected with tuberculosis. Thus Voyer in 1920, out of 47 cases of erythema nodosum, found in 46 either a tuberculous heredity or stigmata of tuberculosis in the patient. According to Gueissaz erythema nodosum is not a frequent disease. At the Lausanne Policlinic only one case was found among 1,000 cases of all kinds. The disease is most frequent in the north, especially in Scandinavia. At Hamburg the average number of cases is also 1 in 1,000 (Hegler). According to Schulthess at the Zurich Policlinic, out of 80,000 patients, there were 113 of erythema nodosum, or 1.4 per 1,000. Gueissaz found that country folk were almost as frequently attacked as townspeople. Three times as many girls as boys were attacked in his statistics, as in Syme's (vide BRITISH MEDICAL JOURNAL, April 25th, 1914). In six of Gueissaz's cases several members of the family were attacked. Usually the weaker children were affected, but after the age of 15 the disease was equally frequent among those with a good constitution. Gueissaz's conclusions are as follows: (1) There is a primary specific erythema nodosum which possesses all the characteristic features of an acute exanthem. The proofs of its autonomy are as follows: (*a*) The disease attacks females more frequently than males; it occurs at every age, but is commonest between 5 and 20; it is a definitely seasonal disorder, being most frequent in spring; it attacks all classes of society both in the country and in the town. (*b*) Erythema nodosum is an undoubtedly contagious disease, the pathogenic agent of which is still unknown, but has sometimes its portal of entry in the tonsils. It may occur in epidemic form. (*c*) Erythema nodosum conveys immunity, instances of a second attack being extremely rare; it may develop in persons free from any other infection, but it attacks quite as frequently the tuberculous or rheumatic. (2) Under certain conditions tuberculosis, syphilis, malaria or leprosy may give rise to an eruption resembling erythema nodosum. In tuberculosis in particular a relapsing erythema may occur which at its onset presents the features of erythema nodosum, and in its repeated attacks resembles the erythema induratum of Bazin.

53. Quinidine in Auricular Fibrillation.

WOLFERTH (*Amer. Journ. Med. Sciences*, December, 1921), from an experience of twelve cases of auricular fibrillation treated with quinidine sulphate, considers the most favourable cases to be those with relatively good heart muscle and fair compensation, and those in whom the condition has existed for only a short time. Normal rhythm was restored in seven, fibrillation was converted to flutter in one, and in four the treatment failed. Of other reported cases quinidine restored normal rhythm in slightly over one-half. On account of the possibility of hypersusceptibility to the drug one or two small doses (0.2 gram) should be given as a preliminary, increasing from 0.4 gram to 1 gram three times a day if no such hypersusceptibility is present. As soon as normal rhythm is obtained the large doses should be reduced to such smaller dose—for example, 0.2 gram twice a day—as is found best to maintain the improvement, and after a period of ten days the drug should be discontinued for a few days, and a second course instituted if the condition returns. The coexistence of valvular disease does not contraindicate treatment and in no case were serious effects noted, though in four of the cases increasing weakness, dyspnoea, dizziness and precordial distress, and symptoms of cinchonism, necessitated withdrawal of the drug. In three cases a sudden increase in the ventricular rate occurred, and in such cases it was found to be desirable to continue the drug when it was already exerting a beneficial effect upon the fibrillation, only withdrawing it in the presence of cardiac embarrassment, or when the tachycardia developed before the fibrillation had been altered.

57. Bromide Delirium.

KARPMAN (*State Hosp. Quarterly*, November, 1921) suggests that the continued use of bromide, by lowering resistance, produces a definite intoxication manifested by physical and mental disturbances. Emaciation and weakness; acneform eruptions, ulcerations and gangrene; constipation, anorexia, foul breath and furred tongue; ataxia, exaggerated knee-jerks, tremors and dilated pupils are among the physical disturbances; while on the mental side there are hallucinations and alternations of excitement and stupefaction. Depression is the chief effect of bromides upon the brain, and, through the primary alteration in metabolism and progressive intoxication, a toxaemia is produced, which is essentially the same whether it is produced by infection, drugs, or exhaustion.

SURGERY.

58. Vaccines in Osteomyelitis.

HALLOPEAU (*Bull. et Mém. Soc. de Chir. de Paris*, December 13th, 1921) discusses the value of vaccine treatment in cases of acute osteomyelitis. He advises that injections should be given at intervals of eight days, and not every two days as has been suggested. In those cases where the vaccine treatment has been carried on over several months their value is doubtful. As a result of his experience in a number of cases, he considers that in only a few patients did the vaccine have any effect on the resolution of the condition. The relief of pain and symptoms has been such as could be brought about with routine treatment. In a few cases suppuration was arrested by the vaccine, but he considers this to be an exceptional occurrence. It is not justifiable to delay operative treatment, but vaccines should be combined with this, as they are free from danger. Further, by delay in operating there is a risk that the necrosis of bone may be more extensive when there is a collection of pus surrounding the bone. Though vaccine treatment cannot prevent the necrosis of bone, it does in some cases bring about the reabsorption of pus in a localized abscess and hasten the recovery. Vaccines are of little use in treating old sinuses.

59. Osteomyelitis of the Patella.

ACCORDING to A. MOUCHET (*Bull. et Mém. Soc. de Chir. de Paris*, November 29th, 1921), who communicates a case reported by Duguet in a soldier following typical influenzal bronchopneumonia, in which recovery followed removal of the patella, osteomyelitis of the patella is a rare condition, only 18 cases, including the present one, being on record. Sometimes it develops spontaneously, either in a chronic form from the first (Berger) or in an acute form (Walther), either without apparent cause (Ropke, D'Ollier) or following a previous infection, such as small-pox (Poncet), septic puncture of the finger (Wood), bronchopneumonia (Duguet), or anthrax (Partsch). As regards the functional result after removal of the patella, flexion is limited to 45 degrees, but extension is complete.

60. Haemorrhagic Osteomyelitis.

ARNOLD (*Boston Med. and Surg. Journ.*, December 15th, 1921) calls attention to a rather infrequent bone lesion which is apt to be mistaken for tuberculosis or new growth. The condition—one of haemorrhagic osteomyelitis—occurs almost exclusively in childhood, and appears to be of the nature of reaction to trauma. Macroscopically, a unilocular cavity is found in the spongy bone, filled with a dark brownish mass of jelly-like consistence from which uncoagulated blood oozes. A brownish-red membrane, about an eighth of an inch in thickness and very friable, lines the wall. The whole bone shows a uniform expansion. Microscopically, the mass is seen to be a haemorrhagic extravasation containing young fibroblastic tissue and numerous multinucleated giant cells. The symptoms are purely local, so that the disease may only be revealed by the *x* rays, which show a regular, sharply outlined cavity with absence of bone proliferation. Treatment consists in evacuation of the contents of the cavity, complete curettage of the haemorrhagic membrane, and suture of the periosteum and skin without drainage.

61. Tendon Transplantation.

POATE (*Med. Journ. Australia*, October 1st, 1921) discusses tendon transplantation in old nerve injuries where nerve suture is either impossible or has failed, the sole object being to restore function by reconstructing or improving the muscular balance of the region affected. Each case must be considered on its merits as to which tendons require assistance, and whence that assistance will be best obtained. It is an essential preliminary that all deformities and contractures should be corrected, and that all joints involved are freely mobile. The direction of the transferred or active tendon should be as near as possible to that of the receiving or paralysed one, and in order to avoid loss of power tendons should not be carried round in a sharp bend. Substitution of small muscles for large ones is undesirable, and, in selecting muscles for transplantation, an amount of muscle substance in the transferred muscle equal to that of the paralysed one

should be aimed at. It is preferable, in bringing a tendon to its new position, that it should pass through the subcutaneous and fatty tissue rather than through the deeper tissues, as better nutrition and less liability to adhesions are likely to result. One tendon can only be made to subserve one function, and it is useless endeavouring, by splitting tendons, to expect the various parts to take on independent function. Tendon to tendon implantation is usual, though in some situations periosteal insertion is possible. Incisions should be planned to allow free manipulation, but so that the resulting scar is not directly over the transplanted tendon. By maintaining the limb fixed in the corrected position for six to eight weeks, with gentle passive movements after a few days, the patient usually obtains full control in from eight to ten weeks, requiring no further treatment after three months.

62. Cutaneous Leishmaniasis.

ACCORDING to CALICETI (*L'Oto-Rhino-Laryngologie Internationale*, December, 1920), excellent results may be obtained in leishmaniasis of the nose and ear by local injections of emetine hydrochloride, which are superior to intravenous injections. He records two cases in which the nostril and the auricular pinna respectively had been affected for about six months. Three weeks after two successive injections of 8 to 10 cg. of emetine hydrochloride into the base and periphery of the swelling cure was attained. Diagnosis was established eventually by the finding of the Leishman bodies in the serum from the sores; in one case the first examinations were negative, but the blood serum was found to contain the antibodies described by Pavoni. The deviation of the complement due to these bodies was shown with antigen extracted from the spleen of patients dead of internal leishmaniasis, but was absent when the antigens used in the Wassermann test were employed. Caliceti attributes great importance to this complement deviation test in early diagnosis of leishmaniasis. These two cases of oriental sore occurred in Sicily, where leishmaniasis, both internal and external, is endemic.

63. Methyl Violet in Suppurating Wounds.

FOR some years AASER (*Tidsskrift for Den Norske Lægeforening*, October 1st, 1921) has been experimenting with methyl violet (pyoctanninum coeruleum medicinale) in suppurating wounds and such skin conditions as impetigo contagiosa. His verdict is favourable. His success with several cases of impetigo contagiosa was all the more striking as the disease had proved refractory to other antiseptics. The remedy did not fail in a single case, and it was common to find the lesions healing in a couple of days. One of the author's patients was a man on whom an operation had been performed for hypertrophy of the prostate. The abdominal wound failed to close and there was profuse discharge of pus from the fistula. The tissues about the fistula were brawny, and the pus showed signs of burrowing under the skin. Various ointments and compresses had been tried and dilatation of the fistula had been performed, but no improvement occurred till the wound was carefully painted with a 0.1 per cent. aqueous solution of methyl violet and then covered by a pad of cotton-wool soaked in the same solution. This treatment was repeated twice a day, and after a week marked improvement was observed. A fortnight after the institution of this treatment the discharge had ceased and the wound closed. The author has found methyl violet remarkably effective in the treatment of gonorrhoea in the male, and he considers that when as weak a solution as 0.1 per cent. is used, the drug is neither painful nor dangerous.

64. The Development of Tumours in Children.

DE BRUIN (*Nederl. Tijdschr. v. Geneesk.*, November 12th, 1921) states that out of 4,758 children treated in the surgical department of Professor Rotgans at Amsterdam from 1901 to 1920, 62, or 1.3 per cent., presented tumours of some kind, as compared with 24, or 0.54 per cent., of the 4,447 children treated by himself in the medical department of the same hospital, and 1,591, or 7.32 per cent., out of 20,356 adults treated by Professor Rotgans during the same period. In other words, tumours were five times more frequent in the children's surgical department and fourteen times more frequent in the adult surgical patients than in the children's medical department. As regards the character of the tumours, growths consisting of connective tissue elements, such as fibromata, lipomata, chondromata, osteomata, and angiomata, were more frequent in children than epithelial tumours. The benign epithelial tumours which occurred with relative frequency in children were papillomata of the skin and larynx and polypi of the rectum, no less than 9 of the 24 cases in the medical department showing rectal polypi. Sarcomata were much more frequent in children than carcinomata, as is shown by the fact that during the period 1901 to 1920 no case of carcinoma was seen in either the medical or the surgical department of the hospital, as compared with 14 cases of sarcoma in the surgical department and 10 in the medical department during the same period. On the other hand, certain tumours were more frequent in children than in adults. Thus during the period mentioned, in Professor Rotgans's clinic 19 cases of rectal polypi occurred in children and only 11 among five times as large a number of adult patients. Similarly, only 3 cases of renal sarcoma occurred during the same period among adults and 4 in children. As regards the difference in the effects of the tumour on the organism of adults and children, the disease runs a much quicker course in the latter, so that death from exhaustion or intercurrent pneumonia occurs before cachexia has had time to develop.

65. Powdered Yeast in the Prophylaxis of Sore Throat.

FERIZ (*Deut. med. Woch.*, October 20th, 1921) started his investigations with the familiar knowledge that the introduction of yeast into septic cavities in the body may, by its growth, inhibit the activities of bacteria. This principle has been applied to the treatment of diphtheria by Gallion, but not with very good results. The author is much impressed by the practical value of this idea in other forms of sore throat, and he has succeeded both on himself and other persons in aborting attacks of acute pharyngitis by blowing powdered yeast into the throat. In his own case he had been subject since childhood to attacks of acute sore throat, which recurred at some seasons as often as every four to six weeks and rendered him unfit for work for a day or two each time. Local applications and incisions of the small but much crypted tonsils had proved futile, and gargling with astringents and disinfectants had only occasionally aborted the disease in an early stage. He was greatly surprised when he found the insufflation of yeast invariably aborted the disease, the first manifestation of which was slight dysphagia. The same success was achieved in every adult and most of the children on whom he tried this remedy, which is, in the author's opinion, perfectly harmless. The best time for the insufflation is in the evening, just before the patient goes to sleep. With the help of a mirror the patient can apply the treatment himself.

OBSTETRICS AND GYNAECOLOGY.

66. The Frequency of Malignant Metastasis in Myoma.

ACCORDING to BERREITTER (*Zentralbl. f. Gynäk.*, November 5th, 1921), in view of the now frequent treatment of myoma by radiation or radium in preference to operation, it has become of importance to assess the frequency with which myomata undergo malignant metastasis. The figures given in the literature vary widely: Bovée found 1.7 per cent. of cases in a series of 1,400, and Noble and also Levis give similar findings. Schottländer found 5.9 per cent. of cases of malignancy in a series of 3,160, and Mackenrodt pronounced a percentage of 6 or 7 per cent. to be too small. Berreitter believes, on the other hand, that the last-named percentages are much too large; the high degree of frequency of sarcoma reported by many authors is due to the difficulties which beset the histological examination of the tumours, to many cases having been regarded as malignant from clinical findings not tested microscopically, and, lastly, to the tendency which has been shown to base a diagnosis of malignancy upon the reaction to radiotherapy. The author calculates that not more than 0.5 per cent. of myomata are malignant. He ascribes great importance in microscopic diagnosis to the occurrence of numerous irregular giant cells; these were present in each of the six cases of malignant metastasis which he was able to detect among a series of 716 myomata which were subjected to systematic histological observation.

67. Interposition Combined with Supravaginal Hysterectomy for Procidentia.

VINEBERG (*Amer. Journ. of Obstet. and Gynec.*, October, 1921) remarks that in operating for procidentia and cystocele it is often impossible to interpose between the bladder and the vaginal wall a uterus which, on account of the presence of single or multiple fibroids, is enlarged beyond the size of the gravid organ at the eighth week. In certain cases also of so-called idiopathic metrorrhagia it may be inadvisable to retain the uterus. For the first-named cases the surgical procedure usually adopted has been (1) preliminary excision of a wedge-shaped area from the fundus or anterior uterine wall, but subsequent primary union of the thickened uterine wall is rarely obtained; (2) total hysterectomy, with suturing of the round ligaments (Goffe's operation); or of the broad ligaments (Mayo's operation); or (3) as a measure preceding

the plastic operation, amputation of the corpus uteri at or above the level of the internal os; subsequently the cervical stump is utilized as a *pelotte* to hold up the bladder. The third procedure is due to Löwit. Vineberg modifies it by suturing the cervical stump to the subpubic ligament and by adding to the operation an amputation of the vaginal portion of the cervix when it is markedly elongated or diseased. After separation of the bladder and delivery of the corpus uteri through the vaginal incision (the vesico-uterine fold having been incised) the broad ligaments are sutured and divided, the uterine arteries are ligatured, and the corpus uteri is amputated. The cervical stump is now fixed to the subpubic ligament by means of a catgut suture, which passes through the subpubic fascia underneath the vaginal mucosa, transfixes the cervical stump from behind forwards, and is then carried through the subpubic fascia in the opposite direction; firm union is secured of the stump with the raw tissues beneath the pubic arch and thus firm support is given to the bladder. In a series of 30 cases treated by this method there has been one failure and one recurrence.

68. Abdominal Hysterectomy before Removal of the Cancerous Rectum.

RICHARD (*Thèse de Lyon*, 1921, and *La Gynéc.*, July, 1921) records the late results obtained in thirteen cases treated by Tixier by total abdominal hysterectomy as a preliminary to the operation on the rectum. Six patients have survived more than three years, of whom two have lived for six years and one for more than fifteen years after the operation. The advantages claimed for the preliminary hysterectomy, followed in many cases by removal of the recto-vaginal septum, are the clear view of intrapelvic conditions which is obtained, the possibility in cases permitting conservation of the sphincter of securing sufficient room for conveniently making an end-to-end anastomosis after enterectomy, and finally the possibility at the end of the operation of covering the whole of the field of operation by means of a peritoneal flap brought from before backwards.

69. Diphtheritic Gangrene of the Vagina.

KÜHN (*Zentralbl. f. Gynäk.*, October 29th, 1921) records the case of a patient admitted to hospital for double adnexal inflammation, who underwent an attack of pharyngeal diphtheria, the diagnosis being confirmed microscopically. A few days later acute gangrenous vaginitis occurred, and death followed on the tenth day, a slough comprising the whole of the vagina and the adjacent portions of the rectum and bladder having been completely separated and discharged. Microscopical examination of the slough showed the presence of numerous staphylococci and streptococci towards the mucous aspect, and of bacilli resembling the Klebs-Loeffler organism in the deeper layers. According to the author no case has hitherto been recorded of vaginal gangrene associated with the presence of diphtheria bacilli, or of bacteriologically proved diphtheria associated with vaginal gangrene.

PATHOLOGY.

70. Glomerular Haemangiectases in the Nephritis of Typhoid Fever.

DURING the war SABRAZÈS, BONNIN, and CHANDRON (*C. R. Soc. Biologie*, December 10th, 1921) had occasion to observe an epidemic of malignant typhoid fever in a collection of labourers from Annam. In the numerous cases which came to autopsy they were able to satisfy themselves of the frequency of renal complications. Microscopic examination of the kidneys removed showed the usual features of an acute typhoid nephritis, such as the presence of albuminous exudates in Bowman's capsule, desquamation of the cellular lining of the capsule, cytolysis of the epithelium of the convoluted tubules, relative integrity of the cellular elements of the straight tubules, various types of cylindrical casts, collections of small lymphocytes in the interstitial tissue, and small interstitial haemorrhages. In one case, however, which showed during life the extraordinarily high figure for blood urea of 1,000 mg. per 100 c.cm., a curious affection of the glomeruli was found in the shape of large haemangiectases which either occupied the glomerulus itself or projected in a polypoid manner from one of the capillaries into the intracapsular space. In size they measured from 40 to 60 μ; they contained red corpuscles, and were lined by a more or less desquamated endothelium situated on a thin border of collagen. From miliary aneurysms they differed in their failure to show any trace of fibrinous stratification, any thickening of the wall, or anything but a suspicion of endarteritis. Moreover, the absence of altered blood-cells and clot served to distinguish them from the haemorrhagic cysts met with in experimental diphtheritic nephritis. They conclude by asking whether this lesion is one peculiar to typhoid or whether it may be encountered in other types of nephritis.

71. Composition of the Urine.

AN elaborate investigation into the composition of the urine passed by a heathy individual under various conditions of rest and activity has been made by CAMPBELL and WEBSTER (*Biochem. Journ.*, vol. xv, No. 5, 1921). Investigations were carried on over a period of six months, during which the subject continued on a normal diet. Under all conditions it was found that the total nitrogen of the urine was decreased at night, whereas ammonia excretion was increased at night. Urea, uric acid, creatinine, and amino-acids were excreted in greater quantities during the day. These observers substantiated the fact that the acidity of the urine is distinctly higher during the night and attribute the increased nocturnal excretion of phosphates to the same cause. This has an interesting bearing on one of the well-known theories of sleep, which postulates that sleep is due to an accumulation of acid products in cells, these acids being excreted more slowly than they are formed during the day and thus collecting in the cells, with a resulting diminution of the activity of the cells, particularly of the brain cortex. The authors suggest that the cells, of the body may not excrete certain fixed acids into the blood until certain amounts are formed in each cell. When this is the case these acids are excreted into the blood and fatigue or sleep is produced. With reference to the effect of food it was found that the urine was more acid just after a meal, possibly due to removal of alkaline phosphates in saliva, and less acid about two or three hours after a meal, probably due to removal of HCl in gastric secretion. The so-called alkaline tide is thus dependent on digestion.

72. Pathogenicity of Cholera.

SANARELLI (*Ann. de l'Institut Pasteur*, November, 1921) discusses the subject of intestinal cholera in young animals. Although it has been shown that newly-born rabbits can be infected with cholera when administered by the mouth, yet the disease from which they suffer is not a true cholera but an ordinary bacterial colitis. The organisms are absorbed by the mouth and reach the circulation, and are excreted by the intestines. The high acidity of the stomach destroys any vibrios which might be swallowed; the stomach and duodenum are always sterile. Exactly the same picture may be reproduced by injecting the organisms under the skin or into the peritoneum. In the same way cholera vibrios administered by the mouth to rabbits more than ten days old are absorbed by way of the lymphatics into the general circulation. They can be found about twelve hours later in the intestinal canal at the level of the ileum and in the caecum and appendix. Later they ascend a little in the small intestine, but never reach the duodenum. The reason of the resistance of older rabbits to the enterocolitis of cholera is due principally to a diminished permeability for the vibrios of the buccal mucous membrane and to a less delicate sensibility of the intestinal mucous membrane by which they are excreted. The conclusion to which Sanarelli has been led by these and other researches is that the cholera vibrios can only develop their pathogenic action on the intestines when they reach it by the "reverse direction"—that is, by the excretion from the circulation.

73. Adeno-fibroma of the Breast showing Malignant Evolution.

DURANTE and BOULLAND (*La Gynéc.*, June, 1921) give a full report of a case of adeno-fibroma of the breast with malignant changes. Dividing the epithelial lining of the acini into internal and external layers, they describe the case as one of typical adenoma of the former and atypical carcinoma of the latter. The tumour, which was removed from a woman aged 42, showed fibromatous and adenomatous areas containing one very large and many very small cysts. The small cysts are described as (1) simple cysts regularly lined by cylindrical epithelium showing intracanalicular papillae arising from proliferation of the internal epithelial layer; (2) cysts lined by wider, less elongated cells with more abundant, more feebly staining cytoplasm; these cells showed proliferation, which in many areas led to passage beyond the basement membrane and to formation of a syncytium; (3) a few cysts lined by eosinophile epithelial cells; these cysts are regarded as derived from inclusions of sudoriferous glands. The whole of the tumour showed round-celled infiltrative changes, possibly attributable to luetic infection. In this tumour the authors see the simultaneous existence of (1) adenomatous modification of the cells forming the internal lining of the gland acini, and (2) carcinomatous alteration of the cells forming the external layer; both changes are probably to be regarded as a response to irritative infiltration.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

74. Treatment of Pulmonary Tuberculosis.

CH. MANTOUX (*Journ. de Méd. et de Chir.*, December 10th, 1921) states that the treatment of pulmonary tuberculosis is of two kinds—systematic and symptomatic. *Systematic:*—The following are considered: Salts of lime, cod-liver oil, arsenic, tannin, iodine, and creosote. (1) Lime. A glass of Pougues or Saint-Galmier water to be taken an hour before meals, a glass and a half at meal times, and at the meals a cachet of carbonate of lime 0.30 gram, tricalcium phosphate 0.50 gram, sodium chloride 0.15 gram, and calcined magnesia 0.10 gram. Adrenaline (20 drops of a 1 in 1,000 solution per diem) is frequently added. The treatment leads sometimes to constipation. It ought to be used for a long period. (2) Cod-liver oil. This should only be given in winter; 50 grams should be given at least every day. (3) Arsenic is indicated in weak, anaemic, and thin patients. It is not suited to plethoric people. It can be given by the mouth as sodium arsenate, Fowler's solution, arrhenal, or as Bourboule water. Arrhenal and Fowler's solution can be given by the rectum, 2 to 15 drops in a little tepid water, and arrhenal or sodium cacodylate subcutaneously. (4) Tannin. This drug assists in decreasing congestion, but sometimes causes focal reactions and discharge of caseous matter. It is best given in solution at the end of meals, either in alcohol or extract of walnut leaves. (5) Iodine is especially indicated in scrofulous conditions; it produces liquefaction of the bronchial exudates, and is to be recommended in fibrous and in emphysematous tuberculosis. It should be proscribed at times of exacerbation owing to the congestive conditions it is apt to provoke. One of the best ways of giving it is as syrup of iodine and tannin. (6) Creosote is the drug of choice in the bronchitic forms. It is apt to produce exacerbations and must be given with care. It is best given as pure beechwood creosote by the rectum 10 grams, decoction of wood of Panama 90 grams, as an emulsion. It can be used subcutaneously as oil of creosote. Guaiacol and thiocol are inferior to creosote. *Symptomatic:*—Fever: This often yields to prolonged rest. The question of antipyretics is not determined by the height of the fever, but by the amount of constitutional disturbance present, especially the presence of marked anorexia. Acid camphorate of pyramidon 0.25 gram in a cachet, two to three a day, or 0.25 gram of cryogenine are the best drugs. Asthenia: Strychnine, or camphorated oil are excellent remedies, the latter in doses of 1 to 4 c.cm. a day (10 to 20 per cent. solution). Cough: Codeine phosphate, dionin, heroin, are all valuable, but should not be given unless absolutely necessary. Abundant expectoration indicates the use of creosote and its derivatives, and inhalations of balsams. Night sweats generally yield to hygienic treatment, but if not, alcoholic tincture of sage, 30 to 50 drops, should be tried, or agaricin; atropine should only be used as a last resort. Marked dyspnoea in the last stages may be alleviated by subcutaneous injections of oxygen and injections of oil of camphor, but the best remedy of all is morphine and its derivatives.

75. MARAGLIANO (*Rif. Med.*, November 5th, 1921), speaking at the recent Medical Congress in Naples, says that the tubercle bacillus injures the organism by reason of poisons secreted by it or contained in its protoplasm, and the defence put up by the body consists in the formation of antibodies and ferments. The tubercle bacillus alone is not sufficient—a suitable soil is necessary, so that the presence of the bacillus does not necessarily mean tuberculosis. Since we know more to-day about antibodies and immunity, it is possible to induce immunity to tubercle by means of suitable vaccines. The development of tubercle means that the defensive forces of the organisms have been overcome. Immunity may be acquired automatically with a spontaneous infection, but it is possible to confer it artificially. Specific therapy may be active or passive—if active, tuberculous antigens are given with a view to provoke in the body antibodies; in the passive therapy defensive materials dissolved in the blood are used. The author claims many successes in his preventive vaccination treatment, and says it ought to be used in all tuberculous families.

76. Tuberculous Myocarditis.

MASSINI (*Schweiz. med. Woch.*, December 15th, 1921) elaborates the argument that many diseases, such as granular kidney, may be tuberculous—that is, be traceable to the direct action of the tubercle bacillus, even though the microscopic structure of the tissues involved does not tally with that commonly associated with tuberculosis. In support of this view he records the case of a woman of 68 who suffered from chronic myocarditis, the diagnosis of which was confirmed by necropsy. This revealed no specific tuberculous changes in any organ, but inoculation of guinea-pigs with the muscle of the heart resulted in typical tuberculosis, and the tubercle bacilli cultivated from these guinea-pigs conformed to the human type. The author suggests that such tuberculous disease of the myocardium may be comparatively common, and that the immunity to frank tuberculosis shown by some subjects of heart disease may simply be the immunity conferred by a mild or abortive and (in the present state of knowledge) apparently atypical form of tuberculosis.

77. Intravenous Injection of Calcium Chloride in Pulmonary Tuberculosis.

MAENDL (*Zeit. f. Tuberk.*, November, 1921) has treated 250 cases of pulmonary tuberculosis by intravenous injections of calcium chloride. In haemoptysis of a severe degree 5 c.cm. of a 10 per cent. solution were given at intervals of eight hours until the haemorrhage ceased. Maendl has also given the injections prophylactically at intervals in patients who have a tendency to haemoptysis. In such cases he recommends courses of twenty injections, which are given daily or every two days, with a fortnight's interval between each course. In a number of patients with obstinate pyrexia the temperature was reduced to normal by the injections. The treatment also had a remarkably favourable effect upon the general condition, and especially on the cough, expectoration, night sweats, and dyspnoea.

78. Sodium Cinnamate in Tuberculosis.

LAUTIER (*Bull. Soc. de Thér.*, October 12th, 1921), as the result of his investigations, came to the following conclusions: (1) Sodium cinnamate definitely increases the output of urine, the increase amounting to one-third of the normal amount of urine passed in the twenty-four hours. (2) If before treatment the urine passed is deficient in urea and rich in uric acid, urates, and phosphates, after a few days' treatment the urine shows the following changes: The urea is increased to the normal amount and the uric acid and urates are diminished in proportion to the increase in the urea; the phosphates are much diminished and their elimination tends to return to the normal level. (3) If before treatment the patient's urine is normal, it undergoes no change in the course of treatment. (4) If before treatment one of the elements in the urine is excreted below the normal amount, the amount excreted tends to return to normal under treatment. Sodium cinnamate is thus a mild diuretic and a regulator of the metabolism of nitrogenous substances and phosphates in the tuberculous organism. The gain in weight shown by the patient is mainly due to this action.

79. Treatment of Pulmonary Gangrene.

LEMIERRE, KINDBERG and PIÉDELIÈVRE (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, November 24th, 1921) remark that several new methods have been introduced into the therapeutics of pulmonary gangrene during the last few years, such as artificial pneumothorax (P. E. Weil), an anti-gangrene serum (Dufour, Semelaigne and Ravina, Rathery and Bordet, Houzel and Sevestre, Netter), arsenobenzol (Perrin, Dumistrescu, Mante, Pujol), and tincture of garlic (Loeper, Forestier and Hurrier). The present writers record a case of pulmonary gangrene in a man aged 43, which was successfully treated by subcutaneous injections of 40 c.cm. of an anti-gangrene serum (20 c.cm. of anti-perfringens serum, 10 c.cm. of anti-oedematiens serum, and 10 c.cm. of anti-vibrion septique serum), repeated daily for six days, followed by tincture of garlic in doses of 20 drops at first, later increased to 50 drops a day.

80. Bronchotetany.

ACCORDING to MOSCHINI (*Il Policlinico*, Sez. Prat., November 28th, 1921), who reviews the literature and records three personal cases in children aged 6 months, 10 months, and 1 year, many respiratory affections occur in infancy presenting the symptoms of bronchopneumonia, capillary bronchitis or bronchial asthma, although the anatomical changes in the pulmonary tissue typical of these diseases are absent, the condition being due to spasmophilia, and the anatomical substratum being a spasm of the bronchial

muscles. These cases, to which Lederer in 1913 gave the name of "bronchotetany," should be regarded as examples of spasmophilia just as much as cases of tetany, laryngospasm, and infantile eclampsia. The differential diagnosis of bronchotetany is based chiefly on the coexistence of obvious or latent spasmophilia. This diagnosis is of considerable practical importance, because the continuance or increase of a diet of cow's milk aggravates the disease, whereas the symptoms are improved or completely cured by suppression of the milk.

81. Relapses in Pneumonia.

SACQUÉPÉE (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, November 17th, 1921), who records an illustrative case, states that a study of the literature shows that successive attacks of pneumonia in the same patient are usually due to the same strain of pneumococcus, although this rule is liable to exception. In two cases reported by Henry Thomas, in which the second attack occurred three months and a year respectively after the first, Type I pneumococcus was present in both attacks. In another case reported by Thomas the first attack was due to Type II and the second to Type I. A fourth case showed Type IV at the time of the first attack, and an atypical Type II in the second attack. The most curious case is that of R. Cole, whose patient had sixteen attacks of pneumonia. A bacteriological examination was not made until the twelfth attack, in 1916, which was due to Type I. The same year he had a thirteenth attack due to Type III, a fourteenth due to Type IV, and a fifteenth due to Type III. In the sixteenth attack, which occurred in 1917, Type III was again found. The patient was treated with a vaccine for Type III after the fifteenth and sixteenth attacks, and from February, 1917, to January, 1921, no further attacks occurred. Sacquépée's patient in his first attack had pneumonia of both bases, which was treated with serum, and was followed by empyema. When the discharge had nearly dried up, pneumonia of the left apex developed, which was treated with serum, and cleared up in a few days. At the time of the first attack two different pneumococci were found, the first being Type I and the second atypical. The empyema was due to the atypical pneumococcus, and the second attack to Type I. The action of the pneumococcus serum was moderate in the first attack, *nil* in the empyema, and vigorous in the second attack.

SURGERY.

82. Pneumoperitoneum.

PROUST (*Bull. et Mém. de la Soc. de Chir. de Paris*, December 20th, 1921) describes the modifications that have been adopted in the technique of this valuable means of diagnosis. The patient must have his bowels cleared out the night before, and have nothing to eat the day of the examination. An injection of morphine is usually given. The inflation should not be given directly from the gas cylinder, but through some form of apparatus such as that used to produce artificial pneumothorax. The peritoneum is punctured with a trocar and the inflation controlled by means of a manometer, which oscillates with the respiratory movements and shows the gas is entering the peritoneal cavity. The inflation is made slowly and under low pressure. The amount of gas injected should be about two litres and should cause no pain. A mixture of oxygen and carbonic acid gas is found best, and is absorbed a few hours after the examination. Owing to its lightness the gas tends to rise, while the abdominal organs are affected by gravity and the different positions of the patient. The kidney outline is well seen, and in a case of tumour of the left kidney, to differentiate it from the spleen, it is necessary to turn the patient under the screen into different positions. The outline of the liver is particularly well shown, and the gall bladder in perhaps half the cases examined. The shape of the spleen is clearly seen, and if it is difficult to separate from the kidney, the patient is turned as already stated. To examine the pelvic organs the patient must be placed in the Trendelenburg or genu-pectoral position, and the broad ligaments, tubes, and ovaries can be clearly demonstrated. After pneumoperitoneum the patient must remain in bed for forty-eight hours. It is contraindicated in the cachectic, the anaemic, and in those with cardiac or respiratory disease, and also, of course, in acute abdominal conditions.

83. The Treatment of Congenital Club-foot.

FISKE (*Journ. Orthopaed. Surg.*, December, 1921) points out that the important factors in the treatment of congenital club-foot are the proper selection of treatment and the persistency with which it is carried out. The two methods largely in use at the present time are the corrective operation and the essentially non-operative manipulative treatment. Most orthopaedists agree that treatment should be begun in the first month of life, and this consists in manipulative treatment followed by fixation in plaster-of-Paris; up to the age of six months operation or anaesthesia is not advised. In a case of congenital equino-varus correction of the deformity permits of no postponement. The soft elastic tissues of the foot are most favourable for correction, and early reshapement can be readily effected. If the foot grows straight during the first year, it will stay straight. The treatment at this stage, therefore, consists of alternate manual correction and fixation in plaster. Cases seen at a later period, up to 2 years, and when conservative treatment fails, may require tenotomy and forcible correction. But the slower manipulative method, without causing damage to the structures of the foot, favours ultimate restoration of normal function. Later, if conservative treatment has failed, more extensive operations may be necessary, such as cuneiform tarsectomy. After full over-correction has been obtained the brace is almost universally used for the retention of the foot in this position. The aim of treatment must be to reactivate the overstretched muscles and ligaments until they outbalance their previously contracted opponents. By this means the active factors in relapse will be rendered permanently ineffective. This is the essence of the conservative, functional treatment.

84. Massive Hypertrophy of the Breast.

A CERTAIN degree of enlargement of the breast is within physiological limits; very rarely, however, the breasts attain such dimensions as to become a nuisance to their possessor because of their unsightly appearance or the mere burden of weight. KEYSER (*Surg. Gynec., and Obstet.*, December, 1921) reviews the recorded cases on this subject and gives notes of 4 cases occurring in the Mayo clinic. The age of onset is usually under eighteen years, and the patient may, after the first catamenia, notice an enlargement of the breasts so great as to be a source of embarrassment. The process is usually bilateral, and the average duration of growth is ten months. The size of the breasts in the majority of cases is from 7 to 10 lb. The largest breasts recorded are those of Durston's patient, the left breast weighing 64 lb., the right 40 lb. The secretory activity is very variable. The normal development of the breast seems to depend on the ovary, and there is evidence which suggests that the massive hypertrophy may be etiologically related to an ovarian malfunction. A distinction must be made between true mammary hypertrophy and those excessive enlargements due to the presence of tumours. In this condition the normally differentiated tissue elements undergo hyperplasia which is diffuse throughout the organ. Pathologically they may be classified into two groups: fibro-epithelial hypertrophy, and adipose hypertrophy in which fatty tissue composes the bulk of the breast. Diagnosis is easy from the diffuse nature of the process, the bilateral enormous enlargement, rapid growth and absence of pain. The frequent association with puberty and pregnancy makes the diagnosis clear. Spontaneous regression occurs in some cases, and the best plan is to wait for a time in the hope that the breast will decrease in size. If time fails to ameliorate the condition, then amputation is indicated and apparently has no evil after-effects.

85. Gonorrhoeal Infection of Epididymis and Tunica Vaginalis.

ACCORDING to LAVENANT (*Journ. d'Urol.*, October, 1921), involvement of the epididymis and tunica vaginalis occurs in 25 to 30 per cent. of all cases of gonorrhoea, but only in those in which secondary or associated infections are very pronounced. According to Fournier's statistics, the complication is most frequent between the eleventh day and the fifth week. This is due to the fact that at the end of the acute stage the gonococcus, apart from exceptional cases, ceases to predominate, and that the virulence of other micro-organisms develops. The fluid contained in the tunica vaginalis is only feebly toxic for animals, so that the rarity of suppuration is explained by the attenuated character of the infection. Infection takes place chiefly by the epididymis, but is also conveyed by the lymphatics. Lavenant describes three forms of gonorrhoeal epididymitis: (1) A painful and febrile form with little or no effusion into the tunica vaginalis. Improvement may take place in four or five days, or the temperature fall gradually to normal, so that by the tenth day the acute stage is over; or the general symptoms may last only forty-eight hours, and be followed on the fourth day by (2) a painful form with effusion into the tunica vaginalis without much rise of temperature. This form does not always succeed the other, but may appear as such from the first. (3) A painless form, with a large apyrexial effusion. In such cases it is a long time before the effusion is absorbed and the enlargement of the epididymis diminishes in size.

88. Results of Treatment for Gonorrhoea.

MARINGER (*Journ. d'Urol.*, October, 1921) has drawn the following conclusions from the examination of 600 chronic cases of gonorrhoea. Only those cases were taken into consideration in which the patient had kept to a single form of treatment, so that there could be no doubt as to the relation of cause and effect between the treatment and the subsequent lesions observed. (1) The treatment which was followed by the highest proportion (25 per cent.) of chronic lesions was expectant treatment combined with opiates; (2) treatment by injection of the anterior urethra only after an expectant period was followed by chronic lesions in 19 per cent.; (3) treatment by injection of the anterior and posterior urethra after a period of expectant treatment was followed by chronic lesions in 11 per cent.; (4) the smallest proportion of complications (6 per cent.) was found after treatment by Janet's method; (5) strange to say, vigorous abortive treatment was followed by complications in only 10 per cent., and only 16 per cent. of untreated cases became chronic; (6) results obtained by Demonchy's vaccine were superior to those obtained by other vaccines, but were less favourable in acute than in chronic cases.

87. Treatment of Gonococcal Arthritis by Intramuscular Injections of Synovial Fluid.

BALLENGER and ELDER (*Surg., Gynec., and Obstet.*, November, 1921) report successful results in 27 cases of gonorrhoeal arthritis treated by injections into the gluteal muscles of 15 to 20 c.cm. of synovial fluid aspirated from the knee-joint. The injections were repeated at about two days' interval as long as there was any fluid to be injected, but in most cases the effusion had disappeared by the tenth day. The authors have not employed vaccine or other adjuvant methods of treatment, which they believed to be unnecessary. They have also had equally successful results in cases of gonorrhoeal epididymitis, urethritis, and vesiculitis complicated by acute inflammatory effusion into the tunica vaginalis; injection of the fluid obtained by tapping appeared to lead to notably rapid disappearance of the morbid symptoms. Having cognizance of good results obtained by similar methods of treatment in acute traumatic synovitis, the authors refrain from ascribing their therapeutic results to injection of antitoxic and antibacterial substances in the fluids. Among the cases they record is that of a man, aged 47, who had healed tuberculosis of the hip, genito-urinary tuberculosis, and tuberculosis of the larynx; tubercle bacilli were found in the sputum and in the urine. After repeated injections of the fluid obtained by tapping a hydrocele which complicated an acute epididymitis, the patient gained in weight, the secretions became free from tubercle bacilli, and, after a convalescence complicated by drainage of a pyonephrotic abscess, his health appeared to be completely restored.

OBSTETRICS AND GYNAECOLOGY.

88. Partial Symphysiectomy for Pelvic Contraction.

LOSCHI (*Zentralbl. f. Gynäk.*, October 22nd, 1921) records two cases of pelvic contraction successfully treated by partial symphysiectomy, as advocated by Costa. In this operation (see *Zentralbl. f. Gynäk.*, February, 1921) a small transverse incision is made 5 mm. below the upper border of the symphysis pubis; after reflection of periosteum and perichondrial investment, a transverse slice comprising the upper portion of the inner end of each pubic bone and the upper part of the symphysis is resected, extending from one to the other pubic tubercle, and measuring about 1 cm. from below upwards at the widest part. The advantages claimed for this operation are that it produces a lasting correction of the deformity, and that there is less danger of haemorrhage and of infection than is the case with symphysiotomy or with pubiotomy. The operation may be performed during or before labour, but preferably when the os is fully dilated; it is specially applicable in cases of moderate degrees of pelvic contraction, in which recourse is usually had to premature induction of labour. It is obvious that partial symphysiectomy finds no place in the treatment of generally contracted pelvis. Loschi claims that in cases in which the difference between the biparietal foetal diameter and the conjugate diameter of the pelvic brim does not exceed 8 or 9 mm. the operation is definitely indicated, and will permit delivery (usually spontaneous) of a living foetus. As a result of inclination of the foetal head to the side of one or other parietal bone moulding may follow, which will permit of delivery after partial symphysiectomy in cases in which the conjugate is as small as 7.5 to 7.8 cm., and in which the difference between the foetal biparietal and maternal conjugate measurements is as great as 16 mm. In the two cases related by Loschi the conjugate measurements were respectively 7.3 and 7.8 cm., and the biparietal foetal diameters were respectively 8 and 9.2 cm.; in both instances the child was born alive without instrumental assistance.

89. Lethargic Encephalitis and Pregnancy.

GUILLAIN and GARDIN (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, November 10th, 1921) state that the numerous articles published within the last few years on the influence of epidemic encephalitis on pregnancy show that pregnancy in such cases may be normal, or that encephalitis may be aggravated by pregnancy, or that premature delivery may occur after death of the foetus, or that abortion may have to be induced owing to the mother's life being in danger. The child in such cases may either die *in utero* or be born in a normal condition, or, on the other hand, show symptoms of encephalitis after birth. Nearly all these cases are examples of acute encephalitis which has developed in pregnancy. In only two previous cases, published by Valente and David and by Rathery and Cambassédès respectively, did the pregnancy develop in women who already presented a post-encephalitic Parkinsonian syndrome. Guillain and Gardin now record the case of a woman, aged 28, who became pregnant five months after the onset of lethargic encephalitis, when a Parkinsonian syndrome was already well established. Pregnancy pursued a normal course, and a healthy child was born at full term. Labour was unusually slow, and required the application of forceps. The symptoms showed no aggravation after delivery, but the woman's condition remained the same as before.

90. Venous Ligature for Puerperal Pyaemia.

ACCORDING to BIRNBAUM (*Arch. f. Gynäk.*, 1921, cxiv, 3), it is not possible definitely to state the indications for venous ligature, which, nevertheless, may be of striking therapeutic value in certain cases of slowly progressive puerperal pyaemia. Ablation (in addition to ligature) of the thrombosed vein is a useless and dangerous complication of the operation, and should not be undertaken; the same is true of hysterectomy. The author adds another to the recorded cases of cure which have followed ligature of the inferior vena cava; the operation was performed after an illness of eleven weeks, during which forty-five rigors had occurred. The vein was ligatured about 5 cm. above its point of origin; neither cyanosis nor oedema followed, and the rigors ceased immediately after the operation.

91. Ovarian Torsion.

ACCORDING to SMITH and BUTLER (*Amer. Journ. of Obstet. and Gyn.*, November, 1921), torsion of ovarian tumours during childhood is an uncommon condition, of which 26 cases only have been reported during the last twenty years. About one-half of the cases occur between the ages of 8 and 10, and in the majority the ovary only is affected. Sixty per cent. of the tumours were dermoid cysts, and the majority of cases occurred on the right side. The pre-operative diagnosis usually made is that of appendicitis, but symptoms somewhat suggestive of adnexal torsion are the presence of a tumour and the history of well-marked bladder symptoms. At any period of life torsion of adnexa which are not the site of morbid lesions is an extremely uncommon event, and fourteen cases only have been reported, of which more than half occurred before the age of 20. A large percentage of such torsions occur in close relation to the menstrual period, but three were reported during pregnancy. Either the tube or the ovary alone, or both together, may be affected. Torsion of adnexa in hernial sacs (apart from strangulation) is relatively rare; it occurs only in congenital inguinal hernias and usually in the first year of life.

92. Peritoneal Tears Produced by Myomata.

HALBAN (*Zentralbl. f. Gynäk.*, October 22nd, 1921) has been able to trace only four references to peritoneal tears consequent on rapid increase in size of uterine myomata. He relates the case of a woman, aged 36, in whom the sudden onset of right-sided abdominal pain caused a diagnosis of appendicitis to be made; a history suggesting myoma was absent, but the uterus was enlarged and tender in the region of the fundus. At laparotomy a pediculated myoma attached to the fundus uteri was found to be almost completely bereft of peritoneal investment; it was concluded that rapid growth of the tumour (which was oedematous) had caused a peritoneal tear and the appearance of the acute abdominal signs and symptoms. The author records also a case of acute abdominal haemorrhage, found at operation to proceed from a uterine myoma; a length of 2 cm. of one of the overlying veins lay free within the peritoneum without serous investment.

93. Operative Treatment of Chronic Adnexal Disease.

HOLDEN (*Amer. Journ. of Obstet. and Gynec.*, November, 1921) points out that if ovaries are to be conserved at operation and thereafter to function without causing distress it is important that an adequate circulation subsequent to operation must be assured; this is easily accomplished in the case of a normal or slightly inflamed tube, but impossible when the tube is grossly enlarged. In twelve patients the author, bearing these considerations in mind, has operated (three weeks at least after the subsidence of acute signs and symptoms) by incising unilateral or bilateral pyosalpinges along the anterior surface; the incised tubes were then suspended to the round ligaments by interrupted sutures (the raw surface being turned downwards) and the ovaries and uterus were also suspended. The patients were previously informed of the possible necessity of re-operation, which was in fact performed in at least two instances. It is claimed that the post-operative morbidity is not greater than that of other surgical treatments and that the patient is entitled to choose between, on the one hand a more radical operation which will be followed by an artificial menopause, and on the other the operation described. Eleven operations were unaccompanied by drainage; no case of the series proved fatal.

94. Radium in Cancer of the Cervix.

PIRRI (*Il Morgagni*, October 31st, 1921) reports two cases of cancer of the cervix apparently cured by radium. He refers to many other successful results after similar treatment. So far most of the cases have belonged to the inoperable class, but he suggests that many of the more serious operable cases would be much benefited by a preliminary course of radium. The scarring produced by radium does not render subsequent operation more difficult and diminishes the risk of peritoneal infection. In some cases the *x* rays can with advantage be associated with radium. Since radium emanations penetrate more deeply and widely than the solid, better effects may be expected from the use of them. According to Laborde most of these carcinomatous ulcers cicatrize under radium in four or five weeks; no serious amount of time is lost if subsequent operation is decided upon.

PATHOLOGY.

95. Experimental Immunity to Heat-stroke.

IN continuation of his former work on the experimental production of heat-stroke in mice, RICHET (*C. R. Soc. Biologie*, November 26th, 1921) finds that it is possible to confer on these animals a certain degree of immunity. By exposing them to a temperature of 36° to 40° C. for about one hour, he is able to show that a state of increased tolerance to heat develops, which reaches its maximum between the twentieth and fortieth day after the exposure. Representing the resistance of the unexposed control animals as 100, then that of the treated animals may be given as 130 to 150. Whether the condition attained be one of real immunity or merely one of habituation to the effects of heat is impossible to say at present, but the fact that it is not practical to transmit this condition to other mice seems to argue rather in favour of the latter hypothesis.

96. The Serum Treatment of Tetanus.

THE path of spread of tetanus toxin in the body has given rise in the past to a large amount of experimental work and a still larger amount of surmise. Chiefly based on Meyer and Ransom's work, the most generally accepted view is that it is taken up by the peripheral nerves—especially by the end plates of the motor nerves—and passes up the axis cylinders to reach the nerve cells in the anterior cornu of the spinal cord. About two years ago this theory was challenged by Teale and Embleton, who brought forward evidence to suggest that, though this mode of ascent might occur, the main path probably lay in the perineural lymphatics, by means of which the toxin gained access to the spinal cord around the anterior roots. The subject has once again been attacked by KOBAYASHI (*Kitasato Archiv. of Exper. Med.*, October, 1921), who has given his results in a long paper to which it is impossible to do justice in a summary. His work has been conducted on rabbits, with the addition of mice as testing animals. Briefly, he comes to the conclusion that the toxin is absorbed into the lymphatic spaces of the peripheral nerves. Of this a portion passes into the endoneural lymphatics and attacks the peripheral nerve fibres, while the remainder is transmitted still further centrally and attacks the spinal motor nerve cells. The actual point of attack he regards as the whole motor neuron. Having established this to his own satisfaction, he proceeded to discover the best means of introduction of antitoxin. Comparative tests of the subcutaneous, intravenous, and subarachnoid routes led him to conclude that the last method was far the most satisfactory. Actually he was able to save the lives of rabbits which had already developed tetanus by giving them intrathecal injections of the antitoxin. For treatment of the disease in human beings he considers that the rational course is to administer quantities as large as possible of a highly antitoxic serum directly into the subarachnoid space.

97. Diet and Sterility.

REYNOLDS and MACOMBER (*Amer. Journ. of Obstet. and Gynec.*, October, 1921) give a preliminary report of studies of the fertility of albino rats fed on diets which were respectively deficient in the fat-soluble A vitamin, in calcium, in protein, or in both calcium and protein. The deficiencies were so small as to produce no evidence of ill health and few indications even of "poor condition"; nevertheless, each kind of deficiency led to a very definite diminution of fertility. The fertility of rats reared to maturity on a diet deficient in the fat-soluble vitamin and then mated was decreased by more than one-half. Low protein diet led to about 75 per cent. decrease in mating fertility, and diet deficient in both calcium and protein produced a still more striking variation. The authors conclude also that a slight decrease in the fertility of both partners will produce a sterile mating; that two individuals which are sterile when mated together may nevertheless reproduce freely when mated to new partners of higher fertility; and that diminished fertility sometimes results in the appearance of abortion. In connexion with the last-named finding the authors quote the observation of a patient who had had five successive abortions, and whose diet when analysed showed vitamin deficiency; a sixth pregnancy which ensued after prescription of a corrected diet led to birth at term of a living child. Examination of the ovaries and testicles of certain of the rats experimented on showed no morbid changes in animals which had received the single deficiency diets.

98. The Wassermann Reaction.

COVISA and PINEDA (*Arch. de med., cir., y espec.*, November 1st, 1921) give the following analysis of 3,000 Wassermann reactions. Among 495 cases which clinically were not syphilitic they obtained positive results in 6, or 1.21 per cent., and negative results in 489, or 98.79 per cent., 3 of the 6 positive cases being leprosy patients. Of 525 clinically doubtful cases, 114 gave a positive reaction and 411 a negative reaction, which almost exactly corresponded to the subsequent clinical course of each case. A third group consisted of cases which were clinically syphilitic, and is subdivided by the writers into four classes. The first consisted of cases with active syphilitic manifestations for which no treatment had been employed. In 24 of these cases which were in the primary stage the Wassermann reaction was positive in 100 per cent. Of 522 cases in the secondary stage, in many of whom the chancre was not yet cicatrized, there were only 9 negative cases. Of 249 cases of tertiary syphilis, 45, or 18 per cent., were negative, and 204, or 82 per cent., positive. The remaining three groups consisted of patients who had no active manifestations of syphilis, and had had intensive, scanty, or no treatment respectively. Of 954 who had received intensive treatment, 57, or 5.97 per cent., gave a positive, and 897, or 94.03 per cent., a negative reaction. Of 216 who had had little treatment, 195, or 90.28 per cent., were positive, and only 21, or 9.72 per cent., negative; while among 15 who had had no treatment at all, 12 were positive and only 3 negative. The writers conclude that the Wassermann reaction, in addition to its great diagnostic value, possesses even greater value as a guide to treatment.

99. Clinical Reactions in the Treatment of Dermatoses by Auto-haemotherapy.

NICOLAS, GATÉ, and DUPASQUIER (*C. R. Soc. Biologie*, December 3rd, 1921) have treated certain chronic skin lesions, such as prurigo, polymorphic dermatitis, erythrodermia, and papulo-vesicular eczema, by auto-haemotherapy. The technique employed was the withdrawal of 10 c.cm. of blood by venous puncture, followed by the reinjection of the blood into the muscles of the buttock. From three to ten injections were made at intervals. Of the eight patients whose histories are recorded, four appear to have been completely cured, while the other four were benefited to a varying degree. The interest of the observations lies in the peculiar nature of the reactions which occurred after the injections. Apart from the usual sequelae, such as leucopenia, fall of the blood pressure, and diminution in the blood platelets, there were encountered a number of clinical conditions, such as acute pain in the lumbar region passing off in ten minutes, a marked evening rise of temperature, severe arthralgia, and even a non-suppurative arthritis. That these are definitely to be ascribed to the serotherapy there appears to be little doubt in the authors' minds.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

100. Malarial Neuritis.

ACCORDING to PAISSEAU, SCHAEFFER, and ALCHECK (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, November 24th, 1921), who record a case of paralysis of the deltoid in a man aged 22 which developed during an attack of benign tertian malaria, malarial neuritis, which was first described by Gowers in 1884, is a rare complication of the disease, only twenty-five cases having been collected by Sacquépée and Dopter in their classical paper on the subject in 1900. As a rule the neuritis develops during or immediately after a malarial attack, but the writers have found five cases on record in which it appeared independently. It is usually supposed that the complication is peculiar to pernicious attacks, but this is by no means invariable, as out of the thirty-seven cases collected by the writers only nine occurred after pernicious attacks. In most cases the patients are the subjects of chronic malaria, but as a rule there is no cachexia. In one case the neuritis occurred at the onset of the disease. The variety of the malarial parasite is not always stated in the cases recorded, but the writers' case shows that the neuritis is not always due to *Plasmodium praecox*. Malarial neuritis is remarkable for the variety of its manifestations, as it may affect the eyes (accommodation and oculomotor muscles), larynx, tongue, and face. In some cases there may be a polyneuritis associated with psychical disturbance of the type of Korsakoff's syndrome. Of the thirty-seven cases collected by the writers all four limbs were affected in twelve and the face as well in two, in thirteen the lower limbs alone were involved, in eight the upper limbs only, in one the upper limbs and the face, and in one the face only. The onset is sudden and the course variable but always protracted. Reaction of degeneration is almost constant. Recovery is possible but rare, so that the prognosis is serious as regards restoration of function.

101. Treatment of Malaria.

KRAMER (*Nederl. Tijdschr. v. Geneesk.*, November 5th, 1921) remarks that Rotterdam is in a very satisfactory condition as regards malaria, since so-called "primary malaria" occurs there only in sporadic form, probably not more than eight cases having been found in the years 1919 and 1920. Investigations have shown that malaria mosquitos are present in the north and north-east part of the town. On the other hand, a very large number of cases are admitted to hospital from abroad suffering from primary attacks or relapses of benign or malignant tertian. In obstinate cases Kramer has recently employed with success intravenous injections of salvarsan combined with quinine, as recommended by Johnson, Gilchrist, and Hay-Michel (vide BRITISH MEDICAL JOURNAL, January 15th, 1921), and others. Kramer also alludes to other methods of treatment for malaria which has proved refractory to quinine, such as methylene blue, which is usually given in doses of 1 gram a day in wafers, combined with nutmeg powder in doses of 2 grams daily in order to diminish strangury. *X*-ray treatment of the spleen has also been employed in cases of chronic malaria, but this has an unfavourable effect in acute cases.

102. Salvarsan and Grape-Sugar Injections.

STEINBERG (*Deut. med. Woch.*, December 15th, 1921) has found that the potency of salvarsan is remarkably increased if it is injected in a solution of grape sugar. He gave by intravenous injection 30 c.cm. of a 30 per cent. solution of grape sugar, and the amount of neo-salvarsan given in this solution was only 0.2 gram—that is, a quantity which is not big enough by itself to banish spirochaetes from superficial lesions. It was noted that injections of grape sugar alone had no spirillicide action; on the contrary, it seemed to favour the growth of spirochaetes. But when an injection of sugar was followed in six to eight hours by an injection of 0.2 gram of neo-salvarsan, or when the two were injected simultaneously, a marked spirillicide action was observed. As numerous figures given by the author show, the action of salvarsan *plus* grape sugar is practically twice as spirillicidal as that of salvarsan alone. The author has also investigated the rate of excretion of salvarsan given by itself or with sugar, and has found that in the latter case the excretion is considerably delayed. This delayed excretion may possibly account for the enhanced spirillicidal action of the drug when given with sugar. Yet the toxicity of the drug seems not to be increased, but if anything decreased, by its association with sugar. In a supplementary note to his paper the author states that after giving 0.2 gram of neo-salvarsan in a 50 per cent. solution of grape sugar he has often seen spirochaetes vanish in six to sixteen hours, whereas after an injection of 0.4 gram of neo-salvarsan by itself they were usually demonstrable even after twenty-four hours. He suggests that this use of sugar need not be restricted to the salvarsan treatment of syphilis, recurrent fever and the like, but that it may also be extended to the quinine treatment of malaria, the salicylate treatment of articular rheumatism, and the tuberculin treatment of tuberculosis.

103. Intravenous Injections of Grape Sugar in Dermatology.

SCHOLTZ and RICHTER (*Deut. med. Woch.*, December 15th, 1921) have carried out therapeutic investigations upon the effect of intravenous injections of grape sugar on the metabolism in general and the skin in particular. They found that this procedure promoted the passage of fluid from the skin to the blood vessels, and that such conditions as acute and subacute eczema, exudative erythema, drug and other toxic rashes, as well as pemphigus, often responded very satisfactorily to this treatment. As their treatment was ambulatory as a rule, they seldom gave more than 16 to 30 c.cm. of a 50 per cent. solution—that is, 8 to 15 grams of grape sugar. In the course of one to two weeks they gave each patient four to eight injections. They found that when a 5 per cent. potassium iodide ointment was applied to the skin, there was little or no excretion of iodine in the urine within twenty-four hours. But when 40 c.cm. of a 25 per cent. solution of grape sugar were injected into a vein, the potassium iodide appeared in the urine in considerable quantities after only two to four hours.

104. Abdominal Arterio-sclerosis.

MARTINEZ (*Paris méd.*, October 8th, 1921) records a fatal case in an alcoholic sailor aged 30, which he mistook for acute peritonitis due to perforation of a gastric ulcer. He considers that abdominal arterio-sclerosis with obliteration of the mesenteric vessels has received little attention. The etiology is that of arterio-sclerosis in general, atheroma of the mesenteric arteries usually coinciding with chronic lesions of the aorta and the rest of the arterial system in patients above the age of 50. Obliteration of the mesenteric vessels may be due to thrombosis following obliterative endarteritis or to emboli detached from chronic aortic or valvular lesions. The symptoms of intestinal arterio-sclerosis are very vague at the onset. The condition is usually manifested by redness of the face during digestion, abdominal pain, meteorism, somnolence after meals, and constipation. After a varying time the arterio-sclerosis becomes more pronounced, and the picture is completed by the occurrence of absolutely typical attacks of severe pain lasting for some minutes, and recurring at intervals of hours, weeks, or months. Sometimes the constipation is followed by diarrhoea and abundant muco-membranous discharge. Three or four days later symptoms of intestinal obstruction appear. The prognosis of abdominal arterio-sclerosis is very grave, the mortality varying from 95 to 100 per cent. Treatment consists in the institution of a regimen similar to that for arterio-sclerosis—more rest, small meals, careful massage of the abdomen, and the administration of iodides in small doses.

105. Rumination in Infancy.

WERNSTEDT (*Acta Paediatrica*, vol. i, fasc. 1, 1921) thought when, in 1916, he published his first case of rumination in a 10 months old infant that this condition was rare in infancy. He could then find records of only fourteen cases published by eleven writers. But he has come to the conclusion that this condition is not rare, for during 1918 and 1919 he has seen six other cases, and he notes that eighteen cases have been recorded since 1916 by various writers. In his more recent cases the rumination was not so obvious as in his first case, and he might well have overlooked it had he not been on the look-out for it. He distinguishes between rumination proper and the simple regurgitation of food which is unaccompanied by any of the characteristic movements of mastication and which is exceedingly common in infancy. He notes, however, that certain authors are apt to confuse the one process with the other and to label every case of simple regurgitation as rumination. In a typical case the rumination begins with the infant opening its mouth and drawing its tongue backwards and forwards. After a few such movements the abdominal wall suddenly hardens, and as the

contents of the stomach pass into the mouth there is a characteristic clucking sound, which continues during rumination. The infant continues to move its tongue backwards and forwards, and after the food has been masticated for a short time it is again swallowed. The author has achieved considerable success in suppressing this act by giving the infant dry instead of liquid food and by psychic treatment the aim of which is to keep the infant's mind distracted. This is done by a nurse, who draws its attention to something else whenever the infant begins to ruminate. At first it may be necessary to watch the infant for a considerable time after each meal, but as it gradually forgets to ruminate the period of supervision after meals can be considerably reduced.

106. Treatment of Haemoptysis due to Tuberculosis.

BERTIER (*Journ. de Méd. et de Chir. prat.*, December 10th, 1921), in a lengthy article devoted to this subject, sums up his findings as follows: (1) In afebrile cases with small haemorrhages exercise should be stopped, rest enjoined, the cough alleviated, and calcium chloride and horse serum administered orally. (2) If the haemorrhage be moderate in amount and the case subfebrile, 5 to 10 mg. of morphine subcutaneously, with complete immobilization in bed, ipecacuanha in nauseous or emetic doses, calcium chloride, emetine, and pituitary extract. If the haemorrhage persist, gelatin. (3) When the haemorrhage is abundant, nitrite of amyl, morphine, gelatin, and bandages to the four limbs. If the fever be high, cold to the chest; pituitary extract. (4) In overwhelming cases ligature of the four limbs, nitrite of amyl, gelatin and artificial pneumothorax. (5) In fibroid cases with high tension, nitrite of amyl, ipecacuanha sufficient to produce vomiting, emetine, extract of mistletoe. (6) In cases with asystole and congestion of the bases, oil of camphor, cardiac tonics, purgatives, and restriction of liquids.

107. Spleno-pneumonia and Tuberculous Pneumonia.

A. PISSAVY (*Journ. de Méd. et de Chir. prat.*, December 25th, 1921) discusses the distinction between splenization and hepatization of the tuberculous lung. In the former, at the end of three to six weeks, the temperature becomes normal and the general condition improves. The breathing grows less loud and becomes bronchial, and finally this characteristic disappears. Sometimes during the course of cure subcrepitant moist râles are to be heard, numerous in quantity and equal in volume. In hepatization the condition progresses from bad to worse, the moist râles are less numerous, more unequal in volume, and often of a bullous nature, and signs of a cavity formation manifest themselves. Artificial pneumothorax is to be considered in the treatment of splenization.

SURGERY.

108. Gangrene of the Lung.

MM. DENÉCHAU, ESTÈVE, and QUARTIER (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, December 1st, 1921) give an account of two cases of gangrene of the lung successfully treated by the injection of anti-gas gangrene serum. Both were definite cases of unilateral gangrene of the lung with foul expectoration and severe illness. The operation of pneumothorax was performed in each case with considerable relief but without curing the condition. Other methods having proved of no avail, 150 to 200 c.cm. of anti-gas gangrene serum, prepared at the Institut Pasteur, were injected, the injections being spread over a period of six days. In both cases the results were very successful, not only in curing the local condition but also in restoring the general health of the patient. PERRIN (*Paris méd.*, December 10th, 1921) also reports a case of gangrene of the lung cured by serotherapy. Bacteriological examination of the sputum of this case showed large numbers of organisms but no spirilla. Various arsenic preparations were tried with only temporary relief. Finally, 160 c.cm. of Vincent's anti-gas gangrene serum was administered in three subcutaneous injections. The patient improved rapidly, the expectoration diminished, the foul odour disappeared, the pulse slowed down, and the area of the lung involved showed signs of cicatrization.

109. Hydatid Thrill.

BARNETT (*New Zealand Med. Journ.*, October, 1921) remarks that the description and explanation of hydatid fremitus or thrill is dealt with in a very inadequate and confused manner in most textbooks. Though a rare symptom, it is pathognomonic of hydatid cyst, and is of distinct diagnostic value. He claims that there are two forms of vibration which can be elicited on percussion of fluid tumours: (1) An ordinary wave vibration, occurring as a rare manifestation in certain thin-walled cysts in close contact with the abdominal parietes—for example, in a large hydronephrosis, in parovarian and mesenteric cysts, and in unilocular hydatid cysts. (2) The true hydatid thrill, a spring-like vibration which is distinctly prolonged beyond the moment of percussion, and is associated with a drum-like resonance heard on auscultatory percussion. He has only been able to elicit this sign on seven occasions out of 300 cases. In every case where the hydatid thrill was demonstrated the following conditions were present: (1) The mother cyst was close under the parietes; (2) its walls showed signs of degeneration leading to a slackening of the high normal tension usually found in hydatid cysts; (3) some large daughter cysts were present, not closely packed, but having room to vibrate in contact with the walls of the parent cyst. The most essential condition in the production of this sign is the presence of elastic daughter cysts in easy contact with the main cyst wall.

110. The Palate in Relation to Adenoids.

MULS (*Le Scalpel*, October 15th, 1921), studying the relation between the shape of the palate and adenoids, finds that in 70 per cent. of the adenoid cases there exists an ogival type of palatine arch. In the cases where a normal palatine arch exists with adenoids it is probable that the latter have not been sufficiently developed to cause palatine deformity. A good number of the ogival palates are associated with a brachycephalic type of skull. Where the narrow arch cannot be explained by the presence of adenoids, it is probably due to rickets, since 77 per cent. of rickety children have a narrow palate. It is doubtful whether rickets plays any part in the growth of adenoids, for the author only found 40 per cent. of his rickety cases had adenoids. Removal of the adenoids has little influence on the shape of the palate, as the operation is usually done too late; treatment for rickets is more likely to do good.

111. Traumatic Separation of the Crucial Ligaments of the Knee.

DELLA TORRE (*La Clin. Chirurg.*, September–October, 1920) in a long paper gives an account of two cases carefully observed by him for two and a half years, and also the results of a series of experiments on the dead body, with the object of finding out how the accident occurs. After a preliminary account of the anatomy and function of the crucial ligaments, he describes the results which he has found as the result of experiments. They differ somewhat from what other writers have said. He found that separation (without any other joint lesion) could be obtained by hyperextension, by hyperflexion, by hyper-rotation and adduction or by forced abduction and flexion. In the cases recorded by him, one occurred whilst playing football (separation of the anterior crucial ligament), the knee being hyper-rotated internally, with forced adduction of the leg in flexion. The second was due to hyperextension. The only characteristic symptom is abnormal forward and backward mobility of the tibia (or femur), a result of the total separation of the anterior crucial ligament. The author presents eight radiograms and three photographs of the cases seen by him. The prognosis of these injuries should be reserved, and it is perhaps better to trust to muscular adaptation on the patient's part and elastic support than to any operative procedure.

112. The Barraquer Operation for Cataract.

SMITH (*Brit. Journ. Ophthal.*, December, 1921), while acknowledging that the principle of Barraquer's instrument is perfect for cataract operations by raising and maintaining a vacuum at a given tension without exceeding it, considers that its only practical fault is that the valve is hand controlled, whereas it should be, and can be, easily foot controlled. Complaints of detachment of the retina following its use should not occur if pressure is put on the lower third of the lens through the cornea, and continued throughout at right angles to the anterior surface of the lens as it emerges, thus causing the lens to swing round on its transverse axis, thereby rupturing the suspensory ligament first opposite the middle of the wound. In using the instrument it is essential that, after gripping the front of the lens, it should be rolled between the fingers and not simply made to lift the lens forward, which produces a vacuum behind the lens with resulting dislocation of the retina or even choroid. By making it roll on its transverse axis, so as to rupture the suspensory ligament at the wound first, no such vacuum results.

113. Prevention of Post-operative Retention of Urine.

FROM a study of 200 cases VOGT (*Zentralbl. f. Gynäk.*, December 10th, 1921) has found that by intravenous injections of hexamine it is possible to prevent the occurrence of post-operative or *post-partum* urinary retention; haematuria or other signs of disturbance in the urinary tract were not found

to be produced. The author prefers to inject intravenously, about eight to ten hours after the operation, 5 c.cm. of a 40 per cent. solution, although the use of much larger amounts is said to be unattended by danger. It is suggested that the excretion of formaldehyde in the urine leads either to a stimulation of the parasympathetic nerves or an inhibition of the sympathetic nerves, which respectively facilitate or inhibit the micturition reflex. All the patients concerned were females.

114. Ethyl Chloride Anaesthesia.

LEY (*Zentralbl. f. Chir.*, October 15th, 1921), after alluding to the recent articles of Kulenkampff, Hartleib (EPITOME, September 10th, 1921, No. 214), and Jäger (Ibid., October 8th, 1921, No. 320), states that he regards ethyl chloride as the best anaesthetic for short operations, and as almost free from danger in the hands of an experienced anaesthetist. A careful examination of the heart, however, is an indispensable preliminary. If severe cardiac lesions are present, special care is required in the administration of this anaesthetic, or it is perhaps best not to employ it at all, anaesthesia with ether being more suitable. In hysterical and alcoholic patients Ley is in the habit of giving a syringeful of laudanum and atropine three-quarters of an hour to an hour before induction of anaesthesia. He also has a band tied tightly round the thighs in these cases so as to diminish the circulation. If danger of intoxication subsequently develops, the bandage can be loosened, and the blood, which is rich in carbon dioxide, serves for stimulating the respiratory centre. In anxious patients it is advisable to give one or two tablets of bromural, each containing 0.2 gram, half an hour before anaesthesia. Lastly, in chlorotic, nervous, and excitable patients, and in those with a tendency to vomit, Ley gives a teaspoonful of sodium bicarbonate shortly before the anaesthetic, as he finds that such persons suffer less from nausea afterwards.

115. Acute Otitis Media and Mastoiditis Treated by Schwartze Operation.

HEWAT (*Med. Journ. South Africa*, October, 1921), following up a previous record published in 1914 by Logan Turner and Fraser of 200 consecutive operations for acute otitis media in which the Schwartze operation was performed, publishes his own further series of 200 consecutive cases of acute otitis media and mastoiditis similarly treated. Under chloroform, or chloroform and ether, anaesthesia (except in two cases of local anaesthesia), a crescentic incision was made along the middle of the mastoid process, the mastoid cells being entirely removed or freely opened up, the antrum opened, the tip of the mastoid removed, and the zygomatic cells removed when necessary. After swabbing the mastoid wound with bismuth-iodoform-paraffin paste and packing lightly with iodoform gauze the incision was closed above and below, leaving the centre third open for future dressing. After the first four days the dressings were changed daily, the cavity cleaned with hydrogen peroxide, dried, lightly packed with sterile gauze, and, as soon as the middle-ear discharge had ceased and the wound was filled with healthy granulations, it was allowed to close. This method is becoming more generally adopted, in spite of the prolonged daily dressings, the method of obliterating the cavity by interfering with the posterior meatal wall being only justifiable in cases with a history of more than six months' discharge, or when complications arise during convalescence.

116. Signs of Pituitary Tumour.

KEEGAN (*Amer. Journ. Ophthal.*, November, 1921) discusses the disturbances of function of neighbouring structures caused by tumour of the pituitary gland. Mainly ocular, they are summarized for the benefit of the ophthalmologist and rhinologist who may be first consulted for such disease, since the majority of early diagnostic signs of pituitary tumour relate to the eye and nose. The visual symptoms depend upon the forward intracranial extension and tumour pressure upon the optic chiasma, resulting in simple optic atrophy without choked disc, and bilateral hemianopsia, the colour fields showing an earlier defect than the form fields. By first pressing on the under surface of the chiasma a visual field defect in both upper temporal quadrants is produced, further extension below the optic nerves resulting in a more complete temporal hemianopsia. In advanced cases of tumour with extensive intracranial infiltration oculomotor paralyses may result, and in some cases exophthalmos from involvement of the cavernous sinus. Anosmia may develop from destruction of the olfactory tracts, and pressure on the uncinate region may cause epileptiform attacks with a gustatory or olfactory aura. Epistaxis, intermittent discharge of mucus, and hypertrophy of lymphoid tissue are among nasopharyngeal signs which, from non-recognition of the underlying cause, may lead to ineffective nasal surgical interference.

OBSTETRICS AND GYNAECOLOGY.

117. Perforating Haemorrhagic Cysts of the Ovary.

ACCORDING to SAMPSON (*Amer. Journ. of Obstet. and Gynec.*, November, 1921), who records twenty-three illustrative cases, perforating haemorrhagic cyst of the ovary is a relatively common condition, occurring most frequently in women between 30 years of age and the menopause. The cysts are usually from 2 to 4 cm. in diameter and are frequently bilateral; at operation the cyst or ovary is usually found to be adherent, and in freeing it the contents escape by reason of the reopening of a previous perforation which had become sealed by adhesions. In a preliminary description of the pathology of these cysts the author distinguishes between the following stages of what is probably the development and retrogression of one type of cyst: (1) A portion of the haematoma is lined by a membrane and the rest appears to be in the process of becoming relined by the invasion through the perforation of epithelium situated in the periphery of the ovary at the site of the rupture; this epithelial relining is of endometrial type both in structure and in function. Cysts of these characters represent either the development of an endometrial cyst from the invasion of a follicular haematoma by misplaced "endometrial" epithelium or the regeneration of an "endometrial" cyst after a menstrual haemorrhage. (2) Some cysts are lined entirely by epithelium, low, cuboidal, or columnar; in the surrounding vascular stroma structures like uterine glands may be present. (3) Forms of transition between these two varieties are also to be found. Histological study of these cysts or haematomata shows that periodic haemorrhage occurs therein similar to that of menstruation. From microscopical study of tissues involved by adhesions outside the ovary Sampson found in thirteen out of twenty-three specimens an adenoma of endometrial type. He states that adenomata developing from perforation of the variety of ovarian cysts in question may exhibit intense invasive properties, causing adenomyoma of the uterus (by invasion of its wall from without), or adenomyoma of the utero-sacral round ligament, recto-vaginal septum, etc. The development of these tumours is not attributed to the existence in the ovarian cyst contents of some specific irritant stimulating peritoneal endothelium, but rather is analogous to the implantation of ovarian papilloma or cancer on the peritoneal surface of the pelvis from the rupture of an ovarian tumour containing these growths. Sampson summarizes as follows the chief evidence that perforating haemorrhagic cysts of the ovary are haematomata of endometrial type: Their activity is limited to the patient's menstrual life. The epithelial lining resembles that of uterine haematomata due to retention of blood in a uterus which is the site of adenomyoma; it undergoes periodic changes resembling those shown by menstruating endometrium. Finally, material escaping from the cysts may give rise to the development of adenomyoma of endometrial type.

118. Early Diagnosis of Cervical Cancer.

WINTER (*Zentralbl. f. Gynäk.*, December 3rd, 1921) summarizes the early signs which should give rise to a suspicion of cervical cancer, and states that he has found that during and since the war the percentage of patients with cervical cancer coming to his notice when the disease is in its early operable stage has become very markedly diminished (72 per cent. of inoperable cases in 1920 compared with 34 per cent. in 1911). A similar finding has been reported by other German and by Austrian investigators, and is attributed in part to the scarcity of medical men during the war and to an increase in poverty. Winter believes that it is possible by systematically and persistently instructing midwives and reminding physicians about the symptomatology of cervical cancer in its early stages, appreciably to diminish the mortality of this disease. By such endeavours, conducted within his own sphere, he was able before the war to obtain a percentage of 82 operable cases among those which he examined.

119. Menorrhagia Treated by Radium.

BACKER (*Le Scalpel*, October 29th, 1921) reports 22 cases of menorrhagia (where there was no question of malignant growth) treated by his method of using radium. In 11 cases there was no appreciable change in the uterus and in 11 myomata were present. The ages in the first group of cases varied from 42 to 55 years. Massive irradiations of radium and filtered *x* rays were given, and after one or two applications amenorrhoea was induced in all his group. In one case amenorrhoea occurred after a single intrauterine and extrauterine irradiation of 100 mg. of radium bromide. Some slight bleeding was sometimes observed in the process of the establishment of the amenorrhoea. Full details of each case is given, and in a subsequent communication the author proposes to give the results obtained in the other 11 cases.

120. Tetanus after Abortion and Pelvic Suppuration.

ESAU (*Zentralbl. f. Gynäk.*, November 26th, 1921) records an unusual case of tetanus following pelvic infection. A 3-para, aged 30, after an abortion in the third month, suffered from pyrexia and underwent curetting; in a few days the fever recurred, and an abscess which formed in the pouch of Douglas was opened eight days later. After another eight days' interval the patient began to suffer from tetanic spasms, which affected chiefly the muscles of the abdominal wall and back; the legs were affected slightly and the arms not at all, but a certain amount of trismus was manifested. Recovery was complete within a month.

121. Frequency of Abortion in Germany.

NEBEL (*Zentralbl. f. Gynäk.*, November 19th, 1921) reports further evidence of the increased frequency in Germany, as a consequence of stringent economic conditions during and after the war, of criminal abortion. This has led to the proportion of abortions to births reaching 1 to 2 according to figures from Hamburg, 3 to 20 in Munich, and over 4 to 5 in Berlin. Certain German medical men recently have actually recommended an abrogation, on social and eugenic grounds, of the penalties attaching to induction of abortion. Nebel's figures are derived from records made in Mayence, and show that since 1910 abortions have increased from 10 to 26 per cent. of total births; during the same period the ratio of febrile (and therefore the more probably criminal) abortions to the total number of abortions has increased from 6.5 to 24 per cent. In these as in other statistics in this connexion it must be remembered that many cases of wilfully induced abortion escape report or detection.

PATHOLOGY.

122. Experimental Inoculation of Human Throats with Virulent Diphtheria Bacilli.

GUTHRIE, MARSHALL and MOSS (*Bull. Johns Hopkins Hosp.*, December, 1921) have complemented their previous work on the question of diphtheria carriers by dealing with the infectivity of virulent bacilli obtained from healthy human carriers towards normal individuals. Eight members of the laboratory staff were selected for experiment. Each of these received a single inoculation of the throat with virulent diphtheria bacilli coming from the throat of a healthy carrier. Of these four developed clinical diphtheria and afterwards passed into the condition of convalescent carriers; three failed to develop the disease but became healthy carriers of the organism, while the remaining one showed only a single positive culture forty-three days after the inoculation. The duration of the carrier state was from thirty-three days to more than seventy-two days. The four persons who developed diphtheria as a result of the infection had each given a positive Schick test previous to the experiment, whereas the four who failed to develop the disease had each given a negative test. This is interesting in lending a considerable amount of support to the value of this reaction. Nevertheless, though the presence of a certain degree of natural immunity was sufficient to prevent an attack of the disease in the latter group, it was unable to prevent the lodgement of the bacilli in their throats. A further point of considerable interest was ascertained—namely, that the bacilli, even after prolonged sojourn in the throats of these carriers, still retained their virulence. The importance of this point from an epidemiological aspect cannot be overlooked.

123. Lymphoblastic Erythrodermia.

SEQUEIRA and PANTON (*Brit. Journ. of Derm. and Syph.*, December, 1921) draw attention to a clinical syndrome which has been encountered on three occasions characterized by a general erythrodermia and a specific change in the blood. Of the three patients whose histories are recorded two were men of 40 and 60 years of age, while the remaining one was a woman of 64 years. After an insidious onset there developed a more or less generalized condition of erythrodermia, the appearance being described as that of *l'homme rouge*. Itching was present in two of the cases, and exfoliation of the skin in all three. The similarity in the blood pictures is very striking. The red cells were about normal, the haemoglobin slightly decreased. The number of leucocytes was in the neighbourhood of 20,000 per cubic millimetre, and the differential count showed 35 per cent. of polymorphonuclears, 50 to 60 per cent. of small lymphocytes, with the rest of the cells in their usual proportions. Two of the patients died, but no autopsy was performed. Sequeira and Panton regard the condition as a distinct entity, to be separated from mycosis fungoides on the one hand, and from the various skin lesions which may accompany leukaemia on the other. No suggestions as to its etiology are put forward, nor does any satisfactory form of treatment appear to have been worked out.

124. The Virulence of the Cerebro-spinal Fluid in Cases of Genital Herpes.

As early as 1903 RAVAUT and RABEAU (*C. R. Soc. Biologie*, December 17th, 1921) had been struck with the intensity of the nervous reaction occurring in cases of genital herpes. On examining the cerebro-spinal fluids of twenty-six patients they found a reaction of variable intensity in twenty-one of them. In one case the fluid was actually turbid. They have now endeavoured to ascertain whether the fluid in such cases is virulent. With this end in view they inoculated the cerebro-spinal fluid of five different patients suffering from genital herpes on to the scarified cornea of five different rabbits. The results of one of these experiments is recorded in detail. For fifteen days after the inoculation the rabbit showed no sign of illness. The local lesion disappeared without leaving any trace. On the fifteenth day, however, the animal commenced to manifest certain nervous changes, such as deviation of the head to the homolateral side, falling over to the same side, and convulsive movements of the limbs. After this phase these phenomena decreased and the rabbit gradually wasted till it died, forty-three days after the inoculation. The brain, which was examined by Levaditi, showed in the region of the mid-brain the perivascular collections of cells so typical of encephalitis in the human subject. A small abscess was found at the level of the aqueduct of Sylvius. Cultures made from the brain were unfortunately contaminated so that a further passage experiment could not be made. The fluid from one of the herpetic vesicles of the same patient when inoculated into another rabbit produced keratitis on the third day, followed by encephalitis on the seventh day. The conclusion seems to be justified that the same virus as is present in the vesicles is also probably present in the cerebro-spinal fluid of patients suffering from genital herpes.

125. The Regional Cuti-reaction.

MONDOLFO and COSCERA (*Il Policlinico*, Sez. Prat., November 21st, 1921) state that Pisani, in 1916, was the first to suggest performing the tuberculin cuti-reaction at the site of the tuberculous focus instead of on the arm, as is usually done, since he had observed that the reaction was usually more intense in the skin over the affected organ than in the corresponding region on the opposite side or on the arm, and in many cases the reaction was positive over the diseased area and negative on the arm. Pollitzer, in 1918, reported the results obtained from a study of the regional cuti-reaction in 40 children, aged from 2 to 9 years, in whom he found that the regional cuti-reaction was almost always more intense than the cuti-reaction on the arm. De Gradi, in 1919, stated that of 51 regional cuti-reactions performed on adults, in 17 the cuti-reaction was positive at the morbid focus and negative on the arm, and in 34 it was positive both at the focus and on the arm. Pestalozza, in 1920, who performed the regional cuti-reaction in 72 children, came to the conclusion that though of value in adults it was a fallacious test in children. Mondolfo and Coscera, who carried out both reactions in 82 cases, found that in the great majority of cases both reactions were positive or negative at the same time, though the regional reaction was the most intense. It was rare for the regional reaction to be positive and the reaction on the arm to be negative, while the converse never occurred. In only a few cases were both reactions of equal intensity. Their conclusions were as follows: (1) The regional cuti-reaction may confirm the suspicion of a tuberculous lesion in a definite area. (2) The regional cuti-reaction may reveal an active tuberculous lesion earlier than the reaction on the arm. (3) The regional cuti-reaction may distinguish a recent tuberculous lesion from an old-standing infection.

126. Bilirubinaemia in the Newborn.

FROM examination of maternal blood and that of the newborn, HELLMUTH (*Monats. f. Geburts. und Gynäk.*, 1921, liv) concludes that the "maternal cholaemia of foetal origin" described by certain authors does not in fact exist; no difference was detected in the bilirubin content of the blood of pregnant and of other women. The placenta, it is said, offers an impermeable barrier to the passage of bile pigments from the foetal into the maternal blood. The bilirubin content in the serum of the newborn is much greater than that of adults, but it is not possible, as Hirsch asserted, to trace a connexion between increase of the bilirubin in the foetal blood and the appearance of post-natal jaundice. From the diminished intensity of the diazo-reaction in the blood serum of the newborn, as well as from the spectroscopic demonstration therein of haematin, it seems probable that both haematogenous and hepatogenous influences play a part in the production of icterus neonatorum; in connexion with the haematogenous influences the alterations occurring in the circulation about the time of birth must be borne in mind.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

127. Hypertonus and Diabetes.

KYLIN (*Zentralbl. f. inn. Med.*, November 12th, 1921) examined the blood pressure of 58 cases of diabetes, 42 of whom were above and 16 below 40 years of age, and found that in the juvenile form of diabetes the blood pressure was usually within normal limits, whereas in the senile form a rise of blood pressure was the rule, almost 50 per cent. of all the cases in this group having a blood pressure of 180 mm. Hg or above. The readings, however, varied considerably in the same individual, as was shown by taking the readings both in the morning and the evening. The almost invariable existence of hypertonus in senile diabetes suggested to Kylin that in cases of hypertonus in which there was no glycosuria there might be nevertheless a diminished tolerance for carbohydrates, and that cases of hypertonus without glycosuria might later be transformed into diabetes mellitus. He has, indeed, observed a woman aged 44 who was under treatment in 1919 for simple nephrosclerosis, and was admitted to hospital in 1920 for diabetes mellitus. He has recently begun to test the carbohydrate tolerance of cases of hypertonus, and has occasionally found a diminished tolerance for carbohydrates, though not enough for glycosuria to appear when the patient was on ordinary diet. As the tendency to a rise of blood pressure and a diminished tolerance for carbohydrates often appears to occur in advanced life, Kylin suggests that the same morbid process—namely, an anomaly of the internal secretions—is the cause of both symptoms. It is well known that in certain endocrine disturbances, such as Graves's disease, myxoedema, acromegaly, and, according to some authorities, in diabetes also, there is an increase of lymphocytes in the blood. Kylin has therefore made an investigation to see if the same change occurred in hypertonus also, and found that of 16 cases examined all but two showed a lymphocytosis of from 40 to 50 per cent. As the significance of lymphocytosis is not yet established, Kylin does not wish to draw any conclusions from this, but points out that the hypothesis of an endocrine anomaly being the cause of simple arterial hypertension is supported by the blood picture.

128. Syphilis without a Chancre.

GOUGEROT (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, November 24th, 1921) remarks that the question of syphilis without a chancre in the adult is still unsettled, some authorities, such as Fournier, denying the existence of such cases, and maintaining that the chancre is always present though it may be deeply situated, of transient duration, of minute and even microscopical size, or be mistaken for a scratch, gonorrhoea, tonsillitis, etc. Others believe in infection by a visceral route, such as contamination of the uterine mucosa, infection of the peritoneum by the surgeon's hand during an operation, or ingestion of infected food. There are, however, undoubted cases of cutaneous inoculation of syphilis without a visible chancre, as in infection following therapeutical injections without antiseptic precautions, and infection in the laboratory or of the surgeon's hands during an operation. Gougerot reports two cases of acquired syphilis without a chancre, in one of which there was a suppurating bubo and in the other an induration of the inguinal glands, bacteriological examination of the adenitis showing the *Spirochaeta pallida* in each case. In both, the lesions subsided rapidly under specific treatment. In a subsequent paper Gougerot (Ibid.) records four examples of mixed infection—that is, syphilis associated with chancroid. In each case the patient presented a suppurating bubo without any trace of a chancre, and well-marked symptoms of secondary syphilis developed later.

129. Late Recovery from Katatonia.

HAVERKATE (*Nederl. Tijdschr v. Geneesk.*, October 15th, 1921) states that very little is to be found in textbooks of psychiatry about late recovery from katatonia. Kraepelin states that in 13 per cent. of the cases recovery takes place, or at least improvement bordering on recovery, but that a relapse is very likely to occur, even after an interval of ten to twenty years. The duration of improvement is usually two to three years, but it may be nine to sixteen years, and Kraepelin has seen a case of recurrence after twenty-nine years. In Raecke's series of 200 cases of katatonia the duration of cases ending in recovery was rarely more than two years; 46 of the 200 recovered, but in only 3 of these had the disease lasted three to four years, and cases of recovery with a duration of illness of more than four years were not observed. Kreuser in 1900 reported 12 cases of recovery from katatonia in which the disease had lasted more than seven years, and 21 recoveries in which it had lasted from four to seven years. The case of longest duration in which Kreuser had seen recovery take place was twenty-one years. The longest duration of a case on record of katatonia which finally recovered is that reported by Fromme in which the disease had lasted thirty years. As a rule, however, katatonia seldom ends in recovery after it has lasted two years. Haverkate reports the case of a man, aged 34, who made a good recovery from katatonia after eight years' illness, and was able to obtain work as clerk in an insurance office and obtain promotion, his mental condition being good at the time of publication, two years after his recovery.

130. Bird-Mite Dermatitis.

GRÖN (*Tidsskrift for Den Norske Laegeforening*, December 1st, 1921) describes a small epidemic of scabies-like itching, due to the bird mite (*Dermanyssus gallinae*), which is popularly known as the dove louse. It is a little over 1/2 mm. long—that is, it is hardly as large as a pin's head. It hides by day in dovecots and hen-houses, coming out at night to suck blood. Its range of movement is considerable, but it does not, like the scabies mite, dig itself into the skin. The first case seen by the author was a man, aged 48, with an extensive eruption over the body and arms. It resembled in every respect the eruption of scabies, with this one exception, that there were no burrows. He stated that he, his wife, his son, and a niece lived under a loft to which numerous doves had access. There were cracks in the floor of this loft, and examination of a specimen of the numerous small, grey, movable, dust-like granules found on the bedding showed it to be the parasite under discussion. All four persons concerned suffered from itching and an eruption. Under treatment with a scabies ointment the itching rapidly diminished, but even ten days later the eruption had not disappeared. The author cites various Norwegian authorities to show that this form of dermatitis is comparatively common in several parts of Norway. In the treatment of such cases it is not necessary to be so thorough in the use of ointments as in the case of scabies, and the mite can be successfully disposed of by sulphur fumigation, closing cracks in floors and walls, and by applying lime to the woodwork of infected buildings.

131. Silver Arsphenamine.

BERGHAUSEN (*Med. Record*, November 26th, 1921) calls attention to the therapeutic value of silver salvarsan (the sodium salt of silver-diaminodihydroxyarseno-benzene, in which the silver is in non-ionizable form) in the treatment of syphilis, from an experience of 133 injections. Severe reactions should be avoided by the repetition of small doses, unless the tolerance of the individual has been previously determined. The initial dose was usually 0.1 gram, followed in four or five days by 0.2 gram, and then by 0.3 gram if no reactions occurred, and in the whole series only three reactions were obtained, two of which were slight, the third being accompanied by diarrhoea in a paretic who had been unable to tolerate arsenic preparations and mercury. Improvement followed in the primary, congenital, and cerebrospinal cases, and some improvement was noted in 50 per cent. of the tabetics. In two cases the intravenous injections were followed by intraspinous without reaction. The absence of headaches and gastro-intestinal disturbances made patients more readily undergo further treatment, especially those who had been unable to take arsphenamine or neo-arsphenamine without the occurrence of such symptoms, and the improvement noted was as marked as that following the use of the older preparations.

132. A Mental Form of Epidemic Encephalitis.

DELATER and ROUQUIER (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, November 17th, 1921) state that a form of epidemic encephalitis characterized by exclusively psychical symptoms had been described by one of them in 1920, and since by numerous writers, including Claude, Froment and Comte, Abadie and Hesnard, and Guy Larode and Filassier. Localizing signs in the central grey nuclei, pons, and medulla are either absent or take a very secondary place. Delirium, hallucinations, confusion, and mental disturbances of all kinds dominate the scene, and the diagnosis can only be established by the subsequent appearance of transient and

dissociated paralyses, myoclonus, and sometimes neuralgic symptoms. The writers report the first case on record in which the *post-mortem* examination of such a case confirmed the diagnosis made during life of epidemic encephalitis. No neurological symptoms were detected during life, and at the autopsy the lesions were confined to the cortex and meninges.

133. The Treatment of Post-Encephalitic Insomnia.

LUST (*Deut. med. Woch.*, December 22nd, 1921) confirms the observation, made by Adam at Heidelberg, that intramuscular injections of milk promptly induce prolonged sleep in children whose post-encephalitic disturbances of sleep have proved refractory to the usual remedies. In one of the author's cases typical epidemic encephalitis had left the child with severe restlessness and insomnia at night. This condition had lasted for more than a year, but as soon as an intramuscular injection of 2 c.cm. of boiled milk gave rise to a febrile reaction the child fell asleep and did not wake till twelve hours later. Numerous observations with a rectal thermometer showed that sleep began only when the temperature rose above the normal, and lasted only as long as it was raised; as soon as it reached normal the child awoke. He also proved that there was nothing specific in the soporific action of these injections, for when they failed to provoke fever, or when a febrile reaction was aborted by antipyrin, no sleep was induced. Other artificial means for raising the temperature, such as hot baths, also secured sound sleep. When injections of distilled water were substituted for the injections of milk sleep did not follow; this indicated that there was no element of suggestion in the success achieved. The author concludes that the hypothetical sleep centre must be situated close to the heat regulation centre.

134. Serum Treatment of Diphtheria.

ACCORDING to LEREBOULLET (*Paris méd.*, November 5th, 1921), every case of diphtheria should be treated at once by an intramuscular injection of 20 to 60 c.cm. of antitoxin according to the age of the patient and severity and duration of the disease. The intramuscular injection should be accompanied by a simultaneous subcutaneous injection, and the latter should be repeated during the following days with or without further intramuscular injections. In severe cases the injections should be continued for several days, even after disappearance of the membrane, so as to prolong the duration of immunity. The doses should be regulated by the severity of the disease and the date at which treatment began, without fear of giving large doses, even as much as 100 c.cm., repeated two or three times in severe and late cases. In mild and early cases the doses may be considerably less.

SURGERY.

135. Plastic Operations on the Lip.

MOOREHEAD, BROWN, and KAZANJIAN (*Journ. Amer. Med. Assoc.*, December 17th, 1921), in different articles, discuss plastic operations on the lip for the treatment of hare-lip and reconstruction after war injuries. The treatment of congenital cleft of the hard palate, when associated with hare-lip, should be undertaken at the earliest possible age—that is, from six to ten weeks after birth. One of the major problems is that of feeding, and the nipple should never be used, as sucking causes a certain amount of bone separation which is reflected in the nostril. During the operation an aspirator is used to keep blood out of the throat. The first step in the operation is to complete the anatomic restoration of the arch by moulding, and the bones are transfixed by a wire suture. By dissecting the lips and cheeks freely from the bone a well-shaped nostril is secured. This aids the shaping of the lip, which is done at a later date. The cosmetic results of the hare-lip operation depend on the degree in which the associated nasal defects have been overcome. In surgical correction there are two elements to be considered: Arrest of development, which created the deformity, and perverted growth due to malposition. Successful treatment depends on the accuracy with which normal anatomic conditions may be restored. Normal relations should not be disturbed or underlying bone destroyed in efforts to close the fissure. In the treatment of reconstruction of the lip following loss of tissue as the result of injury, the earlier the wound can be sutured the better would seem to be the result. These wounds are usually septic, and sepsis must be controlled before undertaking a serious plastic operation. Where there is loss of bony substance, the lost bony tissue must be restored or replaced by some mechanical appliance before successful cosmetic results can be obtained. Loss of tissue may be replaced from the immediate vicinity or from more distant parts, such as the neck. The inner lining of the lip, as well as the red border, must be restored, otherwise distortion will result. Every case of plastic reconstruction must be executed on its own merits and different procedures attempted in extreme cases. One must have in mind from the first the desired results, and all preliminary operations should lead up to the main procedure.

136. "Spontaneous" Rupture of the Extensor Longus Pollicis Tendon after Colles's Fracture.

STAPELMOHR (*Acta Chirurgica Scandinavica*, November 16th, 1921) has observed, within three weeks of each other, two cases in which, some time after a typical Colles's fracture, the tendon of the long extensor of the thumb suddenly gave way on very slight provocation. Being unfamiliar with this complication of a Colles's fracture he feared that in his first case he might have injured this tendon while he was setting the fracture. He realized this fear was ungrounded when, in his second case, this rupture occurred in spite of the fact that, no displacement of the bone having been caused by the fracture, he had not manipulated it. A study of the literature showed him that eight similar cases have been recorded. Though rare, this complication presents a well-defined clinical picture. After an interval of a few weeks, during which the Colles's fracture seems to have left the movements of the thumb unimpaired, the tendon of the long extensor suddenly gives way in responce to quite a slight effort, such as jabbing a hatpin into a hat. The author suggests that, when the fracture occurs, the hand is extended and the thumb sharply abducted in the patient's effort to save himself as he falls. This more or less automatic effort brings the tendon of the long extensor suddenly and forcibly against the distal end of its sheath, on which it is more or less kinked. The involuntary contraction of its muscle adds further to the pressure suddenly put upon it at this point. The result is slow necrosis of the tendon with little or no inflammatory reaction. The ages of the ten patients who developed this complication ranged from 26 to 60 years, and the author points out that the blood supply of the tendon is comparatively poor after the twenty-fifth year, and thus facilities for regeneration are less adequate than in childhood and adolescence.

137. Intracardiac Injections of Adrenaline in Acute Heart Failure.

KNEIER (*Deut. med. Woch.*, December 8th, 1921) considers that the outfit of a general anaesthetist is incomplete without adrenaline ready for injection into the cavity of the heart. He notes that about eighteen cases have already been recorded in which permanent effects were achieved by adrenaline given in this manner, and he records two cases, in the first of which the intracardiac injection failed of its object. In the second case it was dramatically successful. The patient was undergoing an operation for cancer of the larynx under local anaesthesia, supplemented by morphine and atropine, when respiration suddenly ceased. The colour of the face was at first cyanosed, then pale. The pupils were dilated and incapable of reaction, the pulse was not palpable. Artificial respiration, oxygen inhalation, cardiac massage, and the subcutaneous injection of stimulants proved futile. About four minutes after respiration had ceased, 1 c.cm. of suprarenin was injected into the cavity of the heart. Half a minute later pallor gave way to a flush, the pupils slowly contracted, and the pulse could again be felt. The first active respiratory movement occurred about a minute and a half after the injection. The operation was resumed, but eighteen days later the patient died suddenly from pulmonary embolism due to thrombosis in the right leg. The heart and pericardium showed, at the necropsy, no evidence of injury from the injection. The author concludes from his and other published cases that serious injury to the heart need not be anticipated, and that, provided respiration has not stopped for more than five minutes, the injection may save the patient's life. The technique is simple, a needle being thrust into the fourth intercostal space close to the left border of the sternum. If the operator aspirates as he thrusts the needle into the heart, the free flow of blood into the syringe will tell him when he has reached the cavity of the heart.

138. Treatment of Acute and Chronic Pancreatitis.

LUND (*Boston Med. and Surg. Journ.*, December 29th, 1921) reminds us that it was Opie who, in 1901, after an autopsy on a case of acute pancreatitis, first showed that blocking of the ampulla of Vater with a small gall stone might cause infected bile to ascend into the pancreas and set up an acute inflammation. As a result of this it was suggested that drainage of the bile might be the best treatment for acute pancreatitis. Later it was found that only in a few cases was it possible for a stone, though not seen at the autopsy, to

have blocked the duct long enough to cause acute pancreatitis and then be passed. So it becomes evident that in certain cases the presence of blocking stones in the papilla could not have caused the disease, nor could drainage of the bile system effect a cure. Subsequently surgeons, when operating upon the abdomen, began to observe variations in the size and consistency of the pancreas, which were believed to be inflammatory from infected bile, and they treated these conditions by drainage through a cholecystostomy. Now the present-day view of gall-bladder disease is that the primary infection reaches the gall bladder through the lymphatics or vessels from the liver. In cholecystitis we invariably find the gland at the neck of the gall bladder swollen. The lymphatics from here anastomose freely with those of the head of the pancreas. An invasion of the pancreatic lymphatics from the inflamed gall bladder or stomach would explain cases of acute and chronic pancreatitis not explained by invasion from the ducts. Such a theory suggests for the treatment of chronic pancreatitis not a drainage of the infected bile, but a removal of the source of infection by a cholecystectomy. In cases where jaundice is present and there is doubt as to the presence of a stone in the common duct, it is wiser to drain the gall bladder. In patients thoroughly toxic at the beginning of an attack it has been advised to leave them, so that the process may become walled off, and then drain. But it is often wiser to operate in the acute stage, and drainage of the infected secretion may save the patient. Carcinoma of the pancreas is frequently hard to differentiate from chronic pancreatitis. In both cases, where jaundice is present, a cholecystenterostomy often gives great relief.

139. Division of the Spermatic Vessels for Undescended Testicle.

KÜTTNER (*Zentralbl. f. Chir.*, October 29th, 1921) partially recants his earlier recommendation of an operation for undescended testicle, the chief feature of which is division of the vessels of the spermatic cord. As a rule he has found the atrophic undescended testicle develop satisfactorily when secured in its normal position after division of the vessels of the cord, and in some cases patients have told him that the operation was followed by increased potentia coeundi. His enthusiasm for this treatment was, however, damped by two cases. In the first, a young man, aged 18, was operated on for bilateral retention of the testicles. A year later the right testicle had grown to normal size and was in its normal position, but the left testicle had dwindled to a small band, palpation of which provoked the characteristic sensation associated with the testicle. The second patient, a man of 20, was found to have a much atrophied testicle, of the size of a hazel nut, at the level of the internal inguinal ring. After division of the vessels of the cord, the testicle was secured in the scrotum. Eighteen months later this testicle could not be found in the scrotum, although it was impossible for the testicle to have slipped back into the abdomen. The author points out that the atrophic testicle in this case might just as well have been removed at once instead of being left to atrophy in the scrotum. He notes that, besides these two failures, he has had numerous successes, and he considers that the operation is indicated when the testicle is far from the scrotum and other less radical methods have failed. When the condition is bilateral, as in his first case, he advises against the simultaneous performance of this operation.

140. Typhoid Spondylitis.

ACCORDING to BOOT (*Nederl. Tijdschr. v. Geneesk.*, October 22nd, 1921) of Amsterdam, who records an illustrative case in a girl aged 16, which developed about six weeks after an attack of typhoid fever, this is the first Dutch case which has been published in the *Tijdschrift*, although at least 20 cases have been recorded in German literature and about 70 in English. Quincke, who first described the condition in 1898, regarded the following symptoms as typical: (1) Extreme severity and extent of the spontaneous local pain; (2) extensive swelling of the soft parts; (3) acute febrile course. In Boot's case, in which the body of the third lumbar vertebra was involved, swelling of the soft parts was the only symptom absent. Cases of typhoid spine may be classified in four groups. The first consists of the mildest cases, in which *X*-ray examination is negative. Boot's case is an example of the second group. The third group consists of severe cases, in which kyphosis and paralysis may occur. To the fourth group belong the cases of spondylitis of which Wilson's case, reported in 1909, is an example. In such cases the swelling of the soft parts predominates, so that the condition may be mistaken for one of renal abscess. Usually the lumbar vertebrae are affected, but the thoracic vertebrae may also be involved, as in Lyon's case, in which the ninth to twelfth thoracic vertebrae and the first to fifth lumbar vertebrae were affected. Spondylitis may occur as late as six months after an attack of typhoid fever. Sometimes it develops after a trauma, but it may appear, as in Boot's case, without any such history. The prognosis is favourable, with the exception of those cases in which kyphosis or paralysis occur. Treatment consists in keeping the patient supine for about two months, and then making him wear a plaster jacket for another three months.

141. Fractures of the Ulnar Styloid.

WAKELEY (*Arch. Radiol. and Electrotherapy*, October, 1921) describes fracture of the styloid process of the ulna, occurring somewhat rarely as a single lesion caused by direct violence, with occasionally a history of a twist. Since these fractures, and those of the carpal scaphoid, can generally only be diagnosed with certainty from sprains of the wrist by means of *x* rays, a plate should be taken as a routine in all cases of wrist injury. If seen soon after injury there is some oedema, swelling, and tenderness of the part, with limitation of dorsiflexion of the wrist and absence of crepitus, the radial styloid process being generally at a lower level when compared with the other hand. Three weeks in dorsiflexion with slight ulnar deviation on a "cock-up" splint is necessary, after which massage with the splint *in situ* should be given for another week, when the splint may be discarded.

OBSTETRICS AND GYNAECOLOGY.

142. Pathology of Haemorrhage from the Non-Pregnant Uterus.

SCOTT (*Amer. Journ. of Obstet. and Gynec.*, November, 1921) has examined histologically the myometrium and endometrium in 92 cases characterized clinically by haemorrhage from the non-pregnant uterus in the absence of neoplasm; the macroscopic as well as the microscopic findings were inconstant. In sixty-two instances the uterus had the gross characteristics of the so called fibrosis uteri; the walls were much thicker than normal, and the blood vessels projected from the cut surface. In 16 cases the uterus, although firm in consistency, was smaller than normal, and in 14 cases it was the ordinary size. Microscopically the proportion of fibrous tissue in the uterine wall appeared to be increased in 34 cases, diminished in 2, and normal in the remaining 56. Thickening of the blood vessels was equally inconstant. In 34 control cases not characterized clinically by excessive bleeding the gross and minute characters varied in approximately similar proportions. It is concluded that the bleeding is not actually caused by any one of the changes described either in the myometrium or the blood vessels; the one finding, however, that was more constantly present in the bleeding cases than the others was that of glandular hyperplasia of the endometrium, which in the great majority of cases was much thicker than normal. On the following grounds it is regarded as probable that the cases of bleeding under consideration are due to some aberration of the endocrine glands. Idiopathic haemorrhage occurs only during menstrual life, and nearly always begins as a menorrhagia; it occurs most frequently near the time of puberty or the menopause at a time when the action of the endocrine glands is most frequently abnormal; it sometimes disappears without apparent cause; certain ovarian conditions, such as lutein cysts, are commonly associated with both bleeding and glandular hyperplasia of the endometrium; finally, the condition can be cured by *x*-ray or radium therapy, the action of which is primarily on the ovaries.

143. A Method of Intrapelvic Radium Therapy.

DAELS (*Gynéc. et Obstét.*, 1921, iv, 5) describes a method of applying radium within the true pelvis by passing a drainage tube containing tubes of radium along a curved course beginning at the side of the anus and ending near the crest of the ilium. Appropriate courses have been devised for similar treatment of rectal and vesical cancer and for cancer of the prostate in the male; the object of the procedure is to destroy neoplastic tissue in the lymphatic glands and channels which are affected by the extension of the growth. The technique of the course of "radium-therapeutic drainage of the small pelvis" for cancer of the cervix uteri—a course which has the terminations already mentioned—is as follows: Under spinal anaesthesia the patient is placed in the gynaecological position and an incision is made a little behind the tuber ischii between that prominence and the anus. By blunt dissection the finger is made to penetrate the ischio-rectal fossa and is directed towards the lower border of the great sacro-sciatic ligament, covered by the coccygeal portion of the levator ani; it then passes in front of and internal to the spine of the ischium between the iliac and coccygeal parts of the levator towards the sacro-iliac joint. A graduated semicircular sound is passed along the track thus made. From an incision internal to the anterior part of the iliac crest a finger is now passed extraperitoneally in the false

pelvis in front of the iliacus and psoas muscles, behind the iliac vessels, towards the sacro-iliac joint. The end of the sound is then passed in the direction of this joint and the sound is drawn forwards and outwards so as to emerge at the second incision. Within an indiarubber tube of length a little more than that of the true pelvis from the innominate line to the spine of the ischium (as calculated by measurements along the graduated sound) are placed one or more tubes containing radium, and a chain is attached to each end of the tube. One end of the chain is fixed to the sound, and the chain and indiarubber tube are made to replace the sound, and are left in the track through the pelvis. A similar procedure is carried out on the other side. The precise dosage is not stated, and Daels is not yet prepared to formulate the exact indications for this treatment. His present treatment is, for inoperable cases, curetting and bilateral "radium therapeutic drainage" at one sitting; and for operable cases, vaginal hysterectomy and bilateral drainage at one sitting, followed a few days later by vaginal irradiation. Three cases of recurrence after hysterectomy, eleven inoperable cases, and two operable cases in obese subjects have been treated by Dael's method during the last twelve months, without operative complications, and with a post-operative mortality of two, due respectively to intestinal obstruction caused by adhesions to the scar of vaginal hysterectomy and to secondary haemorrhage. Other post-operative complications were suppuration (occurring in some instances in the drainage track as late as the fourth week), transitory neuritis, fistula (attributable to the operation rather than the irradiation, in one instance only), and rectal ulceration. In general, pronounced improvement of local and general symptoms and signs has followed.

144. Morphine, Strychnine, and Caffeine in Labour.

CHIDICHIMO (*Revista d'Obstet. e Ginec. Practica*, April, 1921) in four cases has had satisfactory results from intramuscular injection, repeated once if necessary, of 1 c.cm. of a solution containing 0.03 cg. morphine hydrochloride, 0.003 mg. strychnine sulphate, and 0.05 cg. caffeine. In one patient, a hysterical subject who was convulsed, labour terminated spontaneously twenty-five minutes after the injection; in the others it became possible, quietly and without giving pain, to perform version or forceps extraction. The injections must not be given before the cervix has become thinned and a dilatation of at least 3 cm. has occurred. The author concludes that, carefully given, the treatment has a limited but useful application, rendering the uterine contractions stronger, but less frequent, and diminishing the consciousness and sensibility of the patient. In the doses named, the drugs are considered to be without toxic effect on the mother and child; the action became manifest in from eleven to twenty-eight minutes.

PATHOLOGY.

145. Lymphatic Diseases.

THE neglect of the study of disease of the lymphatics shown by both physiologists and pathologists is emphasized by JACOBSON (*Albany Medical Annals*, December, 1921). The author, in discussing Hodgkin's disease and lymphocytic leukaemia, suggests that chronic irritation may operate in the same way in causing these diseases as it does in the production of many epithelial and connective tissue tumours. In Hodgkin's disease the pleomorphic diphtheroid bacillus described by Bunting may be the irritating cause. But whatever be the source of the chronic irritation, bacterial or toxic, the effect on so capricious a tissue as that of the lymph nodes may be expected to show itself in various ways at different ages of the individual. In youth lymph nodes become enlarged under the influence of various irritants. During the first two decades of life a leukaemic blood picture is rarely met with, the obvious effect of the toxic agent being confined to the lymph nodes. Hodgkin's disease being a disease of youth, and leukaemia being more frequent after the thirtieth year, the author suggests that in youth the lymphocytes are more susceptible to destruction than in adult life, when, as they are not so easily destroyed, they are poured forth into the blood stream.

146. The Antiphlogistic Action of Calcium Salts.

IN 1896 Wright pointed out the effect produced by the administration of calcium chloride in preventing certain cutaneous inflammations, such as the urticaria following on the injection of serum and the localized oedemas provoked by the inoculation of bacterial vaccines, and ascribed this effect to the action of this salt on the coagulation of the blood. At a later date Chiari and Januschke, while showing the fallacy of this hypothesis, suggested that the calcium acted by decreasing the permeability of the capillary walls and thus preventing the egress of plasma and cells. The subject has now been taken up by BLUM (*C. R. Soc. Biologic*, December 17th, 1921), who, though confirming the results of previous workers, is led to draw a different conclusion from the experiments on which they were based. If a drop of mustard oil be placed in the conjunctival sac of a rabbit an intense inflammation is produced. If now an intravenous injection of calcium chloride be given, the inflammation rapidly subsides and the eye returns to normal. If, however, a simultaneous dose of sodium chloride be administered no effect is produced. The sodium and the calcium exert antagonistic effects. While the rabbit is in a state refractory to inflammation, consequent on the exhibition of calcium chloride, it is found that the titre of sodium in the blood is diminished. Now, as water and sodium chloride are both necessary to the formation of an exudate, it is clear that if their availability for reaction processes can be interfered with, no exudate will be formed. It is an action of this kind that Blum attributes to calcium salts.

147. The Serological Differentiation of some Strains of B. diphtheriae.

BELL (*Journ. R.A.M.C.*, January, 1922) has tested the agglutination reactions of 130 strains of *B. diphtheriae*, the majority of which had been isolated from patients and carriers during the recent outbreak in the London district. Altogether thirteen serums were prepared, and by their use it was found possible to classify 80 per cent. of the strains into three groups. Of these, Type I contained 13 per cent.: Type II, 6 per cent.; and Type III, 61 per cent. The results in some cases were confirmed by the absorption reaction. No correlation could be determined between the serological type and the virulence of the organisms. Moreover, so far as could be judged from protection experiments, the toxin secreted by organisms belonging to different types was the same. That is to say, that whereas the bacterial antigen is specific, the toxin antigen is non-specific. It is of interest to recall in this connexion that Tulloch reported similar findings in his work on tetanus bacilli, the organisms being classifiable into four types, yet the toxin formed by them being common to all.

148. Melioidosis, a New Disease of the Tropics.

IN a short paper (read before the Far Eastern Association of Tropical Medicine, Batavia, 1921) STANTON and FLETCHER distinguish a new disease resembling glanders, for which they propose the name "melioidosis," because the Greek physicians described under the name "melis" a number of conditions resembling glanders. The causative organism, a bacillus, was first described by Whitmore in 1912, who isolated it *post mortem* from a number of cases in which the lesions resembled those met with in glanders in the human subject. Stanton recovered the same organism from patients dying of septicaemia after Asiatic cholera. The organism was excreted in the faeces and urine, and the disease could be conveyed to laboratory animals, reproducing in them typical lesions. Recently the organism was isolated from cases of chronic inflammation and abscess formation, and the blood serum of such patients has been found to agglutinate *Bacillus whitmori* to a titre of 1 in 2,000. Further particulars with regard to the bacillus and the clinical lesions are promised in the *Transactions* of the Congress.

149. Surface Tension and the Action of Antiseptics.

HANSEN (*Hospitalstidende*, October 19th and 26th, 1921) has carried out a long series of investigations at the Pathological Institute of the University of Copenhagen into the relation of surface tension of disinfectants to their antiseptic action. He found that the great addition to the effectiveness of such antiseptics as carbolic acid made by combining them with weak solutions of alcohol was proportional to the diminution of the surface tension. It is difficult to account for this increase in the antiseptic action of disinfectants; it cannot be due simply to the sum of the disinfectant action of alcohol and carbolic acid, for 5 per cent. alcohol has no disinfectant action whatever. Yet its addition to an ordinary antiseptic greatly enhances the latter's action. By the addition of 10 to 20 per cent. of ethyl alcohol or of 5 to 10 per cent. of propyl alcohol to HCl, carbolic acid, mercury perchloride, or chromic acid, the author found that their disinfectant action was enormously increased, and in the case of a solution of HCl he found that it took twenty-nine and three-quarters hours to kill anthrax spores, but less than half an hour was required when, to the same strength of HCl, 70 per cent. of ethyl alcohol was added. By itself 70 per cent. ethyl alcohol took more than thirty-one hours to kill these spores.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

150. Cephalic Bruits in Children.

STILL (*Brit. Journ. Child. Dis.*, October-December, 1921) describes a condition which has received little attention in most recent textbooks on children's diseases, partly because the bruits have no recognized pathological significance, and partly because they have been supposed to possess no clinical interest. These bruits were first described by Fisher of Boston in 1833 and later by Whitney in 1846, both of these writers regarding the bruits as of pathological significance and indicative of some organic affection of the brain. Osler, who recorded a case in an otherwise healthy child in 1880, pointed out that the extreme ages at which the murmur prevailed were the third month and the sixth year, the majority occurring in the second year. His own case was exceptional in that the bruit was still present at the age of seven years. Subsequent observers found that the bruit was so frequently audible in children during the first three years of life that its pathological significance was open to doubt. Still, who has examined 200 children for the presence of the bruit, has found it in 13 out of 130 with the fontanelle closed and in 17 out of 70 with the fontanelle open. The youngest case in which it was heard was aged six months and the oldest fifteen years, but no patient beyond that age was examined. Only four cases were met with above the age of four years. Still was unable to connect the bruit with any particular morbid condition, all sorts of diseases being present in the thirty cases in which it was detected, including scurvy, epilepsy, achondroplasia, nephritis, asthma, congenital syphilis, congenital heart disease, acidosis, and dyspepsia, while four had nothing at all. Still thinks that tortuosity at the base of the skull is a factor in the production of the murmur, and that some straightening of the course of the artery occurs with increase in the size of the skull. He suggests that persistence of the bruit beyond the usual age is due to unusual thinness of the bony wall of the carotid. The bruit has a systolic blowing, sometimes almost twanging character, which is very different from the continuous hum of the venous bruit.

151. Treatment of Whooping-cough.

HALPHEN (*Rev. de lar., d'otol., et de rhin.*, December 15th, 1921) has treated several cases of whooping-cough, of which he reports five examples in children, aged from 4 to 6 years, by producing anaesthesia of the superior laryngeal nerve, irritation of which he maintains is the chief cause of all spasmodic coughs. The technique is as follows: The greater cornu of the hyoid above and the thyroid cartilage below being taken as landmarks, the needle of the hypodermic syringe is thrust in midway between these two points, at first superficially and parallel with the skin, and then perpendicularly to it below the thyro-hyoid muscle, to the depth of about 1 cm.; 2 to 3 c.cm. of alcohol (90 per cent.) are then injected on each side. It is important that the alcohol should be cold, for when heated it has an anaesthetic effect, and it is necessary for the patient to complain of a pain radiating to the ear to make sure that the needle is in contact with the nerve. In pertussis this is shown by an immediate outbreak of an extremely violent and typical attack of whooping. During the next two or three days the paroxysms diminish in frequency and intensity, completely ceasing on the fourth or fifth day, although the cough does not cease entirely. The child seems to be husky for a few days, but at the end of a week he is quite cured. In some children a single injection is sufficient, but in others two are required. In a few cases the treatment was unsuccessful, although several injections were given.

152. Tubercular Leprosy.

ARCHIBALD (*Journ. Trop. Med. and Hygiene*, November 1st, 1921) records a case of tubercular leprosy treated by intravenous injections of antimony in the shape of stibenyl, the sodium salt of p-acetylaminophenylstibinic acid. In a previous case treated intravenously with colloidal antimony sulphide (1.5 grain) the lesion had almost disappeared and the lepra bacilli showed marked degeneration after ten injections, after which the patient was lost sight of. The case recorded was a Sudanese, aged 40, with lepromatous nodules on the face, nose, trunk, tongue and larynx. Smears from the nasal mucosa showed lepra bacilli. A 1 per cent. normal saline solution of the salt was employed in dosages of 0.1, 0.15, 0.2, 0.4, 0.5, and 0.6 gram given intravenously on alternate days, the course being repeated after an interval of ten days' rest. Considerable improvement resulted, the lepromata, nasal ulceration, and leonine facial appearance having practically disappeared by the end of the fourth course, after a total administration of 7.8 grams. Smears from the nasal mucosa and nodules showed degenerated coccal forms of bacilli lying free and intracellularly with a few very granular bacillary forms. Beyond slight nausea and diarrhoea there were no ill effects, and a slight albuminuria was not a contra-indication to the treatment. The result surpassed any obtained by the use of sodium gynocardate, and a more intensive treatment with stibenyl is suggested.

153. Diagnosis of General Paralysis.

ACCORDING to TARGOWLA (*Ann. de Méd.*, October, 1921), lymphocytosis in general paralysis, though of great diagnostic value, does not give any information as to the intensity of the meningo-encephalitis. The same holds good of the Wassermann reaction, although the reaction may be persistently negative during a remission. High tension of the cerebro-spinal fluid is in favour of an intense meningo-encephalitis, but there are frequent exceptions. The amount of albumin in the fluid varies too much to have any clinical significance. When it is normal the disease may be regarded as more or less inactive. An abnormal quantity of urea (40 cg. or more), independently of any sign of Bright's disease, is found whenever there are any superadded signs of toxic origin, and often coincides with a well-marked benzoin reaction. Pandy's reaction is more definite and, with some exceptions, bears a direct relation to the intensity of the disease. The colloidal benzoin reaction, apart from its diagnostic importance, is a valuable guide as to the intensity of the meningo-encephalitis. In association with the clinical signs it possesses considerable prognostic value and is also a guide to treatment.

154. Strauss's Water Test in Orthostatic Albuminuria.

GRAM (*Ugeskrift for Laeger*, December 22nd, 1921) has for years used Strauss's water test for the functional capacity of the kidneys, and has come to the conclusion that it is both simple and useful. The patient is given a litre of water between 6.30 and 7 a.m., and for the rest of the day he is kept on a dry diet, including bread, butter, eggs, salt, and one apple. The urine passed at 6.30, 7, 8, 9, 10, and 11 a.m., at 2, 5, and 8 p.m., as well as at 5 a.m. next day, is measured. In health most of the litre of water is excreted in the period 7 to 11 a.m. Applying this test to six cases of orthostatic albuminuria the author found that the amount of water excreted in the period 7 to 11 depended largely on whether the patient was up or in bed. In the 7 to 11 o'clock period, when in health, about 1 litre is excreted; he found that if the subjects of orthostatic albuminuria were kept in bed the amount of urine passed varied from 908 c.cm. to 1,578 c.cm., with a mean of 1,173 c.cm. Thus the rate of excretion of water was about the normal. But when these patients were up and about on the day of the test the rate of excretion of water was reduced by more than half in the period 7 to 11 o'clock. The minimum passed in this period was 208 c.cm., the maximum 842 c.cm. In two cases the maximum dilution of the urine was reached an hour later when the patient was up than when he was kept in bed. In two cases of nephritis with albuminuria it was found that confinement to bed during the day of the test diminished the output of water in the 7 to 11 o'clock period, the output being increased when the patients were up and about. The author concludes that this water test is valuable by itself, and when its effects on patients in the recumbent and upright positions are compared a useful clue is obtained in distinguishing between nephritic and orthostatic albuminuria. In contradistinction to most other functional tests this is one which every doctor can carry out in the patient's home.

155. Asthma Due to Constipation.

KRAMER-PETERSEN (*Ugeskrift for Laeger*, December 22nd, 1921) considers that the relation of bronchial asthma to chronic constipation is not adequately appreciated, and to show how intimately the one condition may be associated with the other he records in detail two cases, the second of which is particularly instructive. The patient was a woman of 35, who had been subject to asthma for years, and whose symptoms had of late become worse. When she was about to defaecate, she experienced a "tightening" of the throat, and on the completion of defaecation an attack of asthma would ensue, lasting about a quarter of an hour. The consti-

pation, from which she had suffered for years, had of late become so severe that there was no evacuation without an enema. She restricted defaecation to every fifth or sixth day, in order to avoid an attack of asthma. She also suffered from pain after food and meteorism, and there were signs of subacid gastritis. Under treatment in hospital with dieting and olive oil enemas at night, she regained the normal action of her bowels and became perfectly free from attacks of asthma. Two years later she reported that the asthma had not recurred and that the action of the bowels was normal. The author quotes Ebstein and Pinz in support of his view that bronchial asthma may be the result of autotoxaemia provoked by disordered functions of the bowels, and he suggests that psychic as well as sensory motor and secretory nervous processes are at work in the chain of events which connects chronic constipation with bronchial asthma.

156. The Diagnosis of Angina Pectoris.

DANZIN (*Arch. Méd. Belg.*, September, 1921) remarks that when a patient appears before an expert complaining of angina pectoris, or of symptoms suggestive of this condition, the following three questions must be answered: (1) Is angina pectoris really present? (2) To what is it due? (3) What is the degree of disability resulting? As regards the first question, voluntary simulation of angina pectoris is not so likely as the fact that the diagnosis of this condition may be wrongly made, as, for example, when there is nothing more than an attack of extra-systole of reflex origin. To determine whether angina pectoris is really present it is not sufficient to auscultate the chest and feel the pulse, but a careful inquiry into the patient's history, and an elaborate clinical examination should be made, including radioscopy, estimation of the blood pressure, and the Wassermann reaction. The symptoms of angina may be due to aortitis when they are brought on by an effort, or to insufficiency of the left ventricle, in which case they usually occur for the first time when the patient is at rest in bed, the attack often being preceded by a period in which the heart has been overworked. In inquiry into the patient's history, special attention should be paid to the possibility of syphilis, chronic nephritis, acute articular rheumatism, or infectious diseases, as these factors may give rise to complicated cardiac lesions. The degree of disability does not depend upon the number, intensity and character of the attacks, but upon the causal lesion. If the condition is due to syphilitic aortitis a pension may be granted if the absence of treatment has been caused by war conditions, especially imprisonment, but not if it has been the result of negligence. When the angina is the result of insufficiency of the left ventricle, the cause and aggravating factors of this condition must be investigated and an award made accordingly. In cases in which no cardio-vascular lesion is present no pension should be awarded.

157. Infantile Paralysis.

BORDIER (*Arch. Radiol. and Electrotherapy*, December, 1920) urges the treatment of infantile paralysis (1) by medullary radiotherapy to aid in the restoration of the motor cells of the anterior horns, and (2) by diathermy to raise the chilled limb to normal temperature prior to commencing electrical treatment. For the medullary radiotherapy he employs a series of three consecutive irradiations at the rate of a series per month, with filtration of the *x* rays by 5 mm. of aluminium. For the diathermy treatment a thin sheet of lead is moulded to the sole of the foot, and another electrode is applied under the buttock. The current is gradually increased in intensity up to 500 or 1,000 milliampères, the rise in temperature of the limb a little above the ankle being carefully watched, and the current stopped after eight or ten minutes, the limb then being much warmer than its fellow. The treatment is repeated every day for four or five days when the limb temperature will be maintained at normal, and electrical treatment can then be commenced and continued, unless the limb shows signs of returning to a subnormal temperature when diathermy must be renewed.

158. Epidemic Hiccough.

LANDI (*Il Morgagni*, October 5th, 1921, and *Giorn. di Med. Pratica*, May, 1921) accepts the prevalent view that epidemic hiccough is a variety of encephalitis lethargica. Some cases after a time develop other symptoms of encephalitis. As a rule the symptoms do not last more than two or three days, and are frequently accompanied by some general malaise, headache, shivering, slight fever, and mental irritation. The hiccough may be unilateral—that is, one side of the diaphragm alone may be affected. In epidemic hiccough, as compared with common hiccough, the abdominal muscles share actively in the spasm, and not merely passively. If the hiccough is very frequent, deglutition and sleep may be interfered with. Respiration is not usually affected, the blood pressure is lowered, and there may be a slight excess of sugar in the cerebro-spinal fluid.

SURGERY.

159. The Etiology and Treatment of Ischio-rectal Abscess.

DUDLEY (*Amer. Journ. of Surg.*, December, 1921) finds that only 25 per cent. of cases treated for this condition show complete cure with no sinus remaining. The common sequence of events is as follows: Occurrence of an acute abscess; operative incision; then a persistent sinus complicated often by recurrent abscess formation. True ischio-rectal abscess is practically always secondary to a break in continuity of the anal mucous membrane due to trauma. The condition may be considered potentially as a blind internal fistula in ano with abscess formation. The anal canal is surrounded by two powerful muscles, and it is here that the most solid and traumatizing contents of the bowel pass. Hard scybalous faecal masses may cause a rupture of the mucosa, and infecting organisms have a short path to travel to reach the ischio-rectal fat. This, like all fatty tissue, has a low resistance to bacteria. As suppuration proceeds the fossa soon becomes distended with pus, which early makes its way to the surface. Two main objectives should be aimed at in treatment: first, to evacuate the pus and provide free drainage; secondly, to determine the point of entrance of infection. The usual treatment pays no attention to the source of infection. Thorough dilatation of the sphincter is essential, and the anal mucosa is then inspected and palpated to locate the point of infection. This may be a definite defect or an indurated area of the mucosa. The abscess is incised by an ample radial incision through the involved area and external sphincter muscle. This causes temporary loss of bowel control and puts the parts completely at rest, favouring permanent cure. The wound is packed lightly to its depths with gauze, repeated daily until the wound is nearly healed. Daily hot baths are desirable when available. The relation of tuberculosis to ischio-rectal abscess and fistula has long been a debated question. Dudley finds it is the etiological factor in no more than 2 per cent. of cases.

160. Haemostasis in Suprapubic Prostatectomy.

FISCHER (*Annals of Surgery*, December, 1921) points out that the complications most frequently met with after suprapubic prostatectomy are haemorrhage, shock, uraemia, and sepsis. The three latter conditions can largely be avoided by the two-stage operation and local anaesthesia. Haemostasis is still, however, a source of anxiety to the surgeon. After enucleation a large bleeding cavity is left which freely communicates with the bladder, more or less filled with urine. It is the inability of the surgeon to keep this cavity dry which is responsible for the severe post-operative haemorrhage. Ordinarily the bleeding comes from the vessels in the torn mucous membrane of the bladder and urethra, and is not excessive. The dangerous haemorrhage arises from the bed of the prostate itself, and injuries of the vesical venous plexus are liable to arise in difficult enucleations. Three procedures have been recommended for the control of haemorrhage: Packing with gauze, irrigation with hot saline, and mechanical contrivances such as distended rubber bags. The best means appears to be packing with gauze, and to overcome the soaking loose of the gauze he advises the following method: After removal of the prostate a strip of iodoform gauze is packed tightly into the cavity; this is used as a pattern for the final tampon which is secured by a ligature round its middle and introduced into the cavity. After its introduction the wound edges are tightly sutured with catgut over the tampon. The prostatic cavity is thus completely shut off from the bladder. A tube is placed in the bladder and the ligature lies alongside it. The sutures loosen in a few days and the tampon is withdrawn by pulling on the silk ligature. By using the "lost tampon" method he has had no cases of post-operative haemorrhage.

161. Treatment of Sciatica.

HÖGLER (*Wien. klin. Woch.*, December 22nd, 1921) has treated 21 cases of sciatica by perineural injection of antipyrin, as recommended originally by Heidenhain. Only those cases were selected which had proved refractory to the ordinary treatment, including hypertonic and hypotonic injections of saline solutions and radium therapy. The technique was as follows: 4 to 5 grams of antipyrin, dissolved in 10 c.cm. of distilled water, to which 0.5 to 1 c.cm. of a 0.5 to 1.0 per 1,000 solution of novocain had been added, was employed. The tenderest sciatic point on the buttock was chosen as the site of injection. When the nerve was reached, as was shown by a sharp pain radiating to the toes, the whole solution was injected into the nerve. The great majority of the cases were cured in one to two days. As a rule spontaneous pain and Lasègue's sign completely disappeared in three or four hours after the injection. In 3 cases in which only 2 to 3 grams of antipyrin in 10 c.cm. of distilled water was used, as recom-

mended by Heidenhain, several injections were necessary. The superiority of injections of antipyrin over injections of milk, hypertonic and hypotonic saline solution, and alcohol is that antipyrin acts much quicker and with greater certainty. If a single injection is not sufficient, a second, third, or fourth should be given at intervals of two days. Injections of antipyrin, if aseptic methods are used, are quite free from danger, in contrast with injections of alcohol, in which severe damage to the nerves and permanent paralysis may occur. The only complication observed was an antipyrin rash which lasted two or three days.

162. The Importance of Otitis Media in Infancy.

RENAUD (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, October 20th and 27th, 1921) is convinced that otitis media and suppuration in the petrous portion of the temporal bone play an important part in the pathology of the infant. In seventy autopsies on infants who were supposed to have died of infantile diarrhoea he invariably found extensive suppuration in the aural cavities or in the petrous portion of the temporal bone. Renaud comes to the conclusion that suppurative otitis and suppurative osteomyelitis of the petrous portion of the temporal bone are the essential, if not exclusive, cause of death in infants, and that the presence of this condition renders all spontaneous cure impossible. The practitioner, therefore, should not be misled by gastro-intestinal symptoms in infants. The cachexia is in most cases due to infection and not to hereditary taint or dyspepsia. A systematic examination of the ears should be made in the case of every sick infant. It is decidedly more important than auscultation of the chest, and perhaps even examination of the throat, since the latter if infected can drain itself, whereas an infected ear requires an operation to drain it. Renaud's practice, therefore, if a child does not improve in a few days, is to make an examination for otitis, and if it is absent the prognosis is favourable, while if it is present the prognosis should be very guarded.

163. Post-Pneumonic Gangrene.

WISE and MAYER (*Annals of Surgery*, November, 1921) describe a case of gangrene of the leg arising as a complication of pneumonia from thrombosis high in the femoral artery. A girl, aged 7, developed a typical left lower lobe pneumonia resolving by crisis on the sixth day, but four days later, while apparently in normal convalescence, she developed sudden severe pain in the left thigh just above the knee. A typical dry gangrene developed with a line of demarcation just below the knee, and an isolated area of gangrene over the patella. The thigh was swollen and tender, and pulsation in the femoral artery was absent. Amputation just below the middle of the thigh resulted in an uneventful recovery, but no thrombi were found in the vessels of the amputated limb, the blocking being apparently higher in the femoral artery. There was never any indication of endocarditis, or disease of any blood vessels. The condition of arterial thrombosis or embolism following pneumonia is very rare, embolism of the arteries of the extremities from any cause other than endocarditis being most unusual, and only a very few similar cases have been reported. With a normal heart and clear previous history the pneumonia followed by arterial embolism or thrombosis seems to be cause and effect, and it is easy to understand an embolus from the lungs reaching the systemic circulation.

164. Echinococcosis and Actinomycosis of the Spine.

GULEKE (*Deut. Zeit. f. Chir.*, 1921, clxii) records a case of echinococcosis and one of actinomycosis of the spine. In the first patient, a male aged 46, a hard tumour at the level of the second and third dorsal vertebrae, extending outwards in the left supraclavicular region, caused well-marked signs of compression of the cord and was regarded as an osteosarcoma; laminectomy being performed, it was found that numerous echinococcus cysts had destroyed almost the whole of the first rib on one side and had invaded the vertebrae and spinal canal. Hydatids were found in the posterior mediastinum also, and death resulted from bronchopneumonia. In the second patient, a man aged 53, a mass of actinomycotic tissue with characteristic sulphur-like granules occupied the space between one scapula and the chest wall; in spite of five operations it was not found possible in five years to eradicate the infection, which had spread to the posterior mediastinum and caused a superficial caries of the dorsal vertebrae. Symptoms of pressure on the cord were relieved by several removals of neural arches and the corresponding transverse processes; actual paralysis was not produced. In this case the primary focus appeared to have been situated in the upper lobe of the right lung; the infection extended backwards into the mediastinum, but the pulmonary lesion had become completely arrested.

OBSTETRICS AND GYNAECOLOGY.

165. Treatment of Eclampsia.

ACCORDING to HOFBAUER (*Zentralbl. f. Gynäk.*, December 17th, 1921) the eclamptic convulsion marks the culminating point of a pathologically increased action of the internal secretion of the pituitary gland on the blood vessels of certain tissues, notably the brain, liver, kidneys, and skin. The treatment of eclampsia should, therefore, be based on the principle of preventing or abolishing morbid increases of pituitary function. It is of great importance to reduce the blood pressure, and it is by this rather than by a detoxicating action that venesection is beneficial. Chloral hydrate and the allied hypnotics, on account of their depressing action on the respiratory centre and the consequent danger of oedema of the lung, must be used cautiously, and only in the early stages of treatment. The value of the nitrites is diminished by the fact that they cannot be administered except by the mouth. The author regards the exhibition of ovarian extract or of corpus luteum extract, or of both, as a most important therapeutic measure in the treatment of eclampsia; these extracts have the property of diminishing the blood pressure, of antagonizing the secretions of the hypophysis and suprarenal gland; they also have an elective action on the cerebral blood vessels, and finally, given intravenously, they have the property of diminishing the coagulability of the blood. An auxiliary means of treatment is the administration of citrates.

166. LICHTENSTEIN (*Zentralbl. f. Gynäk.*, January 7th, 1922) records 316 cases of eclampsia treated during the last ten years, with a maternal mortality of 8.5 per cent. and a foetal mortality of 18.8 per cent. among the viable. The treatment adopted consisted in venesection, the exhibition of narcotics, saline infusions in certain cases, and abstention from inducing or accelerating labour except in cases in which the os was fully dilated. Venesection has the fourfold action of removing toxic substances from the organs and circulation, of inducing a fall of blood pressure, of diminishing capillary stasis and accelerating circulation in the arterioles and capillaries, and lastly, of facilitating tissue respiration. The first bleeding is of 500 to 600 c.cm. when delivery is not immediately expected, and of 250 to 300 c.cm. when delivery is shortly impending. If the os is fully dilated so that delivery may be expected at once the first venesection is deferred, and when given after delivery is regulated according to the amount of blood lost at labour. Subsequent venesections of 500 to 600 c.cm. are made and repeated if necessary. The narcotics given consist of morphine or combinations of opium derivatives together with chloral hydrate. The advantages claimed for abstention from rapid induction of labour are that: (1) Many cases of eclampsia as a result of this expectant treatment become cured without the pregnancy being terminated; in the author's series this took place in 90 per cent. of the *ante-partum* and 16 per cent. of the *intra-partum* cases, sometimes with the issue of a living child. (2) There is diminished risk of severe bleeding and of infection, both of which constitute real dangers associated with accouchement forcé. (3) There is no post-operative risk of formation of fistulae or of cervical or corporeal scars. (4) Both maternal and foetal mortality are reduced to one-half. (5) The treatment is well adapted to non-institutional practice.

167. Differential Diagnosis of Glycosuria and Diabetes in Pregnancy.

ACCORDING to SALOMON (*Muench. med. Woch.*, 1921, lxviii), cases of glycosuria in association with pregnancy may be divided into three groups. The cases of the first group are characterized clinically by the constant presence of a uniformly low percentage of sugar in the urine. Estimation of the blood sugar shows that during starvation it amounts to 0.1 per cent. or less, and one hour after administration of 50 grams of sugar the value is unaltered or slightly increased, remaining, however, below 15 per cent. If a repetition of this test gives a similar result the case may be definitely classified as one of glycosuria of pregnancy. The second, or intermediate, group of cases is one in which tolerance for carbohydrates is retained to a certain degree, and the starvation blood sugar is as low as in the first group, but hyperglycaemia (that is, presence of more than 0.15 per cent.) ensues when a carbohydrate diet is given. A case can only be assigned to this class after careful consideration of the clinical findings in combination with laboratory tests. In the third group of cases the amount of sugar in the urine is considerable, the blood sugar value even on a starvation diet is greater than 0.15 per cent., and is still more increased by the administration of carbohydrates; this must be regarded as a condition of true diabetes. The great majority of cases investigated are found to come within the first group.

168. Veronal in the Vomiting of Pregnancy.

JACOBAEUS (*Ugeskrift for Laeger*, December 29th, 1921) notes as curious that since veronal was introduced in 1903 only two papers have appeared on its action in the vomiting of pregnancy. One of these papers was by Rowland, who reported a case in which a veronal enema proved remarkably effective (BRITISH MEDICAL JOURNAL, 1906, ii, p. 1490). The author has found it act most promptly in both his private and hospital practice, and he records in detail two hospital cases which were characterized by the severity of the vomiting. His dosage varied from 40 to 60 cg., given in the evening, and he believes that suggestion can be put out of court as the cause of the success achieved, for the exhibition of other drugs, such as adalin, failed to give relief. In both cases the vomiting ceased soon after veronal was given, and with the return of the vomiting after a shorter or longer interval, the renewed prescription of veronal was again successful. It was observed that some time elapsed between the withdrawal of the drug and the return of the vomiting, which at first was slight, and which gradually increased in severity. The author correlates this observation with the fact that the excretion of veronal is slow. He discusses the underlying causes of the vomiting of pregnancy and notes its similarity to sea-sickness, which he has also found to react promptly to veronal.

169. Treatment of Puerperal Infection by Douches of Dakin's Fluid.

ANDÉRODIAS (*Gynéc. et Obstét.*, 1921, iv, 5) after a three years' trial writes favourably of the effect of douching with Dakin's fluid in the treatment of puerperal infection. Carrel's tubes were found to be ill adapted for vaginal or uterine use, and the writer employed a cylindrical hollow gum-elastic sound with a single termino-lateral perforation; this was introduced, after careful cleansing of the vagina and cervix, into the uterus, the other extremity being fixed to the thigh by a bandage or plaster. Dakin's fluid to the amount of 40 to 50 c.cm. was injected every two hours during the day and every three hours during the night from a reservoir placed at a height of 75 to 100 cm. Of 152 patients treated by this method 133 were cured within two to eight days; if well-marked amelioration of local and general conditions has not been obtained in this time, the use of the solution should be abandoned and other steps taken. It is admitted (1) that the treatment was most strikingly successful in cases characterized by infected vaginal, cervical, or vulvo-vaginal wounds, the sound being placed in the vagina and not the uterus; (2) that other therapeutic measures were employed contemporaneously; (3) that the records lack information furnished by bacteriological examinations. Nevertheless, the impression was formed that great benefit followed in the majority of cases. Of the 15 unsuccessful cases the mortality is not stated; three were associated with extra-genital foci of infection—bronchopneumonia, pleurisy, and pyelonephritis respectively. It may be suggested that part of the efficacy of the treatment was due to the continuous uterine drainage.

PATHOLOGY.

170. Relationship of Treponema pallidum to Lymphoid Tissues in Experimental Syphilis.

THE experimental study of syphilis in the rabbit has been carried on for some years with striking results by BROWN and PEARCE. They now (*Journ. Exp. Med.*, January, 1922) report a very interesting piece of work on the dissemination of the virus by means of the lymphatic channels. If a rabbit be infected by scrotal inoculation and one of the inguinal nodes be removed two days later and injected into the testicle of a normal rabbit, the latter develops an orchitis about thirty days later. This shows that the spirochaetes must be present in the regional lymphatic glands at a very early period after infection—before, in fact, any local change has appeared in the scrotum. Further, if the scrotum be removed two days after infection, the animal still develops generalized syphilis, just as it would have done had the local focus been left intact. During the progress of the disease in rabbits it is usual for the popliteal glands to become enlarged. It was found that the injection of such a gland into a healthy animal, even when no infected area was drained by the gland, resulted in the development of syphilis. It would appear, then, as if the lymphatic glands served as a refuge place for the spirochaetes. To test the length of time that this effect might last, a series of rabbits which had been infected several months previously and which had passed into a latent stage were taken, their popliteal glands removed, emulsified in saline, and injected into fresh rabbits. In every case syphilis developed, showing the constant presence of the *Treponema pallidum* in these glands during the latent stage of infection.' Similar results were obtained in the case of rabbits which had been treated with arsphenamin, which caused the disappearance of clinical symptoms without, however, destroying the organisms in the glands. These experiments demonstrate that the disease is not confined to the site of local inoculation, but that lymphogenous dissemination regularly takes place, and that during the course of this process organisms become localized in the lymph nodes and exist there indefinitely, irrespective of the occurrence of manifestations of the disease.

171. The Blood in Tetrachlorethane Poisoning.

MINOT and SMITH (*Arch. Int. Med.*, December, 1921) report investigations carried out in tetrachlorethane poisoning to ascertain whether any abnormality occurs in the blood, and whether mild poisoning can be anticipated by blood examination, sixty-eight employees in an artificial silk plant being observed for a period of five months. The onset of poisoning is marked by fatigue, free perspirations, drowsiness, anorexia, nausea and vomiting, constipation and headache, with later jaundice, hepatic tenderness, pallor, and an increase in the gastric and nervous symptoms. The blood of twenty-five employees showed distinct abnormalities, especially an increase of the large mononuclear cells, sometimes amounting to 40 per cent. In addition to this progressive increase in the large mononuclears, there was a progressive increase in the young large mononuclears, some formed and some broken; a somewhat elevated white count; slight but progressive anaemia, and a slight increase of platelets. The blood changes can usually be detected before any clinical symptoms develop, thus proving the value of blood examination in the prevention, and in the diagnosis and prognosis, of poisoning by tetrachlorethane. A percentage of large mononuclear white cells above twelve is the first sign, and an indication for close observation, though such a percentage is not necessarily followed by clinical developments. The presence of a considerable number of young large mononuclears, some formed and many broken, is indicative of a severer condition than when the same number of more mature, large mononuclears are present. The value of such examinations in the regulation of the employment of exposed persons is obvious.

172. Blood Culture in the Diagnosis of Typhoid Fever.

SVARTZ (*Hygiea*, December 31st, 1921) draws attention to the differences of opinion still existing as to the diagnostic value of blood cultures in typhoid fever, and she notes that the proportion of positive results depends largely on the blood being examined at once and the test being repeated when the first examination is negative. The value of the test is appreciably reduced when the blood has to travel a considerable distance after being drawn. At the Serafimerlasaret the author has examined the blood in 40 cases of typhoid, and in all the 12 cases examined in the first week of the disease she obtained typhoid bacilli on culture. Positive results were obtained in 16 of the 22 cases examined in the second week, in 4 of the 5 examined in the third week, and in 1 of the 2 examined in the fourth week. Thus she found typhoid bacilli in the blood of 33—that is, in 83 per cent. This proportion would have been still higher had all the negative tests been repeated. Two of her cases were particularly instructive. One was that of a patient whose temperature in the eighth week of the disease was 37.5° to 38.3°C. Typhoid bacilli were obtained from the blood at this stage. Five days later, and after the patient had been afebrile for four days, the blood was again examined but no typhoid bacilli could be found. The other case was that of a patient who had been afebrile for eighteen days, had been up and felt perfectly well when in the ninth week the temperature again suddenly rose. Culture of the blood on the second day of the fever proved negative; but two days later a new culture yielded numerous typhoid bacilli.

173. Diagnosis of Tuberculosis by the Reaction of Fixation.

ICHOK (*Arch. Méd. Belges*, October, 1921), as the result of the examination of the reaction of fixation in 115 tuberculous cases and 38 non-tuberculous subjects, came to the conclusion that the reaction of fixation with Besredka's antigen is specific, though a positive result is occasionally found in syphilitic patients who are not tuberculous. In dormant tuberculosis the reaction was positive in 53 out of 56 cases, or in 94.3 per cent.; in active forms of the disease, without marked signs of intoxication, the reaction was positive in 47 out of 50 cases, or in 94 per cent., and in rapidly destructive forms and forms accompanied by signs of severe intoxication the reaction was positive in 3 out of 9 cases, or in 33.3 per cent.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

174. The Etiology and Treatment of Rickets.

JUNDELL (*Hygica*, November 30th, 1921) is sceptical as to the soundness of the modern teaching that rickets is simply the response to a lack of vitamins in the food. He adduces many arguments in favour of his hypothesis that the disease is the result of faulty formation of endogenous ferments (hormones), the result of overloading the nutritive functions of certain of the endocrine glands by an ill-chosen and too generous diet. Working on this hypothesis, he has treated his cases of rickets on a system which he calls "relative inanition." By this process of partial starvation he claims to have achieved excellent results, and if the disease has not progressed too far, semi-starvation alone is enough to effect a rapid cure. And when relative inanition is supplemented by a phosphorous fish oil régime, even the worst forms of rickets can be cured in one to two months. But fish oil alone (he refers presumably to cod-liver oil and the like) cannot prevent the outbreak of rickets if the child continues to be overfed. The author's system of relative inanition consists of cutting down the total calorie supply to 65 to 70 calories per day per kilogram body weight (the normal being 100 calories per kilogram body weight). This means giving about 60 to 75 c.cm. of milk per kilogram body weight daily, and small quantities of sugar, cereals, and fresh vegetables and fruit. And, according to the age of the child, other foods can be given, such as eggs, fish, and meat. The child's weight is stationary or diminishes under this treatment, which does no harm because it is not continued for long, and which is justified not only by its rapid effect on rickets, but also on such allied conditions as laryngo-spasm and other manifestations of spasmophilia.

175. Quinidine in Cardiac Therapy.

WYBAUW (*Le Scalpel*, January 14th, 1922) says quinidine must not be looked upon as a cardiac tonic. Its chief action is to re-establish normal rhythm in cases of arrhythmia in auricular fibrillation. In auricular flutter and extra-systoles it is of little or no use. Hence the great importance of diagnosing the exact nature of the cardiac irregularity. The absence of presystolic murmur is constant in fibrillation. Digitalis may be given at the outset, and then quinidine in adequate doses, 1.25 to 1.50 grams per diem. When the heart is regular it is advisable to give digitalis in small doses for four days, then quinidine for five days, and after two days' rest start the cycle again. In some patients quinidine upsets the stomach, and when this is the case it is better not to persevere. Symptoms of quinine poisoning may also occur (singing in the ears, cyanosis, erythema, etc.). In the author's experience quinidine is contraindicated in advanced cases; in old sclerotic patients, and in some old-standing cases who have become accustomed to the cardiac irregularity, it is better to leave things as they are. In some cases, though the fibrillation is cured by quinidine, the pulse remains quick. Probably quinidine acts by prolonging the duration of the refractory period during which a muscle fibre remains insensible to a fresh stimulus. The heart can be regulated in about 50 per cent. of the cases, but it is difficult at present to say beforehand what case will respond.

176. Treatment of Syphilis with Salvarsan Alone.

KREFTING (*Tidsskrift for Den Norske Laegeforening*, January 15th, 1922) reviews his experiences of salvarsan during the past ten years. He has given 10,200 injections of old salvarsan, 2,100 of neo-salvarsan, and 200 of silver salvarsan, and has never seen alarming symptoms. He thinks that most of the salvarsan fatalities can be traced to over-dosage and faulty technique; possibly also to salvarsan which has deteriorated, and to its simultaneous exhibition with mercury. He has seen 19 cases of reinfection, all of which satisfy the most stringent standard set for the diagnosis of reinfection. He classifies the 1,749 cases of syphilis which he has treated with salvarsan alone under ambulatory conditions according as the disease was primary, secondary, tertiary, or latent. The primary cases are also classified according as Wassermann's reaction was positive or negative before treatment, and according to the dosage of salvarsan. All his 169 cases of primary syphilis with a negative Wassermann before the institution of treatment (which consisted of at least three injections) remained symptom-free, and the Wassermann reaction continued to be negative. The author concludes that in this class of case five intravenous injections (0.50 to 0.60 gram for men, and 0.30 to 0.40 gram for women) at fortnightly intervals are sufficient to cure the disease. For serum-positive cases in the first stage the first five injections at fortnightly intervals should be followed by more (number not stated) injections at three or four weeks intervals. In secondary and tertiary syphilis also the author finds that salvarsan alone is usually adequate.

177. Luminal in Epilepsy.

JACKSON and FREE (*Therap. Gazette*, December 15th, 1921) studied the continued use of luminal in twelve individual cases of epilepsy, with a view to ascertain its effects upon those cases with post-epileptic furor and confusional states, and upon the seizures, as well as the results from long usage and following its withdrawal. They confirm existing opinion as to its power of reducing the number of seizures, the dosage, and the absence of untoward effects from its use; but in five of the cases treatment was continued over a further period of nine months. By charting the number of seizures before and during administration, and after its withdrawal, it was seen that luminal in 1½ grain daily doses reduces the convulsion curve, but that after a time the effect is lost, and there is a secondary elevation of the curve. This can be again lowered if the dose is increased, to be followed later by another secondary rise. Complete withdrawal is followed by a distinct elevation, which in two of the cases resulted in severe seizures, status epilepticus, and death. While reducing the number of convulsions the drug does not effect a cure, its prolonged use is dangerous and its withdrawal requires great care. In two of the cases the degree of post-epileptic furor and confusion was lessened. While giving temporary relief its routine use is questionable, because the establishment of tolerance necessitates higher dosage, and because of the dangers of its continued use and withdrawal.

178. Displacements of the Trachea.

ARMAND-DELILLE, HILLEMAND, LESTOCQUOY, and MALLET (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, December 29th, 1921) discuss the displacements of the trachea in chronic pulmonary tuberculosis; they found marked deviation in 10 out of 300 cases, nearly as frequently to the left as to the right. The condition resembles a pulmonary cavity, but betrays itself by digital palpation and retraction of the corresponding half of the thorax, with displacement of the apex beat. Radioscopic examination shows a shadow up to the level of the seventh cervical vertebra, which passes obliquely to the right or left, and reaches the sterno-clavicular articulation, bordering on the apex of the lung; or a marked vertebral shadow, covering the first and second dorsal vertebrae, and describing a curve at the apical summit, adjoining the sterno-clavicular articulation, and returning to the median line; or, again, the trachea is displaced *en masse*, and may follow a line parallel with the border of the sternum. LAUBRY and BLOCH (Ibid.) describe the same condition in which the oesophagus was also displaced, but to a less extent, with the trachea, and the four authors first quoted corroborate this condition, which may be the cause of the dysphagia of which patients sometimes complain.

179. Marking Ink Poisoning.

BORINSKI (*Deut. med. Woch.*, December 15th, 1921) observes that marking inks belong to two main classes. In the one a black colour is obtained by the reduction of certain metals such as silver; in the other the colouring matter is some organic substance, usually aniline black. With the increased cost of metals since the war the aniline marking inks have grown in popularity. But they are dangerous unless the directions given for their use are conscientiously followed, and the chlorhydrate of aniline is converted into the stable, non-toxic aniline black by washing garments in cold soapy water and a little soda before use. The author reports two small epidemics of aniline poisoning in hospitals where infants' napkins were used without preliminary washing, with the result that several of the infants collapsed suddenly with cyanosis and other signs of acute poisoning. In one case the urine was found to contain p-aminophenol—a decomposition product of aniline. The author refers to two other recent reports on poisoning by marking ink (*Deut. med. Woch.*, No. 39, and *Muench. med. Woch.*, No. 13), the writers of these accounts making out that the poisoning was due to nitrobenzol. The author could not find this substance in either of the two kinds of marking ink he examined; both kinds contained 16 per cent. of aniline.

180. Treatment of Bilharzia.

TSYKALAS (*Wien. klin. Woch.*, December 1st, 1921) states that the frequency of bilharzia in Egypt is shown by the fact that 60 to 87 per cent. of the 13 million inhabitants of Egypt suffer from the disease. His practice is to inject intravenously 1.0 to 1.2 grams of emetine in the course of eight to ten days, in doses of 0.1 to 0.12 gram daily. This method has no bad effect on the general condition, whereas the same amount given in smaller doses, such as 0.05 to 0.06 gram daily in the course of sixteen days, or in doses of 0.1 to 0.12 every other day, have had the most alarming results, and have even proved fatal. Emetine not only acts on the cause of the haematuria—namely, the ova of distoma—but also kills the embryos in the ova. The treatment is continued in mild and moderate cases for ten days, in severe cases for twelve days, and in women and children six to eight days. It is interrupted on the eighth day if signs of intoxication, such as diarrhoea or repeated vomiting, occur. If the haematuria does not cease after this treatment, one is justified in concluding that organic changes in the bladder and kidneys are present, for which local measures must be employed. Of 2,000 cases treated with emetine in this way more than 90 per cent. made a complete and permanent recovery.

181. Morbilli Bullosi.

MORTON (*Brit. Journ. Child. Dis.*, October to December, 1921) records an example of the rare condition known as morbilli bullosi, in which an eruption resembling pemphigus is combined with the ordinary rash of measles. The patient was a girl, aged 7½ years, who was stated to have had measles two years previously. After a prodromal stage of three days, in which the symptoms were headache and a discharge from the eyes, a rash resembling measles developed on the trunk and limbs. On the following day, twenty-four hours after the first appearance of the rash, a bullous eruption developed, beginning on the chest and rapidly spreading in fresh crops to other parts of the body. On admission to hospital, on the sixth day of disease, in addition to a generalized morbilliform rash, the face, trunk and limbs were covered with bullae of all sizes up to an inch in diameter, many of which had ruptured, leaving the epidermis wrinkled and hanging in shreds, exposing deep red patches of bare skin. Death took place on the seventh day of disease. Apart from a bronchopneumonic condition of the right lung nothing abnormal was discovered at the autopsy. All the previous cases of morbilli bullosi have been described by German writers, with the exception of one reported by Neff (*American Journal of Diseases of Children*, September, 1920).

182. Infantile Amoebic Dysentery.

SPOLVERINI (*La Pediatria*, January 1st, 1922) publishes five cases of amoebic dysentery occurring in young children. None of these cases were recognized as such at first, and, although none of the cases were very severe, the disease lasted several months in some of them. The occurrence of amoebic dysentery in places where it had hitherto been unknown is one of the remote results of the war. Contagion clearly occurred through sleeping in a common bed in three cases. As soon as specific treatment (intramuscular injection of emetine hydrochlorate) were given the symptoms soon cleared up. The chief object in publishing these cases is to point out the necessity, in similar cases of mild chronic diarrhoea, of examining for the amoeba.

183. Saturnine Asthma.

TEDESCHI (*Rif. med.*, November 26th, 1921) reports two cases of asthma which seemed to be causally associated with lead poisoning. The author discusses the various possible ways in which lead might set up asthma, and decides that frequently the so-called saturnine asthma is really a phase of uraemia or of the cardio-renal effects of the poison. But there are other cases of bronchial asthma where the saturnine element is preponderant, and where the lead poison may be looked upon as the chief factor. Such cases are, however, rare.

184. Treatment of Favus.

ACCORDING to MIRAMOND DE LA ROQUETTE (*Journ. de radiol. et d'électrol.*, November, 1921), favus is very prevalent in Algeria, as was shown by conscription among the natives. Before the war persons affected with favus were excused military service or discharged from the army; but subsequently they were incorporated and special treatment was adopted. During 1921 1,200 natives were treated and cured at the physiotherapy centre at Algiers. Treatment consisted in epilation by *x* rays and daily applications of sulphur and salicylate ointment for six to eight weeks.

SURGERY.

185. Haemorrhage during and after Tonsillectomy.

COAKLEY (*Journ. Laryngology and Otology*, January, 1922) advocates treating haemorrhage during and after tonsillectomy, whether it be operative, recurrent, or secondary, by ligature of the vessels, and deprecates reliance upon such methods as pressure, styptics, suturing the faucial pillars, etc. The technical difficulty of applying a ligature in the tonsillar fossa is overcome by the use of a straight or curved haemostat with sufficiently long handle, an ordinary Allis haemostat, with four mouse teeth and a 7-inch handle, being the best. When the bleeding point has been secured, a slip-knot is tied in a 14-inch long silk ligature, the loop being just large enough to pass over the handle of the haemostat. The non-slip part of the loop having been grasped close up to the knot by a pair of slightly curved long-handled forceps, the loop is carried by the forceps down the shank and over the end of the haemostat, so as to engage the vessel, when the free end is drawn tight, and the haemostat and forceps are removed. Although only a slip-knot, it is found that when pulled tight it does not slip, and the ends can be cut off close. By having several forceps and slip-knots ready vessels can be successively ligated as rapidly as could be done in an open wound. Recurring haemorrhage within twelve hours, due to imperfect ligation, should be treated in a similar fashion, and especially in patients with cardiac or renal disease, or a high blood pressure, careful watch should be kept for such recurrence. In secondary haemorrhage, arising about the fifth day or later, and due to sloughing, it is more difficult to grasp the bleeding point, and pressure will in most cases control the haemorrhage. In the absence of haemophilia, and even in patients with a prolonged coagulation period, it is claimed that tonsillectomy with ligation of the vessels is a comparatively safe operation, the loss of blood being negligible, post-operative bleeding rare, and, by early detection, easily controlled before serious loss occurs.

186. The Incidence of Cancer in Extreme Old Age.

BERNER (*Norsk Mag. for Laegevidenskaben*, January, 1922) has investigated the phenomenon of an apparent decline in the incidence of cancer in advanced old age. He remarks that it would be strange if extreme old age should exhibit comparative immunity to malignant disease. As the following figures show, no such immunity exists, and the apparent decline in the incidence of malignant disease in advanced age is due to the fact that this disease eludes diagnosis more frequently in old age than earlier. The author has scrutinized the records of necropsies at the Ullevaal Hospital in Christiania for the ten-year period 1909–18, and has found that of the 710 cases in which cancer was found there were 113, or 15.9 per cent., in which the disease was not clinically diagnosed. In as great a proportion as 29.3 per cent. the clinical verdict on the cause of death in these cases was debilitas senilis. In 56 cases the persons concerned were over 80, and of these 46.4 per cent. were not known to suffer from malignant disease before death. On the other hand, of the 229 cases in which the patient's age was under 60, only 7.4 per cent. had not been diagnosed as malignant before death. As under hospital conditions nearly half the cases of malignant disease in advanced age were unrecognised before death, it is probable that this oversight is very common in general practice.

187. Post-typhoid Chondritis.

COTTON (*Boston Med. and Surg. Journ.*, December 22nd, 1921) reports two cases of post-typhoid chondritis of the ribs, in both of which there was a very persistent infection of the wound by *B. typhosus*. In both cases small abscesses developed over the left costal cartilages (fourth and fifth), the pus from which gave *B. typhosus* cultures. The abscesses were excised and the cartilages curetted. A persistent sinus for four months in the first case necessitated a second operation, when all the cartilage and perichondrium from the sternum to the end of the rib was excised and the wound allowed to granulate up. The infection in this case affected a clean cut small area deeply within the rib cartilage, only manifesting itself after perforation and the formation of a secondary abscess. In the majority of such cases the condition arises (as in the second case) in the perichondrium and not inside the cartilage. More frequently such complications subside without coming to operation.

188. Reinjection of Effused Blood.

THIES (*Zentralbl. f. Gynäk.*, October 22nd, 1921) has seen no untoward effects in forty patients after subcutaneous injection of the blood which they had lost in abdominal or vaginal operations; haemoglobinuria occurred in none, albuminuria in one only. His method was that of Schäfer

and Landgraf; blood lightly expressed from swabs and filtered was mixed with that collected in vessels, was diluted with Ringer's solution in the proportion of two to three, and was administered about three hours after operation. Thies also records seven cases of ruptured ectopic gestation in which, after operation, the effused blood, similarly prepared, was reinjected, in part intravenously but mostly subcutaneously. He finds that it is not safe to inject intravenously blood which has been effused for considerable periods of time. It is claimed that satisfactory improvement in the action of the heart is obtained after intravenous injection of comparatively small amounts of blood; the rest should be injected subcutaneously and become slowly absorbed.

189. Cancer and Metastases in Bones.

CATSARAS (*Ann. de méd.*, October, 1921) remarks that metastases in the skeleton are extremely frequent in cancer of the breast or prostate, fairly frequent in cancer of the thyroid and hypernephroma, less frequent in cancer of the uterus, gall bladder, intestine, and oesophagus, and rare in cancer of the liver. As a rule primary adeno-carcinoma of the liver does not give rise to metastases, or if they do occur it is principally in the lymphatic glands at the hilum of the liver, where they follow the course of the lymphatics, or in the lungs via the hepatic veins. These metastases sometimes assume a green coloration caused by the production of bile in the newly formed cells. With the exception of a case reported by Schmidt, Catsaras has been unable to find a single previous case on record of a primary cancer of the liver with metastases in the bones. The case reported by Catsaras was that of a man, aged 65, in whom hepatic cirrhosis was associated with a primary carcinoma of the liver with a metastasis in the upper end of the femur, where it gave rise to a subtrochanteric fracture.

190. A Thermo-Laryngoscope.

SAMENGO (*La Semana Medicà*, 1921, 45) describes the instrument, termed by him the thermo-laryngoscope, which he has devised to obviate the necessity of interrupting laryngoscopic observations in order to reheat the mirror after a film of condensed moisture has formed on it as it has become cool. The mirror is warmed continuously by an electric current, obtained from a pantostat or series of dry cells, which passes through the hollowed handle to a small disc-shaped chamber situated behind and in contact with the mirror and containing a suitable resistance. For diathermic or other surgical interventions in the larynx or pharynx the author fixes his instrument in position by means of an adjustable support applied to the head and malar regions of the patient; the surgeon's hands are thus freed. The thermo-laryngoscope (preferably with a mirror of nickel) and the adjustable support permit also of control of helio-therapeutic applications in cases of laryngeal tuberculosis.

191. Treatment of Cold Abscesses with Injections of Cod-liver Oil.

KIJZER (*Nederl. Tijdschr. v. Geneesk.*, November 5th, 1921) states that since the end of 1918 he has systematically treated all cold abscesses by puncture and injection of sterilized cod-liver oil, the results being as follows: (1) Rapid softening and formation of a homogeneous creamy pus containing numerous white cells; the pus was always sterile, so that the abscess could not be attributed to septic puncture. (2) A slight reaction in the neighbourhood of the abscess shown by the skin becoming redder and warmer. (3) After an initial increase there was a rapid diminution in the quantity of pus, followed by formation of connective tissue and cure. Injections of cod-liver oil appear specially indicated when there is a danger of iodoform poisoning, particularly in infants and old persons. The quantity of cod-liver oil injected was about a third to half the amount of pus removed by puncture. In addition to pure cod-liver oil Kijzer also employed a 20 to 40 per cent. suspension of bismuth carbonate in cod-liver oil, which was of value in diagnosis, fistulous tracks being rendered visible in the skiagram.

192. Lumbar Puncture in Intracranial Haemorrhage of the Newborn.

DE STEFANO (*La Pediatria*, January 1st, 1922) says that lumbar puncture is definitely indicated in intracranial haemorrhage of the newborn. It should be practised as soon as possible, and repeated if necessary several times. There is no danger if it is done with careful technique. The effect is both immediate and remote, and tends to lessen nervous symptoms of encephalic origin. In addition injections of adrenaline, calcium chloride, or normal serum may be given.

OBSTETRICS AND GYNAECOLOGY.

193. Antistreptococcal Serum in Puerperal Fever.

AN exhaustive study of the value of antistreptococcal serum in puerperal sepsis has been made by KRONGOLD-VINAVER (*Annales de l'Institut-Pasteur*, December, 1921, No. 12). A bacteriological examination of the lochial secretions of women after childbirth was made within forty-eight hours after delivery by means of a swab taken from the neck of the uterus. The inoculated swab was dipped in a tube of broth and cultures made from this on different media; 626 women were examined and 241 showed the presence of streptococci in the lochial discharges. Puerperal fever never developed among the 385 women from whom streptococci could not be recovered; but amongst the 241 cases showing the presence of streptococci 41 developed a rise of temperature subsequently. Such a series of cases provides strong confirmation of the clinical experience that the streptococcus is by far the most frequent cause of puerperal fever, and, as the author observes, it points to the importance of examining the secretions after labour so that the physician may be forewarned if streptococci are present. The absence of streptococci, on the other hand, may be taken as a reassuring pronouncement. The antistreptococcal serum used for the treatment of these cases was prepared by the injection of a horse with a single dose of living virulent streptococci, the animal being bled a fortnight later; the protective properties of the serum were standardized on mice. For the treatment of cases of puerperal sepsis the serum was injected in doses of 60 c.cm. subcutaneously for three consecutive days, or 20 c.cm. diluted with saline intravenously. Of the 41 cases which showed puerperal sepsis of greater or less degree, the author is able to report 38 recoveries as the result of the serum injections, the only method of treatment employed. In only 5 of the cases was the streptococcus recovered from the blood, and 3 of these cases were fatal. In all the cases antistreptococcal serum was injected on the first indication of a rise of temperature, and this early treatment may account for the favourable results. A full history of 43 cases of puerperal fever, with notes on the serum treatment and temperature charts, is given by the author. It is of interest to note that among the 241 strains of streptococci recovered after parturition only 4 were virulent for mice. No parallelism appears to exist between the animal virulence and the haemolytic properties of streptococci and their pathogenic properties for women. This work points plainly to the advisability of a routine examination of the uterine secretions after delivery. If streptococci are present steps should be taken so that, if the patient manifests a rise of temperature, active treatment with antistreptococcal serum may be instituted immediately.

194. Exudative Erythema.

DAVIS (*Brit. Journ. Derm. and Syph.*, January, 1922) records two cases of exudative erythema associated with malignant disease of the uterus. Although pregnancy may be associated with a toxic eruption, the coincidence of a uterine neoplasm with such an eruption has not previously been noticed. In the first case an inoperable spindle-celled sarcoma involved the bladder and uterus, and, seven months before the end, an urticarial rash appeared on the forearms, and gradually spread over the abdomen, back, and legs. When at its worst it consisted of circinate patches of erythema with raised edges, and this persisted till shortly before death. The second case presented a widespread irritating circinate eruption, raised at the edges by exudation, and thickest on the extensor aspects of the legs and thighs, but affecting every part except the face, scalp, and the palmar and plantar surfaces. As she gave a history of continuous "menstruation" for two years she was curetted and an adeno-carcinoma found and removed, and with recovery the eruption disappeared. The only other recorded instances of uterine neoplasms causing toxic symptoms are three, reported by Gaston, of alopecia areata associated with fibroids.

195. Abdominal Application of Radium for Inoperable Cancer of the Cervix.

SCHWARTZ (*La Gynécol.*, September, 1921) records four cases of inoperable cancer of the cervix treated by laparotomy and intrapelvic applications of radium emanation enclosed in hollow needles 27 mm. long, to which a linen thread and, enveloping this, an india-rubber tube of 2 mm. diameter were attached, being made to protrude at the lower angle of the abdominal wound and removed after a period of two to five days. The needles were placed (1) in the incised vesico-uterine fold parallel to the anterior surface of the cervix, (2) beneath the recto-uterine peritoneum parallel to the posterior surface of the cervix, and (3) after opening of the parametrium by incision of the round ligaments, in the

actual substance of neoplastic infiltrations or of cancerous lymphatic glands. Subsequently the peritoneum was sutured with care. The total abdominal dose corresponded to from 13 to 54 millicuries destroyed. Vaginal and cervical applications of radium were made at the same time, but might preferably be made, according to Schwartz, at an antecedent séance. In one case, that of a patient with a myomatous uterus, bilateral adnexal cysts and extensive infiltration of the broad ligament of one side, the abdominal radium applications were preceded by subtotal hysterectomy, which by removal of the primary centres of growth would permit, it was hoped, of freer access of the emanation to the more distant foci. One patient succumbed, with symptoms of peritonitis, six days after operation and one day after removal of the tubes.

196. PROUST (*Gynéc. et Obstét.*, 1921, iv, 5), using a modified Schwartz technique (see EPITOME, August 20th, 1921, 170), has treated three cases of cervical cancer by intra-abdominal radium applications. The first patient, in whom the broad ligaments of both sides were invaded, and who received application during four days of ten tubes each containing 2 mg. of radium element, followed eleven days later by intra-uterine application of 30 mg. for four days, appeared to be in good health four months later. The second patient, in whom the immediate results were satisfactory, has been lost sight of. The third patient died of pneumonia three months after treatment. Proust remarks that at present intra-abdominal radium applications are only indicated in extremely advanced cases in which a vaginal application sufficiently potent to destroy the tumour cells would be dangerous to the patient.

197. Pelvic Varicocele.

ACCORDING to CASTANO (*Revista Española de Obstet. y Ginec.*, July, 1921), pelvic varicocele may be due to intrapelvic congestion resulting from congenital or acquired syphilis. The subjects most liable to pelvic varicocele are, as a rule, those who eat copiously of meat, are constipated, and have undertaken laborious work before puberty. The condition is characterized by sclerosis of the venous walls and periphlebitis involving the adjacent nerves. In spite of good general health the patients complain of constant discomfort in the vagina, vesical and rectal tenesmus, and premenstrual discomfort; the most characteristic symptom, however, consists in vaginal hypersensitiveness. Leucorrhoea is usual, and menorrhagia is frequently present. On examination tenderness is found in the vaginal fornices, which are rugose, oedematous, and congested; varices are present in the vaginal walls, but disappear in the Trendelenburg position. Early treatment is required, in the author's opinion, in order to prevent the production of uterine and adnexal lesions which later may require hysterectomy. The operative treatment advocated by the author consists in laparotomy, rendering the pelvic veins turgescent in order to inspect the lesions, incision of the infundibulo-pelvic ligament, and removal in two centimetres of their course of the venous trunks which accompany the ovarian artery.

PATHOLOGY.

198. Observations on the Significance of Prowazek's Corpuscles in Trachoma.

LUMBROSO (*Arch. des Institut Pasteur de l'Afrique du Nord*, No. 4, 1921) reports a number of observations which he has made to determine the etiological significance, with regard to trachoma, of the corpuscles of Prowazek. These corpuscles consist of certain cellular inclusions in the form of small round or ovoid granules, resembling cocci, situated in close relation to the nucleus. Around them is a peculiar envelope, regarded as a reaction on the part of the cell. The corpuscles themselves were described in the first place by Prowazek and Halberstedter as chlamydozoa and were held to be specific to trachoma. In all, 87 cases of conjunctival affection have been studied, including trachoma, blenorrhoea neonaturum of both gonococcal and non-gonococcal origin, phlyctenular conjunctivitis, and conjunctivitis due to the Koch-Weeks bacillus and to the bacillus of Morax-Axenfeld. With regard to trachoma, the corpuscles were found in 63 per cent. of recent cases and in 15.8 per cent. of cases which had passed into the cicatricial stage. On the other hand, in cases of blenorrhoea neonatorum of non-gonococcal origin they were never found to be absent. In no other conditions could their presence be demonstrated. From these experiments he comes to the conclusion that the corpuscles represent the etiological agent of a specific conjunctival infection which is frequently associated with recent cases of trachoma. When it occurs under these conditions it furnishes an example of a mixed infection. It seems probable that the actual disease initiated by this agent is none other than blenorrhoea neonatorum, judging from its constant presence and peculiar abundance in this disease. It is only fair to say that not too much stress should be laid on this opinion, as no more than five cases of this affection appear to have been examined.

199. An Intracutaneous Reaction for Tuberculosis of the Skin.

BUSACCA (*Wien. klin. Woch.*, November 24th, 1921) states that studies on anaphylaxis have shown that tuberculous subjects are hypersensitive to normal horse serum. It therefore occurred to him that he might avail himself of this fact for the diagnosis of tuberculous skin lesions. As it was desirable to avoid a violent general or local reaction, the intracutaneous method of inoculation appeared a suitable method. The investigation was carried out first with 0.1 c.cm., and later with 0.2 c.cm. of normal horse serum. A positive reaction was shown by the appearance round the site of injection of an erythematous area, with an infiltrated centre showing one or two vesicles. The reaction reached its height in twenty to twenty-six hours, and disappeared without leaving a trace within forty-eight hours, though in very marked cases it might persist for two or three days. General symptoms were never observed, and the injection did not cause the patient any more pain than other intracutaneous injections. A positive reaction was never found except in cutaneous tuberculosis and lupus erythematosus, the exact figures being as follows: Of 119 cases of cutaneous tuberculosis, 94, or 80 per cent., were positive; 18, or 14 per cent., negative; and 7, or 6 per cent., indefinite; of 4 cases of lupus erythematosus, 1 was positive and 3 negative. Three cases of pulmonary tuberculosis all gave a positive reaction. The reaction was more intense in the initial stage than in advanced cases, in localized than in diffuse forms, and in active than in torpid forms. The superiority of the reaction over von Pirquet's test was that the horse serum reaction was only positive when the disease was fully developed. Its sole drawback was that it was positive in only 87 per cent. of the cases of tuberculosis, but it is generally known that the ordinary tuberculin reactions are positive in 90 per cent. only, irrespective of the form of the disease in which they are used.

200. The Oculo-Cardiac Reflex in Tuberculosis.

THE oculo-cardiac reflex, which is obtained by observing the effect on the blood pressure and pulse of pressure on the eyes, has been made the subject of an investigation reported in the *Gazette des Praticiens* (January 1st, 1922). In a normal response the pulse is diminished four to twelve beats per minute, but it is well known that in cases of hypersecretion by the thyroid the pulse may be slackened by more than twenty beats per minute by pressure on the eyes. The authors of the present investigation report that in mild cases of tuberculosis the reflex is normal. In more advanced cases with impregnation of the system with tuberculous toxins, although the defensive mechanisms may be adequate, a disturbance of the sympathetic system is manifested by an abnormal oculo-cardiac reflex. In such cases the reflex is usually exaggerated, the pulse being slowed twelve to twenty beats. On the other hand, in the presence of more marked intoxication with insufficient defensive response the general hypotonic condition of the sympathetic system is characterized clinically by an abolition of the oculo-cardiac reflex. Although the response to this reflex is not to be taken as an absolute index of the patient's resistance to the infection, yet the authors suggest that the reaction may be of value from the point of view of prognosis. The reaction is not on a par with immunity tests, such as demonstrate the presence of protective substances in the blood, but is an indication of the extent of intoxication or severity of the disease.

201. Muscular Tonus.

BANÚS (*Arch. de med., cir. y esp.*, November 15th, 1921) states that it has been definitely established by recent investigations that there are two perfectly distinct elements in muscular activity. This physiological duality has a corresponding anatomical basis, and the organs and nervous system which regulate both are perfectly distinct. Voluntary muscular contraction represents the kinetic element of muscular action. Its organ is the muscular fibre and its nervous system the general sensori-motor system or pyramidal tract. Tonus, on the other hand, represents the static element of muscular contraction. Its organ is the sarcoplasm and its nervous system a complex structure known as the extra-pyramidal system. All forms of voluntary kinetic activity have their equivalent in static involuntary activity. While in the physiological condition both forms of muscular activity go hand in hand, certain pathological changes may dissociate them and give rise to syndromes characterized by disturbance of muscular action.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

202. Skin Tests with Foreign Proteins.

RACKEMANN (*Amer. Journ. of Med. Science*, vol. 163, January, 1922) reports on skin tests with fifteen different proteins in a long series of patients in whom sensitiveness to protein was a reasonable and probable explanation of their condition. The method employed was either the cutaneous, in which the dried protein is scratched into the skin, or the intradermal, in which a measured quantity of sterile protein solution is injected between the layers of the skin. Since the latter method has been found by Walker to be less specific and too sensitive, the cutaneous reaction was the one chiefly used by Rackemann. In hay fever and pollen asthma about 40 per cent. of the patients showed positive tests to some protein other than pollen. Those who gave positive tests to cereals were all unaware of the sensitiveness before the test was made, and withdrawal of the particular protein from the diet made no difference to the symptoms. From the unexpected reactions obtained to proteins in patients suffering from horse asthma and dust asthma the author concludes that the finding of a positive test does not explain the cause of the symptoms, and it is only when the sensitiveness is confirmed by the patient's history or subsequent behaviour that any importance should be attached to a positive result. The findings were of no practical value in emphysema, and no benefit followed protein treatment. In other diseases tested, including rhinitis, eczema, urticaria, and angio-neurotic oedema, and a large number of other conditions, the food protein test gave no very reliable information. As to the value of skin tests in general, the opinion is expressed that in hay fever, horse asthma, and dust asthma, when the history shows a fairly definite and obvious relation of symptoms to some one protein, the skin test demonstrates this protein etiology, and is useful in treatment to determine the dilution of pollen extract to use at the start. In the present series, amongst diseases other than hay fever, 100 cases showed positive results to some form of protein, but in only 13 of these cases was the finding of the test to food or animal protein really important and of use in further treatment. Still, in these cases it was useful, and it is questionable whether the idiosyncrasy would have been diagnosed by any other method.

203. The Fatal Dose of Arsenic.

JOACHIMOGLU (*Klin. Woch.*, January 21st, 1922) points out the difficulty in determining the fatal dose of arsenic in man, since in poisoning cases the exact quantity taken is so often not known, and frequently a considerable amount of the poison is vomited. He tabulates seven cases from medical literature in which the quantity of arsenic taken was known. In one case 0.4 gram of arsenious acid was taken without bad effects, but the man was an arsenic eater. In the other six cases tabulated large quantities of arsenic were taken and yet recovery followed, but vomiting had occurred. Joachimoglu records, however, a case in which a teaspoonful of arsenious acid (= about 12 grams) was taken along with morphine, and though no vomiting occurred the dose was not fatal. The stomach was not washed out for twenty-four hours. Arsenical neuritis followed, but by the end of nine months the neuritis had almost disappeared. The case was evidently one of idiosyncrasy, since the fatal dose for an adult is usually 0.1 to 0.2 gram (1½ to 3 grains); and 0.06 gram has caused death. The author obtained a definite arsenic reaction on examining 5 grams of the hair of the case recorded, five months after the poisoning.

204. Cinchonine and Malaria.

SANGUINETTI (*Il Policlinico*, Sez. Prat., December 5th, 1921) has treated ten cases of benign tertian malaria with cinchonine hydrochloride, given in tablets of 20 cg. each, the doses used being identical with those used in the treatment of malaria with quinine salts. In all the patients so treated the febrile attacks ceased at once and did not recur during the period of observation. Sanguinetti does not maintain that cinchonine can be substituted for quinine in every case, but is of opinion that it can be used freely, not only in cases which show resistance to or intolerance for quinine, but also in the ordinary management of benign tertian and quartan fevers. Sanguinetti is of opinion that considerable benefit will be derived from the use of cinchonine, in view of the difficulty in obtaining a sufficient quantity of quinine for all the cases of malaria in Italy.

205. Results of the Modern Treatment of Syphilis.

VAN DEN HEUVEL (*Nederl. Tijdschr. v. Geneesk.*, December 17th, 1921) states that 577 cases have been treated in the venereal department of the Naval Hospital at Willemsoord, Holland, by the following methods: (1) Mercury only, 184 cases; (2) mercury followed by neo-salvarsan, 190 cases; (3) combined treatment, 203 cases. In the first group the Wassermann reaction became negative in 96, or 52.1 per cent.; in the second group in 114, or 60 per cent.; and in the third group in 129, or 63.5 per cent. Tertiary and parasyphilitic symptoms developed in spite of treatment in 7 cases, or about 4 per cent., of the first group; in 10 cases, or about 5 per cent., of the second group; and in 1, or about 0.5 per cent., of the third group. In the third group also 2 cases developed iritis, 2 chorio-retinitis, and 1 retinitis during treatment. Van den Heuvel's conclusions are as follows: (1) Although the modern treatment by neo-salvarsan and mercury combined yields better results, especially as regards rapidity of cure, than treatment by mercury alone, they are still far from satisfactory. (2) Examination of the cerebro-spinal fluid should be made (*a*) after a cure intended to abort the disease, (*b*) after incomplete treatment, (*c*) in cases in which the Wassermann reaction remains strongly positive in spite of long-continued treatment. (3) The time is not yet come, nor is the treatment of syphilis sufficiently uniform, to enable one to decide whether parasyphilis is more frequent as the result of modern treatment.

206. Vascular Syphilis.

ÉTIENNE (*Arch. des mal. du coeur*, October, 1921), in a report made to the fourteenth French Medical Congress at Brussels in May, 1920, states that aortitis is extremely frequent in syphilis. Simple aortitis without lesions of the sigmoid valves or aneurysmal dilatation forms about 40 per cent. of all the aortic localizations of syphilis. Aneurysm was found in 30 per cent. of Étienne's cases, an unusually high proportion. As regards the clinical symptoms of syphilitic aortitis, sometimes the condition is entirely latent, while in others serious symptoms arise with alarming suddenness. Pain assumes a different character according to the patient. In one of Étienne's cases it was situated in the epigastric region and recurred in violent gastric crises, as in tabes. The autopsy, however, showed that it was due to a supra-sigmoid aortitis with stenosis of the coronary arteries. As regards treatment, Étienne prefers mercury to arsenobenzol, which may expose the patient to the risks of oedema of the lung. There is the same danger with potassium iodide when renal insufficiency is present.

207. Treatment of Erysipelas in the Newborn.

BOISSERIE-LACROIX (*Journ. de Méd. de Bordeaux*, January 25th, 1922) gives an account of three cases of erysipelas in the newborn and young children treated with local applications of antistreptococcic serum. Two of the cases were marked by serious relapses, which appeared a few days after treatment had been stopped. They quickly recovered, however, with fresh applications of serum. The serum is applied over the area affected, and repeated three times a day till the condition, both locally and generally, resolves, which usually occurs within a week. In one case subcutaneous injections of antistreptococcic serum were also given. All the cases were cured, and considering the gravity of this affection in young children, the results are distinctly encouraging. This form of treatment is absolutely devoid of risk, and there is no fear of anaphylaxis or other serious accidents. The author advises that this method should be systematically employed in treating erysipelas in children, and the applications should be continued for a time after the rash has disappeared, to avoid the danger of a relapse.

208. The Length of the Intestine and the Sitting Height.

JELLINEGG (*Wien. klin. Woch.*, December 15th, 1921) states that von Pirquet chose the sitting height as a standard for determining the daily nutritional requirements of the human organism, and that he estimated that the length of the intestine was ten times that of the sitting height, starting with the idea that the amount of nourishment required must depend on the size of the absorbent intestinal surface. In 36 cases in which careful measurements were made by Jellinegg on children aged from ten days to twelve years, the average relation between the sitting height and the length of the intestine was found to be 1 in 11.9, the lowest calculation being 1 in 8.2, and the highest 1 in 15.8. These measurements

thus show extraordinarily great individual variations in the relation between the sitting height and the length of the intestine. Jellinegg therefore concludes that it is unjustifiable to generalize as to the relations between the sitting height and the length of the intestine, or to estimate the size of the absorbent intestinal surface on the basis of these relations.

209. Pneumococcal Infection in Infants.

RENARD (*Journ. de méd. et de chir. prat.*, November 23rd, 1921) in his Paris thesis states that epidemics of pneumococcal infection are observed in crèches at certain seasons of the year. The infection usually begins in the nasopharynx, which is the principal factor in the contagion. Pneumococcal rhino-pharyngitis is characterized by its persistence, contagiousness, and frequency of pulmonary complications. It appears in three forms—namely, a mild form without fever, an acute form with high fever, profuse purulent nasal discharge giving rise to attacks of suffocation, and a subacute protracted form. The infection may often be complicated by otitis, in the pus from which the pneumococcus is frequently found. The prognosis of this form of otitis is good. Pneumococcal bronchopneumonia is frequent, and is characterized by sudden onset, high fever, and intense dyspnoea. The prognosis is grave. The bronchopneumonia is often complicated by purulent pleurisy, with which suppurative pericarditis is sometimes associated. The latter complication, which is usually not diagnosed during life, is always fatal. Involvement of the meninges may occur during the course of bronchopneumonia, or the pneumococcus may give rise independently to meningitis, which may be serous or suppurative. Arthritis and peritonitis are less frequent localizations of the pneumococcus. Pneumococcal infection may also run its course without visceral lesions in the form of septicaemia, sometimes accompanied by purpura.

210. Hilum Tuberculosis.

CANTANI (*Studium*, January 20th, 1922) draws attention to a sign which is often to be detected in hilum tuberculosis, although there may be few if any clinical symptoms. It consists in the presence of pleural crepitus heard along the parasternal and right paravertebral line and at the cardio-hepatic angle. The sign may be elicited by cough, and is not always constant. Nor is it pathognomonic of hilum tuberculosis, but coupled with slight dullness in the same area it should arouse strong suspicion. The author has corroborated his observations by radiographic examination. The sound in question is pleural, and probably due to a direct spread along the pleura from the root and ligament of the lung. He points out that hilum disease may exist without giving rise to any symptoms, but as it may be an initial phase of pulmonary tuberculosis, any observation which renders the diagnosis of the condition more easy is worth recording.

SURGERY.

211. Treatment of Gastric and Duodenal Ulcer.

DE QUERVAIN (*Surg., Gynec., and Obstet.*, January, 1922) discusses the relative merits of resection and gastro-enterostomy in the treatment of gastric and duodenal ulcers. He bases his report on a study of the end-results of 247 cases. Operation is advised when stenosis or repeated bleeding is present and endangers the patient's life or when persistent symptoms resist all efforts at medical treatment. With regard to diagnosis, he considers too much importance is attached to the part played by hydrochloric acid. The percentage of cases showing hyperacidity is far less than the percentage showing normal or subnormal acidity. Lactic acid was not detected in any case found benign at operation. Occult blood in the stools is usually found in carcinoma cases, in 50 per cent. of gastric ulcers, and in 65 per cent. of the duodenal ulcers. *X*-ray examination gave definite localization of gastric ulcer in 87 per cent. of cases. In duodenal ulcer exact localization was possible in 54 per cent. of cases. Carcinomatous degeneration of a benign ulcer was demonstrated in 1.4 per cent. of the cases. The operative mortality after gastro-enterostomy was 6.5 per cent., after radical operation 7.7 per cent. The most important causes of death were emboli, pneumonia, and lung gangrene. Jejunal ulcers were found eight times in his cases, twelve times after operations done elsewhere. He uses fine catgut for suturing, reinforcing with cotton stitches. Because of the danger of peptic ulcer and bleeding from the primary ulcer he leans towards resection. With regard to late results, observations made in the first four years after operation do not contain all the possible sequelae. Simple gastro-enterostomy produces in all forms of gastric ulcer the same early results—cure in about four-fifths. Over longer periods cure or improvement is found in 75 per cent. of cases. Radical methods for all periods show a cure in 80 per cent. of cases. As to the method of operation, V-shaped excision is unsatisfactory. The so-called sleeve operation gives good results. The end-to-side anastomosis of stomach and jejunum has yet to be reported. He concludes that, if properly executed, resection yields better end-results than gastro-enterostomy, whether in a case of gastric or duodenal ulcer. Therefore there is a satisfactory reason for employing resection even though it involves greater operative risk. If external conditions are not satisfactory, one can, with good conscience, decide not to resect. It is better to do a good gastro-enterostomy than resect under unfavourable circumstances.

212. Syphilis of the Bladder.

COSACESCO (*Journ. d'Urologie*, November, 1921) points out that syphilis of the bladder appears to be a rare condition and seldom diagnosed, judging by the number of published cases. But this affection, whilst not common, is more frequent than is supposed, and many cases pass unrecognized. The fact that it is not more often found is probably due to the absence of irritation, so common in the mouth and anal region, and to the circumstance that being hidden from direct view it is able to pass unrecognized. Cosacesco has recently had a case of this nature under his care, which had been diagnosed as tuberculous or gonococcal cystitis for a period of eight years. Most observers have laid stress upon the cystoscopic appearances of the bladder, but this is not a certain means of diagnosis. A chancre in this situation has not yet been described. In the secondary stage an eruption appears similar to that of the skin and mucous membranes—ulcers of different types round the ureteric orifices, trigone, and base. In the tertiary stage gummata and ulcers may be found. Syphilis of the bladder may be undistinguishable from an innocent or malignant growth, and the bladder has even been opened under a mistaken diagnosis. The cystoscopic appearances are therefore very varied, and they must be supplemented by other methods of diagnosis. From a clinical point of view, frequent micturition is usually though not always present. Pain may be present, and is noticed on palpation over the bladder. There is usually haematuria, which may be slight or very profuse. Retention is rarely noticed. The urine may be acid or alkaline, containing epithelium and cells, and frequently bacteria. There are two clinical types which can be recognized: (1) Accompanied by a superadded cystitis, the commonest variety; characterized by its long duration without affecting the patient's general condition, and lack of response to usual forms of treatment. (2) The type with haematuria as its only symptom. The cystoscope, when it shows the characteristic lesions present, is an excellent means of diagnosis, but one must not overlook the fact that malignant growths and ulcers may give the same appearance. The Wassermann reaction and the effect of antisyphilitic treatment should be tried in all bladder affections where the pathological condition is not evident, and these are important in diagnosis.

213. Treatment of Anthrax.

MONTELEONE (*Il Policlinico*, Sez. Prat., November 28th, 1921), in the course of four months at the Policlinico Umberto I at Rome, has observed 36 cases of malignant pustule (anthrax), in 33 of which there was a single pustule; in 1 two pustules, and in another no pustule at all. In two instances recovery took place without any local or general treatment, and in 26 of the others the cautery had been freely used before admission to hospital, where the only treatment employed was specific serum, and in associated infections, or after separation of the slough, local treatment with Dakin's fluid or carbolic acid solution. The serum used contained 1,500 units in 5 c.cm., and the doses varied according to the severity of the case, sometimes as much as 50 c.cm. being given a day, but the usual dose being 10 to 20 c.cm. The total quantity injected ranged from 10 to 180 c.cm. The intramuscular route was almost always employed, and in urgent cases intravenous injections were given as well. The results of the treatment were very successful, only one death occurring, the patient being a man aged 60, who had been treated for a fortnight before admission in various out-patient departments by local measures. Monteleone's conclusions are as follows: (1) Circumscribed malignant pustule has a tendency to spontaneous recovery. Local treatment often gives rise to a pyogenic infection. (2) Pernicious forms are characterized by oedema, and intermediate forms by a large oedematous zone. (3) As anthrax bacilli are found even at the periphery of the oedematous zone, the action of the cautery is ineffective. Such treatment is indicated only in early cases, in which the pustule can be excised without damage to the surrounding tissues. (4) Specific serum treatment, without fear of large doses, should be employed by preference in severe cases.

214. Radium Therapy in Cancer of the Tongue.

SLUYS (*Le Scalpel*, February 4th, 1922) writes hopefully of the modern treatment of cancer of the tongue by radium puncture. He gives a clear summary of the aims and methods of using radium for the destruction of malignant disease, and points out the tendency to use short-waved rays for their greater penetrating power. He gives a list of various tissues showing their sensitiveness to these rays, from the extreme sensitiveness of mycosis fungoides to the very slight sensitiveness of fibrous tissue. The sensitiveness of new growths is related to their histological structure. In the radium puncture treatment needles charged with radium salt are introduced into the tumour and left for seven or eight days. A diphtheroid-looking membrane forms, and after that clears away one may expect good results. It is important to treat any lymphatic infection or enlarged glands as a preliminary. The writer describes the technical methods of measuring and recording the strength of radium emanations used. It should be remembered that new growths become radio-resistant in the course of prolonged treatment; as opposed to normal tissues, which become more sensitive. Hence it is important to give an initial dose of radium strong enough to destroy all the neoplastic cells and to avoid repetition. The writer showed two cases to illustrate the good effects of radium puncture in lingual cancer.

215. Chronic Nephritis and Enlarged Prostate.

LAVENANT (*Arch. des mal. de coeur*, November, 1921) has observed a number of patients who sought advice for enlargement of the prostate, and presented at the same time a cardio-renal syndrome with marked arterial hypertension, dilatation of the left heart, gallop rhythm, and dyspnoea on exertion. Very frequently the cardio-renal symptoms alone attract attention, while the prostatic symptoms escape notice. Potain drew attention many years ago to dilatation of the left heart and gallop rhythm in urethral stricture. These signs are also found in hydronephrosis, polycystic disease of the kidney, and compression of the ureter in pregnancy. Any cause of increased tension in the urinary tract may thus give rise to an increase of blood pressure, and enlarged prostate appears to be the most frequent cause. If the cardiac symptoms are relieved by emptying the bladder with a permanent catheter, an operation is justifiable. Lavenant reports three cases in patients aged 55 years whose hypertension and cardiac symptoms disappeared after prostatectomy.

216. Strained Patella.

UNDER the heading "A hitherto unknown disease of the patella," SINDING-LARSEN (*Norsk. Mag. for Laegevidenskaben*, December, 1921) records two cases examined clinically and by the *x* rays. The patients were otherwise healthy girls, aged 10 and 11 years, who, after dancing and jumping, complained of pain in one knee. But though in both cases the disease seemed unilateral on the clinical evidence, the *x* rays showed it to be bilateral. The patella was painful on percussion, and in one case the soft tissues over and below the patella were slightly inflamed. Profile skiagrams showed the anterior or lower outlines of the painful patellae to be hazy, and there were abnormal calcium or bone shadows in the soft tissues. The author regards this condition as a periostitis or epiphysitis due to strain, and after about half a year's rest both the clinical and the *x*-ray signs of disease had vanished. A similar condition was described by Sven Johansson in July, 1921, at the third meeting of the Northern Orthopaedic Association in Helsingfors.

217. Vaccine Therapy in Acute Infections.

KIRKENDALL (*New York Med. Journ.*, January 4th, 1922) points out the value of bacterial vaccine therapy in acute infections, whether as a prophylactic beforehand, or as a therapeutic agent to aid the tissues in overcoming an existing infection. From ten years' experience in the use of mixed vaccines it is claimed that the mortality in pneumonia has been reduced by one-fourth, and, since many cases of laryngeal and pharyngeal diphtheria are complicated with streptococcal and pneumococcal organisms, the use of a mixed vaccine in addition to antitoxin treatment was successful in cases where large doses of antitoxin alone had failed. The indiscriminate removal of tonsils is condemned, and it is urged that treatment should be directed towards aspirating and evacuating pus, wiping out the crypts, and giving vaccines before tonsillectomy is considered. Many swollen and purulent tonsils so treated have given perfect results, and the treatment should be given a trial, resort being had to operation only in those cases which fail to respond. Removal by an expert is advocated. The same principles should govern the treatment of infected conditions of the teeth, by opening the pus pockets and giving vaccines, before resorting to wholesale removal.

OBSTETRICS AND GYNAECOLOGY.

218. Post-Climacteric Adenoma of the Corpus Uteri.

MENGE (*Zentralbl. f. Gynäk.*, January 7th, 1922) describes a condition which he regards as one pathologically and clinically *sui generis*, and clearly to be distinguished from the more common polypus of the corpus uteri. The latter occurs in women who have not yet reached, or have only just passed, the menopause, is single or multiple, invariably arises from the region of the fundus, and as it increases in size is passively driven by uterine contractions through the cervical canal into the vagina. The adenoma to which the writer draws attention is characterized, on the other hand, by its occurrence after—and usually a considerable time after—the menopause as an accompaniment of senile endometrial atrophy, by its developing usually from a lateral situation and filling the cavum uteri by active growth before becoming polypoid, by its somewhat broad pedicle, and by the multiple cystic cavities which are set beneath and are visible through its mucous covering. The chief clinical importance of such an adenoma is that, by causing post-menopausal haemorrhage, accompanied by uterine enlargement, it is apt to lead to the diagnosis, or at least the suspicion of, cancer of the body of the uterus, or (as in one case associated with coincident fibromata) of a sarcomatous transformation of a myoma. Examination shows senile conformation of the external genitalia, the vagina, and the cervix, together with a soft enlarged uterus with patulous os. Curettage shows an increased size of the cavum uteri, but, owing to the smooth, soft, and yielding nature of the polypoid growth, leads to scraping out of a very small amount of material. Histological examination shows a reduction of the intraglandular supporting tissue and the presence of numerous cystic cavities lined by flattened cylindrical epithelium. Neither histologically nor clinically is there any evidence of malignancy.

219. Re-infusion of Blood after Rupture of an Extrauterine Pregnancy.

TÖPLER (*Deut. med. Woch.*, January 19th, 1922) records twenty-four cases of ruptured extrauterine pregnancy in which he re-injected into a vein of the arm 150 to 900 c.cm. of the patient's blood, to which an equal quantity of normal saline solution had been added. None of these cases terminated fatally, and he observed none of the sequels, such as rigors, dyspnoea, cyanosis, drowsiness, restlessness, jaundice, peritonitis, and haemoglobinuria, with which the detractors of this procedure have branded it. He did, indeed, often find the temperature subfebrile after the operation, but this is common after laparotomy for ruptured extrauterine pregnancy, and can therefore hardly be debited to the re-injection of the patient's blood. The author thinks that the addition of the patient's blood to normal saline solution may, in certain cases, save lives that would be lost if normal saline solution only were injected. The rupture occurred in most of his cases in the sixth month of pregnancy, and in nineteen cases the operation was performed within the first twenty-four hours of the rupture. With regard to the technique, no attempt was made to defibrinate the blood nor to add sodium citrate to it. The blood was filtered through eight layers of muslin, and the infusion, which was undertaken by an assistant while the operator was attending to the abdominal field of operation, took from ten to forty minutes. No blocking of the needle by a blood clot was experienced, and the average quantity of blood injected was 520 c.cm.

220. Renal Glycosuria as an Early Sign of Pregnancy.

ROUBITSCHEK (*Klin. Woch.*, January 28th, 1922) describes a clinical test which he regards as a valuable indication of early pregnancy in cases when the decision is difficult. Frank and Nothmann have shown that by the administration of 100 grams of grape sugar (the stomach being empty) glycosuria was produced in twenty pregnant women (in the third month of pregnancy); but, as in renal glycosuria, the blood sugar was not definitely increased. Nürnberger obtained similar results in 70 cases. The estimation of the blood sugar is necessary to distinguish this puerperal renal glycosuria from other forms of alimentary glycosuria. The tendency to sickness and vomiting produced in pregnant women by such a large quantity of sweet fluid and the high price of the grape sugar are the disadvantages of the tests. It has been shown that after the injection of 1 c.cm. of adrenaline solution (1 in 1,000), glycosuria only rarely occurs in the normal condition, whilst in pregnancy it occurs frequently. Roubitschek employs a combination of these methods. To avoid any unpleasant effects of the adrenaline injection he employs half the quantity just stated, and to avoid sickness uses only 10 grams of grape sugar and thus also reduces the cost of the test. The test is carried out in the following manner: The

woman takes 200 c.cm. of tea containing 10 grams of grape sugar (the stomach being empty). After twenty minutes 1/2 c.cm. of adrenaline solution, 1 in 1,000 (Höchst), is injected. The urine, tested three-quarters of an hour after the injection, and also one hour and fifteen minutes after the injection, always contained grape sugar in 19 of the 20 cases of early pregnancy tested.

221. The Kidney Affections of Pregnancy.

V. FEKETE, FUCHS, and MOLNÁR (*Wien. Archiv. f. inn. Med.*, Bd. iii, 3 Heft, 1922) record the results of their observations in 32 cases of kidney affections during pregnancy. These observations were undertaken (1) to determine the action of a diet deficient in salt and in water on the dropsy in the kidney affections of pregnancy, and (2) to outline more clearly the diagnosis and prognosis of these affections. The detailed observations on the cases are given in tabular form. The authors recognize a group of cases of kidney affection for which no cause can be found except pregnancy. Though the symptoms vary much, two forms may be distinguished. One form is characterized by oedema and retention of sodium chloride and water in the system; but the blood pressure is not raised, the residual nitrogen in the blood serum is not increased, and retinal changes are not found. In the other form prominent features are: nitrogen retention, increased blood pressure, increase of the residual nitrogen, and albuminuric retinitis. In the first form a diet deficient in water and in sodium chloride is of great service. In the second form such a diet is generally useless; and when the retinal changes progress rapidly, usually artificial interruption of pregnancy is necessary, since the retinal changes run parallel with nitrogen retention and increased blood pressure. Amongst 14 cases of eclampsia recorded some presented definite signs of kidney affection (first form), but in others the kidney functions tested showed no abnormal changes. The authors consider that both forms of kidney affection, as well as eclampsia, may be caused by an unknown toxin, and that this toxin in some cases affects only the blood vessels of the subcutaneous cellular tissue (causing oedema without albuminuria), in other cases the kidneys also, in others the kidneys alone, and in others the vessels of the brain only (causing eclampsia); mixed forms are more frequent.

PATHOLOGY.

222. Schistosomiasis and Hepatic Carcinoma.

ALTHOUGH carcinoma is less common amongst South African natives than amongst Europeans, yet statistics show that primary carcinoma of the liver is relatively frequent in South Africans. PIRIE (*Med. Journ. of South Africa*, December, 1921) finds a possible explanation of this peculiar fact in the presence of schistosomiasis. Cirrhosis of the liver is known to be one of the important predisposing causes of carcinoma of that organ, and the deposition of the ova of *Bilharzia haematobium* has been shown by many workers to be a factor in the production of the finer degrees of cirrhosis. Impressed by the accidental finding of bilharzia ova in a carcinomatous liver, Pirie set out to investigate the relationship between schistosomiasis and cancer. Only undoubted cases of primary liver carcinoma were selected, of which 36 were examined, sections of the liver being searched for ova, and the other organs examined for bilharzia infection. In the 36 cases reviewed schistosomiasis was definitely established in 10. In 2 it could be definitely excluded as the result of an exhaustive search. In the remaining 24 information as to the condition of the bladder was lacking, and, although no ova were found in these liver sections, this does not necessarily rule out the possibility of bilharzia infection. Of these 36 cases, 28 were liver-cell carcinoma, 3 bile duct carcinoma, and 5 were regarded as of doubtful or mixed liver- and duct-cell origin. Schistosomiasis has been shown experimentally to induce a cirrhosis of the liver, and it is believed to be the commonest cause of cirrhosis of the liver amongst the Chinese. The sections examined showed that amongst the South Africans also cirrhosis commonly followed bilharzia infection. This and the actual finding of bilharzia ova constitute strong presumptive evidence for attributing the frequency of primary liver cancer to bilharzia infection.

223. The Wassermann Reaction.

MARTELLI (*Rif. Med.*, November, 19th, 1921) draws attention to the different results obtained by careful, conscientious workers in applying this test, probably due to the qualities of the lipoids and globulins of the antigen and serum used. The way to avoid this discrepancy is to use various antigens and take the mean of the reactions obtained. As to the specificity of the reaction, after over 6,000 examinations the author believes it can be safely relied on if carried out with proper care and on the original lines. One ought to pay more attention to the quantity than to the quality of the phenomenon in the Wassermann test. Other conditions beside syphilis will give the reaction—for example, malaria, but in a minor degree. As to the amount of serum to be used, 0.10 c.cm. to 0.20 c.cm. is sufficient, but in doubtful cases it is better to use a larger quantity, 0.40 c.cm. or 0.5 c.cm. In latent syphilis a short mercurial or arsenobenzol treatment will often arouse the formation of antibodies, and change the Wassermann reactions from negative to positive. A persistently negative Wassermann with a reactivated serum, if there are no signs and no history of syphilis, may be accepted as definite proof of the absence of that disease.

224. The Bacteriology of Peridental Tissues Radiographically Suggesting Infection.

BERWICK (*Journ. Infect. Dis.*, November, 1921) has made a bacteriological examination of the deep tissues around the teeth in cases which radiographically showed evidence of the presence of chronic alveolar infection. After cleansing the mouth and teeth with an alkaline lotion, he sterilized the area under investigation by means of the topical application of a solution containing 1 per cent. each of brilliant green and crystal violet dissolved in 50 per cent. alcohol. The gum was then incised, and a flap of gum and periosteum laid back with a periosteal elevator. The buccal plate was entered with a chisel and a piece of tissue removed aseptically, and placed direct into a culture medium of glucose broth. Control swabs from the gum just before incision were tested for sterility. Of 71 cultures taken over 10 per cent. remained sterile; in 3 haemolytic streptococci were obtained, in 22 non-haemolytic streptococcci, and in 8 staphylococci in pure culture. The remainder showed chiefly a mixture of non-haemolytic streptococci and staphylococci. Amongst the patients were 10 who were suffering from arthritis or neuritis who had been examined for other sources of primary infection, and who had had such sources removed. The effect of removal of the infected teeth in these cases was studied, observation extending over a period varying from sixteen to twenty-five months. In only 2 patients was there any improvement in the condition. From these facts the author concludes that the radiogram is not a reliable indication of the existence of alveolar infection, and that there is no definite evidence to show the presence of a relationship between dental infection and systemic disorder in more than a small percentage of suspected cases.

225. Basal Metabolic Rate.

MEAKINS and DAVIES publish an article (*Edin. Med. Journ.*, vol. xxviii, No. 1, January, 1922) on the significance of the basal metabolic rate. This is defined as the rate of energy exchange during rest when only the essential vital processes are at work. The examination is carried out, before the patient has breakfast in the morning, in a room where there is no noise or disturbance of any kind. The rate of energy exchange is calculated by the method of indirect calorimetry from the analysis of the patient's expired air. The authors describe a new apparatus for this purpose and give full details of the methods for making the calculations. The energy exchange as measured by such examinations shows the most marked deviation from the normal in disorders of the thyroid gland, but the internal secretions of the ovaries and the testes also play a considerable part in the rate of exchange. The authors have studied the basal metabolic rate both in hyper- and hypo-thyroidism. In the former they observe that in exophthalmic goitre, although the energy exchange is set at a higher level than normal, yet there are marked remissions and exacerbations. In toxic adenoma no such variations were noted, the basal metabolic rate being uniformly high. On the other hand, in myxoedema the basal metabolic rate is persistently and steadily decreased, whilst with the beneficial administration of thyroid extract it returns. It is suggested that this method of analysis may assist in the making of a more accurate diagnosis of cases with indefinite nervous symptoms which are suspected of being due to disturbances of thyroid function.

226. Complement Fixation Reaction in Tuberculosis.

A SERIES of 50 cases of subacute, chronic, or suspected tuberculosis have been submitted to the complement fixation test by ROUSLACROIX (*C. R. Soc. Biologie*, January 7th, 1922). Besredka's antigen was employed. Though the number of cases is too small to derive any appreciable indication as to the value of the test itself, one interesting point is brought out. Six patients convalescing from encephalitis lethargica, showing the sequelae of tremors, pareses, and disorders of locomotion, all united in giving a positive reaction. In each case the Wassermann reaction was negative. Fortunately an exception of this nature is not calculated to interfere seriously with the diagnostic value of the test.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

227. Diagnosis of Cancer of the Lung.

CREYX (*Journ. de méd. de Bordeaux*, December 10th, 1921), who reports two cases in which primary cancer of the lung was not discovered till the autopsy, remarks that, though the diagnosis of secondary cancer of the lung is sometimes wrongly made, errors are much more frequently committed in regard to primary cancer of the lung, as might be expected from the extreme rarity of the condition. All writers are now agreed that there are no symptoms or physical signs peculiar to primary or secondary cancer of the lung. Sometimes the symptoms are entirely misleading and suggest heart disease, as in Demange's case, in which there was a murmur of tricuspid insufficiency due to thrombosis of the pulmonary artery, or in the case of Spillmann and Haushalter, in which a diastolic murmur at the base, due to compression of the root of the heart, and the pallor of the face suggested aortic insufficiency. Bocage found that pericarditis with effusion was simulated on several occasions. Creyx points out that the persistence of signs of induration regarded by Stokes as characteristic of cancer of the lung may occur in all cases of sclerosis of any extent, even of a tuberculous nature. Rapid reaccumulation of pleural fluid after puncture is also far from possessing the diagnostic value attributed to it, as it is sometimes met with in tuberculous pleurisy in which an effusion may last for weeks and even months. The prune juice expectoration, also regarded by Stokes as a valuable sign of cancer of the lung, only occurs when ulceration has taken place. The presence of particles of the new growth in the sputum, which is the only sure sign, is excessively rare, as is shown by the fact that Kurt Wolff did not find a single example of cancer cells in the sputum among 31 cases of cancer of the lung. *X* rays also do not clear up the diagnosis, except, perhaps, in the cases where the lung parenchyma is infiltrated with neoplastic growths (almost always of secondary nature), which are sharply separated from one another by extensive areas of healthy tissue.

223. Complications of Rubella.

BÉNARD (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, November 10th, 1921), during an epidemic of 291 cases of rubella at the Versailles military hospital from February 20th to June 20th, 1921, saw 13 cases, or 4.5 per cent., with meningeal complications. These appeared between the sixth and eighth days and might assume various forms, which were classified as transient, mild, remittent, relapsing, intermittent, meningomyelitic, and herpetic respectively. As a rule they ran a mild course, but they might be serious and even fatal. Bénard reports a fatal case in which symptoms of Landry's paralysis developed on the fourth day of a typical attack of rubella, death taking place three days later. Commenting on Bénard's communication, Florand and Fiessinger (ibid., November 17th, 1921) report a case showing that rubella may have similar complications to those of scarlet fever. The patient was a previously healthy soldier, aged 21, who six days after a typical attack of rubella developed a mild streptococcal septicaemia with endopericarditis and subcutaneous abscesses. The patient was on the high road to recovery when he was last seen.

229. Nonne's Four Reactions in Syphilis.

GOEDHART (*Nederl. Tijdschr. v. Geneesk.*, October 29th, 1921) has investigated Nonne's four reactions (Wassermann reaction in the blood and cerebro-spinal fluid, Nonne's reaction, and lymphocytosis) in 88 cases of syphilis; 18 of these cases had more or less severe involvement of the central nervous system and the remaining 70 were all examples of old-standing or latent syphilis. In 51 of the 70 cases the cerebro-spinal fluid was entirely normal, and in 19 showed the following changes: Nonne's reaction was positive in 17, being present alone in 10 cases and in association with lymphocytosis in 7 cases. In 2 cases lymphocytosis alone was present, the Wassermann reaction was feebly positive in 5 cases, but was always associated with one of the other reactions. Of the 18 cases in which nervous symptoms were present 9 had not received any antisyphilitic treatment, and in the others the treatment had been very incomplete. Nonne's reaction was positive in all, lymphocytosis was absent in 6 and present in the rest. The Wassermann reaction was negative in the blood in 4 cases and in the cerebro-spinal fluid in 8.

230. Complications of Salvarsan Treatment.

ARCHAMBAULT (*Paris méd.*, November 26th, 1921) remarks that the present tendency is to divide the accidents due to salvarsan treatment into two groups. The first consists of toxic complications due to oxidation of the drug, which were more frequent with "606" than with "914," which is a more stable product. The symptoms in this group appear late, and consist of nervous manifestations, and especially paresis of the lower limbs. In the second group the symptoms are those of protein shock and haemoclasic or nitritoid crises, being due to precipitation and flocculation of the serum. Experimental guinea-pigs show pulmonary embolism and sometimes infarction, and the intestinal mucous membrane presents a haemorrhagic stippling. These symptoms appear early, and are often fatal. It appears that certain products give rise to them more frequently than others. Out of 800 intravenous injections performed by Archambault on forty-eight patients in the course of a year only four presented really serious symptoms. In three there was a nitritoid crisis, and one had an almost fatal ictus. All had been treated by Ravaut's method, the patient being in a recumbent position and the injection carried out slowly. The doses were rarely as much as 0.90 or 1.05 gram.

231. The Teeth and Congenital Syphilis.

KRANZ (*Zentralbl. f. inn. Med.*, December 24th, 1921), as the result of ten years' study of dental anomalies in dental practice, maintains, in opposition to E. and M. Kraupa, that the so-called Hutchinson's teeth are by no means always a typical sign of congenital syphilis. He has found them in undoubtedly non-syphilitic individuals, and especially in cretins. They are, moreover, relatively uncommon, and Hutchinson himself stated that he regarded them as a sure sign of syphilis only when they formed part of his triad. Kranz also maintains that all disturbances of growth in the period of development, including changes in the teeth and jaws, have a common cause, for which local mechanical influences, or the action of spirochaetes or other organisms, or nutritional disturbances are not alone responsible, the chief factor being disturbance of calcium metabolism which originates in endocrine disturbances. Owing to the relatively frequent involvement of the ductless glands in congenital syphilis dental and maxillary anomalies may be frequently found in these patients, but anomalies of shape and position are by no means characteristic of congenital syphilis.

232. Treatment and Pathology of Asthma.

BROWN (*Edinburgh Med. Journ.*, February, 1922), reviewing the research work upon the nuclei and functions of the vagus, points out that one important function of the vagus is to regulate, by its afferent impulses, the depth of respiration, thereby saving the lung from overdistension, while the respiratory centre has both an inhibitory and excitory function regulated by the receptors in the lung, inflation and deflation of the alveoli producing inhibitory and excitory effects upon the centre. This vagal regulation of the depth of respiration is important in asthma, the vagus acting powerfully by its afferent impulses, while it acts abnormally as regards its efferent fibres. The smooth musculature of the bronchi is under vagus control, and bronchial contraction to one-half or one-third of the previous diameter has been shown to occur when the vagus is stimulated. Under anaesthesia with ether and chloroform, however, there is a reversal of this action, stimulation of the vagus then being followed by relaxation of the muscles and dilatation of the bronchi. Spasmodic narrowing of the bronchi may be brought about reflexly, the receptors from which such reflex takes origin being in the mucous membrane of the respiratory tract, stimuli passing up the afferent vagal fibres to be reflected down the efferent. Lesions in the nostrils, chronic bronchitis, inhalation of dust or irritant gases may thus act reflexly and cause bronchial spasm. The majority of asthmatic cases result from anaphylaxis, it being sometimes possible by the skin reaction to discover the exact antigen responsible, and, when this is possible, a process of desensitization should be attempted by giving gradually increasing minute doses of the protein in question. The bronchial spasm may be arrested (1) by obtaining the reversal effect produced by inhalations of ether or chloroform, or by alcohol, all obviously dangerous when habitually used; (2) by paralysing the vagal endings in the smooth muscle by atropine or stramonium, and so causing the bronchi to dilate; and (3) by inhibiting the smooth muscle, and so causing relaxation, by the administration of 1 in 1,000

solution of adrenaline. It is probable that the benefit arising from the prolonged administration of potassium iodide may be similarly explained, the iodine stimulating the thyroid and in turn increasing the suprarenal secretion.

233. The Diagnosis of Uraemic Conditions.

BETH (*Wien. Arch. f. inn. Med.*, November 15th, 1921) states that uraemic manifestations may arise under two conditions—namely, in the terminal stage of chronic nephritis and in malignant nephro-sclerosis. The two conditions resemble each other so closely in their clinical symptoms that a differential diagnosis is often very difficult. In the cases examined by Beth in which the diagnosis was confirmed by *post-mortem* findings and histological examination of the kidneys, striking differences were found in the bilirubin content of the serum and in the excretion of urobilinogen. Beth regards this difference as a means of distinguishing between the two conditions. In malignant nephro-sclerosis the bilirubin content of the serum and the excretion of urobilinogen in the urine are normal, whereas in chronic nephritis they are pathological. The cause of this is probably to be found in anaemia of an aplastic type, and also in an insufficiency of Kupffer's stellate cells.

234. The Optimum Dose of Tuberculin.

THERASSE (*Le Scalpel*, October 22nd, 1921) points out that each tuberculous patient reacts differently to tuberculin, and the object of treatment is to find the best dose for each case. He says this can be ascertained by watching the temperature chart, the local skin reaction, and the condition of the sputa. His practice is to begin with slowly increasing doses and stop whenever the temperature rises (excluding any inflammatory cause). In some cases marked and steady improvement occurs, and then, without any apparent reason and without any temperature warning, the patient remains at a standstill; in many of these cases, if the local skin reaction is observed, some oedema is noted, and this is a sign that the tuberculin should be reduced in amount. The author refers to the many discordant views as to how tuberculin acts, but in his paper he is chiefly concerned with the best dosage and the rules which should guide us in determining what is the best dose.

SURGERY.

235. Acute Haemorrhagic Pancreatitis.

SCHWARTZ (*Bull. et Mém. Soc. de Chir. de Paris*, January 17th, 1922), discussing the etiology of this condition, describes a case upon which, after operation, an autopsy was made. The pre-operative diagnosis was torsion of an ovarian cyst or rupture of a gastric ulcer, but after laparotomy the presence of blood-stained fluid in the abdomen, fat necrosis, and the fact that the pancreas was enlarged and very hard, made the diagnosis evident. At the necropsy he found gall stones in the gall bladder and bile ducts and two large ones in the pancreatic portion of the duct. The pancreas was inflamed, hard, and swollen, but there were no calculi in its ducts. Histological examination of the pancreas showed areas of complete necrosis separated by portions where the tissues were healthy, but where the pancreatic ducts showed inflammatory changes these were clearly in the smaller ducts. He considers gall stones to be the most frequent cause of acute pancreatitis, and most of the observations put forward favour this etiology. The condition is a very grave one, which, though it may resolve spontaneously, none the less demands immediate operative treatment. The operation should consist in free drainage of the pancreas and a rapid exploration of the biliary ducts. This exploration is made to discover the presence of gall stones, the cause of the pancreatitis, and will allow, once recovery has taken place, proper treatment to prevent relapse—namely, drainage of the bile ducts. All these observations have been confirmed, and in his patient there was a clear history of gall stones which was proved at the autopsy. The condition was undoubtedly due to gall stones and the histological examination showed its starting point was probably around the smaller ducts.

236. JACOBOVICI (*Bull. et Mém. Soc. Méd. des Hôpitaux de Bucarest*, September 28th, 1921) describes two cases of acute pancreatitis which are of interest owing to the rarity of the condition and the difficulty in making a correct diagnosis. The prognosis of this disease depends on its diagnosis, for the treatment is entirely surgical, and recovery depends on the time when operation is performed. Körte has shown that recovery is all the more probable when operation is carried out early, as thereby complete destruction of the pancreas and other organs is prevented. This condition is met with in obese subjects, and particularly in those affected with gall stones. The disease starts acutely with violent pain, localized at first in the upper part of the abdomen. Other important signs are complete obstruction, meteorism, hyperaesthesia, and muscular rigidity in the supraumbilical region. The temperature is normal or subnormal, and the blood shows a leucocytosis. Grey Turner and Meyer have described a sign they consider pathognomonic—namely, bluish patches resembling *post-mortem* stains—which they observed in two cases around the umbilicus and in another in the lumbar region. Jacobovici has not found these present in his cases. Radulesco noticed that the skin of the abdomen showed a harshness and marked loss of elasticity. As a rule the diagnosis should be easy to make. The treatment adopted—namely, drainage of the pancreas—is that which is recommended by most surgeons in cases where the bile ducts are not blocked and the state of the patient does not allow a lengthy operation, leaving to a later date the treatment of the gall bladder condition. Some surgeons advise that in acute pancreatitis drainage of the bile ducts is necessary, perhaps also cholecystostomy with drainage of the common duct. Cholecystostomy is preferable to cholecystectomy, for when there is obstruction of the common duct, due to a sclerosing pancreatitis, a permanent biliary fistula would remain after a cholecystectomy, whilst a cholecystostomy allows a cholecysto-gastrostomy or a cholecysto-enterostomy to be carried out later.

237. Treatment of Appendicitis.

COLLIN (*Ugeskrift for Laeger*, January 19th, 1922), who has observed about 500 cases of appendicitis at his hospital in a two-year period, publishes numerous figures with a view to throwing light on the respective merits of two principles. His predecessor, Professor Tscherning, did not consider the mere diagnosis of appendicitis sufficient warrant for immediate operative treatment; there had to be certain other well-defined indications. The author, on the other hand, treated the diagnosis of appendicitis as an inevitable indication for immediate operation. Among 320 appendicectomies for acute appendicitis he had 20 deaths, and the operation mortality, classified according as the patient was operated on during the first, second, or third day of the disease, was 2, 5, and 20 per cent. respectively. In 12 of these 20 fatal cases the diagnosis of appendicitis had, indeed, been made early, but the physician in charge had temporized with opium and compresses. Analysing the last 25 deaths from appendicitis among patients under Professor Tscherning's care, the author found that in 5 the operation was deferred for more than twenty-four hours after the diagnosis had been made; 4 others died without any operation having been attempted. Another index to the unwisdom of deferring operative treatment is found by the author in the percentage of cases requiring drainage after operation. This had to be undertaken in only 12 of his 105 appendicectomies performed within the first twenty-four hours of the onset of symptoms. Thus, while only 12 per cent. of the cases operated on within the first twenty-four hours required drainage, this percentage rose to 42 for the cases operated on during the second day, and to 76 for the patients operated on during the third day.

238. Operations on the Thyroid Gland.

CRILE and LOWER (*Annals of Surgery*, January, 1922) indicate the special points in the technique of thyroidectomy. The amount of gland to be left varies with the type of goitre, and should in general be the functional equivalent of the normal gland. This would mean only a small portion of an exophthalmic gland; but in a colloid goitre a bulk larger than the normal thyroid is required, because this type is not so active as the normal gland. To obtain satisfactory exposure of the gland a transverse incision of the preglandular muscles is often required, a median incision not allowing sufficient exposure. To tie the arteries outside the capsule they made a bloodless sharp knife separation of the true capsule from the surrounding tissues, whereby the parathyroids and recurrent laryngeal nerve were left safe. Occasionally hoarseness resulted, due to involvement of the nerve in the new scar tissue. In turning out the lower pole of the gland with the finger there is danger of traction on the recurrent nerve; or, again, a large vein may be stretched or torn, and a stream of venous blood blocks the operation field. The best method to avoid this is by grasping each vessel in advance of rupture and the primary separation of the upper attachment of the lobe so that the gland rises with but slight pull from above, not push from below. Respiratory obstruction may arise during operation, and a tracheotomy should be done early rather than late; the wound in the trachea can be closed as soon as the obstruction is removed. Inhaled blood, if the trachea be opened, is likely to cause death from bronchopneumonia, and this must be avoided by haemostasis and skilled assistance. By bearing these precautions in

mind mishaps are rarely seen. In any serious case the wound is left wide open and dressed with flavine gauze. This shortens the time of operation and prevents the absorption of wound secretion. These wounds can be closed later, as soon as it seems safe, without removing the patient from bed. If there is any doubt as to the outcome during operation, it should be stopped and the wound left widely open. Patients are not deceived as to the time of operation. If they demand to know they are told. If the condition then becomes unsatisfactory operation is deferred. X-ray treatment has the following disadvantages: (1) The dose required to produce an effect is at best a guess; (2) relapses are common; (3) delay in failures leads to serious damage to certain organs—myocardium, nervous system, and liver; (4) in operation later, scar tissue and adhesions are a handicap. The diagnosis of hyperthyroidism is the indication for thyroidectomy, and the mortality is almost as low as that of appendicectomy. They advise the rule—operate on diagnosis.

239. Chronic Intestinal Stasis.

PAUCHET (*Arch. méd. belg.*, September, 1921) states that Lane's disease, or chronic intestinal stasis, is a remarkably frequent condition. A large number of cases of nervous disease, arthritis, and migraine are due to this cause. Numerous morbid processes, including tuberculosis, cancer, and rheumatism are aggravated by it, and many acute diseases are only grave or fatal because they develop in persons who are the subjects of chronic intestinal stasis. The cause of the disease is habitual constipation, which is the consequence of a slight congenital narrowing of the rectum as the result of a band or haemorrhoids, or of bad habits developed in childhood. Chronic intestinal stasis, however, is not synonymous with habitual constipation. In most constipated subjects the stasis is situated in the rectum or sigmoid, and does not give rise to symptoms of absorption. In Lane's disease, on the other hand, the delay in transit occurs higher up, such as the last part of the ileum, the caecum, or ascending colon. The faeces, which are still fluid in these situations, are easily absorbed, and symptoms of chronic toxaemia develop. Chronic intestinal stasis is the result either of atony and elongation of the large intestine or of kinks due to visceroptosis, and a fibrous reaction of the peritoneum, which gives rise to thickened suspensory ligaments by which the intestine is partially strangulated. The kinks are usually situated in the following positions: (*a*) The duodeno-jejunal angle; (*b*) the termination of the ileum; (*c*) the hepatic and splenic flexures of the colon; (*d*) the union of the rectum and sigmoid with the descending colon. The effects of chronic intestinal stasis are observed on the liver, the thyroid and other glands of internal secretion, the breasts, pancreas, ovaries, and the nervous, digestive, circulatory, respiratory, and muscular systems. The condition is usually not recognized, but is mistaken for enteroptosis, chronic appendicitis, enteritis, intestinal tuberculosis, gastric and duodenal ulcer, movable kidney, cholecystitis, neurasthenia, hysteria, etc. The diagnosis is made by finding the barium meal still present in the caecum ten to twelve hours after its administration, or in the caecum and colon after twenty-four to thirty-six hours. If the stasis is pronounced and symptoms of intolerance are marked, operation should be performed at once; but Pauchet is convinced that there may be an initial period of several years during which the disease remains purely functional, the symptoms being due to insufficiency of the glands of internal secretion, especially the thyroid. In such cases treatment by glandular extracts is indicated. Evacuation of the bowels should be facilitated by the administration of paraffin, and the general health improved by physical culture, massage, air, and light. On the other hand, the earlier operation, such as caecosigmoidostomy or colectomy, is done, and the younger the subject, the better are the results.

240. The Treatment of Tuberculous Spondylitis.

DALLA VEDOVA (*Studium*, January 20th, 1922), speaking at the recent orthopaedic congress, said that in view of the mechanical importance of the spinal column, mechanical support of the spine is essential in spinal disease. The general health should be maintained in as good a condition as possible so as to offer adequate resistance to any infective processes. Complete rest is essential. Immobilization can be obtained by various mechanical supports, but none are so good as bony ankylosis of the arches and apophyses. This can be accomplished by osteoplastic operations. Of the various methods used, that first devised by Albee still remains the most efficacious. It can be used at all ages and in all phases or sites of the disease, but is contraindicated in septic conditions, or where definite paralysis is present, or where a multiplicity of lesions or visceral complications have reduced the patient to a low condition. The slighter and more localized the lesion, the better the result.

OBSTETRICS AND GYNAECOLOGY.

241. Myomata Complicating Pregnancy, Labour, and the Puerperium.

BALFOUR MARSHALL (*Glasgow Med. Journ.*, February, 1922), in considering myomata as a complication of pregnancy, distinguishes between cases which may be safely allowed to progress to term, those requiring operation but suitable for myomectomy, and, lastly, those requiring hysterectomy. It is doubtful, he remarks, if artificial induction of abortion is ever justified for uncomplicated myomata alone, and owing to the improved prognosis of Caesarean section at the present day it is safe to leave till the end of pregnancy myomata which will prevent the birth of a full-time living child. Partly owing to accelerated growth, but chiefly to oedema, myomata increase considerably in size during pregnancy, but during the latter half of gestation they become softer and flatten out, so that tumours which are low down in the uterus and pelvic in position may rise above the pelvic brim; a myoma which during the last month seems likely to obstruct labour may become completely suprapelvic during the first stage of labour. Although the large majority of patients suffering from uncomplicated myoma succeed in reaching term, many of them suffer considerable discomfort from pain or haemorrhage which in rare instances may necessitate operation. Myomectomy is indicated in conditions which cause great suffering or point to danger to the mother, the foetus, or both, such as torsion of a subserous myoma followed by necrosis, prolapse and impaction of a subserous myoma in the pelvis, or forcing of the uterus by an anteriorly situated myoma into a position of retroflexion likely to cause abortion or incarceration. The writer considers it inadvisable to attempt the removal by myomectomy of an interstitial myoma of any size or of one which necessitates opening the uterine wall down to the membranes. The cases suitable for myomectomy are those in which the myoma is subserous, and the more pedunculated the tumour the more favourable is the prognosis. Cases requiring hysterectomy are usually those of large fibroids, especially when situated in the pelvis, or of smaller myomata causing intolerable pain. At the time of parturition, Caesarean section is the correct procedure in the presence of a fixed obstructing myoma; if a future myomectomy leaving a serviceable uterus seems possible, the fibroids should be left *in situ* to be dealt with when involution is complete. In cases, however, which, as a result of repeated examinations or injudicious attempts at delivery, are likely to have been infected, Caesarean section should be followed by immediate removal of the uterus; the same is true if the number or configuration of the myomata is such as to render subsequent myomectomy inadvisable. In the third stage of labour and in the puerperium, haemorrhage is the more common and sepsis the more dangerous of the complications which may be encountered; the former occurs *post partum* both with interstitial and submucous myomata, and also as secondary haemorrhage during the puerperium in connexion with submucous myomata.

242. The Cause of "Idiopathic" Haemorrhage.

ACCORDING TO DE ROUVILLE and SAPPEY (*Gynéc. et Obstét.*, 1921, iv, 5), uterine haemorrhage occurring in the absence of general or local pathological conditions, such as syphilis, heart disease, villous metritis, polypus, fibroma or carcinoma, has been ascribed of late years to abnormalities of ovarian function due to variations in the internal secretion produced by the lutein cells of the internal theca of the Graafian follicles and of the corpus luteum. As evidence for this view may be quoted, the lack of success attending curettage and other therapeutic measures, the results of ovarian grafts and of opotherapy, and the disappearance of idiopathic haemorrhages after radium treatment or *x*-ray therapy, both of which owe their efficacy to ovarian castration. The authors find additional evidence from the results of histological examination of a series of fibrocystic ovaries extirpated at operation. Such ovaries may be assigned, they remark, in one or other of two clearly marked out groups, of which the former corresponds to a clinical history characterized by excessive uterine haemorrhage, and the latter to a symptomatology in which pain is conspicuous, but unduly abundant haemorrhage is absent. In the former group of cases the ovary shows invariably an excessive production of lutein cells, which are to be found both in the internal theca of atresic follicles, and also in the form of isolated groups distributed throughout the ovarian stoma; they also occur in abundance in the thickened wall of corpus luteum cysts. In the second group of cases, on the contrary, lutein cells occur sparsely, and the cystic follicles show a wall which contains hyaline or connective tissue elements with few gland cells. The uterine lesions, to which reponsibility was formerly

assigned for cases of idiopathic haemorrhage, probably consist solely in pre-menstrual or post-menstrual variations. Although formerly sceptical, the authors conclude that the ovarian source of the haemorrhage in the cases under review is now well established.

243. Hegar's Signs of Pregnancy.

MOENCH (*Amer. Journ. of Gynec. and Obstet.*, December, 1921) is in agreement with Hegar and his pupils in stating that the presence in their typical form of the Hegar signs may be taken as indicating definitely the existence of pregnancy. Both signs are due to the softening and increased compressibility of the lower uterine segment at a time when the uterine cavity is mainly occupied by the amniotic sac of fluid. Hegar's second sign has been almost forgotten, but, according to Moench, has as great value as the first sign. It consists in the production of a fold in the anterior wall of the lower uterine segment when this region is manipulated between the index finger placed in the anterior vaginal fornix and the fingers of the other hand pressing backwards above the symphysis pubis. The only disadvantage attaching to this sign is that to elicit it the uterus must be steadied through the abdomen by the hand of an assistant.

244. Development of Myoma after Ovarian Grafting.

FLEISCHMANN (*Zentralbl. f. Gynäk.*, January 21st, 1922) records a case which is of interest in connexion with the views of those who ascribe to the ovary important influences on the nutrition and functions of the uterus. The patient, a nullipara aged 34, had suffered from amenorrhoea for fourteen years; the acutely anteverted corpus uteri and the cervix were noticeably small. Portions of the ovaries removed from a patient aged 44, in whom supravaginal hysterectomy was performed for uterine myomata, were transplanted, and placed among the abdominal muscles of the first subject. Two months after operation this patient had put on 1½ kg. in weight; four months after operation the implanted ovaries were no longer palpable, but the uterus had become perceptibly larger. Five months later the body of the uterus had attained the size of a four weeks' pregnancy, and a myoma the size of a walnut was palpable. In the eleventh and twelfth months after operation definite menstrual symptoms and signs were noticed.

PATHOLOGY.

245. The Experimental Production of Purpura.

BEDSON (*Journ. Path. and Bact.*, January, 1922) has amplified his previous work on the experimental production of purpura by means of an antiplatelet serum. Using guinea-pigs he studied the effect on them of the injection of an anti-red-cell, an antiplatelet, an antileucocyte, an anti-whole-blood, and a precipitating serum, paying particular attention to the alterations produced in the counts of the red and white corpuscles and of the platelets during life, and to the presence of haemorrhages on the serous membranes and viscera after death. From these experiments two main facts emerged—namely, that of the five serums employed only the antiplatelet and the anti-whole-blood serums were able to bring about a reduction in the platelet count, and that only in those cases in which a reduction in the platelet count had been produced were haemorrhages found *post mortem*. By absorbing out the red cell agglutinin from an antiplatelet serum, he was able to show that haemagglutination played no part in the causation of purpura. But that a mere reduction in the number of platelets is insufficient of itself to bring about the purpuric condition is shown by the fact that the intravenous injection of peptone or of agar-serum, both of which cause a definite fall in the platelet count, fails to produce it. There must be some other factor at work besides the variations in the platelets. This factor he considers to be probably a degeneration of the endothelial lining of the blood vessels secondary to the action of some toxin. Injuring the endothelium in a young rabbit by the intravenous injection of anti-rabbit-red-cell serum, and subsequently bringing about a removal of the platelets from the circulation by the introduction of agar-serum, produced the typical picture of experimental purpura.

246. A Phenolphthalein Test for Haematuria.

JOHANNESSEN (*Ugeskrift for Laeger*, December 8th, 1921) comments unfavourably on the fact that, though the guaiacol test for blood in the urine has repeatedly been proved to be unreliable and misleading, it still survives. He has carried out a series of comparative tests with benzidin, fluorescein, and phenolphthalein, and he has found the last named provide the most delicate, simple, and specific test. To 1 gram phenolphthalein he adds 25 grams hydras kalicus (potassium hydroxide) and 100 grams distilled water. This solution is decolorized by boiling with 10 grams of zinc dust. It is filtered and then an equal quantity of 96 per cent. of alcohol is added to it. This solution keeps for at least half a year. Just before use 1 c.cm. of oxydol (hydrogen peroxide) should be added to 9 c.cm. of the solution. The test is extremely simple; to 0.5 c.cm. of the solution an equal quantity of urine is added, and if it contains blood, a red colour, varying from pink to carmine red, is obtained. Of the many drugs with which the author has tested this reagent, only copper salts gave the same reaction, and test tubes which have been used for examining for sugar should therefore not be employed. The author has worked out a quantitative test: using always the same quantity of the phenolphthalein solution, he adds to it 1 drop of urine; if this gives a positive reaction, he dilutes the urine with distilled water, and continues to do so till 1 drop of the diluted urine ceases to give a positive reaction. Using this quantitative test, he has been able to follow the amount of blood excreted from time to time in the urine of his patients, and he believes that this quantitative control of haematuria may prove as useful as the quantitative control of albuminuria. The test is so delicate that it is positive when there are only 150 to 250 red cells per cubic centimetre of urine, and when only 1/20 to 1/30 of 1 c.cm. of blood has been added to 1 litre of urine.

247. The Unity of Herpes.

THE researches of more than one observer have now shown that if the contents of a herpetic vesicle be applied to the scarified cornea of a rabbit, the animal will develop a keratitis and in the course of a few days will die of encephalitis. From its brain the virus can be recovered and used to propagate the disease through a series of fresh rabbits. Employing this method as a test of the identity of the virus encountered in human cases of herpes, TEISSIER, GASTINEL, and REILLY (*C. R. Soc. Biologie*, January 14th, 1922) have investigated a number of patients who were suffering from symptomatic herpes occurring in such illnesses as cerebro-spinal meningitis, acute pneumonia, diphtheritic angina, influenza, catarrhal jaundice, and mumps, as well as in genital herpes appearing in the secondary stage of syphilis, with the result that they find a close similarity existing between the actions of each virus. Control experiments carried out with the contents of vesicles from polymorphous erythema, varicella, or zona were completely negative. It is probable, therefore, that there is no difference between spontaneous and symptomatic herpes. The appearance of the vesicles during the course of an infectious disease must be regarded as a definite complication caused by a different organism from that which has given rise to the primary disease. They conclude by asking why it should be so common to meet with herpetic lesions in cerebro-spinal fever and in pneumonia, while in other diseases, particularly in those which are suspected to be due to a filter-passing virus—such as scarlet fever, variola, and chicken-pox—the occurrence of herpes is quite exceptional.

248. An Experimental Study of Lethargic Encephalitis.

A REVIEW of their most interesting work on the subject of encephalitis is given by LEVADITI, HARVIER, and NICOLAU (*Ann. Inst. Pasteur*, January, 1922). Briefly, the results may be recorded as follows: The disease is caused by a virus which is able to pass through a bacterial filter and is resistant to glycerin. It is present in the nasopharyngeal secretion of the patient, as is shown by the fact that if this secretion is rubbed on to the scarified cornea of a rabbit the animal dies in a few days from encephalitis. The period of incubation in this animal is characterized by fever, by a polymorphonuclear leucocytosis, and by an increased fragility of the red cells. The virus travels from the cornea along the optic nerve to the brain. Certain anaesthetics, such as chloral, ether, and chloroform, shorten the incubation period and aggravate the evolution of the disease. Pathologically, the experimental disease in the rabbit may be divided into two phases: in the first the brain shows an infiltration of polymorphs, while in the second or more chronic stage the mononuclear elements abound, either in the meninges or as cellular cuffs around the vessels. The virus is able to retain its vitality for a long time in water, milk, or in the dried condition; it is destroyed by bile and by antiseptics such as potassium permanganate; it is capable of transmitting the disease when inoculated in even very small quantities; and it does not appear to be diffusible in either glycerin or gelatin. The most marked affinity of the virus seems to be for the cornea and for the skin, and it is interesting to notice in this connexion that both of these structures, together with the central nervous system, are derived embryologically from the ectoderm. So far it has not been encountered in the blood, lymphatic or salivary glands of infected animals. The relation which this virus bears to those of rabies, small-pox, and poliomyelitis is not dealt with in this memoir.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

249. Treatment of Rickets by Starvation.

MCCOLLUM and NINA SIMMONDS (*Johns Hopkins Hospital Bulletin*, January, 1922), continuing the studies on experimental rickets, give the results of their observations on the effects of starvation on the healing of rickets. Young rats were fed on a restricted diet for thirty to forty days until rickets was produced. This diet contains a liberal amount of good quality proteins and about twice the calcium necessary for optimum growth and nutrition. It is low in fat-soluble A vitamin, and below the optimum in its content of phosphorus. When young rats are fed on this diet they develop a condition of the skeleton identical with that in the rickety child, so that the cartilage and adjacent portion of the metaphysis in the long bones are entirely free from calcium salts. If 2 per cent. of cod-liver oil is now administered with this deficiency diet calcium salts are deposited in the cartilage on the epiphyseal side of the metaphysis. Schmorl and others have proved this reappearance of the provisional zone of calcification to be the beginning of the healing of the lesion, and it usually appears within five days of the addition of the cod-liver oil to the diet. Having produced rickets in young rats by the above process the authors subjected them to starvation for a period of from three to five days. In every case the starved animals showed reformation of the provisional zone of calcification and other evidences of the healing of the rachitic process, while none of the controls, which had not been subjected to starvation, showed the slightest trace of calcium in the cartilage or metaphysis. Apparently starvation causes healing of rickets, just as do cod-liver oil and sunlight; but whereas the two latter improve the general condition, starvation causes the death of the animal in a few days. Hence starvation cannot be recommended as a desirable method of treating rickets in the human. These experiments provide proofs of the beneficial effects of starvation on the animal body. The authors' view is that when the load of a defective diet is removed and the body is forced to draw on its own resources, stored foodstuffs are released into the blood stream, and the healing of rickets which takes place may be due to the liberation of phosphorus from disintegrated protoplasm (for example, muscle tissue), which causes calcium deposition in the cartilage.

250. Treatment of Ringworm of the Beard.

RAVAUT and BOULIN (*Ann. de Derm. et de Syph.*, January, 1922) bring forward fresh evidence of the value of intravenous injections of Lugol's solution in tinea sycosis, on the merits of which they have previously reported. Treatment in the present case was commenced twenty days from the first manifestation of the disease, and a complete cure was effected in fifteen days. No antiseptics were used locally, the only form of medication being Lugol's solution (iodine in potassium iodide solution), which was injected intravenously daily, commencing with 1 c.cm. and increasing by the same amount each day up to 5 c.cm., the maximum dose. Improvement showed itself immediately after the first injection, and by the eighth day the lesions showed signs of cicatrization. By the fifteenth day there was no trace of the fungus in any of the hairs examined. The authors maintain that Lugol's solution is of much greater value when administered intravenously than is potassium iodide alone. The disadvantage of the local reaction caused by Lugol's solution is overcome by diluting the injection with serum, or by aspirating blood from the vein and mixing it with the fluid in the syringe before injecting.

251. Typhoid Fever Complicated by Bacillus aerogenes capsulatus Infection.

A SOMEWHAT unusual type of complication in the course of typhoid fever is described by Muller and Lincoln (*Med. Record*, February 4th, 1922). A white man, aged 29, was admitted to hospital at the end of the second week of typhoid fever. Examination showed the spleen to be enlarged; a diffuse macular rash over the chest and abdomen which did not disappear on pressure, a white cell count of 2,400 per c.mm., and a temperature of 104° F.; the Widal reaction was positive and the blood culture negative. Three days after admission he became restless, dyspnoeic, and cyanotic, the pulse became rapid, and an area of subcutaneous emphysema about the size of the palm of the hand was found in the right anterior axillary region. A blood count showed a leucocytosis of 23,400 whites, with a differential count of 60 per cent. polymorphs, 29 per cent. lymphocytes, and 11 per cent. large mononuclears. The same evening the patient died. At autopsy the tissues, somatic and visceral, were found to be riddled with gas bubbles. In the small intestine typical typhoid ulceration was encountered. A bacteriological examination of the spleen resulted in the demonstration of the *B. typhosus* and of a Gram-positive anaerobic organism with the morphological and cultural characters of *B. welchii*. There seems to be little doubt in this case that the gas-producing organism had gained entrance to the tissues before death, and it is probable that invasion had occurred through one of the ulcers in the intestine. It is interesting to notice how this case confirms the observation of Flexner that life is impossible after this organism has once established itself in the blood and produced gas there. It is on this account that extensive subcutaneous emphysema is not found in the patient before death.

252. Pulmonary Tuberculosis and Intestinal Stasis.

MORRISTON DAVIES (*Tubercle*, February, 1922) finds that, in a considerable proportion of cases, rises of temperature in the subjects of pulmonary tuberculosis are the effects of intestinal stasis. His chief guide to the severity of intestinal stasis is the urine, and frequent examinations for amino-acid derivatives convinced him that the frequency of skatoxyl in patients suffering from tuberculosis of the lungs is great, and that drugs, such as castor oil and calomel, which combat intestinal stasis often act like a charm on these patients. He found the presence of acetone in the urine much commoner than he had imagined, and the symptoms it produced were easily abolished by large doses of sodium bicarbonate and potassium citrate. He always found the urine contained a considerable quantity of the amino-acid derivatives when the patient was suffering from a short bout of fever with nausea, coryza, and bronchitis. One patient, whose progress was constantly being interrupted at intervals of about six weeks by these attacks, had been immune from them for over a year after he began to dose himself with castor oil at the first sign of an attack. In some cases a previously steady temperature rises slowly to a slightly higher level each night and morning, the patient feeling "off colour" or more tired than usual. If the fever is due to intestinal stasis the urine shows an increase in the sulpho-ethers, and the temperature returns to its old level after free purgation. But when there is no change in the character of the urine in association with this rise of temperature, it is probably due to the tubercle bacillus. For continued administration the author has found kaolin, paraffin, agar, dimol, and salol the most satisfactory.

253. Treatment of Paralysis Agitans by Intramuscular Injection of Magnesium Sulphate.

ARTAULT DE VEVEY (*Bull. Soc. de Thér.*, November 9th, 1921), having observed that the subjects of paralysis agitans almost invariably suffer from chronic constipation even before the onset of the nervous symptoms, is inclined to attribute an active part in the etiology of the disease to the toxic action of intestinal ptomaines on the nerve centres. He has recently treated eight cases of paralysis agitans with intramuscular injections of 25 per cent. solution of magnesium sulphate. In all the cases, even those of long standing, the treatment was followed by a diminution of the tremors and improvement of the general condition, although a complete cure was effected in only two cases, in both of which the treatment had been instituted at an early stage of the disease. Apart from diarrhoea there is no contraindication to the treatment, and no complication is to be feared provided the injections are given aseptically.

254. Novasurol as a Diuretic.

HASSENCAMP (*Zentralbl. f. inn. Med.*, February 11th, 1922) draws attention to the great value of a diuretic, novasurol, especially in the oedema of heart disease. He points out that the diuretic action of mercury, used mostly as calomel, has long been known. But through the frequent undesirable effects of mercury its use as a diuretic has been much restricted. Novasurol was first used as a diuretic by Poelchen and Lange, and a number of observers have confirmed their results. Novasurol is a combination of an organic salt of mercury and sodium with veronal. It contains 33.9 per cent. of mercury, and is sold in sterile ampullae containing 2.2 c.cm. of a 10 per cent. solution. It may be injected

into the gluteal region or intravenously. In the normal condition it has no marked diuretic action; in pleurisy, peritonitis, and ascites, the effects were unsatisfactory. In nephritis, owing to the injurious action of mercury on the kidneys, the author has not ventured to try it. Its chief use is in the oedema of cardiac disease, where the drug has an excellent effect. Usually 2.2 c.cm. were injected intravenously, but in cachectic cases only 1.1 c.cm. Generally intervals of two or three days were allowed between the injections. Diuresis begins in two or three hours and ends after ten to twenty hours. In twenty-four hours, 2, 3, or more litres of urine are excreted. Results are obtained in almost all cardiac cases, but in varying degrees. A case of mitral disease with very marked oedema is recorded, in which diuresis and rapid disappearance of the oedema followed the use of the drug on several occasions.

255. Prognosis in Heart Disease.

MOON (*New York Med. Journ.*, January 18th, 1922) considers that, from the point of view of prognosis in heart disease, it is more important to decide whether a lesion is of rheumatic or arterio-sclerotic origin than to know which valve is affected. Prognosis is better in those of rheumatic origin because the lesion tends to become stationary, whereas in the arterio-sclerotic cases the lesion is progressive; but in young children, even though of rheumatic origin, the outlook is serious because of the frequency with which the pericardium and myocardium are also involved. Mitral stenosis with reasonable care may carry on for several years, but when once the heart has begun to fail compensation is less easily restored than in mitral regurgitation. Auricular fibrillation is most likely to supervene in cases of mitral stenosis, rendering the prognosis serious; but by the use of digitalis and rest these cases may live on for years if it is possible to avoid exhausting the myocardium by lessening the frequency of the ventricular contractions. The prognosis in mitral regurgitation is good owing to its amenability to treatment, and especially if the hereditary history is that of a long-lived stock. In aortic disease of rheumatic origin the prognosis is good, apart from the risks of later attacks of rheumatism, both from the point of view of length of life and with regard to the amount of work which can be done. A guarded prognosis should be given in aortic disease of arterio-sclerotic origin on account of the liability to sudden death.

256. Sulphur Injections in Chronic Arthritis.

Il Morgagni (December 25th, 1921) draws attention to the favourable results obtained in chronic arthritis by gluteal injections of a 1 per cent. solution of sulphur in olive oil. The immediate results are unpleasant: a good deal of pain and swelling of the joint, fever, and troublesome vomiting—very much the same group of symptoms as follow heteroprotein injections. But unless this reaction takes place no good effects on the arthritis can be expected. MOLNAR publishes some cases where his sulphur treatment gave good results, enough to warrant further trial. The dose of the solution injected is from 3 to 10 c.cm. at weekly intervals.

SURGERY.

257. Sedimentation of Erythrocytes as an Aid to Surgical Diagnosis.

FROM a study of the sedimentation velocity of the red blood cells in 700 surgical cases LÖHR (*Zentralbl. f. Chir.*, 1921, 35) concludes that all inflammatory conditions, in spite of varying origin and intensity, are accompanied by an acceleration of the sedimentation rate, more marked, as a general rule, in the more acute and more extensive inflammations. After sterile wounds, and after uncomplicated simple fractures, a gradually increasing rate becomes manifest at about the twelfth hour, returning to normal with the occurrence of fibrous or bony union respectively. In patients suffering from benign tumours the rate is unaltered, but all tumours of malignant nature are associated with an increased sedimentation velocity, which seems proportional to the size of the neoplasm and to the rapidity of its growth. After *x*-ray treatment of tumours the rate is diminished in accordance with that of the shrinkage of the tumours. Parenteral injections of foreign proteins—for example, casein, horse serum, and tuberculin—are followed by accelerated sedimentation velocity. Applying his findings to surgical diagnosis, the writer concludes that estimations of the sedimentation rate are of service in the differential diagnosis between inflammatory and non-inflammatory swellings, especially in distinguishing chronic tuberculous disease of joints from non-inflammatory joint conditions. They do not serve, however, any useful purpose in cases in which the diagnosis lies between an inflammatory and a malignant neoplastic condition.

258. Unusual Injury to Back.

ELLIS (*Journ. Royal Naval Med. Service*, January, 1922) records a case of injury to the back presenting some unusual features. An able seaman, aged 24, felt something "give" in his back while playing football, but which did not prevent his continuing the game, nor produce any symptoms until five days later, when a swelling rather larger in circumference than a five-shilling piece appeared in the course of a day over the junction of the lumbar and sacral vertebrae. There was never any bruising or discoloration of the skin, and there was only slight tenderness on palpation, but stretching of the deep spinal ligaments and muscles by bending forwards caused pain. The swelling decreased a little in size so that the upper border of the sacrum became palpable. The man was able to move and walk about freely, and a diagnosis of haematoma, following partial rupture of the spinal ligaments, was made and subsequently confirmed by *x* rays, which showed no abnormality in the spine. The swelling absorbed spontaneously without any pain, stiffness, or other ill effects. The length of time elapsing before the swelling became evident, the absence of all acute pain, bruising, or external signs of injury, pointing to the fact that the haematoma resulted from a sudden twisting rather than from direct violence, and the comparative freedom of movement in the spine after the haematoma had formed, are the main points of interest.

259. Congenital Insufficiency of the Abdominal Muscles.

PAUZAT (*Gaz. hebd. des Sci. méd. de Bordeaux*, December 4th, 1921), in his Bordeaux thesis states that congenital insufficiency of the abdominal muscles is a definite affection, presenting the following characteristics. It is peculiar to the male sex. Malformation of the abdominal wall, such as more or less complete absence of muscular tissue, and excessive development of the abdominal wall, may occur alone or be associated with malformation of the urinary system (hypertrophy and dilatation of the bladder and ureters) or genital system (testicular ectopia). The most frequent form met with clinically is that in which muscular insufficiency of the abdominal wall is associated with malformation of the urinary tract and genital ectopia. The diagnosis is easy except in the slight forms; isolated muscular insufficiency is comparatively rare. The prognosis is good as regards life, but bad as regards function in the absence of treatment, as recovery does not take place spontaneously. Treatment consists in making the patient wear an abdominal belt.

260. Gall-Bladder Lesions.

EINHORN (*Med. Record*, December 10th, 1921) records three cases of gall-bladder lesion in which the symptoms simulated other affections of the digestive tract. In the first, a woman, aged 50, suffered from vomiting directly after food, with hunger pain, loss of weight, and a feeling of obstruction on swallowing; but the duodenal bucket-string test and gastric analysis showed the presence of cholesterin and calcium bilirubin crystals, etc., pointing to gall-bladder disease. The second case, a man aged 51, complained of symptoms suggestive of duodenal ulcer, hunger pains, and severe attacks of gastralgia with long periods of intermission. Both the string test and the examination of the bile pointed to gall-bladder disease, which was confirmed at operation. The third case, like the others, gave no symptoms of gall-bladder mischief, and had been diagnosed as intestinal obstruction, but direct examination of the bile pointed to cholecystitis probably due to stone, and there was tenderness over McBurney's point. Operation confirmed the diagnosis of cholecystitis and chronic appendicitis. These cases show the importance of direct examination of the bile, the essential points in gall-bladder lesions being turbidity of the fresh bile, and the presence of mucus, pus, bacteria, and cholesterin and calcium bilirubin crystals; the presence of large cholesterin crystals indicating the presence of stones, though numerous crystals can occur in cholecystitis without stones.

261. Spontaneous Rupture of the Epigastric Artery.

KOTZAREFF (*Lyon Chir.*, September–October, 1921) states that rupture of the epigastric artery may be traumatic or spontaneous. The result of the rupture is a haematoma of more or less considerable size, which may simulate several abdominal affections, especially those of the internal generative organs. In spontaneous rupture, of which the writer records an example, the artery on the right side is almost always affected. The cases may be divided into two groups—namely, those which present general vascular disturbances, either congenital or acquired, and those in whom these disturbances are exclusively local and almost always acquired. Arterial hypoplasia, generalized arterio-sclerosis, and chronic arteritis, which may be of syphilitic, alcoholic, or infective origin, are the usual causes of general vascular disturbances.

But it is undoubtedly possible for one of these causes to be localized in a single artery such as the epigastric. As a rule the symptoms are vague, and bear some resemblance to those of appendicitis, inflammation of the adnexa, or an ovarian cyst. The physical signs are more definite, especially if the haematoma has reached a certain size. There is then an infiltration of the superficial layers of the region, and sometimes cutaneous ecchymoses. The haematoma is only slightly movable. The swelling of the abdominal wall is well circumscribed, and not developed at the expense of the skin. Gynaecological disorders can be excluded by vaginal or rectal examination. Treatment may be either conservative (compresses and rest in bed) or, as Kotzareff himself recommends, operative—namely, ligature of the torn artery, which will prevent any relapses or complications.

262. Cholelithiasis and Carcinoma of the Gall Bladder.

MARCHAND (*Wien. klin. Woch.*, December 15th, 1921), commenting on von Aldor's paper (vide EPITOME, December 17th, No. 580), states that among 136 cases of carcinoma of the gall bladder examined at the Leipzig Pathological Institute from 1900 to the middle of 1921 no less than 110, or 80 per cent., showed biliary calculi, 26, or 23.6 per cent., of the cases being in men and 84, or 76.3 per cent., in women. Of 32 cases of cancer of the bile ducts only 6, three of which were in men and three in women, were associated with gall stones. Marchand maintains that, with rare exceptions, carcinoma of the gall bladder is always associated with a present or past cholelithiasis. This does not mean, however, that carcinoma cannot arise without gall stones, as in cancer of the large bile ducts calculi are absent in most cases. The question whether gall stones are primary or a causal factor in the development of cancer, or whether they develop as the result of carcinoma of the gall bladder, can usually be easily decided by the anatomical condition, though occasionally doubtful cases may arise. The not infrequent examples of carcinoma in which stones are not to be found are chiefly those in which fistulous connexions with neighbouring organs exist, especially the duodenum, caused by ulceration due to gall stones. Marchand points out that carcinoma of the gall bladder is one of the best examples of the development of a malignant growth from pre-existing lesions due to other causes. Its prevalence in the female sex is explained by the much greater frequency of gall stones in women, which in many cases is undoubtedly due to mechanical causes (fashion in dress). The same factor is also not infrequently present in men, as in pressure of the costal arch through constant sitting and a low position of the liver.

263. Local Use of Acetyl-salicylic Acid.

HELLER (*Therap. Gazette*, December 15th, 1921), from the experience of 1,000 cases convalescent from tonsillectomy, advocates the local application of acetyl-salicylic acid after tonsillectomy, and in acute pharyngitis, for the relief of disphagia; 1 to 3 decigrams (1½ to 4½ grains) of the powdered drug are given on the tongue eight to ten hours after operation, and repeated ten to fifteen minutes before each meal for three or four days. Relief is almost universal, swallowing being comfortable immediately the powder has passed the oropharynx. A weak solution (3 decigrams to 30 c.cm. of water) may be used as a gargle with practically the same result. In acute pharyngitis or tonsillitis similar results are obtained if 1 to 3 grains are placed on the tongue without water every three or four hours. The effect is produced by its local action and not by the septicaemic effect of the drug.

264. Hereditary Optic Atrophy.

MORIET (*Med. Journ. of Australia*, December 3rd, 1921) calls attention to the possible menace to the community of hereditary optic atrophy. Arising usually a few years after puberty as a retrobulbar neuritis with the development of a large incurable central scotoma, the vision becomes dim, colours indistinguishable, and, though never ending in total blindness, it may be so defective that the patient has to be led about. Treatment avails nothing, but the condition tends to improve, though not to any great extent. The condition is hereditary, affecting the males through the females, who rarely suffer, and the danger of its dissemination by marriage is obvious; the only means of controlling its spread is by the affected families dying out. Particulars of one family are reported in which twelve already are affected; ten are boys not yet of the age for its development, and seventeen are unmarried girls, each capable of giving rise to freshly affected families. From one union twelve entirely distinct families have been affected, and, in sparsely populated Western Australia, the author believes that in twenty years the number of cases will have increased out of proportion to the increase in population.

OBSTETRICS AND GYNAECOLOGY.

265. Pregnancy and Tuberculosis.

ACCORDING to STEWART (*Canadian Med. Assoc. Journ.*, January, 1922) it is indubitable that in the majority of cases the child-bearing cycle exercises, eventually, at any rate, a very unfavourable effect on the woman who has pulmonary tuberculosis. Although the early months of pregnancy may in certain cases show an improved maternal condition, the most fateful epoch for the mother begins with parturition. Of 200 sanatorium cases of child-bearing women, the lighting up of the tuberculous disease appeared to have occurred during a gestation in 25 per cent., in the first month *post partum* in 24 per cent., during the next twelve months in 36 per cent., and between successive cycles of pregnancy and lactation in 15 per cent. Similar findings have been reported by other observers. In the series referred to the first, second, and third childbirths seemed each to have been responsible for one-fourth of the breakdowns, pregnancies beyond the third for the remaining fourth. The deleterious effect of the child-bearing cycle is explained by—(1) mechanical factors: the gravid uterus constitutes a heavy burden, and, although pressure on the diaphragm and lungs may be beneficial, the removal of the pressure after labour is harmful by suddenly increasing the pulmonary motility (hence van Voornfeld recommends artificial pneumothorax as almost specific treatment in cases of pregnancy in tuberculous women); (2) the nervous strain of pregnancy, labour, and the care of the infant; (3) impaired nutrition during pregnancy as a consequence of nausea and vomiting; (4) the shock and haemorrhage accompanying parturition: the violent straining and respiratory efforts may tend also to force infective material from old into new pulmonary foci, as was shown by Hanan by observations made at autopsy. In answer to the question, "Should a woman known to be, or to have been, actively tuberculous ever risk maternity?" the writer remarks that pregnancy should not be allowed in a woman who has ever reached a stage anatomically "far advanced"—that is, the stage of the disease consistent with a very fair appearance and usually, though inaccurately, described as "early." Pregnancy should be forbidden in the presence of active symptoms, however slight, and thereafter for at least three years, or longer if the bacilli have ever been found in the sputum. For the many the old rule holds good that the tuberculous woman, should not marry or, if married, should not become a mother. In such a woman pregnancy may be allowed if the lesion, originally moderate in extent, has been arrested for from three to five years, during which the strength and resistance have been well and successfully tried, if economic circumstances are favourable, and if skilled medical supervision is available before and after birth.

266. Cancer of the Pregnant Uterus Treated by Radium.

DE ROUVILLE (*Gynéc. et Obstét.*, 1921, iv, 5) relates the case of a woman, aged 35, who, in the fifth month of pregnancy, consulted him for severe metrorrhagia; the child was living. Examination showed a vegetating carcinoma of the cervix with some parametrial infiltration. Application of 100 mg. of radium bromide was made for twenty-four hours. A month later the patient was prematurely delivered of a dead child, and a few days later the findings on vaginal examination appeared normal except for slight parametrial thickening. Siredey (Ibid.) records the case of a woman, aged 24, who complained of abundant haemorrhage and who was found on examination to exhibit signs of a two months' pregnancy and an indurated swelling of the anterior portion of the cervix which was proved microscopically to be an early carcinoma. A radium treatment of 22 millicuries applied for twenty-four hours was followed by rapid amelioration of the symptoms and disappearance of the morbid clinical signs. Hysterectomy, which had been contemplated, was now felt not to be justified. Pregnancy continued for some time, but was terminated after the removal later of a second piece of tissue for the purpose of microscopical examination.

267. Treatment and Prophylaxis of Puerperal Fever.

HIESS and HIRSCHENHAUSER (*Zentralbl. f. Gynäk.*, February 11th, 1922) record their experiences in treating severe cases of puerperal fever by preparations of colloidal silver, of casein, and of iodine, given intravenously in each case. Injections of colloidal silver owe, it is said, any efficacy which they possess not to a bactericidal action but to the stimulation of tissue resistance by foreign protein injection. The authors find that while some severe cases prove refractory to this treatment, others respond by rapid fall of temperature and speedy improvement of general condition. As a rule the injections were given at intervals of one or two days, and in certain cases the first two injections appeared to be

ineffective. The injection of casein preparations requires very careful dosage, which, according to the authors, may be secured by clinical observations and does not require to be controlled, as was asserted by Salomon and others, by precipitin and complement deviation estimations. Rigors and other well-marked signs of reaction followed the injections in a large proportion of cases. The therapeutic value of the treatment varies greatly in different cases. In seven cases the authors injected Pregl's iodine solution, containing, in addition to iodine, compounds which, in the presence of weak organic acids, dissociate with the liberation of iodine; one patient died, two appeared to derive benefit, and the remaining four did not appear to respond to the treatment. The authors come to the conclusion that there is little justification for the extravagant claims which have been advanced for each of these treatments; each is valuable in certain cases, especially when applied early. The greatest therapeutic advance which these means appear to offer depends on their use prophylactically, before the manifestation of signs of infection, in cases likely to become "septic," such as those of pyrexia at the time of birth, or of obstetric manipulations or operations—for example, manual detachment of the placenta or repair of a perineal tear.

268. CHMELAR (Ibid.) believes that it is possible to prevent the onset of puerperal fever by oral administration of quinine combined with intravenous injection of sodium cacodylate. Before obstetric operations are undertaken the patient is given 0.2 gram quinine hydrochloride; if numerous examinations have been made by midwives, or if injuries of the soft parts are anticipated, 0.2 gram of sodium cacodylate is injected into a vein. The dose of quinine is repeated thrice daily for five days. Prophylactic administration of quinine by midwives during the first stage of labour is recommended.

PATHOLOGY.

269. The Sparing Action of Fats on the Destruction of Albumin in Diabetes.

FROM experimental work on dogs, subsequently confirmed on human beings, MAIGNON (*C. R. Soc. Biologie*, January 21st, 1922) is convinced of the beneficial effects of the administration of fats to individuals who, in order to provide the necessary heat and energy for continued existence, are reduced to the consumption of their own tissue proteins. In healthy persons on a mixed diet the effect of increasing the fat is to cause an increase in the nitrogenous excretion. In diabetics, on the other hand, who are wasting the exact opposite is the case. The reason for this would appear to be that in the healthy subject the exclusive administration of fat renders necessary the destruction of a certain quantity of albumin in order to furnish the minimum amount of carbohydrate which is indispensable for the welfare of the organism. But in the severe diabetic the power to utilize carbohydrates is practically lost, and a demand is therefore made on the actual tissues themselves. At first it is the fats which are consumed, but later when the reserve supply of these is exhausted the proteins are made the subject of attack. The consumption of these is very wasteful, four times as much protein being required as fat, seeing that 44 per cent. is lost as glucose. The administration of fats to patients in this condition is to cause an almost immediate decrease in the quantity of tissue protein consumed and a consequent diminution in the nitrogen output of the urine. Further, however, they act by assisting in the economic utilization of albumin given in the food and are of considerable value in the actual building up of body protein. In practice he substitutes fat for the carbohydrate in the dietary, and provides a further supply in the form of oil partially saponified by a small amount of caustic soda. To combat the increased urinary acidity produced by this diet he advises the concomitant exhibition of sodium bicarbonate.

270. Mycotic Embolic Aneurysms of Peripheral Arteries.

A REVIEW of the literature on this subject is given by RICHEY and MACLACHLAN (*Arch. Int. Med.*, January, 1922), with a description of two cases of their own. Aneurysms of the peripheral arteries may be caused by simple emboli, as in the case of traumatism to the intima received from a calcareous plaque, or by simple infection, as in the cases where the adventitia is invaded by means of the vasa vasorum; but by the term "mycotic embolic aneurysm" is meant one which is consequent on the impaction in the vessel of an infected embolus. The two patients quoted were both males, both in the fourth decade of life, and both admitted to hospital suffering from infective endocarditis. In one it was a branch of the superior mesenteric artery which was attacked, in the other the right posterior tibial artery. In both cases the aneurysm ruptured, and in both a false aneurysm resulted. *Post-mortem* examination microscopically showed a similar picture in each case. The walls of the aneurysms were made up of comparatively recent fibrous tissue, which was the seat of a marked cellular infiltration; in fact, the condition was simply one of chronic inflammation. No evidence of syphilis was found in either patient. Such aneurysms as these appear to be somewhat uncommon; not more than about 100 cases have been reported. From the standpoint of treatment it is important to realize that surgical interference is to be avoided, as even if the aneurysm itself be successfully dealt with the underlying condition of infective endocarditis will remain, leading almost inevitably to the death of the patient.

271. Elimination of Arsphenamin and Neo-arsphenamin in the Urine.

A CONSIDERABLE amount of attention is now being directed towards an estimation of the amount of arsenic eliminated from the body following on injections of its compounds in the treatment of syphilis, the idea being to obtain a reliable guide to the frequency of subsequent injections. BEESON and ALBRECHT (*Arch. of Derm. and Syph.*, January, 1922) have been using for this purpose a slight modification of Abelin's test for the presence in the urine of arsphenamin or its derivatives. The reagents required are quite simple—namely, hydrochloric acid, sodium nitrite, resorcin, and sodium hydroxide—and the actual performance of the test seems to be sufficiently easy for use in ordinary clinical work. The reaction, further, has the advantage of not being given by other compounds of the benzene series which are likely to be eliminated in the urine, nor has it been found to be present in the various pathological conditions in which it has been looked for. From a study of fifty cases of syphilis they find that if neo-arsphenamin be given intravenously in concentrated aqueous solution it is practically completely eliminated within twenty-four hours. The excretion seems to be more rapid in patients suffering from primary syphilis than in those with secondary syphilis, while it is slowest in cases of tertiary syphilis and neurosyphilis. In cases of non-elimination of the drug the negative test is useful in directing attention to the general condition of the patient. On the other hand, the early elimination of the drug would seem to warrant a shorter interval between the injections.

272. Pathology of the Lochia.

PERAZZI (*Annali di Ostetricia e Ginecologia*, August, 1921) has studied the bactericidal and other properties of normal lochia and lochia from cases of puerperal fever, using Neisser and Wechsberg's method of observation of the rate of decoloration of methylene blue, mixed in different degrees of dilution, with cultures of *B. coli*. He found that the lochia from healthy puerperal patients had a well-marked inhibitory action on the growth of *B. coli;* the secretion was removed on the third or fourth day *post partum*, and its bacteriolytic action appeared to less well marked in cases characterized clinically by slower involution of the uterus. The bactericidal action of the cellular elements of the lochia (washed and centrifugalized) was less conspicuous than that of the supernatant fluid. Bacteriolytic properties disappeared when the lochia had been treated for twenty-five minutes at 70° C. The greater thermostability of the lochial bacteriolysins as compared with those of normal blood serum (which are destroyed at 60°) suggests that the substances concerned may be analogous to the thermostable haemolytic substances demonstrated by Morgenroth in organ extracts. Bacteriolytic action appeared to be increased after incubation of the lochia for ten hours at 37° C. In a series of twelve cases of puerperal fever, six showed a less, three showed a greater, and three showed the same degree of bactericidal activity of the lochia, as compared with normal cases: the first-named group constituted the most severe cases, of which one proved fatal.

273. The Relationship of Blood Groups to Disease.

BUCHANAN and HIGLEY (*British Journ. Exper. Path.*, December, 1921) have made an investigation of the blood grouping of 2,446 patients at the Mayo clinic with the view of determining a possible correlation of any particular blood group with any particular disease. The main types of disease studied were cases of malignant tumours, leukaemias, primary and secondary anaemias, jaundice, lesions of the gall bladder, and chronic ulceration of different portions of the alimentary canal. In no instance where the data were sufficiently large to allow the justifiable drawing of a conclusion was any such correlationship found. They point out that in performing work of this nature it is essential for a correct interpretation to be placed on the results to take account of the nationality of the patients, for there appears to be considerable variation in the different races with regard to the exact distribution of the blood groups.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

274. Recent Work on Digitalis Treatment.

EDENS (*Klinische Wochenschrift*, February 18th, 1922) gives a critical review of recent work on the action of digitalis preparations, which is unsuitable for brief abstract, but the following points of practical importance may be noted. Owing to the difficulty in comparing the value of various preparations in clinical work, pure active principles have been separated and employed—strophanthin and digitoxin. Only strophanthin is suitable for intravenous use; digitoxin has not proved reliable in practice. The relative values of various preparations have been estimated by their action on the frog's heart, but the results are not always reliable for clinical work. Digitalis leaf contains digitoxin, digitaline, and gitalin. Cymarin, having an action similar to digitalis, can be separated from the root of *Apocynum cannabinum*. Since all forms of digitalis are of service in suitable cases, it is not easy to determine which is the most powerful clinically, for many reasons. Krehl and others speak highly of verodigen. For intravenous treatment the author prefers strophanthin. Scilla maritima has recently been strongly recommended by Mendel, especially for aortic insufficiency, and also in cardiac failure in myocarditis, emphysema, and kidney diseases. The author considers cymarin has no advantage over digitalis and strophanthin. Respecting Fraenkel's intravenous strophanthin treatment, no new work has been published, but the author urges caution in its use. Deaths have occurred from an overdose. Wolfer recommends digalen intravenously, since no fatal results have followed. If digitalis fails when given by mouth, good results may be obtained by rectal administration. In cases of hepatic congestion, when, through disturbance of the portal circulation, the absorption from the gastro-intestinal tract is hindered, the rectal administration of digitalis deserves more consideration than it has hitherto received.

275. A New Technique for Intramuscular Injections of Calomel.

PONTOPPIDAN (*Ugeskrift for Laeger*, January 12th, 1922) points out that though the intramuscular injection of calomel has proved to be remarkably effective, its general use is discouraged by the risk of severe poisoning and considerable pain at the site of injection. The poisoning, he thinks, may be largely due to the unwitting administration of too big doses; in a suspension the calomel is apt to settle in the bottle, so that the more there is taken from it the higher grows the concentration of what is left, and in the end the patient may be given 20 to 30 cg. of calomel when the physician imagines he is giving only 5 cg. To obviate this serious objection the author suspends his calomel in cocoa butter, each 15 cg. pill or short rod of which contains 5 cg. of calomel. At room temperature these rods are as hard as suet. Made to fit exactly into an ordinary 1 c.cm. Record syringe, they are gently warmed in this syringe till they melt, and they can then easily be injected. To empty the needle completely the syringe is detached from the needle while this is still in the body, a little air is aspirated into the syringe, and is then injected through the needle, forcing all that is left in the needle into the tissues. The author adds two technical details: the injection should not be started till all the cocoa butter is melted, and the apparatus should be cleaned with spirit or ether directly after an injection. Without these precautions the needle is apt to get blocked, and it then requires renewed heating.

276. Pulmonary Diseases Confused with Tuberculosis.

OTIS (*Boston Med. and Surg. Journ.*, January 12th, 1922), from the fact that from 40 to 60 per cent. of the men invalided from the army as suffering from tuberculosis were subsequently found not to have the disease, points out that a mistaken diagnosis is not at all uncommon. Among frequent errors in diagnosis are chronic affections of the upper respiratory tract—for example, nasal obstruction, chronic naso-pharyngitis, and disease of the sinuses and tonsils—which cause chronic cough, muco-purulent expectoration, and symptoms of bronchitis or tracheo-bronchitis. For this reason the upper respiratory tract should always be examined to eliminate the possibility of error. Since post-influenzal conditions may closely simulate an active tuberculosis diagnostic error can only be avoided by frequent examinations of the sputum, and by keeping the patient under close observation; and the same applies to some cases of acute bronchitis and bronchiectasis. The assumption that all pleurisies are tuberculous in origin is unwarranted, since some recover completely without giving rise to any further tuberculous manifestations. In pneumonoconiosis it is not justifiable to diagnose tuberculosis because the patient has been exposed to inhalations of irritating dust, tuberculosis in these cases being an end-result through the lungs having been wounded by long exposure to such irritation. There is no evidence to show that gas inhalation in "gassed" soldiers conduces to tuberculosis, though many are suffering from chronic bronchitis and bronchiectasis.

277. Diabetic Oedema and Acidosis.

FÖLDES (*Wien. Arch. f. inn. Med.*, Band III, Heft 3) mentions the various views which have been held as to the cause of the oedema which sometimes occurs in severe cases of diabetes mellitus. He records a number of observations, which he considers are indications that oedema only occurs when acidosis is present (positive Gerhardt's ferric chloride reaction in the urine). His conclusion is—without acidosis, no oedema. The tendency to oedema may remain long latent until one of the following factors comes into play: (1) Sudden increase of acidosis as produced by the rapid withdrawal of carbohydrate food; (2) decrease of the polyuria, associated with diminution of the glycosuria, as occurs during fasting or when the diet is restricted to vegetables; (3) salt and water detention through treatment of the acidosis with sodium bicarbonate. Often all three factors are combined. The oedema frequently disappears if the acidosis ceases, or if the diuresis increases, or if the administration of sodium bicarbonate is discontinued. The author shows that hydraemia constantly accompanies the oedema of diabetes, and after a long consideration of the pathogenesis he concludes that acidosis leads to a predisposition to oedema or to manifest oedema, through an affection of the kidney functions, in consequence of which the excretory power of the kidneys for salt and water is diminished.

278. Prophylaxis of Measles.

THE injection of serum obtained from donors was tried during a recent epidemic of measles of moderate severity in Rochester, Minn., U.S.A., and the results are reported by MCNEAL (*Journ. Amer. Med. Assoc.*, February 4th, 1922). The donors were free from tuberculosis and syphilis, and had passed through fairly severe attacks of measles, without complications or sequelae. They were bled after an interval of five, seven, or nine days from the disappearance of the fever. The serum was bottled in amounts of 6 c.cm., preserved with 0.01 per cent. tricresol, and kept in the ice-box until used. After varying periods following exposure, sixteen recipients were given 5 c.cm. of the serum, injected into the muscles of the thigh. None of the children had ever had measles, although they had come in intimate contact with patients during the contagious period. Four of the sixteen developed an extremely mild type of measles, but no complications or sequelae. In three of the four patients the incubation period was lengthened to nineteen days. Twelve children remained free from measles. One child contracted measles two months after successful inoculation; this suggests that the immunity does not persist longer than sixty days in some cases. The method, according to the author, recommends itself highly for the prevention of measles during the period of danger, between the ages of 5 months and 6 years, in tuberculous children and in those physically below normal. In institutions in which large numbers of frail children are intimately associated the procedure might be of great value.

279. Intravenous Treatment of Pruriginous Skin Diseases.

STRASSBERG (*Wien. klin. Woch.*, December 8th, 1921) has recently employed intravenous injections of a 50 per cent. solution of glucose in obstinate cases of pruriginous dermatoses; 10 c.cm. daily were given at first, but later 2 c.cm. of the solution were used, as better results were obtained with smaller doses. In a particularly obstinate case of urticaria in which all other methods were unsuccessful an intravenous injection of glucose was able not only to stop the irritation at once but also to prevent any further eruption. In other cases of urticaria and prurigo senilis the effect of the glucose was not so striking, but as a general rule the irritation could be diminished even in very severe cases of urticaria, while pruritus without visible skin changes was only slightly affected.

280. Neuro-psychiatric Examinations.

COBB (*Journ. Indust. Hygiene*, February, 1922) reports on the brief neuro-psychiatric examination of 1,141 students with a view to ascertaining the correlation between physical examination and past history, the four main points investigated being the incidence of neurotic history, the physical indications of nervous instability, and the frequency of endocrinopathy and its relation to such instability. Of those examined, 188 (16.4 per cent.) gave a neurotic history, as instanced by such troubles as abnormal moods or difficult adaptation, past nervous symptoms, convulsions, chorea, bed-wetting, night terrors, sleep-walking, stammering, or nervous breakdown. The physical findings in relation to the histories showed that men with neurotic histories differed physically from those with no such history only in more frequently presenting exaggerated knee-jerks and tachycardia, and such vaso-motor phenomena as dermographia, flushing, excessive sweating, and palpitation; but such symptoms occurred only 6 to 10 per cent. more frequently in men with neurotic histories. Tremors, dilated pupils, acne, or variations in blood pressure with change of position, occurred as frequently in men with no history of nervous instability as in those with such a history, and it is only by following up individuals with neurotic histories for years that their greater liability to future breakdown can be determined. Only twenty-two were found to be endocrinopathic, as evidenced by precocious, delayed, or abnormal development. From observations upon the bodily mechanics those with good posture were distinctly less likely to have tachycardia and variations in blood pressure than those of poor posture, though they showed with equal frequency exaggerated knee-jerks, sweatings, flushings, and dermographia. Some relationship was noted between high blood pressure and sinus arrhythmia and poor posture, and those with good bodily mechanics passed better psychological examinations than did those with poor posture.

231. Saturnine Sciatica.

TEDESCHI (*Rif. Med.*, January 16th, 1922) publishes four cases of sciatic neuritis due to lead poisoning. Saturnine neuritis of the upper extremities is recognized, but similar affections of the lower limbs are not so common. Usually the peroneal branches are the ones affected, perhaps because of their smaller arterial supply, and the affection is generally bilateral in saturnine as in other toxic forms of neuritis. In the author's cases the neuritis was of the radicular type, intradural, and affecting the second sacral branch, and caused motor and trophic troubles, with subjective and objective signs of altered sensation. Treatment for the plumbism relieved the sciatica. In the first case reported by the author there was paraesthesia dolorosa during micturition, which suggested a "radicular" lesion.

SURGERY.

232. X-Ray Treatment of Tonsillar and Adenoid Tissue.

HERRMAN (*New York Med. Journ.*, December 7th, 1921), from a clinical experience of 54 cases, discusses the value of *x*-ray treatment of tonsillar and adenoid tissue. The head and shoulders having been covered with lead, except for an opening from two to three inches square having the angle of the jaw as a centre, the tube was so arranged that the central ray passed behind the angle of the jaw through to the opposite angle, the exposed area being of such a size that the cone of rays, filtered through 3 mm. of aluminium, included the naso-pharynx and the peritonsillar spaces. The time of exposure varied, and the dose was never larger than one skin unit, or slightly more than one-third the amount necessary to produce a faint erythema. The number of treatments averaged from six to eight, administered at fortnightly intervals. A month after commencing the treatment no colonies of *Streptococcus haemolyticus* or *Staphylococcus aureus* could be found in tonsillar tissue previously positive, and there was destruction of lymphoid cells with shrinkage of the crypts, without damage to adjacent normal cells. By the end of the treatment every fibroid tonsil had become normal or less in size, but the large hypertrophic tonsil did not respond so readily in this respect, though its colour changed and the crypts became empty, and shrinkage continued after the cessation of treatment. Nearly all the children gained weight, and in complicated cases the cardiac condition, appetite, and power of self-control improved. Response to treatment was variable, some responding much more readily than others. This method of treatment is specially indicated in cardiac and choreic cases and in all those where operation is contraindicated, and in the hands of an expert radiologist it is safe and not likely to lead to burns or damage to neighbouring structures.

283. Arthroplasty of Knee-joint.

OGILVY (*New York Med. Journ.*, November 16th, 1921) describes the technique of an operation for the mobilization of bony ankylosis of the knee-joint which in a case recorded gave a practically normally functioning joint with free flexion to a right angle, no lateral motion, and perfect stability, in a patient with bony ankylosis of four years' standing. Free exposure of the ankylosed joint surface was obtained by reflecting a flap including the patella. The new joint was chiselled as closely approximating the line of the old joint as possible, and no bone was removed. After flexion of the joint the new articulating surfaces were thoroughly smoothed with a curette, and after stripping away the capsule with the external and internal lateral ligaments sufficiently to allow of flexion to a right angle, a flap of fascia lata, with its adjacent fat, the size of the hand, was placed in the joint with fascia side upward against the lower end of the femur. This was retained in position by two sutures, one to the external and the other to the internal lateral ligament, the limb was straightened, and the patellar ligament reunited with chromicized catgut and the wound closed. The limb was put up in full extension in plaster for a fortnight, when the anterior surface of the plaster was removed and the knee lifted slightly out of the cast, such passive movement being continued for the next fortnight. One month after operation partial weight-bearing was allowed with massage and active and passive motion, and a month later the patient was able to walk without crutches, with power of flexion to a right angle and a stable joint without lateral mobility.

284. Injuries to the Semilunar Cartilage.

EAVES and CAMPICHE (*Med. Record*, December 24th, 1921) discuss injuries to the semilunar cartilage of the knee, arising especially from industrial accidents, from the point of view of the best time for, and mode of, operative interference. This depends upon the completeness of reduction at the time, no reduction being complete unless full extension of the leg is maintained. If after six weeks' rest the knee is swollen and painful, operation is indicated by the Robert Jones method, with the leg hanging at a right angle to separate the articular surfaces. Through a transverse incision commencing at the inner border of the patella the cartilage is exposed, freed, and excised. When the posterior portion has been injured this is best performed through an incision interrupted at the middle in order to leave the internal lateral ligament intact. The anterior portion having been freed, the whole cartilage can be then excised through the posterior portion of the incision. Excision is preferable to suturing the cartilage in its place, since in the vast majority of cases it is its free border which suffers. Excision should in every case be as free as possible.

285. Acute Haemorrhagic Pancreatitis.

DE BEULE (*Le Scalpel*, January 7th, 1922) publishes eight cases of acute pancreatitis treated by him. The accepted pathology of many of the cases is a reflux of duodenal contents into the bile duct and pancreatic canaliculi, stimulating the action of the protrypsin and rendering it proteolytic, producing autodigestion of the pancreas, with subsequent necrosis. On opening the abdomen, in addition to the intense congestion of the pancreas and blood, numerous islands of fatty necrosis are seen, made up of masses of stearin—this is pathognomonic of acute pancreatitis. A large number of cases are secondary to gall stones, but other causes—for example, infections, injuries, etc.—may also set up the condition. In the acute cases the symptoms are those of "acute abdomen" and suggestive of perforated gastric ulcer. The subacute cases may end in chronic abscess and persist for some weeks. Laparotomy and drainage is the proper treatment. Details of eight cases treated by the author in the course of the last fifteen years are given.

285. The Diagnosis of Abdominal Disease.

IZAR (*Il Policlinico*, Sez. Prat., November 14th, 1921) states that in diagnosis of organic disease of the abdominal organs strong and deep percussion may often supply more valuable information than that given by palpation. His observations have shown that, though it may often be true that in organic lesions of the abdominal cavity zones of hyperaesthesia (dorsal and epigastric) may coexist with tenderness on percussion, they may be absent, especially when the organs are deeply placed. On the other hand, zones of hyperaesthesia without tenderness on percussion contraindicate an organic lesion and are rather in favour of a purely functional or purely nervous lesion. In any case, while zones of hyperaesthesia have in most cases no definite boundaries, being diffuse and susceptible of ample modification under the influence of suggestion, the areas of tenderness on deep percussion are definitely circumscribed and represent a strictly objective sign.

287. Relation of Conjunctivitis to Rainfall.

SICHEL (*South African Med. Record*, December 24th, 1921) from 1913 to 1915 investigated an epidemic of conjunctivitis on Christmas Island, Indian Ocean, the sole industry of the island being the production of phosphate of lime by quarrying. The glare and dust constitute the main contributory causes in the production of the condition. Seeing that on rainy days the dust is laid, and there is an absence of sun, he investigated the rainfall statistics in conjunction with a study of the records which had been kept for every case of conjunctivitis occurring during a period of fourteen years. That the incidence of the complaint has little to do with temperature is seen from the fact that the temperature of the island throughout the year is remarkably uniform. Examination of the curves of conjunctivitis and rainfall shows that when the incidence of the disease was extremely low the rainfall was consistently above the average, and that, while for four consecutive years the rainfall was below the average, it was during this period that the second great epidemic occurred. In examining the relationship between the average monthly incidence of conjunctivitis and the average number of rainy days per month, estimated for a period of fourteen years, the curve of conjunctivitis is seen most strikingly to vary inversely with that of the rainfall. The value of these results is emphasized by the fact that they are based upon indisputable figures comprising a period of fourteen years, and in a non-floating community where no case could escape detection.

283. Ambulatory Treatment for Chronic Ulcers of the Leg.

GURD (*Canadian Med. Assoc. Journ.*, November, 1921) describes a modification of a method, not unknown in this country, which has proved successful in the treatment of chronic ulcers of the leg, and which avoids the necessity for confinement to bed and allows the patient to continue an occupation. After bathing the leg in a solution of washing soda, thoroughly cleansing it with soapsuds and a soft brush, and excising all sloughs with scissors, the limb is washed with petrolic ether or alcohol. The patient lies on his back with the leg held nearly vertical for from thirty minutes to two hours, until all oedema has disappeared, by which time it is thoroughly dry and ready for strapping. The completeness of the drainage of all oedema is an essential point in the treatment. With the leg still elevated, strips of strapping from 2.5 to 3.5 cm. in width are applied from the base of the toes, over the ulcer, and as far as the attachments of the fascia to the tuberosities of the tibia and the head of the fibula. If the ulcer is discharging freely a gauze dressing and bandage may be applied over the strapping, and this can be changed by the patient as often as necessary, but the strapping only when the discharges become foul. Generally the first strapping is changed at the end of from four to ten days, and then at two or three weeks' interval, the same technique as regards elevation, bathing, and drying of the limb being adopted each time.

289. Diagnostic Exploitation of Local Anaesthesia.

SCHOLL (*Deut. med. Woch.*, December 8th, 1921) records cases in which, by the induction of local anaesthesia, he was able to refer the pain from which the patients suffered to its real cause. One of these patients was a woman on whose right ear a radical operation had been performed. The operation wound healed uneventfully, but she complained of pain behind the scar over the mastoid process. It was not clear whether this pain was due simply to neuralgia or to persistent suppuration in some part of the field of operation. To clear up this point 1 c.cm. of a 2 per cent. solution of novocain was injected into the small occipital nerve. The pain ceased at once. As the cellulae mastoideae are supplied by the fifth and ninth cranial nerves, and not by the small occipital nerve, neuralgia of this nerve was diagnosed. In another case the differential diagnosis was aided by the injection of a local anaesthetic into the sciatic nerve of an old woman who complained of pain in the right leg. It was ultimately proved that she suffered from a tumour of the cauda equina.

290. Laryngeal Symptoms in Syringomyelia.

ACCORDING to WEISSHAPFEL (*Wien. klin. Woch.*, December 15th, 1921), who records two personal cases, a number of instances of syringomyelia with laryngeal symptoms have been reported. Twelve were collected by Schlesinger in 1891, including seven personal cases, and twenty-eight by Baurowicz in 1897. The most frequent laryngeal manifestation in syringomyelia is paralysis. After a more or less transient prodromal stage of posticus paralysis which is mainly unilateral there is complete paralysis of the recurrent laryngeal. Less frequently there are twitchings and more or less rhythmical movements of the arytenoid cartilages or vocal cords, which in Weisshapfel's cases were associated with posticus paralysis.

OBSTETRICS AND GYNAECOLOGY.

291. Neoplasms of the Cervical Glands.

FROM microscopical observations of a large series of preparations obtained in Faure's laboratory, MOUKAYÉ (*Gynéc. et Obstét.*, 1922, vi) concludes that proliferations of the cervical glands may show appearances corresponding to any stage of a transition between normal glands and adenoma, or of the same transition carried farther from cervical adenoma to the extreme stage of true cylindrical-celled carcinoma. For the most part the initial stages of these hyperplastic conditions are traceable to chronic inflammation, but once the conditions have been established they progress independently of the inflammatory cause. True cervical adenoma consists in a limited benignant proliferation of the cervical glands, which preserve their normal cytological type, and whose secretion retains its mucous character; two forms are to be distinguished, of which the first produces visible protrusions constituting what is commonly called glandular cervical polypus, and the second, growing inwards rather than outwards, most often passes unrecognized. Histologically, also, there are two types, the lobular and the capillary, of which the first exhibits greater tendency to malignant transformation and demands clinically more radical operative treatment. Between these adenomata and cylindrical-celled carcinoma there exist intermediate forms of penetrating adenoma; these occur with rarity, are still more rarely recognized at biopsy, and are to be regarded as at least semi-malignant. Cylindrical-celled endocervical carcinoma begins as a rule in an adenoma, which may be of large or of microscopical dimensions: its distinguishing cytological characters are a disappearance of mucus and the appearance of karyokinetic cell-division. Such a growth may undergo metaplasia with the formation of cells, resembling but distinguishable from those of a squamous-celled carcinoma. In discussing indications for operation the writer describes adenoma of the cervical glands as a pre-cancerous condition occupying the same relation to malignant disease of the cervix as leucoplakia does to cancer of the tongue. For adenomatous polypus it is logical to scrape away the whole of the cervical mucosa. Ablation of the non-protruding adenoma can usually be effected satisfactorily by amputation of the cervix, but in cases in which a penetrating adenoma is diagnosed it is prudent to perform hysterectomy.

292. Heart Disease in Pregnancy.

ACCORDING to DICE (*Amer. Journ. of Obstet. and Gynec.*, January, 1922) mitral stenosis in pregnancy has a mortality of 50 per cent.; uncompensated aortic disease, which is much rarer, of 25 per cent.; while mitral regurgitation in patients in whom no break in compensation has previously occurred shows with proper care an almost negligible mortality. It must be remembered that during pregnancy no cardiac murmur or irregularity is of itself an evidence of heart disease; if the response of the heart to effort is good and the size of the heart is not increased the murmur is of no significance; if the heart is enlarged and there is good response to effort pregnancy may be permitted to occur or progress; in the case of a hypertrophied heart with limited response to effort the course of the gestation requires most careful supervision. If a cardiopathic subject has suffered from breathlessness and cardiac pains during ordinary life pregnancy should be interdicted—or if already present terminated. Another sign warranting the same advice or treatment is the detection in the morning of râles (persisting after more than one or two deep inspirations) at the base of the lung on the side on which the patient has been lying during the night. A pregnancy lessens the expectation of life of any woman suffering from chronic valvular or muscular lesions. In the treatment of decompensation fairly large doses of digitalis (15 to 20 minims of the tincture every three or four hours or more) should be used. For heart failure impending during labour the best results are to be expected from Caesarean section under gas and oxygen anaesthesia.

293. Mortality of Wertheim's Operation.

ACCORDING to V. KUBINYI (*Zentralbl. f. Gynäk.*, February 11th, 1922) further advances in treatment of cancer of the cervix are to be expected from earlier diagnosis and earlier performance of Wertheim's extended hysterectomy rather than from developments in *x*-ray or radium therapy. The surgical possesses, in comparison with *x*-ray or radium treatment, the advantages that it permits of extirpation of glandular metastases and allows operative treatment of extensions of the growth to the urinary system. The writer claims to have traced in the literature 34 cases in which cure, without recurrence, followed removal of carcinomatous lymphatic glands, and quotes a personal case in which

glandular and omental metastases were successfully removed from a patient, aged 28. The importance of treating the bladder and ureters when necessary is shown by the finding of Simmonds that over 50 per cent. of patients with cervical cancer die of pyelonephritis and uraemia; the writer has had five cases of cure after resection and implantation of the ureter and one after excision of the vesical trigone. The mortality of the operation is given as 15 to 20 per cent.; but this rate should be considerably reduced by the following means: (1) Careful preoperative local treatment, consisting in excision of the superfices of the growth, followed by cauterization and application of hydrogen peroxide and tincture of iodine in succession; (2) the use of local and paravertebral anaesthesia in debilitated subjects; (3) changes of gloves during the operation and attention to other points of aseptic technique, together with lavage of the operative field with hydrogen peroxide; (4) increased employment of the vagino-abdominal or abdomino-vaginal operation, which is of shorter duration and is attended with less shock than the abdominal method; (5) combination of operative with radium therapy. In the writer's hands the mortality was 10.3 per cent. among 93 cases and 6.4 per cent. in his last 74.

291. Duration of Life in Cancer of the Uterus.

SIEGEL (*Zentralbl. f. Chir.*, January 7th, 1922) has made a study of the length of survival in cases of cancer of the uterus observed at the Giessen Gynaecological Clinic during the period 1905–13. He comes on the whole to similar conclusions to those of Krönig; but while Krönig reckons the average length of survival of inoperable cases of cancer of the cervix at one and three-quarter years, and of operated cases at one and a half years, Siegel found that the average length of survival of inoperable cases was two and a quarter years, and of operated cases two and three-quarter years, so that operation prolonged life for six months on the average. Five years after the commencement of treatment 24 per cent. of the operated cases were still alive, as compared with only 13 per cent. of the inoperable. In cases of carcinoma of the body of the uterus the outlook is somewhat better. Siegel therefore regards irradiation of operable tumours as justifiable, and recommends that radical operations with a high mortality should be superseded by slighter operations followed by intensive *x*-ray treatment.

PATHOLOGY.

295. The Goldsol Test in Mental Disease.

BEDFORD (*Journ. Mental Science*, January, 1922) regards the goldsol test, from its greater reliability and simplicity of technique, as preferable to the Wassermann reaction in the diagnosis of neuro-syphilis, since it merely consists in making ten saline dilutions of the spinal fluid, adding the goldsol reagent, and interpreting the results by the degree of gold precipitation. Typical well-marked reactions are obtained only in general paralysis, tabo-paresis, and juvenile paresis, the percentage therein of positive reactions being 95. Comparisons made in 250 cases showed the reaction to be as reliable as the Wassermann, and even more so in the detection of early disease; and it is helpful in the recognition of acute poliomyelitis, and may prove of more value in the diagnosis of congenital syphilis than any other test. Its simplicity as compared with the Wassermann test, and the facts that it only occupies a few minutes and that only a few drops of the spinal fluid are required, are important points in its favour. It is not applicable to blood serum as a means of diagnosing general paralysis, because a dilution corresponding to 0.08 per cent. causes precipitation of gold in the same way as a strongly positive paretic fluid, but the presence of a small amount of blood in the spinal fluid does not render it unfit for testing. The chief drawback is the uncertainty of being able to prepare a good goldsol at every attempt.

296. Streptococcal Infections of the Heart.

COOMBS (*Quart. Journ. of Med.*, January, 1922) describes the two main types of streptococcal infection of the heart—namely, the simple rheumatic carditis and progressive ulceration of the endocardium. Of these the former occurs chiefly in childhood or adolescence and is really a pancarditis, all parts of the heart—myocardium, endocardium, and pericardium—being attacked simultaneously. There are many intramyocardial foci of inflammation characterized by intracellular degeneration and interstitial proliferation, the focal reaction running a brief course and recurring from time to time. The cicatricial changes which result from the healing of these foci lead to degeneration of the myocardium, and the patient dies as the result of the mechanical embarrassments which the cicatricial changes impose on the action of the heart. It is believed that this variety of carditis is the result of the invasion of the heart by streptococci through the coronary blood supply, the process being frequently repeated. In ulcerative endocarditis, the second type of streptococcal infection, the organisms attack the endocardium only, and such lesions of the heart muscle as may occur are secondary to the endocardial lesions and probably embolic in origin. In ulcerative endocarditis the streptococci may either invade the valves from the surface or be carried to them by the coronary vessels, and the original source of infection can often be traced to some streptococcal focus of inflammation, such as puerperal sepsis. The infective agent may even be derived from the common streptococci of the alimentary or respiratory tract. The cardiac lesions which follow when animals are inoculated with streptococci intravenously belong to the type of ulcerative endocarditis; there is widespread endocardial inflammation and necrosis, with myocardial lesions of vascular origin. The main conclusions of the author are that both rheumatic carditis and ulcerative endocarditis are lesions of the heart due to streptococci; in the former infection is due to small doses of streptococci carried to the heart muscle by the coronary artery and frequently repeated, whereas the latter bears a strong resemblance to the effects produced by the intravenous injection of a large dose of streptococci.

297. The Red Blood Cells in Cancer.

ROBIN (*Les Néoplasmes*, No. 1, January, 1922), after a review of the literature on the condition of the red cells in cancer and a statement of his own results, expresses the following opinions. Low red cell counts are commonly found in cancer, but there is no relationship between the anaemia and the gravity of the symptoms. The red cell counts are markedly variable in the same patient from time to time, and may even oscillate to a point above the normal. In the majority of cancers the colour index is reduced to 3/4 or 1/2, but the loss in haemoglobin is occasionally not so great as the reduction in red cells, with the result that a colour index of above 1 is obtained. Such a case might be easily mistaken for pernicious anaemia. Irregularities of staining, polychromatophilia, and basophilia are commonly found in the red cells of cancer blood, and, since they are more frequently found in advanced cases, these signs should be regarded as of evil omen. Irregularities of size and shape of the red cells are almost the rule in cancerous anaemia. Nucleated red cells are found in 30 per cent. of cancer cases, but they are seldom numerous, and require to be searched for carefully. They are, of course, common to all secondary anaemias, and their presence is of no value either for diagnosis or prognosis. Robin finds that the red blood cells in cancer are more resistant and less easily haemolysed than red cells of normal blood, and he looks on this as a mechanism of defence against the multiple causes of destruction to which they are exposed.

298. Surface Tension and the Bactericidal Power of Certain Disinfectants.

IN contradiction to Christiansen's demonstration that the disinfecting power of the alcohols bears a relationship to their superficial tension, HANSEN (*C. R. Soc. Biologie*, January 28th, 1922) has brought forward evidence which suggests that other factors are involved besides those of purely physical nature. Working with a culture of *Staphylococcus aureus* he investigated the disinfecting power of alcohol and hydrochloric acid, at first separately and then combined. As a result he finds that their joint action is very much stronger than would be anticipated from a consideration of either of them singly. That this effect is not merely one of surface tension is shown by the fact that it is not brought about by other substances, such as saponin or peptone, which exert a marked lowering of surface tension, while, on the other hand, it is obtained by such substances as methyl or propyl alcohol and even by acetone. The probable explanation is that the alcohols act by increasing the permeability of the bacterial membrane to the disinfecting substance, the adsorption of which is regulated by the surface tension.

299. Tubercle Bacilli in the Blood.

ALBERTARIO (*Tuberculosi*, December, 1921) has examined the blood of 100 cases of tuberculosis (mostly pulmonary) with a view to the detection of tubercle bacilli. He took 4 to 5 c.cm. of blood, let it coagulate, removed the serum without touching the upper part of the clot (preferably from the red clear zone), spread on a slide washed with sulphuric acid, fixed with alcohol and stained with Ziehl. Of the 100 cases examined, 52 gave a positive result, mostly where the temperature was raised, and in some scattered tuberculous lesions without pulmonary affection. In 8 early cases tubercle bacilli were found in the blood, although repeated examination of the sputum gave a negative result.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

300. Familial Syphilis.

FOWLER (*Med. Journ. of Australia*, December 24th, 1921) records the results of a serological study of 1,000 persons, mostly pregnant or parturient women and their infants. The ante-natal early detection and treatment of pregnant syphilitics is urged, since 10 women so treated all had mature healthy-looking babies, whereas of 23 untreated women 5 had stillborn macerated infants, and the infants of 2 others developed congenital syphilis. Examination of collaterals of syphilitic mothers showed a very large proportion of apparently non-syphilitic husbands of undoubtedly syphilitic wives. In the majority of instances the infection was latent without any recognizable lesion, and this, together with the unreliability of the obstetrical histories, renders the Wassermann test the only reliable one for detecting all infections; the only valid criticism against this test is the fact that the majority of reactions in infants at birth are positive, though their serum often loses the power to react in a month or so, rendering post-natal treatment unnecessary. In adults antecubital venous puncture is the best method for giving injections and for obtaining blood samples. In babies puncture of the longitudinal sinus through the anterior fontanelle is satisfactory, but, since it is found that the results of tests with sinus blood are similar to those with umbilical cord blood, a sample of that obtained at the confinement obviates the necessity for sinus puncture. For injections in infants superficial temporal vein puncture succeeds in 50 per cent. of cases, failing which the injection must be made subcutaneously; while in older children jugular vein puncture is recommended, where the antecubital veins are unsuitable.

301. Periodicity of the Incidence of Chlorosis.

SCHAUMAN (*Finska Läkaresällskapets Handlingar*, November and December, 1921) finds that the incidence of chlorosis varies remarkably from one decade to another, and that at present it has become so rare in Finland that it is difficult to obtain a single case in hospital for teaching purposes. In 1897 there were 13 cases in his 50-bed hospital; in 1898 there were 11; in 1899 there were 3. Since 1907 the annual number of cases has ranged from 0 to 2, and during five years not a single case of chlorosis was admitted. He finds the same decline in the frequency of chlorosis in general practice, and he publishes charts showing how in other countries, such as Sweden and the United States of America, similar, but not necessarily synchronous, oscillations occur. In Stockholm, in the period 1879–1919, the number of cases treated at the Sabbatsberg Hospital in one year has been as great as 68 (1892), and as small as 0 (1904–13). Similar wide oscillations were observed at the Massachusetts General Hospital between 1898 and 1906. The author suggests that excessive consumption of alcohol by the parents may result, a score of years later, in chlorosis in the female offspring; and he refers in this connexion to a study by Huss, who considered that chlorosis is a late sequel to abuse of alcohol. In 1830 the consumption of alcohol in Sweden was excessive, almost every farmer being a publican, and in 1850 chlorosis became so common as to be regarded by many physicians as a national scourge.

302. Treatment of Hiccup.

WEGELE (*Deut. med. Woch.*, February 9th, 1922) discusses the treatment of hiccup, and notes that in slight hiccup a teaspoonful of sodium bicarbonate on a full stomach may often give relief, its action probably being due to generation of carbonic acid. He also recommends a device described in 1921 by Fuld, who found that the introduction of a stomach tube quickly arrests hiccup. A more radical procedure is the injection of an anaesthetic into the phrenic nerves, as recommended by KROH (*Deut. med. Woch.*, August 11th, 1921). A few days after reading Kroh's account Wegele was consulted by a patient who suffered from incessant hiccup, and had been able to eat little and not to sleep at all for eight days. A careful examination revealed nothing abnormal apart from the hiccup, and as it was unaffected by compression of the phrenic nerves and the patient was in a critical condition, bilateral injections of novocain were given, an interval of a day being allowed between the injections on the two sides. Complete arrest of the hiccup was effected in a few hours, and when the patient reported himself eight days later there was no sign of a relapse. In one of the two cases recorded by Kroh the patient had been driven so frantic by the hiccup that he attempted to commit suicide. The result in both these cases was dramatically successful. Kroh injects the local anaesthetic about two fingerbreadths above the clavicle, the needle being inserted at the outer border of the sterno-mastoid muscle and thrust to a depth of 2 to 4 cm. Pain in the shoulder and cardiac and abdominal regions betrays contact of the needle with the phrenic nerve.

303. The Relation of Embolism in the Limbs to Heart Disease.

BULL (*Acta Chirurgica Scandinavica*, January 17th, 1922) has found 15 cases of embolism of the limbs among 6,140 necropsies, and has investigated the other pathological conditions found after death in these 15 cases. Gangrene had developed subsequently to the embolism in 6 cases, and in all but one of these 15 cases the lower limbs were the seat of the embolism. Only in one case was it not possible to find embolism in other organs; in the remaining 14 cases thirty emboli were found in other organs in addition to an artery of a limb. Emboli were found nine times in the lungs, nine times in the kidneys, seven times in the spleen, four times in the brain, and once in the intestines. In 13 of the 15 cases thrombi were found in one or more of the cardiac cavities, and it was presumed that in the remaining 2 cases the primary thrombosis was situated in the aorta. The author's chief lesson is that thrombi may form in the heart at any age, and that, therefore, embolic gangrene of the limbs may also occur at any age. In 181 cases of thrombotic formations in the heart there were 5 in which the patient's age was under 15; the age of the oldest patient was 86. Therefore, even when the patient is old, gangrene of a limb is not necessarily due to senile changes but may be the result of embolism. Particularly when the symptoms appear suddenly and are unilateral, and when gangrene appears shortly afterwards, there is every reason for suspecting embolic gangrene irrespective of the patient's age.

304. Fatalities from Calomel Injections.

BACKER (*Hospitalstidende*, November 23rd, 1921) has observed two fatal cases of mercurial poisoning following intramuscular injections of calomel. He finds that 16 such cases have hitherto been recorded, and he notes that the dosage in many of these cases was heroic. But in his two cases this was not so. In the first case three intramuscular injections of 10 cg. of calomel were given at intervals of eleven to twelve days. In the second case three intramuscular injections of 5 cg. of calomel were given at intervals of a week. On the day of the third injection neither of these patients showed signs of impending mercurial poisoning; there had been a little transient gingivitis and tenderness about the teeth after the second injection, but no alarming symptom of poisoning. In both cases the third injection was rapidly followed by fever, diarrhoea, and other signs of severe mercurial poisoning. This ended fatally twenty days after the third injection in the first case, and six days after the third injection in the second case. In consequence of these two cases, which occurred at the author's hospital in 1915 and 1921, he has abandoned intramuscular injections of calomel, finding the oral administration of mercury perchloride much safer.

305. Premature Senility (Progeria).

FARRAN-RIDGE (*Journ. Neurol. and Psychopathol.*, November, 1921) records notes of a case of premature senility presenting signs the reverse of those seen in acromegaly. The patient was a boy, aged 9, with the shrunken face and deep-set eyes of an old man, but in size and mentality equal to between 4 and 5 years of age. He is said to have looked old from birth, and when about 10 weeks old he was thrown out of a push-cart on to his head, and later developed some wasting disease, for which he was treated in different hospitals without benefit. At 2 years of age he had an ulcerated mouth, and his lower incisor teeth fell out spontaneously. At 4 he weighed only 28½ lb., was incontinent in habits, and had to be fed and dressed, but he was able to walk and could say a few words. He suffered intermittently from otorrhoea, and the anterior fontanelle was very late in closing. He was stunted in stature, with a head hydrocephalic in shape, hair thin about the temples, with a patch of white near the occiput, root of the nose retracted, and lower jaw poorly developed; the skin covering the abdomen was strikingly redundant and wrinkled. While his early history might account for a general retardation in development, the peculiar distribution of the abnormalities is suggestive of a disturbance in the growth mechanism the direct reverse of acromegaly. *X* rays showed

a normal sella turcica, and the tonsils and thyroid were not enlarged. There was no evidence of any organic disease and the Wassermann reaction was negative. Except for some minor differences the identity of the condition with that described as progeria seemed established.

306. Administration of Fluid in Infantile Diarrhoea.

GETTINGS and DONNELLY (*Amer. Journ. of Dis. of Children*, February, 1922) discuss the value of intraperitoneal injections of saline to prevent the dehydration which occurs in severe cases of infantile diarrhoea. The injections should not exceed 300 c.cm., best given in two separate doses. The bladder should be empty when the peritoneum is punctured, and of course rigid asepsis must be observed. But the authors conclude that if forced ingestion of water by a nasal tube is practised before anhydraemia develops then other routes for the injection of water will rarely be needed. The nasal tube consists of a small, soft, rubber catheter, which should be well lubricated with stiff grease and passed for a distance of 8 to 10 inches into the oesophagus. The funnel attached to the catheter is then held under water to make sure that the tube has not passed into the trachea, and then from 100 to 250 c.cm. of sterile water can be poured into the funnel. The whole procedure can be carried out quickly before the child has time to resist, and water will usually be retained when given by this method, although all water taken by the mouth is vomited.

307. Epileptoid Attacks in Hypopituitarism.

CLARK (*Amer. Journ. Med. Sciences*, February, 1922) points out that relatively slight fainting attacks, at times simulating petit mal, occur in some rapidly growing adolescents. There appears to be an excessive functioning of the anterior lobes of the pituitary gland in such cases, accompanied by low blood pressure, slow pulse, and vasomotor ataxia, and often slow mental development. Improvement usually follows outdoor living and long hours of sleep, and, in some cases, the administration of post-pituitary and thyroid gland substance. Slow and incomplete loss of consciousness, preceded by dizziness, palpitation, and a sinking cardiac uneasiness, the absence of convulsions and after-effects—for example, transitory automatism, stupor, etc.—distinguish the condition from epilepsy. Many of the slighter grades of the condition improve without definite treatment, the other ductless glands curing the hypophyseal imbalance by atrophy of the thyroid or excessive functioning of the adrenals.

SURGERY.

308. Radical Cure of Femoral Hernia.

THE large number of operations described for the cure of femoral hernia is perhaps the best proof of the inadequacy of most of them. It is not always easy to obtain, by a simple operation, the absolute cure of a hernia, for if several methods give satisfactory end-results they are, as a general rule, difficult to carry out. For this reason PIOTROWSKI (*Lyon Chirurgical*, November–December, 1921) compares with other methods the results obtained by means of the suture-in-U, which operation is marked by its simplicity. This procedure, based on anatomical lines, aims at closing the crural ring, and has been adopted in several clinics, but is unfortunately not widely known. The incision is made parallel to Poupart's ligament, slightly below it and across the swelling. The sac is identified and freed from properitoneal fat as high as possible. The sac is then opened and the contents reduced after careful examination, Gimbernat's ligament being divided if necessary. If the hernia contains strangulated gut and a resection is indicated, this is done and an end-to-end anastomosis performed. If only a small area is affected this may be infolded. In ligaturing the sac it is advisable not to pull it down too much for fear of wounding the bladder. To perform the radical cure a Reverdin needle is passed from just above Poupart's ligament through the abdominal muscles. The index finger of the left hand is introduced into the crural canal and pushes up the stump of the sac. The needle is then passed on to this finger, which defines the ring. The finger is next slightly withdrawn and the needle passed so that it just grazes the pubic bone, going through Cooper's ligament and picking up the periosteum if possible. The needle is threaded and withdrawn. A little to the inner side of this point it is reintroduced and the same procedure carried out. The two ends of the suture are then tied, but not too tightly. If the ring is large a second suture may be necessary. The abdominal muscles are thus drawn down to Cooper's ligament and close the opening between the abdominal cavity and the crural canal. The wound is then sutured and the sutures removed about the eighth day. Out of 66 cases which he has been able to trace, there were four recurrences (6 per cent.). Recurrence is generally due to infection. This operation is valuable, as it gives the advantages of the operation by the inguinal route without the technical difficulties. It is a simple procedure, easy to carry out, convenient for all types of case, and deserves to be more widely employed.

309. Abdominal Hernia.

FRANK (*Amer. Journ. of Surgery*, January, 1922) states that inguinal hernia is the most common variety seen, femoral hernia being the next in frequency. It is now the accepted belief that abdominal hernias exist potentially from birth and a strain forces the contents into a pre-existing sac. It is therefore often advisable to repair both sides at operation. The cause of recurrence in many instances is that surgeons do not adapt their operation to the particular type of hernia—that is, direct or indirect—but follow one set plan. Direct hernias are more liable to recur after operation. Recurrence takes place in about 1 per cent. of all cases, being slightly more frequent after the Fergusson than the Bassini type of operation. In direct hernias and in old hernias with a large opening it may be necessary to split the sheath of the rectus and use it for reinforcing the canal. Hernias which recur within six months are due to septic infection or where a wrong type of operation has been performed. Most recurrences take place in aged individuals, and in them removal of the testicle and cord is desirable to permit complete anatomic closure of the canal. In femoral hernia Frank never closes the ring and never sees recurrence. The operation of Mayo promises almost a sure cure for umbilical hernia, and the risk of recurrence is very slight. In strangulated or incarcerated hernia the danger of delay cannot be too strongly accentuated. Taxis should only be employed on the operating table. In patients *in extremis* it is best to make an artificial anus and later complete the operation by resection and closure of the opening. In treating the sac, in inguinal hernia, it is best to free the neck, transfix it, and fasten this with the suture well upwards under the conjoined tendon. This eliminates the funnel-like process so potent in the production of hernia. If the distal end is adherent, leave it alone: no trouble ensues. In children a well-fitting truss is applied, in the hope that with muscular development the hernia will close early in life. Should a cure not result, operation is undertaken after 3 years of age. For dressings no pad is placed over the incision, as this causes interference with nutrition and delayed healing. Likewise no truss is used post-operatively. Rest in bed for from two to three weeks, followed by cautious resumption of exercise, should result in less than 1 per cent. of recurrence. The operative mortality is practically *nil*.

310. End-Results of Tonsils and Adenoids Operations.

WRIGLEY and ARCHER (*Journ. Laryngol. and Otol.*, March, 1922) record the end-results of 200 consecutive cases of tonsils and adenoids treated by operation; in all cases at least a year had elapsed between the operation and the final examination. The majority were treated as out-patients, only those over 15 years of age, or living more than three miles away, being detained for a night. Tonsillectomy under daylight illumination, with as little swabbing as possible, was performed in all the cases with O'Malley's blunt tonsillotome, the adenoids being removed with a caged curette, and in no instance was it necessary to adopt measures to check haemorrhage either at the operation or later; in the great majority there was no local after-treatment. The indication for and results of operation included 128 cases of nasal obstruction and mouth-breathing, in which all symptoms were relieved except in three; 34 cases of tonsillitis, all relieved; 93 cases of non-suppurative deafness, all cured except 7; 39 cases of suppurative otitis media, all relieved except 11; 7 cases of enlarged cervical glands, all cured but one; and 7 cases of quinsy, all cured. Tonsils completely removed did not recur, but in 6 cases the lower pole of the tonsil remained through incomplete removal. Adenoids recurred in 3 cases, but in only one was recurrence sufficient to require further operation. In aural lesions the operation resulted in recent perforations drying up and the resolution of mucous catarrh.

311. Chronic Lumbago of Traumatic Origin.

ACCORDING to MARTIN and JUVIN (*Journ. de méd. de Lyon*, November 20th, 1921), who record four illustrative cases, apart from muscular lesions and fractures caused by laceration or crushing of the vertebrae, injuries to the vertebral column may affect a structure which is previously healthy and give rise to a traumatic spondylitis, in which case the trauma is entirely responsible for the patient's condition. On the other hand, if the trauma is applied to a vertebral column which already presents clinical evidence of disease, the trauma should be regarded merely as an aggravation of the pre-existing disease. Lastly, there are certain chronic

vertebral affections, especially of a rheumatic nature, which have a very insidious course, and give rise to a progressive deformity of the vertebrae without any clinical signs, but are visible on *x*-ray examination, which reveals a new growth of bone. Traumatism by breaking these new growths gives rise to a chronic vertebral arthritis, which is the cause of constant pain and permanent and partial disability. The latter should be attributed entirely to the trauma without taking the previous condition of the patient into account.

312. Infantilism in Chronic Appendicitis.

CIGNOZZI (*Rif. Med.*, January 16th, 1922), out of 500 cases of appendicitis treated surgically, has collected 15 who showed signs of infantilism. The appendix symptoms were those usually associated with a chronic type, and the dystrophic symptoms and signs usually appeared between 8 and 12 years of age. Photographs of the condition are given. Removal of the appendix cures the dystrophic condition. The parietal peritoneum in these cases is much thicker than normal, and as a rule the appendix is exceptionally long (12 to 15 cm.) and voluminous, with apical dilatation. The caecum, too, is in 90 per cent. of the cases dilated. Boys are more often affected than girls.

313. The Diagnosis of Intestinal Tuberculosis.

LOLL (*Wien. klin. Woch.*, January 19th, 1922) gives the results of numerous examinations of the faeces, with respect to the value of the detection of occult blood and of tubercle bacilli in the diagnosis of intestinal tuberculosis. He found that in all cases of tuberculous ulceration of the intestines occult blood could be detected in the faeces by the benzidin test, after a diet which had been free from any food containing haemoglobin for six or seven days. From the results of his observations he concludes that examination of the faeces for tubercle bacilli, as an indication of intestinal tuberculosis, is useless, since the tubercle bacilli found in the faeces are chiefly due to the patient swallowing his own sputum, which contained tubercle bacilli. In cases of extensive tuberculosis of the intestines, when the pulmonary disease has not caused the sputum to contain tubercle bacilli in large numbers, then the faeces have contained few tubercle bacilli, or generally none at all. When the expectoration has been free from tubercle bacilli the faeces have been found also free from tubercle bacilli, although extensive intestinal tuberculosis has been present.

314. Indications for Operation in Cholelithiasis.

DE MARTEL and ANTOINE (*La Médecine*, October, 1921) state that operation may be required in the following groups of cases: (1) Patients in whom attacks of gall-stone colic occur at frequent intervals and are accompanied by progressive loss of flesh. (2) Cases characterized by chronic and progressive jaundice which is not relieved by medical treatment. In such cases incision of the bile duct over the calculus may be sufficient; but if the patient's condition allows it, cholecystectomy should be performed. (3) Febrile cases—(*a*) in suppurative cholecystitis cholecystotomy should be performed under a local anaesthetic, followed by a cholecystectomy later; (*b*) in angiocholitis medical treatment should be employed at first, as the operation mortality is 50 per cent., but if the general condition gets worse operation is imperative.

OBSTETRICS AND GYNAECOLOGY.

315. Primary Cancer of the Vagina.

ENGELKENS (*Nederl. Tijdschr. v. Geneesk.*, January 7th, 1922) states that numerous statistics show that primary cancer of the vagina is a very rare occurrence. It is often difficult to determine whether the tumour has developed from the vaginal epithelium or from the cervix, and in advanced cases it is quite impossible. According to the statistics of Gurlt, Hecht, Rohde, Homuth, and Kalle, about 1.5 per cent. of all cancers of the sexual organs arise from the vagina. Kalle alone gives a figure of 0.26 per cent., obtained from a study of all the cases treated in the clinics of Berlin, Halle, and Vienna. According to Schlund, who has collected 260 cases, the largest number of patients are to be found between the ages of 30 and 40, and 50 and 60. Aschheim reported a case in an infant of 6 months. The etiology is obscure, as in other forms of malignant growths. Pessaries have been incriminated. Meyer, Schmidt, and Winckel have each described cases in which a pessary has given rise to a pressure sore on which a cancer has developed. The favourite site for the tumour is the posterior wall of the vagina, especially the posterior third. In addition to a local form commencing as a solitary nodule, which subsequently breaks down and forms an ulcer, there is a diffuse infiltrating form which Schlund found in 20 of his 184 cases. Engelkens himself records a case of this kind in an unmarried woman, aged 35, which developed shortly after injection of pure lysol by an abortionist in early pregnancy. Usually vaginal cancers consist of pavement epithelium, but sometimes they are glandular carcinomata derived from the glands of the cervix or the remains of Gartner's ducts. One of the earliest clinical signs is a muco-haemorrhagic discharge, especially after coitus. It is not till a late stage that pain develops in the abdomen, loins, and legs, and last of all a vesical or intestinal fistula forms. According to Winckel the condition must be distinguished from condylomata, suppurating myomata, and tertiary syphilitic lesions. Owing to the rich lymph supply of the vagina and the fact that the condition is usually not recognized until late, the prognosis is very grave. Treatment consists in the combination of operation and *x*-ray therapy.

316. Routine Podalic Version.

SPEIDEL (*Amer. Journ. Obstet. and Gyn.*, February, 1922) describes the technique of Potter's version, and discusses its application. Potter has not specified contraindications to his method and advocates its use as a routine in almost every head presentation, the object being to spare the mother the pain accompanying the second stage of labour; he used his method in over 900 of his 1,030 last year's deliveries, with a foetal mortality of 2.3 per cent. The method is as follows: The patient is fully anaesthetized with chloroform and placed in the modified Walcher position; after disinfection the vagina is "ironed out" by introducing the left hand and stroking the posterior wall downwards with increasing degrees of pressure. Green soap is used as a lubricant. The left hand, covered by a glove reaching to the elbow, is introduced within the uterus through the fully dilated cervix, being passed between the uterine wall and membranes and avoiding the placenta. The membranes being broken through near fundus, the hand is made to slide down the thighs of the foetus until the feet are reached; by means of gentle traction, aided by pressure of the right hand, applied through the relaxed abdominal wall, the version is completed by bringing both feet out of the vagina. The essential feature of a delivery of the arms by this method consists in first delivering the anterior arm by means of slipping a finger along the shoulder under the symphysis pubis; the body is now turned so that the posterior arm comes to rest under the symphysis and is delivered in the same manner as the first shoulder. The head is delivered by inserting two fingers of the left hand into the baby's mouth, the body riding astride of the left arm; with the right hand resting on a towel suprapubic pressure is made downwards and backwards until the face distends the vulva. The feet are now held high, and in many instances the foetus begins to breathe while in this position. At this stage there should be no undue haste, and the head may be allowed for a time to dilate the perineum. Vigorous manipulation of cyanosed infants is not advised; they should be placed, quietly lying on their right side, on the maternal abdomen and the cord should not be tied until its pulsation ceases. An injection of pituitary extract is made immediately after completion of the second stage. Speidel does not favour the use of Potter's method in normal vertex cases, but finds indications for it in all face presentations and in the majority of occipito-posterior positions. When, however, podalic version has to be performed he believes that the Potter method is superior to all others. He concludes also that the Potter methods of delivery of the after-coming arms and head are of very considerable value. It has been claimed in justification of the unorthodox method of delivering every case of head presentation by version that the danger of foetal cerebral haemorrhage, due to prolonged pressure during the second stage of labour, is minimized.

317. An Explanation of Colles's Law.

ACCORDING to FEHLING (*Zentralbl. f. Gynäk*, February 4th, 1922) it is no longer justifiable to hold, according to Colles's law, that the mother of a foetus whose father is syphilitic is thereby rendered immune to syphilis. In these cases the maternal blood shows a positive Wassermann reaction and spirochaetes are to be found in the maternal portions of the placenta; these organisms are too large to be carried in the head of the spermatozoon. Further, Uhlenhuth has produced in rabbits testicular syphilis by injection of the blood or milk of mothers who show Colles's phenomenon. It is therefore to be concluded that these women are not immune but latently syphilitic; the fact remains that manifestly syphilitic signs are lacking in from 20 to 30 per cent. of them. Having regard to the infrequency of primary sores of the portio vaginalis, and to the dubiety of endometrial infection, the writer suggests that infection takes place during the weeks following conception, by reason of the introduction through the seminal fluid of attenuated spirochaetes into the

space between the true and capsular deciduae; these organisms, derived usually from a father whose syphilitic infection is old-standing, are not sufficiently virulent to provoke a generalized syphilitic reaction in the mother.

318. Thyroid Extract in the Vomiting of Pregnancy.

Albeck (*Hospitalstidende*, December 21st, 1921) has found a definite relation between the size of the thyroid and the severity of the vomiting in pregnancy, patients with small, barely palpable thyroids suffering much, and patients with large thyroids suffering little or not at all from this condition. Accordingly, he has given thyreoidin (10 to 15 cg.) in several cases, and he has found that, as a rule, the vomiting ceases in a couple of days. He does not attach much importance to the many successes achieved by this treatment in slight cases, as the results may have been coincidences; but he was greatly impressed by the improvement effected in 25 severe cases treated in hospital. After eliminating 5 cases in which pregnancy had to be interrupted on account of polyneuritis gravidarum, he discusses the remaining 20 cases. All the patients were admitted in a much debilitated and emaciated condition. They were kept in bed on a milk diet, given a saline infusion of 1,000 c.cm. daily, *plus* thyreoidin. All were remarkably improved, and 17 went to term, giving birth to living infants. But only in a couple of cases was the vomiting completely appeased, and the ptyalism from which several of them suffered did not wholly disappear.

PATHOLOGY.

319. The Wassermann Reaction.

Kilduffe (*Arch. Derm. et Syph.*, February, 1922) studied the incidence of positive Wassermann reactions in 484 supposedly non-syphilitic patients admitted to a general hospital. The cases included a variety of medical, gynaecological, and surgical conditions. Three antigens were used—namely, cholesterinized (0.4 per cent.) extract of human heart, acetone-insoluble lipoids of human heart, and an alcoholic extract of syphilitic foetal liver. Fifteen (3 per cent.) of the cases gave positive reactions with all the antigens, and of these there were only two in which syphilis might have been previously suspected. Nine cases (2 per cent.) gave positive reactions to the acetone and cholesterinized antigens, that to liver extract being negative. Twenty-three (10 per cent.) reacted to the cholesterinized antigen only, and of these one was a case of diabetes, one of bronchopneumonia, and one of pulmonary tuberculosis; while in none of this group was there any prominent clinical evidence of syphilis, fifteen definitely denying infection. Including pregnant women, fifty-seven (12 per cent.) gave positive Wassermann reactions in varying degree. In two out of three cases of diabetes positive reactions were present without any history of syphilis being obtainable. Where there was reaction to the cholesterinized extract only a definite history of syphilis was obtained in four out of the twenty-three, and in ten the history and clinical findings were very suggestive. In all, 567 tests were made on the 484 unselected patients.

320. Deficiency in Fat-soluble Vitamins in Rickets.

Cozzolino (*La Pediatria*, February 15th, 1922) discusses the work of various experimenters in relation to rickets and deficiency of fat or vitamins in the diet. He points out that good as the results of cod-liver oil are in rickets, they are not to be compared with the results of a diet rich in vitamins in such diseases as scurvy, which are undoubtedly due to lack of vitamins. Rickets may develop under almost any diet, whether farinaceous or fatty. Rickets, even when severe, has a tendency to spontaneous cure without a change of diet. The reverse is true of scurvy. If cod-liver oil cures in virtue of its content in fat-soluble vitamins, it is difficult to understand why good results may be obtained with phosphorus alone. Some attribute the virtue of cod-liver oil to the phosphorus it contains. The good results of treatment by ultra-violet rays, by phosphorus and calcium, and the relation of rickets to overcrowding, also show that the vitaminic theory will not explain rickets fully. The addition of substances rich in vitamins (orange juice, fresh fruit, etc.), although improving the general condition, has no marked effect in curing the bony changes. The recognized avitaminoses (scurvy, beri-beri, pellagra) have a much more limited distribution than rickets, both in number and geographically. Athrepsia and infantile atrophy are not associated with rickets, and, on the other hand, rickety children are often well nourished. Women with rickety children may suckle other children and not give them rickets. If Hutchinson's researches are accepted, there is no defective digestion or insufficient absorption of fats in rickets. On the whole the author considers that mere deficiency of fat-soluble vitamins cannot be accepted as the sole or chief cause of rickets.

321. Tar Cancer in Mice.

Roussy, Leroux, and Peyre (*Bull. de l'Assoc. française pour l'Étude du Cancer*, January, 1922) publish a preliminary communication concerning their researches into the experimental production of tar cancer in mice; the paper is well illustrated, and gives the history of experiments on 86 mice. In the first series, which have been observed for 240 days, the tar was painted over small areas on the nape of the neck, the tar being applied every second day on a glass rod; 14 mice were used, and 8 did not show any tumours, but the remainder have developed definite epitheliomas of the skin. In the second series, which have been observed for 190 days, the tar was applied in the same fashion to 12 mice, of which after the lapse of this period of time 7 mice have shown cancerous changes. The third series of 60 mice have been under observation for 108 days, and in these the tar was painted in a streak from the neck to the root of the tail every second day; the majority of these now exhibit an atrophic dermatitis, and three have shown definite hyperplastic projections. The low mortality experienced amongst these mice the authors attribute to the fact that they did not employ depilatory measures (as carried out by workers in this country) before applying the tar. Attempts at propagation by grafts have not yet been successful, but the authors do not attach much importance to this.

322. Haemolytic and Water Fevers.

Some work has been performed by Penfold and Robertson (*Med. Journ. of Australia*, January 14th, 1922) to determine whether the occurrence of haemolysis in the body is able to give rise to pyrexia. Twelve experiments were conducted on rabbits, in which quantities of carefully prepared glass-distilled water, varying from 5 c.cm. to 52 c.cm., were injected intravenously. Haemoglobin appeared in the urine within thirty to forty minutes, and persisted in some cases for as long as six hours. The temperatures of the animals were taken per rectum every half-hour for six hours after the injections. In no case did any rise in temperature take place. From these experiments they conclude that no reliable evidence of pure haemolytic fever exists, and that in consequence the fever in paroxysmal haemoglobinuria must be due to some other cause. Owing to the recognized fallacies inherent in drawing conclusions from one species of animal to another, it would seem that such an inference is quite unjustified.

323. Destruction of Tuberculous Sputum.

Messerschmidt (*Deut. med. Woch.*, February 23rd, 1922) has tested at a bacteriological laboratory in Hanover the action of all the well-known disinfectants on tuberculous sputum, and has invariably found them useless. Mercurial compounds, carbolic acid, bacterial stains, chinosol, potassium permanganate, and many other familiar disinfectants were tested, and the results were invariably disappointing until the author investigated the claims made by Professor Uhlenhuth on behalf of an alkaline lysol. This preparation, which contains about 4 per cent. sodium hydroxide and 65 per cent. kreosole, disintegrates nummular sputum so that the tubercle bacilli are not protected by a thick sheath of coagulum. To 50 c.cm. of nummular sputum the author added 100 c.cm. of a 5 per cent. solution of Uhlenhuth's alkaline lysol, and after this mixture had stood for four hours in the cold, guinea-pigs were inoculated subcutaneously with it. Eight weeks later they were found to be perfectly free from tuberculosis, whereas control guinea-pigs showed advanced tuberculosis.

324. The Antitryptic Power of the Blood in Anaphylactic Shock.

In view of the contradictory reports issued by various workers on the antitryptic titre of the blood in anaphylactic shock Launoy and Falque (*C. R. Soc. Biologie*, January 21st, 1922) have endeavoured by fresh experiments on the subject to clear up the confusion. After ascertaining the normal antitryptic titre of the blood in guinea-pigs they proceeded to sensitize four of these animals to horse serum by means of the subcutaneous injection of antidiphtheritic serum. Three weeks later the dechaining dose was given intravenously. A control animal died in just over four minutes from acute shock. On the other three animals carotid puncture was performed at various times before and after the shock, and estimations of the antitryptic titre were made on each sample. The results all agreed in showing that at no stage was there any appreciable alteration from the titre previously determined for normal guinea-pigs.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

325. Yeast Infections of the Skin.

GREENBAUM and KLAUDER (*Arch. Derm. and Syph.*, March, 1922) review the literature on yeast infections of the skin, and describe seven cases investigated by themselves. Since yeast cells are known to be normally present on the skin they controlled their observations by a study of the saccharomycetic flora of the normal skin, during which 150 unselected persons were examined and cultures made from healthy epidermis. Yeasts were obtained from thirty-five individuals, and were classified according to their cultural reactions and divided into four groups, three of which were true saccharomyces, showing budding forms with asci, and one a cryptococcus, asci not being found. The seven cases of infection due to yeasts were characterized by a dermatitis involving the interdigital spaces (intertrigo saccharomycetica), and from all of these yeast cells of one or other of the four types above mentioned were recovered by culture. The pathogenicity of these organisms was proved by inoculation of guinea-pigs, and in one case by auto-inoculation of the human subject. Clinically, the authors describe two types of lesion in their cases of intertrigo saccharomycetica—one a dry lesion showing a bright red dermis beneath a smooth, thinned, glistening epidermis, and the other an accumulated mass of undermined sodden epidermis, moist and white in colour. These cases presented an exact resemblance to ringworm infections in the same locality, but, in spite of repeated examinations, no fungi other than the yeasts were found. It would seem, therefore, that yeast cells, like cocci which are normally found on the skin, may under certain conditions become pathogenic and cause a superficial infection. These lesions were found to be easily cured by the application of 10 per cent. tincture of iodine or 1 per cent. chrysarobin ointment, provided the skin was kept dry—a most important point. WEIDMAN, in the same journal, in an article entitled "Resemblances of yeasts in cutaneous scrapings to hyphomycetes," describes how in three cases of scrapings from the skin he observed mycelial filaments under the microscope which gave cultures, not of ringworm as expected, but of yeasts. Under unfavourable conditions these yeast fungi may develop a mycelium in the skin which renders it impossible, with the aid of the microscope alone, to place the organism in its correct order.

326. Physical Estimate of Malarial Disability.

MACDONALD (*Journ. R.A.M.C.*, February, 1922), believing that there are physical data readily obtainable in cases of men invalided for malaria, sufficient to establish their fitness or otherwise for work, examined 172 authenticated malaria cases under treatment at a command dépôt, such examination having been ordered to ascertain whether they were fit for a command dépôt or should be returned to hospital. Of these, 155 were found to be fit to return to their units, 17 being fit for the command dépôt. Malarial parasites were found in three cases only. Emphasis is placed upon the inveteracy with which malaria has hitherto been considered a disability, regardless of the absence of actual disablement, and often without specific evidence of infection; the acceptance of paleness as synonymous with anaemia, and the infrequency of haemoglobin estimation as a criterion of health, are deprecated, and it is urged that certain physical data allowing of accurate estimation should be taken as the basis of a just estimate of fitness or unfitness. Apart from temperature and blood examination, stress is laid upon the spleen and the haemoglobin records, enlargement of the spleen being indicative of extensive infection. Of the series ten spleens were just palpable (+1), one was apparently enlarged (+2), but none were greatly enlarged (+3). In only 23 of the men was the haemoglobin index 75 per cent. or under, the remainder being 80 per cent. or over.

327. The Parkinsonian Syndrome in Epidemic Encephalitis.

DE LISI (*Il Policlinico*, Sez. Med., November 1st and December 1st, 1921) records 10 cases, 6 of which were in males and 4 in females, aged from 13 to 39. Nine had suffered from epidemic encephalitis in the winter of 1919–20 and one in the winter of 1918–19. In six at least of the cases the disease in its initial stage was of the ordinary oculo-lethargic type. As a rule an interval of relatively good health had intervened between the acute attack and the development of the Parkinsonian syndrome. No gross palsies were present, but only slight paresis of the fifth and seventh nerves. The predominant symptom was extrapyramidal muscular rigidity, bradykinesia, and restriction of muscular movement. Almost all the patients showed katatonic movements—that is, a tendency to maintain a posture actively assumed—and only a few showed catalepsy. Ataxia was not found, but retropulsion and pseudo-adiadochokinesia were frequent. Choreic and athetotic movements were absent. The typical Parkinsonian tremor was always absent. Either there was an absence of any tremor or there was a tremor caused by intestinal movements, passive postures, or without any appreciable cause. The only symptom of objective sensibility was a zone of superficial hyperaesthesia which was found in one case in the area of the tenth dorsal nerve on one side. The cerebro-spinal fluid was always normal. The oculo-cardiac reflex was usually exaggerated. None of the therapeutical measures employed had any effect. Intravenous injection of sodium cacodylate in large doses, recommended by some writers, did not produce even temporary improvement, but, on the other hand, no bad effects were observed. The Parkinsonian syndrome of epidemic encephalitis is not entirely identical with the classical syndrome of paralysis agitans, but bears a very close resemblance to *paralysis agitans sine agitatione*, which is an exceptional variety of the Parkinsonian syndrome.

328. Antiscorbutic Value of Dried Fruits.

EXPERIMENTS were made by ECKMAN (*Journ. Amer. Med. Assoc.*, March 4th, 1922) to determine to what extent, if at all, the antiscorbutic vitamins are contained in dehydrated fruits. The experiments consisted in feeding observations on guinea-pigs. The dried fruits used were peaches, apricots, apples, pears, prunes, cherries, and loganberries. Water and alfalfa-flour mixture were given *ad libitum*, and varying amounts of the fruit were used. When scurvy symptoms were prominent and marked loss of weight occurred, the amount of fruit was increased in the effort to prevent a fatal issue of the disease. *Post-mortem* examinations of practically all of the animals were made, and in all cases definite evidences of scurvy were observed, such as subperiosteal haemorrhages, especially in the limbs and cheeks, evidence of intramuscular and subcutaneous haemorrhages, haemorrhagic nodules at the costochondral junctions, and enlarged and haemorrhagic suprarenals. The principal *ante-mortem* signs were marked loss of weight and appetite, subcutaneous haemorrhages, marked pseudo-paralysis of the limbs, and in one case (on apples) a prolapse of the rectum. From these experiments it appears evident that the only one of the dried fruits tested which contains sufficient antiscorbutic vitamin to maintain the life of a guinea-pig when fed in not too excessive quantities is the peach. Of this fruit it appears that 4 grams a day, although insufficient to prevent scurvy, delays it for three or four months. Although further trial did not bear it out, earlier experiments indicated some value in apricots and apples. Pears, prunes, loganberries, and cherries seemed to have even less value.

329. The Value of Specific Treatment in Parenchymatous Keratitis.

LANGENDORFF (*Deut. med. Woch.*, March 2nd, 1922) asks why antisyphilitic treatment is supposed to be disappointing in parenchymatous keratitis, and a study of the 165 cases treated at the Rudolf Virchow Hospital between 1907 and 1921 has led him to the conclusion that specific treatment is undoubtedly beneficial, although its action is not dramatic. He founds this opinion on the observation that the disease invariably ran a milder course in the second eye, provided specific treatment of the first eye was instituted before the disease had become manifest in the second eye. The most reliable test of the severity of a disease of the eye is to note the degree of vision left after the culmination of this disease, and, judged by this test, the value of consistent specific treatment stood out plainly. In 44 per cent. the second eye was perfectly healthy on the patient's admission to hospital. In one-fifth of these cases the second eye became involved during treatment; in the remaining four-fifths it was still healthy on the completion of treatment. There was practically no difference in the Wassermann reaction before and after treatment, whether this consisted of mercury or salvarsan or a combination of the two. But this does not discourage the author, whose belief in the benefit of specific treatment rests on the comparative immunity enjoyed by the second eye when treatment is instituted early.

330. Meningococcal Meningitis following Septicaemia.

KRAMER (*Nederl. Tijdschr. v. Geneesk.*, January 21st, 1922) remarks that infection with Weichselbaum's meningococcus may give rise to three different conditions—namely: (1) Infection of the mucous membrane of the nose and throat without any other symptoms; (2) infection of the meninges; (3) septicaemia. In most cases meningitis occurs so rapidly that it is difficult to determine whether it has been preceded by septicaemia, but it is much commoner for definite signs of septicaemia, such as purpura, endocarditis, pericarditis, arthritis, etc., to develop during the course of epidemic meningitis. There are some cases on record of meningococcus septicaemia which run their course without any signs of meningococcal involvement, and others in which the meningococci after a septicaemia of several weeks' duration finally settle in the meninges and give rise to meningitis. Kramer records an example of the latter condition in a youth aged 19, who, after an illness of six weeks (the septicaemic nature of which was shown by continued fever, recurrent arthritis, erythema multiforme, and purpura), developed meningitis. Recovery took place after lumbar puncture without serum.

331. Craniotabes and Syphilitic Rickets.

MARFAN (*Paris méd.*, December 24th, 1921) remarks that though syphilis may give rise to all forms of rickets, as a rule it produces a special clinical form which is distinguished by the following characteristics: (1) Early onset. It is either congenital or appears in the first three or four months of life. This is the most important feature, for all the others depend upon it. (2) Predominance of rachitic changes in the skull bones. Craniotabes is first observed, and later abnormal prominence of the frontal and parietal eminences. When rickets is due to another cause, especially tuberculosis and severe and persistent digestive disturbances, the skull often escapes entirely or is but little affected, and hardly ever shows any craniotabes. (3) Anaemia, which is well marked at least during the first few months of life. (4) Chronic enlargement of the spleen. The last two characteristics of syphilitic rickets tend to disappear in the course of the second year or even earlier, but the cranial stigmata persist for years and even throughout life. According to Marfan most cases of rickets with well-marked deformity observed after the first year are of syphilitic origin. Rickets due to tuberculosis or digestive disturbance as a rule produces only a slight deformity, because it develops at a period of life when the skeleton is much more consolidated. Marfan emphasizes the fact that craniotabes is not due to a mere delay in ossification, as maintained by Comby, Lasègue, Wichmann, and Lasage, but is the manifestation of rickets with an early onset which in most cases is of syphilitic origin.

SURGERY.

332. Ear Disease in Infants.

ROBERT-LEROUX (*Presse médicale*, December 17th, 1921) draws attention to the frequency and serious consequences of otitis media in the newly born and suckling infant, and discusses the means which may be adopted to prevent ear disease. Whilst in the adult attention is drawn to the ear by the symptoms of pain, fever, and impairment of hearing, with the result that an aural examination is undertaken, in the infant the first indication may be that the external ear is full of pus. But middle-ear disease is of such common occurrence amongst children that in every obscure illness of an infant a thorough examination of the tympanum should be carried out, and, if the appearances suggest disease, or even if they are only doubtful, paracentesis should be performed. Such grave consequences follow failure to relieve pent-up pus in the middle ear—namely, septicaemia, or meningitis, or permanent deafness—that the simple operation of paracentesis is always justified in a doubtful case. Amongst 42 infants admitted to hospital under various labels as "urgent" cases 37 were found to be suffering from unrecognized otitis media. The anatomical conditions accountable for this infection are as follows: The Eustachian tube is shorter and larger in an infant than in an adult, and leads in the newborn infant to the cavity of the middle ear, which at this stage may be full of gelatinous embryonic tissue, which later becomes replaced by air. Here is an ideal breeding place for germs which have entered from the throat, proved by the fact that punctures of the tympanum in early cases of ear disease in children frequently yield a sero-sanguinous fluid rich in streptococci and staphylococci. If this disease is unrecognized in its early stages it may be followed by perforation of the drum, which is a fortunate complication, for in other cases the unrelieved pus may spread to the meninges or blood stream. Such a perforation should be examined carefully, and if necessary enlarged to allow of better drainage, which may be assisted by a filament of gauze and peroxide. The mastoid should be carefully watched, and any indication of retention of pus demands that the mastoid be opened by the gouge and curette method. Since septic material is often sucked up into the nose with the first inspirations at birth, the author is of the opinion that as much care should be expended on the nose of a newborn infant as is devoted to its eyes. Swabbing the nose with plugs of absorbent cotton-wool until perfectly dry, then insufflation of powder containing two parts of finely powdered boric acid and one part of colloidal silver for the purpose of inducing sneezing, and finally the application of an antiseptic in the form of argyrol in glycerin, is the ritual he recommends. The author thinks that the dorsal position of repose is the most dangerous for an infant in that it favours regurgitation of mucus and milk into the Eustachian tube.

333. Giant Vesical Calculi.

CUMMER and BRUTSCH (*Journ. d'Urol.*, tome xii, No. 3), who record an illustrative case in a man aged 64, admitted to the Geneva Surgical Clinic for cystitis, remark that giant calculi—that is, calculi weighing more than 100 grams—are a rarity, as is shown by the following statistics: 4 in 300 (Freyer), 1 in 312 (Madden), 1 in 292 (Dirnse), 1 in 104 (Christovitch), although these surgeons were practising in countries where stone in the bladder is particularly frequent. Giant calculi do not present any characteristic clinical picture, the only feature common to all the cases being the absence of all symptoms until an advanced stage of their growth. In most of the cases there are no diverticula to explain this absence of symptoms. Some of the calculi are composed entirely of uric acid, while others consist exclusively of ammonio-magnesium phosphate, indicating a long-standing vesical infection. The etiology is uncertain. Although many of these calculi have been observed in countries where bilharzia is present, others like the writers' case have occurred in countries where stone in the bladder is comparatively rare. The prognosis, which is grave, depends chiefly on the existence of infection and the condition of the renal and vesical functions. In the writers' case three stones, weighing in all 585 grams, were removed from the bladder, the largest being contained in the diverticulum, and the other two being free in the bladder. All three were composed entirely of ammonio-magnesium phosphate. The renal function was not affected. Removal of the stones improved the patient's general condition, but gave rise to complete retention owing to the situation and size of the diverticulum.

334. Treatment of Sciatica.

BARRÉ and GUNSETT (*Journ. de radiol. et d'électrol.*, November, 1921) have treated by x rays 20 cases of sciatica in which the symptoms were due to radiculitis caused by vertebral arthritis, as shown by x-ray examination; 12 of the cases were cured, 5 were improved, and 3 only derived no relief. The forms which were most susceptible to treatment by x rays were those in which pain constituted the most prominent sign. The patients hardly ever showed any amyotrophy or changes in the reflexes. Radiculitis of meningeal origin, such as that caused by syphilitic meningitis, did not appear to be definitely affected by the treatment. In cases in which radicular pain was associated with pyramidal disturbance x rays generally had no effect on the latter. The writers found that the chances of success were not decidedly diminished by the fact that the radicular pain was of old standing, although recent cases were more susceptible to treatment. As a rule small doses repeated once a week were sufficient to produce a cure. In some cases no improvement occurred, although no explanation of the failure could be given.

335. The Dangers of Diagnostic Pneumo-Peritoneum.

JOSEFSON (*Hygiea*, January 16th, 1922) inveighs against the practice of injecting gas into the peritoneal cavity as a supplement to diagnosis by the x rays. He has induced a pneumo-peritoneum in sixteen cases, in none of which did it help the patient appreciably, whereas it injured two and caused discomfort to six. Compared with an exploratory laparotomy, this device is very uninstructive, and it entails grave risks of injury to the intestines, air embolism and other serious accidents. One of the author's patients, whose heart was weak, died soon after the injection of gas, and he refers to two fatalities recorded in 1921, in one of which death was due to air embolism. Surgical emphysema is another complication, and there is no absolute guarantee that the intestines or stomach do not get perforated. The benefits accruing being very doubtful, the author considers that the drawbacks to this procedure should lead to its being almost completely discarded.

336. Tumours of the Temporal Lobe.

ACCORDING to COSTATINI (*Il Policlinico*, Sez. Med., November 1st, 1921), who records two cases, general symptoms are present in tumours of the temporal lobe and appear early. They include psychical disturbances of various kinds. Mingazzini in his cases observed dullness, apathy, disorientation, or irritability and illusions. Knapp has shown that a syndrome resembling Korsakow's psychosis is frequent, consisting in diminution of attention, amnesia, confabulation, disorientation in space and time, and euphoria. Localizing symptoms are frequent and of different kinds. The most important (in tumours of the left temporal lobe) are disturbances of speech and special sense, including simple paraphasia, ordinary sensory aphasia, transcortical acoustic aphasia, and amnesic aphasia. The focal symptoms often constitute special groups by means of which the special area affected by the growth may be determined. None of the focal symptoms, however, can be called constant. They may even be totally absent, so that it is impossible to determine the special zone affected by the tumour.

337. Peripheral Iridotomy in Glaucoma.

GIFFORD (*Amer. Journ. Ophthalmol.*, December, 1921) points out the value of peripheral iridotomy (Curran) in the treatment of chronic, and of some cases of acute, glaucoma, on the theory that the increase of tension is caused by a too close contact of the lens to the posterior surface of the iris and consequent interference with the flow from the posterior to the anterior chamber. A sharp Knapp's knife needle is passed through the corneo-scleral junction, and the iris transversely punctured and counter-punctured to make a hole 1 mm. in size. From a personal experience in 30 cases of chronic glaucoma the operation in nearly every instance gave relief for several months. The operation is so simple and free from strain or danger that it can be performed several times if necessary, or to reduce the danger of the more serious iridectomy should that eventually be needed. Sufficient time has not yet elapsed to prove to what extent the cure is permanent, though in many cases the relief obtained is probably lasting.

338. Tuberculosis of the First Metatarsal in the Child.

ACCORDING to SORREL and BOUQUIER (*Paris méd.*, November 19th, 1921), all writers are agreed as to the frequency of tuberculosis of the first metatarsal in the child. Bailleul found that of 82 cases in which the metatarsus was affected, the first metatarsal was implicated in 45. Royal Whitman stated that the first metatarsal alone was involved as frequently as the four others together. Out of 30 children under the care of Sorrel and Bouquier at the Berck Hospital for metatarsal tuberculosis, the first metatarsal was affected in 18. Two explanations have been offered for the frequency with which the first metatarsal is attacked by tuberculosis. Kirmisson attributes it to this bone being the support of the plantar arch, while Bailleul considers that it is due to the first metatarsal, more than any other long bone in the hands and feet, possessing the largest amount of spongy tissue, which offers a favourable soil for the development of the tubercle bacillus. Sorrel and Bouquier describe three forms of tuberculosis of the first metatarsal, according as the shaft alone or the anterior or posterior extremity is affected. In the first, or diaphyseal form, if both the extremities are intact, conservative treatment should be adopted. In disease of the anterior extremity the bone must be amputated, but always in front of the diaphyso-epiphyseal cartilage. The great toe should also be removed at the same time. In disease of the posterior extremity not only is amputation necessary, but the metatarsal must be disarticulated, together with the great toe.

339. Treatment of Cold Abscesses.

OTT (*Il Policlinico*, Sez. Prat., January 30th, 1922) has treated about 30 cold abscesses in various situations and a few cases of suppurative adenitis in the following way: After the abscess had been opened in the usual manner and the pus aspirated with a syringe, the cavity was washed out with a solution of hypertonic saline until the returning fluid was clear, and a certain amount of the same solution was injected into the cavity according to the size of the abscess. This operation was repeated at intervals of four or five days, until the abscess was filled with a clear fluid, which, on microscopical examination, showed only one or two leucocytes in a field—a result which, in the most favourable cases, was obtained after the cavity had been washed out four or five times. Healing took place in twenty to sixty days according to the size of the abscess. The hypertonic solution used consisted, according to Wright's formula, of 5 grams of sodium chloride and 50 cg. of sodium citrate to 100 c.cm. of distilled water.

OBSTETRICS AND GYNAECOLOGY.

340. Haemolytic Streptococci and Obstetric Prognosis.

KIRSTEIN (*Arch. f. Gynäk.*, 1922, cxv, 2) investigated the relation between the incidence of *post-partum* infections and complications and the presence of haemolytic organisms in cultures made from the vagina during and after labour. He classified cases of puerperal fever in respect of three increasing degrees of severity, and found that a greatly increased percentage of "class 3" (the most serious cases) showed themselves in those in whom cultures gave *Streptococcus haemolyticus*. Severe complications, such as adnexal inflammation, were more frequent in the cases associated with haemolytic organisms. One in ten only of the class 3 patients were not infected with these cocci. Obstetric operations *intra partum* were less well tolerated by the patients infected with haemolytic organisms, twice as many in these as in other patients showing subsequent pyrexia. Of fifty-three patients in whom cultures at parturition showed haemolytic streptococci 92 per cent. subsequently became febrile. The writer concludes that in cases known to be infected with haemolytic streptococci it is inadvisable to perform primary suture of perineal tears, and that prophylactic drainage of the uterus by means of a tube introduced *post partum* may be usefully undertaken.

341. Induction of Labour versus Caesarean Section.

SHERWIN (*Med. Journ. of Australia*, January 21st, 1922) considers that induction of labour is preferable to Caesarean section on account of its greater simplicity and more satisfactory results to both mother and child. Krause's method, by the insertion of two or more bougies between the membranes and the uterine wall, is advocated as better than dilatation of the cervix. The principal indications for induction are contracted pelvis, toxic albuminuria, *ante-partum* haemorrhage, cardiac or constitutional disease, or the history of a large child at previous confinements. In contracted pelvis induction of labour is indicated when, after careful weekly examinations, it is found that the foetal head will just not enter the brim, and in a series of 72 cases so treated there was no maternal death. In central placenta praevia in an uninfected primipara Caesarean section is advised, but in a multipara induction of labour is best. In eclampsia rigid observations upon primiparae should be made from the twenty-fourth week onwards in order that induction may be induced in the pre-eclamptic stage. Comparison of statistics of two hospitals, in one of which the performance of Caesarean section averaged 7 per cent., while in the other it averaged 16 per cent., showed that the maternal death rate in the former was 2.6 per cent., while in the latter it was 21 per cent., or nearly ten times greater, the infant mortality being 6 per cent. as against 12 per cent.—exactly double.

342. Treatment of Chronic Adnexal Inflammation.

PROBSTNER (*Zentralbl. f. Gynäk.*, February 18th, 1922), from a study of 101 cases of radical and of 28 cases of conservative operation for chronic adnexal disease, comes to the following conclusions: Resort should be had to operation only in cases in which the symptoms are of some years' duration with intermittent exacerbations and in which the patient is rendered incapable of carrying out her work; in patients, however, whose social position does not permit of a prolonged course of non-operative treatment, it may be advisable to operate earlier. Operations should not be performed until several months have elapsed since an inflammatory attack. As a rule an operation is preferable which removes the uterus and the adnexa of both sides; conservative operations find their place chiefly in cases following puerperal infection. The writer records 88 per cent. of cases of complete cure and 95 per cent. of return of vocational capacity, with 5 per cent. mortality, in 101 cases coming to radical operation. In spite of careful selection of cases the results of conservative operations were less satisfactory. Morbid symptoms due to the induced menopause were noticeable, chiefly in slightly psychopathic subjects, but were never of such intensity as seriously to impair the therapeutic results.

343. Protein Therapy in Pregnancy Toxaemias.

LEVI (*Annali di Ostetricia e Ginecologia*, February 28th, 1922) treated three patients, suffering during the early months of pregnancy from intractable vomiting, by injections into the gluteal muscles of 5 to 10 c.cm. of sterilized milk given at intervals of one to three days; in each case a marked improvement followed, and it became safe to allow the gestation to continue to term. Two other patients were also found to respond to milk injections; in their cases, however—characterized respectively by sensori-motor paresis of the hands and by persistent hypersalivation—the autotoxic nature

of the malady was less well established. Levi, in common with other writers, has seen in cases of pregnancy, albuminuria, eclampsia, hyperemesis, and chorea good results follow parenteral injections of foreign proteins such as horse, goat, or human serum, or of defibrinated blood. These, he thinks, whether possessing or not a specific action, appear in some cases more efficacious than milk injections; but human serum is not readily obtained, and the injection of animal serums is not without noxious effects both on mother and foetus. In Levi's five cases the injections were followed by scarcely any febrile reaction; this, he remarks, does not support the contention of those who have ascribed the effects of protein therapy to stimulation of the heat-regulating centre. It is suggested that if found constant this lack of febrile reaction after an injection of milk might be of assistance in differential diagnosis of adnexal inflammatory conditions from extrauterine pregnancy.

344. Heliotherapy in Gynaecological Practice.

COLOMBINO and MOZZETTI-MONTERUMICI (*Annali di Ostetricia e Ginecologia*, February 28th, 1922) contribute a preliminary report of the treatment of gynaecological disorders by ultra-violet radiation, applied by means of a Landeker's lamp, which is susceptible of application to the portio vaginalis or to any of the vaginal fornices. Among the cases treated were 10 of exudative adnexal inflammations, of septic or gonococcal origin, in the apyrexial stage. Of these, 5 showed after four to ten applications, given in the course of one to three weeks, speedy disappearance of objective and subjective morbid signs: three patients reported symptomatic improvement, but showed few objective alterations, and the remaining two—old-standing and probably cicatricial cases—were unaffected. Applied in cases of parametritis following parturition or abortion, the treatment was very successful in one of four cases. Favourable results were obtained in the treatment of chronic cervicitis and leucorrhoea. In the case of a faecal fistula following laparotomy for tuberculous adnexal disease and of a large perineal ulceration following operation for anal fistula, proved to be of tuberculous origin, artificial heliotherapy was rapidly efficacious. Given on successive days for periods of thirty minutes, it was not followed by unpleasant reactions, even in patients suffering from subacute or relapsing inflammatory conditions.

PATHOLOGY.

345. Inoculation of Human Malignant Tumours in Mice.

KEYSSER (*Arch. f. klin. Chir.*, November, 1921) reports that he has successfully inoculated malignant tumours from human sources into the mouse. The essential points of the technique employed are that the activity of the tumour cells must previously have been intensified by radium treatment insufficiently strong to destroy them, and that the animal must have been sensitized by antecedent injections of tumour cells derived from other species. Injections of an emulsion of tumour cells diluted to 1 in 30 or 1 in 35 are made into various organs; the tumour formation, which takes place by no means constantly, is manifested after an incubation period of seven to twelve months, as contrasted with one of seven or eight weeks in the case of spontaneous mouse tumours. The grafts have positive results in about 2 per cent. of cases, both as regards human and mouse tumours; the proportion is increased after the fourth passage to 30 per cent. in the case of the human and 100 per cent. in the case of the mouse tumour. In his later report Keysser has had positive results from injection of cells from a sarcoma of the testicle refractory to radium treatment, a carcinoma of the penis, a branchial carcinoma, and a cylindrical-celled carcinoma. In one of the animals into which a fourth passage of the sarcoma had been made a squamous-celled carcinoma was produced. The experimental tumours of the mice were examined by Aschoff and were pronounced to be true tumours of which the cells showed the characters not of human cells but of the corresponding mouse tissue. This is susceptible of three explanations, of which the second appears the least probable: (1) the inoculated tissue by chemical irritation provokes pathological cell reproduction; (2) the cells of the transplanted tumour tissue become modified by a process of adaptation so as to resemble those of the neighbouring tissue; (3) an unknown specific micro-organism is inoculated.

346. Yaws and Syphilis.

MOSS and BIGELOW (*Johns Hopkins Hosp. Bull.*, February, 1922), in an excellent and well-illustrated paper, analyse 1,046 cases of yaws which they observed in the Dominican Republic. They are strongly opposed to the theory that yaws and syphilis are essentially the same disease. They point out that the primary lesion in syphilis is in the vast majority of cases located on the genitalia, whereas in yaws only 1 per cent. have this location. The primary lesion is larger and rougher than the syphilitic chancre, even when this is extragenital, and it is never indurated. In no case was there any evidence or history of hereditary transmission. In 25 per cent. of the cases the infection took place before the fifth year of life. With regard to the secondary stage of the disease, the granulomata of yaws present a monotonous resemblance to each other; there is none of the remarkable pleomorphism of the secondary lesions of syphilis. None of the yaws cases showed macular skin rash, mucous patches, or alopecia. In the tertiary stage of the disease the absence of visceral involvement, especially of the heart, blood vessels, liver, and kidneys, is in strong contrast with the frequency of their involvement in syphilis. Moreover, in a series of over 1,000 cases in which the average duration was twenty years, none showed any evidence of central nervous system involvement.

347. The Diameter of Human Red Blood Corpuscles at Different Ages.

IN the absence of any definite knowledge on the size of the red blood cells in man considered in relation to the age of the individual, SARAGEA (*C. R. Soc. Biologie*, February 11th, 1922) has made an examination of the corpuscles of healthy people who varied in age between 1 day and 90 years. The average diameter obtained for adult men and women between 30 and 50 years old was 7.55 μ, a figure which closely corresponds to that found by Malassez—namely, one of about 7.6 μ. At birth, however, the red cells are considerably larger, measuring 8.62 μ across. From this period they gradually decline to the age of 18 months, when the diameter is 7.13 μ. Somewhere about this figure is retained till puberty is reached, when a sudden increase to 7.68 μ is noticed. Ater remaining more or less constant during the period of adult life, they increase somewhat at the age of 60 and maintain an elevated figure throughout old age. At present the significance of such alterations is unknown. In certain pathological conditions, such as pernicious anaemia, post-haemorrhagic anaemia, in certain types of jaundice, and in chronic congenital cyanosis, the diameter of the red cells is increased; but here again we are ignorant of the interpretation to be placed upon the facts.

348. The Anti-anaphylactic Action of Lipoids.

DUPREZ (*C. R. Soc. Biologie*, February 4th, 1922) shows how it is possible to prevent the symptoms of acute anaphylactic shock in the guinea-pig by means of the previous injection of a lipoidal emulsion. The particular lipoids used are prepared by making an alcoholic extract of a calf's heart which has been treated preliminarily with acetone. After evaporating the extract to dryness, the residue is dissolved in saline. The guinea-pigs are sensitized by the subcutaneous injection of 2 c.cm. of horse serum. Three weeks later a determination is made of the minimal lethal dose of horse serum given intravenously. If now, one hour before the dechaining dose is given, an injection of 2 c.cm. of the lipoidal emulsion be administered intravenously, all symptoms of shock are prevented. Not only is this method successful in protecting against horse serum anaphylaxis, but it appears to be equally efficacious in warding off the symptoms produced by other substances normally capable of giving rise to shock in the guinea-pig, such as serum treated with agar or a suspension of agar in physiological saline. The mechanism of this effect has not yet been worked out.

349. Distribution of the Nitrogen in the Protein of Chicken Sarcoma.

AN attempt has been made by FURUHATA (*Gann, the Japanese Journal of Cancer Research*, December, 1921) to solve the question concerning the nature of the cancer cell along chemical lines. For this purpose an investigation of the Rous chicken sarcoma was carried out and the results compared with those obtained by an analysis of the normal tissues. Van Slyke's method of nitrogen determination was employed throughout. Figures for the total nitrogen, and for the ammonia-N, melanin-N, cystine-N, arginine-N, histidine-N, lysine-N, and for the total mono-amino-N are furnished in the text. Comparing the nitrogen distribution in the sarcoma tissue with that found in healthy muscle and liver, he fails to note any marked difference, though the amount of melanin and diamino-acid nitrogen appears to be slightly higher in the tumour tissue, probably owing to the highly cellular nature of the growth. This inability to discover any definite alteration in the nitrogen distribution of sarcoma cells leads him to suggest that the constitution of normal and of tumour cells is the same.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

350. Babinski's Reflex.

RUDOLF (*Journ. of Neurol. and Psychopath.*, February, 1922) discusses the phylogenetic significance of the plantar response in man. The reflex was tested on a large number of animals for purposes of comparison, when it was found that the normal plantar response is of the plantar flexion type in lower animals, whereas in the primates it is of the dorsi-flexion or extensor variety. In the human infant there is a period, consisting of the first week of life and to a certain extent the second also, in which a flexor plantar response is often present; but this infantile flexor response changes later into the normal extensor plantar response of the child. This change need not occur in both feet simultaneously, and female infants obtain the extensor plantar response at an earlier period than males. The same primitive flexor response may occur in certain cases of total transection of the adult human cord. Therefore as the animal scale is ascended the type of response varies, for the lower creatures give no response at all, the higher an extensor reflex, whilst adult man gives a flexor plantar response. There is a similar succession of flexor, extensor, flexor in the development of the average individual, for the infantile flexor response changes to the extensor response of the child, and this again to the normal flexor result of the adult. The last is an indication of the highest degree of evolution, in which greater control over the lower centres of the cord is exercised by the brain. These observations lend support to the view that the extensor plantar response of infants and of spinal lesions in man is an atavistic phenomenon dependent on the prehensile toe of our arboreal ancestors.

351. Infective Endocarditis.

PARSONS-SMITH (*New York Med. Journ.*, February 15th, 1922) classifies infective endocarditis into three clinical groups: (1) associated with acute and subacute rheumatism; (2) as a factor in the process of an acute pyaemia; and (3) as secondary to the reinfection of a quiescent lesion. Diagnosis is frequently extremely difficult, since the clinical picture may simulate such other diseases as septicaemia, typhoid, acute miliary tuberculosis, or meningitis; but, associated with evident heart mischief, pyrexia, splenic enlargement, pallor, clubbing of fingers, and embolic phenomena are important objective signs. The valvular endocardium of the left side of the heart is more frequently affected than any other part of the membrane, and the surface of valve exposed to the direction of the blood stream first becomes affected. Prophylactic treatment is most important, especially directed to the later stages of, and early convalescence from, acute rheumatism. Onset may be latent. On the slightest suspicion of endocardial infection absolute rest and skilled nursing are essential, and salicylates should be continued until improvement is well established, when dosage should be slowly reduced. Further treatment is largely on symptomatic lines, directed against insomnia, for the relief of pain and the correction of digestive and other disorders. Antiserum and vaccine therapy may be tried, but the success of this line of treatment does not seem in any way to approach that which might theoretically be expected, and the results so far obtained by chemiotherapy with the mineral germicides are unsatisfactory.

352. Filariasis in China.

MAXWELL (*Philippine Journ. of Science*, September, 1921) considers that filariasis causes a considerable amount of chronic invalidism and economic loss in China. The disease is caused by the *F. bancrofti* through the agency of the mosquito. It does not spread north of the Yangtse Valley, the majority of the cases occurring in a coast belt fifteen to twenty-five miles broad from the Yangtse to the Tonquin border. While the filarial worm may be harboured for years without giving rise to inconvenience, it may cause inflammatory diseases—for example, elephantoid fever, lymphangitis, erysipelatoid inflammation, dermatitis and cellulitis, abscess, orchitis, arthritis, scrotal gangrene, and haemoptysis; or, by obstructing the lymphatics, give rise to lymphatic varix and fistula, varicose groin glands, lymph scrotum, chyluria, chylous dropsy of the peritoneum or of the tunica vaginalis, chylous diarrhoea, and elephantiasis of the scrotum, vulvae, legs, arms, mammae, and limited skin areas. Filarial infection apparently does not adversely affect the healing of surgical conditions, and malaria and typhoid, when occurring in combination with filariasis, are not adversely influenced. The condition is unfavourable to lung disease, especially pneumonia. Although salvarsan treatment has been claimed as destroying the parent worm such destruction is not altogether devoid of risk to the host, and though it is impossible to destroy the mosquito carrier in southern China, the use of a mosquito net, or screening the bedrooms of those infected, is advocated as the most practical preventive measure.

353. Treatment of Epilepsy by Borax and Potassium Tartrate.

TROCELLO (*Ann. di med. nav. e colon.*, November-December, 1921) reviews the recent literature, including the paper by McCartney in the JOURNAL of October 9th, 1920, on the treatment of epilepsy by borates, and records his own observations on eight patients with epilepsy of long standing in whom the tartrate of borax and potassium was given in doses of 3 grams daily. In seven cases the attacks were reduced in number and intensity in a more or less considerable degree, complete disappearance of the fits being noted for three months in one case and for one month in another. Lastly, in almost all the cases there was a transformation of the motor attacks into mere spells of vertigo, to which French writers have drawn attention. In five cases the tartrate proved more efficacious than the alkaline bromides. Improvement of the psychical condition was noted in five cases. Trocello's observations therefore confirmed the conclusions of Pierre Marie and his collaborators as to the value of borates in epilepsy. The French writers maintained that the treatment was all the more likely to succeed if the epilepsy was of recent date. The present series, however, shows that good results may be obtained even in cases of long standing. The absence of any depressing action on the mentality or of any disturbance of the gastro-intestinal canal, skin, or mucous membranes constitutes an undoubted advantage over alkaline bromides. The new method is therefore specially indicated in anaemia and respiratory catarrh, and various gastro-intestinal and cutaneous diseases, in which bromides are definitely contraindicated. Some of Trocello's cases confirm the observation of previous observers (P. Marie, Gardère, and Rebattu) to the effect that suspension of the treatment causes a reappearance of the attacks in their original frequency and intensity.

354. Fatal Cerebral Lesions after Salvarsan Treatment.

HENNEBERG (*Klinische Wochenschrift*, January 23th, 1922) records three cases of fatal cerebral lesions directly following salvarsan treatment, with detailed accounts of the pathological examination. The patients were in hospital undergoing salvarsan treatment. Briefly stated, the symptoms, in the first case, were those of cerebral irritation and mental confusion, followed rapidly by coma and cyanosis. In the second case irritative cerebral symptoms were followed by coma and right-sided hemiplegia. In the third case coma developed quite suddenly. In the first and second cases the pathological examination revealed haemorrhagic encephalitis. The author uses the term "cerebral purpura" to describe the appearance of the brain sections. In the first case numerous scattered petechial haemorrhages were found in the corpus callosum and in the brain substance around the lateral ventricles. In the second case a small haemorrhage was found in the optic thalamus on each side, and small scattered haemorrhages in the pons. In the third case a large haemorrhage was found in the pons. In the first and second cases the changes were those of haemorrhagic salvarsan encephalitis, similar to the changes in cases previously recorded. In the third case the author considers the large pontine haemorrhage to be of a similar nature, and not an accidental coincidence during the salvarsan treatment; since no disease of the cerebral blood vessels was detected, no indications of previous syphilis could be obtained, and similar haemorrhages have been recorded after salvarsan treatment.

355. The Slightness of the Contagion of Lupus Vulgaris.

RECENTLY a commission on lupus in Germany issued the considered opinion that chronic tuberculous diseases of the skin and adjoining mucous membranes were of little practical importance in the dissemination of tuberculosis. This view is confirmed by experimental investigations made by BURCHARDI (*Deut. med. Woch.*, February 9th, 1922). He inoculated 27 guinea-pigs with crusts and pus from cases of

ulcerating lupus of the skin, but in no case did the guinea-pigs develop tuberculosis. When, however, he inoculated 21 guinea-pigs with bloodstained discharge and scrapings from granulation tissue formed about lupous areas, 90 per cent. of the animals developed tuberculosis. The same differences were observed when material from the nasal mucous membranes of patients suffering from lupus of the interior of the nose was injected into guinea-pigs. Some of the author's earlier experiments were spoilt by the mixed infection to which the guinea-pigs succumbed soon after inoculation. Later he was able to avoid this complication by treating the material to be injected for one to two hours with a 15 per cent. solution of antiformin. This destroyed the bacteria present with the exception of tubercle bacilli.

356. Intercostal Herpes following Tuberculous Pleurisy.

SCHREIBER (*Bull. Soc. de Péd. de Paris*, January 17th, 1922) reports two cases in children—a girl aged 14 and a boy aged 15—who developed intercostal herpes in convalescence from tuberculous pleurisy with effusion, the herpes being on the same side as the effusion in one case and on the opposite side in the other. This seemed to indicate that if the tubercle bacillus was responsible for the occurrence of the eruption, as seemed probable, the herpes was not a local complication but a manifestation of a generalized tuberculous infection. Herpes zoster might sometimes be the first sign of tuberculous infection, and therefore appear before the pleurisy.

357. Treatment of Infantile Tetany with Ammonium Chloride.

FREUDENBERG and GYÖRGY (*Klinische Wochenschrift*, February 25th, 1922) conclude from their previous observations that a condition of "alkalosis" exists in manifest tetany, and that this leads to changes in the consistence of the blood as regards active calcium. Since "acidosis" can be produced by ammonium chloride, the authors tried the action of this drug in tetany for short periods (up to ten days). Nine cases of tetany are recorded, in all of which the drug was of service. The results of electrical examination are given, showing the increased galvanic excitability, and especially the increased excitability for the anodal and cathodal opening contractions; this diminished markedly under the action of the drug. The immediate danger from the disease was prevented, and time was gained for other treatment. The action of the drug is symptomatic; it is not suitable as a prophylactic. It is suitable for manifest, but not for latent, tetany. The authors conclude that by the internal administration of ammonium chloride, in doses of 3 to 7 grams daily, to suckling infants liable to tetany spasms, the mechanical and electrical nervous over-excitability can be diminished, and the manifest tetany condition removed. The author also found it of service in a case of post-operative tetany.

SURGERY.

358. X-Ray Examination of Bile Ducts and Biliary Fistula.

TENNEY and PATTERSON (*Journ. Amer. Med. Assoc.*, January 21st, 1922) relate the case of a man on whom a cholecystectomy was performed. The patient made an uneventful recovery from the operation, but a permanent biliary fistula resulted. In order to determine the extent of the fistulous tract and its relations to the duodenum, a duodenal tube was passed and a small amount of milk containing barium was injected into the tube to make its outline clear. At the same time three-fourths of the contents of a one-ounce tube of bismuth paste was injected into the external opening of the fistula; the paste passed in with slight pressure and caused no pain. An *x*-ray examination was immediately made, and it was found that the liver ducts were extensively injected with bismuth paste. Before the second radiogram was taken (fifteen minutes later) the patient was given buttermilk and barium to drink, so that the stomach might be outlined and assurance made that the duodenal tube was in the duodenum. This was found to be so, and it was further shown that there was no connexion between the fistulous tract and the alimentary canal. The obstruction was apparently at the junction of the hepatic with the common duct. Immediately after the injection of the bismuth paste the patient developed discomfort in the region of the liver; this gradually grew worse, and in twelve hours he began to have extreme distress, morphine being required to relieve the pain. In twenty-four hours he had developed jaundice, but at the end of thirty-six hours the paste gradually began to come out through the external opening, the bile began to flow, and the distress of the patient was much less. The third radiogram, taken at this time, showed that the paste, which had extended to the margin of the liver, was disappearing; and the tube, which was given the patient to swallow fifteen minutes previously, was looped in the stomach. Two days after the injection of the paste the jaundice was less and the patient had no discomfort; more of the paste came out, and the bile began to flow freely; on the fourth day the liver was almost free from bismuth. The patient was apparently no worse for the mechanical obstruction to his liver for a period of forty-eight hours.

359. Gas-containing Abscesses of the Liver.

MASSARI (*Wien. klin. Woch.*, November 24th, 1921) states that only six cases of abscesses of the liver containing gas are on record. In two of these cases (Schenk-Justin, Lenk-Steindl) the lesions were due to gunshot wounds; in one case (Couteaud and Le Dentu) to communication of the abscess with a bronchus; in two others to affection of the gastro-intestinal tract (Le Dentu); and in one case (Schenk) to the action of bacteria of the enteritis group following meat poisoning. Massari now reports a case of a man, aged 52, who developed a solitary liver abscess following a compound comminuted fracture of the right arm. Amputation of the arm just below the insertion of the deltoid was necessitated by the development of gangrene of the hand and forearm, in which abundant gas formation had taken place, though the condition was not really one of gas gangrene. Sixteen days after the operation the patient developed symptoms of hepatic abscess, and laparotomy was performed, when a large single abscess was found, from which about a litre of pus containing a large quantity of gas was evacuated. Bacteriological examination was negative. Recovery took place.

360. The Operative Treatment of Epilepsy.

THE etiology of epilepsy is obscure and little is known as to its pathology and causes. The recorded cases of cure show that almost anything may seem to cure epilepsy, from severe burns to operations on the intestines. LITTLE (*Boston Med. and Surg. Journ.*, January 19th, 1922) finds that in certain cases of epilepsy operation is beneficial. The difficulty is to pick out the cases that will be benefited, and then to decide what operation should be performed. He makes a report of fourteen cases in which there were no deaths due to operation. In all cases there was some temporary improvement and some were better over a considerable period. His general impression is that the operation was worth while. The type of operation done was generally some form of decompression. In a collection of 81 cases, gathered from the literature of the subject, together with his own 14 cases, it appears that some form of operation (decompression, fenestration or removal of a tumour) has given beneficial results in the majority of cases. If those cases are excluded where extirpation of the cortical centre and of tumour was done, the mortality is not high. Any benefit which may be had from surgical procedure should not be denied, where other measures fail, to this pathetic class of patients.

361. Paralysis of Accommodation due to Arsenobenzol.

MILIAN and PÉRIN (*Paris méd.*, November 12th, 1921) record the case of a syphilitic woman, aged 26, who, during the third series of injections of arsenobenzol, developed a nitritoid crisis at the time of each injection with a large quantity of albumin in the urine and paralysis of accommodation. The albuminuria was explained by vaso-dilatation of the renal glomeruli. Examination of the eye showed slight oedema of the conjunctivae, normal fundi, and myopia due to spasm of accommodation. The writers attribute the condition to involvement of the sympathetic, and suggest that all patients undergoing treatment with arsenobenzol should be systematically examined by an ophthalmologist.

362. The Efficiency of Various Haemostatics.

ELVING (*Finska Läkaresällskapets Handlingar*, November and December, 1921) has investigated by Bürker's method the influence of various haemostatics on the blood. Exposures of the spleen to the *x* rays had a marked effect in all but one of twelve cases, the average increase in the rate of coagulation being between 25 and 40 per cent. In one case the rate of coagulation was increased by as much as 67 per cent. *X*-ray exposures of the liver and heart had a similar but less marked effect, and this was probably due, in part at any rate, to the action of the *x* rays on the blood circulating through the organs exposed. Though the *x* rays were thus shown to have a definitely haemostatic action, the author is doubtful as to their practical value at the present stage. He has also tested the haemostatic properties of sodium chloride and of the diuretic euphyllin, both of which were administered by intravenous injection. Both increased the rate of coagulation considerably, but it was necessary to give large doses of the sodium chloride if this effect was to be obtained, and euphyllin betrayed the serious fault of exciting marked

tachycardia. By far the best haemostatic was found to be calcium chloride; in one case the intravenous injection of 10 c.cm. of a 10 per cent. solution increased the rate of coagulation by 91 per cent. The author recommends the intravenous injection of 20 c.cm. of a 15 per cent. solution (3 grams $CaCl_2$), both as a prophylactic an hour or two before a severe operation, and also in the treatment of haemoptysis and other haemorrhages.

263. Hydatid Cyst of the Kidney.

ESTOR (*Bull. et Mém. de la Soc. de Chir. de Paris*, February 7th, 1922) records a case of a large hydatid cyst of the left kidney, and points out that hydatids are uncommon in this situation and cause much difficulty in diagnosis. His case occurred in an agricultural worker aged 42 years. The patient had noticed a swelling in his left flank for two years, but as it caused no trouble no treatment was thought necessary. Subsequently the swelling was diagnosed as an enlarged spleen, but a blood examination proved negative. The tumour then occupied almost the whole of the left side of the abdomen and extended from the iliac crest to the costal margin. As the patient even then gave no evidence of a lesion of the urinary tract and the urine examination proved negative, a diagnosis of hydatid cyst of the spleen was made. Abdominal exploration showed the true origin of the cyst. Puncture of the cyst yielded two and a half litres of fluid, and an injection of 1 per cent. formalin was made into the cyst to sterilize it. The sac was then opened and the hydatid membrane completely removed. To lessen the size of the cavity he removed all the fibrous capsule and was only stopped when kidney tissue presented. The excision removed about a third of the sac; the remainder was completely sutured up without drainage. Two tubes were placed outside the sac and removed a few days later. The patient made a complete recovery.

OBSTETRICS AND GYNAECOLOGY.

361. The X-ray Treatment of Sarcoma of the Uterus.

SEITZ and WINTZ of Erlangen (*Deut. med. Woch.*, March 17th, 1922) review their experiences during the past four to five years with the *x*-ray treatment of primary sarcoma of the uterus and of myoma of the uterus which has undergone secondary sarcomatous degeneration. Of four patients treated almost five years ago, one was a hopeless case from the outset, and death occurred a few weeks after treatment. Another survived treatment by three and a half years before dying of metastases in the region of the stomach. The remaining two are still alive and well, nearly five years after treatment. The authors refer to three other cases observed for five years and seven observed for two years after treatment, and all are still alive and well. Of 15 cases of sarcomatous degeneration of myomata of the uterus observed for two to four years after *x*-ray treatment, 13 are still alive. Altogether the authors have treated 35 cases, and 26, or 74 per cent., are still alive and well two to five years after treatment. They believe that a permanent cure—that is, freedom from relapse for five years—can be achieved in 50 per cent. by *x*-ray treatment, whereas the best results of operative treatment show recovery in only 20 per cent. after an observation period of three and five years (Veit). Discussing the diagnosis of sarcoma of the uterus, the authors admit that even by exploratory excisions and microscopic examinations it is not always possible to distinguish between malignant and non-malignant disease, but they have found the reaction of tumours of the uterus to the *x* rays of great diagnostic value, the sarcomatous tumour dwindling rapidly in two or three weeks after a full sarcoma dose (60 to 70 per cent. of the erythema dose), while the benign myoma may take a year and a half to disappear after a "castration exposure" (34 per cent. of the erythema dose). In the latter case this effect is achieved by eliminating the activities of the ovaries, whereas in the case of sarcoma the rapid dwindling of the tumour is due to the direct action of the *x* rays on it.

365. X-ray Examination of the Pelvic Colon in Gynaecological Diagnosis.

FROM a study of 52 cases of pelvic tumour, ODESCALCHI (*Annali di Ostetricia e Ginecologia*, February 28th, 1922) concludes that *x*-ray examination of the ileo-pelvic colon, injected with a bismuth emulsion in gelatin, constitutes a valuable method in the diagnosis of large pelvic tumours, and has the advantage of being less inconvenient and less dangerous to the patient than the insufflation of gaseous mixtures into the pelvic peritoneum, as in Rubin's and other methods. When the pelvic tumour is the size of the three-months pregnant uterus, or larger, the mobile iliac and pelvic colon undergoes displacements, the radiological diagnosis of which, especially when combined with bimanual examination, may afford valuable information as to the origin and nature of the tumour. In the case of tumours of the right adnexa, for example, the ileo-pelvic colon is displaced to the left, and forms an inverted U-shaped loop (with concavity directed downwards) parallel and internal to the descending colon. When the growth is on the left side four-fifths of the pelvic colon is seen on the screen as an arc of a circle, circumscribing the tumour from the sacral concavity to the left iliac fossa. As a result of examination by this method the writer was frequently able to amplify or correct the original clinical diagnosis.

366. Varicocele of the Broad Ligament.

FROM a study of the literature and of twenty personal cases ENGELMANN (*Zentralbl. f. Gynäk.*, March 4th, 1922) concludes that varicocele of the broad ligament is not of very infrequent occurrence and has a somewhat characteristic symptomatology. Those affected are usually in the third or fourth decade and are almost invariably multiparae; the symptoms usually date from a pregnancy, and consist in pains in the abdomen and back, which are relieved by lying down, well marked in the standing position, and most severe in connexion with defaecation or with sexual excitement. More than half of the writer's patients, all of whom came to operation, suffered coincidently from uterine retroversion or prolapse; seven showed morbid conditions of the adnexa, and in four only did the broad ligament varicocele constitute the sole pathological condition discernible. The diagnosis can rarely be made before operation. Treatment is largely that of the complications which are present, but even in uncomplicated cases the author is averse to simple extirpation of the venous plexus, and regards removal of the adnexa of both sides and of the fundus uteri (one ovary being conserved if possible in young women) as the method of choice.

337. Perforation of Uterus without Destruction of Ovum.

BENTHIN (*Deut. med. Woch.*, March 17th, 1922) records as a curiosity the case of a woman, aged 30, who attempted to induce abortion by injecting a solution of soap into the uterus with an aluminium syringe. Labour-like pains followed and she developed fever and rigors. A doctor, summoned seven days later, attempted to evacuate the uterus, but the structure he withdrew from it was not the placenta but a coil of intestine. So he sent her to hospital, where she was at once operated on. Probably owing to the tilting of the pelvis the intestine was found to have slipped back into the peritoneal cavity from the opening, admitting one finger, in the lateral wall of the uterus. The intestine proved to be intact, and after supravaginal amputation of the uterus and adequate provision for drainage the operation was completed. The patient was afebrile by the seventh day after the operation. The uterus contained a practically intact ovum; only at its lower pole was it partially detached from the neighbouring structures and covered by a clot of blood.

368. Ectopic Gestation.

NAVARRO (*Rev. Española de Obstet. y Ginecol.*, 1921, 61) records a case in which a patient after three months' amenorrhoea suffered from symptoms of internal haemorrhage, pyrexia, and faecal and urinary obstruction. Examination showed the presence of a retrouterine haematocele following tubal abortion; the acute symptoms subsided gradually, and on the fifth day the placenta was passed per rectum. Eight days later the general condition became worse, and after very considerable pain the foetus was passed by the same route. Recovery took place ultimately. The passage of such an early foetus per rectum is unusual; the majority of recorded cases have concerned foetuses of at least five months and have been subjected to operative intervention.

369. Five Children at a Birth.

COSENTINO (*Il Morgagni*, February 5th, 1922) reports a case of five living children at one birth—two female and three male. The diagnosis of multiple pregnancy is difficult. Auscultation of the foetal heart may indicate the presence of twins. In multiple births the male sex as a rule preponderates, and often the father is older than the mother. The author believes that three out of the five children developed from one follicle enclosing many ovules. Veit, out of 298,928 twin births, found 153,723 males and 145,205 females. Pregnancy in these cases of multiple births is often shortened owing to the want of room in the uterus. The first three were born with vertex presentations, the fourth a breech, and the fifth a trunk presentation. There was an interval of only ten minutes between the births of the first two, the third was extracted by forceps, and the fourth and fifth (after turning) by the hand. The rarity of five at a birth is shown by some statistics of Wappaus, who only records 1 in 17,730,674 births. Three placentas were expelled.

370. The Dangers of the Intrauterine Pessary.

WETTERWALD (*Schweiz. med. Woch.*, March 16th, 1922) notes that the wearing of an intrauterine pessary as a contraceptive has become deplorably common—nurses, midwives, and quacks, as well as certain doctors, recommending it for this purpose. In addition to recording in detail a case of fatal septic abortion following the use of an intrauterine pessary, the author draws on the literature of the subject to show that pregnancy often occurs in spite of this device. One writer alone (Gummert) has collected as many as 93 cases of pregnancy in association with the wearing of an intrauterine pessary, and out of 72 cases of abortion by women who had worn this pessary as many as 61 proved febrile. In the author's case the pessary had been worn for a year and a half, and all had gone well while the patient had removed the pessary every month at the onset of menstruation. Neglect of this precaution was shortly followed by the abortion which terminated fatally. It is probable that, while the intrauterine pessary is at all times a dangerous foreign body calculated to promote septic infection of the uterus, its presence there during menstruation considerably enhances the risks of injury followed by infection.

PATHOLOGY.

371. Metabolism of Bacteria.

KENDALL and a number of his co-workers publish (*Journ. of Infect. Dis.*, February, 1922) a record of their researches into the nitrogenous metabolism of the coli-typhoid group of bacteria. They show that bacteria require nitrogen for structural needs and carbon for energy requirements, and that in a medium containing both carbohydrates and proteins the former are used first, and only when the carbohydrates are exhausted are the proteins attacked. This is embodied in the dictum, "Carbohydrate spares protein from utilization for energy." Bacteria were grown in various media, and the nitrogenous constituents examined at stated periods of time and the ratio of the nitrogen fractions compared. In the case of *B. dysenteriae* (Shiga) they showed that this organism attacks most readily the so-called carbohydrate portion of the protein radicle, and builds up its protein from the polypeptides present in the original culture. With the typhoid and paratyphoid groups of bacilli also they found that the polypeptides were the ingredients most readily made use of in sugar-free media, but when glucose was present this portion was spared. Their observations on the Schmitz bacillus lead them to distinguish it definitely from Shiga's bacillus, which it closely resembles, for the Schmitz bacillus does not select the carbohydrate portion of the protein molecule for its primary attack, and it is capable of producing more pronounced proteolysis, indicated by the formation of indol. The organism known as *B. alkalescens*, on the other hand, although at one time confused with *B. typhosus*, is by these authors relegated to a position in company with non-pathogenic coliform bacilli. The proteolytic enzyme secreted by *B. proteus* is used for the preparation of protein for assimilation, and has no demonstrable rôle in the intracellular utilization of the protein by the bacteria.

372. Vitamins and Immunity.

BIONDO (*Il Policlinico*, Sez. Prat., January 2nd, 1922) carried out experiments on pigeons to determine the effect of deprivation of the vitamins A, B, C, either separately or in combination, on (1) the natural immunity of the birds to the anthrax bacillus, (2) the weight of the body, (3) the leucocyte picture, (4) the opsonic index of the blood for the anthrax bacillus. His results were as follows: (1) An exclusive diet of autoclaved rice (absence of vitamins A, B, C), or of autoclaved rice and onion (absence of vitamins A and B), or of autoclaved rice and butter (absence of vitamins B and C), or of autoclaved rice, butter, and onion (absence of vitamin B), caused the death of the pigeons in a time varying from fifteen to twenty-four days from the commencement of the diet, with symptoms of avian polyneuritis. Under this diet, in which there was a constant absence of vitamin B, there was (*a*) loss of natural immunity to anthrax; (*b*) diminution in the original weight of the pigeons by about 20 to 40 per cent.; (*c*) leucopenia with considerable increase of pseudo-eosinophils, extreme reduction of lymphocytes, and appearance of transition forms, leucoblasts, and young red cells; (*d*) considerable and progressive diminution of the opsonic index of the blood for the anthrax bacillus. (2) An exclusive diet of dry peas (absence of vitamins A and C), or of dry peas and onions (absence of vitamin A), or of dry peas and butter (absence of vitamin C), did not cause any characteristic morbid symptoms in pigeons which had been kept on this diet for eighty days, except a slight arrest of development and almost complete abolition of spontaneous movement, especially of flight. With such diets, in which vitamin B was always present, the pigeons did not lose their natural immunity to anthrax, even if inoculated eighty days after commencement of the diet, their weight slightly increased, their leucocytes did not undergo any remarkable changes, and the opsonic index of the blood for the anthrax bacillus remained the same as before. Biondo concludes that vitamin B is sufficient in alimentation to the exclusion of the others.

373. Studies on the Pneumonic Exudate.

A CONTRIBUTION by NYE (*Journ. Exper. Med.*, February, 1922) to the study of the factors operating in the process of resolution of the pneumonic lung serves to confirm the previous well-known work of Opie and of other American observers. The subject was attacked by making a comparison of the proteolytic activities of portions of normal and of consolidated lung tissue obtained from a case of Type I pneumonia, the substrate used being fresh horse fibrin. Total nitrogen determinations by Folin's macro-Kjeldahl method and amino-nitrogen determinations by Van Slyke's method were made on digestive mixtures of different degrees of acidity. As a result it was found that washed cellular suspensions of pneumonic lungs contain a protease, derived chiefly from the leucocytes of the exudate. This protease is able to exert its most marked effect on fibrin at a hydrogen-ion concentration of P_H 8.0—that is, in a slightly alkaline medium. On the other hand, washed cellular suspensions of normal lungs were found to contain a protease which is most active in a moderately acid medium—P_H 4.0. The two enzymes are apparently distinct. That occurring in normal lung is derived from the endothelial cells, that in the pneumonic lung from polymorphonuclear leucocytes. Moreover, the latter is considerably more powerful than the former. It appears evident that the cause of the clearing up of the pneumonic exudate is due to this tryptic ferment, which digests the network of fibrin in the alveoli, thus liquefying the highly viscous proteins and enabling the resultant split products to be coughed up or removed in other ways.

374. Vaso-constrictor Substances in the Blood in High Blood Pressure.

HÜLSE (*Zentralbl. f. inn. Med.*, January 7th, 1922) examined various cases of high blood pressure, consisting of four of acute glomerular nephritis, two of chronic nephritis, and three of essential hypertonus, for substances possessing a vaso-constrictor action, such as adrenaline. The results were negative in each case. The question therefore whether hyperadrenalinaemia is the cause of a marked rise of blood pressure could be definitely answered in the negative. Even in the highest readings, such as 250 mm. Hg, no adrenaline could be found in the arterial blood. It can therefore be concluded with certainty that the rise in the blood sugar found by some observers in cases of high blood pressure had nothing to do with increase of adrenaline in the blood. Hülse himself never found any increase of blood sugar in acute diffuse nephritis, but often, on the contrary, a remarkably small quantity. The occasional increase of blood sugar in chronic nephritis is best explained, as Fahr suggests, by a sclerosis of the pancreatic vessels. Hülse also concludes from his experiments that there are no other vaso-constrictor substances apart from adrenaline in the blood of patients with high blood pressure, and that therefore there are oth er causes for the general vascular spasm which leads to hypertonus. He considers it probable that the rise of blood pressure in the various forms of hypertonus is due to different causes, and suggests that in acute nephritis deficiency in calcium is the cause of the rise of blood pressure.

375. Uterine Tissue in the Ovary.

JANNEY (*Amer. Journ. of Obstet. and Gynec.*, February, 1922) records three cases in which he has discovered by microscopic examination the presence of uterine among ovarian tissue. The first patient came to operation for chronic inflammatory adnexal disease; both ovaries contained endometrial tissue in connexion with the wall of a small cyst. A second patient suffered from prolapse and lacerated cervix; uterine tissue occurred on the surface of one ovary. The third patient had a large bleeding uterus and a cervical polypus; the glandular tissue was contained in the wall of a small cyst of one ovary. The patients' ages were respectively 41, 48, and 44. In each case the uterine tissue was composed of stroma and epithelial elements in about the same proportion as in normal uterine mucosa; the nuclei were of typical and regular size and shape, and mitotic figures occurred rarely. Gland tissue was present both in typical arrangement and also as irregular diverticula. These findings can be explained as due to teratoma, metastasis, or anomaly: the writer believes the third explanation to be correct.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

376. Clinical Examination of Pulse Irregularity.

LUNDSGAARD (*Klinische Wochenschrift*, March 4th, 1922) points out that in irregularity of the pulse valuable information may be obtained from its clinical examination alone, without the use of special apparatus. When the heart is beating irregularly, as in auricular fibrillation, the pulse waves produced by the smaller beats are often too feeble to reach the radial artery at the wrist; also the feeble ventricular contractions may be too feeble to open the aortic valves. Hence the number of heart beats per minute is greater than the number of pulse beats at the wrist. The difference has been termed the "pulse deficit." This "deficit" is a useful guide in diagnosis and treatment. To estimate the pulse deficit only a stethoscope and a watch are required. Two observers estimate the deficit, the watch being placed in a position where it can be seen by both. One observer counts the heart beats, the other the radial pulse beats at the wrist, for half a minute. The difference between the number of heart beats and radial pulse beats, per minute, is recorded as the "deficit." Tables are given showing the difference between the heart beats and radial pulse beats, in eighteen cases (mostly mitral disease). These indicate that in persistent arrhythmia (or auricular fibrillation) it is not sufficient to count only the radial pulse. Arrhythmia with a marked pulse deficit is usually a persistent arrhythmia, though a pulse deficit is not pathognomonic of this form of irregularity. The author records observations showing that in persistent arrhythmia after exertion the heart beats were always markedly increased in frequency, whilst the radial pulse beats were only increased a little, and in one case diminished; the pulse deficit, however, was always markedly increased. The extent of the pulse deficit during rest and after exertion gives some indication of the functional condition of the heart. The diminution of the pulse deficit is associated with an improvement in the subjective and objective condition. Cases and tables demonstrate this conclusion. In judging of the effects of treatment, records of the radial pulse alone are of comparatively little value. Observations demonstrate that the heart beats should be counted in addition and the "deficit" estimated. In treating cases of persistent arrhythmia we should aim at abolishing the pulse deficit. The pulse deficit after rest and exertion is a guide as to drugs, duration, intensity, and effects of treatment and mode of life. The author gives tables and instructive charts showing the diminution or abolishing of the pulse deficit in cases of persistent arrhythmia, under the action of digalen, digitalis, strophanthus, and quinidine. The treatment should be continued, if possible, until the patient is able to tolerate a certain amount of exertion without a pulse deficit occurring; but in many cases this result cannot be obtained.

377. Failure of Tartar Emetic in Hydatid Disease.

FAIRLEY (*Med. Journ. of Australia*, January 28th, 1922), from observations upon two cases of hydatid disease treated with tartar emetic intravenously, concludes that, since the drug is unable to traverse the adventitia in sufficient quantities to exert any lethal effect on the parasite, it is not an effective anthelmintic for the encysted stage of *Tænia echinococcus*. In order to be successful the drug must be able to traverse the connective tissue barrier in sufficient concentration to kill the parasite, and without causing suppuration in the cyst. In both cases the complement fixation reaction remained unmodified after a full course of treatment, 1.5 grams (25 grains) being given during the preceding month. Operation in one case revealed a living hydatid cyst of the liver containing clear fluid and undegenerate endocyst and daughter cysts, and analysis of the cyst walls showed no trace of antimony though 0.15 gram (2½ grains) had been administered intravenously six hours before operation in addition to the previous total course. In the case operated upon a strong positive reaction was converted into a negative result by operative intervention.

378. Syphilitic Dyspepsia.

PATHAULT (*Bull. de la Soc. française de Derm. et de Syph.*, No. 10, 1921) draws attention to the frequency of mild intestinal symptoms due to syphilis. Whilst gummata and syphilitic ulcerations of the stomach are relatively rare, dyspepsia associated with hyperacidity is a common manifestation of syphilis and rapidly amenable to antisyphilitic treatment. This hyperchlorhydria may be present at any stage of syphilis, and if untreated lead to grave consequences due to the defective assimilation and weakness it causes. Therefore the possibility of such symptoms being due to syphilis should be considered early by the physician, who, in spite of the denial of any history of infection and the absence of any of the classical signs of syphilis, may be assisted in his diagnosis by an inquiry into the family history, with particular reference to those accidents imputable to syphilitic disease. The coexistence of intractable and persistent headaches is a suggestive sign, as is also the fact that the dyspeptic symptoms show no tendency to disappear in response to purely gastric treatment. In carrying out a strenuous course of antisyphilitic treatment in such cases the physician not only removes the dyspepsia but also cures the syphilis, and prevents the more serious conditions which would have followed—namely, chronic gastritis and ulceration of the stomach.

379. Orchitis in Scarlet Fever.

MEDI (*Il Policlinico*, Sez. Prat., January 30th, 1922), who records a case of suppurative orchitis in a male child, aged 2½ years, suffering from scarlet fever, remarks that only three previous cases of genital complications of scarlet fever have been published—namely, one by Henoch, in which inflammation of the epididymis and tunica vaginalis occurred on the nineteenth day of disease; a similar case described by Horteloup; and a third case reported by Acuña to the Paediatric Congress at Monte Video in 1918, in a child, aged 9, who developed slight bilateral orchitis with inflammation of the epididymis on the eighth day of disease. Unlike Medi's case, none of these three cases ended in suppuration.

380. Haemoptysis and Pulmonary Tuberculosis.

RICKMANN (*Deut. med. Woch.*, March 2nd, 1922) has made a study of the frequency of haemoptysis and the conditions under which it occurred among 1,926 patients treated at the St. Blasien Sanatorium in the period 1916–20. In 683, or 35.5 per cent., of the total there was a history of haemoptysis before admission to the sanatorium. During sanatorium treatment 151 patients, or 8 per cent., suffered from haemoptysis. The author confirms the old observation that the prognosis is exceptionally good when haemoptysis is the first sign of the disease. Even when such patients continue to bleed during sanatorium treatment their ultimate fate is better than that of patients whose first haemorrhage occurs comparatively late in the disease. Of 260 patients belonging to the former class, 60 per cent. were discharged with the disease completely latent, whereas this result was achieved only in 45.4 per cent. of all the patients who had suffered from haemoptysis. The author explains this difference by a reference to the observation that haemoptysis early in the disease often secures comparatively early diagnosis and treatment. In the period under review the frequency of haemoptysis during sanatorium treatment declined steadily year by year; in 1916, 10.5 per cent. of the residents in the sanatorium suffered from haemoptysis; by 1920 this figure had been reduced to 6.5 per cent. The author associates this decline with the adoption of *x*-ray treatment, which he believes does much to hasten the formation of scar tissue in the lungs. On the other hand, he has found that heliotherapy, indiscreetly pushed, is a potent factor in provoking haemoptysis.

381. Abnormal Forms of Lichen.

PAUTRIER has described a chronic form of lichen with circumscribed nodules under the name of "lichen obtusus" (*Ann. de Derm. et de Syph.*, February, 1922), which he regards as distinct from other forms of lichen on both clinical and histological grounds. Clinically these horny lesions are not preceded by simple lichen, and cannot be regarded as having been derived from the papular lesions of lichen planus; they develop slowly, their evolution extending over a number of years. The chief subjective phenomenon which accompanies this disease is a severe pruritus, which, however, is not continuous but displays itself in frequent and violent attacks of itching, which is most difficult to relieve. From the histological point of view the nodule of lichen obtusus is clearly differentiated from the papule of lichen planus by the hyperkeratosis, hyperacanthosis, and sclerosis of the skin, with infiltrated areas, which characterize its pathological anatomy.

382. Etiology and Prognosis of Serous Pleurisy in Children.

NEULAND (*Klinische Wochenschrift*, March 4th, 1922) mentions the opinions of various authors who estimate that in so-called idiopathic serous pleurisy in the adult more than half of the patients, sooner or later, and mostly within the first five years, suffer from tuberculosis of the lungs. These authors regard a serous pleurisy of the adult, which neither by the history nor by clinical examination can be attributed to any primary disease, as a tuberculous pleurisy. From his observation on 45 cases Neuland attempts to decide (1) if serous pleurisy of unknown etiology is also tuberculous in children; (2) if tuberculosis of the lungs follows a serous pleurisy in children so frequently as in adults. As regards the first question, Neuland found that 10 out of the 45 cases examined failed to give the cutaneous tuberculin reaction. He concludes that we cannot regard all cases of serous pleurisy, of unknown origin, in children as tuberculous, and that serous pleurisy in children is not so frequently tuberculous as in the adult. Moreover, whilst not denying the close relation between serous pleurisy and tuberculosis, Neuland thinks we are not justified even in concluding that all cases giving a positive cutaneous tuberculin reaction are tuberculous. As regards the second question, the subsequent development of tuberculous lung disease, he was able to obtain information in 29 cases. Of these 29 cases, 24 had given at first a positive Pirquet tuberculin reaction, 5 had been negative. At the end of periods varying from one to ten years, 23 of the 29 cases were in good health, and of these 18 had given at first a positive Pirquet reaction. Of the 6 whose health had failed 3 had suffered from pulmonary tuberculosis, 1 from tuberculous caries of the spine, and in 2 cases the condition of the lungs was indefinite, but probably tuberculous. In the 5 cases in which at first the Pirquet reaction had been negative, examination at a later period failed to reveal any signs of tuberculosis. Neuland concludes that in children the prognosis, as regards subsequent tuberculosis, is much better than in adults.

383. Calcium Lactophosphate in Cyclic Vomiting.

GREEN (*Med. Record*, January 14th, 1922) calls attention to the value of calcium lactophosphate in cyclic vomiting and severe migraine. Two cases are recorded, a boy of 7 and a girl of 8, who suffered from severe attacks of cyclic vomiting every two or three months. After a prolonged course of calcium lactophosphate, in 2-grain doses three times a day, no further attacks occurred for more than a year. In adults suffering from migraine, 5 grains three times a day taken over a considerable period have markedly relieved the symptoms, and its value is urged in those cases of periodic vomiting and severe migraine which resist all other attempts toward permanent relief.

SURGERY.

384. Fracture of Neck of Femur.

KLEINBERG (*Med. Record*, January 7th, 1922) reports three cases of fracture of the neck of the femur in which, some months after the injury, there was non-union and persistent pain and disability, but in which the application of the Whitman abduction treatment brought about complete union and cure. One, a man aged 34, four and a half months previously, had fractured the neck of the right femur. He walked on crutches, and complained of pain in the right hip and weakness in the leg. Complete union and restoration of function were obtained by the abduction treatment in little over nine months. In the two other cases, a woman aged 65 and a man aged 69, satisfactory results followed similar treatment applied some time after the original injury, and a cure resulted in the first case by the application of treatment as late as five months after the injury. The method is not applicable to cases of non-union in which there is marked absorption of the neck and upward displacement of the shaft. These cases differed from the ordinary long-standing cases in that there was very little absorption, and the interval between the neck and the shaft was small and easily obliterated by the manipulation in applying the abduction treatment whereby contact and good alignment were obtained. Immobilization is necessary for as long a time as in the case of a recent fracture.

385. Sacralization of the Fifth Lumbar Vertebra.

MAUCLAIRE (*La Médecine*, October, 1921) states that Rossi estimates that sacralization of the fifth lumbar vertebra is responsible for 22 out of 800 cases of chronic lumbo-sacral pain. In 12 of Rossi's cases the lesion was bilateral and symmetrical, in 8 unilateral, and in 2 accompanied by spina bifida occulta. Among 12 cases observed by Mauclaire sacralization was symmetrical in 7 and unilateral in 5. The disease is very rare in the child, but the lesion may be present since childhood and not become painful until adolescence or between the ages of 20 and 30. The deformity is often accompanied by other lesions of the spine, such as spina bifida or Pott's disease. Sometimes a sixth lumbar vertebra is present. The pain is situated in the angle formed by the vertebral column and posterior iliac spine, and radiates in all directions on the corresponding side and sometimes to the opposite side. The pain often passes towards the sciatic nerve, and, according to Bertolotti, cases of so-called sciatic scoliosis are almost always due to sacralization of the fifth lumbar vertebra. The onset is sometimes very sudden, as the result of a more or less intense effort or injury. If the lesion is bilateral the back is flat and normal lordosis is almost entirely absent. If the lesion is unilateral there is lumbar lordosis, the sacro-iliac region is asymmetrical, and the pelvis is inclined to the corresponding side. The pain is sometimes situated on the opposite side because there is a distension of the ligaments on that side. The condition must be distinguished from more than 20 different diseases which give rise to pain in the lumbo-sacral region. The prognosis is grave owing to the loss of power suffered by the patient. Treatment should first be non-operative and consist of prolonged rest, radiotherapy, and continuous currents. Operative treatment consists in resection of the enlarged transverse process of the lumbar vertebra.

386. Extreme Dilatation of the Duodenum due to Chronic Obstruction.

ROBERTS (*Arch. of Radiol. and Electrotherapy*, January, 1922) records a case of this nature discovered by radiological examination and confirmed at subsequent operation. The patient, a male aged 42 years, had suffered with attacks of abdominal pain since childhood. During the year previous to operation he had suffered from attacks of vomiting, and jaundice, and diarrhoea. *X*-ray examination showed that no gall stones were present. The stomach was found normal in position, size, and pyloric rhythm, and the duodenal cap was normal. Over two hours later the barium which had passed out of the stomach was seen lying in a large C-shaped sac with its lower border down in the pelvis. Above the shadow the sac was filled with fluid capped by gas. Up to forty-eight hours a small residue of barium remained in the stomach, and the sac could be made out at repeated examinations during this time. A barium enema demonstrated the large bowel to be normal. An *x*-ray diagnosis of dilated duodenum was made. This was confirmed at the operation. At the duodeno-jejunal flexure a band of cicatricial tissue was found causing a partial stenosis of the gut at this point. Two inches below this was a hernial orifice in the jejunal mesentery, through which nearly all the small intestine had passed. There was no evidence of obstruction to the bowel at any point other than the above. Raymond Grégoire has reported a case of a somewhat similar nature under the name of "mega-duodenum." At the operation nothing was found to account for this dilatation.

387. Early Formation of Gall Stones in Typhoid Fever.

DUFOUR and RAVINA (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, November 24th, 1921) remark that, though the etiological relationship between cholelithiasis and typhoid fever is well established, the presence of calculi in the gall bladder at the end of an attack of typhoid is generally regarded as a mere coincidence, without any causal connexion between the two processes. The writers, however, have recently observed a fatal case of typhoid fever in a woman, aged 30, in whom death on the thirty-second day of disease was due to empyema, and in whose gall bladder ten calculi were found, the largest being of the size of a pea. The writers employed the method of Mignot, Gilbert, and Fournier, who had found typhoid bacilli in the centre of gall stones, and obtained a pure culture of those bacilli from the cholesterin centre of the largest of the calculi. They allude to another case observed by one of them in which, during an operation for cholecystitis in typhoid fever, the surgeon found the gall bladder filled with grit. It is thus clear that typhoid fever can give rise to a lithiasis, the elements of which may very rapidly assume a considerable size.

388. The Treatment of Scarlatinal Otitis.

SALOMONSEN (*Ugeskrift for Laeger*, February 2nd, 1922) claims that the results of early radical operative treatment for scarlatinal otitis are better than those obtained by leaving otitis and mastoid disease alone until they have given rise to a superficial periauricular abscess. This latter course was recently advocated by Professor Sörensen, whose material consisted of 57 cases of periauricular phlegmon observed among about 4,000 cases of scarlatina. The author's material

covers the period May 1st, 1918, to December 31st, 1920, in which 4,447 cases of scarlatina were discharged, and 58 were operated on for scarlatinal otitis. After discarding cases which terminated fatally from such alien complications as pericarditis and diphtheria, the author finds that there was only one death from otitis after operation, and of 45 patients operated on 32 were discharged as cured, 6 with defects of the tympanum, and 6 with chronic suppuration. The author claims that giving a general anaesthetic and freely opening the diseased mastoid process at an early stage interfere less with the patient's general health than waiting till the inflammation has come to the surface, and then incising, probing, and scraping a periauricular abscess without the aid of a general anaesthetic. A periauricular abscess is, in his opinion, always the sequel to a mastoiditis which has been neglected.

389. Insufficiency of the Soft Palate.

APERT and BIGOT (*Bull. Soc. de Péd. de Paris*, January 17th, 1922) report the case of a boy, aged 8½ years, whose pronunciation suggested that he had a cleft palate. On examination, however, no such lesion was found, but the palate was very short and the uvula very small. On the other hand, the distance between the posterior border of the soft palate and the posterior wall of the pharynx was exaggerated, suggesting that the soft palate was too small to carry out its function of obturator to the pharynx. Deglutition took place normally, but up to the age of 3 years regurgitation through the nose had been frequent. This form of malformation of the soft palate was described in 1892 by Lermoyez, who collected 12 cases, including one of his own. Since then Castex and Egger in France had published 3 cases, and Gutzmann in Germany 20 cases. In all these cases the palatal affection was usually the only malformation present. Gutzmann, however, quoted a case of Gluck's in which there was a flattening of the side of the head and thorax with a congenital cicatricial depression at the right buccal commissure. In the present case the palatal insufficiency was associated with a number of other malformations—namely, extreme brachycephaly, camptodactyly of the left ring finger and the second toe on both sides, absence of the xiphoid cartilage, and an undescended left testis. The intelligence was normal. The child had been born at full term and delivery had been normal. The parents were elderly, the father being 53 and the mother 42 when the child was born. The Wassermann reaction was negative. There was no similar case in the family as in some of the cases on record. Some improvement had been obtained by making the boy blow out candles, blow soap bubbles, and training him to speak correctly.

390. X-Ray Treatment of Enlarged Tonsils.

PORTMANN (*Rev. de lar., d'otol. et de rhinol.*, December 31st, 1921), who records an illustrative case in a girl, aged 21, states that *x*-ray treatment of enlarged tonsils is indicated in those cases in which the enlargement is due to lymphoid hyperplasia without an associated fibroid degeneration, a cure being obtained in such cases two to three months after the first application. The treatment is not painful, and its only drawback is that it produces a permanent epilation of the area treated below the angle of the jaw. Apart from this, the method is likely to prove valuable in cases in which for any reason surgical intervention cannot be employed.

391. The Secondary Effects and Sequels of Local Anaesthesia.

WIEDKOPF (*Deut. Zeit. f. Chir.*, December, 1921), in a review on this subject, comes to the following conclusions: (1) No secondary effects result from the use of adrenaline in the doses usually employed owing to its high dilution. (2) The secondary effects of novocain may be divided into mild effects (nausea, vomiting, palpitation, vertigo, and sweating), severe effects (collapse, excitement, and somnolence), and fatalities. (3) The secondary effects are essentially of a cerebral character, their cause being the absorption of novocain. (4) The danger of intoxication is diminished or removed by sterilization of the instruments in soda-free water, employment of thin cannulae, and careful injection without pressure. (5) The sequels of local anaesthesia consist in pain in the wound, renal irritation, and necrosis of the skin. (6) In the individual anaesthetic procedures various lesions may occur, due to the anatomical relations, such as (*a*) transient blindness in trigeminus anaesthesia; (*b*) in anaesthesia of the brachial plexus, nerve palsies, damage to lungs and pleura, pneumothorax, mediastinal emphysema, and possibly air embolism; (*c*) in paravertebral anaesthesia injection into the vertebral artery, transient irritation and paralysis of the vagus and sympathetic, damage to the pleura and kidneys, etc. (7) The dose of novocain may vary within wide limits; usually it should not exceed 1.25 gram. Its strength varies between 1/2 and 2 per cent. solution.

OBSTETRICS AND GYNAECOLOGY.

392. Present Tendencies in Gynaecological Treatment.

ACCORDING to GELLHORN (*Amer. Journ. of Obstet. and Gynec.*, March, 1922) there is need at the present day for a reassessment of the relative value of surgical and of non-operative treatment in gynaecology; surgical treatment, in spite of the great advances which have been produced during the last two decades, no longer deserves the pre-eminent importance which it then enjoyed. For cancer of the cervix Doederlein and also Bumm eliminate surgery altogether, and rely exclusively on radiotherapy, of which the mortality is much less than, and the percentage of cures is probably as great as, for extended hysterectomy. For fibroids *x* rays and radium check the haemorrhages in about 98 per cent. and reduce the size of the tumours in about 75 per cent. of the cases, with a mortality which is negligible, as against an average mortality of 3 to 5 per cent. after surgical procedures; not all fibroids are suitable for *x*-ray treatment, but the overwhelming majority can be cured by non-surgical means. In chronic, and especially in gonorrhoeal pelvic inflammations the writer believes that there is a growing tendency for surgical treatment—which, to be effective, has to be radical and mutilating—to be superseded by subcutaneous injections of foreign protein or of turpentine, or by "temporary castration" by radium or *x* rays, alone or in combination. Therapeutic curetting, he considers, now finds its legitimate use for abortion and polypi alone. The necessity for surgical treatment of uterine malposition will become progressively less as it is more widely recognized that 75 per cent. of all displacements occur after labour, and that these may be prevented by the proper hygiene of the puerperium or cured by the temporary use of pessaries.

393. MAYER (*Zentralbl. f. Gynäk.*, March 25th, 1922), in a discussion of the connexions at present linking gynaecology with other branches of medicine, remarks that there are signs that the "surgical era" of gynaecology, which has lasted for about thirty years, is passing. Not all the operations which had their vogue during this time (such as curetting and fixation operations on the uterus) have proved themselves justified. For cancer of the cervix and for other conditions *x*-ray and radium therapy are taking over some of the former functions of surgery, and gynaecology appears likely to advance along lines linking it with neurology, psychology, and endocrinology, and separating it to some extent from surgery.

394. Caesarean Section under Local Anaesthesia.

FREY-BOLLI (*Schweiz. med. Woch.*, March 23rd, 1922) has performed Caesarean section under local anaesthesia alone in 27 cases in the period 1920–21 with most satisfactory results. In 19 cases sectio cervicalis and in 5 sectio fundalis was performed, and in 6 cases tubal sterilization was also carried out. In one case rupture of the uterus required Porro's operation, which was also performed under local anaesthesia. The author uses a 0.5 per cent. solution of novocain suprarenin with which he successively anaesthetizes the skin, subcutaneous and subfascial tissues—including the muscles, the preperitoneal fat, and the peritoneum itself. Each dépôt contains 10 to 20 c.cm. of this solution, and, aiming at complete anaesthesia of the deepest structures of the abdominal wall, the author does not consider the escape of a considerable quantity of the anaesthetic into the peritoneal cavity an event of any importance. He usually gives 400 to 500 c.cm., and has, indeed, given as much as 800 c.cm. of this solution without seeing any ill effects from it. But he is averse to injecting such a large quantity of the solution in conjunction with morphine. As a rule, the anaesthesia was complete, and only in a few cases did the patients complain of a vague sense of pressure when the infant was being removed, and the wall of the uterus was being sutured. The author insists that it is essential not to interfere with the other abdominal organs but to leave them in place; dragging on the visceral peritoneum should also be avoided. In further support of local anaesthesia, he emphasizes the risks involved in general anaesthesia both to mother and child.

395. Mental Symptoms following Artificial Menopause.

ACCORDING to LUCIO (*Ann. di Ostet. e Ginecol.*, February 28th, 1922) the removal of both ovaries in adult women who have not attained the menopause is followed in 1 to 2 per cent. of cases only by pronounced mental disorder. The cases are related of (1) a nullipara, aged 25, in whom the operation was followed by marked psychic excitation going on to delirium and coma; and (2) a 3-para, aged 30, who, after total hysterectomy had been done with removal of the adnexa of both

sides, showed persistent pyrexia followed by a delirious and semi-conscious condition. In both patients the mental symptoms lasted into the second week, and improved rapidly on administration of ovarian extract; the second patient showed some psychopathic signs, which persisted during the ensuing four months. The author concludes that the psychosis following castration is due to the brusque interruption of ovarian function, with resulting disturbance of the thyroid, pituitary, and other allied endocrine glands; it is more likely to be conspicuous in those having a nervous constitution, hereditary or acquired, or in alcoholic subjects, but may occur independently of these factors. Pyrexia following castration, in the absence of infection, is ascribed to interference with the glands of internal secretion which regulate the oxidative processes of metabolism. Cases such as those related emphasize the importance of conserving a portion of ovarian substance or of making an autoplastic graft whenever one of these courses is possible at radical adnexal operations.

393. X-Ray Diagnosis after Pelvic Inflation.

VAN ZWALUWENBURG, in a paper published posthumously (*Journ. of Radiology*, March, 1922), states that, apart from the demonstration of the patency of the tubes in sterility, the most valuable contribution of gaseous pelvic inflation (followed by *x*-ray examination) to gynaecological diagnosis consists in the exclusion of organic lesions in young subjects suffering from dysmenorrhoea and neuroses: the method is singularly successful in the detection of slight changes in the morphology and relationships of the pelvic organs, and it is fairly safe to conclude that the pelvis, which appears normal after use of the method in question, is in fact without significant pathology and does not require operative exploration. For *x*-ray examination of the pelvis inflated with the gas the writer suggests the name "pelycography": pelycography, he says, will usually permit the diagnosis of pregnancy after the sixth week; it may lead to the exclusion of ectopic pregnancy, but owing to the early appearance of secondary changes is of little assistance in establishing such a condition. Van Zwaluwenburg has used this method in 350 cases without untoward result. It appears that in America 3,000 to 4,000 patients have been subjected to this method of examination with five recorded fatalities, of which one was due to puncture of the spleen and another occurred in a septic case. It is said that after gaseous inflation of the peritoneal cavity distinction between renal and splenic tumours by *x*-ray examination is particularly facilitated.

397. Suprarenal Insufficiency in Pregnancy.

PUIG Y ROIG (*Revista Española de Obstet. y Ginecol.*, November, 1921) records the case of a multipara, aged 41, who had shown slight signs of adrenal insufficiency following her second labour, which occurred at the age of 30. During the seventh month of her last pregnancy she showed a well-marked Addisonian syndrome with intense generalized melanodermia, pigmentation of the mucous membranes, and profound asthenia. Labour was accelerated by manual dilatation of the cervix; the child was healthy. The symptoms improved with considerable rapidity during the month following labour. Adrenal insufficiency, either alone or more commonly in conjunction with insufficiency of the ovaries, liver, and thyroid, is apparently an important factor in the toxaemias of early pregnancy. A good bibliography on the subject is given by TURENNE (*Revista médica del Uruguay*, November, 1920).

398. Hyperemesis Gravidarum.

SEDELMEIER (*Zentralbl. f. Gynäk.*, March 11th, 1922) records a case in which intractable vomiting occurred in connexion, as it was thought, with an early uterine pregnancy; after the occurrence of acute symptoms due to tubal abortion the vomiting ceased abruptly. The diagnosis was afterwards confirmed at operation. The occurrence of hyperemesis gravidarum in connexion with ectopic gestation appears to furnish evidence against the view that this condition is a reflex neurosis, and the disappearance of the morbid symptom after tubal rupture is quoted as evidence that the cause of pernicious vomiting is to be found in connexion with the ovum or its insertion.

PATHOLOGY.

399. Is There More Than One Kind of Rickets?

SHIPLEY, PARK, MCCOLLUM, and NINA SIMMONDS (*Amer. Journ. Dis. of Children*, February, 1922) had the above question suggested to them as the result of a series of clinical observations, and lately have endeavoured to answer it by experiments upon the rat. Two groups of rats were used and two defective diets. The rats were deprived of certain light rays, and both diets were insufficiently supplied with the antirachitic factor found in cod-liver oil. Their mineral content, however, differed in the following way. Group 1 diet was low in phosphorus content and high in calcium; while Group 2 had a high phosphorus content with a low calcium ratio. Both groups of rats showed all the gross changes in the skeleton associated with rickets in the human, and in Group 1 the microscopic changes were identical. In Group 2 the microscopic changes were slightly different, and many of the cases were associated with tetany. The authors found that there were two main kinds of rickets—one characterized by a normal or nearly normal blood-calcium and a low blood-phosphorus ratio; the other by a normal or nearly normal blood-phosphorus but a low calcium ratio. The first was found to be curable by light and cod-liver oil; the second by light and calcium, or cod-liver oil and calcium. For the healing of the second group calcium was essential. The relation of tetany to rickets appears to be as follows. Tetany is an expression on the part of the nervous tissues of insufficiency of the calcium ion. Rickets is an expression on the part of the skeleton of disturbed relations between the calcium and phosphorus ions. When tetany occurs with rickets it is chiefly with the low calcium form of rickets, though a few cases were found where it was associated with the low phosphorus form of rickets. It seems possible that the etiology of rickets may be varied, as other observers have found rickets associated with nephritis and developmental defects of the kidney, also in children suffering from the severer secondary anaemias. In the absence of certain light rays and an unidentified dietary factor contained in cod-liver oil any influence which would result in depression of the calcium or phosphorus ions in the blood with the formation of calcium-phosphorus ratios favourable to the development of rickets would ultimately produce the disease. There may be several such influences.

400. Bacterial Flora of Infants' Throats.

BLOOMFIELD (*Bull. Johns Hopkins Hosp.*, February, 1922) has made a study of the micro-organisms present in the throats of infants by taking swabs from the throats soon after birth and at frequent intervals subsequently. He finds that cultures made within twelve hours of birth are almost always sterile, but that organisms begin to appear soon after nursing commences, and thereafter the throats of infants support a profuse bacterial growth. But the bacterial flora is relatively simple compared with that of adults, consisting of (1) a group of organisms of the staphylococcus group, introduced during the process of nursing, and corresponding to the organisms recovered from the skin of the nursing mother; (2) non-haemolytic streptococci, which begin to appear within twenty-four hours and are present in great numbers—it is presumed that these are derived from the throats of attendants; (3) very occasionally a few diphtheroids and Gram-negative cocci are recovered. The author points out that the bacterial flora of infants differs markedly from that of adults, from whose throats non-haemolytic streptococci, Gram-negative cocci, and diphtheroids are constantly recovered, whilst influenza bacilli, pneumococci, and haemolytic streptococci are relatively frequent in adults. The latter were never found in the throats of infants. Special conditions may be necessary for the colonization of these more pathogenic organisms, whereas the simple, non-haemolytic streptococcus seems to have adapted itself completely to growth on the mucous membrane of the upper respiratory passages.

401. Etiological Importance of Pfeiffer's Bacillus in Influenza.

SINCE the etiology of influenza still remains unsettled, all careful bacteriological examinations of this disease are likely to be of value in leading to a determination of the importance of the various factors suggested. Guided by this principle, KRISTENSEN (*C. R. Soc. Biologie*, February 25th, 1922) investigated an epidemic of influenza which broke out in Denmark in January, 1922. The garrison at Copenhagen was attacked. Thirty-eight soldiers suffering from an uncomplicated form of the disease were examined, a swab from the nasopharynx being plated direct on to Fildes's medium—agar to which 5 per cent. of blood previously submitted to peptic digestion is added. Of the cases examined 63 per cent. showed Pfeiffer's bacillus on culture, as opposed to a series of 33 controls which showed a positive percentage of 15. The controls, however, contained no fewer than three persons who had recently passed through an attack of influenza. Considering the simple nature of the examination these results agree well with those obtained by a large number of workers in other countries, and go towards supporting the growing conviction of the etiological importance of Pfeiffer's bacillus.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

402. Artificial Pneumothorax.

MARAIS (*South African Med. Record*, January 28th, 1922) discusses the indications, scope, and results of therapeutic artificial pneumothorax from an experience of 38 cases during the past eight years. The ideal cases for treatment are those beyond the early stages in which the disease is confined to one lung, free from pleural adhesions, and therefore completely compressible. The usual method of treatment may be given a trial in early cases, but artificial pneumothorax should be considered when signs of ulcerative processes occur in the lung. In an otherwise uncontrolled toxaemia largely due to active processes in one lung, without evidence of active disease in the other, compression of the diseased organ yields quite dramatic results, the pyrexia disappearing, expectoration rapidly diminishing, and the appetite and general appearance improving. In severe or recurrent haemoptysis the production of artificial pneumothorax acts rapidly, severe haemorrhage having been checked instantly with permanently good results in at least three cases. Apyrexial cases, without chronic cavities and doing fairly well, should not be so treated unless a toxaemic recrudescence sets in: and the operation is contraindicated when cyanosis, dyspnoea, or long-standing emphysema and asthma complicate the tuberculosis. When lung collapse is prevented by one or two adhesions, section of them is possible, and when a whole lobe or two lobes are adherent a partial pneumothorax may be supplemented by rib section, but the presence of total adhesions necessitates a thorough thoraco-plastic operation. Nitrogen is preferable to atmospheric air as minimizing the risk of infection through imperfect sterilization.

403. Streptococcal Sore Throat.

THJÖTTA (*Norsk Tidsskrift for Militär Medicin*, vol. 26, 1922) describes an epidemic of angina faucium in a Norwegian military camp, to which he was called as an epidemiological consultant. On July 27th he was informed that 50 to 60 men had suddenly developed a sore throat with fever, dysphagia, pain in the back, and aching in every limb. On examination he found diffuse and intense redness of the tonsils and the whole of the soft palate. The tissues were oedematous, and on the tonsils there was a pasty deposit which, in some cases, covered them entirely and in others was limited to the tonsillar crypts and their immediate surroundings. In some cases there was slight enlargement of the glands. Swabs from the throats of 22 cases yielded streptococci in almost pure culture. They were haemolytic on rabbit blood agar (5 per cent. blood) and were not pathogenic to mice in doses below 0.1 c.cm. Suspecting that the source of the epidemic was contaminated milk, the author insisted on all the milk supplied to the camp being boiled. The result was a rapid decline in the number of new cases. On July 27th, when the milk was first boiled, the number of new cases was 51. Next day there were only 15, and on the following day only 12 new cases. During the next four days there were only 8 new cases, and these were probably the result of contact infection. None of the cases terminated fatally, and the illness lasted only a few days. Owing to circumstances over which he had no control the author was unable to trace the infection to its source, which may well have been an ulcerating cow's udder, nor was he able to ascertain how many, if any, of the patients remained carriers of haemolytic streptococci.

404. Sequelae of Encephalitis Lethargica.

GIRARDI (*Il Morgagni*, February 28th, 1922) points out the necessity of giving a reserved prognosis in lethargic encephalitis. Many cases, dismissed from hospital as cured, relapse after a brief period of good health—for example, out of 13 cases discharged as cured in 1919–20, 8 returned in 1921 with a recurrence of symptoms. Very commonly the symptoms are like paralysis agitans (dull monotonous voice, rigidity, expressionless face, tremor, etc.), and the more striking, as the patients are usually much younger than the age at which one sees true paralysis agitans. The muscles are easily tired and general asthenia is one of the commonest symptoms—inability to stick at their work, soon tired. Arranging the relative frequency of the sequelae in a graphic form, it is shown that in order of frequency nystagmus heads the list, followed by pseudo-paralysis agitans, myoclonus, disturbances of sleep (in children often taking the form of semi-delirium), ptosis, facial asymmetry, recurrence of initial symptoms, diplopia, choreiform movements, and lastly, disturbances of respiration. The cerebro-spinal fluid showed no pathological changes. As contrasted with the tremor of true paralysis agitans, the tremor in pseudo-paralysis agitans is increased in movements and is not rhythmic. True paralysis agitans has been known to follow encephalitis.

405. High Blood Pressure with Tachycardia.

MANNABERG (*Wien. klin. Woch.*, February 16th, 1922), on observation of 241 cases of high blood pressure, found that 131, or 55 per cent., had a normal pulse frequency, 103, or 43 per cent., had tachycardia, and 7, or 3 per cent., bradycardia. Only a systolic reading of 180 mm. Hg and upwards was regarded as high blood pressure, and a pulse frequency of 60 and below as bradycardia. Of the 103 cases of tachycardia 38 had a pulse below 90 and 17 above 120, the highest being 140, with a blood pressure of 240 mm. Of the 241 cases 100, or 41 per cent., were men, and 141, or 59 per cent., women; 32 per cent. of the men and 70 per cent. of the women had tachycardia. Mannaberg attributes the tachycardia in these cases to disturbance of the endocrine glands, especially the thyroid. In favour of this view are the predominance of tachycardia in the female sex, the inefficacy of digitalis, the frequent occurrence of sweating, the relative frequency of glycosuria, and the occasional presence of goitre. Treatment is not of much avail, the tachycardia not being affected by digitalis, theobromin, or quinine. Rest in bed is the best means of obtaining temporary relief. High blood pressure with bradycardia is a rare occurrence. In Mannaberg's seven cases, five of which were in men and two in women, the pulse did not fall below 52, and the blood pressure ranged between 190 and 260 mm. Apart from two, aged 56, all the patients were over 60 years of age.

406. Unusual Exanthem Resembling Measles in Infants.

GREENTHAL (*Amer. Journ. Dis. of Children*, January, 1922) describes an unusual exanthem occurring in infants, preceded by high fever lasting three or four days. Eight cases were observed, the onset being sudden, with temperature ranging from 102° to 105° F., irritability, and refusal of food. Physical signs were absent, no cause for the temperature being discoverable before the appearance of the eruption. After three or four days the temperature fell suddenly coincidently with the appearance of the eruption, which was chiefly macular, with some papules, and having the appearance of measles, but without any crescentic arrangement, and there were no Koplik's spots. The complaint did not seem to be contagious, only one member of each family being attacked. A leucopenia and a lymphocytosis of over 80 per cent. were important diagnostic signs during the pre-eruptive period. Measles is excluded by the absence of Koplik's spots, and by the fact that as soon as the eruption appears the temperature suddenly drops, leaving the patient apparently perfectly well. The eruption lasts for two or three days, being more pronounced on the neck and trunk than on the face and extremities, and it disappears spontaneously with very slight desquamation.

407. X-ray Treatment in Exophthalmic Goitre.

HAUDEK and KRISER (*Klinische Wochenschrift*, February 4th, 1922) consider the results of *x*-ray treatment in exophthalmic goitre, basing their remarks on the records in literature and on their own experience in 38 cases, of which 12 only were followed later. Four of these 12 were cured, 7 much improved, 1 slightly improved. The results of various observers are given, and the authors consider that the good effects of the treatment can no longer be questioned. The nervous symptoms are beneficially influenced first and most markedly. The tachycardia diminishes rapidly and the weight increases. The recovery as regards the goitre and exophthalmos occurs relatively slowly; it is often incomplete, and does not occur in all cases. The results are best in young patients and in cases of short duration, but in chronic cases very considerable improvement may be obtained not infrequently. Statistics from literature show that the percentages of unsatisfactory results in operative and in *x*-ray treatment are similar; but as regards mortality after treatment, the statistics are definitely in favour of *x*-ray treatment, since death from *x*-ray treatment does not occur, or at least is quite exceptional. Adhesions of the thyroid capsule are now no longer feared; they are neither constant nor important. The risk of producing increased thyroid activity or of myxoedema is avoidable by caution as to the intensity and mode of application of

the treatment. The effects of *x*-ray treatment are especially marked in the "formes frustes." The authors conclude by quoting the opinion of Nagelschmid—that no case of exophthalmic goitre should be operated upon without first having had *x*-ray treatment, and that the mortality of operation is diminished substantially by previous *x*-ray treatment.

408. The Doctor as Carrier of Poliomyelitis.

WALLGREN (*Upsala Läkareförenings Förhandlingar*, March 15th, 1922) reviews recent advances in the epidemiology of acute anterior poliomyelitis which suggest that, as only one member of a family contracts the disease in most instances, the degree of susceptibility varies enormously in different persons. Another modern view is that propagation of the disease is largely dependent on carriers, and in this connexion the author refers to a personal experience. In the summer and autumn of 1919 he was working in a fever hospital in which there were some poliomyelitis cases. On September 3rd he left this hospital and took up duties in a chest hospital where there was a child, aged 18 months, suffering from tuberculosis of the skin and lungs. The temperature had fallen practically to normal when, on September 20th, it suddenly rose to 39° C. Acute flaccid paralysis of the lower limbs was found; lumbar puncture showed increased pressure, and there was a slight increase in the number of cells. The further course of the case was also characteristic of acute anterior poliomyelitis, and by a process of elimination the author comes to the conclusion that he was the carrier responsible for this case, and he is inclined to suspect that this sinister rôle is not infrequently played by doctors.

409. Lupus Treated with General Carbon Arc Light Baths.

HEIBERG and CARLWITH (*Brit. Journ. of Dermat. and Syph.*, March, 1922) have treated a number of cases of lupus with general carbon arc light baths as the only form of therapy, and have proved that this alone can cure lupus, although the cure is hastened by the simultaneous local application of Finsen light. The light baths were given for two and a half hours' duration three times a week, and in the cases reported improvement was generally perceptible after twenty baths, and after about sixty baths there was no sign of the disease in the most successful cases. The paper is well illustrated with photographs showing the macroscopical and microscopical appearances of lesions before and after treatment. Microscopically it is found that in the small lesions the nucleus and protoplasm of the epithelioid cells gradually lose the power of staining, are disintegrated and absorbed. In larger lesions the same absorption takes place, and at the same time there is an active proliferation of connective tissue. Finally, all that is left is young connective tissue rich in cells, which differs from its surroundings on account of the absence of elastic tissue. But the dissolution and absorption of the epithelioid cells is the essential consequence of treatment; the subsequent connective tissue changes are of secondary importance.

SURGERY.

410. Operations for Carcinoma of the Rectum.

DEVINE (*Med. Journ. of Australia*, February 4th, 1922) describes two classes of rectal carcinoma. (1) The subjects were young for carcinoma, often between 25 and 40 years of age. Tumour formation and bleeding were marked features—metastases occurred early in glands and liver. (2) Subjects between 50 and 60 years of age with a long history of carcinoma; cicatrization and obstruction were common and metastases rare. The growths remained local and were not of a very malignant type. The situation of the growth may be at the recto-sigmoid junction, mid-rectal, or lower rectal. The two last were approached first from the perineum, the recto-sigmoid from the abdomen first and finished by the perineal route. Operation on women was easier and safer than on men. Patients after 60 years of age do not stand such a severe operation well. The involvement of bladder and prostate was the commonest cause of inoperability. When the growth is low down the operation starts with removal of the coccyx and investigation of the growth as to the chance of removal. This operation is easier in women, and a continent anus may be left. The rectum is mobilized, the peritoneum opened on each side, and the sigmoid and its mesentery brought down. The bowel is left outside to slough off, whilst the sphincter and levator ani are sutured over the bowel. There is less shock in this operation, and a continent anus may be obtained in suitable cases. In growth at the recto-sigmoid junction a modified method of Miles's operation was adopted. The sigmoid and its vessels are divided from the abdominal route and the posterior rectal plane stripped to the coccyx. The abdominal wound is then temporarily closed and the bowel removed as in the perineal operation. The peritoneum is then closed from above and the anus implanted as described by Miles. His results have been better by the perineal operation, and they have been mostly in women. Probably in men the modified Miles operation is best. It is a question whether, in view of the limited prospects of function and length of life, the operation should be attempted. In addition to the operation radium tubes are buried and the Coolidge *x*-ray tube used afterwards.

411. Sliding Hernia.

ACCORDING to DEMEL (*Dtsch. Zeit. f. Chir.*, January, 1922) sliding hernia is a fairly uncommon variety of rupture. Brenner found only 59 examples of it among 3,000 cases of hernia, and Baumgartner, in a review of the literature up to 1904, was able to collect only 159 cases. In the present paper Demel discusses 20 cases which occurred in Professor Eiselsberg's clinic at Vienna between 1900 and 1920, during which period 1,474 cases of inguinal hernia and 241 of femoral hernia attended the clinic. Like inguinal hernia, sliding hernia may be congenital or acquired. In the congenital form, according to Baumgartner, ascent of the testis plays an important part, as the large intestine is drawn down owing to its firm attachment to the testis. Acquired hernias are produced either as the result of an attachment of the large intestine to the retroperitoneal tissue, or develop secondarily by the pull of neighbouring coils of the small intestine lying in the hernial sac. The frequency of sliding hernia increases with advancing age, especially after 50. It occurs almost exclusively in men, only 10 of Baumgartner's 159 cases and 1 of Demel's 20 cases being in women. In the great majority of cases sliding hernia belongs to the indirect form of inguinal hernia. In 10 of Demel's cases it was situated on the left side, in 4 on the right, and in 6 on both sides. While in most of his cases the sigmoid flexure was found in the hernial sac, a study of the literature shows that the caecum is the organ most frequently met with in the hernial sac, the sigmoid flexure being next in frequency. Most of the cases of sliding hernia are not recognized until operation. Incarceration may occur as in other forms of hernia, having been found in 44 of Baumgartner's 159 cases and in 3 of Demel's cases. When the appendix forms part of the contents of the sac symptoms of appendicitis may develop, as in 4 of Demel's cases and in 17 of Jianu's 112 cases. Treatment consists in partial resection of the hernial sac and replacement of the segment of the large intestine into the abdominal cavity. Resection of the large intestine is seldom necessary. Of 501 cases of sliding hernia on record 14 were fatal—a mortality of 2.8 per cent.

412. Diagnosis of Peritonitis in Infants.

DENZER (*Amer. Journ. Med. Sciences*, February, 1922) describes a method of diagnosing peritonitis and peritoneal transudates in infants by means of abdominal puncture with the capillary tube. The instrument consists of a trocar-cannula and glass capillary tubing. The shaft of the cannula is half an inch in length and of 17 gauge. The capillary tubes are made from glass tubing 4 mm. in diameter drawn out in a flame so as to fit the proximal part of the shaft of the cannula, impingeing upon its wall at the shoulder and protruding 1 or 2 mm. from its end. After sterilization of the skin the point of the trocar-cannula is inserted into the peritoneal cavity, and when the trocar has been withdrawn the capillary tube is inserted as far as it will go. When fluid is present it will rise up the tube and be available for culture, etc. Any place in the abdomen, except over a solid viscus, is suitable for puncture, but the usual site chosen is in the mid-line just below the umbilicus. Besides the detection of fluid in peritonitis peritoneal fluid was found by this method in seven out of twelve infants suffering from marasmus, and in four out of eight cases of rickets, a finding not previously recorded. Notes of five cases of peritonitis are given in which the method was of service in establishing the diagnosis, which often presents peculiar difficulties in infants in whom the classical signs and symptoms may be absent or difficult to elicit.

413. The Pathogenesis of Gastric Ulcer.

BRISOTTO (*Rif. Med.*, February 6th, 1922) criticizes the various theories put forward to explain the formation of gastric ulcer. Hyperchlorhydria is not the primary factor, nor sufficient by itself to explain the pathogenesis of the ulcer. Nor will the vascular theory suffice, all the more since the gastro-duodenal arteries are rich in anastomoses. The inflammatory hypothesis will not explain why the ulcer is often single. Traumatism is not a satisfactory explanation. The neurogenic theory is rather more satisfactory, as trophic lesions follow affections of the vagus; and if to this is added the influence of the endocrinic glands, especially the suprarenals, in trophic changes, through the vagus and sympathetic, a cause which unifies the various adventitious causes may perhaps be found.

414. The Relation of Headache to Functional Monocularity.

SNELL (*Arch. of Ophthalmol.*, January, 1922) studied the relation of partial or complete functional monocularity to the prevalence of headache in 1,010 cases. These were considered in four groups: (1) Absolute monocularity, which showed the lowest percentage of headaches (2 per cent.); (2) anisometropia (4.1 per cent.); (3) amblyopia (8 per cent.); and (4) strabismus (10 per cent.), thus giving a smaller percentage of headache in proportion to the greater degree or completeness of monocularity. Comparison with 1,010 cases with good binocular vision shows that severe or habitual headache occurs seven times more frequently in these than in those with monocular vision. This is explained by the fact that the monocular patient experiences less nervous or brain fatigue, his visual act being less complex, because of the elimination of the fusion sense and the co-ordinate muscular adjustment necessary to maintain binocular vision.

415. Acute Infections of the Nasal Vestibule.

HURD (*Med. Record*, January 21st, 1922) points out the possible danger of acute infections of the sebaceous glands and hair follicles of the nasal vestibule ending fatally by extension through the venous channels to the cavernous sinus. Swelling of the lids, chemosis, pupillary changes, deep-seated headache, commencing ptosis and exophthalmos, lacrymation, and congested retinal veins following a vestibular infection point to cavernous sinus thrombosis. Treatment of the initial condition by wet dressings and a small incision to avoid opening up the surrounding area, followed by suction and filling the cavity with bismuth paste, is recommended, and the swelling should not be squeezed for fear of rupture into subcuticular tissue. Ligation of the anterior facial vein near the inner canthus, and above the deep facial vein at the anterior border of the masseter muscle, is advised if the infected area is increasing or there are symptoms of cavernous involvement.

416. Paralysis of the Recurrent Laryngeal Nerve after Thyroidectomy.

BÉRARD (*Lyon Chirurgical*, January–February, 1922) points out that the nerves most liable to injury, in operations on the thyroid, are the recurrent laryngeal. These may be damaged at two places and at two distinct times during the operation. The nerve trunk or its branches are sometimes caught during ligature of the inferior thyroid artery, whilst these same branches may be damaged or cut during the dissection of the posterior border of the gland, as they lie alongside the trachea and thyroid cartilage. Besides the effects of crushing or pulling on the nerves, one has seen lesions produced by strong antiseptics, and less often their compression by scar tissue. This may result in a localized paralysis of the muscles of the vocal cords or extend to the whole larynx, including the epiglottis, when the trunk of the nerve has been cut. Rarely the pharynx and œsophagus may be involved in the paralysis. These nerve lesions were common before the technique of the operation was properly carried out. As far as the post-operative paralyses are concerned, without division of the nerve, they depend on the exposure of the nerve trunk, of pulling on it, or its compression between forceps where there is injury to some of the nerve fibres only. The constrictor muscles are usually affected, and these muscles are generally the last to recover after wounds of the nerve. It is impossible to tell immediately after the operation what the ultimate result will be. In order to avoid injury to the nerve, some tie the thyroid artery close to the gland so as to escape the nerve. Others always find the inferior thyroid artery at the point where it passes behind the carotid and tie it with a single ligature. The writer thinks enucleation of the gland within its capsule is the best method of avoiding injury to the nerve. In cases where paralysis of the nerve appears after operation laryngoscopic examination should be carried out. Some cases which appear to undergo spontaneous cure are due to a marked displacement of the unaffected cord towards the middle line.

417. Tuberculosis following Circumcision.

WOLFF (*Deut. med. Woch.*, January 19th, 1922) adds two cases to the fifty-eight already published of tuberculosis following circumcision. A study of these publications showed that, in the first six months of life, the prognosis is better for infants infected through the foreskin than by inhalation of tubercle bacilli, the proportion of survivors in the first instance being 37 per cent., and in the second instance only 14 to 16 per cent. Half the deaths following tuberculosis after circumcision in the first year of life appear to be due to secondary infection of fistulae connected with the inguinal glands and not to tuberculosis itself. The treatment recommended is energetic *x*-ray therapy and aspiration of suppurating glands followed by the injection of iodoform glycerin, instead of free incision. One of the author's cases shows that this tuberculous lesion is apt to be taken for a chancre.

418. Fracture of the Semilunar Bone.

MOUCHET (*Bull. et Mém. de la Soc. de Chir. de Paris*, March 7th, 1922) reports two cases of fracture of the semilunar bone. He points out that the traumatism is often slight. In one of his cases the patient was engaged in planing, and the plane being suddenly stopped in the middle of its course he felt a sudden pain in the right wrist. In this case it is probable that, the periarticular muscles being strongly contracted, the semilunar was immobilized, and broke under the shock. The patient thinking it was a simple strain continued working for several days. In the second case a blow on the hyperflexed hand caused the fracture, and the loss of function was more marked from the first. In this case the patient was away from work for forty days. With regard to symptoms, one patient, thinking it was a sprain, remained at work and did not become anxious as to his condition until two years later on account of the persistent pain. In the second case the disability was more marked since the patient rested for forty days, but the diagnosis of fracture was only made by *x* rays three years later. This frequently happens. If the patient is seen some time after the accident the physical signs are not marked—slight shortening and slight increase of the antero-posterior diameter of the wrist and pain on pressure over the semilunar. Pain and limitation of movement often are the only symptoms. It is a curious thing to see the pains return, sometimes a long time after an accident, when the patient has forgotten the injury—pains persistent enough to suggest an arthritis. The diagnosis is made solely by *x* rays. Treatment does not usually necessitate surgical interference. Rest and radiant heat are enough in most cases of old fracture. It goes without saying that if the pain and functional inconvenience are very pronounced, removal of the bone will be necessary.

OBSTETRICS AND GYNAECOLOGY.

419. Action of Emetine on the Uterus.

MARTIN (*Amer. Journ. of Obstet. and Gynec.*, March, 1922) suggests a cautious testing of the action of emetine in the treatment of metrorrhagia and menorrhagia. In experiments with the excised uterus (immersed in Locke's solution) of dogs, rats, and rabbits he found that in concentrations of 1 in 10,000 to 1 in 100,000 emetine hydrochloride caused a decrease in tone and in amplitude of the rhythmic contractions, together with an increased contraction rate. Injected intravenously in dogs or rabbits, emetine caused, however, an increase of the uterine tone, but given subcutaneously in large doses to rats it did not appear to act as an abortifacient. In the first two series of experiments the results were similar whether the animals were pregnant or non-pregnant. The cause of the different action of emetine *in vivo* and *in vitro* is obscure; the results did not appear to be modified in animals in which the ovaries or adrenals had been removed.

420. The Relation of Ovarian and Endometrial Cycles.

SZYMANOWICZ (*Gynécol. et Obstét.*, v, 1922), from the study of the uterus and ovaries removed at operation from patients in whom menstrual chronology was normal, the ovaries were free from fibrocystic disease, and endometritis was absent, is able to give the following description of the endometrial and ovarian cycles. The endometrium shows in the post-menstrual phase a thin pale mucosa, of which the epithelium is medium or low, and the glands show few spiral formations. In the next period, or inter-menstrual interval, the thickness of the mucosa becomes progressively increased and the glands are found to be more closely packed and to become more spiral; towards the fifteenth day after the beginning of menstruation the first traces of mucous secretion are perceptible. The third, or pre-menstrual phase, commences about the twentieth day: the mucosa becomes still thicker, the glands show an intensified "corkscrew" form, mucus becomes abundant, especially in the deeper portions of the glands, and the connective tissue cells in the superficial zone become considerably larger, taking a polygonal form which causes them to resemble decidual cells. During the fourth phase, that of menstruation, there is vascular engorgement and apoplexy with destruction of the superficial zone. The Graafian follicle increases in size throughout the inter-menstrual interval, reaches its maximum about the eighteenth day, and ruptures on the nineteenth, when the corpus luteum commences its development. The corpus luteum reaches its best marked phase in close proximity to the commencement of menstruation, and its regression continues through the post-menstrual period. The author has counted the mitoses in the uterine glands during the various phases of the endometrial cycle, and finds that

these show a gradual increase from the first or second to the seventeenth day, but diminish very abruptly in number at this juncture, which coincides with the moment of appearance of the corpus luteum. The number of mitoses continues to fall during the pre-menstrual phase. In explanation of these facts the author maintains that the post-menstrual and inter-menstrual increase of mitoses indicates a phase of cellular multiplication which is preparatory to the succeeding but markedly different phase of cellular secretion. He suggests further that the first phase, that of multiplication, is determined by an internal secretion or other substance coming from the Graafian follicle, hence the abrupt diminution in mitoses seen at the time of follicular dehiscence, and that the succeeding period of secretion (corresponding to the pre-menstrual phase) is determined by influences arising in the corpus luteum. These suggestions have the virtue of reconciling the views of those who have ascribed the cyclical changes in the endometrium to the influences of the follicular cells and of the corpus luteum respectively.

421. Extraperitoneal Dermoids.

ACCORDING to KAMPSCHULTE (*Zentralbl. f. Gynäk.*, February 18th, 1922) extraperitoneal dermoids are of infrequent occurrence; the writer has been able to trace ten cases only in gynaecological literature. They are not as a rule detected until symptoms of pressure on the adjacent pelvic organs have become manifest, and they usually lead to less pain than is the case with intraperitoneal dermoids. The case is recorded of a 6-para, aged 35, who after normal pregnancies terminating in spontaneous labours suffered from extreme constipation and dystocia in connexion with a later gestation. The recto-vaginal region was found to be occupied by a cystic swelling from which no fluid was obtained on tapping. The tumour having been shelled out through a vagino-perineal incision, labour was terminated by application of forceps. The tumour, which measured 14 by 10 by 5 cm., contained pultaceous matter mingled with hairs.

PATHOLOGY.

422. A New Cancer-Serum Reaction.

THOMAS and BINETTI (*C. R. Soc. Biologie*, January 7th, 1922) have been studying the reducing powers of normal and cancer serums in the presence of extracts of malignant tumours. The extracts are prepared by maceration of the minced tumour mass in a 1 per cent. solution of sulphuric acid and in an alcohol-ether mixture. The two solutions are evaporated, taken up by distilled water, and after neutralization with baryta, filtered, sterilized, and preserved in sealed ampoules. The reduction indicator used is a 1 in 300 solution of methylene-blue to which 1 c.cm. of glycerin is added. Into a series of four calibrated haemolytic tubes are put increasing doses of serum—five, ten, fifteen, and twenty drops respectively; then decreasing doses of the extract—twenty, fifteen, ten, and five drops; and lastly one drop of the methylene-blue solution to each. The reduction is shown by the gradual decolorization from the bottom of the tubes upwards, leaving only a thin layer of coloured liquid on top. In the case of a normal serum decolorization is relatively long in commencing—over an hour—and it is only evident in the first two tubes and is confined to them for several hours. With tuberculous or syphilitic serums the phenomena are identical, but if, on the other hand, cancer serums are used the times are considerably diminished. The decolorization sometimes commences in ten minutes in the first two tubes, more generally in twenty to twenty-five minutes, and it attacks the third and often the fourth tube. The complete reaction is read in two hours. The authors have examined 63 serums. The reaction was positive in 39 cases of cancer, negative in 14 normal individuals, and negative in 10 syphilitic or tuberculous patients.

423. Studies on Measles.

FRESH confirmation of the artificial transmission of measles has been brought by Kawamura (*Japan Med. World*, February 15th, 1922), who has succeeded in passing the virus through monkeys for three generations. Citrated blood from a boy taken four hours after the first appearance of fever and four days before the occurrence of the eruption was injected subcutaneously into three monkeys in 1 c.cm. quantities. In each case fever commenced eight to nine days following the injection, and was followed in four days by an exanthem of roseolar, papular nature accompanied by rhinitis, conjunctivitis, and the presence of Koplik's spots. In two cases the eruption was particularly marked over the head and face, though present on the rest of the body. The duration of the fever was from six to seven days. Examination of the blood showed the appearance of a leucopenia just previous to the outbreak of the rash. Blood taken from the first monkey was injected into two normal monkeys. Each of these developed typical measles, and from one of them the disease was passed on to three more monkeys. The interest of the present observations lies in the demonstration of the infectivity of the blood in the early stage of measles, the material having been taken from the patient on the very first day of illness.

424. The Reaction of Saliva and its Influence on Dental Caries.

THINKING that there might be some correlation existing between the reaction of the saliva on the one hand and the presence of dental caries on the other, LAFARGA (*C. R. Soc. Biologie*, February 18th, 1922) has carried out an investigation comprising a study of the quantity of saliva secreted, its hydrogen-ion concentration, and its buffer content under varying conditions. The reaction of mixed saliva appears to be normally of a P_H 6.8 to 7.0, or very slightly on the acid side of neutrality. In the morning it is more acid, after a meal more alkaline; definite variations are met with in the same subject. The administration of acids by the mouth calls forth a secretion in which the quantity, the hydrogen-ion concentration, and the buffer content are all increased, while a somewhat similar effect is caused by alkalis, though of a very much lower degree. Powdered sugar, tasty substances, and above all disagreeable substances, such as salt or quinine, bring about a great increase in the total quantity without affecting the hydrogen-ion concentration or the buffer content. To determine whether the acidity of the saliva was sufficient to dissolve the calcium of the teeth, a series of inferior incisors was placed in watery solutions of salts, varying in their hydrogen-ion concentration from P_H 2 to 8. It was found that decalcification occurred in all the mixtures situated on the acid side of neutrality. On repeating these experiments with saliva made up to different degrees of acidity, it was seen that the decalcifying effect depended solely on the P_H obtained. As, however, the buffer content of normal saliva is fairly high, it is probable that the degree of acidity reached is rarely able to produce any pronounced solvent action on the teeth. Moreover, it is on account of its definite buffer power that it acts as a protective agent to the teeth against noxious fluids introduced into the mouth. Any effect, therefore, that it is likely to exert in producing dental caries must be insignificant.

425. A Method for the Diagnosis of Death.

THE knowledge that the reaction of the tissues changes shortly after the extinction of life is used by REBELLO (*C. R. Soc. Biologie*, March 18th, 1922) as a sign by which the occurrence of death can be substantiated. Under normal conditions the reaction of the blood is P_H 7.45, while that of the tissues is between P_H 6.8 and 7.0, but within about four hours of death the reaction of the latter becomes distinctly acid. To test for the presence of this acidity he takes two silk threads: one of these is dipped in an acid solution of bromthymol-blue and is of a yellow colour, while the other is dipped in an alkaline solution of the same dye and is of a blue colour. These two threads are then passed in the form of a seton through a fold of the skin of the thigh, and left in position for one hour, after which they are withdrawn. If the patient is really dead, it will be found that the yellow thread retains its colour unchanged, while the blue thread has become yellow in consequence of the *post-mortem* formation of acid. Using this test on amputated limbs he finds that a period of about three hours elapses before the blue thread is changed to yellow. The threads, which can be prepared beforehand, may be preserved for a long time in the absence of light without deterioration. The test has certainly the merit of simplicity.

426. Serological and Morphological Characteristics of the Pneumococcus.

A STUDY of 77 strains of pneumocooci is furnished by URQUHART (*Journ. R.A.M.C.*, March, 1922), who has devoted a considerable amount of attention to the correlation of the serological types observed in this country with those encountered in America and in South Africa. For the differentiation of the pneumococcus from other organisms he lays most stress on the positive bile solubility test and the negative haemolysis test. Fermentation reactions, he concludes, are useless. Of the 77 strains studied, 33 were obtained from cases of lobar pneumonia; of these, 17 belonged to Type I, 8 to Type II, and 8 to Type IV. The remaining 44 strains, obtained from such sources as broncho-pneumonia, meningitis, colds, etc., were relegated 14 to Type I, 3 to Type II, and 27 to Type IV. It will be noticed that no examples of Type III were met with. These results agree with those of other workers, who have found that the majority of cases of primary lobar pneumonia are due to Types I and II, while in other pneumococcal infections the predominating organism belongs to Type IV.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

427. Syringomyelia.

KOOY (*Med. Journ. of South Africa*, February, 1922) reports an early case of syringomyelia on which it was possible to carry out a thorough *post-mortem* examination of the brain and spinal cord on account of the fact that the patient died of pneumonia whilst in hospital. The symptoms had been headache and pain in the left shoulder; all the bones of the left side of the face were thickened and he had almost lost the sight of the left eye, and breathing through the nose was difficult; there was dissociation of sensibility on the left arm, left side of the neck, and left half of the face. At the necropsy the frontal, temporal-zygomatic, and maxillary bones were all thickened on the left side, and the various sinuses had disappeared and been replaced by solid bone. Microscopically the ependyma cells round the central canal were thickened, and in the upper dorsal segments the lesion extended into the left posterior horn. For a short distance the glia cell accumulation was found in the left posterior tract, and in the upper cervical segments and bulbus the same process could be traced in the ascending fifth. The author is of the opinion that such a case as this throws light on the debated point as to whether the trophic changes which occur in syringomyelia are due to lesions of separate trophic nerves, or whether the trophic influence is a function of the nerve fibres and cells of motility and common sensibility. Since there were so few sensory lesions in the head, no clinical signs of affection of the cervical sympathetic, and the circulation appeared normal, and yet the trophic changes were so marked, the author concludes that these were due to lesion of the spinal fifth, the same centre to which pain and thermic stimuli of the overlying skin are conducted. The fact that hyaline degeneration was present in the walls of the blood vessels of the cord in addition to glia proliferation lends support to the possibility that syringomyelia may be due to a chronic inflammation and not merely a congenital glia proliferation.

428. Thrombosis of the Aorta.

AUBERTIN (*Arch. de méd.*, December, 1921), who records two cases in men aged 51 and 45, in addition to 32 cases already published, states that thrombosis of the aorta is sometimes of embolic origin, the embolism following mitral stenosis (Charrier and Apert, Achard), ulcerative endocarditis with cardiac thrombosis (Hijelt), but much more frequently it is due to arteritis, either of the aorta itself or of the iliac or femoral, with extension of the clot to the bifurcation of the aorta. The arteritis was due to atheroma in most of the recorded cases, but was due to syphilis in the cases of Bell, Achard, and one of Aubertin's patients, and to typhoid fever in three of Frison's patients. It may also be caused by an adjacent arteritis, as in one of Aubertin's patients, the subject of hip disease. With a single exception which occurred in one of Aubertin's patients, in whom the thrombosis involved the arch of the aorta, the thrombosis was confined to the abdominal aorta, and never passed above the diaphragm. The condition may be absolutely latent and not be discovered until the autopsy; but, as a rule, pain is present, and is situated, not in the abdomen, but in the lower limbs, especially in the feet and calves. In most cases (18 out of 32) there is a bilateral and symmetrical gangrene of the lower limbs. The gangrene may be of slight extent, being limited to the feet and lower part of the legs, or involve the whole of the lower limbs and reach up to the lower part of the abdomen, as in one of Aubertin's cases. The gangrene does not, as a rule, reach the stage of mummification, but generally consists of a violet discoloration of the skin, associated with cutaneous anaesthesia and a difficulty in carrying out certain movements. The reflexes are lost. The gangrene appears simultaneously on both sides, or there may be an interval of one or two days between its appearance in the two limbs. The circulatory disturbance may be less marked and consist merely of chilling of the limb and a slight degree of cyanosis. Sometimes the clinical picture of intermittent claudication is produced. The relative frequency of paraplegia (in 7 out of 32 cases) justifies its being regarded as a symptom of aortic thrombosis. Recovery through establishment of a collateral circulation has occurred in two cases. When there is bilateral gangrene the diagnosis is possible in most cases, especially when gangrene appears on both sides simultaneously. When the gangrene is confined to one side the diagnosis is possible if a complete absence of pulsation is present on the "healthy" side, provided this sign is present throughout the lower limb and the pulsation of the two femorals cannot be felt at the crural arch. Aubertin describes two methods of treatment which are only applicable in cases of aortic embolism of sudden onset in which an early diagnosis is possible. The first consists in immediate massage, which, by breaking up the clot, may confine the gangrene to one of the extremities, or even prevent it altogether. The second method is surgical treatment, which was tried in two cases by Bauer and Kojexzny. In one case immediate recovery took place, while in the other death occurred a few days later, but re-establishment of the circulation took place shortly after the operation.

429. Gas Oedema Complicating Typhoid Fever.

EKVALL (*Upsala Läkareförenings Förhandlingar*, March 15th, 1922) points out that in the course of typhoid fever the blood is often infected with a variety of germs other than the typhoid bacillus. These germs usually invade the blood from the intestines during the stage of ulceration, and have hitherto been identified with the aerobic bacteria. Infection with anaerobic germs is commonly overlooked because cultures are seldom made under anaerobic conditions. The author records a case of typhoid fever in which the sudden appearance of gas phlegmon in the right thigh was followed by rapid extension of the area of crepitation, and by the patient's death in twelve hours. He has collected eighteen similar cases from the literature, showing that this complication of typhoid fever is not very rare. In some cases stimulants injected hypodermically have been suspected of being contaminated with gas-forming bacilli, and though the author does not dismiss this explanation as altogether unsatisfactory, he attaches more importance to auto-infection through ulcers in the intestinal tract. He points out that gas-forming bacilli are normally present in the intestines, and that the most rational prophylactic treatment would be to keep typhoid patients on a lactic acid diet, which would temporarily discourage the growth of gas-forming bacilli. With this object, buttermilk, or food to which lactic acid bacilli had been added, should be given. As in his case the disease began on the outer side of the right thigh, on which the patient had been lying continuously, he recommends shifting the patient from time to time so that no one part of the body shall become devitalized by pressure and thus favour metastatic infection.

430. Dementia Praecox.

SWOLFS (*Le Scalpel*, March 18th, 1922), lecturing on dementia praecox, complains of the great variety of the classification of the psychoses, of the different terminology in different nations, and of the great refinement of differentiation. Dementia praecox is like any other dementia as far as the dementia is concerned, but differs in the age at which it attacks its subjects (15 to 20 years, and mostly males). As a rule there is no hereditary history. The immediate exciting cause is often overwork of the brain. Onanism is more often an effect than a cause. Although there may be temporary improvement, as a rule it is incurable. The four chief modes of onset are: (1) a simple form, without delirium; (2) a delirious form; (3) a katatonic type, characterized by cataleptic attitudes, negativism, and verbigeration; and (4) a paranoiac type associated with ideas of grandeur and persecution. At the outset it may be confused with neurasthenia, but the course of the disease soon reveals the real condition. Swolfs accepts Desmeth's definition of dementia as the more or less complete and irremediable loss of the psychical faculties.

431. Epilepsy and Marriage.

PARIS and VERNET (*Revue Médicale de l'Est*, February 1st, 1922) discuss the question of marriage in epileptics. They decide that it depends on the family history, the patient's personal history and antecedents. If these are good and show no marked signs of nervous degeneracy, marriage may be allowed. A marked history of alcoholism is unfavourable. But if the man is sober and temperate and the stigmata of nervous degeneration are absent in him and his family, he may be allowed to marry; for epilepsy is not necessarily hereditary, although, as is well known, epilepsy may be substituted in the descendants by other forms of nervous want of equilibrium, not perhaps so disabling as epilepsy, but of importance from the social point of view. Out of 33 epileptics whose family history was known, 18 gave a history of alcoholism in the father.

432. Epilepsy following Skull Injuries: Possibility of Cure by Operation.

TILMANN (*Medizinische Klinik*, March 26th, 1922) states that epilepsy occurred in 10 per cent. of his cases of skull injuries in the war. It is not bone splinters or foreign bodies, but inflammatory and reparative processes around them, which cause epilepsy by affecting the brain cortex. The most important indications of these changes are obtained by lumbar puncture. In normal healing the results of lumbar puncture are normal. But in epileptic cases either increased pressure or increased percentage of albumin, or both, are revealed by lumbar puncture. All cases presenting increased pressure of cerebro-spinal fluid, or increased percentage of albumin in the same, are in danger of becoming epileptic. In traumatic epilepsy a localized area is affected—bone, subarachnoid space, or brain, usually all three. The good results of operation in lesions affecting the bone only are in favour of operation in all cases of traumatic epilepsy, immediately after the first fit; the best results are then obtained. When a fistula is present and the cause of suppuration cannot be removed, Tilmann opens the dura mater freely at the trephining. In the meninges one finds frequently obliteration of the subarachnoid space, thickening, cysts, localized or associated with adjacent brain foci. The best results are obtained by removal of the brain foci, opening of cysts, and removal of brain abscesses. Usually surgical treatment is late and the results are not brilliant. The mortality of trephining is 4.4 per cent.; in 41 per cent. no results follow; 38.2 per cent. are temporarily cured; 16.4 per cent. are considerably improved. In the military cases it is yet too early to estimate permanent results. In all cases of injury to the skull in which the results of lumbar puncture indicate the probability of chronic inflammatory or reparative processes there are prospects of good results through operation at the seat of the injury or at a spot localized by the clinical symptoms. The earlier the operation the better are the results.

433. Pleuro-pulmonary Fistulae.

ACCORDING to Professor BARD (*Ann. de Médecine*, January, 1922) pleuro-pulmonary fistulae are much commoner than is generally realized as the consequence of artificial pneumothorax treatment. The simplest way of demonstrating this communication is to determine the intrapleural pressure with a water manometer in a thin glass tube and then to make the patient cough several times. Immediately after this the pressure falls several centimetres, but after a few minutes' quiet respiration the pressure regains its original level in two or three minutes. Pleuro-pulmonary fistula is frequently followed by effusion into the pleural cavity, which may be hard to detect by physical signs but can be diagnosed by the shadow revealed by *x* rays. The low content in oxygen of the gas contained in the pleural cavity does not indicate, as has been maintained, that no fistula exists, for the pleural fluid alone rapidly absorbs oxygen and liberates carbon dioxide. Bard is of the opinion that the current view is incorrect that pulmonary perforation is attended by grave symptoms; this only applies to the perforations which accompany the breaking down of inflammatory lesions. Simple pleuro-pulmonary perforations are usually valvular in type and can be detected most easily by the test above described.

434. Facial Contracture of Central Origin.

NOICA (*Bull. et Mém. Soc. Méd. des Hôp. de Bucarest*, October 19th, 1921) remarks that though contracture of half of the face is fairly frequent as the result of peripheral facial paralysis, facial contracture of central origin caused by a lesion of the pyramidal tract is very rare. On superficial examination it is impossible to say whether the contracture is of peripheral or central origin, but if the patients are asked to show their teeth, open their mouth, close their eyes, whistle, or put their tongue out, it will be seen that in the patient with peripheral paralysis the affected side of the face becomes extremely distorted, whereas in the patient with central contracture the face on the affected side behaves like that of a normal person, except that as regards the execution of movements requiring the play of muscles on both sides the muscular action predominates on the healthy side. Another symptom of diagnostic value is the following: Each of the patients is made to squeeze a dynamometer, when it will be found that the patient with peripheral contracture will keep his face motionless, while the patient with central contracture has an increase of wrinkles on the affected side, on which a pleasant smile appears, the normal side remaining serious. Lastly, electrical examination is decisive. In contracture of central origin there is no reaction of degeneration, whereas this is the rule in peripheral contracture.

SURGERY.

435. Fracture and Dislocation of Cervical Vertebrae without Paralysis.

HARTSHORN (*Boston Med. and Surg. Journ.*, February 2nd, 1922) records a case of fracture of the second and third cervical vertebrae with anterior dislocation of the first, second, and third vertebrae, as the result of a railway accident. The patient, beyond some swelling locally, showed no signs of paralysis or sensory disturbance or other lesions. He was treated by rest in bed and slight extension applied to the head, no forcible extension being considered advisable. Six months later the patient reported with no paralysis or neuralgias, but marked stiffness of the neck. In discussing the case he points out that injuries of the cervical vertebrae are fatal in a large percentage of cases. The spinal canal in this region is larger than in other parts of the column, and so there is greater range of mobility for the cord. Hence the patient may escape death sometimes in injuries of this region. Two types of case may be considered—those with paralysis and those without paralysis. Injuries to the spinal cord may be classed as (1) concussion, perhaps with a temporary paralysis; (2) trauma, with haemorrhage and paralysis present in some muscles which gradually disappears; (3) injuries to the cord from bony fragments, with pressure symptoms or laceration of the cord; (4) pressure on the cord due to dislocation of the vertebrae without fracture; (5) fracture and dislocation without injury to the cord; (6) compression fracture of the vertebrae. Any of these lesions, if recovery takes place, may show a later stage with painful neuralgias due to pressure from scars and callus and actual deformities which have been called "Kummel's disease." The prognosis depends upon the degree of paralysis—if extensive, the outlook is poor; if not extensive, recovery is probable. Removal of bony fragments is always advisable, and if dislocation alone is present extension of a forcible character should be tried. A number of cases have been recorded of a successful result after reduction. The greatest care must be exercised and all unnecessary trauma avoided.

436. Osteitis Deformans.

LEWIN (*Journ. of Bone and Joint Surgery*, January, 1922) reports three cases of this disease. This condition was first described by Sir James Paget in 1876. Its origin is unknown, and it causes deformities chiefly in the skull and long bones. The average age of onset is 49½ years, and males are rather more frequently affected than females. Syphilis has been thought to be an exciting cause, but it is now shown that the Wassermann reaction is negative and antisyphilitic treatment is of no avail. The gross pathology consists in the deformities, the most common being an outward and forward bowing of the tibia. Later other long bones are affected, and the skull and clavicles increase in size. The cranium is composed of finely porous bone substance, with a thin inner and outer plate on bone. The diploë is lost. In the long bones the normal relation of compact and cancellous structure is destroyed. The condition appears to start as an osteomalacia, when the deformities occur; this disappears and is replaced by an osteo-sclerosis, when the cortex of the bone assumes a hardness typical of osteitis deformans. The onset of the condition is slow and starts with vague pains in the extremities. Then a gradual decrease in height is noticed, associated with the bony deformities; the head becomes flexed and the chin approaches the sternum, and there is a marked cervico-dorsal kyphosis. The patient assumes a resemblance to the anthropoid ape. The diagnosis in the late stage is easy. Earlier, *x* rays show the bone changes, and in syphilis other signs will be present. Bone tumours again are shown by *x*-ray examination. In rickets the bone changes occur on the concave side; in Paget's disease on the convex side. The prognosis as to life is good. Death occurs from intercurrent affection or sarcomata in the bones. Treatment is of little avail; the best hope is offered by phosphorus internally. After fracture the broken bone appears to heal with normal rapidity and firmness.

437. Naevus of the Meninges.

GREIG (*Edinburgh Med. Journ.*, March, 1922) records the case of a male, aged 18 years, with a vascular meningeal tumour associated with that peculiar skin condition known as adenoma sebaceum. The patient had been subject to fits for fifteen years and had a right-sided hemiplegia for eleven years. The fits started with an aura, and then twitching commenced in the right hand and involved all the right side; consciousness was not lost. The boy was fairly intelligent and between the fits lay peacefully in bed. His face presented a symmetrical papular naevoid eruption over the nose and cheeks. At the operation an osteoplastic flap was

turned down to expose the left cortical motor area. The Rolandic area was seen to be covered by an enormous number of large veins forming a vascular tumour. As removal was impossible the whole area was under-run with catgut and the vessels ligatured. He made a satisfactory recovery. The hemiplegia improved, but did not pass off, and he had some power in the right arm and could walk with assistance. Subsequently, after nine years he began to act strangely and had to be removed to an institution for observation. The writer points out that the condition was congenital and was liable to increase in size, as it later did. The focal nature of the convulsions and the retention of consciousness were the points in favour of operation. The result was surprisingly satisfactory, there being freedom from fits, and he regained strength in the affected limbs. His life was prolonged for nine years, and during eight of these he was able satisfactorily to carry out useful duties. The association of the cutaneous condition, if it be regarded as a vascular one, with the meningeal venous angiectasis is interesting. Adenoma sebaceum is known to be more common among congenital mental defectives and is often associated with convulsions. This condition itself is practically always congenital.

438. The Treatment of Prostatic Hypertrophy.

CARISI (*Rif. Med.*, March 13th, 1922) points out that the full examination of the hypertrophied prostate is an elaborate process, and the selection of the best method of treatment not as simple as is sometimes said. The selection depends mainly on the condition of the patient and the course of the disease. The method of Bottini (either open or closed) and its modifications still find favour—for example, out of 435 cases Bottini records 92.4 per cent. functional improvements, 3.7 per cent. failures, and 3.7 per cent. deaths. It is credited with simplicity and ease of execution, with very little danger to the patient, and not requiring narcosis. The results of galvano-cautery are not immediate; it takes three or four weeks for the scarring to heal. The operation is not, however, as simple as is said; haemorrhage, partial cure, and relapses are not uncommon. It is contraindicated in lesions of the kidney, in purulent cystitis, and where the detrusor muscle is inactive. It is useful in complete chronic retention, in young subjects where it is desired to maintain the sexual power, and in weak old men with circulatory trouble. The rectal route has been abandoned. As regards prostatectomy Giordano speaks favourably of the perineal route, especially where it is desired to interfere as little as possible with the sexual functions, and his statistics give a cure of about 50 per cent., with a mortality of 15 per cent. But the hypogastric route is now more commonly used. Remote complications, such as persistent urinary fistula and urethro-rectal fistula, occasionally occur. As regards sexual power after the Freyer operation, of 23 people aged about 60 years, 12 remained unchanged, 6 kept the power of erection but no ejaculation of semen, 1 who before operation was impotent recovered sexual power afterwards, and 4 became impotent after operation.

439. Treatment of Elephantiasis.

PIGNATTI (*La Chirurgia degli Organi di Movimento*, February, 1922) records a case of elephantiasis of the leg of a young woman, successfully treated by the Kondoléon method. This consists in the free removal of an elliptical section from each side of the leg, comprising not only the skin and subcutaneous tissue, but the deep aponeurosis, so as to establish free communication between the deep and superficial lymphatics. The incisions are sewn up without drainage. In the case recorded, seeing that rest in bed and ordinary incisions only gave partial relief, the Kondoléon operation was performed some months later. Before treatment there was an average difference of 10 cm. between the right and left legs; after the first operation this difference was slightly reduced, but after the Kondoléon operation, except in the lower third of the thigh, where there was a difference of 6 cm., there was hardly any difference between the two limbs, and the patient had been able to get about and do her work as usual; when seen eighteen months after the second operation she remained in good condition. Photographs of the legs before and after treatment show the marked improvement. The elephantiasis seemed due to chronic venous obstruction.

440. Fracture of the Anterior Superior Spines.

JAULIN (*Journ. de radiol. et d'électrol.*, November, 1921), who records an illustrative case in a youth aged 18, states that fracture of the iliac spines is usually due to muscular effort. It may occur as a separation of the epiphyses in the child and adolescent up to the age of 16 or 17, when the epiphyses become firmly united to the bone. Emmert observed a case of fracture of the anterior superior iliac spine after a violent extension backwards of the trunk; and Reverdin published a similar case in a young man who made a violent effort to save himself from falling backwards. Tellier reported a case in a man aged 60. Similar cases have also been seen in young racehorses. In Jaulin's case the patient felt a violent pain in both anterior superior iliac spines while running as fast as he could. Abnormal mobility and crepitation were found on examination of the right anterior superior iliac spine, while on the left side there were only swelling and tenderness. The patient was unable to walk without the help of two persons.

OBSTETRICS AND GYNAECOLOGY.

441. Treatment of Cervical Carcinoma.

ACCORDING to SCHWEITZER (*Arch. f. Gynäk.*, 1921, cxiv) a primary mortality of 5.8 per cent. occurred in 281 cases of cervical carcinoma operated on at the Leipzig clinic during ten years by Zweifel's modification of Wertheim's hysterectomy. After the uterus has been widely freed from the remaining pelvic organs, with the exception of the vaginal cuff, three sutures are placed in the posterior portion of the vesical wall, their free ends being attached to the myometrium. After suture of the pelvic peritoneum and closure of the abdomen the vaginal portion of the operation is commenced: the uterus having been removed by cutting around the vaginal cuff, the latter is attached to the bladder with the sutures which were made to descend with the uterus. The abdomino-vaginal operation has the advantages that the bladder receives an attachment which facilitates micturition and is protected from extension of infection from the vaginal wound, and that the duration of the abdominal manipulations is shortened. It is claimed that its primary mortality is less than one-half that of the unmodified Wertheim operation, and that the ureter and other neighbouring structures are less frequently injured. In about 4 per cent. of cases Zweifel's operation is not feasible on account of difficulties of haemostasis, and it is unsuitable for cases in which there is a small senile vagina.

442. ADLER (*Wien. klin. Woch.*, 1921, xxxiv), while conceding that operative treatment of cancer of the cervix has probably attained its maximum curative possibilities, still holds that easy operable cases should be operated on whether by the abdominal or vaginal method; the operation should be followed by radium and *x*-ray treatment. The vaginal operation has a lower primary mortality than the abdominal, being 3.5 per cent. during the last ten years in the Schauta clinic, where five-year cures are 22 per cent., a similar figure to that attained in the Wertheim (Weibel) clinic. The chief therapeutic advances to be anticipated lie in successful combination of radium treatment, *x*-ray treatment, and operation. The writer has found five or six years' freedom from recurrence in 59 per cent. of cases subjected to prophylactic radium treatment four weeks after operation, as against 42 per cent. of those not so treated. In eight cases operated on from three to four years ago 30 to 35 mg. of radium were placed in the parametrium on each side and left there for five to eight hours; of these patients six are still living, whether with recurrences or not is not stated. Lately the writer has combined the operative and radium treatment with intensive *x*-ray applications during the eight to fourteen days following operation.

443. Indications for Radium Treatment of Myomata.

PETIT-DUTAILLIS (*La Gynécol.*, January, 1922) agrees with many French observers in preferring radium to operative treatment for most cases of uterine myoma, and from personal observations is inclined to the view that radium therapy is permissible even in certain classes of myoma for which it has usually been conceded that surgical is the only treatment. In three cases of submucous myoma the writer has had after radium therapy results which were ultimately successful. He points out that the surgeon should remember and the patient be told that in cases of myoma encroaching into the uterine cavity radium applications are immediately followed by a prolonged increase of metrorrhagia. In his first case haemorrhage and pain continued for six weeks, but in the end ceased altogether; the second was cured after a temporary set-back at the end of four weeks; the third had to have the application repeated seven months later. Small doses are preferable, and at any rate if there is risk of an intrauterine application causing ulceration and therefore infection of the myoma vaginal application is advisable; it is admitted that if the tumour lends itself readily to enucleation this is the best course to adopt. A success is recorded also in radium treatment of large subperitoneal myomata, causing pressure symptoms, but not characterized clinically by excessive haemorrhage. It has been said that radium treatment is contraindicated in large myomata—for example, cases in which the uterine sound passes more than 16 cm.; the writer, however, has subjected to radium treatment an

obese dyspnoeic patient with a giant myoma giving rise to continuous metrorrhagia, with sequelae which so far have been satisfactory. He has also treated by radium application a patient, aged 40, suffering from retroverted pelvic myoma, giving rise to dysuria, constipation, and bilateral pain in the legs. In spite of the accepted opinion that myomata causing grave compression symptoms are beyond the scope of radium therapy, the patient has since been free from pain, haemorrhage, and dysuria for seventeen months, and the tumour has undergone regression. Petit-Dutaillis controverts the view that radium finds no indication in cases of grave haemorrhage; this, he says, can always be stopped for a time by tamponnage combined, if advisable, with curetting, and in such cases an immediate application of radium is followed by a definitive improvement of the symptoms. In cases of early carcinomatous metaplasia of a corporeal myoma, radium treatment alone may occasionally suffice; in more advanced cases it may be a useful adjuvant means, leading to an improvement in the patient's general condition, so that later she becomes better able to support operation. With regard to coincident adnexal complications, the writer concedes that acute inflammatory disease of the adnexa constitutes a formal contraindication to radium therapy, and, although Chéron has reported 171 chronic cases subjected to radium emanation he has himself hesitated to essay this; nevertheless he sees no barrier to it in cases where the adnexal inflammation may be regarded as extinct.

444. X-Ray Treatment of Fibroids.

LABEAU (*Gaz. hebd. des Sci. méd. de Bordeaux*, February 19th, 1922) is of opinion that *x*-ray treatment of uterine fibroids is justifiable in the following circumstances only: (1) In women with small fibroids approaching the menopause in whom irradiation of the ovaries may produce a somewhat earlier menopause, after which retrogression of the tumour is the rule. Irradiation of the ovaries only should be undertaken, as irradiation of the fibroids may produce gangrenous lesions. Labeau deprecates irradiation of the ovaries in young persons whose sexual life is not yet over. (2) In patients on whom competent surgeons refuse to perform any operation on account of the state of their cardiovascular system, lungs, or general condition. Even in such cases benefit may be obtained by Apostoli's method, which Labeau has seen produce an arrest of the haemorrhage in a large number of cases, with so much general improvement that a successful operation could be carried out later.

PATHOLOGY.

445. A Synthetic Medium for Growing Tubercle Bacilli.

BORREL, COULON, BOEZ, and QUIMAUD (*C.R. Soc. Biologie*, February 18th, 1922), with a view to preparing a tuberculin free from peptones and other noxious products, state that they have succeeded in producing a synthetic medium for the culture of tubercle bacilli, which is constant in composition and of a suitable hydrogen-ion concentration. This medium is glycerinated, and contains carbohydrates, glucose, and mannite. As sources of nitrogen they use asparagine, ammonium carbonate, and sodium nitrate. The full formula, which seems to have been carefully elaborated, is as follows: acid potassium sulphate 0.25 gram, potassium monophosphate 0.5 gram, magnesium sulphate 0.25 gram, sodium nitrate 1 gram, ammonium carbonate 1 gram, asparagine 4.5 grams, glucose 5 grams, mannite 5 grams, glycerin 20 grams, potassium silicate 0.02 gram, iron sulphate 0.03 gram, distilled water 1 litre. Generally the hydrogen-ion concentration of such a mixture is 6.9—the most favourable for the growth of tubercle bacilli. If such a medium is inoculated, with a large surface, up to 1 gram of dried bacilli may be obtained in twenty days. The simplicity of composition of the culture medium, its constancy in results, the abundance of yield, and the possibility of obtaining by its use a tuberculin free from peptone, are noteworthy points. The further communication on the action of the tuberculin promised by the authors will be awaited with interest.

446. Pandy's Reaction for Differential Diagnosis between Meningitis and Meningismus.

PANDY'S reaction is performed as follows: In a small tube is placed 1 c.cm. of a 1 in 15 solution of phenol; to it is added a drop of the cerebro-spinal fluid to be examined. If the reaction is negative, no change takes place. If on the other hand it be positive, a bluish-white opacity is formed at the junction of the two liquids which sinks slowly to the bottom of the tube. It is seen best against a dark background. It is due to a precipitation of the albumins. WEIL, DUFOURT, and CHAHOVITCH (*C. R. Soc. Biologie*, February 25th, 1922) have made use of this reaction in 18 cases of tuberculous meningitis, 2 of acute syphilitic meningitis of congenital origin, 1 of aseptic meningitis following stovaine anaesthesia, and 12 of meningismus. In no case other than one of true meningitis was a positive reaction obtained. The authors conclude that this is a highly serviceable test for differentiating functional from organic cases of meningeal disturbance. However this may be, these results must be accepted with caution, as no figures giving the number of times in which the reaction was positive are provided. In the absence of such data no opinion can be formed of the accuracy of their conclusions.

447. Observations on the Epinephrin Hydrochloride Test in Normal Individuals.

A SERIES of fifty normal individuals have been submitted by VAN WAGENEN (*Journ. of Indust. Hyg.*, March, 1922) to the epinephrin hydrochloride test introduced by Goetsch for the detection of hyperthyroidism. The test is dependent upon the fact that an increase in the active principle of the thyroid gland enhances the pressor action of epinephrin. For its performance the patient is required to lie quiet till the pulse rate, blood-pressure readings, and the respirations are constant for at least fifteen minutes. An injection of 0.5 c.cm. of adrenaline hydrochloride, 1 in 1,000 solution, is then given subcutaneously in the deltoid region. The pulse rate and blood pressure are taken every five minutes for the next hour, while all general symptoms, such as twitching of the platysma muscles, lacrymation, drowsiness, throbbing of the vessels, and a desire for micturition are carefully noted. A positive reaction consists in the rise in pulse rate of at least ten beats per minute, a rise of blood pressure of from 10 to 15 mm. Hg, together with a train of general symptoms and a local blanching of the skin at the point of injection. The results obtained in this series of normal students showed a positive reaction in 20 per cent. A study of the composite curves given in the text is sufficient to show that the distinction between a positive and a negative reaction is of a very arbitrary nature, and leads one to agree that the test is unlikely to be of value in cases in which careful clinical examination is unable to detect the usual signs of hyperthyroidism.

448. Differentiation of Pfeiffer's Bacillus.

CALDAROLA (*Annali d'Igiene*, January, 1922) says the true Pfeiffer's bacillus has the following characters: It is small (0.2 to 0.5 μ wide, and two or three times as long), it is immobile, and never forms spores or capsules, stains slightly, and is Gram-negative. It never causes septicaemia in animals, but is very toxic for the guinea-pig and rabbit, causing death by the action of its endotoxin. Inoculated into the brain it provokes an acute encephalitis fatal in four or five days. It has great affinity for the blood of pigeons, and none or very little for that of other animals. It ferments levulose, glucose, and maltose, but never decomposes arbutin. Organisms resembling Pfeiffer's bacillus will not conform to the above tests. The author says he has found two varieties of the true Pfeiffer bacillus, separated by serological criteria.

449. Pfeiffer's Bacillus and Influenza.

GOSIO and MISSIROLI (*Annali d'Igiene*, January, 1922), experimenting on animals with Pfeiffer's bacillus, found they could produce marked toxic symptoms (congestion, haemorrhage, and inflammation, especially in the lungs and lymphatic glands). All the various cultures possessed this pathogenic power, the determining element being the toxin of the bacterial cell. Fatal toxic symptoms also followed after eight to ten days from inoculation of the virus. In addition to the true Pfeiffer's bacillus other associated germs could be isolated from cases clinically described as influenza. The relation of Pfeiffer's bacillus to influenza still remains where it was. It is certainly sufficient to cause influenza, but not essential; for other organisms beside Pfeiffer's may open the way for what clinically is influenza. The hypothesis of provocative germs may explain the great infectiousness of the disease.

450. The Staining of Spirochaetes in Films.

PUENTE (*C. R. Soc. Biologie*, February 18th, 1922) gives the following method for the demonstration of spirochaetes in smear preparations: Fix the films in a mixture of formaline 2 parts, acetic acid 1 part, water 100 parts; complete the fixation in alcohol-ether. Heat in a test tube the following fluid, which has been recently filtered: 5 per cent. tannin 3 parts, 3 per cent. aniline hydrochloride 1 part; pour the boiling solution on the film and allow it to cool. Wash off in running water. Stain for a minute in boracic methylene-blue. The *Spirochaeta pallida* stains blue.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

451. The Effect of Mercury in Syphilis.

HELLER (*Klinische Wochenschrift*, March 11th, 1922) brings forward statistical evidence against the recent views: (1) That mercury is only a symptomatic remedy and does not influence the course of syphilis and at the best leads to a symptomatic cure, whilst salvarsan alone can produce a true cure; (2) that all cures of syphilis before the salvarsan period are instances of spontaneous recovery. In countries where antisyphilitic treatment is lacking a large proportion of tertiary syphilitic cases occur; in no country does spontaneous cure occur, so that tertiary symptoms fail to develop. The statistics of Glück in Bosnia show the high percentage of tertiary syphilitic cases in some districts and their great reduction under the influence of mercury given in the early stages of syphilis. Women suffer much more frequently than men from severe syphilitic lesions. In women primary symptoms are often overlooked and mercurial treatment neglected. Syphilis is much more common amongst men. If we allow that the number of syphilitic men is three times as great as the number of syphilitic women, and that women are treated with mercury much less frequently than men, then if mercury has no influence on the course of the disease, especially in preventing severe syphilitic lesions of internal organs, the percentage of syphilitic lesions found *post mortem* amongst men should be three times as great as amongst women. But if mercurial treatment in men has an influence, the percentage of severe lesions found amongst men will be less than three times the percentage amongst women. This difference in percentage would be less the more women were affected by syphilis, and the more frequently they were treated with mercury. Hence the difference would be greater in earlier than in recent time. Heller's collected *post-mortem* statistics show that syphilitic lesions which are influenced by mercury were found much less frequently amongst men than amongst women. In 1881–83 the lesions just named were found amongst women five times as frequently as amongst men (or fifteen times if we allow for the less frequency of syphilis amongst women). In 1911–13 the figures were 2.5 and 7.5 respectively. Heller concludes that mercury is not only a symptomatic remedy, but that it favourably influences the course of syphilis. So long as it has not yet been proved that salvarsan or other remedies do the same or more (and this can only be proved by pathological anatomy in the next twenty years) the medical man is not justified in discontinuing the use of mercury.

452. Whooping-cough in the Newborn.

MILIO (*La Pediatria*, April 1st, 1922) reports two cases of whooping-cough occurring in infants aged 8 and 10 days respectively. In both cases infection occurred through other children in the house. In the first case the child started sneezing, coughing, etc., on the sixth day, and later the characteristic spasmodic cough appeared. From the twelfth day intramuscular injections of 1/2 c.cm. of ether were given on alternate days. After the third injection the number of coughing fits was lessened, and after the sixth injection the attacks were much less severe and the child was able to sleep three or four hours at a time. No further injections were given, and the child steadily improved. In the second case the symptoms first appeared on the seventh day, and on the thirteenth ether injections were commenced. After the eighth injection the condition was so much improved that treatment was discontinued. Whooping-cough at so early an age is uncommon and often fatal. The author believes the ether injection treatment completely justified itself by the results obtained.

453. Endocrine Disorder and Mental Disease.

LEWIS and DAVIES (*Journ. Nerv. and Mental Dis.*, November and December, 1921, and January, 1922) record the results of a correlative study of endocrine "imbalance" and mental disease with a view to determining the relationship between physical manifestations, blood chemistry, and the mental syndrome. Twenty-two cases showing definite endocrine disorders were selected, without reference to their mental type; their sugar tolerance and thyroid function were tested, and the urine examined for uric acid, urea nitrogen, and creatinine. Twelve of these suffered from hypothyroidism, and the sugar tolerance was increased in each; as also in two cases of hypoadrenia, one case of hypopituitarism, and in one polyglandular type. This points to the value of the test in analysing these cases and in indicating the value of *x*-ray treatment on hyperthyroidism. Regardless of the main type of lowered function, a preliminary administration of thyroid gland enhances the action of the pituitary, suprarenal, or other glands to be given later. The thyroid function test is contraindicated in pronounced Graves's disease, manic and anxiety conditions with rapid heart and excitability, and in advanced valvular heart disease. Thyroid extract given in hypoglandular types, by accelerating the organism generally, renders introversion more difficult and aids psychotherapy, the changes in behaviour and improvement in many cases commencing simultaneously with the thyroid testing. In the author's view, both the sugar tolerance test and the thyroid function test are extremely valuable in differentiating and estimating those hypo- and hyper-glandular types which present but slight signs.

454. Hypodermiasis.

THIS disease is caused by the entrance into the subcutaneous tissues of the larvae of one of the species of fly of the genus Hypoderma, the larvae invading the body either by burrowing directly into the skin or by being taken into the mouth, thereby causing the common disease of cattle known as ox warble. Human beings may also be attacked in a similar way, and NOXON TOOMEY (*Brit. Journ. of Derm. and Syph.*, February, 1922) gives the following description of the clinical pathology of such cases. After the heel-fly has laid its eggs on the human skin or under-garments the hatched larva quickly burrows its way into the skin. The arrival of the larva in the subcutaneous tissues causes a local subacute cellulitis round the point where the larvae are embedded, usually noticed in December or January. The larvae migrate in the subcutaneous tissues and along the fascial planes and cause fresh areas of inflammation wherever they settle down. The track of the larva to its new resting place can often be made out, being seen as a faint irregular diffuse line connecting the old area of cellulitis with the newer inflamed area. When the mature larva is ready to leave the body (warble stage) a tender nodule appears below the epidermis and in the corium, around which the skin is oedematous or erythematous. After about ten days a small black point appears on the apex of the inflamed area, over which the epidermis breaks down, resulting in the escape of sero-sanguineous discharge. Through this hole the larva projects its air-breathing apparatus. From thence onwards the larva grows rapidly until it attains about 3 cm. in length. In the meantime the discharge from the warble becomes purulent, and in this stage the inflamed area is indistinguishable from an indolent pyogenic furuncle except for the central canal and the sensation of ballottement felt on palpation. Finally, the mature larva emerges from the warble, usually in the early morning, and, falling to the ground, its colour changes to black and it is converted into a pupa, whence in three or four weeks the fly emerges. In the later stages of the disease, if the aperture of the warble is incised the larva may be extracted with dressing forceps; whereas in the early stages, when the larva is still migrating, Toomey recommends that the surgeon should cut down on the larva, a procedure which may result in a protracted search. The heel-flies do not oviposit on a person whose body and clothing are free from animal odours, so that personal cleanliness is the best means of preventing hypodermiasis in man. Ox warble disease is a great source of suffering to cattle, and results in much damage to hides.

455. Typhoid Fever in Children.

UGÓN (*Rev. med. del Uruguay*, January, 1922) states that during the first half of 1921, 176 patients, aged from 3 to 14 years, were admitted to Professor Morquio's clinic at Montevideo; 81 were boys and 95 girls; 27 were mild, 108 moderate, and 41 severe cases. The mortality was 7.38 per cent. With the exception of a few cases admitted to hospital supposed to be suffering from appendicitis, pneumonia, or meningitis, all the cases presented the characteristic clinical picture of typhoid fever. Only 33 cases had diarrhoea, which was probably due to administration of purgatives before admission. Enlargement of the spleen, on palpation, was found in only 31. Rose spots were seen in all but 32 cases, in which, however, they may have been present before admission. Blood cultures were made in 96 cases and positive results were obtained in 52. The negative results could be explained either by the fact that many patients were admitted late in the disease

or by the difficulty in obtaining sufficient blood from the child for a blood culture. Widal's reaction, which was performed in 139 cases, was positive in 119 and negative in 20. Three cases had a relapse. The epidemic presented the following clinical peculiarities: (1) Frequency of pyogenic complications in the skin, cellular tissue, glands, and bones. The typhoid bacillus was found in some cases, and in others the ordinary pyogenic organisms. Suppurative otitis was observed in 8 cases. (2) Frequency of haemorrhages in the skin and from the mucous membranes. Seven patients had intestinal haemorrhage. (3) Frequency of generalized desquamation resembling that of scarlet fever. As regards complications, two had intestinal perforation which ended fatally, one had myocarditis which ended in recovery, one had phlebitis, and a certain number had cerebral or meningeal involvement. No specific vaccine was employed, as Morquio had observed that vaccine treatment did not shorten the disease or render it milder in the child.

456. Ammonium Carbonate in Erythema Nodosum.

AMMANN (*Schweiz. med. Woch.*, March 9th, 1922) has obtained remarkably good results from the use of ammonium carbonate in erythema nodosum; he gives a teaspoonful of a 5 in 100 solution of the salt in a quarter of a tumblerful of water every two hours. The fever subsides, the patient experiences great relief from the feeling of illness, appetite increases, pains promptly disappear, and no fresh nodes are seen. With all this there is a corresponding considerable shortening of the course of the affection. The same salt appears to act very favourably in erysipelas. Ammann accepts Unna's teaching that it acts by increasing the alkalinity of the blood.

457. The Coexistence of Syphilis and Tuberculosis in Lymph Glands.

FREI and SPITZER (*Klinische Wochenschrift*, January 1st, 1922) state that long before the discovery of the *Spirochaeta pallida* the coexistence of syphilis and tuberculosis had been observed in a number of cases. The grounds for such a diagnosis in the absence of histological examination were a focal reaction to tuberculin, the presence of tubercle bacilli, and a positive result from animal inoculation indicating tuberculosis, and the undoubted but incomplete success of specific treatment (mercury and potassium iodide) indicating syphilis. The present writers report three cases in which the enlarged glands (cervical, epitrochlear, and inguinal) showed the *Spirochaeta pallida* as well as tuberculous infection which was proved by inoculation of guinea-pigs. A control inoculation of guinea-pigs with the puncture fluid derived from the enlarged glands containing *Spirochaeta pallida* of eight syphilitic subjects was negative as regards tuberculosis.

458. Arsenical Treatment of General Paralysis.

AUBRY and TRAMPOL (*Rev. Méd. de l'Est*, March 1st, 1922) report 27 cases of general paralysis treated with intramuscular injections of novarsenobenzol, starting with 0.15 gram up to 1.05 gram, at intervals of four days; and afterwards every eight days—the total amount given being 7 to 8 grams. The results were: 13 failures, 7 remissions with progressive symptoms later, and 7 marked remissions lasting for a considerable period—in one case nearly four years and in another two years. The improvement when it occurred was chiefly noticeable in the mental condition. No bad results were recorded. Even allowing for mistaken diagnosis and the spontaneous remissions which sometimes occur in general paralysis without treatment, the authors consider novarsenobenzol injections of much benefit in some cases. Other physicians have recorded similar results from this treatment.

459. Quinidine and Digitalis in Arrhythmia Perpetua.

KAPFF (*Deut. med. Woch.*, April 7th, 1922) has collected 299 cases of heart disease, including 19 of his own, in which quinidine was given for arrhythmia perpetua. He finds that in 156, or 52.5 per cent., the drug proved effective in restoring the normal rhythm of the heart beat. At present no conclusions can be drawn as to which morbid conditions will react satisfactorily to quinidine; all that can be said is that about every other case of arrhythmia perpetua will benefit from quinidine. As it weakens the heart, it should be given only when compensation is complete; if the action of the heart is very weak a course of digitalis should be given before the quinidine. Between two courses of quinidine there should be an interval of at least three weeks, as the patient may be particularly susceptible to this drug for some time after the completion of a first course; this interval may well be utilized to steady the heart with digitalis. The author discusses at considerable length the interaction of digitalis and quinidine, and finds it not advisable to give them simultaneously in appreciable quantities.

SURGERY.

460. Perforated Ulcers of the Duodenum.

IN this most dramatic of abdominal cases operation within twelve hours, with simple closure of the perforation, will bring about recovery in the majority of cases. BRENNER (*Surg., Gyn., and Obstet.*, March, 1922) reports fifteen consecutive cases and discusses the future welfare of the patient, the main questions being, Is the ulcer healed by simple closure, will it stay healed, and will the patient remain free from symptoms? He remarks that after gastro-enterostomy a revolution takes place in the physiology of digestion. The jejunum is called upon to assume the duodenal function, for which it is physiologically unsuited. That many thrive after this merely accentuates the remarkable adaptability of the human body. Gastro-enterostomy is a satisfactory procedure for obstruction of the pylorus in the majority of cases. He divides ulcers into two types—namely, the soft type (the more common) and the "calloused" type. He believes that simple closure by inversion will cure the vast majority of the first group; the latter require a gastro-enterostomy. With regard to a primary gastro-enterostomy, the real dangers are a 2 to 3 per cent. chance of a gastro-jejunal ulcer and late secondary sequelae which occur in some cases. Simple closure should be carried out unless the pathology demands a primary gastro-enterostomy. When in doubt do not do it. This can be done later if necessary. Late results show that of seven patients with the soft type of ulcer in whom simple closure was performed, all are well and symptomless; of two with the hard type of ulcer in whom secondary gastro-enterostomy was performed one remains well, the other complains of dragging pain. In two cases examined at a later date the duodenum appeared absolutely normal and the ulcer site had completely disappeared. In conclusion the writer agrees that to state dogmatically that all cases treated by simple closure will result in permanent cure is as illogical as to insist upon a primary gastro-enterostomy as a universal procedure.

461. X-Ray Treatment of Throat Infections.

WITHERBEE (*New York Med. Journ.*, March 1st, 1922) considers that the treatment of focal infection of the throat by *x* rays, as compared with surgical removal of tonsils and adenoids, gives more thorough and complete results, besides being safer and applicable to cases in which there may be contra-indication to operation. With the patient lying face downward and the head turned to the side, the position and angle of the patient and tube corresponding to that for radiographing the lower molars, about eight treatments to both sides, at two-weekly intervals, are given, using a 7-inch spark gap, five milliampères, four minutes time, 10-inch distance, and 3 mm. of aluminium as filter. By this method the shrinkage of the tonsil and lymph tissue of the lateral and posterior walls of the throat produces a drainage of the crypts of the entire mucous membrane, and in 80 per cent. of diphtheria carriers so treated bacilli were removed in from two to four days. From an experience of nearly 500 cases so treated, Witherbee is of opinion that the method is free from serious complications, burns and injury to adjacent glands being impossible under proper technique. The shrinkage following treatment revealed two cases of abscess of the tonsil completely encapsuled by fibrous tissue. The method is specially indicated in chronically infected throats in vocalists, and in those cases associated with rheumatism.

462. Pancreatic Cyst Treated by Enucleation.

MATHIEU (*Bull. et Mém. de la Soc. de Chir. de Paris*, March 21st, 1922) reminds us that the majority of pancreatic cysts have been regarded as pseudo-cysts without an epithelial lining, due to the accumulation of pancreatic juice and blood following on a process of auto-digestion localized in the pancreas. Rarely, however, true cysts may be found where there is an epithelial lining on their inner surface. The origin of these true cysts is often difficult to make out, and he reports a case where the lining of the cyst had cells similar to those of the canal of Wirsung. The patient was 58 years of age and had suffered from abdominal symptoms for twenty-three years following on a kick in the abdomen. There were frequent attacks of severe abdominal pain and digestive disturbances resembling an organic lesion of the pylorus. The patient had also lost a considerable amount of weight. The shape, position, and relative fixity of the tumour and its freedom from the liver, and the results of *x*-ray examination, enabled a correct diagnosis to be made. At the operation an incision was made on the right side of the abdomen to reach the cyst. The enucleation of the tumour was very difficult, requiring a dissection of the bile duct and portal vein adjacent to the cyst. The after-results were satisfactory—the digestive troubles disappeared and

the patient put on weight. An examination of the tumour after removal showed it to be a multilocular cyst with walls having a structure like those of the canal of Wirsung. The rarity of cysts of the pancreas which can be removed by enucleation makes this case of interest.

463. Bilateral Cystic Kidney.

ROLANDO (*Journ. d'urol.*, February, 1922), who records six cases in patients aged from 33 to 57, states that three theories have been advanced to explain the pathogeny of polycystic kidney—namely, (1) the inflammatory theory of Virchow, according to whom the renal cysts are due to a chronic inflammation followed by peritubular sclerosis and dilatation of the tubules; (2) the theory of an adenomatous tumour, based on the structure of the cysts, in which endocystic papillary formations and epithelial masses are often found; and (3) the theory of congenital malformation which Rolando himself is inclined to adopt. Almost all his patients had a more or less cachectic complexion, loss of appetite, dyspepsia, constipation, a slow but progressive loss of strength, and, more rarely, a sensation of dead fingers and oedema of the ankles. Although Pousson declares that polyuria and albuminuria are almost constant in bilateral cystic kidney, Rolando found that the urine was often normal in quantity, specific gravity, colour, reaction, and amount of urea; albumin was almost always absent at first, and it was only at an advanced stage that a slight trace was found. As a rule Rolando did not detect any appreciable difference in the specimens of urine collected separately from the two kidneys, either as regards the amount of urea or the microscopical examination of the sediment. As the destructive process usually develops simultaneously and in the same degree on both sides, there is no marked compensatory hypertrophy on one side. Haematuria was noticed in three of the six cases, being slight in two and considerable in one. In none of them was it accompanied with pain or renal colic. Although Pousson states that the development of polycystic kidney is accompanied in half the cases by lumbar pain, this symptom was noticed in only one of Rolando's cases. A renal tumour is the chief diagnostic sign. Pousson gives the following statistics of its frequency. Among 157 cases which did not come to operation no tumour was noted in 68, in 25 it was unilateral, in 44 bilateral, and in 20 an abdominal tumour was noted; among 167 in which an operation was performed the tumour was bilateral in 21, unilateral in 104, and in 42 no tumour was found. The polycystic kidney on increasing in size may give rise to symptoms of occlusion or compression of the ascending or descending colon. Glaser has recorded a case of death from septic angiocholitis due to pressure on the common bile duct by the right polycystic kidney. As regards the prognosis, apart from complications a polycystic kidney is compatible with a long life. Owing to the unfavourable results following nephrectomy, Rolando considers it advisable to refrain from any operation, especially in advanced cases, except in the case of suppuration of the polycystic kidney, which must be treated like any other case of renal suppuration.

464. Influenza Simulating Appendicitis.

DUBS (*Schweiz. med. Woch.*, April 13th, 1922) points out that during the last wave of influenza there have been several cases in which the symptoms at the onset of the disease suggested peritonitis with perforation of some abdominal viscus. He notes as remarkable the fact that he saw no such cases during the epidemics of 1918 and 1919, whereas of late they have been frequent. With regard to the differential diagnosis of genuine appendicitis and influenza complicated by severe diaphragmatic pleurisy or inflammation of the nerves of the abdominal wall, he points out that appendicitis never begins suddenly, and that a temperature over 39.2° C. at the onset of the disease in children is certainly not characteristic of appendicitis. The general appearance of the patient is instructive: in acute appendicitis the patient never looks feverish or shows conjunctival injection. A sudden onset with shivering and rigors is indicative of influenza rather than acute appendicitis, but the blood count is of little value in the differential diagnosis, as the leucopenia of influenza is a very uncertain phenomenon.

465. Erect Dislocation of the Humerus.

PRINGLE (*Glasgow Med. Journ.*, March, 1922) records an instance of this condition, which appears to be an injury of great rarity. The patient had fallen across the well of a hoist and remained suspended over the well with his right arm held in extreme abduction and elevation by the weight of his body until rescued. A typical "luxatio erecta" resulted. The arm was abducted to an angle of 35 degrees, the head of the humerus caused a bulging of the right axilla, and the axillary artery lay over it. Reduction was effected quite easily by traction and adduction of the limb. *X*-ray examination showed no fracture, and no nerve disturbance beyond "pins-and-needles" in one finger was detected. The scapulo-humeral muscles seemed responsible for holding the limb in the elevated position, the pectoralis major being quite slack. The teres major and latissimus dorsi may also have something to do with maintaining the erect position if the head of the humerus passes dorsal to the teres major; the head would then be directed towards the posterior axilla, and not forwards as in this case. In reduction, traction on the limb brings the head of the bone away from the thoracic wall and allows it to pivot into the glenoid cavity between the muscles of the tuberosities as soon as adduction follows. There is a variety of horizontal or right-angled dislocation where the abduction of the arm is not so extreme as this. It is intermediate between the subglenoid and erect types, and is also rare. An example of this variety is also described by the writer. In both cases the movements at the shoulder-joint were rapidly and perfectly recovered, so that any extensive injury to muscle was doubtful.

OBSTETRICS AND GYNAECOLOGY.

466. Obstetric Uses of Pituitary Extract.

CRON (*Amer. Journ. of Obstet. and Gynec.*, March, 1922) records the use in 150 cases of pituitary extract, given in doses of 3 minims to 1 c.cm., injected into the skeletal muscle or (in cases of Caesarean operation or severe *post-partum* haemorrhage) directly into the uterine muscle. In 69 per cent. of 45 cases it was possible, at dates ranging from the eighth month of pregnancy to the third week of post-maturity, to induce labour by oral administration of 2 ounces of castor oil, followed two hours later by 10 grains of quinine sulphate, repeated once or twice; with the last dose of quinine 5 minims of pituitary extract were injected intramuscularly, and two hours later a second dose of pituitary extract was given, which occasionally was again repeated. The results obtained by combining the three drugs were much better than those obtained by giving them separately or in combinations of two. The induction of labour by this method is believed to have prevented *intra-partum* infection after premature rupture of the membranes. In the first stage of labour pituitary extract was given only in six cases of primary uterine inertia, five of which responded to the treatment. Apart from primary inertia, the use of pituitary extract at this stage is most dangerous; of the six cases mentioned, in three the uterine contractions became continuous, the foetal circulation was embarrassed, and it became necessary to terminate the labour under deep anaesthesia by podalic version or forceps extraction. It is concluded that even for primary inertia pituitary extract should be given in minimal doses and with the utmost caution. Another possible indication for its use in the first stage is found in cases of marginal or partial placenta praevia, with incomplete cervical dilatation and rupture of the membranes. In the second stage of labour, pituitary extract may sometimes be given with advantage for secondary uterine inertia; it is necessary, however, carefully to observe the condition of the foetal heart, for the resultant strong uterine contractions may impede the foetal circulation and even produce direct compression of the foetus. After administration of pituitary extract, foetal meningeal and cerebral haemorrhages have been found in certain cases at autopsy, and even in the second stage of labour a conservative attitude is requisite with regard to this treatment. After injection of 1 c.cm. intramuscularly immediately after birth of the child, the writer finds that the third stage of labour may be most favourably influenced: it is of shorter duration (average 12.1 minutes), and is accompanied by a smaller loss of blood (225 c.cm. compared with 300 to 500 c.cm. in control cases). Hour-glass contraction was not observed by the author.

467. Tubal Carcinoma.

ACCORDING to STANCA (*Zentralbl. f. Gynäk.*, April 1st, 1922) about 150 cases of carcinoma of the Fallopian tube have been recorded since the first description of this condition thirty years ago. Primary tubal carcinoma originates in the papillae of the mucosa, and in the majority of cases affects one tube only; the diffuse form, which not infrequently is associated with sactosalpinx, leads to formation of large soft tumours resembling inflammatory tubal swellings, but in the circumscribed form the tumour is as a rule small. Secondary carcinoma is more frequent, and is found in diffuse or circumscribed forms in association with uterine or ovarian carcinoma; in the great majority of cases the tubes of both sides are affected. Inflammatory adnexal conditions usually accompany tubal carcinoma, but it is uncertain whether the inflammatory or the malignant condition comes first. Clinically, tubal carcinoma is difficult of diagnosis; suspicious factors are the age of the patient (usually from 40 to 50), the

repeated occurrence of colicky pains of gradually increasing and then gradually decreasing intensity, the appearance of a haemorrhagic or purulent discharge after these pains have been experienced, and a rapid increase in size of the tumour, together with speedy deterioration of the patient's general condition. Formation of metastases is widespread and early.

468. Salpingotomy for Tubal Gestation.

WHITEHOUSE (*Journ. of Obstet. and Gynaecol. of the British Empire*, 1922, 29, 1) believes that salpingotomy is worthy of trial in the treatment of tubal mole and tubal abortion. Three patients with tubal mole, one with partial tubal abortion, and one with fulminating rupture were treated by salpingotomy, the mole being excised after incision of the tube, and haemostasis and repair being effected by catgut sutures. In each case recovery was normal. Salpingectomy is probably preferable for tubal rupture, in cases of which there is serious risk from haemorrhage and extensive tubal lacerations occur. From dissections of thirty fresh specimens of tubal mole, abortion and rupture, Wilson and Whitehouse found that tubal mole is the direct result of intratubal rupture and that the mole retains a narrow basis of attachment to the tubal wall, usually situated on the floor of the tube and always at the proximal end of the mole; that the surface of the pedicle of the mole usually shows traces of tubal mucosa; and that macroscopic or microscopic evidence of pre-existing inflammation of the tubal walls is exceptional in the case of mole and abortion. In a series of ten cases after salpingotomy and extraction of the ovum the tube was excised and submitted to microscopic examination: signs of inflammatory change were absent, and Whitehouse believes the abnormal implantation of the gestation to be purely accidental.

469. Pregnancy after Nephrectomy.

ACCORDING to MATTHEWS (*Amer. Journ. of Obstet. and Gynec.*, March, 1922) pregnancy in a woman from whom one kidney has been removed is little more hazardous than in normal women, providing the remaining kidney is functioning properly. Albuminuria may occur as in normal subjects during the later months of gestation, but responds to treatment as well as that of subjects having two kidneys. Marriage and pregnancy after nephrectomy are permissible if tests have shown the remaining kidney to function normally for a year or more, or for three years or more in cases in which the nephrectomy was performed for unilateral renal tuberculosis. In 241 cases of nephrectomy taken from the literature or studied personally the writer found 265 pregnancies, with 250 normal labours and only 2 deaths; 60 per cent. of the patients showed more or less albuminuria during the later months of pregnancy. These patients tolerate morphine well, and may be subjected to other forms of anaesthesia than that by chloroform; chloral hydrate and veronal are borne badly by them.

470. A Rare Cause of Atresia of the Vagina.

HOLZAPFEL (*Deut. med. Woch.*, April 17th, 1922) records the case of a well-developed girl of 13 who had not yet menstruated. At 9 years of age she had suffered from a severe attack of measles. Eight months before being seen she suffered from strangury, and two months before it was noticed that the abdomen was distended. For some time she had complained of headache, but there was no fever or other symptom. On examination the distended abdomen was found to contain a swelling, which extended 3 cm. above the umbilicus, and was rather nodular above, but elsewhere smooth. The pale red hymen was closed, but was hardly at all distended. In the absence of local symptoms, retention of menstrual products seemed unlikely, and in spite of the closed hymen pregnancy was suspected; a tumour of one ovary was another possibility. Pregnancy being excluded after a considerable observation period, laparotomy was performed, and the tumour found to consist of the uterus perched on top of a large collection of fluid in the vagina and cervix. The abdominal wound was therefore closed, and by perforation of the hymen, pure pus, containing streptococci, was evacuated. Uneventful recovery followed. The atresia was probably provoked by an inflammatory reaction during the attack of measles.

PATHOLOGY.

471. The Schick Reaction.

THE intradermal reaction to diphtheria toxin has been tested by VINCENT, PILOD, and ZOELLER (*C. R. Soc. Biologie*, March 11th, 1922) on a group of 2,816 men of 20 to 22 years of age. A positive result was obtained in 1,344 cases and a negative in 1,472. They divide their positive cases into those giving a marked reaction and those giving a feeble one; amongst the former diphtheria occurred to the extent of 3.29 per cent., while amongst the latter only to 1.94 per cent. Comparing the number of cases of diphtheria arising in those with a positive Schick with those giving a negative one they find that there was an incidence of 2.68 per cent. amongst the former and one of 0.27 amongst the latter. This is rather in disaccord with the reports of other writers, who usually attribute an almost complete immunity to those giving a negative reaction. In view of this discrepancy one is bound to consider the question of an error in the technique, for it has been shown that numerous sources of fallacy—particularly in connexion with the fragility of the toxin—are liable to creep in, and thus mar the readings of the test. At the conclusion of their article the authors put a question of considerable interest—namely, if a common angina (due, for example, to the staphylococcus) occurs in a patient who is a carrier of the Klebs-Loeffler bacillus, and this bacillus is obtained in culture from his throat during the attack, is he to be considered as suffering from diphtheria or not?

472. Cancer Mortality.

ROUSSY and LEROUX (*Bull. de l'Assoc. française pour l'étude du Cancer*, February, 1922) performed 400 autopsies on old people dying from various causes, and amongst these found 34 cases of malignant disease, of which 33 were carcinomata and 1 a sarcoma. In 12 cases metastases were present—7 in the liver, 6 in the glands, 2 in the lungs, and 1 in the peritoneum. In 11 cases death was attributable to progressive cachexia, in 3 cachexia *plus* secondary infection, whereas in 20 cases death was due to some completely unrelated disease. Of these 34 cases, 21 had been diagnosed by clinical examination, 10 were discovered at autopsy, and 3 by microscopic examination only. It is commonly said that the frequency of cancer increases with the advance of years, but in this series of 400 deaths only 34 times was malignant disease encountered, and in 13 of these cases the diagnosis was only made after death. In the ordinary method of collecting statistics these 13 cases would not have appeared as cancer. A further analysis of these figures reveals the interesting fact that whereas in the adult cancer is the direct cause of death in the majority of cases, in old people, on the contrary, in two-thirds of the cases death is due to intercurrent diseases totally unconnected with cancer, and under these conditions the aged die with the same symptoms as those unaffected with malignant disease.

473. Living Sensitized Cholera Vaccine.

WHAT is the most efficacious vaccine for prophylactic use in cholera? Haffkine's original vaccine consisted of living bacilli, attenuated for the first dose, and made more virulent for the second. But the injection of living organisms into the body is open to the objection that they may be excreted into the intestinal tract—as has been shown by Besredka for the typhoid bacillus—and thus render the patient a carrier of the organism. According to MASAKI (*Ann. Institut Pasteur*, March, 1922) this can be avoided by the use of cholera bacilli sensitized with immune serum. Working with guinea-pigs he finds that if the organisms be submitted to the action of the serum for a certain length of time all danger of their being transported in the living state to the blood and tissues of the body is avoided, for they appear to be taken up by the phagocytes—if given by the intraperitoneal or subcutaneous routes—before any generalization can occur. Further, by altering the time and the temperature of the process of sensitization he is able to produce vaccines which can be given in small or in large doses, which will produce a rapid or a slow immunity, and which will exert a protective effect for at least three to five months. His conclusion that sensitized living bacilli are the most favourable material for vaccine purposes deserves to be modified by the fact that he completely omits to mention whether his experiments have been extended to human beings.

474. The Colloid Benzoin Reaction in the Cerebro-spinal Fluid.

FERRARO (*Il Policlinico*, Sez. Prat., January 16th, 1922) employed the colloid benzoin reaction introduced by Guillain, Laroche, and Lechelle in 16 individuals with a normal nervous system and 50 patients suffering from various nervous disorders with the following results: (1) The reaction was negative in the normal cerebro-spinal fluid. (2) In all cases of general paralysis the reaction was markedly positive. (3) In some definitely syphilitic diseases of the nervous system the reaction was negative. (4) In five cases in which the syphilitic origin of the affection could be excluded on clinical and serological grounds the reaction was positive.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

475. Human Actinomycosis.

MATTSON (*Surg., Gyn., and Obstet.*, April, 1922) points out that the organism of actinomycosis does not exist as a normal inhabitant of the oral cavity and gastro-intestinal tract. No case has ever been reported of post-operative infection by this organism, and the source of infection must be outside the body from grain and grasses, where it becomes capable of infecting man and lower animals. For infection to take place there must be an abrasion of the tissues, and the fungus must be brought into contact with this abrasion. He shows that animal to man infection is fairly common; the portal of entry may be the oral cavity, the gastro-intestinal tract, the respiratory system, or through skin abrasions. Metastases do not take place through the lymphatic system, and ulceration is seldom seen unless surgery has been attempted. Secondary infection occurs after operation, the discharge being sero-purulent with the characteristic sulphur bodies, these being the fungus. The jaw cases often start with toothache; a painless swelling may be found in the neck and is taken for an enlarged gland; trismus is common in jaw cases, and psoas spasm is found in appendical cases. Appendix cases differ in no way from simple appendicitis; operation is carried out, an abscess forms later and fills the whole right lower quadrant with an inflammatory mass; the mortality in this type is 100 per cent. In lung cases an erroneous diagnosis of tubercle is usually made, and the result is generally fatal. In regard to treatment, potassium iodide is specific, but heroic doses are necessary, moderate doses producing no results; surgery is of value only where the involved tissue can be excised. Radium and *x* rays are of use as adjuncts to the above.

476. Abdominal Colic with Porphyrinuria.

SNAPPER (*Klinische Wochenschrift*, March 18th, 1922) describes three cases of a peculiar affection which has been named "colica porphyrinurica." These cases are characterized by (1) attacks of severe abdominal and lumbar pain, with vomiting and constipation; (2) excretion during the attack of dark red urine containing much haematoporphyrin; (3) a fatal termination with paralytic symptoms in about half of the cases, after several attacks of the colic have occurred. In the first case recorded by Snapper the patient suffered from severe attacks of pain with marked haematoporphyrinuria (detected by spectroscopic examination). The urinary changes persisted in a slight degree when the pain ceased, and continued for some months. After a number of attacks of colic paralytic symptoms appeared, and death occurred. The second case also terminated fatally with paralytic symptoms (regarded as polyneuritis), and degenerative changes were found in the peripheral nerves. In each of these cases the clinical history and the pathological examination failed to indicate clearly the exact nature of the paralytic symptoms; also the pathological examination failed to reveal the cause of the colic. The third case was not fatal. Very often these cases are not diagnosed correctly. Usually the severe colic with dark red urine is regarded as due to renal calculus. The spectroscopic examination of the urine decides the diagnosis. The prognosis is uncertain, hence the practical importance of diagnosis. Though the patient may feel quite well between the attacks there is the risk of recurrence, complicated eventually with fatal polyneuritis.

477. Malaria.

COMESSATTI (*Il Morgagni*, January 31st, 1922) in a lengthy article records his experiences with a large number of cases of malaria. He says the disease has been more serious of late years, not only amongst the soldiers but in the civil population. In malarial enlargement of the spleen the movement due to respiration is often much limited by the presence of perisplenic adhesions. The absence of any enlargement of the spleen in malaria is uncommon, and some perisplenitis is usually present. Malarial perihepatitis is comparatively rare, although the large liver of malaria is not infrequent. There is no constant relation between the severity of the infection and the size of the spleen. Many varied diseases may be superimposed on the malarial state. The reciprocal effect of typhoid on malaria is of special interest; usually it renders the malaria latent, but neither disease gives immunity from the other. Lobar pneumonia did not appear to be modified by the presence of malaria. The statement that malaria tends to render tuberculosis milder must be accepted with much reserve. When haemoptysis occurs in malaria, pulmonary disease (tuberculous or cardiac) should be excluded before the haemorrhage is attributed to malaria. Malarial anaemia assumes peculiar gravity in pregnancy. The pigmentary changes in the skin and pathological findings show that the suprarenals are often affected. The author discusses malaria and pregnancy, congenital malaria, malaria and the nervous system (six severe cases with meningitis are reported in full), and the treatment by quinine, by diet, by arsenobenzolin, and by radiotherapy, and ends his paper by giving certain criteria to judge whether the malaria is cured or not.

478. Prognosis of Epidemic Encephalitis.

SANZ (*Arch. de med., cir., y espec.*, February 11th, 1922) states that the mortality of epidemic encephalitis varies with the time and place in which the disease has been studied. According to Banús it ranges from 25 to 31 per cent.; in Spain, however, it is approximately only 10 per cent.; according to Tilner and Howe it was 25 per cent. among their 20 cases. Chalier, on the other hand, estimated it as high as 40 or even 50 per cent., and attached an unfavourable significance to the progressive evolution of myoclonic movements. The mortality in Sanz's cases was 17.64 per cent. All these figures refer to the acute stage of the disease. In the chronic stage the danger to life is less, but the prognosis is unfavourable, owing to the persistence of symptoms which interfere with the motor activity of the patient. Moreover, there is always the possibility of the recurrence of the principal symptoms, though this is a fairly uncommon event. The motor sequelae tend to subside slowly with alternate recrudescences and remissions, but in some cases persist indefinitely and defy all methods of treatment. In addition to the Parkinsonian syndrome, which is the most frequent sequel and one of the most refractory to treatment, Sanz mentions a cerebellar form of disseminated sclerosis and a chronic serous meningitis as sequelae of epidemic encephalitis. Finally, as an aggravating factor in the remote prognosis of epidemic encephalitis, there should be mentioned the state of depression into which the patients fall owing to the apparent hopelessness of their condition, with the result that some of them show a tendency to suicide.

479. The Influence of Underfeeding on Graves's Disease and Diabetes.

UNDER the heading "Underfeeding and internal secretion" TALLQVIST (*Finska Läkaresällskapets Handlingar*, January and February, 1922) gives a statistical survey of the frequency of diabetes, Graves's disease, and achylia gastrica before, during, and after the war. His clinical material consists of over 13,000 cases of all complaints, and the chart showing the incidence of diabetes and Graves's disease in the period 1912–21 also shows the average weights of all his cases from year to year. During 1918 and 1919 the shortage of food in Finland induced an average decline of weight by about 18 per cent. As his chart shows, there was a remarkable conformity in the decline in weight and in the frequency of the above-mentioned diseases. By 1921 the curves for both diseases showed a marked rise, coinciding with the return to normal of food conditions. The author considers that what he calls the "decimating" influence of underfeeding on these two diseases does not contradict the view that constitutional predisposition plays an important etiological part; but it would seem that involuntary underfeeding does, to a certain extent, prevent the development of both diabetes and Graves's disease in persons predisposed thereto. The curve for gastric achylia was less instructive, but the author is inclined to think that not only Graves's disease and diabetes but also heart disease, abnormally high blood pressure, arteriosclerosis, arthritis, and possible also nephritis, are conditions which depend largely on an unrationed dietary.

480. Gold Salts in the Treatment of Tuberculosis.

SCHELLENBERG (*Deut. med. Woch.*, April 14th, 1922) enters a caveat against the craze, popular in Germany at the present time, for giving intravenous injections of gold salts in tuberculosis. He has given one of these preparations—krysolgan—to about 80 patients, and with very disappointing results. He discusses seriatim the various beneficial effects claimed for this treatment, such as disappearance of cough and fever, and improvement in the physical signs. But whether he has treated pulmonary tuberculosis or surgical tuberculosis and lupus, the results have been disappointing. As the drug is apt to provoke severe reactions, its administration requires

close supervision, and the suggestion recently made that the drug should be given in ambulant practice is, in his opinion, very ill advised. In addition to his general indictment of krysolgan treatment, the author takes severely to task a Dr. Levy, whose recent publication contained most extravagant claims.

481. Ligation of the Limbs for the Pulmonary Oedema of Acute Nephritis.

EHRENBERG (*Deut. med. Woch.*, April 7th, 1922) has in two cases of severe pulmonary oedema, due to acute nephritis, obtained marked relief by constricting all four limbs with rubber tourniquets. This device was recommended in 1910 and 1911 by Tabora and Tornai on the assumption that, by cutting off a considerable quantity of the blood from the general circulation, the right heart would be relieved. In the first case recorded by the author this procedure was followed in a couple of minutes by the cessation of a distressing cough and by diminution of dyspnoea. After ten minutes the attack had completely passed off, and during the remaining weeks of the patient's life there was no recurrence of sudden pulmonary oedema. In the second case these attacks were frequent, but each of them reacted promptly to ligation of the limbs. The author does not profess to give a complete explanation for the results of this treatment, and he points out that, the mechanism of acute pulmonary oedema in association with acute nephritis being very imperfectly understood, it is practically impossible to explain how this treatment acts; but he ventures the guess that its action depends on interference with the distribution of the circulating blood and on strain being taken off the heart. He compares this procedure with venesection, which has also been recommended for pulmonary oedema in strong and well-nourished patients, and he notes that though the success of both devices probably depends on the same factors, the former is to be preferred as it can be practised in every case, irrespective of the patient's general health. Ligation of the limbs is also to be preferred because it can, if necessary, be repeated frequently.

482. Pericarditic Pseudo-pneumonia in Children.

LEWIS (*Med. Record*, February 25th, 1922) discusses the signs of apparent consolidation at the left scapular angle which are associated with pericarditis with effusion (pericarditic pseudo-pneumonia). Nearly every case presenting this sign either had acute articular rheumatism on admission or gave a history of an attack a few weeks prior thereto. Physical signs vary from distinct dullness extending from the scapular spine to the left base to a very limited area of dullness at the left scapular angle or extending to the axillary line, but over the corresponding dull area distinct bronchial breathing and bronchophony are present. These signs are easily mistaken for a lobar pneumonia, whereas they appear to be due to compression of the lung by the heart, or by a pericardial effusion, and not to any pulmonary exudate. They seem to have very little influence on the course of the disease, and they disappear with the improvement in the pericarditis. Notes of four cases are given, in two of which, in addition to other evidence, *x*-ray examination showed pericardial effusion without any signs of consolidation in the left lung, and in none of them was there any sign of pleural effusion.

SURGERY.

483. The Thomas Knee-splint in Leg Injuries.

PEARSON (*Med. Journ. of South Africa*, January, 1922) observes that of all surgical advances which we owe to the war, that in the treatment of bone and joint injuries ranks first; and of all surgical appliances the Thomas splint came into its own. Before the war this splint was rarely used for anything but tuberculous conditions of the joints. Though used by Thomas himself, and by Sir Robert Jones and his followers, for treating fractured femurs, it took the great war to convince the rest of the world as to its uses. It was used in 1916 for transport purposes, and was so successful that the long Liston splint was at once discarded. One of the early difficulties in the use of this splint was that the ring, instead of taking pressure against the tuberosity of the ischium, would persist in slipping up and cause ulceration in the perineum. This was easily remedied by suspension of the ring, which prevented it from slipping. In cases under treatment in hospital, by using a hinged knee-flexion piece early movement of the knee can be carried out in cases of fractured thigh. Then, again, there is the ambulatory form of the Thomas knee-splint, suitable for the convalescent stage of fractures of the leg and thigh. It is possible for the patient to walk about whilst the newly formed bone is still weak. If this splint were adopted as a routine practice much disappointment would be saved to patients and surgeons on discovering some months later that the bone recently joined in good position was now bent perhaps at a right angle. In this splint the side-bars are cut off at the lower end and fit into holes through the heel of the boot. The splint is slightly longer than the limb, and so the leg takes no weight, but simply hangs in the splint. In fractured femur cases such a splint should be worn for three months after getting out of bed.

484. Pyelitis.

BERLIN (*Med. Record*, April 8th, 1922) considers that the anatomical and postural environments of the kidneys are the chief predisposing factors in the production of infections of the kidney pelves, and that auto-intoxication and auto-infection following general or local intestinal stasis, or other pathological conditions, are the immediate cause by way of the blood stream. In treatment the most direct and effective results are obtained by intravenous injection of 20 grains of hexamethylenamine, or 20 c.cm. normal saline solution containing 28 grains of sodium iodide, and 1/8 grain each of creosote and guaiacol. In the blood stream, and especially during their elimination by the kidneys, these substances exercise a pronounced therapeutic action on infections of the kidney pelves. Five cases are quoted in which the treatment resulted in cure, in two of which the Fowler operation for suspension and correction of the postural environment of both kidneys was done on account of the tendency to recurrence, such surgical intervention being advisable only when the condition persists, or tends to relapse in spite of treatment. By rotating the long axis of the kidney from the perpendicular, through an arc of about 90 degrees, to approximate to the horizontal, the outlet of the pelvis points directly downwards, thus securing free and unobstructed drainage, and thereby eliminating a predisposing cause of pyelitis.

485. Treatment of the Appendix Stump.

GALAGUIER (*Bull. et Mém. de la Soc. de Paris*, February 14th, 1922) states that it is difficult to say by whom the idea of burying the appendix stump was first brought forward. In the early operations no surgeons employed this method. Originally he carefully removed the mucous membrane with a curette, cauterized the stump, and then closed the opening with a catgut suture. To prevent adhesions and for greater security he tried to cover in the stump with a layer of peritoneum or an appendix epiploica. In spite of these precautions post-operative suppuration often occurred, and about the second week a large abscess developed; after evacuating this the patient rapidly recovered. These accidents became less frequent when the stump was sterilized and buried in a fold of the caecum, and as the burial of the stump was perfected so the results improved. The appendix stump should be buried whenever possible. When the caecum is inflamed, thickened, and oedematous, and when there is peritonitis, this may not be possible. In carrying out this procedure certain points are of importance: the sutures should be placed close round the base, and so not leave a space for organisms from the mucosa to collect and grow; the sutures must not perforate the caecal wall—this is a mistake not always easy to avoid if the caecum is distended and thinned; it is bad practice to tear or bruise the caecal wall with forceps or large needles; the intestinal serosa is very delicate, and should be damaged as little as possible. Another point is that when the appendix has been tied close to the caecum and is cut, a drop of fluid may escape and cause suppuration later. This can be avoided by previously crushing the organ. The cautery is used to divide the appendix, and the surroundings are protected with swabs. These details are of importance, for in a quiet operation no point should be neglected which will guarantee success. The technique of burying the stump should leave nothing to chance.

486. Cerebral Injury and Cranioplasty.

YOUNG (*Glasgow Medical Journal*, March, 1922) records a case of head injury and damage to the brain where a bone-graft of the skull was later performed. The patient was struck on the head by a steel plate and fell a distance of 40 feet. An extensive depressed fracture of the right parietal region was found, damaging the brain. After the operation left hemiplegia was noticed; this later improved, and after two months he left hospital quite recovered except for slight weakness of the left hand. A year later he came back with a view to closure of the gap in the skull; he then suffered from headache, giddiness on stooping, and a bad memory. The wounds were healed over the area free of bone, which measured 2 by 1¼ inches. There was slight facial paralysis, and grip in the left hand was less powerful than in the right;

finer movements could not be performed and recognition of space was defective; the reflexes on the left side were exaggerated. A bone graft was taken from the tibia and fixed in the gap, all scar tissue being dissected away and the bone edges freshened; the adherent brain tissue from under the flap was freed with some difficulty. After the operation there were twitchings in the left face and arm; these ceased when morphine was given. The later history shows that the cranial vault is complete and there has been some improvement in his condition; the giddiness has been stopped, and there has been improvement in the headaches and the tenderness of the scalp. There has been no improvement in the left hand, as one would expect, no effect being produced on the damaged brain tissue itself. The case is interesting as it shows the results of bone grafting in the skull where the brain has been injured.

487. Osteomyelitis of the Superior Maxilla in Infants.

MARX (*Brit. Journ. Ophthalmol.*, January, 1922) calls attention to the eye symptoms due to osteomyelitis of the superior maxilla in infants. Of 35 recorded cases, 30 developed definite eye symptoms, which were the first to attract attention, and hence the importance from an oculist's point of view, since it may rest with him to first arrive at a correct diagnosis. Swelling of the eyelids is usually the first symptom noticed, with swelling and redness in the region of the lacrymal sac, and frequently followed by fistula caused by the tendency of the pus to collect in the ascending branch of the superior maxilla, and eventually finding exit at the inner corner of the eye. The lacrymal sac itself is apparently unaffected, and treatment for abscess formation should be through the palate and processus alveolaris rather than by incision in the lower eyelid, a complete cure resulting without risking an ugly scar and ectropion. Conjunctivitis, another sign of collateral oedema, is a further symptom almost always present, and exophthalmos occurred in 10 of the 35 cases, this being apparently due to purulent exudation in the eye socket following inflammation of the ethmoid cells; it was relieved by incision.

488. Extraction of Foreign Bodies from the Brain.

SAUVE (*Bull. et Mém. Soc. Chir. de Paris*, April 4th, 1922) reports five cases of intracranial foreign bodies treated by secondary extraction, with recovery of all the patients. In three cases fragments of shell were removed, whilst on two occasions revolver bullets were extracted. The indications for operating on these cases were: complete aphasia, epilepsy, eye symptoms, and in two cases persistent fistulae, one being associated with hemiplegia. The time after injury when operation was performed varied from thirteen days to ten months. The technique adopted was as follows: under general anaesthesia a small trephine opening was made, the dura mater opened, and under screen examination the foreign body was caught with forceps in the brain. The foreign bodies were all fairly superficial, the deepest lying at a depth of 5 cm. In cases where infection was expected a drain was placed in the brain substance. All the patients recovered from the operation. With regard to end-results, a sufficient time has not elapsed since the operation to estimate the real value of their condition. However, several cases show an improvement of their previous nervous condition. The aphasia in one case has disappeared, whilst no epileptic fit has occurred for three months in the second patient. Operation has not improved the man with hemiplegia, whilst the patient with eye symptoms is better.

OBSTETRICS AND GYNAECOLOGY.

489. Galactocele.

GRYNFELTT and TZÉLÉPOGLOU (*Gynécol. et Obstét.*, iv, Nos. 3 and 4), in an exhaustive study of the literature, have been able to trace only 73 cases of galactocele; it is probable, however, that many cases elude surgical recognition or intervention. They conclude that galactocele does not constitute a definite morbid entity and that its appearance should be regarded as an epiphenomenon appearing in diverse pathological conditions. Galactoceles, which are more often multiple than single, may intercommunicate; they may be classified anatomically in four groups: In ectasic galactocele the tumour consists of a dilated lactiferous duct; this variety is particularly rare and many of the reported cases rest on doubtful evidence. Interstitial galactoceles consist of an effusion of milk encysted in the mammary connective tissue and are characterized by absence of elastic fibres around their wall. Adenogalactoceles constitute the commonest form; an accumulation of more or less normal milk is found in the pathological cavities which occur in a fibro-adenomatous breast. Pyogalactoceles consist in simple chronic abscesses into which lactiferous ducts open and convey milk. The contents of galactoceles may consist of pure milk, but contents resembling whey or butter, and even "milk-stones," have been described. Microscopical examination shows the presence of colostrum corpuscles; chemical examinations have been made in few cases and have sometimes shown an absence of lactose. In the genesis of galactoceles two etiological factors are concerned, of which the second is the rarer: inflammatory changes, which according to their situation, intensity, and duration lead to different forms; and traumatism, which determines a rupture of the milk ducts and leads to interstitial galactocele. Pregnancy and lactation predispose to formation of galactocele, which may also appear in the newborn or at puberty. Clinically the onset may be acute or chronic; the tumour is usually unilateral, is mobile within the breast and over the subjacent muscles, is usually found to show irregularities of contour, and is only exceptionally fluctuant. The frequent association of galactocele with fibrocystic disease should lead to some reserve with regard to prognosis. As to treatment, punctures are apt to be followed by prolonged leakage, which leads to risk of infection; excision is the method of election, but voluminous polycystic galactoceles may require amputation of the breast.

490. Radiotherapy for Cancer of the Cervix.

BURROWS (*Journ. of Obstet. and Gynaec. British Empire*, 1922, 29, 1) treats advanced cancer of the cervix by introduction high in the cervical canal of about 50 millicuries of radium emanation screened by 1 mm. of silver, and by inserting at the same time into or about the growth six smaller tubes of 15 millicuries screened by 0.3 mm. of brass; this is done under general anaesthesia, and the tubes remain for twenty-four hours. Another method consists in combining the use of the large central tube with the insertion in the surrounding tissues of small unscreened capillary glass tubes each containing 2 to 7 millicuries of radium emanation; the large tube is removed after twenty-four hours. Daily douching should be performed after the operation. Apart from extremely advanced cases, the least favourable results are to be expected in the case of very large and very hard growths, those with extensive infiltration of the vaginal walls, and in patients under 40. Adhesion to the bladder by no means renders the case hopeless. The production of a recto-vaginal fistula is uncommon, being little more frequent than in untreated cases. Of 100 advanced cases treated by the writer, about 15 appeared to be well at the end of twelve months, 6 were rendered operable, and 6 appeared well after periods of three to four and a half years.

491. SEITZ (*Klinische Wochenschrift*, April 8th, 1922) remarks that the data are at present insufficient for a decision as to whether treatment of cervical cancer by operation or by radiotherapy is better, but that it may now be justifiably laid down that to discard the former for the latter is a permissible line of treatment. Quoting the figures of Wintz and Seitz (20.7 per cent. of five years' cures among 58 cases of cervical cancer of all degrees of operability), he points out that such results correspond fairly closely with those of Wertheim's extended hysterectomy. The cases of Wintz and Seitz received combined radium and *x*-ray treatment, of which the efficacy was probably due, it is said, chiefly to the latter. Seitz reports two years' cures, numbering 56 per cent. and 53 per cent. respectively, among 67 cases of cervical cancer treated by combined *x*-ray and radium therapy, and 34 treated exclusively by *x* rays. In post-operative radiotherapy the writer prefers to give large doses.

492. DÖDERLEIN (*Muench. med. Woch.*, 1922, 7) reports the fate of his cases of cervical cancer treated by applications of radium or mesothorium five years ago. Of cases which could be classified as operable 48 per cent. showed apparent cure after five years, of borderline cases 20 per cent., and of cases with widespread infiltration 36 per cent. Taking into consideration those patients only who did not abstain from undergoing the full course of treatment advised, he found percentages of five years' cures amounting to 81 per cent., 36 per cent., and 11 per cent. in the respective groups. The importance of early diagnosis of cervical cancer by the general practitioner is again emphasized.

493. Pregnancy Toxaemia and Uterine Sepsis.

KELLOGG (*Amer. Journ. of Obstet. and Gynecol.*, April, 1922), from an analysis of hospital statistics, draws the inference that, irrespective of the mode of delivery, patients suffering from pregnancy toxaemia are more prone than others to septic uterine infection during or after labour; this is especially the case in those toxaemic patients who have suffered from convulsions. Of the control series, 2.5 per cent. showed evidence of sepsis, of patients with toxaemia but

without convulsions 14 per cent., and of those suffering from toxaemia associated with convulsions 25 per cent. The practical conclusions drawn by the writer are that it is wise to abstain whenever possible from the performance of Caesarean section, vaginal or abdominal. It is preferable whenever progress is being made in cervical dilatation (with or without the aid of a dilating bag) to let labour terminate spontaneously or by a low forceps operation. When dilatation is not observed after introduction of the bag recourse must be had to vaginal Caesarean section or manual stretching of the cervix. Profuse catharsis favours uterine sepsis; as suggested by De Lee, salts should be withheld until after delivery, or, if they have been given, the rectum should be closed (until just before delivery) by a circular suture.

PATHOLOGY.

494. The Intradermal Reaction in Experimental Tuberculosis.

DEBRÉ and BONNET (*C. R. Soc. Biologie*, March 4th, 1922) bring forward evidence to suggest that the local reaction of the guinea-pig to an intradermal injection of tuberculin—the animal having previously been infected with living tubercle bacilli—varies more or less directly with the resistance of the animal. They find that a dose of 0.5 mg. of living tubercle bacilli determines the death of a guinea-pig weighing 400 to 500 grams in five to seven weeks, that of one of 500 to 600 grams in ten to fourteen weeks, and that of one of 700 to 800 grams in sixteen to seventeen weeks. Also that the local reaction and the swelling of the lymphatic glands draining the site of injection are more pronounced in the heavier than in the lighter animals. Further, in the heavier animals the health remains good till just shortly before death, while in the lighter ones there is a progressive loss of weight almost from the start. At autopsy the former animals are found to have a local lesion in process of cure, marked regional lymphatic swelling, large tubercles in the liver and spleen, and a confluent bronchopneumonia; in the latter group, however, the local and lymphatic lesions are minimal, while a generalized tuberculosis is manifest throughout the body. Now, if intradermal reactions be made on infected guinea-pigs of varying weights, it is found that the intensity of this reaction is directly proportional to the intensity of the local reaction following the injection of the bacilli, and that the persistence of the intradermal reaction is longer in proportion as the weight of the animal is heavier. These results are in close accord with what is found in human infants. In weakly, poorly nourished infants the evolution of tuberculosis is accompanied by a progressive loss of weight and a practical failure to respond to the tuberculin reaction, while in healthy, breast-fed infants fever persists to the end and the tuberculin reaction is very marked.

495. Cultivation of Spirochaeta obermeiri.

KLIGLER and ROBERTSON (*Journ. Exper. Med.*, March, 1922) have successfully cultivated the spirochaete of relapsing fever in the following medium: horse or rabbit serum, diluted with one or two parts of saline, *plus* 1 per cent. peptone. The reaction is adjusted to P_H 7.2 and the media distributed in quantities of 3 to 4 c.cm. into tubes approximately 1 cm. in diameter. The tubes are inoculated with one drop of infected blood and covered with a layer of oil 1.5 cm. high. When subcultures are being made a drop of fresh rabbit's blood must be added to supply the necessary fibrin, or 0.1 per cent. agar may be used instead. Growth must be started at 28° to 30° C., but later growth proceeds satisfactorily at room temperature. By this technique the authors succeeded in maintaining cultures for three to seven weeks and in carrying them on in successive subcultures by transplanting regularly at intervals of two to four weeks. There are certain details, however, with regard to the constituents and reaction of the medium which must be carefully attended to. Dilution of the serum does not impair its nutritive properties and the addition of animal tissue, such as kidney, is unnecessary, but growth activity is much increased by the presence of a small amount of agar or fibrin, in the meshes of which the spirochaetes are found most abundantly. The optimum reaction for growth is a P_H of 7.2 to 7.4, and the reaction limits for survival are between 6.8 and 8.2. Since the fluids used for the cultivation of the spirochaetes become progressively more alkaline on exposure to air, probably owing to loss of CO_2, it is necessary after standardizing to stabilize the culture. This was achieved in Noguchi's original medium by the addition of sterile kidney, which gives off acid products of autolysis which neutralize the increasing alkalinity; but the authors recommend as a more reliable procedure the addition of 1 per cent. peptone broth or egg albumin as a buffer, and the covering of the culture with a layer of oil. Since *Spirochaeta obermeiri* is a strict aerobe, the oil layer should not exceed 1.5 cm. in height, in order to permit adequate aeration.

496. Fusiform Bacillus Bacteriaemia.

LUSSANA (*Pathologica*, February 1st, 1922) remarks that though Vincent's angina is a well-known condition, the other morbid processes due to the fusiform bacillus have received little attention. He records the case of a man, aged 26, who was operated on for a pulmonary abscess in the left lower lobe, in the pus from which the fusiform bacillus was found. Subsequently symptoms of an endocranial lesion developed, and at the autopsy a cerebral abscess containing fusiform bacilli was discovered in the left occipital lobe. Lussana's conclusions are as follows: (1) There is a bacteriaemia due to the fusiform bacillus which originates not in the fauces but in the lungs. (2) Animal inoculations show that the fusiform bacillus in symbiosis with pyogenic cocci possesses a moderate virulence which diminishes after transmission through a series of animals. (3) A consequence of this bacteriaemia is the development of metastatic abscesses in which the fusiform bacillus is found in combination with spirilla or cocci, but never in pure culture. (4) In some of the suppurative processes due to the fusiform bacillus, however extensive and grave their anatomical condition may be, the symptoms develop very insidiously, without much fever, as in Vincent's angina. The bacteriaemia due to the fusiform bacillus may even escape recognition and not become manifested until symptoms are caused by localization of a suppurative focus at some distance from the portal of entry of the fusiform bacillus. This is probably the reason why a larger number of cases have not been identified.

497. Acquired Resistance to Cancer.

NAKAHARA (*Journ. Exper. Med.*, April, 1922) has proved that it is possible to render mice resistant to transplanted cancer by the previous injection of olive oil. Bashford showed that resistance to transplanted cancer could be induced by inoculation of homologous living tissues; later, Murphy established the fact that resistance could be induced by the use of suitable doses of x rays and intense dry heat. In each of these cases there are certain associated manifestations—namely, a latent period after the injections during which there is no evidence of resistance, a local cellular reaction about the inoculated cancer graft, an increase in the number of circulating lymphocytes, and a marked increase in the proliferative activity of the lymphoid organs. Precisely similar phenomena were found to be associated with the increased resistance to cancer following intraperitoneal inoculation with olive oil. Here also the injection of the oil was followed by a a latent period, which in its turn was succeeded by a more resistant period, the maximum degree of resistance appearing about the tenth day. The most marked lymphoid proliferation was found following the intraperitoneal inoculation of 0.2 c.cm. of oil, and this was found to be the dose conferring the highest degree of resistance to mice. There are strong reasons for attributing this increased resistance to the activities of the lymphoid cells. Thus, this state of resistance has been found to be preceded by a proliferation of the cells of the lymphoid germ centres; in the resistant animal the neighbourhood of the inoculated cancer graft becomes infiltrated with lymphoid cells, and finally the circulating blood shows a large increase in lymphocytes.

498. The Mechanism of Infection with Cholera.

THIS is the question dealt with by MASAKI (*C. R. Soc. Biologie*, March 11th, 1922). If a guinea-pig be given a dose of living cholera vibrios either intraperitoneally or subcutaneously it dies, and in each case the vibrios can be recovered from the intestinal contents. In their passage through the animal they invade the blood stream and are excreted thence into the gut. In other words, the intestine appears to have a specific affinity for the organism, and it is owing to the susceptibility of the intestinal mucosa to the toxin of the vibrio that the animal dies. If, however, the vibrios be given by the mouth, even in enormous numbers, they exert no effect and the animal remains perfectly well. By previously sensitizing the animal with bile it can be shown that the oral administration of the vibrios calls forth the presence of agglutinins in the blood, though no corresponding appearance of protective antibodies can be demonstrated. Yet in spite of the lack of these substances the animal is immune to inoculation with living vibrios given directly into the blood stream. The only explanation offered for the presence of this immunity is that it must depend not on the properties of the serum but on a definite local acquired insusceptibility of the intestinal cells to the toxin of the organism.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

499. Phenolphthalein Eruptions.

WISE and ABRAMOWITZ (*Arch. of Derm. and Syph.*, March, 1922) draw attention to the occurrence of a peculiar eruption of the skin in susceptible persons after the ingestion of phenolphthalein, so commonly used as a laxative, not only in medical practice but as a constituent of many proprietary medicines. This eruption consists of a few widely scattered and numerous irregularly grouped polychromatic macular plaques, varying in diameter from that of a pin's head to several inches, and in colour from pink to bright red, dusky violaceous, and deep purple; it is relapsing in course, chronic in nature, and usually results in a protracted pigmentation of the affected areas of the skin. Slight scaling may accompany the evolution of the lesions; a peculiar mottling is sometimes seen in the central zone of the macules; vesiculation, erosion, and superficial ulceration may occur, especially on the mucous membrane of the mouth and on the genitals; a burning sensation sometimes precedes and accompanies the appearance of the patches; moderate to severe itching may be a symptom during their evolution. The eruption is a persistent multiform erythema, which, instead of vanishing without leaving a trace, persists more or less indefinitely and terminates in a yellowish-brown deposit of pigment in the affected sites. After the subsidence of the active lesions relapses are apt to take place following the ingestion of phenolphthalein. Mild constitutional symptoms, such as headache, malaise, slight rise of temperature and pulse rate, may accompany the relapses. As far as the authors are aware, only one other toxic agent is capable of causing an identical eruption, and that is antipyrin, though eruptions having many points of resemblance to those caused by phenolphthalein and antipyrin are sometimes found after the use of arsphenamin and neo-arsphenamin. A number of cases are given, together with illustrations, general histories, and dermatological and histological descriptions. Brunettes seem to be more susceptible, and the normally hyperpigmented areas of the skin are the favourite sites of the eruption. The sections of lesions show an excess of melanoblasts which are said to be related to the chromaffin cells of the suprarenals, and are increased in suprarenal insufficiency. As the use of adrenaline has been found beneficial to persons who react to arsphenamin, this points to the possibility that the patients susceptible to these drugs and exhibiting these peculiar skin rashes have hypo-adrenalism. These patients feel weak and depressed after taking phenolphthalein, and they have a slight rise of temperature and pulse, which points to a general metabolic disturbance and a possible splitting up of the drug in the body, and not in the skin itself. The authors think the hypertrophy of the melanoblastic elements in the skin is caused by hypo-adrenalism, but the administration of epinephrin to these sensitive patients does not seem to prevent or retard the eruptions.

500. The Treatment of Malaria.

MAYER (*Klinische Wochenschrift*, March 11th, 1922) gives a summary of his experience and views of the treatment of malaria. Quinine should be given at once, and if, after five days' treatment, the fever does not cease, usually the diagnosis is wrong. The average daily dose should be 1 gram of quinine hydrochloride, best given in five doses of 0.2 gram, or four doses of 0.25 gram. Intramuscular injection is usually unnecessary, and is not superior to internal administration. In very severe cases, especially in tropical malaria with comatose symptoms, at first one or two intravenous injections are indicated. They often save life. The dose should not exceed 0.5 gram, and often 0.3 gram is sufficient. Quinine urethan (supplied in ampoules) is the best form for injection. It should be diluted in the syringe with 10 c.cm. of sodium chloride solution. In the acute attacks of malaria, quinine (by mouth) should be continued daily until the fever ceases, and for three or four days afterwards. In very severe cases a daily dose of 2 grams (instead of 1 gram) may be given for two or three days. More than 3 grams daily is useless and injurious. Mayer recommends the quinine treatment for six weeks with intermissions—discontinuing the drug for two to five days and giving it in intervening periods of three to two days. Quinine hydrochloride is usually given; the sulphate is of similar value; the tasteless tannate should be given in larger doses. Quinine should not be taken on a full stomach. Tablets or capsules should be periodically tested, by placing in water, to see if they are friable. Methylene-blue has a relatively good effect in quartan ague. In the chronic malarial sequelae quinine should be given first, and then arsenic. In blackwater fever quinine should be discontinued at once.

501. Exophthalmic Goitre and Digitalis.

BRAM (*Med. Record*, February 18th, 1922) considers that digitalis may be of value in the passive stage of exophthalmic goitre when it is well tolerated and the patient readily responds to its action, but that in the active stage it is harmful and may aggravate the syndrome. Very occasionally and cautiously used in auricular fibrillation its intermittent administration may help to regulate cardiac action, but will not lessen frequency. In the passive stage it is best administered for three or four weeks and then withdrawn, to be administered again for a short course should the heart rate show signs of rising above normal, after which it will be possible in most instances to withdraw it permanently without fear of a fresh rise in frequency. Dosage should be small and results awaited rather than attempt to obtain a physiological effect quickly, and a standardized preparation should be used so that its effect can be carefully watched.

502. Atypical Typhoid Fever.

ZWEIG (*Wien. klin. Woch.*, January 6th, 1922) remarks that atypical cases of typhoid fever can be divided into three groups: (1) Cases in which typhoid simulates another infectious disease, such as influenza, malaria, or dysentery. (2) Cases in which the typhoid bacillus settles in some part of the system with little or no involvement of the intestinal tract. (3) Cases in which there are few or no lesions in the organs, and the diagnosis is established only by blood culture. Zweig reports a fatal case in a woman in whom a pure culture of typhoid bacilli obtained from the blood and organs after death and a positive Widal reaction were the only evidences of typhoid infection. The temperature, which was characterized by marked remissions, suggested septicaemia. The autopsy showed recent haemorrhagic lobular pneumonia of both lower lobes, purulent embolic nephritis, and hyperaemia and swelling of the mesenteric glands. Although the disease at the time of death had lasted a fortnight and had set in with intestinal symptoms, no specific changes were found in the small or large intestine. A pure culture of *B. typhosus* was obtained from the bile and typhoid bacilli associated with *B. coli* were isolated from the kidneys.

503. Injury to the Pituitary Body by Epidemic Encephalitis.

BARKMAN (*Acta Medica Scandinavica*, vol. 56, fasc. ii, 1922) has observed two cases in which epidemic encephalitis was followed by an enormous increase of weight, due to accumulations of fat in the buttocks, breasts, and other parts. In one case, that of a prison warder aged 35, the increase of weight was about 35 kilos; the expression of the face was childish and the contour of the body feminine. Two years after the encephalitis sexual activity was much reduced and the skin was soft, dry, and thin. The author details numerous other changes indicative of impaired function of the pituitary body, and he refers to three recent publications, showing that this sequel to epidemic encephalitis is not altogether rare. He suggests that if this sequel were to be systematically sought for in persons who had undergone epidemic encephalitis several cases would be found in which it had permanently injured the pituitary body.

504. Results of Sanatorium Treatment of Tuberculosis.

FOWLER (*Tubercle*, April, 1922) has investigated the fate of 1,364 patients two to six years after discharge from a sanatorium. Patients staying less than a month and those in whom the diagnosis of tuberculosis was not definite were excluded from this investigation. The total mortality among these patients, who belonged almost exclusively to the industrial classes, was 34.2 per cent.; but as many as 24.6 per cent. of all the patients were in the third stage of the disease on admission. The percentage of cases still at work was 48.6, and, if the third stage cases be excluded, 59.3 per cent. were still at work. Of the first stage cases only 8.5 per cent. had died. The author calculates that a first stage patient is four times as likely as a second stage patient to live for more than two years, and nearly nine times as likely as a third stage patient. Three-fourths of his first stage patients and one-sixth of his third stage patients were still able to work. Classifying his patients according to the positive or negative condition of their sputum, the author found 645 in the former

class and 676 in the latter. Patients coming under treatment after tubercle bacilli had appeared in the sputum had a death rate more than five times greater than that of patients treated before tubercle bacilli had been found. The proportion of patients still able to work was more than twice as great among the sputum-negative as among the sputum-positive cases. The highest rate of mortality occurred in the first two years after discharge, and the author calculates that if a patient survives for five years after discharge his chances of continuing to live are very considerable. The author admits that it is impossible to assess the value of sanatorium treatment till a similar analysis has been made of a large series of comparable cases not undergoing sanatorium treatment. Even then the educational value of the sanatorium could not be gauged.

505. Treatment of Arterial Hypertension.

HOUGHTON (*Med. Record*, March 18th, 1922) urges the treatment of arterial hypertension with a low sodium chloride dietary, since the immediate or determining cause of the condition is a larger intake of sodium chloride than the kidneys can excrete, frequently complicated by excess of water and the possible retention of uric acid. Previous attacks of acute infectious disease, notably scarlet fever, and the absorption of toxins from local septic foci, are factors determining the kidney limitations in dealing with excretion. Patients with pressures over 200 mm. should be limited to a dietary of low purin content, containing not more than 500 c.cm. of water, and not more than 4 grams of sodium chloride, a preliminary blood examination being made to determine its sodium chloride, uric acid, and sugar content. When, on such a diet, the pressure has gradually come down to 150 mm., the sodium chloride intake is brought down to 2 grams daily. If, after a four-day period, a twenty-four hour specimen of the urine shows an output of more than 2 grams of sodium chloride, the diet is not sufficiently free from it and the pressure will not have reached normal; the dietary must therefore be continued. Cardiac complications benefit much by the reduction in blood pressure from a low salt diet, and its indication in the treatment of diabetes, toxic eye conditions, toxaemias of pregnancy, and in the post-operative care of surgical patients, is borne out by the fact that the cells of the thyroid, pancreas, eye, and endothelium of the arterial walls suffer, as well as the renal epithelium, from the processes of past infections and from septic foci.

SURGERY.

506. Carcinoma of the Prostate.

BARRINGER (*Surg. Gyn. and Obstet.*, February, 1922) considers the diagnosis and treatment of this condition, especially in relation to the value of radium applications in treatment. In most of the cases examined the growth had spread beyond the prostate; the commonest extension was towards the seminal vesicles, and not uncommonly to the lateral pelvic walls; the rectal wall was only rarely involved, and only one case of metastasis in the anterior urethra was seen. He has no records of the frequency of distant metastases. The most frequent early symptom was disturbance of micturition, whilst haematuria was sometimes observed, likewise pain. Nothing in the symptoms can distinguish carcinoma from simple enlargement of the prostate, though haematuria is more frequent in the latter condition. As so many cases are impossible to cure when seen, he concludes that only by a regular examination of the prostate in all beyond the age of 50 will it be possible to get these cases early. Radium is applied to the prostate by inserting steel needles through the perineum into the lateral lobes, under local anaesthesia. When the prostatic urethra is invaded, tubes of screened radium are inserted through a urethroscope into the urethra. In the author's experience the results of radium treatment for carcinoma of the prostate are superior to operative removal, both in causing regression of the disease and coping with urinary retention. The application of radium tubes to the neck of the bladder, or the needle method in the prostate, may be used to reduce the residual urine with success in some cases. In only 2 per cent. of cases of carcinoma of the prostate examined is the growth apparently confined to the prostate.

507. Oesophageal Diverticulum.

SEUCERT and FERRY (*Bull. et Mém. Soc. Chir. de Paris*, February 28th, 1922) report a new and interesting example of this condition. By means of radiography and oesophagoscopy the pouch was recognized and localized on the right side, which is unusual. As a result of the precision in diagnosis the whole operation was performed under local anaesthesia. The patient, a male aged 34 years, had suffered from dysphagia for several years. In 1918 he noticed for the first time a sensation of tickling in his throat; a few months later he had difficulty in swallowing. He lost 18 lb. in weight during a period of three months. Palpation of the neck revealed nothing abnormal. If, during the examination, he swallowed a few mouthfuls of water, a swelling appeared on the right side of the neck, deeply situated and difficult to define in outline; at the same time the patient noticed a sensation of gurgling in the neck. *X*-ray examination gave definite information, and examination on the screen showed the bismuth meal collect above the clavicle, filling a kind of pouch the size of a small egg. Examination with the oesophagoscope showed a diverticulum opening behind and to the right, and lying on the right side of the neck. Operation was carried out under local anaesthesia, the incision being made on the right side of the neck; the pouch was dissected out, the pedicle freed, and the diverticulum removed. Two layers of sutures were used to close the opening; the wound was then sutured, with drainage. The patient made a satisfactory recovery. Examination of the pouch showed that at its origin the walls were thick, becoming thinner towards the distal end. At its origin the wall contained a thick layer of muscle, whilst at its extremity the wall was reduced to a mucous and submucous layer. Diverticula are usually found on the left side of the oesophagus; in this case it lay on the right side, which is exceptional.

508. Haematuria from Rupture of a Vesical Varix.

MARION (*Journ. d'Urologie*, December, 1921) remarks how often the physician in a case of haematuria, being ignorant of the origin of the bleeding, tells his patient that it is due to rupture of a varicose vein in the bladder. Urologists know, on the other hand, how rare this condition really is. The author records a case of this nature, the first he has seen, the patient being a boy of 17 years. Haematuria had been persistent for ten days without becoming less. There was much blood in the urine and profuse blood clots were passed, but they did not interfere with micturition; the blood was chiefly terminal. It was the only symptom present, no pain being noticed, and was spontaneous in onset. The patient at the age of 4 years had an attack of haematuria, but of shorter duration. An examination of the boy showed well-marked varicose veins on the right leg, the presence of a varicocele, and dilated veins in the lower part of the abdomen. These lesions were congenital. This condition suggested that the haematuria was the result of a ruptured vein in the bladder; this was confirmed by cystoscopic examination. A network of dilated venules was seen on the right wall of the bladder, and at one point a stream of blood was seen coming out from a small bluish ulcer; this showed the origin of the haematuria. Marion then carried out cauterization of the bleeding point, and at the end of a few seconds the bleeding was arrested. There has been no recurrence of the bleeding.

509. The Pathogenesis of Gastric Ulcer.

BRISOTTO (*Rif. Med.*, February 6th, 1922) criticizes the various theories put forward to explain the formation of gastric ulcer. Hyperchlorhydria, he holds, is not the primary factor, nor sufficient by itself to explain the pathogenesis of the ulcer. Nor will the vascular theory suffice, all the more since the gastro-duodenal arteries are rich in anastomoses. The inflammatory hypothesis will not explain why the ulcer is often single. Traumatism is not a satisfactory explanation. The neurogenic theory is rather more satisfactory, as trophic lesions follow affections of the vagus; and if to this is added the influence of the endocrine glands, especially the suprarenals, in trophic changes, through the vagus and sympathetic, a cause which unifies the various adventitious causes may perhaps be found.

510. Operative Treatment of Embolism of the Limbs.

SINCE 1912 KEY (*Acta Chirurgica Scandinavica*, January 17th, 1922) has performed embolectomy in 8 cases, and with increasing experience he has found that the interval between embolism and the operation may be considerable without the operation being unsuccessful. In his first case this interval was one of seven hours; in his last case, operated on in 1921, it was as long as twenty-two and a half hours. He finds, however, that after the tenth hour the prospects of the operation being successful steadily grow less, and he has come to this conclusion from a study of the literature of 45 cases in which 48 operations for the removal of an embolus were performed. The ultimate results are greatly spoilt by recurrences of the embolism and other sequels to the primary disease of the heart which is responsible for most of these cases of embolism. But in several cases embolectomy has given the patient a new lease of life measured in years spent in comparative health. In no fewer than 20 cases mitral disease was diagnosed, and the common

femoral artery was the site of the embolism in 22 cases. Of the 23 operations performed within the first twenty-four hours 13 were successful, and of the 12 cases operated on within the first ten hours as many as 9 were successful. The author refers to Nicolaysen's case, in which the interval between embolism and operation was twenty-eight days, but the "record" for successful operation seems to be held by the author with an interval of twenty-two and a half hours between embolism and operation.

511 Hydatid Disease of the Spleen.

LUBBERS and NOORDENBOS (*Nederl. Tijdschr. v. Geneesk.*, February 4th, 1922), of Amsterdam, who record a fatal case of hydatid disease of the spleen in a man aged 26, state that only two previous cases of splenic cysts have been recorded in Dutch literature, one of which was a hydatid cyst, while the nature of the other was not established. According to the statistics of various observers the spleen is involved in 3.35 per cent. of all cases of hydatid disease. The parasite may develop centrally, as in the writers' case, or peripherally, the splenic tissue forming a thin covering to the cyst. According to Trinkler, central development is the commoner. In hydatid disease of the spleen adhesion of the cyst with the surrounding tissue occurs early, especially when the cyst is large. There are no characteristic features to distinguish parasitic from non-parasitic cysts of the spleen. The symptoms are chiefly caused by pain due to the increasing size and pressure of the cyst. Hydatid thrill is only seldom found in hydatid disease of the spleen, and was not present in the writers' case. The prognosis depends on whether the spleen is the only localization of the echinococcus, or whether the parasite has invaded other organs as well. Generalized hydatid disease, according to Kablukoff, is an extremely dangerous condition. The prognosis, however, of hydatid disease confined to the spleen is not nearly so favourable as that of non-parasitic cysts of this organ. In rare instances spontaneous cure may occur through rupture of the cysts into the alimentary canal or through death and calcification of the parasites. The best method of treatment consists in marsupialization or splenectomy.

512. Perforation of Malignant Ulcer of the Pylorus.

LECÈNE (*Bull. et Mém. Soc. Chir. de Paris*, February 21st, 1922) reports the case of a man, aged 36, who was operated upon for a perforated gastric ulcer three hours after the perforation had occurred. The abdomen was found to contain several litres of free fluid, and a perforation was found on the anterior surface of the pylorus. This was closed with difficulty owing to the hardness of surrounding tissues. A posterior gastro-enterostomy was then carried out; a drain was inserted and the abdomen closed. The patient died forty-eight hours later. An autopsy proved that the ulcer was malignant. Lecène points out that perforation of a gastric carcinoma into the peritoneal cavity is on the whole a rare complication; in 710 cases of carcinoma of the stomach only 8 cases of perforation were found. The difficulties met with in this operation were considerable; the ulcer was surrounded by masses of glands and fixed to the pancreas and liver. As the closure of the perforation was so difficult a gastro-enterostomy was considered necessary; this only lengthened the operation by a short time, and he does not think it hastened the fatal ending, which was rather due to the excessive amount of fluid from the stomach found in the peritoneal cavity. He considers that the post-operative prognosis in cases of perforated gastric and duodenal ulcer depends to a great extent on the character of the fluid found in the peritoneal cavity. In this case a bacteriological examination was not made.

513. Post-Scarlatinal Inflammation of the Orbit.

SALOMONSEN (*Hospitalstidende*, January 25th, 1922) notes that opinions are divided as to the best course to pursue when scarlatinal ethmoiditis leads to inflammation of the orbit, with oedema of the eyelids, conjunctivitis, lacrymation, protrusion of the eyeball and limitation of its movements. The clinical picture is remarkably uniform, and to anyone unfamiliar with it the symptoms are most alarming. But the author has come to the conclusion that the prognosis is good, and that it is seldom necessary to do more than apply hot or cold compresses and instil cocaine and adrenaline into the nose. In the course of three years he has seen 20 such cases, only 3 of which were bilateral. In only 2 cases was operative interference required, and in no case was any injury to the interior of the eye observed. There were not even errors of refraction due to the pressure on the eyeball. Every case terminated in recovery, and re-examination of 10 cases after discharge from hospital showed a perfectly normal state of affairs. It is not, therefore, likely that conservative treatment entails any serious risk of chronic ethmoiditis. The inflammation of the orbit is probably due to direct extension of disease in the ethmoid cells through the thin layer of bone (often imperfect in childhood) separating the ethmoid cells from the orbit, and when suppuration occurs in the orbit escape of pus through the nose may be interpreted as the result of inflammation of the ethmoid cells alone. It is therefore difficult to estimate the frequency with which inflammation of the orbit leads to suppuration, but in the overwhelming majority of cases the disease begins and ends with an inflammatory oedema which appears first at the inner canthus, spreading thence to the whole of the eyelids. The disease often lasts only three to four days, and in only two of the author's cases did it persist for twenty days.

OBSTETRICS AND GYNAECOLOGY.

514. Pre-Caesarean Hysterectomy.

ACCORDING to SOLIERI (*Il Morgagni*, February 15th, 1922) Roger, in 1903, was the first to suggest the possibility of removal of the intact gravid uterus as a preliminary to extraction of the foetus, and having tried this operation in a goat was successful in obtaining by it two living kids. Solieri reports the case of a primipara, aged 37, who had well-marked pelvic contraction associated with congenital dislocation of the hip: labour occurred at normal term and thirty-eight hours after rupture of the membranes the patient, who had been subjected to repeated examinations, was found to be febrile and to exhibit redness and swelling of the vulvo-vaginal mucosa from which a muco-purulent secretion exuded. In view of the danger of performing an ordinary Caesarean operation in the infected state of the patient the writer had recourse to pre-Caesarean hysterectomy. After clamping the round and utero-ovarian ligaments and the outer extremities of the tubes, followed by incisions in the recto-uterine and utero-vesical folds with separation of the bladder, the uterine arteries of both sides were rapidly divided between Kocher's clamps and the cervix was transversely divided in a similar manner. The child was extracted from the uterus as soon as it had been removed, and after a few artificial respirations breathed normally and subsequently appeared healthy. It is said that in cases in which Caesarean section is contraindicated the use of this operation does not add to the dangers of either mother or child. In order still further to reduce the duration of the period intervening between the total interruption of arterial circulation and the extraction of the foetus Solieri suggests that the operation might be performed in the following order: section of the round and utero-ovarian ligaments, then of the broad ligaments; reflection of the peritoneum in front and behind the uterus; ligature of the right uterine artery; division of the cervix from right to left; and finally, division of the left uterine artery.

515. Variations in the Female Pelvis.

WILLIAMS (*Amer. Journ. of Obstet. and Gynecol.*, April, 1922), from pelvimetric examination of 300 primiparous patients, concludes that there are two distinct and easily recognizable types of normal female pelvis, which may be called respectively the feminine and the muscular type. The feminine type presents an intercristal diameter, an interspinous diameter, and an external conjugate diameter of 28 to 29 cm., 25 cm., and 18 to 20 cm. respectively—that is, measurements approximating to those described in the textbooks; these measurements are associated with thin bones, a wide arch, and an ample transverse diameter of the outlet. The second or muscular type is characterized by large external measurements—for example, external conjugate 21 to 23 cm., interspinous 26 to 28 cm., and intercristal 30 to 32 cm.—in association with a narrow outlet, an angular pubic arch, a thick os pubis, and thicker muscles and fasciae. In the muscular type premature rupture of the membranes occurs in nearly 40 per cent. and occipito-posterior positions are relatively common; Caesarean section was more often necessary in patients presenting this type of pelvis.

516. Treatment of Metrorrhagia by Pituitary Extract.

ACCORDING to MOSSÉ and MAURICE FABRE (*Gynécol. et Obstét.*, 1922, iv, 3) pituitary extract is strikingly successful in the treatment of excessive uterine haemorrhage occurring at puberty or the climacteric. Its efficacy is due to its stimulant action on the uterine muscle, its vaso-constrictor action on the uterine and ovarian vessels, and its inhibitory action on the internal secretion of the ovary. For excessive haemorrhage occurring apart from and between puberty and the climacteric an organic cause is frequently to be found, and the therapeutic indications of pituitary extract are limited; occasionally, however, it is successful in controlling menorrhagia or metrorrhagia of which the cause is obscure, and the writers record a case in which, after administration

of pituitary extract for persistent and inexplicable metrorrhagia in a woman aged 30, an intracervical polypus (the extirpation of which subsequently led to a cure) was found to have presented. The extract is given by injection in the gluteal muscles of 1/2 c.cm. of extract, corresponding to 2.5 cg. of posterior lobe, followed at forty-eight hours' interval by five to seven 1 c.cm. doses. One or two doses injected a few days before the anticipated date of menstruation serve to control the menorrhagia of puberty.

517. Differential Diagnosis of Cervical Cancer and Chancre.

WARTHIN (*Amer. Journ. of Syphilis*, 1921, v) records the case of a woman, aged 42, in whom the cervix uteri was found to be covered by a growth of cauliflower type, friable and bleeding readily, showing in one place an ulceration the base of which was covered by a greyish membrane. The Wassermann reaction was negative, and the growth, which was regarded as a cervical carcinoma, was removed by panhysterectomy. Subsequently the patient exhibited signs of secondary syphilis, and the husband developed signs of similar infection. Suggesting that the woman had contracted syphilis from the needle used in taking the blood sample, they each brought an action for damages against the hospital. Microscopic examination of the growth showed a typical chancre of a few weeks' duration; spirochaetes were also demonstrated. The actions were unsuccessful. The writer agrees with other observers that there are no clinical features indubitably diagnostic of primary syphilitic cervical sore; a microscopic examination is indispensable. The detection of spirochaetes in a smear from the cervix is not conclusive, for, in the absence of local chancre, spirochaetes may be present in the cervical secretion of a subject suffering from syphilis, and a syphilitic woman may have cancer of the cervix.

518. Treatment of Hyperemesis Gravidarum.

FALK (*Zentralbl. f. Gynäk.*, April 29th, 1922), in seven severe cases of hyperemesis gravidarum, found six respond promptly to treatment by hypnotic suggestion; one was refractory. In one patient the treatment was undertaken as an alternative to induction of abortion: the morbid symptoms disappeared completely after the first induction of post-hypnotic suggestion. Fraenkel (ibid.) records equally spectacular successes after treatment by application of *x* rays to the abdomen; it is questionable whether the effect was due entirely to suggestion or to a sedative action of the *x* rays on reflex excitability.

PATHOLOGY.

519. Encephalitis Lethargica.

LEVADITI, HARVIER, and NICOLAU (*Ann. de l'Institut Pasteur*, February, 1922) state that the ultramicroscopic filtrable virus, the causal organism of encephalitis lethargica, is of variable virulence and may exist in one of four forms: (*a*) In an attenuated condition in the saliva of healthy individuals, where it appears to be bound to the epithelial cells of the mouth, this attenuated virus being capable of giving rise to keratitis when inoculated by scarification into the cornea of a rabbit. (*b*) In a more virulent form in the vesicles of herpes, where, in addition to possessing affinity for epithelial cells, it has a latent affinity for nerve cells. (*c*) In a virulent form in the saliva of carriers of encephalitis lethargica. (*d*) In the central nervous system of cases of encephalitis lethargica when the virus is possessed of a selective affinity for both epithelial and nerve cells. A virus of feeble virulence, with an original affinity only for nerve cells, may by successive passages through animals be so exalted in virulence that it becomes adapted to nerve cells and thus may give rise to cerebral lesions. The virus of encephalitis lethargica exists in the mouths of healthy carriers, in whom it causes no symptoms, and it is also responsible for such milder diseases as herpes. When by a progressive exaggeration of its pathogenic activity it acquires the new affinity for nerve cells, then epidemics of encephalitis lethargica begin to make their appearance. The salivary virus, the virus of herpes, and the virus of encephalitis are only variants, showing different pathogenicity, of the same organism—the ultramicroscopic virus of encephalitis. A comparison of the properties of the virus of the encephalitis group with the virus of rabies, of poliomyelitis, and the organism of vaccinia shows them to have many characters in common—namely, all are filter-passers, all may be preserved in a dry state or in glycerin, they are all destroyed at about the same temperature, and they can only be cultivated *in vitro* in symbiosis with cellular elements. They differ in the diseases to which they give rise and in the fact that protective vaccination is only of value against the same species. But all the members of this group have an elective affinity for the ectoderm—namely, the epithelium and nervous tissue, the latter having been derived by invagination of the embryonic ectodermal layer. Thus the organism of vaccinia shows a constant and obligatory affinity for the skin and cornea; the encephalitis virus, as already stated, attacks either the skin or nerve tissue, according to its virulence; the rabies virus behaves in the same way, except that it causes no local lesions and only profits by its affinity for epithelial structure whilst travelling up the nerves to the cerebral centres; the virus of poliomyelitis shows no affinity except for the grey matter of the spinal cord. For these reasons Levaditi suggests that the diseases caused by this group should be designated "the ectodermoses."

520. Significance of the Haemosiderosis of Pernicious Anaemia.

EXPERIMENTAL evidence is brought forward by MCMASTER, ROUS, and LARIMORE (*Journ. Exper. Med.*, April, 1922) calculated to throw light on the seat of election for the deposition of blood pigment in the haemolytic group of anaemias. It has long been held that the marked siderosis of the liver parenchyma that occurs in pernicious anaemia is due to the occurrence of pathological blood destruction localized within the portal tributaries. To ascertain whether this is actually the case young rabbits were taken and given varying doses of haemoglobin over a period of several weeks, the injections being made into the subcutaneous tissues. They were then killed by chloroform and sections of the tissues stained for free iron. The chief collections were found in the liver and kidneys, but the extent to which these organs were affected depended on the size of the injection. When this was small only the liver showed change; when a medium dose was given both organs were pigmented; while with large doses the kidneys were far more heavily siderosed than the liver. When only a small amount of haemoglobin is liberated into the systemic circulation, the liver appears to be able to deal with it completely, becoming slightly siderosed in the process. When, however, a larger amount is in circulation the kidney threshold for haemoglobin is passed, the pigment is filtered through the glomeruli and partially absorbed by the tubules, which take up considerable quantities of free iron. If the tubular resorption be incomplete, haemoglobinuria will follow. The conclusion to be drawn from these facts is that it is impossible to locate the site of haemolysis from the organ which contains the greatest quantity of haemosiderin. If these results be applicable to the human being, the gastro-intestinal infection theory of the origin of pernicious anaemia is deprived of one of its most powerful supports.

521. Staphylococcal Haemolysin.

ORCUTT and HOWE (*Journ. of Exper. Med.*, April, 1922) observed by chance, during the routine bacteriological examination of milk on blood agar plates, that a particular staphylococcus caused haemolysis when milk was present in the medium, but showed no haemolysis in its absence. This phenomenon was investigated and traced to the fat in milk; it was found also that with other strains of staphylococci no lysis of red cells occurred unless fat was present, but it occurred readily in the presence of fat. The reason for the necessity for fat is attributed to the fact that the staphylococcus produces an extracellular lipase ferment which hydrolyses the fat to fatty acid, and it is this fatty acid which induces haemolysis. This explanation is in accordance with other researches, which have shown that fatty acids or their soaps readily haemolyse red cells. The extracellular nature of the lipase enzyme was proved by the fact that the suspension of staphylococci killed by heat or chloroform still induced haemolysis in the presence of fat. Many fats other than milk fat are acted upon by the lipase with the production of an haemolytic agent, but milk fat proved to be the most suitable for demonstrating the haemolysis, probably because the fat is so well emulsified in milk.

522. The Fat of Adipose Tissue in Malignant Disease.

CURRIE (*Journ. Path. and Bact.*, April, 1922) has made some observations on the changes which occur in the body fat in cases of malignant disease, as a result of which he finds that in both carcinoma and sarcoma—but particularly the former—there is a distinct increase in the proportion of unsaturated fat. The iodine value for normal human fat he gives as 60.8, whereas that for a series of cases of sarcoma studied was 69.8, and that for carcinoma 74.4. If, however, the fat be taken from a point of the body remote from the actual tumour a lower value is found, albeit one considerably above normal. The significance of these observations is unexplained.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

523. Re-educational Treatment of Confirmed Stammerers.

CLARK (*Med. Record*, April 15th, 1922) considers that the essential fault in confirmed stammering lies deep in the character formation, of which the stammering is merely a symptom, and that success in treatment depends upon a painstaking analysis and synthesis of the personality, as well as upon proper speech gymnastics—in short, the individual must be treated and not the stammering. In order to deal with the condition upon psycho-biologic lines a psychiatric training is essential, and, following upon a thorough analysis of the morbid trend in the developing character, synthetic re-education is needed. The condition must be regarded as a syndrome of the effective life of self-expression, and nothing short of a neuro-psychiatric training treatment will permanently relieve it. Notes of three cases are given at length, specially indicating that part of the history in each which bears upon the contention that the inherent defect is due to an arrest of the whole instinct of self-expression. By finding first the basic interest, and then moulding it into a trial social group, is the direction in which lasting improvement must be sought. In the three cases recorded this was attained in one patient by the social usefulness of a medical career, in another through athletic and engineering interests, and in the third in a business training and possible financial career. The speech disorder of the confirmed stammerer is quite different from the fanciful speech defect of the neurotic and hysteric, the neurotic element in the confirmed stammerer being confined solely to his substitutive reactions in seeking expression, and not to the fundamental defect of speech itself. The analysis should synchronize with the synthesis rather than precede it, the analysis being used after a time only to get at the deeper roots of some morbid trend of manner or speech. The basic character fault which precedes the stammering is in the main summated in a shyness and timidity toward all forms of self-expression, and the feeling of inferiority becomes accentuated by the active or passive resistance exercised toward "the great nucleus of authority in the home" which has repeatedly repressed the self-expression of the constitutional stammerer. The habit training should begin simultaneously with the first efforts to overcome articulatory defects, the manner and substance of the first lesson in training being suited to the individual, illustrated by examples of free and easy speech in newspaper accounts, and finally by creating situations requiring spontaneous natural effort at self-expression. Thus, says the author, by analysis and re-education of the personality defect as a whole, together with intensive special speech gymnastics, can a cure be effected.

524. Industrial Dermatitis.

MCLACHLAN (*Glasgow Med. Journ.*, April, 1922) calls attention to a dermatitis of the hands and forearms occurring among workers in lubricants used in cutting metal, various oily mixtures and greasy pastes mixed with water being utilized for cooling, lubricating, producing smooth finish, washing away chips, and protecting from rust and corrosion. Working with carefully prepared sulphonated compounds, or those made from any good potash or soda, soap, or natural petroleum oil, is comparatively free from risk, the danger lying in the continual wetting of the skin by watery fluid, often dirty and containing metallic chippings, the presence of an excess of free alkali or impure anthracene oil, or some ingredient in the composition. Three distinct types of lesion occur: (1) A folliculitis arising apparently from plugging of the follicles with oil or dirt; (2) an eczematoid eruption exhibiting either erythemato-scaly patches or a vesicular or pustular dermatitis; and (3) pigmentation and infiltration of the skin, keratotic patches, wart-like growths, ulcerations, and occasionally epitheliomatous changes. Symmetrical in distribution, the lesions occur on the backs of the hands, especially in the interdigital spaces, and on the forearms. Improvement rapidly follows cessation from work and treatment with simple boric dressing. Bacterial contamination through the habits of the worker is a possible risk, and may be a source of secondary infection of a dermatitis originated by the chemical irritant in the oil. All the mixtures used were found to contain free fatty acid and copper, and the metal worked upon may be a participating causal factor, particularly if it is copper in the presence of free fatty acid; individual idiosyncrasy may have an important bearing upon the causation and development of the condition. Personal and occupational hygiene is essential in prophylaxis, and temporary cessation from work in treatment.

525. Occipital Lobe Embolism.

WOODS (*Journ. Nerv. and Mental Dis.*, February, 1922) records two cases of occipital lobe embolism, in the first of which a traumatism of an inflammatory focus in the upper cervical vertebrae caused immediate paraesthesia and weakness in the left arm and leg, and sudden loss of vision in the fields subserved by the calcarine region of the left occipital cortex, with recovery in the lower quadrant. The second case was a man with slight valvular heart disease, sudden dizziness with hemianopsia, visual paraesthesia, and tingling in the extremities; some disorientation occurred while riding, and was followed later by partial recovery of the visual fields. Prognosis in such cases depends upon the immediate cerebral lesion, and the nature and gravity of associated lesions elsewhere. Emboli in the posterior cerebral region may travel through the carotids or vertebrals, since the direction of the current through the posterior communicating arteries in the circle of Willis may vary according to the demands for blood from the anterior or posterior portions of the hemispheres. Though the insufficiency of collateral connexions of the terminal cortical arterioles makes infarction almost inevitable, partial recovery of function is explained by the existence of a slight collateral circulation, and by the fact that in traumatic cases there is gradual recovery from any concurrent concussion of neighbouring cells.

526. Iron in Post-influenzal Anaemia.

LINDBERG (*Acta Medica Scandinavica*, vol. lvi, fasc. ii, 1922) has observed 19 cases of profound anaemia which he traces to a recent attack of influenza. In as many as 18 cases the patients were women, and most of them were middle-aged. The anaemia did not in any case develop in direct continuity with the attack of influenza, but some months later. In 17 cases the influenza itself had been of an apparently mild and benign character, and only in two cases had there been serious complications. The most prominent symptom was lassitude, and in a few cases there was shortness of breath. In no case was the haemoglobin above 50 per cent., and in 12 cases it ranged from 15 to 30 per cent. In 10 cases the number of red cells was below $2\frac{1}{2}$ million. The leucocytes showed no pathological changes, but the red cells showed various abnormalities. There was, however, no evidence of pernicious anaemia, such as a high colour index. Encouraged by the researches of Lichtenstein into the effects of large doses of iron on the anaemia of infancy, the author treated his cases with heroic doses of reduced iron, 1 gram being given three times a day before meals as a powder with 0.5 gram of sugar. The results were prompt and obvious; in about 70 per cent. of his cases the haemoglobin was doubled within two months, and in three cases it was trebled within six weeks. With this improvement in the blood picture there was a notable change for the better in the clinical picture, and in no case were symptoms of poisoning by the iron observed. It did not even induce constipation. The cheapness and simplicity of this line of treatment are also stressed by the author, who found that arsenic and the timid exhibition of small doses of organic preparations of iron were useless in this class of anaemia.

527. Syphilis of the Bronchi and Lungs.

BALZER (*Paris méd.*, January 21st, 1922) states that modern methods of investigation have shown that syphilitic affection of the respiratory system is more frequent than was formerly supposed. Tertiary tracheo-bronchitis leading to ulceration and stenosis has long been known; but it is only within the last few years that chronic bronchitis with emphysema of the bases and more or less bronchial dilatation has been described in the secondary and tertiary stages. The symptoms are dyspnoea and paroxysmal cough. The dyspnoea is often of long standing, and may even date from childhood. It is increased by effort and gives rise to attacks at night resembling asthma. There is little or no fever. There may be impairment of resonance at the apices, with harsh inspiration, prolonged expiration, and diffuse bronchitic râles. The sputum does not contain tubercle bacilli. In syphilis, as in tuberculosis, the specific inflammation is centred in the bronchi. This explains why bronchial dilatation is observed in a variable degree in most cases of pulmonary syphilis.

In congenital syphilis the lung may be affected as early as the third, fifth, or sixth month. At a later stage it is observed between 3 and 15 years, and even between 15 and 20 (Castex and Queirel). Cases of pulmonary hereditary syphilis have been seen as late as 34 or even 40 years (Lancereaux). In the child, as in the adult, pulmonary hereditary syphilis sometimes presents a latent prodromal stage, which is sometimes very long, in which the only noticeable feature is impairment of the general condition and a tendency to bronchitis. Cough with muco-purulent expectoration, chiefly at night, is observed. The dyspnoea, which also occurs at night, is aggravated by effort and becomes permanent. The patient may suffer from vague pain in the back, perhaps due to pleural lesions. The usual site of the lesion is at the base or hilum of the right lung, and sometimes at both bases and apices. In an advanced stage bronchiectasis almost always occurs which is more or less localized in the bronchi of a pulmonary lobe. In the adult the following forms may be found: (1) Circumscribed gummatous or sclero-gummatous pulmonary syphilis, which may be associated with pleural or glandular lesions. (2) Diffuse pulmonary syphilis or subacute or chronic bronchopneumonia. (3) Rarer varieties resembling the pneumonia of the newborn. (4) Brown induration. (5) Bronchial and mediastinal adenopathy associated with pulmonary syphilis. The principal anatomical distinction between pulmonary syphilis and tuberculosis is that in tuberculosis all the three coats of the arteries are attacked, while in syphilis the tunica media resists for a long time and may escape altogether. The process is definitely syphilitic when the adventitia presents groups of plasma cells, newly formed capillaries, and elastic fibres.

528. Treatment of Trigeminal Neuralgia with Trichlorethylene.

MAGUNNA (*Klinische Wochenschrift*, March 25th, 1922) mentions the previous observations on this treatment. Plessner in 1915 reported 4 cases of poisoning through trichlorethylene in which the chief symptom was anaesthesia in the distribution of the trigeminal nerve. On account of this symptom Oppenheim urged its trial in trigeminal neuralgia. Plessner tried it in 17 cases of neuralgia and found it of service in 12. Magunna records the results in the treatment of 20 cases of true trigeminal neuralgia: 10 to 20 drops of trichlorethylene, occasionally more, are dropped on to cotton-wool; the patient breathes it for several days in succession, sometimes twice a day or more frequently. Of the 20 cases, 5 cases were completely cured, 6 considerably improved; in 9 cases the treatment failed. Sometimes this treatment is of service for the relief of the headache and sickness which occasionally follow lumbar puncture. The author concludes that trichlorethylene is of service in many cases of true trigeminal neuralgia, or at least diminishes the pain, and as no undesirable effects are observed, this treatment is worthy of further trial.

SURGERY.

529. Carcinoma of the Jejunum.

DENIS and CHARRIER (*Journ. de Méd. de Bordeaux*, April 10th, 1922) describe the case of a woman, aged 55 years, suffering from gastric disturbances. The chief symptom was profuse greenish vomiting. In addition to this she exhibited all the signs of dehydration: dry tongue, dry skin, scanty urine, and loss of flesh. Examination of the abdomen revealed nothing abnormal; *x*-ray examination showed no signs beyond an inability to distinguish clearly the pyloro-duodenal region. An operation was performed later, and a neoplasm was found in the jejunum, 15 cm. from its origin, encircling the gut. Resection of the growth was carried out and an anastomosis performed. The patient made a satisfactory recovery, but the growth recurred four months later in the spine. The authors point out that in this case there was a single characteristic symptom—namely, abundant greenish-coloured vomiting containing, as in cases of pyloric stenosis, undigested portions of food. The relative infrequency of cases showing the signs of duodenal occlusion makes this case of interest. In addition to the profuse vomiting one may find in this condition symptoms of gastric disturbance, such as pain without any relation to food sensation, of fullness, and constant nausea; signs of intoxication, such as are usually found in cases of duodenal stasis, jaundice, wasting, and evidence of dehydration. The *x*-ray signs are variable, but if present they are very definite; in this case the bismuth meal reached the duodenum, but there it remained or passed very slowly. In most cases the cause of this condition is due to peritoneal adhesions or a congenital defect of the primitive mesentery. It is extremely rare to find it develop in the case of a growth of the small intestine. The explanation suggested is that the bile itself produces a spasm at the site of the growth, causing complete obstruction. This case shows that an obstruction in the jejunum may give all the signs of duodenal stenosis.

530. Non-Operative Treatment of Ureteral Calculi.

BUERGER (*Med. Record*, April 1st, 1922) advises cystoscopic intervention in almost all cases of ureteral calculus, soon after the stone has become lodged in the ureter, as opposed to the method of awaiting spontaneous expulsion, when the stone is not too large to pass. By the passage of ureteral catheters of varying sizes, or by the simultaneous passage of bougies and catheters, or bougies alone, drainage of the ureter can be established, and the descent of the stone facilitated. By emptying the renal pelvis such catheterization is most effective in the relief of pain and in the prevention of renal complications, and the establishment of chronic hydronephrosis, which might result while awaiting spontaneous expulsion, is thereby prevented. In all cases of calculus obstruction cystoscopic treatment should be carried out unless the stone is passed within three days. Recurring attacks of pain usually indicate retention of urine, and treatment should be given during the free interval.

531. Decapsulation of the Kidneys.

FAWCETT (*Guy's Hospital Gazette*, January 21st, 1922) discusses decapsulation of the kidneys in subacute or chronic parenchymatous nephritis, and quotes the case of a man, aged 39, suffering from subacute tubal nephritis, with some interstitial change and uraemia. Under treatment in hospital for three months the blood urea fell to normal—namely, 0.29 gram per litre—and his general condition improved, the haematuria disappeared, and the oedema, headache, and dyspnoea became less, though the quantity of albumin remained high at 8 to 10 parts per 1,000. During two months' absence from hospital the symptoms returned and decapsulation of both kidneys was performed. The patient rapidly recovered from the operation, and within three or four days the oedema and albumin became considerably lessened, though not entirely disappearing, and his general condition has remained satisfactory. The presence of cardiovascular and interstitial changes in addition to the tubal nephritis accounted for there not being still greater improvement, since such good results cannot be expected in the former type of case as in the latter. Decapsulation is contraindicated in all cases of advanced granular kidney with high blood urea and deficient urea excretion.

532. After-Treatment of Small-flap Sclerotomy.

HERBERT (*British Journ. of Ophthalmol.*, February, 1922) considers that the best results obtained in small-flap sclerotomy, and in increasing the effect of an ill-cut flap follow Cruise's method of after-treatment by the application of finger pressure to the eye from the beginning, thereby preventing immediate healing. This principle of very early interference with healing probably accounts for the good results which follow allowing the patient to be up and about the day after operation, so that almost from the beginning the frequent blinking movements operate in much the same way as the more infrequent finger pressure. Such application of gently sustained pressure through the lower lid may be begun on the afternoon of the operation and be repeated two or three times daily, thus partly emptying the anterior chamber. The patient should be encouraged to keep the eyes open and to blink frequently, a pad being placed over the eye which has been operated on for the first night or two, and a shield through the day. This simple procedure makes all the difference between failure and success in some cases, and it ensures success in the majority of primary glaucomas needing operation.

533. Diaphragmatic Hernia.

DURING recent years the study of hernia through the diaphragm has received marked stimulus, for two reasons: a number of cases have been observed as the result of the great war, whilst *x* rays have demonstrated the condition on numerous occasions. BORDEN (*Annals of Surgery*, April, 1922) records a case of this nature, possibly congenital or following an acquired rupture. The condition may be due to congenital defect of the dome of the diaphragm, or it may occur round the oesophageal opening, due to an absence of muscular tissue. The causes of acquired herniae are increased intra-abdominal pressure and direct injury. The former may occur in crushing accidents, difficult labour, or from straining. Direct trauma follows a penetrating wound. The stomach is most commonly found in the hernia, whilst most of the other abdominal viscera have been recorded there. A hernial sac may be present. The hernia always passes from the abdomen to the thorax because of the negative pressure in the chest during inspiration and positive pressure

in the abdomen. No definite symptom complex can be given. The symptoms depend on the size of the defect and the effect on the organs involved. *X* rays are of the greatest value, and careful physical examination often helps in diagnosis. Surgery is the only curative treatment, and the abdominal route is undoubtedly the best means of approach. When reduction is difficult a thoracotomy may be necessary in addition. A left rectus incision is recommended for good exposure, and the hernia usually reduces without difficulty. Repair of the diaphragm is effected by bringing together the pillars of the opening with catgut sutures; if too large for suture perhaps the stomach or mesentery may be used to close the rupture effectually.

534. The Danger of General Anaesthesia in Cyclic Vomiting.

ISELIN (*Schweiz. med. Woch.*, April 6th, 1922) diagnosed acute appendicitis in a girl between 4 and 5 years old, whose symptoms included frequent vomiting. A general anaesthetic (chloroform) was given and appendicectomy performed: the appendix proved to be macroscopically healthy. Death occurred on the evening of the following day, during which the child was much cyanosed. With this disastrous mistaken diagnosis as his text the author discusses the differential diagnosis of acute appendicitis and periodic vomiting due to acetonaemia, which, particularly in slight cases, is apt to be confused with appendicitis. The contrast between the severity of the general intestinal symptoms and the slightness of the local signs is very suggestive of acetonaemia, and as this may be associated with fatty changes in the liver it is obvious why the administration of chloroform is absolutely contraindicated. Since he operated in April, 1918, on the case referred to, the author has never ventured to operate for appendicitis under general anaesthesia when the urine contained acetone, and his systematic examination of the urine for acetone has taught him that even in cases of genuine appendicitis acetonuria is fairly common. The differential diagnosis in such cases is, however, not difficult. If, in addition to acetonuria, the child's breath smells of acetone, and if the clinical picture is dominated by vomiting, and the local signs of appendicitis are not well defined, it is fairly safe to exclude appendicitis. The disappearance of the symptoms within two days' treatment with alkalis should leave little doubt as to the cause of the vomiting. In doubtful cases there is the alternative of appendicectomy under local anaesthesia, with the triple object of verifying the diagnosis, eliminating the risk of a future appendicitis, and saving the child from operation under chloroform at some later date by a surgeon ignorant of this particular danger.

OBSTETRICS AND GYNAECOLOGY.

535. Chemical Investigation of Pregnancy Toxaemias.

DE WESSELOW (*Journ. Obstet. and Gynaec. of the British Empire*, 1922, 29, 1) gives a critical estimate of the value of chemical methods in the investigation of pregnancy toxaemias. He points out that data from chemical examination of the blood and urine during normal pregnancy are scanty, especially regarding the nitrogen partition of the urine. In thirteen healthy pregnant subjects examined when taking 60 to 70 grams of protein daily during the last two months of pregnancy, the blood urea was found to be on the average 17.5 mg. per 100 c.cm. as compared with 20 to 26 mg. in non-pregnant women; this is in accord with Folin's figures. Since in healthy pregnant patients the urea concentration test gives normal results, the low urea content of the blood is not due to increased excretion; possibly it is due to nitrogen retention for purposes of foetal and maternal anabolism. In spite of the low urea-blood content, non-protein nitrogen showed normal amounts; it is therefore unjustifiable to regard a lower ratio of urea to total non-protein nitrogen in the blood of a pregnant subject as pathological. Fibrinogen in the blood plasma showed an increase, being 55 to 100 mg. per 100 c.cm., against 40 mg. in the absence of pregnancy; the increase of fibrinogen during pregnancy has been regarded as a sign of hepatic derangement or as a response to the influence of foreign proteins of placental or foetal origin, and has been quoted as a causative factor in the production of intravascular clotting and eclampsia. The nitrogenous partition in the urine was not atypical; the urinary diastatic index was within normal limits, and the efficiency of the kidney, as judged by the urea concentration test, was not impaired. During labour the urine showed increased ammonia and diminished urea nitrogen (52 per cent. for the latter in one case); diminished protein intake and increased muscular exertion with formation of lactic acid probably are concerned in this. Slight albuminuria was usually present towards the end of labour. In de Wesselow's twelve cases of pregnancy with mild albuminuria, nine with severe albuminuria, and six with eclampsia, the urea content of the blood was not as a rule greatly increased above that found normally during pregnancy, but the urea concentration test showed a definite fall to be present almost invariably in the concentrating power of the kidney for urea. The writer believes that with respect to prognosis and therapeutic indications the urea concentration test is of greater value than estimation of the nitrogen partition in the blood. The nephritis of pregnancy toxaemias is a combination of the hydraemic and azotaemic types, as shown respectively by the oedema and the impaired urea concentration, and does not differ functionally from the mixed type of nephritis seen in the non-pregnant. Increased blood pressure was found to exhibit much less parallelism with increase of non-protein nitrogen in the blood than with impaired urea concentration as shown by Maclean's test; the clinical finding that blood-pressure estimations constitute a valuable indication of renal impairment is thus confirmed. In the cases of pregnancy toxaemia the plasma fibrinogen content was notably increased, but this occurs in *B. coli* pyelitis or syphilis complicating pregnancy, as well as in cases of nephritis in the non-pregnant. Changes in the nitrogen partition of the urine which could not be paralleled by those incidental to pregnancy and labour were not usually present, and are to be regarded as less important than the results of the urea concentration test. De Wesselow found that rapid improvement, as shown clinically and by functional tests, followed termination of the pregnancy or intrauterine death of the foetus. He suggests that a blood-urea content of more than 40 mg. per 100 c.cm. is an indication for induction, which in the absence of this test may also be considered when the urea concentration test gives a figure below 2 per cent. Repetition of both tests is useful, for rising blood-urea concentration together with falling concentration capacity indicate a progressive lesion.

536. Treatment of Ovarian Carcinoma.

STRASSMANN (*Zentralbl. f. Gynäk.*, April 1st, 1922), having regard to the unsatisfactory results of treating ovarian carcinoma when associated with metastases by simple laparotomy, advocates that at operation extirpation of morbid tissue should be as widespread as possible. When it is possible both adnexa should be removed together with the uterus, and it is particularly important to remove secondary deposits in the omentum; when this has been effected, ascites, which to a greater or less extent always accompanies ovarian carcinoma, is said not to recur. The prognosis of these cases has improved since in late years post-operative *x*-ray treatment has been given; of the author's 17 cases so treated 4 survived two and 2 survived six years. SCHÄFER (Ibid.) had a primary mortality of 17 per cent. and a similar percentage of from five to ten years' cures in a series of 70 cases operated on for primary ovarian cancer; of 25 cases of unilateral ovarian cancer a cure was obtained in 40 per cent.

537. Indications for Vaginal Caesarean Section.

PHANEUF (*Boston Med. and Surg. Journ.*, April 13th, 1922) has found indications for vaginal Caesarean section in cases in which cervical rigidity failed to be influenced by introduction of a dilating bag; in cases of eclampsia in which *accouchement forcé* was indicated or in which dilatation by means of a bag was found impracticable; in cases of pregnancy toxaemia of the non-convulsive type, characterized by premature placental detachment or by grave prognostic signs, such as amblyopia or persistently and increasingly high blood pressure; in severe cases of pyelitis; and in cases in which removal of a macerated foetus is indicated—for example, by advanced maternal pulmonary tuberculosis, or by reason of the patients having only one kidney. Except in one instance, he has performed the operation from the fourth to the eighth month of pregnancy; it is described as the ideal procedure when, before the ninth month, there is an indication for immediate delivery in a patient with a long, rigid, undilated cervix. Before term, it is not usually necessary to incise the cervix behind. The operation is followed by comparatively few symptoms of disordered micturition.

538. Brow Presentations.

ACCORDING to EYMER (*Zentralbl. f. Gynäk.*, April 29th, 1922) persistent brow presentation occurred thirteen times in 10,000 labours at the Heidelberg clinic. In two cases each, contracted pelvis, pendulous abdomen, or twin birth was concerned etiologically. The average duration of labour was seventy-nine hours, and birth took place spontaneously in six instances, in half of which the child was born alive. The operative procedures found necessary were osteotomy in three instances, Caesarean section in one, perforation in one, and forceps delivery in two. There was no maternal mortality

and the foetal mortality (two syphilitic cases being excluded) was unusually low—namely, 11 per cent. A conservative attitude is recommended with regard to treatment. Prophylactic correction is not recommended; it is fraught with considerable maternal risks, and is only applicable in early stages at a time when spontaneous correction may ensue. Caesarean section is not justifiable except in cases in which it is indicated on maternal or foetal grounds, which are independent of the existence of the brow presentation. Spontaneous birth of a living child after protracted labour was observed in two cases in which before admission to the clinic fruitless endeavours to deliver by forceps had been made. SEITZ (Ibid.) records thirteen cases from the Giessen clinic without maternal or foetal mortality. This exceptionally favourable record is quoted in support of expectant treatment, but it is admitted that in cases of contracted pelvis, which predisposes to brow presentation and complicates its management, delivery although possible in occipito-posterior presentation, may be impossible *per vias naturales* in brow presentation.

539. Syphilis as a Cause of Foetal Malformations.

HENROTAY (*Gynécol. et Obstét.*, 1922, v, 4) believes that syphilis is more commonly the cause of foetal malformations than is usually supposed. He quotes as examples a case of ectopia of the abdominal viscera with bilateral talipes and spina bifida, one of cephalocele combined with meningocele, one of hydatidiform mole, and one of harelip and cleft palate; the mothers in all cases were free from manifest syphilitic stigmata, but their blood serum showed one or other of the biological tests to be positive (Hecht's or Levaditi's being sometimes positive when the Bordet-Wassermann was negative). The case is also related of two sisters-in-law of whom one had successive pregnancies giving rise respectively to stillbirths of macerated foetuses (one with cranial deformity), two living children successively, and a child suffering from pemphigus and later developing signs of congenital syphilis; the other gave birth in her first pregnancy to an anencephalic monster. Serological tests showed syphilitic infection (afterwards proved to be hereditary) of each of the fathers concerned; in the mothers the Bordet-Wassermann test was negative, but other tests were positive. Antisyphilitic medication was instituted both in a third brother and in his wife, who was in her first pregnancy; both parents showed a positive Hecht's reaction.

PATHOLOGY.

540. Adrenaline and Shock.

RICE (*Bull. of the Johns Hopkins Hosp.*, March, 1922) has made a study of the relation of the adrenal glands to experimentally produced shock for the purpose of testing the truth of the statement that shock may be due to disordered function of the adrenals—a widely current conception based on the facts that epinephrin injected intravenously has such a remarkable effect on blood pressure, whereas removal of the adrenals brings about a condition of hypotension similar to that found in shock. Anaesthetized cats were subjected to shock-producing trauma, and the time taken for the blood pressure to fall to 60 mm. and the symptoms of shock to appear was recorded. Similar experiments were carried out on animals whose adrenals had been previously removed by the extra-peritoneal route, and the following results were obtained. The time required for the production of shock and the character of the blood-pressure curves was the same in animals whose adrenals had just been removed as in normal controls, which proves that disordered adrenal function is not a factor in the production of shock. On the other hand, the blood pressure of the adrenalectomized animal begins to fall about four hours after the adrenals are removed, and within the first twelve hours after adrenalectomy the blood pressure in the unanaesthetized animal invariably falls to a very low level and progressively declines until death. This fall in blood pressure is independent of operative trauma and begins before asthenia has appeared, which suggests that the adrenals are concerned in the maintenance of the blood pressure at the normal level. With regard to the influence of the anaesthetic it was found that animals which were kept lightly anaesthetized with ether for an hour immediately before the abdomen was opened were very resistant to the shock-producing effect of intestinal manipulation. On the other hand, if identical intestinal manipulations were commenced immediately after anaesthetization then symptoms of shock appeared more rapidly. This protective effect of preliminary ether anaesthetization was met with repeatedly, but once the blood pressure had commenced to decline ether anaesthesia had a distinct tendency to hasten the onset of shock. The author could find no evidence that cardiac failure is a factor in the production of shock, or that failure of the vasomotor centre is a primary factor in shock. The cardio-inhibitory centre was shown to respond to stimuli and also to function independently in deep shock.

541. Apparent Increase of Tubercle Bacilli in Sputum undergoing Putrefaction.

ACCORDING to BEZANÇON, MATHIEU, and PHILIBERT (*C. R. Soc. Biologie*, March 25th, 1922), it was found that if tuberculous sputum be placed in a test tube and incubated at 37° C. for twenty-four hours to four days, there is a progressive increase in the number of tubercle bacilli which can be demonstrated in a slide preparation. This increase is confined to the clot at the bottom of the tube. After allowing putrefaction to proceed for from four to seven days a diminution in the number occurs, till after a period of about six weeks no more bacilli are to be found. The most favourable time for examination appears to be at the end of four days, for then as many as ten to fifty times the number of bacilli can be demonstrated, as can be seen by direct examination without previous incubation. That an actual increase in the bacilli occurs is regarded as improbable, since animal tests are only positive for about two days, showing that in all probability the bacilli die out fairly rapidly. What actually takes place is that the autolysis and liquefaction of the sputum allows the bacilli to settle and collect in greater numbers at the bottom of the tube. Comparing this method with that of homogeneization, it is found that nearly 9 per cent. of sputa, which are negative to the latter method, are positive when submitted to the putrefaction technique. The main advantage of the method seems to be in the larger quantities—10 to 20 c.cm.—of sputum which can be dealt with, thus increasing the chances of obtaining a positive result.

542. Rhinoscleroma.

PARDO-CASTELLO and DOMINGUEZ (*Arch. of Derm. and Syph.*, April, 1922) have had the opportunity of examining histologically and bacteriologically material removed from an advanced case of rhinoscleroma. This disease is common in eastern Europe but is rare in America, and this is the first case reported there in a person who had never been abroad; she was a negress living in Havana. Clinically it was observed that the right nasal cavity was filled with a reddish mass, obstructing the breathing and tender on pressure; the mass was dark red and covered with a thin epidermis that wrinkled when the tumour was taken between the fingers; there was no ulceration or bleeding, but when a portion of the tumour was removed by biopsy the haemorrhage was profuse but easily stopped. Histological examination showed the tumour to be a typical granuloma with the occurrence of vacuolated cells of Mikulicz and plasma cells in hyaline degeneration—a characteristic picture in rhinoscleroma. Bacteriological examination failed to show any evidence of the presence of the different organisms to whose influence this disease has been attributed in the past. On the other hand, there was demonstrated within the tumour cells, and recovered by culture, a Gram-negative bacillus which, from its biological characters, proved to be a member of the *B. lactis aerogenes* group. Cultures of this organism produced an intense febrile reaction and inflammation when injected into guinea-pigs, but failed to reproduce rhinoscleroma.

543. The Pathology of Diabetes Insipidus.

A CONTRIBUTION to the study of this interesting disease is made by CAMUS, ROUSSY, and LE GRAND (*C. R. Soc. Biologie*, April 1st, 1922), who report the results of the pathological findings of a case which came to autopsy. During life the patient had suffered from epileptiform crises, transient paralyses, and a polyuria of 7 to 8 litres per diem. The cerebro-spinal fluid showed a slight lymphocytosis and increased albumin; the Wassermann reaction was negative. Treatment was without avail, and he died after a severe attack of headache and vomiting. *Post mortem*, a small abscess was found in the sella turcica, replacing the whole of the pituitary body; the rest of the brain appeared macroscopically to be normal. Histological examination, however, of serial sections passing through the optic-peduncular region revealed marked lesions of an inflammatory and degenerative nature at the level of the paraventricular nuclei. Both sides were affected. Small foci of perivascular haemorrhage, infiltrated with polymorphonuclear leucocytes, were encountered, while the surrounding nerve cells were in a state of chromatolysis, with peripheral displacement of the nucleus and vacuolation. These findings are in accord with observations reported on other cases, and lead the authors to suggest that the origin of the polyuric syndrome should be placed not in the pituitary, but in the grey matter of the nuclei of the infundibulum and the tuber cinereum—an hypothesis which is supported by a considerable amount of experimental evidence.

The British Medical Association.

FOUNDED 1832.

PATRON: HIS MAJESTY THE KING.

President: DAVID DRUMMOND, C.B.E., M.D., D.C.L.,
Pro-Vice-Chancellor and Professor of the Principles and Practice of Medicine, University of Durham;
Consulting Physician, Royal Victoria Infirmary, Newcastle-on-Tyne.

AN OPEN LETTER TO NON-MEMBERS.

DEAR SIR OR MADAM,

The British Medical Association was established to promote the medical and allied sciences, to maintain the honour and interests of the profession, and foster a feeling of friendship among its members. To attain the above objects it holds periodical meetings for the discussion of medical and scientific subjects; it publishes the *British Medical Journal;* it maintains a Reference and Lending Library; it has instituted scholarships and grants for research work; and does a very large amount of medico-political and other work in the interests of the profession.

CONSTITUTION AND ADMINISTRATION.

The British Medical Association has Branches and Divisions throughout Great Britain and Ireland, and also in the Dominions, Colonies, and Dependencies. The Divisions are arranged territorially, and number, in all, 282. For certain purposes of administration or of scientific and clinical work, the Divisions are combined into Branches, which number 92. Members of Divisions elect Representatives on the Branch Councils and also a member or members of the Representative Body, which is the governing body of the Association and determines its policy.

The Council is the executive of the Association. It is elected partly by the Divisions and Branches and partly by the Representative Body, and includes representatives of the Navy, Air Force, Army, and Indian Medical Services elected by the Representative Body.

The Representative Body and Council elect Standing Committees to take charge of different subjects. Among these may be mentioned the Science, Medico-Political, Ethical, Hospitals, Public Health, and Naval and Military Committees. There are also Committees for the Dominions, Scotland, Ireland, and Wales, and for the working machinery of the Association, such as the Organization, Finance, and Journal Committees. The Insurance Acts Committee, elected partly by the Association and partly by Insurance practitioners, is financed by the Association.

PRIVILEGES OF MEMBERS.

A member of the British Medical Association has the right—

1. To attend the annual and other general meetings of the Association and the meetings of the Division and Branch to which he or she belongs.
2. To take part by personal vote (or in some Divisions by voting paper) in the election of the representative of his or her Division in the Representative Body, and also in the election of members of the Council.
3. To receive by post the *British Medical Journal*, published weekly, which gives a full record, with commentary, of progress in clinical and scientific medicine, and of medico-political affairs throughout the British Empire.
4. To receive the help and advice of the Central Office in any professional difficulty.
5. To use the Library as a reading room and to borrow modern medical or scientific books (not exceeding four at a time) on payment of postage. In addition to modern works and periodical medical literature—foreign as well as English—the Library contains many valuable works of historic interest.

The British Medical Association is the oldest, largest, and most powerful British organization devoted to the welfare of the medical profession. It owns a large freehold building, centrally situated in London, and has large funds and resources.

The full benefits of the Association can only be provided by the co-operation of large numbers of the medical profession, who in this way, by means of their annual subscriptions, provide the necessary funds. The larger the membership and the larger the funds, the more efficient and influential does the Association become. Its membership is now over 23,000, but there is scope for large increase. The Association may claim without fear

of contradiction that during its existence it has been the direct means of benefiting every class of medical men and medical women, and that it has looked after their honour and interests in every way to the utmost of its power. To record the Association's activities for one year would take more room than can be afforded in this letter. Its intervention in the matter of the Dangerous Drugs Regulations was a striking example of its political influence.

In asking for new members, we appeal not only to the older members of the profession, but also and especially to those recently qualified. To these a generous concession is made as regards subscription, and there is a special claim to their recognition of the services of the Association in improving the conditions under which they may hold appointments in the Imperial Services or in civil life. The only way to recognize the services of the Association is to become a Member of the Association and to take an active part in its work.

The necessity for organization and co-operation is more urgent than ever, and this appeal is issued with every confidence that it will meet with a large response. The form of application for Membership, printed at p. iii, should be signed and forwarded with a cheque for the necessary amount to the address given.

Yours faithfully,

DAVID DRUMMOND,
President.

R. WALLACE HENRY,
Chairman of Representative Meetings.

R. A. BOLAM,
Chairman of Council.

FIFTY YEARS OF MEMBERSHIP.

THE chart on this page is reproduced from a part of the curve showing the annual membership figures of the British Medical Association from its foundation ninety years ago up to the end of last year. The Association had its origin in a meeting held by fifty medical men in the Board Room of the Worcester General Infirmary in the year 1832, with Sir Charles Hastings, the first President, in the chair.

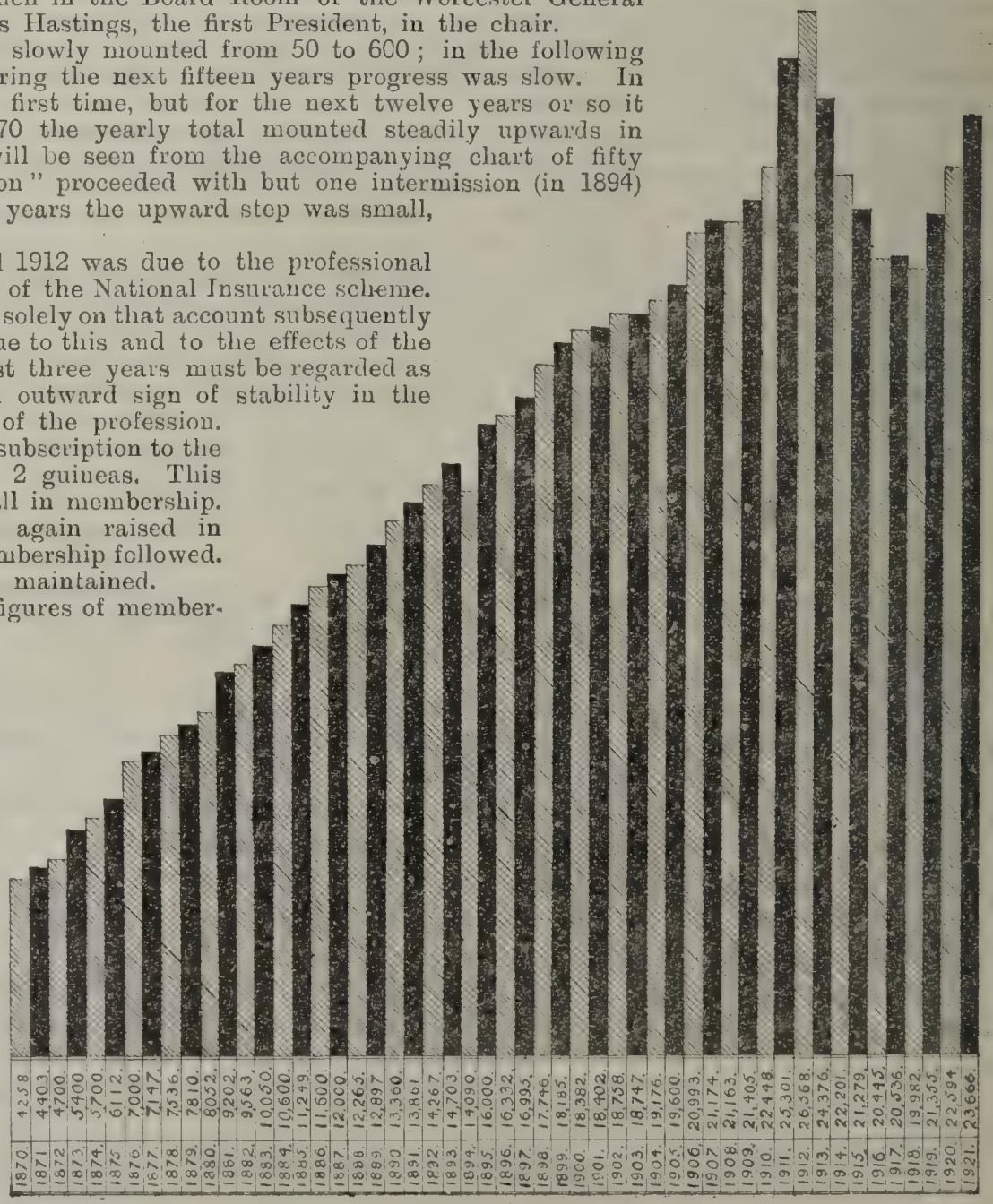
From 1832 to 1837 the membership had slowly mounted from 50 to 600; in the following year it rose to the modest total of 940. During the next fifteen years progress was slow. In 1854 the figure of 2,000 was passed for the first time, but for the next twelve years or so it kept almost stationary. From 1867 to 1870 the yearly total mounted steadily upwards in staircase fashion from 3,082 to 4,258. As will be seen from the accompanying chart of fifty years' membership, this "staircase phenomenon" proceeded with but one intermission (in 1894) from 1870 until 1910. In some of those forty years the upward step was small, in others large, but the ascent continued.

The very considerable rise in 1911 and 1912 was due to the professional upheaval that followed upon the introduction of the National Insurance scheme. Many practitioners who joined the Association solely on that account subsequently resigned, and the fall from 1913 to 1918 was due to this and to the effects of the war. The upward movement during the past three years must be regarded as satisfactory in the highest degree. It is an outward sign of stability in the organization, and of confidence on the part of the profession.

It is to be noted that in 1914 the annual subscription to the British Medical Association was increased to 2 guineas. This may have contributed in some degree to the fall in membership. Nevertheless, though the subscription was again raised in January, 1921, to 3 guineas no decrease of membership followed. On the contrary, the upward movement was maintained.

The complete chart showing the annual figures of membership from 1832 to the end of 1920 is reproduced in the last edition of the *Annual Handbook of the Association*. The *Handbook* contains a great deal of information in regard to the work, constitution, and history of the Association. It is primarily intended as a reference book for honorary secretaries of Divisions and Branches and other workers of the Association, but there is much in it of interest to all members. A limited number of copies is still available free of charge for those members who apply to the Medical Secretary, 429, Strand, London, W.C.2. The price to non-members is 5s. Early application is necessary.

In the past fifty years the Association has expended more than £40,000 on science scholarships and grants; it spent over £30,000 on the National Insurance campaign, and £15,000 on the work of the Central Medical War Committee.



BRITISH MEDICAL ASSOCIATION.

FOUNDED 1832.

Patron: HIS MAJESTY THE KING.

THE BRITISH MEDICAL ASSOCIATION is established for the promotion of the Medical and allied Sciences and the maintenance of the honour and interests of the Medical Profession. It has Divisions and Branches throughout the British Empire. There are 43 Branches, with 212 Divisions, in the United Kingdom, and 49 Branches, with 70 Divisions, in the British Empire Overseas.

Any Medical Practitioner registered in the United Kingdom under the Medical Acts; any Medical Practitioner who does not reside within the area of any Branch of the Association and who though not so registered is possessed of any of the qualifications described in Schedule (A) of the Medical Act, 1858; and any Medical Practitioner residing within the area of any Branch of the Association situate in any part of the British Empire other than the United Kingdom who is so registered or possesses such medical qualification as shall (subject to the By-laws) be prescribed by the Rules of the said Branch, is eligible as a Member of the Association. Members of the Association are, *ipso facto*, Members of the Division and Branch in the areas of which they reside.

The liability of Members is limited.

The annual subscription, which is due in advance on January 1st in each year, and entitles the Member to all the ordinary privileges of Membership of the Association, including Membership of the Division and Branch in which he or she resides, and the weekly supply of the *British Medical Journal* post free, is as follows:—

(A) Members resident in United Kingdom.

Ordinary Subscription	£3 3s.
Member of not less than 40 years' standing	£2 2s.
Member of not less than 10 years' standing retired from practice	£2 2s.
Newly qualified practitioner elected within 2 years of registration	£1 11s. 6d. (up to end of 4th year after registration).
Two Members, being husband and wife, residing together	£4 14s. 6d.

(B) Members resident outside United Kingdom.

Member resident within the area of a Branch	£1 11s. 6d. (or more according to Rules of Branch).
Member resident where no Branch is organised	£1 11s. 6d.
Officer of Royal Navy, Royal Air Force, Army, or Indian Medical Service	£2 2s.

In the case of a Member elected after June 30th in any year, the subscription for that year is one-half the current annual subscription.

If you desire to become a Member of the Association, please fill in and post this form to the Association, 429, Strand, London, W.C. 2, with a cheque or postal order for your first subscription.* Cheques or postal orders should be crossed, and made payable to "The British Medical Association." Election is ordinarily by the Council of the Branch in the area of which the Candidate resides, but in the case of Candidates resident in any area outside the United Kingdom where no Branch is organised, is by the Council of the Association. In the case of most Branches, NO signature, other than that of the Candidate, is required (for Branches which require approving signatures see back). For election by the Council (as above), 3 approving signatures are ordinarily required. Under no circumstances are approving signatures necessary in the case of Officers of the Royal Navy, Royal Air Force, Army, Indian or Colonial Medical Service, on the Active List.

Please Detach Here.

APPLICATION FOR ELECTION.

TO THE BRITISH MEDICAL ASSOCIATION,
429, STRAND, LONDON, W.C. 2.

(Full Christian and Surnames. Please write distinctly.)

I, ...

a Registered Medical Practitioner, am desirous of being, and hereby apply to be elected a Member of the BRITISH MEDICAL ASSOCIATION, and I agree, if elected, to pay the subscription and to abide by the Articles and By-laws of the Association for the time being in force, and the Rules of the Division and Branch to which I may at any time belong.

Signature.....

Qualifications.....

Permanent Address.....

.....

Address for Journal.....

.....

Date....., 192 .

Additional Forms of Application for Membership and all particulars may be had on application to the BRITISH MEDICAL ASSOCIATION, 429, Strand, London, W.C. 2.

* Applicants for Membership resident in the areas of the *Oversea Branches* should send their applications and remittances to the Honorary Secretary of the Branch if his or her address is known to them, failing which the application and remittance should be sent to the Head Office, 429, Strand, London, W.C.2.

HOME BRANCHES WHICH REQUIRE APPROVING SIGNATURES.

Branch.	No. of approving signatures required.	Branch.	No. of approving signatures required.
Cambridge and Huntingdon	2	Munster	2
Connaught	2	North of England	2
Edinburgh	2	Oxford and Reading	2
Leinster	2	South Wales and Monmouthshire ...	2
Midland	2	Staffordshire	2

OVERSEA BRANCHES WHICH REQUIRE APPROVING SIGNATURES.

Branch.	No. of approving signatures required.
British Guiana	3
Mesopotamia	3
New South Wales	3
Punjab	2

Candidates (other than Service) resident within any of the Branches above named are requested to arrange for the necessary approving signatures to the certificate at foot. Candidates (other than Service) resident outside the United Kingdom where no Branch is organised are requested to arrange for 3 approving signatures. In any case of doubt or difficulty, Candidates are invited to communicate with the Head Office, 429, Strand, London, W.C. 2.

CERTIFICATE.

(N.B.—For use only in the case of a Candidate (other than a Service Candidate) resident within the area of one of the Branches named above or resident outside the United Kingdom where no Branch is organised.)

We, the undersigned Members of the BRITISH MEDICAL ASSOCIATION, hereby certify that ..... named on the front page hereof, is personally known to us, and is a suitable person to be elected a Member of the BRITISH MEDICAL ASSOCIATION.

Signed (1) .....

(2) .....

(3) .....

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

544. Cutaneous Leishmaniasis.

BRAHMACHARI (*Indian Med. Gazette*, April, 1922) records four cases of kala-azar treated with intravenous injections of antimony which, within six months to two years after completion of the treatment, developed a cutaneous eruption resembling tuberculous leprosy. No lepra bacilli were found, and they showed no symptoms of kala-azar, but scrapings from the nodules contained kala-azar parasites. This shows that while visceral leishmaniasis may be cured by antimonial treatment a few leishmania may remain with their virus so attenuated as to give rise to the milder disease of cutaneous leishmaniasis. Full notes of one case are given in which there were papillomatous, leprotic-like nodules on the face, an erythematous appearance on the cheeks, forehead, and extremities, and extensively spread, slightly raised, brown patches on the trunk and limbs. There was no ulceration or scabbing, no anaesthesia, loss of knee-jerks, nor thickening of the nerves, and there were no eruptions on the mucous membrane of the mouth and nostrils, the patient complaining only of the unsightliness. Since the eruptions are due to leishmania infection whose virus has been modified by antimonial treatment the term "dermal leishmanoid" is suggested for the condition, on the analogy of the term "varioloid" for small-pox modified by vaccination. MEGAW (Ibid.) questions the proof that the condition is due to a modified virus, and considers the disease a leishmaniasis and not a leishmanoid, and, while congratulating Dr. Brahmachari on the discovery, suggests the nomenclature of "Brahmachari's dermal leishmaniasis" as being more appropriate.

545. Antimony in the Treatment of Leprosy and Hydatid Disease.

CAWSTON (*Journ. Trop. Med. and Hygiene*, February 1st, 1922) gives his experience of the treatment of leprosy and hydatid disease with intramuscular injections of colloidal preparations of antimony. The best results are obtained by pushing the drug until early signs of antimony poisoning occur. Four cases received from 1 to 3 c.cm., the ulcers healing after four days' treatment, with considerable improvement in the conjunctivitis and paralysis. Larger doses were given in two other cases, one receiving 20.5 c.cm. in nine days, by which time the discharging ulcers at the extremity of each finger and toe were healed. An acute case of tubercular leprosy with satyriasis of the face, conjunctivitis, and desquamation of both forearms was considerably improved by one injection of 1 c.cm. of Comar's colloidal preparation of sulphur and antimony. Encouraging results occurring in a case of hydatid disease treated with intramuscular injections of colloidal antimony and emetine are recorded in a lady previously operated upon for two pelvic hydatid cysts, and who developed another below the right costal margin with an eosinophilia of 16 per cent. Following intramuscular injections over a period of three weeks (totalling 38 c.cm. of colloidal antimony and 6⅓ grains of emetine hydrochloride) the eosinophilia fell to 8 per cent., and *x*-ray examination showed reduction of the tumour, giving a shadow similar to that shown in a case successfully operated upon twelve years previously.

546. Results of Dental Defects.

GIVEN (*Journ. Royal Naval Med. Service*, April, 1922), who made investigations into dental efficiency in the navy from examinations of 575 unselected officers and men as regards digestion and regular action of the bowels, found that intestinal complaints, past or present, were almost as common among men with sound teeth as among those whose teeth were deficient and defective, and that robust health from infancy frequently occurred in men without a sound opposing tooth. The experience among uncivilized races, in whom dental disease is comparatively rare, points to the almost entire absence of appendicitis, gastric and duodenal ulcer, cancer, and other abdominal complaints, and is suggestive of the two conditions having a common origin in civilized dietary. Comparisons between the dental condition of sweet-eaters and non-sweet-eaters show that sweet eating is only a predisposing cause of caries, and that it is not incompatible with the presence of good teeth. Caries is frequently found to reach an advanced stage without giving rise to either local or general symptoms, men in robust health often possessing very bad teeth. It is more than likely, however, that later results may occur from a slow intoxication giving rise to arterial degeneration and premature senility, and possibly many of the deaths diagnosed as from heart disease after middle age are primarily due to arterio-sclerosis from this cause.

547. The Diagnostic Value of the Exercise Temperature in Tuberculosis.

WÜRTZEN and HOLTEN (*Hospitalstidende*, February 15th and March 1st, 1922) have investigated the rectal temperature of 130 persons before, directly after, and a considerable time after exercise. Twenty of these persons were healthy "controls," leading the carefully graduated life of a prison. All the tuberculous persons tested were afebrile; sixty of them were in the third stage of pulmonary tuberculosis. The exercise was slow walking on the level, lasting fifteen, ten, or five minutes. The authors found that healthy as well as tuberculous persons may show a rise of temperature after slight exertion, and that in one and the same person the same exercise may provoke a rise of temperature persisting forty minutes on one occasion and only five on another. This variability in the temperature reaction of one and the same person may also be observed in the subjects of tuberculosis. Both healthy and tuberculous persons may actually show a fall instead of a rise of temperature after slight exertion, and after the exercise temperature has fallen to the level at which the temperature stood just before the exercise there may be a second, inexplicable rise. On the whole, tuberculous persons react to slight exercise with a rise of temperature more frequently than healthy persons, but the exceptions are so numerous that this test is of practically no value in demonstrating tuberculosis.

548. The Bronchi and Lungs in Typhoid Fever in Children.

NOBÉCOURT (*Clinique et Laboratoire*, February, 1922) discusses the respiratory complications of typhoid fever in children under the headings of bronchitis, pulmonary congestion, pneumonia, and bronchopneumonia. The bronchitis may be generalized or localized at the apex or base. The lesions at the apex may sometimes simulate tuberculosis and give rise to a pseudo-tuberculous pulmonary syndrome. During the first week a mild form of bronchitis is the almost invariable accompaniment of typhoid, and is not associated with any subjective or functional symptoms. At a later stage the bronchitis may become more intense. Bronchopneumonia, which for a long time was regarded as a rare complication of typhoid fever, is really fairly frequent, being found in 10 per cent. of the cases (Hutinel and Darré). It is especially seen in young children, in whom it may appear at an early or late stage of the disease. In the early stage it assumes the form of capillary bronchitis, and may sometimes be the cause of death occurring rapidly. Late bronchopneumonia is usually found in severe attacks of typhoid fever. Acute pulmonary congestion may appear at the onset, at the height of the disease, or at the termination, and affect the apex, the base, or the middle portion of the lungs. It is not a severe complication in itself, but the gravity depends upon the intensity of the typhoid process. Lobar pneumonia chiefly occurs at the onset of the disease, and may mask the typhoid process (pneumo-typhoid). Defervescence commences on the seventh or eighth day, but is not complete, the temperature rises again, and the signs of typhoid fever become evident. Some of the broncho-pulmonary complications of typhoid fever are due to the typhoid bacillus, which is found in the sputum, the lungs, or pleural effusion, while others are the result of a secondary infection, especially during an epidemic of influenza.

549. Progressive Cerebral Hemiplegia.

GORDON (*Journ. Nerv. and Mental Dis.*, March, 1922) discusses the pathogenesis and differential diagnosis of progressive cerebral hemiplegia. Various pathological conditions occur—for example, oedema of a whole hemisphere, large areas of softening, partial or complete obliteration of the internal carotids, thrombosis of the Sylvian arteries, multiple foci of softening through arteritis of small cortical or central blood vessels, and tumour. Notes of five cases are given showing clinically common characteristics in that the paralysis developed in one or other extremity, and passed slowly from mere weakness in one limb to total hemiplegia. The face generally becomes involved simultaneously with the arm, and the sensations are invariably affected. Mild paraesthesia with weakness in one limb is the characteristic form of invasion, and there is no suddenness of onset as in apoplexy; but in all five cases the prodromal period showed

vertigo, with an unusually severe attack ushering in the onset of the unilateral paresis. Three of the cases showed marked oedema with deep softening of the cortex, and total obstruction of its main arterial supply, and in four of the cases there were distinct degenerative blood-vessel changes, the oedema and softening in the three cases penetrating through the entire thickness of the cortex to the white substance. In one case the internal capsule was softened but there was no oedema, and in the case due to a gliomatous tumour there was no oedema, and for many months no marked symptoms of intracranial pressure. These cases point to the conclusion that the condition may result from endarteritis, from arteriosclerosis, from obliteration of a large vessel, such as the middle cerebral artery, and from tumours, especially of the gliomatous type. In all cases of partial paralysis, syphilis must be borne in mind; the condition may also arise as the result of aneurysms of the basilar artery, and in tuberculous meningitis.

550. Dermato-polyneuritis and Erythro-oedema.

THURSFIELD and PATERSON (*Brit. Journ. Child. Dis.*, January–March, 1922) record the case of a previously healthy female infant, aged 10½ months, who was suddenly attacked by an undiagnosed, probably febrile infection. After some weeks of ailing, fretfulness, and anorexia it developed well-marked cutaneous, neuro-muscular, and mental symptoms resembling in many respects the condition seen in some cases of epidemic encephalitis. The face showed two patches of colour on the cheek and a reddened nose with a patch of branny desquamation on the forehead. There was a slight erythematous rash on the buttocks. The extremities were cyanosed, slightly oedematous, and cold, with the skin peeling off the fingers in large flakes; the finger-nails were not affected, but the toe-nails appeared to be deformed by the inflammation. The redness, cyanosis, and desquamation were limited to the hands and feet, the skin above the wrists and ankles having an almost normal appearance. The skin lesions obviously caused a good deal of irritation, but not so much as in eczema. Neuro-muscular involvement was shown by tonelessness of the muscles and extreme slowness of all muscular movements, but there was no tremor nor incoordination. When awake the infant kept up a slow, continuous movement, falling forward on the face and then slowly raising her head and bringing herself into a sitting position with a circular movement. The writers point out that an identical or closely allied disorder was described by Swift of Adelaide in 1914, and more recently by Jeffreys Wood of Melbourne, and in the United States by Weston, Byfield, and Manning Field. Thursfield and Paterson prefer the term "dermato-polyneuritis" to that of "acrodynia" used by Byfield, since the latter term ignores the neuro-muscular and mental symptoms. The condition is usually regarded as a "deficiency disease" or as a post-influenzal polyneuritis. The prognosis is good, complete recovery being the ultimate result. In the present case death was due to acute intussusception, and the autopsy failed to reveal any gross abnormality. PARKES WEBER (Ibid.) reviews the literature, and records with illustrations a case of erythro-oedema which apparently commenced in the first month of life and lasted till death at 3¼ years of age. The cheeks, chin, nose, and ears were affected as well as the hands and feet. The soles were red, slightly desquamating, and deeply ulcerated. The hands were mutilated by the loss not only of nails but of portions of fingers also.

551. Hypertrophic Rhinitis in the Child.

GAND (*Rev. de lar., d'otol. et de rhinol.*, March 15th, 1922), in his Paris thesis, states that the predisposing causes of hypertrophic rhinitis in children are cold and damp or, on the other hand, excess of precautions, or errors in diet, or causes inherent in the individual, such as adenoids, narrowness of the nasal fossae, and especially the constitution of the patient. Local and general disturbances result. The local symptoms are nasal obstruction, which is partial or complete, permanent or transitory, and occasionally an acute or chronic rhinorrhoea. The general disturbances consist of: (*a*) infective manifestations, such as pharyngitis, laryngitis, bronchitis, otitis, and gastro-enteritis; (*b*) trophic disorders, such as deformity of the thorax, maldevelopment of the facial skeleton, mental disturbance, and aprosexia; (*c*) reflex disorders of the cardiac and respiratory systems, nervous dyspepsia, and various spasmodic conditions. Three principal types of hypertrophic rhinitis may be described—namely: (1) a purely congestive type, which subsides under treatment with adrenaline 1 in 20,000 solution; (2) a hyperplasic type, which requires a stronger solution of adrenaline; (3) a myxomatous type due to polypoid degeneration of the turbinate bone. Treatment consists in cauterization with chromic acid after local anaesthesia with cocaine. Thirteen illustrative cases are recorded.

SURGERY.

552. Prolapse of the Rectum.

DRUECK (*Canada Lancet*, January, 1922) describes complete prolapse of the rectum in which the entire rectum with all its coats is protruded from the anus, owing either to extreme mobility or elongation and weakening of the normal supports, or to a defect in the pelvic fascia permitting a hernia of the pelvic bowel. Three degrees may occur: the first closely resembling an incomplete prolapse commencing at the anal margin; in the second degree the prolapse commences above the anus, the rectum being invaginated through the anal canal; while in the third degree some portion of the sigmoid or colon becomes invaginated into the rectum, although it may not appear externally. Complete prolapse of the first degree is distinguishable from the incomplete variety in that the mucous folds, which run longitudinally in the latter variety, surround the prolapse in irregular crescentic folds in the former. Since the condition begins within the rectum and protrudes through the anal orifice a sulcus is present between the prolapsing gut and the anal margin, a feature which differentiates it from the incomplete type. Prolapse of the third degree constitutes a true intussusception of the upper rectum, sigmoid, or colon, even to the caecum, into the lower rectum, and only in extreme cases does the bowel protrude from the anus, owing to the fact that the rectum is capable of great distension at its lower end. Symptomatically there is usually a history of constipation, followed by irregular diarrhoea, but complete obstruction does not generally result. Laxatives are ineffective, but enemata give relief by lifting up the bowel from below and stimulating a reverse peristalsis. Compared with obstruction of the upper bowel, the condition is more chronic, less painful, the diarrhoea more pronounced, and vomiting variable. Manipulation often causes gurgling of the gas in the loops filling the anterior part of the prolapse where percussion gives a tympanitic note, while the posterior half is dull—a sign not present in the incomplete variety, where only mucous membrane is detached. After reduction a laxity of all the rectal muscles is present on digital examination, and on palpation of the anterior wall of the rectum a distinct hernial impulse will be observed on coughing.

553.—JUVARA (*Bull. et Mém. Soc. Chir. de Paris*, March 14th, 1922) describes the case of a woman who had undergone numerous operations, consisting of partial removal of the mucous membrane, for prolapse of the rectum. The results were bad and the patient's condition was worse than before the operation. He then carried out an operative procedure consisting of total resection of the mucosa, plicating the muscular layer and narrowing the anal orifice, with complete cure of the condition. The operation was performed as follows: The mucous membrane was dissected up with some difficulty as a result of the scar tissue round the orifice; the fibres of the external sphincter were thin and mixed up with the cicatricial tissue, and the muscle appeared less than normal, as a result of the previous operations. The mucosa was then dissected up on the inner side of the muscle layer, and the muscle was enfolded by catgut sutures passed transversely; by this means the canal was made smaller in proportion as he carried out the enfolding above the external sphincter. By means of several sutures passed transversely the muscle was drawn towards the posterior wall and the anal orifice was markedly narrowed. The operation was completed by suture and resection of the mucosa in the same way as in the radical operation for haemorrhoids. On introducing a finger into the anus a narrow canal is felt surrounded by a thick elastic wall, formed from all the muscular portion of the prolapse which the sutures have drawn to the end of the gut; the mucosa is felt lying over this. The operative procedure was simple, and the wound healed by first intention, the patient leaving hospital three weeks later cured. This method shows the advantage of resecting the mucous layer and employing the underlying muscle to build up a strong support for the lower end of the intestinal canal.

554. Tuberculous Stricture of the Duodenum.

A. LOEW (*Wien. Arch. f. Inn. Med.*, April 5th, 1922) describes a case of duodenal stricture due to tuberculosis. The patient, a married woman, aged 39, had suffered from severe constipation ever since her first confinement at the age of 23. She had signs of adhesions in the right hypogastric and iliac regions. She was emaciated, and had symptoms of tuberculosis at the apex of the left lung. The abdomen was retracted, but there was no visible peristalsis and no ascites. There was some epigastric tenderness and a palpable tumour as large as a small apple in the right hypochondrium. A skiagram showed dilatation of the stomach with normal pylorus and dilatation of the first part of the duodenum, with a marked constriction at the junction of the first and

second parts. A posterior retrocolic gastro-enterostomy was performed, and the patient was discharged from hospital three weeks afterwards. Loew describes and illustrates the *post-mortem* appearances in a fatal case in a woman under Professor Erdheim, in which anterior and posterior retrocolic gastro-enterostomy with Braun's anastomosis had been performed. He also discusses the differential diagnosis of duodenal and pyloric stenosis due to neoplasms, actinomycosis, and syphilis, and observes that although tuberculosis of the small intestine is far more frequent in the lower third of the canal, a number of cases have been recorded by various continental observers in which duodenal tuberculosis was found in patients suffering from pulmonary tuberculosis.

555. Vaccines in Infections of the Urinary Tract.

WULFF (*Hospitalstidende*, March 8th and 15th, 1922) analyses the results of vaccine treatment of 100 cases of infection of the urinary tract in Rovsing's hospital in Copenhagen in the period 1911-20. Cases of gonorrhoea were not included, and in the overwhelming majority the coliform group was responsible for the disease. The author classifies his cases according as they were characterized by (1) acute febrile exacerbations or relapses or (2) by a comparatively mild and chronic course. There were 43 in the first class, 32 in the second. In the first class 21 patients were cured and 16 improved. In the second class 16 were cured and 10 improved. In a third class, containing 17 cases of pyelitis with calculi, there were 8 in which the calculi could not be removed. Of the remaining 9 patients, one was cured and 7 were improved. The author, who is greatly impressed by the importance of autogenous vaccine treatment, and who has come to the conclusion that spontaneous recovery is exceedingly rare in this class of case, notes that in about 80 per cent. recovery or definite improvement can be achieved by vaccines. In the remaining 20 per cent. vaccines prove impotent for some unknown reason. The most important effect of vaccine treatment is the cessation of relapses or exacerbations, and in many cases freedom from such exacerbations may be maintained for several years. The author recommends an initial dosage of 10 to 30 million germs, and in some cases he has increased the dose to 10,000 million germs.

556. Colectomy for Chronic Intestinal Stasis.

MARTEL (*Bull. et Mém. Soc. Chir. de Paris*, January 25th, 1922) records a case of chronic constipation of more than twenty years' duration which was cured by the operation of colectomy carried out in two stages. The indications for surgical treatment, he considers, are as follows: Constipation of long duration becoming progressively worse and where the patient's general condition shows a downward tendency; where radiological examination shows considerable delay in the passage of the barium meals; and where medical treatment after a prolonged period fails to relieve the condition. In these cases it is not difficult to prove the presence of stasis, but it is difficult to show that it is the cause of all the troubles from which the patient suffers. It is only by a process of elimination and after careful examination of the other organs that one can say that it is the colon alone which is the seat of the mischief and in consequence requires removal. Many patients have had their colons removed and have not experienced any relief after the operation. There is no doubt that in these cases the trouble is not merely mechanical, but that the degree of toxicity of the intestinal contents plays a large part. One has to consider between the operation of complete colectomy and more conservative procedures on the right colon. Martel does not consider that in chronic intestinal stasis conservative methods give such good results as complete colectomy. Removal of the right colon is not satisfactory. He always does the operation in two stages: The first consists of an ileo-sigmoidostomy by an end-to-side anastomosis; this is a safe operation, and has on several occasions cured the patients without removing the large intestine. If afterwards a second operation is required he removes the colon down to the ileo-sigmoidostomy; this operation is equally straightforward. The result of this procedure in the case reported has been most satisfactory.

557. A Statistical Survey of the Treatment of Fractures.

HANSSEN (*Medicinsk Revue*, March and April, 1922) has compared the results obtained in the treatment of fractures at a large surgical hospital in Christiania before and after the introduction of Lane's osteo-synthesis with plates. His verdict is decidedly in favour of this procedure. In the first period, 1908-12, there were 273 fractures treated, the results being good in 73 per cent. and bad in the remainder. In the second period, January 1st, 1914, to July 1st, 1920, there were 354 fractures treated, and the results were good in 83 per cent. Thus there was an improvement of 10 per cent. in the second period, during which about 10 per cent. of all the cases of recent fractures were treated by Lane's osteo-synthesis. The author admits that it is difficult to give a fair estimate of the value of Lane's work in a purely statistical analysis, and he supplements his statistics by a detailed account of his cases, fracture by fracture. He found that the factor of insurance had an appreciable effect on the ultimate results; of his insured patients only 46 per cent. were not in receipt of compensation, whereas 75 per cent. of the uninsured stated that recovery was complete. Among 48 cases of fractures of old standing admitted to hospital there were as many as 24 with pseudarthroses, and in another 14 cases admitted to hospital for recent fractures pseudarthroses developed in hospital. It is thus evident that even when a recent fracture is given the benefit of immediate and prolonged treatment in a large first-class hospital, pseudarthroses may develop. In several of these cases Lane's osteo-synthesis was performed, but the results were in many cases disappointing.

558. The Intraocular Circulation.

LEPLAT (*Le Scalpel*, April 15th, 1922), after a preliminary account of the anatomy of the blood circulation within the eye, describes recent work in relation to this and the tension of the globe. Changes in tension are generally due to changes in the mass of blood within the eye. The influence of the vasomotor nerve centres (in the medulla or in the choroid) is well known. Amyl nitrite raises the ocular tension by dilating the vessels, whilst adrenaline (dropped into the conjunctival sac) does not alter the tension within the eye. The systolic and diastolic pressure in the retinal vessels can be estimated by a measured pressure on the ball of the eye. General states of the circulation may be diagnosed by a study of the retinal circulation, although in certain cases they do not correspond. By using the tonometer of Schiötz, the pressure in the choroidal circulation can be estimated. In the glaucomatous eye the pressure is always higher in the prone than in the sitting posture.

OBSTETRICS AND GYNAECOLOGY.

559. Cervical Carcinoma and Pregnancy.

GROSS (*Zentralbl. f. Gynäk.*, April 15th, 1922) found cancer of the cervix in 0.065 per cent. of pregnant patients coming to a women's clinic; he believes, however, that the coexistence of cervical cancer and pregnancy is five times as frequent as these figures, which correspond roughly to the estimates of other observers, would seem to indicate. In the same period of time 34 other cases of cervical cancer were detected within twelve months of the last labour or abortion; in 24 of these it was thought possible to conclude with certainty that the malignant disease had been present during the gestation. Three-fourths of the cases were in women aged from 24 to 35. With regard to prognosis the writer believes that for cervical cancer operated on during pregnancy the outlook is more favourable than at other times; in explanation it must be remembered that cases detected during pregnancy are likely to be earlier cases than others, that clinical recognition of early cases is comparatively easy during pregnancy, and that in the pregnant subject Wertheim's hysterectomy presents less formidable technical difficulties than in others. The operative mortality in the 22 operable cases of the present series recorded was *nil*. For inoperable cases coming to observation within twelve months of delivery prognosis is bad; a more rapid course is run than in carcinoma cervicis in general. In the series under review radiotherapy was found ineffective, and cases whose inoperability was only established at laparotomy showed a primary mortality of 50 per cent. Prognosis is less good for cases coming to operation *post partum* than during pregnancy; although diagnosis is made early, the tumour cells have been subjected to the trauma of labour, bleeding and possibly infection during labour has diminished the patient's resistance, the operation is more difficult and its shock is less well borne.

560. Operative Treatment of Infection following Abortion.

VANVERTS (*Gynécol. et Obstét.*, 1922, v, 4) discusses the indications for hysterectomy as deduced from the results of curetting for infection following abortion. In cases of fever following abortion it is the writer's practice, provided that the signs of sepsis have persisted not longer than seven days, and that signs of extension of the infection to the periuterine tissue are absent, to remove retained products of conception from the uterus either by "curage" or (when this digital removal is impracticable) by curetting. In 80 cases so treated the pyrexia disappeared or became diminished on the following day; of these death ensued in 2, purulent pelvic peritonitis necessitating colpotomy occurred in 3, and temporary recrudescence of the fever in 3. Of 17 cases in

which fever had not abated on the day following intervention 5 terminated fatally, and the mortality among patients in whom pyrexia did not diminish by the fourth day after the emptying of the uterus is given as 55 per cent. With regard to hysterectomy, the writer believes that it is logical to proceed according to the prognostic indications afforded by the results following curetting or "curage." Not every case in which fever persists is suitable for hysterectomy; regard must be had to the patient's general condition, and especially to the occurrence of rigors, the failure of curettage to remove more than insignificant amounts of débris, or the absence of reaction consecutive to a subcutaneous injection of turpentine—all of which signs indicate a very grave prognosis, and may be taken to justify radical treatment in the absence of signs of local periuterine infection. Douay and others have advised hysterectomy immediately following a curetting or "curage" which has yielded few retained fragments; with regard to this, as well as to the indications for hysterectomy (as recommended by Faure and others) without trial of curettage in cases which appear from the first to be of extreme gravity, or in which curettage is contraindicated by signs of general peritonitis or of well-marked septicaemia, Vanverts reserves his opinion. Hysterectomy should be done by the vaginal method. In the non-operative treatment of these infections the writer attaches much importance to the provocation of a fixation abscess by subcutaneous turpentine injections.

561. Myomectomy.

GOUILLIOUD (*Presse méd.*, February 25th, 1922) has collected from the literature records of 99 cases of pregnancy following myomectomy; 5 out of 6 persisted to term. About 8 per cent. of myomectomies are followed by pregnancy, or, according to recent reports, a somewhat higher proportion. Labour in the great majority of instances has been uncomplicated, but three cases of rupture of the uterus have been described. Specifying the indications, on grounds of pathological anatomy, for myomectomy, Gouillioud remarks that submucous myomata or interstitial myomata of the anterior or posterior wall are specially suitable; hysterectomy is preferable for submucous myomata, for which myomectomy is difficult and likely to be accompanied by haemorrhage or followed by sepsis. In referring to the scope of myomectomy with regard to marriage, pregnancy, and obstetrical past history, it is pointed out that for childless married myomatous patients myomectomy gives the best prospects of maternity. Myomectomy during pregnancy is not recommended; rather, expectant treatment—the writer sees in pregnancy a valuable curative, and the only prophylactic, treatment of myomata, and regards late marriage as determining in many instances myomatous transformation of the uterus. Gouillioud cites two instances of pregnancy following the marriage of girls in whom myomectomy had been performed after their betrothal, as well as a case of five healthy children being borne by a patient operated on by myomectomy at the age of 25. Myomectomy has no higher operative mortality than that of hysterectomy for myomata, and except in subjects approaching the menopause is preferable to radiotherapy. Radium treatment should be reserved for medium-sized myomata in unmarried or aged patients suffering from severe haemorrhage. In performing myomectomy the writer uses three series of sutures—the first closing the bed of the excised myoma, the second closing the uterine incision, and the third uniting the severed edges of the serous investment.

PATHOLOGY.

562. The Pyramidon Test for Blood.

A. FORTWAENGLER (*Zentralbl. f. inn. Med.*, May 13th, 1922) confirms the discovery of Thévenon and Roiland (*Presse méd.*, 1918) and the researches of subsequent writers. He has proved that pyramidon is a much more delicate test for blood than either guaiacum or benzidine. The solutions required for the test are:

(1) Pyramidon 5, alcohol (90 per cent.) 100.
(2) Glacial acetic acid 25, distilled water to 50.
(3) Hydrogen peroxide (Merck) 3 per cent.

The original method was as follows: To 2 to 3 c.cm. of the fluid to be examined were added 6 or 8 drops of the acetic acid solution, 2 c.cm. of pyramidon solution, and 6 or 8 drops of 3 per cent. hydrogen peroxide. The mixture was well shaken and allowed to stand. The appearance of a lilac colour is positive for blood. Fortwaengler has increased the acetic acid solution to 16 drops and the peroxide solution to 12 drops, and claims that this gives a more rapid and distinct coloration. He also recommends that after shaking up the suspected fluid with the acetic acid solution and allowing the mixture to stand for a time, the test tube should be inclined and the hydrogen peroxide solution gently poured on the surface of the mixture: if blood be present a "lilac cloud" will appear very suddenly; if this is absent at the end of two minutes the specimen contains no blood. The writer has made exhaustive tests, and finds that while the guaiacum test is only positive in a 1 in 1,000 dilution of blood, pyramidon shows blood in 1 in 21,000 dilution; it is said to be equally reliable as a test for occult blood from any part of the alimentary canal. He also tested it with exogenous substances—namely, iron and bismuth salts and chlorophyll (in an ethereal extract of spinach); he found that pyramidon gave a negative result with all these substances. The usual technique for extraction of occult blood from stomach contents and faeces was employed.

563. Soft Chancre.

TEAGUE and DEIBERT (*Journ. of Med. Research*, 1922, vol. xliii, No. 1) recommend the following technique as most suitable for the recognition and cultivation of Ducrey's bacillus, the organism of soft chancre. Small tubes of clotted rabbit blood are heated for five minutes at 55° C. or kept in the ice box for three to six days. The tubes are inoculated by transferring a bead of pus from the soft sore by means of a sterile wire and stirring it about in the serum around the clot, after which the tubes are sent to the laboratory and incubated for twenty-four hours. In smears from cultures stained by Gram's method a diagnosis can be made from the morphology and arrangement of the bacilli on the same principles as those governing the diagnosis of diphtheria. Stock cultures are best preserved by transferring the growth into clotted rabbit blood heated at 55° C. for fifteen minutes, incubating for twenty-four hours, and then keeping the cultures in the ice chest, where they remain alive for at least three weeks. Numerous irregularly shaped involution forms were obtained when the bacillus was grown in clotted rabbit blood heated for ten minutes at 64° C., and this procedure may serve as an aid in the identification of freshly isolated strains of Ducrey's bacillus, just as involution forms on salt agar are helpful in the diagnosis of *B. pestis*. The authors point out that the statement that Ducrey's bacillus is non-haemolytic is only true for the first forty-eight hours of growth on blood agar; on the third or fourth day a distinct zone of haemolysis appears around the colonies. A study of the cultural requirements for the growth of Ducrey's bacillus showed that for satisfactory growth on solid media it was necessary to have incorporated with the agar either a casein digest or peptone solution, *plus* rabbit serum and extract of red cells.

564. The Cicatrization of Wounds.

EXPERIMENTS have been carried out by EBELING (*Journ. Exper. Med.*, May, 1922) with a view to determining the influence of temperature on the rate of cicatrization of wounds. Two young alligators were used. A rectangular flap of skin on the ventral surface of the body was resected and the outline of the wound traced with Indian ink upon a piece of cellophane placed over the surface. The tracings were transferred to paper and the areas measured with a planimeter. The animals were placed in a room having a temperature of 38° C. until the wounds had healed. Several days later a second resection of skin was made in a different area on the ventral surface of the body of each animal, as nearly as possible the same size as the first, and the animals were confined in a room at a temperature of 23° C. The time which each wound took to heal was carefully noted. After allowing for the very slight difference in sizes of the two wounds made, it was found that the rate of cicatrization was approximately doubled in velocity for a rise of 10° C. As this is equivalent to the increase in velocity which occurs in simple chemical reactions, it would seem probable that despite the complexity of the metabolic processes which take place in the animal organism the rate of cicatrization depends on the speed at which certain chemical changes occur in the process of healing.

565. The Presence of Leptospira Icterohaemorrhagiae in Rats.

FOLLOWING on a case of spirochaetosis icterohaemorrhagica which occurred at Montpellier, CARRIEU and SOLLIER (*C.R. Soc. Biologie*, May 13th, 1922) carried out a very limited investigation of the rats in the town, as a result of which they were able to detect one infected animal—*Mus decumanus*—amongst the first twenty examined. Similarly, DA SILVA, working in Lisbon in March of the present year, succeeded in detecting the infection in one rat out of the twelve which he examined. In both cases the technique adopted was that of subcutaneous or intraperitoneal inoculation of guinea-pigs with an emulsion of the kidneys, suprarenals, and liver of the suspected animal. If positive, the guinea-pig develops jaundice about the seventh or eighth day, and dies within the succeeding twenty-four hours.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

566. Chronic Diffuse Nephritis in Childhood.

GREENE (*Amer. Journ. Dis. of Children*, March, 1922) reports a case and reviews the literature of chronic diffuse nephritis in children under 10 years of age, with a view to correlating the findings. All cases with a history of scarlatina, or syphilis, or preceding infection, are excluded, only those being considered which present a more or less uniform clinical picture. In most instances symptoms can be traced to the first year of life, or even from birth. Twenty-seven cases from the literature come under review, in 19 of which the clinical and pathological findings are complete, but are not so complete in the remaining 8. Evidences of nutritional disturbance—renal infantilism—were almost invariably noted as appearing towards the end of the first year or on weaning, the children being physically and mentally backward in development, difficult to feed, with in many instances bony deformities and evidences of rickets. Pallor, anaemia, polyuria of low specific gravity, the presence of albumin in relatively small amounts, occasionally oedema, cardiac hypertrophy, and albuminuric retinitis were among the symptoms noted, and uraemia was the terminal condition in nearly all the cases. The pathological findings were similar to those found in chronic diffuse nephritis in adults, the kidneys being small and pale with adherent capsule, both being affected about equally. Glomerular changes depended upon the degree of damage, varying from hypertrophy to connective-tissue infiltration, and the tubules showed epithelial swelling and degeneration. Etiologically the most marked feature was the history in nearly every instance of weakness and delicacy from birth and backwardness in development, pointing to a congenital origin, though the primary underlying cause is obscure.

567. Incipient Epilepsy.

TRACY (*Med. Record*, March 11th, 1922) discusses the diagnosis and treatment of incipient epilepsy, that early stage of the disease manifested by faintings, sudden pallor, dizzy attacks, sudden weaknesses, and periods of irritability associated with a sympathetic hypertonia, unbalanced vaso-constrictor reflexes, and chronic vaso-constriction spots. By the administration of colloidal oenanthe crocata by mouth in three cases the sympathetic hypertonia was overcome, and it was found that as the vaso-constrictor reflexes became normal the symptoms of dizziness, loss of consciousness, sudden pallor, and irritability disappeared. Observations on other cases point to the coincidence of sympathetic hypertonia with the symptoms of incipient epilepsy, and show the concomitant disappearance of the symptoms and of the sympathetic hypertonia by the use of oenanthe crocata. The drug is a sympathetic paralysant, and it is best administered as a colloidal preparation free from alcohol. In cases where a demonstrable sympathetic hypertonia is present in children 10 years old as much as five minims, four times a day (after meals and at bedtime), has been given, but it is advisable gradually to work up to such a dosage. It is safest to start with much smaller doses, giving a teaspoonful of a mixture containing ten minims in eight ounces of water and gradually increasing the strength until the mixture contains two drachms in the eight ounces. Notes of three cases are given, the result of treatment in the first case being amelioration of the symptoms under small dosage during the first month, and their disappearance at the end of the second month under increased dosage. In the second case the medicine was taken very irregularly, the symptoms abating during its administration, but returning when it was omitted. In the third case, in which the medicine was taken regularly for seven months, all symptoms disappeared after the second month, and they have remained absent up to the present, a period of three years.

538. Standard of Cure in Syphilis.

FRASER (*South African Med. Record*, March 25th, 1922), in summarizing the present position as regards the cure of syphilis, points out the uselessness of a few massive doses of arsenobenzene, and confines the value of the Wassermann reaction to diagnosis, since treatment directed against and controlled by it is misapplied, each case being treated as an individual apart from the Wassermann reading. Slow and progressive sterilization must be the aim, the treatment being employed with a view to its power of stimulating tissue to defensive activity in addition to its action on the parasite, and such treatment should be carried out for two or three years irrespective of the Wassermann reaction. Since at present a cure can only be regarded as relative, patients should be urged to undergo periodic courses of treatment for the rest of their lives if later manifestations are to be successfully prevented. After adequate treatment over a period of two or three years marriage may be permitted, and is not contra-indicated even if the Wassermann reaction is positive, the risk to the wife being very slight provided no late lesions arise. In the event of a married man contracting the disease pregnancy should be avoided until cure has been effected; but in the event of its occurrence the wife should have intensive treatment throughout the pregnancy, and the child be treated for three years, whether symptoms are present or absent, it being borne in mind that the Wassermann reaction in infants is unreliable as a guide. The same rule applies to the marriage of a syphilitic woman as to a man, further treatment being given throughout each gestation, and to the children from birth, since, however completely treated, a syphilitic woman is always liable to give birth to an infected child.

569. Ascariasis of the Bile Ducts.

NEUDÖRFER (*Wien. klin. Woch.*, February 23rd, 1922), who records four cases in women aged from 36 to 63, states that one of the most disagreeable occurrences in the aftermath of the war is the great increase in helminthiasis. Whereas formerly intestinal obstruction due to ascarides was occasionally observed, the presence of these parasites in the bile ducts was one of the greatest rarities. Among 2,000 operations on the bile ducts Kehl did not meet with a single example of this kind, whereas ever since 1914 a large number of cases have been recorded. The clinical picture closely resembles that of acute cholangitis, but is distinguished from it by two symptoms—namely, the onset with violent and continuous pain and a pulse of 120 and more. The temperature is between 100.4° and 102.2°. The pain is situated in the right epigastric region and radiates under the ribs and to the back. Acute cholecystitis and acute pancreatitis are excluded by the softness of the abdominal wall and absence of tenderness on light pressure. If, as in three of the writer's cases, ascarides have been vomited, the diagnosis of these parasites being responsible for the condition is most probable. Whether the severe toxaemia is due to toxins produced by the worms or by invasion of the common bile duct by the parasites is uncertain.

570. Epileptiform Attacks in Sero-fibrinous Pleurisy.

ACCORDING to LAUBRY and BLOCH (*Paris méd.*, February 25th, 1922), who record a case in a previously healthy man aged 25, in whom the onset of a sero-fibrinous pleurisy was accompanied by an epileptiform attack, cases of this kind are very rare. Roch of Geneva in 1905 was able to collect only five cases, published by Corazza, Talamon, Camus, Treilhe, and himself respectively. The development of the attacks, as shown by Roch, is due to inflammatory pleural effusion or even a dry pleurisy having an irritating action on the nerve terminations. Experimental epilepsy has been produced by Roch, Cordier (1911), and Thiroloix, by injection of an irritating fluid (tincture of iodine or ethyl chloride) into the pleura. The vagus conveys the epileptogenous impressions to the nerve centres, as is shown by the fact that double vagotomy or injection of morphine prevents the occurrence of the attacks, while section of the phrenic or sympathetic has no effect. Hence the advisability of giving an injection of morphine before performing thoracocentesis, as is the rule in Florand's wards.

571. Desquamation of the Bladder Epithelium in Scarlatina.

GONNELLA (*Deut. med. Woch.*, March 31st, 1922) has wondered whether desquamation of the skin in scarlatina has any parallel in the linings of internal organs such as the bladder, and to elucidate this possibility he has counted the number of epithelial bladder cells from time to time in the urine of sixteen children suffering from scarlatina. The urine passed during the twenty-four hours was centrifugalized, and the epithelial cells were counted in a Bürker's chamber. As a control several counts were made of the same specimen of urine, and the results were remarkably uniform. As a further control the urines of eight children, suffering from other diseases, such as pneumonia, were examined in the same way, and in none was any increase in the number of epithelial cells observed. In all but three of the sixteen

cases of scarlatina there was an increase in the number of epithelial cells, but this increase did not always synchronize with the desquamation of the skin. There appeared to be no parallelism in the severity of the external and internal desquamation, but the author's observations definitely point to the existence of internal desquamation in association with scarlatina.

572. Statistics of Liver Diseases.

MÜLLER (*Klinische Wochenschrift*, April 22nd, 1922) thinks that every clinician who has had the opportunity of observing an extensive hospital practice for some years will have been impressed by the change in the frequency of the more important liver diseases. He publishes statistics confirming these general impressions from the wards of the Moabit Hospital, Berlin. The percentages are given of seven forms of liver affections amongst the cases admitted, and these are indicated in two charts (for the period from January, 1914, to March, 1922). The frequency of cancer and of inflammatory diseases of the bile ducts remained unchanged. The frequency of catarrhal jaundice remained much the same from 1914 to 1919; but it became twice as frequent in 1920, and nearly three times as frequent in 1921. Salvarsan jaundice increased in 1921 and 1922. Hepatic syphilis showed little change, but recently has slightly increased. The frequency of cirrhosis of the liver has diminished; in 1921 it was one-third of that in 1914. The difference is probably due to the fact that less alcohol has been recently consumed. Acute yellow atrophy of the liver has increased in frequency recently.

573. Paralysis of Accommodation.

JEANDELIZE (*Revue Médicale de l'Est*, February 1st, 1922) discusses paralysis of accommodation in relation to infectious diseases. He says the three common factors are diphtheria, encephalitis lethargica, and syphilis, and in the presence of symptoms of ciliary paralysis one should think of one or other of these diseases. In the first two the paralysis is mostly bilateral, in the third unilateral. The prognosis in diphtheritic paralysis is usually good. Bilateral paralysis may occur in syphilis, but is uncommon, and there are usually other signs of syphilis which will help to clear up the diagnosis.

574. Calcium in Salvarsan Poisoning.

KENEDY (*Deut. med. Woch.*, May 5th, 1922) confirms the observation of Pulay (*Deut. med. Woch.*, February 16th, 1922) that certain of the toxic symptoms of salvarsan may be avoided by the simultaneous injection of calcium. One of Kenedy's patients was a woman who reacted to even small doses of neo-salvarsan with severe oedema and diffuse inflammation of the skin of the face and limbs, as well as with a temperature of 40° C. Since giving calcium, separately or in the same injection as the neo-salvarsan, he found the patient tolerate the latter without any disturbances. The regularity with which she developed toxic symptoms after neo salvarsan alone, and remained free from the symptoms when it was combined with the injection of a 10 per cent. solution of calcium chloratum, showed that the influence of the latter could not be explained away as accidental.

SURGERY.

575. Non-operative Treatment of Empyema.

GIBBON (*Amer. Journ. of the Med. Sciences*, April, 1922) points out that the experience of the war has considerably modified civilian treatment of septic conditions in the pleura. Acute empyema should now be treated by Carrel-Dakin irrigation, since the painstaking employment of this method will result in the sterilization of the cavity and ultimate cure, and so enormously reduce the cases of chronic empyema. The opening in the chest wall should be made at a point over the collection of pus, in such a way that the cavity can be kept filled with Dakin's solution even when the patient is sitting up or on his feet. A simple intercostal incision is sufficient; it is not necessary to resect a rib, or to remove masses of lymph from the cavity, or to liberate the lung by digital separation of adhesions, for the lung will expand when the cavity is sterilized and closed. The Carrel-Dakin treatment should be applied to the treatment of chronic empyema also, and the author regards the criticism that the treatment is troublesome and requires much attention as groundless, since some of his cases carried out their own sterilization at home, obtaining fresh Dakin's solution from the hospital every two or three days. To obtain success the Dakin's solution must remain in contact with the entire wall of the cavity; the solution must be properly made up and fresh, and the greatest care must be exercised to prevent reinfection of the sinus and cavity from the skin. In order to estimate the size of the cavity it should be injected with bismuth in oil, with the patient in such a position that the mouth of the sinus is higher than all parts of the cavity; stereoscopic x-ray plates are then taken and the exact position and shape of the cavity determined. Unless there be necrosis of a rib or a foreign body present no operation is necessary, except simple dilatation of the sinus so as to admit two or three Carrel tubes. The cavity is kept filled with the solution, just enough being added every two hours during the day and every three hours during the night to keep it full. The pus first disappears; smears are then taken from the depths of the cavity and sinus, and when these have been negative for three or four successive days the tubes are withdrawn and the cavity allowed to close without any surgical interference.

576. Statistics of Colles's Fracture.

CONTI (*Schweiz. med. Woch.*, April 20th, 1922) has made a statistical analysis of the 542 cases of Colles's fracture coming within the sphere of the Swiss Accident Insurance in Lucerne in 1919 and 1920. The second decade was the age at which this fracture was most common, and in 24 cases it was a "chauffeur" fracture, the injury in all but one of these cases being indirect and inflicted while the patient was cranking up. The author distinguishes three kinds of "chauffeur" fracture, according as (1) the line of fracture runs obliquely from without, from the styloid process into the radio-carpal joint; (2) the line of fracture runs 1 to 2 cm. above the joint; and (3) the line of fracture runs from the outer side of the distal end of the radius, reaching only to about the middle of the bone. Only in 42 per cent. was the fracture associated with professional work, and in 9 per cent. it was associated with gymnastics. In 94.5 per cent. of the men, and 93 per cent. of the women, complete recovery was effected. In the remainder, in which some degree of deformity persisted, the compensation paid ranged from 10 to 30 per cent. A point which the author emphasizes is the tendency of the doctor in charge to underrate the time required for recovery. This depends much on the age of the patient; in the second decade 4½ weeks are sufficient. From the third to the eighth decade the time in weeks increases from 5½ to 7, 7, 8½, 9, and 18. The average time is 6 weeks, whereas practitioners are inclined to consider 4½ sufficient.

577. Post-encephalitic Blindness without Lesion of Fundus.

F. AGNELLO (*Il Morgagni*, May 5th, 1922) refers to the frequency of ophthalmoplegia and of optic nerve lesions recorded in the recent epidemic. The visual disturbances range from slight amblyopia to total blindness, and in a certain number oedema and congestion of the papilla or pallor with signs of commencing optic atrophy were found. Treatment was of little use. He describes the case of a girl of 13 whose family history was negative. She had had measles and eczema, and several attacks of tonsillitis. Menstruation commenced at the age of 12 with hysterical symptoms and some irregularity of menorrhagia. Her illness began on February 16th, with sudden onset of fever (39.8° to 40.5° C.), intestinal symptoms followed by bronchopneumonia lasting eight days and running a normal course. On February 27th encephalitis supervened with return of fever (38.5° to 39.5° C.), lethargy, ptosis, and strabismus. When the temperature commenced to fall she complained of her eyes, and from the beginning of convalescence she was quite blind. When seen by the author the ptosis and squint had disappeared, but there was slight nystagmus. The pupils were of normal size and reacted promptly to light. The discs and vessels were normal in colour and size, the retinae were normal and media quite clear. The patient could not recognize any objects, and said she was quite blind. Agnello states that Vincent has recorded similar cases with no obvious changes in fundi and preservation of light-reflex. He excludes uraemia and lead poisoning, and suggests that the lesion in this case was in the subcortical white matter of the occipital lobes.

578. Trephine Operations for Glaucoma.

HEPBURN (*Brit. Journ. Ophthalmol.*, March, 1922), from his experience in 140 trephine operations for glaucoma, believes it to be the operation of choice. The importance of an efficient conjunctival flap cannot be overestimated in avoiding late infection, and he strips the conjunctiva off the globe in its entire thickness right down to the sclera, using forceps without teeth to avoid the risk of tearing it. The trephine is rotated so as to cut through the anterior part of the scleral disc before the posterior, to form a hinge posteriorly so that the disc can be removed without fear of injuring the conjunctival flap. The trephine should never be removed until the section is finished, so that the force of the aqueous discharge will push the knuckle of the iris well out of the wound. Cases

operated upon early, especially while the tension was normal, gave the best results, and the operation was only performed in acute glaucoma provided the tension had been previously reduced; otherwise an iridectomy was done. Failure is likely to result in secondary glaucoma, and in long-standing cases where the tension is raised at the time of operation, and when the field has been generally contracted almost down to the fixation point. Vision in many cases often appears worse immediately after operation, but improvement follows later. The trephine operation, undertaken early, with carefully prepared conjunctival flap, is the ideal one for chronic glaucoma, especially of the type met with in young adults.

579. Fracture of the Patella.

ESTOR (*Bull. et Mém. Soc. Chir. de Paris*, March 28th, 1922) considers that fractures of the patella due to direct violence from falls on the ground are probably more common than is generally supposed. He reports the case of a man, aged 62, with simultaneous fracture of both patellae due to a fall on the stairs. On the left side there was a transverse fracture at the junction of the middle and lower thirds, whilst on the right side the fracture was at the junction of the upper and middle thirds. The former was due to indirect violence, whilst the latter, he thinks, was due to the fall on the ground. Direct fractures are usually attributed to blows or kicks; in falls it is considered that it is the tuberosity of the tibia, and not the patella, which receives the impact. In reality, in a fall forward on the ground it is the patella which receives the shock, in its lower third, in slight flexion and flexion to a right angle, whilst in extreme flexion it is the upper two thirds. Contrary to general opinion, the anterior tuberosity of the tibia does not touch the ground. These conclusions have been proved by experiments and are confirmed by everyday experiences of infections of the patella bursa in those who have to kneel. Likewise wounds of the knee, so common in children, lie over the patella and not over the tibial tuberosity. These examples show that in flexion of the knee it is the patella itself which touches the ground.

580. The Etiology of Hernia of the Bladder.

WATSON (*Amer. Journ. of Surgery*, March, 1922) finds that the most important causative factors in hernia of the bladder are age and sex, whilst anything that dilates the hernial rings or increases the volume of the bladder favours this disease. It is primarily a condition of adult life and old age, and occurs more frequently in males. Distension of the bladder in prostatic disease or due to urethral obstruction favours the condition; the bladder thus remains enlarged and overlies the hernial orifice, which it may enter. If there follows an exciting cause, such as an effort or strain, there are all the conditions favourable for the development of a vesical hernia. Relaxation of the abdominal wall is a factor also favouring the condition, and the bladder may be found in post-operative herniae. Congenital predisposition is a rare cause of this type of hernia, as most of the patients are elderly before the hernia is found. A prevesical lipoma is regarded as an important factor; this mass of fat is adherent to the anterior portion of the bladder, and by the traction of the lipoma the bladder is drawn through the hernial orifice. A cystocele may also result from traction of a pre-existing hernia; this may be spontaneous or follow pull from adhesions. Femoral hernia of the bladder occurs almost always in women; inguinal hernia may be found in men. The most important cause in women is pregnancy.

581. Carcinoma of the Spine.

CARCINOMA of the bodies of the vertebrae is not a very unusual condition. The vertebrae are probably, amongst the bones, the most favoured sites for the location of metastases. OPPENHEIMER (*Journal of Bone and Joint Surgery*, April, 1922) reports 32 cases of cancer of the spine. The primary lesion was found in the breast in 18 cases, and this appears to be the commonest primary focus; in 12 cases the metastatic symptoms appeared before the primary site was determined. In some cases an acute angular kyphosis may be the first symptom, and in the absence of a primary focus it may be impossible to differentiate this condition from Pott's disease. Symptoms of root invasion, in the absence of bony changes due to tuberculosis, are, for the most part, characteristic of carcinoma; vague back pains, ill-defined pain on pressure over the spine, and a negative *x*-ray report may readily tempt one to consider the condition functional. The symptoms of actual invasion of the spine or spinal roots are striking, the continuous agony being found in no other pathological process. Continuous bilateral sciatica often leads to the discovery of an unsuspected carcinoma. Changes in the contour of the spine in connexion with other symptoms are very suggestive. In some cases the primary carcinoma in the prostate, thyroid, or lungs, had not been demonstrated until they came to autopsy. A radiograph may not clear up the diagnosis in early cases, and the early diagnosis of cancer must be tentative in many instances. The peculiar character of the segmental pain or the early changes in the conformation of the spine will often aid in securing a diagnosis. Cases presenting metastatic bone and cord symptoms gave an average duration of fourteen months.

OBSTETRICS AND GYNAECOLOGY.

582. Cystic Tumours of the Uterus.

ACCORDING to MACCABRUNI (*Annali di Ostetricia e Ginecologia*, March 31st, 1922), serous cysts of the uterus, which are usually multiple, small, and superficial, are rare and have little clinical significance. Blood cysts due to trauma are rare; lymphatic cysts have occasionally been described. Mucous or retention cysts may be situated in the mucous or submucous layers, constituting in the cervix Naboth's ovules; or more deeply in the myometrium, usually as an accompaniment of endometritis: in the latter situation they occur most commonly in the fundal and especially the isthmic region. Dermoid and hydatid cysts are occasionally found. True uterine cysts, having a fibro-muscular wall and a lining of cylindrical or cubical epithelium, arise from dilatation of the Wolffian ducts or proliferation of their vestigial remnants; occasionally they are due to abnormalities of development of the Müllerian ducts. Cysts in connexion with adenomyomata, when situated towards the exterior of the uterine wall, probably arise in Wolffian remnants; otherwise adenomyomatous cysts are an accompaniment of chronic (not infrequently tuberculous) endometritis and metritis. Clinically these cysts cause excessive haemorrhage, pelvic pain undergoing periodic exacerbations, and irregular uterine enlargement; carcinomatous metaplasia is rare. Cysts accompanying uterine fibromyoma are not very rare, being found in about 3.5 per cent. of cases: Maccabruni records nine personal cases, and divides cystic fibromyomata into two groups, according as an epithelial lining is present or absent. Cysts having a cellular lining arise in dilatation of lymphatics, or more commonly in included embryonic remnants or post-foetal epithelial penetrations which for a time are latent. Formation of cysts, devoid of epithelial lining, in fibromyomata (the so-called pseudocysts) is due to disordered local nutrition; factors which may be concerned are oedema, endarteritis, congestion, haemorrhage, and gangrene. Cystic fibromyomata may attain great size, weighing up to 50 kilograms and containing as much as 15 litres of fluid; they may be submucous or interstitial, but are most commonly subserous. Clinically cystic transformation of a myoma is characterized by irregularity of haemorrhage, which sometimes becomes increased; by increased rapidity of growth of the tumour, sudden acceleration not infrequently giving rise to acute peritoneal symptoms and signs; and sometimes by symptoms of compression of adjoining viscera. The tumour may be regular or irregular, and is not necessarily fluctuant; diagnosis from ovarian cyst or pregnancy may present considerable difficulty. Coincident ascites is not rarely found. Among the complications which may ensue are rupture into the uterus or the peritoneal cavity, torsion, suppuration, and sarcomatous degeneration. Large cysts may also occur in sarcomata and fibrosarcomata. Maccabruni gives 515 references to the literature.

583. The Rate of Growth of Cervical Cancer.

WOLLF (*Zentralbl. f. Gynäk*, May 13th, 1922) discusses the influence of pregnancy on the malignancy of cervical cancer. Some authors have claimed that cases of cervical cancer take a less favourable course in the pregnant than the non-pregnant uterus, partly because of increased local vascularity and partly because the patients concerned are comparatively young. Theilhaber and others, on the contrary, believe that during pregnancy cervical cancer shows itself less than usually malignant; spread of cancer, which is favoured in anaemic (scar, senile, or arterio-sclerotic) tissue is inhibited by the hyperaemia accompanying pregnancy. During the last ten years the records of the Breslau State Hospital show that 10 per cent. of cases of cervical cancer in women aged from 25 to 40 occurred during or within a year after pregnancy. From analysis of these cases the writer is inclined to believe that there is little evidence that gestation influences in one direction or the other the course of cervical cancer. The variations shown in the course of individual cases are to be ascribed to the different degrees of malignancy shown by different tumours. In criticism of those statistical comparisons which seemed to show a less rapid course in uterine cancer in connexion with pregnancy it must be remembered that about this time early cases are more likely to be detected accidentally during routine examinations. FORST (Ibid.) points out that it is difficult to ascertain with

accuracy how long the morbid process has existed in cases of cervical cancer. The accuracy of the evidence obtained by questioning patients as to the date of onset of the early symptoms (specified as chronic discharge, especially of a blood-stained, watery nature, and bleedings during the menopause, after douching or after coitus) is dubitable; moreover, these signs are not invariably present. Schottländer and Kermanner express the opinion that large infiltrating or proliferating growths have usually existed for from two to six months. Forst relates the case of an 8-para, aged 49, who for five months had suffered from haemorrhage, commencing two years after the menopause; temporary improvement followed curetting, but return of the symptoms led to cauterization of a cervical erosion, of which an excised fragment showed no microscopic characters suspicious of malignancy. Thirty-five days later findings on examination were normal, but at the end of a further period of thirty-one days the patient returned presenting the symptoms and signs of an advanced cervical cancer. The growth, which was as large as the fist, had extended on one side into the vagina and parametrium.

584. Aortic Disease in Pregnancy.

ACCORDING to FELETI (*Rivista d'Ostetricia e Ginecologia Pratica*, April, 1922), pregnancy appears to be considerably less frequently encountered among the subjects of aortic than of mitral disease. According to various observers, aortic disease is met in from 0.1 to 0.2 per cent. only of pregnancies, and De Sio-Cesari in a study of 507 cases of pregnancy complicated by cardiopathy found 3.9 per cent. of aortic lesions, in comparison with 8.08 of mitral disease. It is possibly due to a greater average duration of compensation in aortic than in mitral disease that pregnancy in the former less frequently leads to medical treatment. Many writers affirm that aortic disease does not gravely influence foetal or maternal mortality in connexion with pregnancy. Feleti's experience does not accord with this. The six cases of pregnancy and aortic disease which he describes led to the issue of five premature foetuses, of which four were dead, and one a living healthy child; two of the mothers died shortly after labour, and three exhibited grave metrorrhagia during gestation.

PATHOLOGY.

585. The Infectious Nature of Disseminated Sclerosis.

THE conception of the infectious nature of disseminated sclerosis, first put forward by Marie, seems likely to prove correct. In addition to evidence previously adduced in its favour, PETTIT (*C. R. Soc. Biologie*, April 29th, 1922) now records some very convincing facts which lead him to conclude that the origin of the disease is due to the activity of a spirochaetal organism which is found in the cerebro-spinal fluid of patients during life. Four cases of the disease were studied, and from the spinal fluid of each it was possible to infect either monkeys, guinea-pigs, or rabbits, and to demonstrate the presence of the spirochaete in the cerebro-spinal fluid after some days. In the case of the first patient the cerebro-spinal fluid was withdrawn and injected intrathecally into a monkey. After presenting motor disturbances and paralytic disorders of the posterior limbs the animal died in twelve days. The blood, the cerebro-spinal fluid, and the spinal cord all proved infective to rabbits, on which five successful passages were performed. The spinal fluid of the same patient was also injected into several rabbits and guinea-pigs; some of the former animals died, while all the guinea-pigs survived, but without exception they were all shown to contain the peculiar spirochaete in the cerebro-spinal fluid during life. The same results occurred in the other three patients from whom rabbits were infected. Until a greater amount of knowledge has been gathered in respect to the general properties of the organism, the author considers any attempt at nomenclature to be somewhat premature.

586. Renal Glycosuria.

LEWIS (*Arch. Intern. Med.*, April, 1922) reports three cases of renal glycosuria, the cardinal points in the diagnosis of which are (1) glycosuria without hyperglycaemia; (2) little, if any, relationship between the carbohydrate intake and the amount of glucose excreted in the urine; (3) the absence of the signs and symptoms characteristic of diabetes mellitus; and (4) a long period of observation during which the patient shows no tendency to develop diabetes mellitus. The first case was of unknown or idiopathic origin and has been observed over a period of six years; the blood sugar and blood-sugar curve have always been normal, but the patient has marked glycosuria without symptoms and is apparently in excellent health. The second case developed glycosuria following chronic diffuse nephritis, and the glycosuria has been constant but never above 16 grams, and is largely independent of the carbohydrate intake. Synchronous sugar determinations on blood and urine show the presence of a glycosuria with 0.068 per cent. sugar in the blood, and the response to 100 grams of glucose falls within the limits of a non-diabetic case of nephritis. There are no other signs of diabetes mellitus. The third case was first seen on account of scurvy, and was found to have an arterio-sclerotic kidney. This patient is aged 74 and passes from 30 to 50 grams of glucose each day, but the ordinary changes of diet had very little effect on the amount of sugar excreted. The urine showed 2.7 per cent. sugar with only 0.064 per cent. in the blood, and there are no other signs of diabetes. The response following the ingestion of 100 grams of glucose showed a remarkably high and prolonged rise in the blood sugar, which is probably a retention phenomenon, or may be connected with the high diastatic activity so often seen in severe nephritis.

587. Bacterial Virulence in Relation to Vaccine Production.

HOW far is the efficacy of a vaccine used for prophylactic purposes dependent on the virulence of the strain of organism employed in its preparation? Such is the question which HARVEY and IYENGAR (*Indian Journ. Med. Research*, April, 1922) endeavour to answer, in having recourse to argument by analogy from animal experimentation. First of all they show that the virulence of *B. aviseptícus*—an organism of the Pasteurella group—can be maintained at approximately the same level for at least a year by weekly subculture on blood agar, while the same strain cultivated in the same way on ordinary agar falls in virulence to a very low point. Having now one virulent and one avirulent strain, they proceed to test their relative immunizing properties on pigeons, using as a test their ability to protect against a lethal dose of living organisms injected intravenously. The results, carefully guarded by control experiments on uninoculated birds, show that the degree of protection afforded by either strain is for all practical purposes identical. Whether it is justifiable to conclude from these experiments that the antigenic and the invasive properties of bacteria are two quite separate and distinct functions of their activity is a question which they do not attempt to solve, but that this may be the case is shown—or at least strongly suggested—by the experience gained in the use of typhoid vaccine. In this country the particular strain of organism employed in the manufacture of the army vaccine is one which was isolated more than twenty years ago, and though its virulence for animals is of a comparatively low order it still appears to retain its immunizing properties for the human being unchanged.

583. Basic Metabolism in Exophthalmic Goitre.

RESEARCHES carried out by LABBÉ and STEVENIN (*C. R. Soc. Biologie*, May 13th, 1922) on patients suffering from Graves's disease, with a view to determining the changes which occur in the basal metabolism, are directly confirmatory of the numerous results obtained recently by American workers. The number of calories given out per square metre of surface per hour in the normal individual varies from 35 to 40. In mild cases of hyperthyroidism this figure is increased to an average of 51, while in fully developed cases of Graves's disease it rises to a mean of 66. In patients displaying a condition of simple goitre the basal metabolism is unaltered, except occasionally in recent cases, when a slight rise may be met with. The estimation of the basal metabolism is of considerable value, not only from a diagnostic point of view, but also from that of prognosis. In the same journal the authors record their findings with regard to the hyperglycaemia induced in patients suffering from Graves's disease by the administration of 45 grams of glucose. The titre of the blood sugar was estimated every half-hour for the following five or six hours. Both in the mild and in the advanced cases the increase over the normal content as determined by controls is distinctly marked. The reaction appears to be very constant, and is therefore of value for assisting in the diagnosis of doubtful cases of the disease.

589. A Simple Method for the Detection of the Tubercle Bacilli.

PANE (*Rif. Med.*, April 3rd, 1922) recommends the following method in cases where it is difficult to find tubercle bacilli: The suspected sputum is placed in a sterile glass, and four times as much sterile physiological solution added and the mixture left in an incubator for twenty-hours at 37° C. The mucus and cells become liquefied, and after centrifugalization and elimination of the liquid rich in organic matter the bacilli stained by the Ziehl-Neelsen method are much more readily seen.

EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

590. Cholera.

MUTERMILCH (*Ann. de l'Institut Pasteur*, April, 1922) gives an interesting account of the epidemic of cholera in the Polish army in 1920–21, and describes the way in which the disease was spread and the manner in which it was stamped out. His experiences lead to the following conclusions: Cholera was spread in Poland by direct contact from case to case, and not disseminated by contaminated water, for the water supply was examined bacteriogically with particular care in all the centres of infection, with negative results. Every new outbreak could be traced to the arrival of some infected convoy of prisoners or to a cholera carrier, and when the movement of prisoners was suspended no new centres of infection appeared and the epidemic was rapidly stamped out. The isolation of suspects and the quarantine of contacts came to be regarded as measures of the first importance. Healthy carriers of cholera were frequently encountered, and it was necessary to isolate them and also all contacts until three successive examinations of faeces had been reported negative. Prophylactic vaccination is a valuable measure in the campaign against cholera, although in Poland the sanitary condition and general health of the prisoners was so bad that little could be expected by such means. Experience pointed to the necessity of mobile bacteriological laboratories capable of proceeding at once to any new infected area for the purpose of investigating the source of the infection and isolating all carriers and suspects. Since the establishment of laboratories on the frontier for examining all prisoners being exchanged between Poland and Russia there has been no new epidemic in Poland, although Russia is still ravaged by cholera, there having been 80,000 cases of cholera reported in Russia in October, 1921.

591. Intermittent Sinus Acceleration.

DE MEYER (*Arch. des mal. du coeur*, March, 1922) describes a special form of sinus arrhythmia characterized by an alternation of accelerated and normal or only slightly accelerated beats. This form of acceleration is absolutely independent of respiration, and the duration of the systoles is not shortened during the periods of acceleration. The amplitude of the pulse is not necessarily diminished, but is unequal during the normal and accelerated periods. The minimum blood pressure is normal, and the maximum pressure is much reduced, indicating that too small a quantity of blood is driven with sufficient force into a peripheral vascular system of normal size. On orthodiagraphic examination the heart is always found to be reduced in all its diameters. On clinical examination the patients with this form of arrhythmia were always found to present distinct signs of hypothyroidism. The latter condition entails a state of lowered excitability and fatigue of the acceleration system, which accounts for the alternate slowing and acceleration observed. The proof that this form of arrhythmia does not result from hypotonus of the vagus is furnished by the fact that stimulation of this nerve (by cervical compression or injection of physostigmine) does not check the arrhythmia. Treatment by thyroid extract combined with cardiac tonics considerably reduces the acceleration if it does not cause it to disappear entirely. Intermittent sinus acceleration is therefore a cardiological symptom characteristic of hypothyroidism associated with cardiac maldevelopment.

592. Icteric Dermographia.

SCHÜRER (*Deut. med. Woch.*, May 5th, 1922) describes a phenomenon which, in the subjects of dermographia, is a simple and dramatic sign of jaundice in an early stage. The patient in whom this phenomenon was observed was a man of 53, who for the previous fortnight had suffered almost daily from short attacks of violent abdominal pain. After scratching an eczematous patch on his right forearm he noticed that bright yellow stripes remained. Similar stripes were evoked elsewhere simply by scratching. On examination the skin was found to be pale and without a trace of jaundice except where sharply defined, not raised, bright yellow 1/2 cm. wide stripes were seen on both arms, the skin of which was quite intact. The patient had only one eye, and the sclera of this was jaundiced. The urine contained urobilin and was dark yellow, but it contained no albumin or sugar. There was a circumscribed area of tenderness and resistance in the region of the gall bladder. This was evidently a case of gall stones with commencing jaundice. Without mechanical dilatations of the capillaries of the skin by scratching, the concentration of bile pigment in the tissues was not high enough to allow of general discoloration of the skin. Experimenting in this case, the author found that scratching the skin with a fingernail left an intensely red, raised stripe with pale margins. After two to three minutes the red colour disappeared, giving place to a raised canary-coloured stripe. In five to ten minutes the skin was no longer raised, but the yellow colour persisted; letters written on the skin with a fingernail were easily legible from one end of a large room to another. In this connexion the author refers to an observation by Strasburger, who noticed that when Weil's disease was associated with urticaria the urticarial area was more jaundiced than the normal skin. In the subjects of dermographia the author's test should prove a useful and rapid method for demonstrating jaundice which has not become severe enough to discolour the skin. The explanation of this phenomenon is the following: the capillaries of the skin being dilated by scratching, blood plasma, containing bile pigments, escapes into the skin, from which it returns to the general circulation, leaving the bile pigments behind.

593. Ascites in Chronic Malaria.

BARINETTI (*Arch. di patol. e clin. med.*, March, 1922) has seen 9 cases of chronic malaria which were characterized by chronic entero-colitis, with ascites and cirrhosis of the liver, and considerable enlargement of the spleen. Two other patients, who were not suffering from malaria, presented the same clinical picture. Barinetti comes to the conclusion that in all these cases the cirrhosis of the liver, and perhaps some of the changes in the spleen, are not due to malaria, but are produced by some infection which is probably due to the tubercle bacillus or pathogenic organisms in the intestine. Barinetti is of opinion that the symptoms, described by several writers under the name of Banti's disease, of malarial origin are really examples of the type which he has described.

591. Mycotic Intertrigo.

DUBREUILH and JOULIA (*Ann. de Derm. et de Syph.*, April, 1922) describe an erythematous condition of the folds of the skin due to a yeast-like organism, the lesions of which can be clearly distinguished from other better known manifestations of intertrigo. The thigh is the most common site for this infection, which causes a smooth, deep red plaque covered with thin epidermis, often moist but showing no desquamation, of irregular outline, and surrounded with a thin ring of desquamating skin. In the neighbourhood of the main lesion are small islands of inflammation of similar character. Other regions of the body, such as the axillae and the folds below pendulous mammae, may be similarly attacked. The chief symptom is intense itching, worse at night, and aggravated by warmth or friction. The diagnosis is made by the examination of scales from the edge of the lesion in liquor potassae, when the characteristic tangled mycelium and exogenous spores will be seen; cultures should be made on Sabouraud's maltose agar, when colonies of the fungus resembling staphylococci are obtained. The disease is best treated with an ointment containing benzoic acid 3 per cent. and salicylic acid 3 to 6 per cent., the application of which causes much smarting at first, but after a few days no further pain is complained of and the inflammation subsides. The relief is considerable after the second day, and the lesion is usually healed in two or three weeks. Chrysarobin and dilute iodine may also be used.

595. Small-pox and Flies.

HUNZIKER and REESE (*Schweiz. med. Woch.*, May 18th, 1922) give an account of an outbreak of small-pox in Basel between March and August, 1921. There were altogether forty-six cases, with eight deaths. In several cases it proved impossible to trace the source of infection; these cases had not even been in contact with cases of varicella. In many cases there was not even a possibility of the disease having been conveyed by healthy carriers. One patient was an epileptic who had been interned for several years in an institution, and none of the few persons with whom he came in contact had been even under suspicion of small-pox. The pungent smell associated with small-pox attracted swarms of flies to the patients, and several of the persons who contracted the disease were of an apathetic temperament and more or less incapable of keeping flies off their bodies. The greatest number of cases which could not be traced to known sources of infection occurred during the warm days of July when

flies were very numerous. These observations having associated the spread of small-pox with flies, fly-proof windows were introduced wherever small-pox cases were isolated, and three weeks later the epidemic died out. The authors confirm the observations of earlier writers as to the rarity with which small-pox proves infectious during the incubation or prodromal period of the disease. Early isolation is therefore almost invariably successful in preventing further spread of the disease.

596. The Nervous Child.

O. HEUBNER (*Klinische Wochenschrift*, May 13th, 1922) considers that the ultimate definition of neurasthenia is not quite satisfactory, and that, in the majority of cases, treatment can only arrest a pernicious tendency or improve the environment. These children react abnormally in conditions that would otherwise be pleasant and healthy. He gives details of many neurotic children of both sexes, ranging in age from infancy to puberty. In a number there was a family history of functional or of organic disease, including syphilitic nervous disease; in others, the onset dated from an acute infection—influenza, intestinal catarrh, diarrhoea, measles, etc. The commencement of school life is a critical period, and plays an important part in causation. The majority of patients suffered from non-neuralgic headache, mental depression, sometimes amounting to stupor, sleeplessness, loss of appetite, vomiting (sometimes of the "cyclical" type). Others had tender spots and hyperaesthetic areas in various regions of the head, trunk, and limbs, with increased tendon reflexes. Several suffered from "night terrors," somnambulism, nocturnal enuresis, and in two cases incontinence of faeces. Frequently the symptoms were so ambiguous that diagnosis presented great difficulty, and in one case ileus was diagnosed, a laparotomy was done, violent peristaltic action of the small and large bowel was seen, but there was no obstruction; the author considers that the increased peristalsis was due to "vagotonic action." Shortly after the healing of the operation wound, severe vomiting recurred and was treated by internal medication. Acetonuria was found in some cases of "cyclical" vomiting. Several boys showed signs of sexual precocity or of perversion, and one of these subsequently became insane. The author recommends treatment on general principles, attention to personal and school hygiene, and removal of any possible source of irritation. Where patients have a persistent dread of school, or have hysterical manifestations in school, he recommends a year's absence, or that they be educated privately.

SURGERY.

597. Osteitis Fibrosa.

YOUNG and COOPERMAN (*Annals of Surgery*, February, 1922) point out that this disease was first described in 1891 by von Recklinghausen. He showed that the pathologic changes within the bone and marrow were the results of chronic inflammation. The formation of fibrous tissue, bone cysts, and giant cell tumours are various phases of this affection. Two types of the disease are recognized: (1) a local osteitis fibrosa and benign bone cysts, dependent upon trauma in many instances; (2) a general form dependent on grave nutritional disturbances, where endocrinal malfunction, faulty calcium metabolism, or chronic infection seems to be of etiological significance. The formation of bone cysts is produced by a liquefaction of fibrous tissue, or giant-cell sarcomata of the epulis type may develop in these areas of metaplasia. These cells are large and contain many nuclei; they are not prognostic of malignancy, and are allied to the giant cells found in inflammatory regions. The femur, humerus, and tibia are most often affected, the disease starting at the ends of the bones. The joints are rarely invaded, but owing to the proximity of the tumours their function may be interfered with. As in tuberculosis of bone, the striking feature is the formation of fibrous tissue in which regeneration of bone is very limited. The symptoms may start with vague rheumatic pains. Fractures are very common, and may be spontaneous. The bones unite slowly, and fibrous union may result. Pain is not marked, whilst muscular atrophy is often present. Diagnosis is based on the long duration of the process, frequency of fractures, vague symptomatology, and *x*-ray examination. The bone is seen to be expanded and subdivided by trabeculae, and there is no sclerosis of surrounding bone. The prognosis is bad, and nothing in the way of cure is known; the local form may be benefited by curettage and bone transplantation. *X* rays and radium have been used with some success. Constitutional treatment is given for the general type. Death occurs from cachexia or intercurrent disease.

598. Peritonitis.

HARDWICK SMITH (*New Zealand Med. Journ.*, February, 1922) discusses the important subject of peritonitis, particularly the type following acute appendicitis and the pneumococcal and tuberculous varieties. He does not consider peritonitis to be the fatal disease it was regarded some years ago. Acute appendicitis always starts with pain, and where pain is found associated with tenderness, inflammation of some viscus is present. In cases seen with acute peritonitis following acute appendicitis he advises that patients when admitted to hospital in this condition should not be operated upon immediately. They should be put to bed in the Fowler position, given morphine, and kept warm. Their condition will improve in a few hours, whereas if operation had been performed they would certainly have died. Operation is then carried out with gas and oxygen anaesthesia, the source of infection removed, and the pouch of Douglas drained. The bowels are left alone and no aperients or enemata given at first; morphine and rest are enforced and most patients recover. With regard to pneumococcic peritonitis, the encysted type has a good prognosis; when the peritonitis is diffuse the prognosis is bad and nearly always fatal. In most cases the onset is acute, often like acute appendicitis, and the temperature remains high. Many authorities advise that the diffuse form should not be operated upon but left till it becomes encysted; these abscesses can then be evacuated and the patient recovers. Tuberculous peritonitis is usually associated with other tuberculous lesions, and the peritoneal infection is of a secondary character. The disease is generally chronic and originates in childhood. The ascitic cases improve greatly when submitted to operation; the other forms can be improved or cured by medical means alone. Rest and good diet, and perhaps *x*-ray administration, may be tried. Only when obstruction is present or diseased tubes or ovaries found should surgical aid be given.

599. Post-Operative Ulceration of the Colon.

LECÈNE (*Bull. et Mém. Soc. Chir. de Paris*, April 11th, 1922) discusses a case where intestinal obstruction supervened fifteen days after a pelvic operation. He points out that there are three courses open for the surgeon to follow: (1) laparotomy and endeavouring to relieve the obstruction and re-establish the intestinal canal; (2) enterostomy made in a distended loop of intestine; (3) anastomosis "at a guess" between a dilated coil of small intestine and the colon below the obstruction. In the case he mentions the last course was adopted. Several months later the patient suffered from ulceration and haemorrhage of the colon, and subsequently it was necessary to undo the anastomosis. Since that time the patient has been cured completely. The operation of entero-anastomosis when performed between the lower end of the small intestine and a neighbouring coil of large intestine in cases of subacute obstruction appears satisfactory, and avoids the disadvantages of an enterostomy. When, however, the level of the anastomosis cannot be determined there are disadvantages, as this case proves. The term "peptic ulcer of the large intestine" should not be applied to this condition; peptic ulceration relates to ulcers situated anatomically near the stomach, and they are the result of peptic digestion. It is possible that in this case it was due to the action of the pancreatic juice on the mucosa of the colon. This case shows that an operation which has such obvious advantages in the treatment of post-operative intestinal obstruction possesses the possibility of serious complications.

600. Treatment of Spontaneous Rupture of the Bladder.

NICOLAYSEN (*Acta Chirurgica Scandinavica*, April 29th, 1922) records one of those cases in which the patient's refusal to submit to operation saves his life. A man, aged 47, suffering from syphilis of the central nervous system, developed violent pain in the lower abdomen and strangury, and he could not pass a drop of urine. On admission to hospital twenty-eight hours later, in an almost moribund condition, catheterization of the bladder yielded 950 c.cm. of a fluid the albumin content of which was almost that of serum. There were no casts, and only a trace of urea (0.113 per cent.). The urea content of the serum was as high as 0.221 per cent. He refused operative treatment, and a catheter was secured in the bladder. Ultimately he recovered, and the author points out that, considering the high urea content of the serum and the patient's almost moribund condition, a general anaesthetic and an operation would have killed him. At present the mortality of cases operated on for rupture of the bladder is over 50 per cent., and the author's case, as well as three similar cases he has found in the literature, suggest that the old rule always to operate for rupture of the bladder may require revision in those cases in which there is evidence of serious uraemia.

601. Actinomycosis of the Tongue.

NEW and FIGI (*Amer. Journ. Med. Sci.*, April, 1922) find that actinomycosis of the tongue is usually characterized by the presence of a single isolated nodule in the anterior half of the tongue, often near the tip and varying from 1 to 1.5 cm. in diameter. The condition may be acute in onset with severe pain and throbbing and local tenderness, general malaise, and rise of temperature; or it may develop insidiously during the course of several months or even three or four years. The diagnosis is best made by microscopic examination of sections, for which purpose the whole nodule should be excised, since the characteristic granules are often not numerous. The usual picture of a diffuse, indefinitely outlined induration with multiple sinuses is not found in actinomycosis of the tongue, since in this locality the lesion is usually enclosed in a fibrous capsule, over which normal mucous membrane may be stretched as though covering a superficial cyst or a small abscess about to rupture. If the nodule is not too large wide incision with primary suture is the best form of treatment. For larger lesions the procedure should be drainage with curettage, followed by daily swabbing of the wound with tincture of iodine, packing with iodoform gauze, the administration of large doses of potassium iodide, and the use of radium. The prognosis is favourable in small lesions which can be completely excised, but less favourable in those cases in which there is a diffuse area, especially if it be near the base of the tongue, or if there be a definite abscess. Out of 127 patients suffering from actinomycosis examined in the Mayo clinic in twelve months in 66 the disease occurred in the head and neck, and in only 3 did it occur primarily in the tongue.

602. Congenital Dislocation of the Hip.

DELCHEF (*Le Scalpel*, April 22nd, 1922) reports six cases of congenital dislocation of the hip reduced at ages much older than is usually practised. The ages were 36, 18, 23, 17, and 13½ years respectively. The results were surprisingly good, for although the anatomical position of the head of the femur was not always perfect the functional results were in every case decidedly beneficial. In the first case (a woman aged 36) there was much pain and lameness before operation, whereas afterwards she could walk without pain or fatigue, and the lameness was hardly noticeable. Most authors agree that where good effects follow operation the beneficial results are slow in making their appearance and tend to go on improving with exercise. Radiograms of the hip-joint in the author's cases are given.

OBSTETRICS AND GYNAECOLOGY.

603. Importance of Antisyphilitic Treatment during Pregnancy.

BOAS (*Hospitalstidende*, May 5th, 1922) has examined 483 infants born in hospital to syphilitic mothers, and he tabulates his findings according as the mothers were or were not given specific treatment before the birth of the child. Of 153 mothers whose syphilis had not been treated before the birth of the child 157 gave birth to syphilitic children—that is, only in one case did the infant escape syphilis. Of 87 mothers treated with mercury before they became pregnant 78 gave birth to syphilitic children. Of 15 mothers who had been treated with salvarsan before they became pregnant 12 gave birth to syphilitic children. Of 111 mothers who had been treated with mercury during pregnancy 80 gave birth to syphilitic children. Of 79 mothers who had been treated with salvarsan during pregnancy 19 gave birth to syphilitic children. Of 26 mothers who had been treated with salvarsan before, and with mercury during, pregnancy 7 gave birth to syphilitic children. Of 7 mothers who had been treated with salvarsan both before and during pregnancy only one gave birth to a syphilitic child. The author concludes that every syphilitic woman should be treated with salvarsan during pregnancy, even when her infection dates back a score of years and she gives a negative Wassermann reaction during pregnancy.

604. Hydatidiform Mole and Chorion-epithelioma.

ACCORDING to SCHWEITZER (*Zentralbl. f. Gynäk.*, May 6th, 1922), hydatidiform mole has been found, in 57 cases at the Leipzig clinic, to occur more frequently in multiparae (18 per cent.). Expulsion of the mole occurred at any time up to the seventh month, most frequently (38 per cent.) in the fourth month. The most striking symptoms are blood-stained discharge, disparity between the duration of amenorrhoea and the size of the uterus, absence of foetal heart sounds, albuminuria, and oedema; occasionally expulsion of vesicles clinches the diagnosis, or these may be found by examination in water or saline solution of the presenting uterine contents removed by forceps. Prognosis, even apart from the possible advent of chorion-epithelioma, is grave; the series recorded showed a 10 per cent. mortality, in which sepsis, severe haemorrhage, or both in combination, were the chief factors. The most important principles of treatment consist in avoidance of haemorrhage and in securing speedy evacuation of the uterus, spontaneously whenever possible. To remove the whole or a portion of the contents of the uterus digitally is often unavoidable. In the Leipzig cases pyrexia followed in one-half and severe secondary haemorrhage in one-quarter of the cases. Cases of chorion-epithelioma encountered in the same period as the 57 cases of mole numbered 5, of which 2 were associated with the former affection. The greatest possible differences are found in the degree of malignancy shown in different cases, and unfortunately there is no means of foretelling the probable course in any particular case. Apart from total hysterectomy—the operation of election—*x*-ray treatment has had certain recorded successes.

605. Gonococci in the Preputial Folds.

CLODI and SCHOPPER (*Wien. klin. Woch.*, March 2nd, 1922) examined 42 cases of gonorrhoea in women aged from 16 to 58 in whom the disease had lasted from three days to six years and after exclusion of 7 completely negative cases found gonococci in the secretion of the preputial folds in 26 out of 35 cases, or in 74.3 per cent. It was noteworthy that in four cases in which gonococci were present in the preputial secretion bacteriological examination of the urethra and vagina was negative. The writers conclude that the presence of gonococci in the preputial secretion plays a considerable part in the persistence of contagion and reinfection of the patient's own genitalia. An efficient treatment for gonorrhoea in women must therefore include a mechanical cleansing and disinfection of the preputial folds as well as a systematic bacteriological examination of the preputial secretion.

606. End-Results of Treatment of Cancer of the Uterus and Vagina.

GIESECKE (*Arch. f. Gynäk.*, February 16th, 1922) records 27.7 per cent. of lasting (five years') cures among 371 cases of uterine cancer treated from 1910 to 1916 at the Kiel Universitäts-Frauenklinik. Cases of cervical cancer numbered 350, with 26.6 per cent. of lasting cures, and of corporeal cancer 21, with 10 cures. The 243 operable cases of cervical cancer were treated by scraping and cauterization, followed immediately by operation, which was abdominal in 224 instances; cures numbered 35.4 per cent., and primary mortality in cases operated on by Wertheim's method was roughly 19 per cent. The average percentage operability for cervical cancer during the seven years was 69 per cent.; it was found by analysis of the figures for various years that by operating at relatively more advanced stages of the disease the primary mortality became increased without any compensation in attainment of an increased proportion of five years' cures. It is noteworthy that in 224 cases of extended abdominal hysterectomy glands microscopically proved to be carcinomatous were present in 47, of which 10 afterwards showed five years' cure. Among 60 inoperable cases of cervical cancer treated by combined *x*-ray and radium applications, five years' cure was attained in 8.3 per cent. Only one of the 11 cases of vaginal cancer was free from recurrence at the end of five years.

607. Yeast in the Treatment of Leucorrhoea.

STEINWEG (*Deut. med. Woch.*, May 5th, 1922) has revived at his hospital a treatment introduced more than twenty years ago by Landau for leucorrhoea. It consists of introducing a piled teaspoonful of dried yeast (levurinose) into the vagina after it has been swabbed dry with cotton-wool. The vagina is then plugged with a tampon, which is removed twenty-four hours later. The treatment is repeated two or three times a week at first, and as improvement occurs the intervals between each application are prolonged. The cases treated were not gonorrhoeal, and leucorrhoea due to comparatively remote lesions and to catarrh of the cervix was also not subjected to this treatment. The author does not publish a statistical analysis of his results, but contents himself with the generalization that this treatment proved very effective in a large proportion of cases. Bacteriological control of the vaginal flora showed that the luxuriant growth of cocci was greatly checked in many cases, cocci largely giving place to the bacilli of the healthy vagina. Side by side with this bacteriological improvement there was a definite and early abatement of the clinical symptoms, and in the majority of cases prompt recovery was not followed by relapse. But there were some cases in which the leucorrhoea was diminished but not cured, and in these cases no further improvement could be effected by douching with astringent solutions. Probably these cases were due to constitutional disabilities,

such as disordered action of the ovaries or chlorosis, which require general rather than local treatment. The author, who is attached to Professor Pinkuss's gynaecological hospital in Berlin, lays great stress on the variety of the causes of leucorrhoea, and he insists that uniform success can be achieved only by basing treatment on complete knowledge of the etiology of leucorrhoea.

608. Births during War Time.

DÁVID (*Zentralbl. f. Gynäk.*, May 20th, 1922), from examination of children born during the war at the Universitäts-Frauenklinik in Budapest, where from 1,400 to 2,000 births take place annually, concludes that neither stillbirths nor premature births increased during the war. The proportion of male to female children did not vary from that obtaining during peace. No increased mortality among the newborn was perceptible. The average weight was found to be diminished during war time, especially during the last three years; the average dimensions also showed a decrease, which was about 3 per cent. in length and 1 per cent. in the circumference of the head. These diminutions were not traceable to a shortening of the average duration of pregnancy.

PATHOLOGY.

609. Reaction of the Blood in Dyspnoea.

FRASER, ROSS, and DREYER (*Quart. Journ. of Med.*, April, 1922) have applied the method of Dale and Lovatt Evans to the determination of the reaction of the blood in normal individuals, in patients suffering from heart failure with valvular disease, and in cases with severe disturbance of kidney function. They found that the average reaction of the arterial blood in healthy individuals is P_H 7.68, the limits in health being from P_H 7.72 to P_H 7.64; the reaction of venous blood is approximately the same as arterial. In cases of heart failure with valvular disease the blood is more alkaline than normal, but the degree of alkalaemia does not appear to have any close relationship to the severity of the clinical condition, and cases with severe respiratory distress and those with little or no distress alike have a blood reaction which is more alkaline than in health. In severe renal disease a condition of acidaemia was found often associated with respiratory distress. Pronounced acidaemia may therefore be present without dyspnoea; on the other hand, dyspnoea may be found associated with alkalaemia, as in valvular disease, or in acidaemia, as in renal disease. Reactions of arterial blood as alkaline as P_H 7.95 and as acid as P_H 7.37 are compatible with life.

610. Variations in the Antibody Content of the Serum in Phthisical Patients.

ARMAND-DELILLE, HILLEMAND, and LESTOCQUOY (*C. R. Soc. Biologie*, April 8th, 1922) have estimated the antibody content of the serum in a series of twenty patients suffering from pulmonary tuberculosis. Re-examination of each serum was made at varying intervals during the course of the following few months. The test employed was the complement-fixation reaction, and the results are given in terms of the number of doses of complement fixed by 1 c.cm. of serum. Three points of interest emerge from the table. First, in no fewer than 35 per cent. of the cases was a positive reaction followed by a negative one at the next examination; this shows that a single negative result is of little or no value. Secondly, considerable fluctuations occurred in the antibody titre from month to month without any corresponding alterations being observed in the condition of the patient; this but adds confirmation to the already established fact that there is no definite correlation between the quantities of humoral antibodies and the degree of immunity. Thirdly, very marked modifications of the clinical state of the patients occurred without simultaneous variations in the antibody titre. If these results can be corroborated the complement-fixation test for tubercle will be deprived of a considerable amount of its value, for not only is it an unreliable test for purposes of diagnosis, but it appears to be equally valueless for estimating the success of the treatment afforded to the patient. In both these respects it is in distinct disagreement with the Wassermann reaction in syphilis, which both from a diagnostic and a therapeutic point of view seems to become daily of greater and greater importance.

611. Indican in the Blood in Renal Disease.

ACCORDING to SNAPPER and VAN VLOTEN (*Klinische Wochenschrift*, April 8th, 1922), indican was first detected in the blood serum of uraemic patients by Obermayer and Popper, who found that death followed rapidly in almost all patients showing well-marked indicanaemia. More recently Haas and also Rosenberg, using more sensitive tests, have found indican in the serum of healthy subjects. The former workers' estimate that amounts up to 1.4 mg. per litre may occur in the serum of patients with normal renal function is said to be accurate. The blood indican is slightly increased in association with intestinal stasis, as in cases of ileus or peritonitis, but in cases of uraemia there is very considerable retention amounting sometimes to thirty or even sixty times the normal amount. Snapper and Van Vloten find that in cases of acute nephritis with long-standing azotaemia increase of the blood urea is usually associated with hyper-indicanaemia; when occasionally the latter sign occurs in the absence of the former an exceptionally grave prognosis is indicated. The prognostic value of estimation of the blood indican is greater than that of urea in that it is less influenced by a diet poor in protein. The technique described is comparatively simple and requires much less time and skill than are needed for estimation of the nitrogen fractions in the blood serum. The test is inapplicable if the patient has been receiving iodides.

612. Haemophilic Bacilli.

RIVERS (*Bull. Johns Hopkins Hospital*, April, 1922) finds that all haemophilic bacilli are not alike in their nutritional requirements as regards the so-called accessory factors for growth. *Bacillus influenzae* requires the presence of two separate factors, one resisting the temperature of the autoclave, the other being destroyed in the autoclave. Solutions of these autoclave-labile and autoclave-stable factors were prepared, the former by filtering a suspension of autolysed yeast cells, and the latter by precipitating haematin from red blood corpuscles. By the addition of one or both of these solutions to standard media it was possible to test the nutritional requirements of haemophilic bacteria, and it was found that *B. pertussis* requires neither of the growth accessory factors, whereas haemolytic and non-haemolytic influenza bacilli require both. Fildes, who carried out similar experiments, using a peptic digest of blood, concluded that the combined oxygen, probably in the form of a peroxide, was activated for the influenza bacillus by the catalytic action of the iron in the blood pigment, an interaction of the two parts of the digest being necessary for the growth of the influenza bacilli. Rivers concludes from his observations that there is no definite proof of interaction, for some haemophilic bacteria require one accessory factor, others require both, and *B. pertussis* can grow in the absence of either.

613. Experimental Researches on Diabetes Insipidus.

To test the conclusions of Camus and Roussy that diabetes insipidus and the condition of dystrophia adiposo genitalis are in reality due to a lesion of the parainfundibular region of the brain and not to an affection of the pituitary, BAILEY and BREMER (*C. R. Soc. Biologie*, May 6th, 1922) have carried out a series of twenty-four experiments on dogs, in which puncture of the hypothalamic area was performed by the temporal route. They find that as a result of even the smallest puncture polyuria sets in in the course of a day or two; it is characterized by all the properties of that seen in diabetes insipidus in the human being—namely, the power of renal concentration under conditions of deprivation of water, fever, and injection of pituitrin, the diuretic effect of chlorides, and the failure of action of theobromine. If the lesion produced be somewhat more extensive cachexia may set in, accompanied by genital atrophy and adiposity. Moreover, they find that the polyuria is independent of the nerve supply of the kidney; in fact, all the nerves to this organ may be cut without preventing the onset of the condition or of arresting it once it has set in. If this be so it is difficult to understand how the effect is produced as a result of a simple lesion of the brain tissue; they are quite emphatic, however, in denying the possibility of its association with the pituitary body.

614. The Thyroid Gland and Immunity.

SESTINI (*Lo Sperimentale*, Ann. 76, fasc. 1–3) has carried out a series of experiments on animals with a view to determining what part if any the thyroid gland takes in the processes of immunity. He took 15 animals, used 4 as controls and vaccinated 11 against typhoid. The vaccinations were made in the peritoneum at intervals of about a week. When examined later the thyroid was found to be in a condition of hyperfunction, with an increase in lipoids, in fuchsinophil granules, and changes in the colloid—a true state of teleangectoid hyperplastic struma. It is difficult to say whether the thyroid formed antibodies, but the hyperplastic struma points to an increase in the internal secretion of the gland from hyperproduction of hormones, which through the nervous system might act on the cells of different organs at a distance.

THE BEST TIME TO SELL A CAR

THE question of selling a second-hand car and buying a new one is a question that is always before the medical profession, and some information that will help to solve the problem will no doubt prove welcome. "I would have a new car every year if only I could sell my old one," is a remark often heard, and a thought that is ever present amongst motorists, and there is little doubt but what such a policy, if it could be put into practice, would be the wisest and most economical in the end. The difficulty of finding a purchaser of a second-hand car depends upon the number of potential buyers who know it is for sale. Advertising in the second-hand car columns is sometimes productive of satisfactory results. Sending a car to auction or to a garage for sale or parting with it as part payment for a new one usually results in one wishing that something different had been done. The best time to sell a car is whilst it is being used and in good running order. This, however, is seldom possible, but it appears a solution to the problem has been found at last.

A NEW IDEA

An innovation in the form of a second-hand car sales registry demands attention and by the service it renders deserves success. The name given to this concern is the MOTOR SALES REGISTRY, who for an annual subscription of one guinea keep all its members regularly posted with the names and addresses of possible buyers of their cars. The real service underlying this idea is obvious. Occasionally you meet someone who makes you a good offer for your car. Whether you accept or not you are naturally pleased with the opportunity to sell. You know that if you accept you can order a new car with the comfortable assurance that you are to have no worry or unexpected loss in connection with the sale of the old one. Briefly, this explains the service of the Motor Sales Registry, who provide you with opportunities to sell if you wish, by finding prospective buyers for your car at your price whilst you are still using it. This means full service from your car and minimum depreciation when you sell it. Instead of a chance meeting with an acceptable offer, they make it their business to locate and keep you furnished with the names of prospective purchasers interested in just such a car as yours. They do not wait for you to apply to them, but keep you regularly posted with names and addresses of people within easy reach who wish to buy a similar car to yours. Whether you communicate with these people or not depends upon your inclination to sell. Your name and address is not disclosed to the possible purchaser, that is left to you to do if you wish to sell.

THE OBVIOUS ADVANTAGES

of such a service for a small annual subscription will no doubt appeal to the members of the medical profession as a good investment. The service applies to any car registered for sale, and does not finish when the car is sold, but continues just the same for the next car, until the expiration of one year from the date of the subscription. A commission of 2½ per cent. only is charged when the car is sold through the medium of the Registry. The personnel of the Motor Sales Registry includes men who have directed the sales of many motor manufacturers since the earliest days of the industry, which augurs well for the service it will render to subscribers. Full particulars and registration forms may be obtained post free from the Motor Sales Registry, Ltd., 11, Warwick Row, Coventry.

HORLICK'S MALTED MILK

THE ORIGINAL

The Ideal All-Weather Food-Drink.

Made in England.

Horlick's Malted Milk is meat and drink in one, because it contains all necessary nutritive elements in the correct proportions demanded by Nature to support life and maintain health. Composed of the extracts of selected malted barley and wheat flour, combined with pure, Pasteurised cow's milk, it is perfectly digestible and rapidly assimilated, while Vitamines, those growth-promoting essentials, are supplied by both the milk and the grain.

Ready in a moment by stirring briskly in hot or cold water only.

To secure the original, specify Horlick's when prescribing

Samples will be forwarded free and postage prepaid to Members of the Medical Profession on application to

HORLICK'S MALTED MILK CO., SLOUGH, BUCKS, ENGLAND.

SIL-AL

$Al_2 (Si O_3)_3$

Aluminium Silicate phys. pur.

Gastro-therapy

Samples and literature from the British Agents, STICKLAND & Co., 23, Cromwell Place, South Kensington, :: :: S.W. 7. :: ::

A. GAMIR, VALENCIA, SPAIN.



ARHÉOL.

$(C_{15}H_{26}O)$

THE ACTIVE PRINCIPLE OF SANDALWOOD OIL.

USED WITH CONSPICUOUS SUCCESS IN

GONORRHŒA, CYSTITIS, VESICAL CATARRH, Etc.

Does not produce Backache.

ASTIER LABORATORIES:

45, Rue du Docteur Blanche, PARIS.

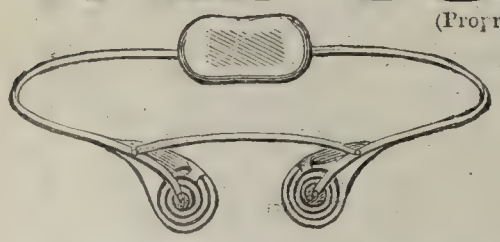
For Samples and Literature address:

WILCOX, JOZEAU & CO., 49, Haymarket, London, S.W. 1.

Australasia—Messrs. Joubert & Joubert. 552, Flinders St., **Melbourne.**
Canada—Messrs. Rougier Bros., 210, Lemoine St., **Montreal.**
India—Messrs. The Anglo French Drug Co., Ltd., P.O. Box 460 **Bombay.** P.O. Box 86 **Calcutta,** 174 Broadway, **Madras.**

WM. COLES & CO.

(Proprietor—A. E. GRAY)



TRUSS SPECIALISTS.

Inventors of

THE SPIRAL SPRING TRUSS.

22, Panton St., Haymarket, S.W. 1.

(Removed from 5, Sackville Street, Piccadilly.)

Telephone—2207 GERRARD.

CATALOGUE OF SECONDHAND SURGICAL INSTRUMENTS OSTEOLOGY, MICROSCOPES, POST FREE.

Telephone CITY 1706.



Half Sets of Osteology, Articulated Skeletons and Disarticulated Skulls, Secondhand Surgical Instruments, Osteology, and Microscopes bought, sold and exchanged.

MILLIKIN & LAWLEY, 165, STRAND, LONDON, W.C. 2.

ALLIANCE DRUG AND CHEMICAL CO.

10, Beer Lane, Gt. Tower St., E.C. 3.

Telephone: CENTRAL 1300.

Tel. Address: "NALTROF," BILGATE, LONDON.

Established 1812—Reorganised 1902.

The Company specializes in providing the Medical profession at ***the lowest possible*** *inclusive prices (no charge for Bottles, &c. or Cases, &c.) with pure and reliable Drugs, Chemicals, Pharmaceutical Preparations, Compressed Tablets, Pills, Surgical Dressings, and Stock Mixtures of approved Formulæ as used by the London and other Hospitals.*

We append a few sample prices for guidance of the great saving that can be effected.

NOTE.—Only Terms Net Cash with order without discount, or orders received through London Merchants or Bankers. Goods carriage forward. All packages free. Export cases extra.

NEW DETAILED PRICE LIST NOW READY.

INFUSIONS CONCENTRATED.

1-7 in 6 lb. Bottles.

Aurant @ 2/9 lb.	Gentian @ 1/9 lb.
Aurant Co. @ 2/9 lb.	Rhei @ 3/- lb.
Columbæ @ 1/5 lb.	Senegæ @ 3/8 lb.
Cinchon Acid @ 3/- lb.	

Lassars Paste, 14 lbs @ 1/10 lb.; 1 lb. @ 2/2 lb.
*Lin. Belladon. Meth., 5 lbs. @ 4/3 lb.; 1 lb. @ 4/8.
*Liq. Æther Nitros (Sp. Ether Nit Substitute, 5 lb. @ 2/3 lb.
*Liq. Ammon. Acet. Conc. (1-7) 6 lbs. @ 1/3 lb.
,, ,, Aromat., 6 lbs. @ 1/- lb.
Morph. Hydrochlor. P.B. 1 oz. at 10/- oz.
Petroleum Jelly Flav. P.B. 7 lbs. @ 9½d. lb.
Bismuth Carb., 3 lbs. @ 13/7 lb.
Chloroform Pur., 8 lbs. @ 4/2 lb.
Pot. Bromide, 7 lbs. @ 1/1 lb.
Quinine Sulph, 4 ozs. @ 3/6 oz.

PILLS TASTELESS COATED.

Potass. Iodid. P.B., 3 lbs. @ 17/6 lb.
Soda Sulphas Feathery cryst., 7 lbs. @ 3d. lb.
Sp. Æther Nit. P.B., 4½ lbs. @ 5/8 lb.; 1 lb. @ 6/1
Sp. Amon. Aromat. P.B., 5 lbs. @ 4/2 lb.
Syr. Cascara Aromat. P.B., 6 lbs. @ 2/10 lb.
,, Glycero-Phosph. Co., 6 lbs. @ 2/4 lb.

SYRUPS.

Aurant, B.B., 7 lbs. @ 2/- lb.
Easton, B.P., 7 lbs. @ 2/- lb.
Ferri Iodid, P.B., 7 lbs. @ 1/10 lb.
Ferri Phosp. Co., 7 lbs. @ 10d. lb.
Hypophosph. Co., B.P.C., 7 lbs. @ 1/8 lb.
Pruni. Virg., B.P., 7 lbs. @ 1/6 lb.
Rhamni, 7 lbs. @ 1/8 lb.
Rhei, P.B., 7 lbs. @ 1/5 lb.
Scillæ, P.B., 7 lbs. @ 1/1 lb.
Sennæ, P.B., 7 lbs. @ 1/6 lb.
Tolut, P.B., 7 lbs. @ 1/1 lb.

TABLETS COMPRESSED.

	Per 1000.
Blaud's (Sugar-Coated), gr. 5	4/9
Nitroglycerini, P.B., gr. 1-50th	6/-
Perchloride of Mercury (Coloured)	13/-
One Tablet in 1 pint of Water is equivalent to 1-1000.	
Thyroid Gland, gr. 5	15/6

We endeavour to adhere to prices quoted, but as same fluctuate from day to day, they must be considered as subject to change without notice.

TINCTURES.

In 5 lb. Bottles.

	B.P.	Aquos.		B.P.	Aquos.
Belladon ...	4/6	2/-	Hyoscyam ...	5/-	2/9
Benzoin Co.	5/7	—	Nucis Vom.	4/3	1/4
Camph. Co.	3/4	1/6	Opii	4/-	3/-
Card. Co. ...	3/1	1/7	Quin. Amon.	4/2	—
Gentian Co.	3/4	1/8	Rhei Co. ...	3/1	2/1

Ung. Acid Boric P.B., 28 lb. pail @ 1/3 lb.
,, Hydrarg. P.B., 7 @ 2/8 lb.
,, ,, Ammon., 7 lbs. @ 2/3 lb.
,, Ichtamelis B.P.C., 7 lbs. @ 3/- lb.
,, Zinci Ox., Benz., 28 lbs. @ 1/2 lb.

*Minimum quantity at these prices: Home Trade 3, Export 12 Winchester Quarts assorted.

610.5 Nat Hist
BR
No. 3208

The

British Medical Journal

UNIVERSITY OF ILLINOIS LIBRARY
JUL 10 1922



The Journal of the British Medical Association.

INCLUDING AN EPITOME OF CURRENT MEDICAL LITERATURE

WITH SUPPLEMENT.

No. 3208. SATURDAY, JUNE 24, 1922. **Price 1/3**

2ND EDIT. Cloth. Crown 8vo. 10s. 6d. net, post. 6d.
HYPNOTIC SUGGESTION & PSYCHO-THERAPEUTICS.
By A. BETTS TAPLIN, L.R.C.P. & L.M.Edin.
Member of Council and late President of the Psycho-Medical Society of Great Britain.
"His teaching will be appreciated both by students and practitioners."—*Proceedings of Royal Society of Medicine.*
LITTLEBURY BROS., 3, Crosshall Street, Liverpool.
SIMPKIN MARSHALL & CO., LTD., London.

OXFORD MEDICAL PUBLICATIONS

CATARACT & ITS TREATMENT
By H. KIRKPATRICK, M.B.,
Lt.-Col. Indian Medical Service (Retired);
late Superintendent, Government Ophthalmic Hospital, Madras.
Pp. 201. Price 12s. 6d.
HENRY FROWDE and HODDER & STOUGHTON,

WISE PARENTHOOD
By MARIE STOPES, D.Sc., Ph.D.
3s. 6d. net (postage extra).
Medical Schools generally have omitted Training on Birth Control so that many Doctors lack the knowledge to advise their Patients.
"WISE PARENTHOOD" is the text-book on the subject and the first scientific discussion of the various practical methods. It should be read by every Medical Man and Woman.
"*It should be read, as it is intended, by married people.*"—THE JOURNAL OF STATE MEDICINE.
At all Booksellers or direct from
G. P. PUTNAM'S, 24, Bedford Street, Strand, W.C.2.

THE HEART AS A POWER-CHAMBER.
A Contribution to Cardio-Dynamics.
By HARRINGTON SAINSBURY, M.D., F.R.C.P.
Fellow of the Physiological Society, Consulting Physician to the Royal Free Hospital and the City of London Hospital for Diseases of the Chest, Examining Physician to the Royal National Hospital, Ventnor.
Cloth. Demy 8vo. Illustrated. Price 12s. 6d. net.
OXFORD MEDICAL PUBLICATIONS,
The LANCET Buildings, 1, Bedford Street, London, W.C. 2.

ESSAYS ON THE
SURGERY OF THE TEMPORAL BONE.
By Sir CHARLES BALLANCE, K.C.M.G., C.B., M.V.O., M.S., F.R.C.S.,
Consulting Surgeon to St. Thomas's Hospital, &c.
Illustrated by 125 Plates (40 in colour), and 120 Figures.
In 2 volumes. Medium 4to. Price 7 guineas.
MACMILLAN & CO., LTD.,
St. Martin's Street, London, W.C.

NOW READY. 30s. net, postage 1s. 3d.
TAYLOR'S MEDICINE.
NEW (12th) EDITION.
By E. P. POULTON, M.D.
With 21 Plates and 87 Text Figures.
J. & A. CHURCHILL, 7, Great Marlborough St., W.1.

By FREDERICK W. PRICE, M.D., F.R.S.(Edin.),
Senior Physician to the Royal Northern Hospital; Physician to the National Hospital for Diseases of the Heart, London.
DISEASES OF THE HEART.
Their Diagnosis, Prognosis, and Treatment by Modern Methods.
With a Chapter on the Electro-Cardiograph.
Demy 8vo, 484 pp. Very fully Illustrated. 21s. net.
Lancet.—"By great care, and by the use of an amazing amount of material, he has accomplished what many readers have been waiting for, giving us a complete account of the diagnosis, prognosis, and treatment of heart diseases by modern methods in association with all the invaluable teaching bequeathed to us by the older masters of clinical observation."
Dublin Medical Journal.—"It is probably destined to take the place in the library of the present day physician that was occupied some twenty or more years ago by Sir W. Broadbent's well-known work."
Midland Medical Review.—"It is impossible to enumerate the many excellencies of this book."
London:
HENRY FROWDE AND HODDER & STOUGHTON.

HYPNOTISM AND SUGGESTION. [5/- net.
3rd Ed.]
By ALBERT E. DAVIS, F.R.C.S.Ed., L.R.C.P., Hon. Phys. to the Liverpool Psycho-Therapeutic Clinic.
SIMPKIN, MARSHALL & Co., Ltd.: London.

FOURTH EDITION. Pp. viii + 99, with 4 Plates. Price 4s. 6d. net. (postage 4d.).
THE INTENSIVE TREATMENT OF SYPHILIS
and Locomotor Ataxia by Aachen Methods.
By REGINALD HAYES, M.R.C.S.
The Lancet says: "No better exposition of the method as practised there can be found than that contained in this little book."
BAILLIÈRE, TINDALL & COX, 8, Henrietta Street, London, W.C.2.

CARBON THERAPY

NORIT CHARCOAL

Is an activated Vegetable Charcoal
——— for Medicinal purposes. ———

SPECIFICATION. Guaranteed to contain on the dry substance at least 95 per cent. of pure ashless highly adsorptive free carbon. Adsorptive power 10 times to 70 times that of Commercial P. Carbo Lig. B.P. according to the purpose for which it is used.

INDICATION. An excellent adsorptive in gastric and intestinal affections:—diarrhœa, distension, hyperacidity, ptomaine poisoning, cholera, dysentery, typhoid, etc.

An effective dressing for suppurating wounds, ulcers, and infected mucous surfaces; it adsorbs purulent discharges, and is a powerful deodorant.

In Tablet form has a salutary effect upon the mouth and throat.

PACKAGES. Cartons containing ten 5 gram powders, price 2/6. Bottles containing 50 grams for use as a dusting powder, price 2/11. Tablets — Bottles of a hundred 5 grain tablets, price 2/11. Bottles of twenty 5 grain tablets, price 1/-.

Supplies of NORIT may be obtained from the numerous branches of BOOTS *The* CHEMISTS.

SAMPLES AND DESCRIPTIVE LITERATURE FREE ON REQUEST.

BOOTS PURE DRUG COMPANY LTD.,

MANUFACTURING CHEMISTS AND
MAKERS OF FINE CHEMICALS,

STATION STREET——————NOTTINGHAM.

British Medical Journal.

JUNE 24TH, 1922.

CONTENTS.

ORIGINAL ARTICLES.

The Duodenal Tube in the Diagnosis and Treatment of Biliary Diseases. By JONATHAN MEAKINS, M.D., F.R.C.P.E. 983

An Address on the Spread, Probable Mode of Infection, and Prophylaxis of Leprosy. By Sir LEONARD ROGERS, M.D., F.R.C.P., F.R.S., I.M.S.(ret.)... 987

Acute Inflammation of a Large Diverticulum of the Jejunum with Perforation. By GRAHAM W. CHRISTIE, M.C., M.B., F.R.C.S.Ed..... 990

Temporo-sphenoidal Abscess. By JAMES ADAM, M.A., M.D..... 991

Carbonic Oxide in Tobacco Smoke. By Professor HENRY E. ARMSTRONG, F.R.S..... 992

Observations on the Amoebicidal Action of Conessine. By H. C. BROWN, C.I.E., M.B., B.Ch..... 993

A Modification of the Operation of Cholecystenterostomy. By ANDREW FULLERTON, C.B., C.M.G., F.R.C.S.... 995

MEMORANDA.

Erythema Nodosum associated with Acute Rheumatism. By HUGH WETHERBEE, M.R.C.S..... 995

Recurrent Vesicular Eruption after Influenza. By A. W. PANTON, M.B.... 995

Cancer of Tongue: Excision of Tongue: Cancer of Stomach 31 Years Later. By J. S. MANSON, M.D., D.P.H..... 996

SCIENTIFIC PROCEEDINGS.

ULSTER BRANCH..... 996

REVIEWS.

Influenza..... 999
Treatment of Congenital Syphilis.....1000
Cause and Treatment of Diabetes.....1000
Notes on Books.....1001

LEADING ARTICLES.

OXYGEN AT HIGH ALTITUDES.....1003
PUBLIC HEALTH IN AMERICA.....1003

THE WEEK.

The Medical Officer of Health for Manchester.....1005
Economy and Information.....1005
The Mount Everest Achievement 1006
Art in Industry.....1006
Nutrition and Health.....1006
Harveian Society.....1007
Oxford Ophthalmological Congress.....1007
"Phyllosan" 1007

GENERAL ARTICLES AND NEWS.

The "Meningiomas." The Cavendish Lecture. By Professor HARVEY CUSHING.....1001
PREVENTION OF VENEREAL DISEASE....1002
MEDICAL NOTES IN PARLIAMENT:
The Case of Ronald True.....1008
MEDICAL NEWS.....1011

REPORTS OF SOCIETIES.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY:
Measures against Tuberculosis..... 997
WEST LONDON MEDICO-CHIRURGICAL SOCIETY:
Rheumatoid Arthritis and its Treatment..... 998
ROYAL SOCIETY OF MEDICINE:
Conservative Labour Induction 998

LOCAL NEWS.

ENGLAND AND WALES—
London's Water Supply.....1009
London Association of the Medical Women's Federation.....1009
London Hospital Medical College 1009

UNIVERSITIES AND COLLEGES.

University of Cambridge 1011
University of Manchester.....1011
Royal College of Surgeons of England.1011

CORRESPONDENCE.

The Interstitial Gland and Sex Problems. By Leonard Williams, M.D...1009

A Pulmonary Sign in Acute Infections of the Biliary Tract. By D. J. Harries, M.D., F.R.C.S.....1010

An Aortic Murmur. By Thomas Lindsay, M.B., F.R.C.S.Ed.....1010

The Case of Mr. F. W. Axham. By C. O. Hawthorne, M.D., F.R.C.P.....1010

Society of Apothecaries of London. By Bingham Watson, Clerk.....1010

Senior Surgeon Commanders, R.N.....1010

Medicine and the Humanities. By Richard Gillbard, M.R.C.S. 1010

THE SERVICES.

Indian Medical Service.....1011

LETTERS AND ANSWERS.

Treatment of Psoriasis.....1012
Income Tax 1012
Diagnostic Shoulder Straps 1012
Medical Golfing Society 1012
A Flea Trap.....1012

VACANCIES.....1012

(See also page 255 of Supplement.)

The SUPPLEMENT contains:—

Supplementary Report of Council.

Proceedings of Council.

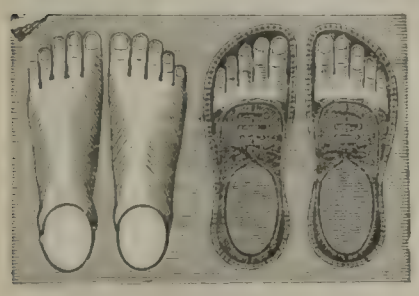
Programme of Annual Meeting.

CURRENT NOTES: Dispensing Capitation Fee.—A Grievance of the East African Medical Service.—Day Excursions at the Annual Meeting, etc.

East African Medical Service: Reduction of Local Allowance.

Association Notices; Correspondence; Vacancies; Appointments; Diary.

AN EPITOME OF CURRENT MEDICAL LITERATURE will be found at the end of the JOURNAL.



DOWIE & MARSHALL, LTD., BOOTMAKERS (EASY.)

455, WEST STRAND, CHARING CROSS, LONDON.

Registered at Stationer's Hall.] **(Established 1824.)** ["G.P.O. Telephone No. 9015 Central."

The instructions of the Profession intelligently carried out in the Departments for LADIES, GENTLEMEN, and CHILDREN, and especial attention is given to the Treatment of Weak Ankles and Flat Feet.

Illustrated Catalogue Gratis, in which is instruction for Self-measurement.

DOWIE & MARSHALL, Ltd., 455, West Strand, Charing Cross, LONDON. Managing Director C. B. DENNEY.

INDEX TO ADVERTISEMENT PAGES.

Advertisements are classified so far as date of receipt and printing conditions make possible. Advertisements of the following classes will for the most part be found on the pages indicated :—

UNIVERSITY, HOSPITAL, &c., VACANCIES— Pp. 26, 27 and 30-32.

ASSISTANTS, PRACTICES &c.— Pp. 28 and 29.

MASSEUSES— P. 31.

MEDICAL SCHOOLS, &c.— Pp. 24-26.

NURSING INSTITUTES— P. 32.

SCHOOLS, &c. Pp. 24-26.

PUBLISHERS— P. i of Cover, also pp. 2 and 3.

ASSURANCE COMPANIES— P. 2 and 19.

BRASS NAME PLATES— Pp. 10 and 11.

CHEMISTS, &c. Pp. ii and iv of Cover, also pp. 3 and 11-19.

DISPENSING BOTTLES— Pp. 10 and 19.

FOOD PREPARATIONS— Pp. 2 and 12-18.

MOTORS, TYRES, Etc. P. iii of Cover, also pp. 8-10.

MEDICAL AND SURGICAL APPLIANCES— P. iii of Cover, also pp. 4-7, 10 and 17-19.

TAILORING & UNDERWEAR Pp 18 and 19.

TYPEWRITERS & PENCILS P. 2.

VACCINES— P. 18.

BATHS, SPAS, &c. Pp. 19-23.

HEALTH RESORTS— Pp. 21-24.

HOMES & ASYLUMS— Pp. 21-25.

HYDROS— P. 23

INEBRIETY, &c. P. 20.

SANATORIA— Pp. 22 and 23.

TUTORS & LECTURERS— Pp. 24-26.

TRANSFER AGENTS— Pp. 32-34.

MISCELLANEOUS— Dr.'s A/c Forms—P. 30. Miscellaneous—Pp. 29 and 30.

*** *It must be understood that the acceptance by the British Medical Association of an advertisement does not imply a recommendation, and that no responsibility is accepted with regard to the accuracy of the statements therein contained.*

THIRD EDITION. *Demy 8vo. 79 Illustrations, 44 in Colours.* 12s. 6d. *net; postage* 9d.

DISEASES OF THE THROAT, NOSE AND EAR.

For Practitioners and Students.

By the late **W. G. PORTER**, M.B., B.Sc., F.R.C.S.(Ed.). Fully revised under the Editorship of **A. LOGAN TURNER**, M.D.(Ed.), M.B., C.M., F.R.C.S.(Ed.), *Consulting Surgeon, Edinburgh Eye, Ear and Throat Infirmary, &c.* AND OTHER COLLABORATORS.

"We know of no manual of its size better suited to the needs of the general practitioner."—*British Medical Journal.*

"A source of sound teaching of moderate dimensions for the senior student and general practitioner."—*Lancet.*

NEW WORK. *Demy 8vo. Illustrated.* 12s. 6d. *net; postage* 7d.

THE PHYSIOLOGY OF GOUT, RHEUMATISM, AND ARTHRITIS

As a Guide to Accurate Diagnosis and Efficient Treatment.

By **PERCY WILDE**, M.D., *Hon. Physician to the Lansdown Hospital, Bath.*

"One turns with pleasure to views which, even though they be heterodox, are off the beaten track.....The author writes out of a long clinical experience.....Ought to be read by every practitioner."—*London Hospital Gazette.*

"A most interesting book.....shows a ray of light where all has been black enough hitherto."—*Medical World.*

London: SIMPKIN & CO. Ltd. **Bristol: JOHN WRIGHT & SONS Ltd.**

SKIN DISEASES IN GENERAL PRACTICE.

By HALDIN DAVIS, M.B.Oxon., F.R.C.S., Dermatologist to the Royal Free Hospital. 2nd Edition. Price 25/- net. Illustrated by 14 Coloured Plates and 73 Photos. Published by HENRY FROWDE & HODDER & STOUGHTON, 1, Bedford Street W.C. 2.

STERILITY IN WOMEN:

A BOOK FOR THE WOMAN OF TO-DAY.

1/3 of Author — *A consensus of qualified opinion on a cause of Pelvic Disease.*

H. HOLDEN, South View, Rusthall, Kent

The Medical and Psychological PUBLICATIONS of the F. A. DAVIS Co., Philadelphia, are obtainable in Great Britain from THE MINERVA Co., 9, St. Nicholas Street, Leicester. Catalogue post free.

Pepsodent TRADE MARK

The New Day Dentifrice.

TAYLOR'S TYPEWRITERS

SELL, HIRE, HIRE PURCHASE, EXCHANGE, BUY AND REPAIR ALL MAKES of Typewriters and Duplicators.

Desks. Tables and Chairs. *Write for Bargain List 32.* 'Phone—Holborn 4810.

Est. 1884. THE ERIKA



The best portable Writer. Complete in Travelling Case, £14 14s.

Authors' MSS. and Lecture Notes Typed.

74, CHANCERY LANE (Holborn End), W.C. 2.

1/- TRUSSES 1/-

APPLICATION OF, TO HERNIA.

By JOHN WOOD, F.R.S., F.R.C.S. With Illustrations. London: MATTHEWS BROS., 10 New Oxford St., W.C.1.

VACCINES

AUTOGENOUS AND STOCK.

In bulk or in graduated doses.

Apply, Secretary, LABORATORIES OF PATHOLOGY & PUBLIC HEALTH, 6, Harley Street, London, W. 1.

REAGENTS FOR WASSERMANN REACTION

STANDARDISED and supplied in Ampoules, Ready for Use.

AS USED IN THESE LABORATORIES

For prices and particulars apply to SECRETARY, LABORATORIES OF PATHOLOGY & PUBLIC HEALTH, 6, Harley Street, London, W. 1.

CULTURE MEDIA

Freshly Prepared and Standardised weekly.

In Tube or in Bulk.

Apply, LABORATORIES OF PATHOLOGY & PUBLIC HEALTH. 6, Harley Street, London, W. 1.

PARTNERSHIP ASSURANCE.

Capital is usually required by a firm on the death of a partner. Life Assurance is the ideal way of providing the necessary amount.

PRUDENTIAL ASSURANCE CO., LTD.

142, HOLBORN BARS, E.C. 1.

As SUPPLIED to H.R.H. The Princess Royal of England and H.R.H. The Crown Princess of Sweden.

HUMANIZED MILK

Prepared only by

The AYLESBURY DAIRY COMPANY, Limited,

31. St. Petersburgh Place, BAYSWATER, W.

Telephone No. "PARK 22."

SAMPLES FREE TO MEMBERS OF THE MEDICAL PROFESSION.

LEWIS'S PUBLICATIONS.

NOW READY. EIGHTH EDITION. Revised and Enlarged. With 1628 Illustrations. Royal 8vo. **£3 3s.** net.

MANUAL OF OPERATIVE SURGERY

By **J. FAIRBAIRN BINNIE,** A.M., C.M,(Aberd.), F.A.C.S., Surgeon to the General Hospital, Kansas City; Fellow of the American Surgical Association, &c.

"..... indispensable to every practising surgeon."—*The Lancet.*
"..... a perfect mine of valuable information, clearly and succinctly arranged."—*Medical Press.*

NOW READY. ELEVENTH EDITION. Thoroughly Revised. Crown 8vo. **16s.** net; post free, **16s. 9d.**

ELEMENTS OF PRACTICAL MEDICINE.

By **ALFRED H. CARTER,** M.D., M.Sc., F.R.C.P.Lond., formerly Professor of Medicine, University of Birmingham.
Edited by **A. G. GIBSON,** M.D.Oxon., B.Sc., M.A., F.R.C.P., Lecturer in Morbid Anatomy, University of Oxford, &c.

"It provides a safe guide to Clinical Medicine, and possesses the merit of simplicity.....The book is well deserving of the wide circulation that it has obtained."—*The Lancet.*

NOW READY. FIFTH EDITION. Revised and Enlarged, with Plates and Illustrations. Crown 8vo. **10s. 6d.** net; post free **11s.**

MENTALLY DEFICIENT CHILDREN: Their Treatment and Training. By G. E. SHUTTLEWORTH, B.A., M.D., Hon. Consulting Physician (formerly Medical Superintendent), Royal Albert Institution, Lancaster, &c.; and W. A. POTTS, M.A., M.D., Medical Officer to the Birmingham Committee for the Care of the Mentally Defective, etc.

"The book remains the best of its kind.....and is assured of a welcome."—*Medical Officer.*

NOW READY. Crown 8vo. **4s. 6d.** net; postage **3d.**

LECTURES ON THE SURGERY OF THE STOMACH AND DUODENUM. By JAMES SHERREN, C.B.E., F.R.C.S., Surgeon to the London Hospital; Member of Council and Court of Examiners, Royal College of Surgeons; Examiner in Surgery, University of London, &c.

"In this book will be found much valuable help..... ."—*The Lancet.*
"The little volume is a valuable addition to medical literature."—*British Medical Journal.*

Demy 8vo. **7s. 6d.** net, postage 6d.

ESSAYS AND CLINICAL STUDIES.
By F. G. CROOKSHANK, M.D.Lond.

"Few books have afforded us greater pleasure to read, and we have no hesitation in saying that every page will amply repay a careful perusal."—*Med. Press Circular.*

FIFTH EDITION (Reprinted). With 29 Plates (mostly in Colour), comprising 33 Figures. Demy 8vo. **7s. 6d.** net, post free **8s,**

LANDMARKS AND SURFACE-MARKINGS OF THE HUMAN BODY. By L. BATHE RAWLING, M.B., B.C.Cantab., F.R.C.S.Eng., Surgeon and Demonstrator of Operative Surgery, St. Bartholomew's Hospital; Examiner in Surgery at Cambridge University, &c.

"We can confidently recommend it to everyone as a handbook both for study and for reference."—*Edinburgh Medical Journal.*

NOW READY. With 31 Plates, containing 188 Illustrations. Royal 8vo. **16s.** net; postage **1s.**

TYPES OF MENTAL DEFECTIVES. By M. W. BARR, M.D., Chief Physician, Pennsylvania Training School for Feeble-Minded Children, Elwyn, Pa.; and E. F. MALONEY, A.B., Professor of English, Girard College.

"A photgraph is given of every case, an unusual but valuable feature..... The book is well worth careful study."—*The Lancet.*

NOW READY. TWELFTH EDITION. Thoroughly Revised. Royal 32mo. **4s. 6d.** net; post free, **4s. 10d.**

WHAT TO DO IN CASES OF POISONING. By W. MURRELL, M.D., F.R.C.P., late Lecturer on Clinical Medicine at Westminster Hospital. Revised by P. HAMILL, M.D., D.Sc., F.R.C.P., Lecturer on Pharmacology and Therapeutics, St. Bartholomew's Hospital Medical School, &c.

".....this invaluable toxicological vade-mecum."—*Clinical Journal.*
"This excellent little manual."—*Medical Officer.*

*** *Complete CATALOGUE of Publications post free on application.*

London: H. K. LEWIS & CO. LTD. 136 Gower St. & 24 Gower Place, W.C. 1.

DETOXICATED VACCINES

(Prepared by the "Pickett-Thomson" Research Laboratory, St. Paul's Hospital, 24, Endell Street, London, W.C. 2.)

Endotoxin produces febrile reactions

Bacterial endotoxin when liberated in the body by lysis of bacteria gives rise to febrile reactions.

Detoxicated Vaccines contain no endotoxin, and do not produce this effect.

Detoxicated Vaccines are prepared for—

GONORRHŒA.	COLDS AND BRONCHITIS.
INFLUENZA.	PNEUMONIA.
PYELITIS.	CYSTITIS.
BOILS AND ABSCESSES.	PUERPERAL FEVER.
PYORRHOEA.	MENINGITIS.
TYPHOID FEVER.	ACNE.
TUBERCULOSIS.	DIPHTHERIA, Etc.

All the above varieties are supplied in one c.c. graduated phials, 5 c.c., 10 c.c. and 25 c.c. Bulk Bottles.

Specially prepared literature dealing extensively with Vaccine Therapy will gladly be sent to members of the Medical Profession upon request.

Please address all enquiries to the

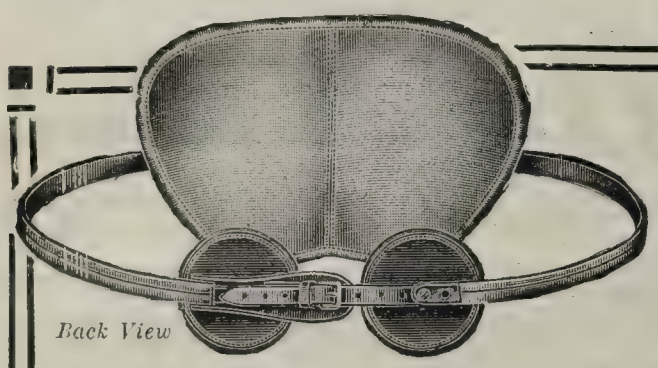
Detoxicated Vaccines Dept., Genatosan, LTD.

143-5 Great Portland Street, LONDON, W.1.

The CURTIS Abdominal SUPPORT



Front View


Back View

A Success! and Why?
CONSTRUCTION.
The direct Anterior and Posterior Pressure.

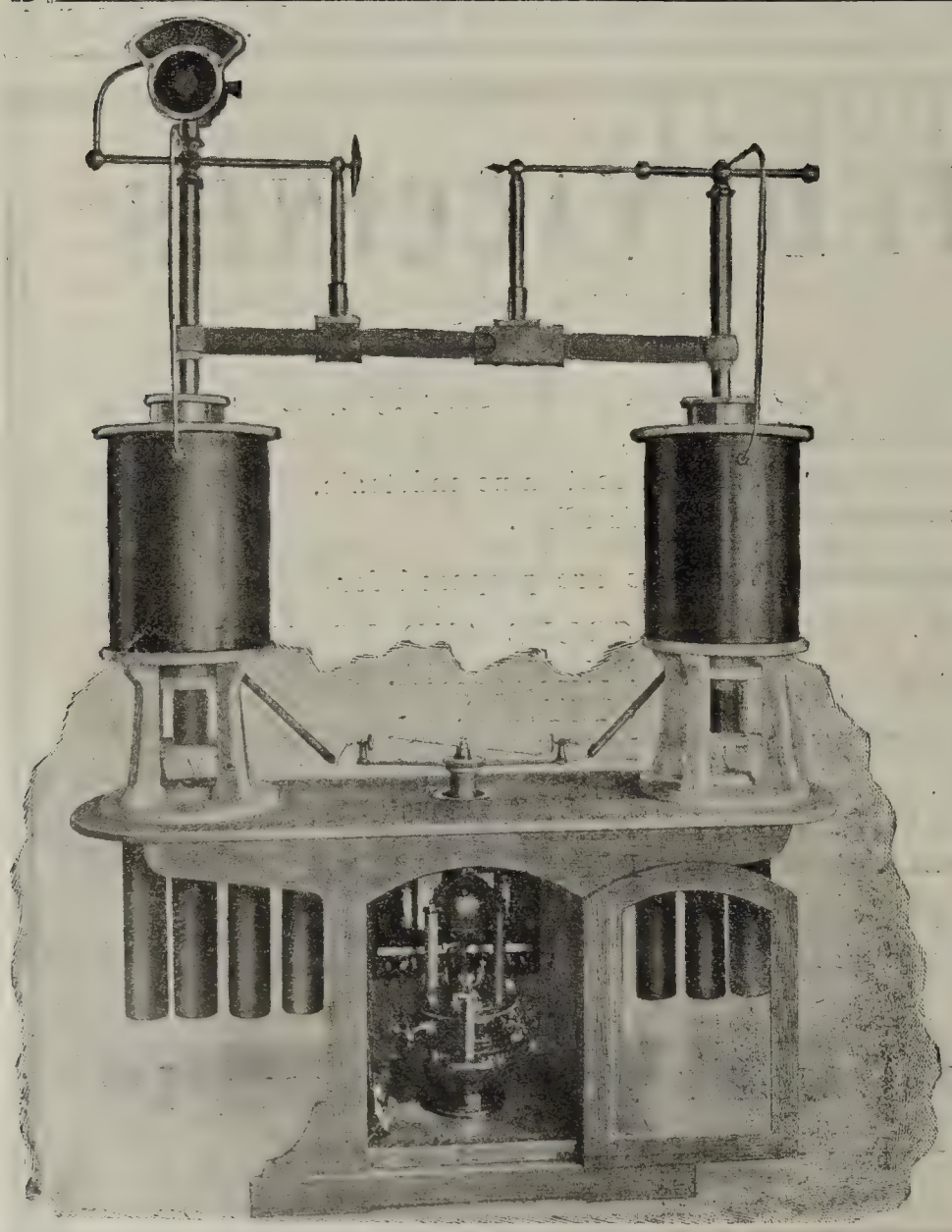
The superiority of a direct pressure operating between two fixed points, will be readily apparent. The whole weight of the viscera is transferred to the sacrum, *leaving the hips perfectly free from that cramping pressure so bitterly complained of by wearers of many so-called abdominal supports, or "compressors."* By means of direct pressure we are able to dispense with the use of perineal bands This claim is made after having fitted some thirty thousand patients.

Write for List to—

H. E. CURTIS & SON, Ltd., 8, Old Cavendish Street, London, W. 1.

Directors: H. E. CURTIS, and L. V. CURTIS.

Telephone: Mayfair 1603.
Telegrams: Mayfair 1608.



THE ISOMETRIC GROUP FOR DEEP X-RAY THERAPY

BY CROSS-FIRE (ERLANGEN) AND LARGE FIELD (SCOTT AND DESSAUER) METHODS OF TREATING **MALIGNANT DISEASES.**

We are now in a position to execute orders for this Group, which is **manufactured throughout in our London Factory.**

Prices and Specifications on application to

A. E. DEAN & CO.

Manufacturers of X-ray and Electro-medical Apparatus of the Highest Quality,

LEIGH PLACE, BROOKE ST., HOLBORN, LONDON, E.C. 1.

Branch Factories: Willesden and Dalston.

EASTMAN Dupli-Tized X-Rays Films have the softness and delicacy which enables you to reproduce the finest gradations in Radiography. In addition they have the speed, the latitude and the dependable uniformity which have made Dupli-Tized Films the standard of quality. That's why the best radiographers rely on

Eastman Dupli-Tized X-Ray Film

Kodak Limited
(X-Ray Dept.)
Kingsway,
London, W.C.2.

HIGH TENSION TRANSFORMERS

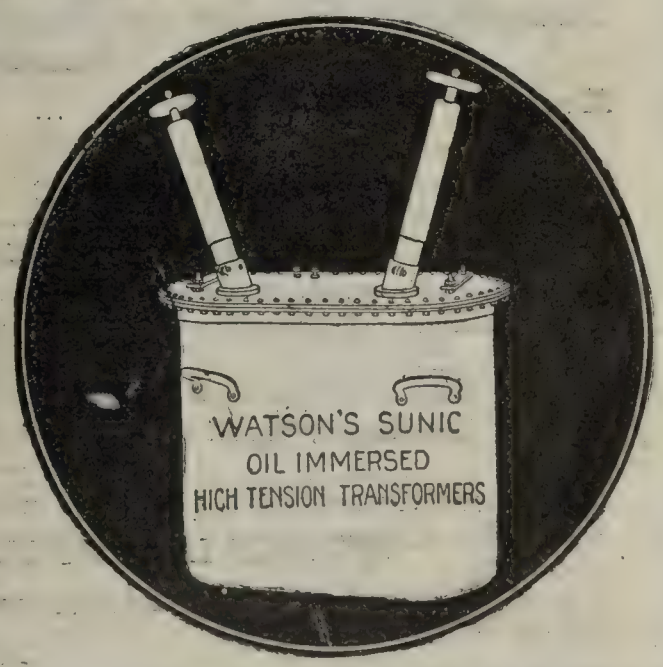
For X-RAY WORK &c.

OIL-IMMERSED AND DRY TYPES

Specially designed for maximum efficiency with Gas and Electron Tubes.

Constructed for continuous running and standardised technique.

We have been building Transformers for many years on sound electrical engineering principles.



Our New Bulletin 48 S gives full particulars of all types as well as considerable data of use to the Radiologist. Post free on request to

WATSON & SONS (Electro-Medical) LIMITED

In business since 1837

SUNIC HOUSE, PARKER STREET, KINGSWAY, LONDON, W.C. 2.

Telephone: REGENT 1227 and 1228.

Telegrams: "SKIAGRAM, LONDON."

SURPLUS
X-Ray and Electro-Medical
Stores

THE MEDICAL SUPPLY ASSOCIATION, LTD.

167-185, GRAY'S INN ROAD, LONDON, W.C. 1,

have acquired the surplus X-Ray and Electro-Medical Stores of the

WAR OFFICE

of an estimated value of **£100,000.**

We are therefore able to offer apparatus by the best makers at a fraction of current prices. The Apparatus has been re-conditioned and is therefore guaranteed to be in

PERFECT WORKING ORDER

THE STOCKS COMPRISE:—		£	s.	d.
Complete X-Ray Installations with Accessories ...	**from**	**115**	**0**	**0**
Diathermy Apparatus	**,,**	**35**	**0**	**0**
Galvanic and Faradic Switchboards on Marble Panels	**,,**	**16**	**10**	**0**
Wheatstone Illuminated Stereoscopes	**,,**	**7**	**10**	**0**
Induction Coils for X-Rays, &c.	**,,**	**28**	**0**	**0**
Negative Viewing Boxes	**,,**	**1**	**5**	**0**
Radiographic Couches	**,,**	**38**	**0**	**0**
Amperemeters. Milliamperemeters and Voltmeters ...	**,,**	**2**	**5**	**0**
Whole Body Light Bath Cabinets	**,,**	**40**	**0**	**0**
Electromagnets for Surgical Purposes	**,,**	**8**	**0**	**0**
Intensifying Screens for Radiography	**,,**	**1**	**0**	**0**
,, ,, Cassettes	**,,**	**1**	**0**	**0**
Mercury Interrupters	**,,**	**5**	**0**	**0**

etc., etc.

NOTE.—RECONDITIONED AND IN PERFECT WORKING ORDER.

SEND FOR SURPLUS CATALOGUE No. I NOW READY.

Export Orders will receive immediate attention and despatch in those countries where this class of goods is subject to Importation Tax a very considerable saving can be effected by ordering these stores.

An UNPRECEDENTED OPPORTUNITY for Hospitals, Doctors, Nursing Institutes, Sanatoria, Technical Colleges, Industrial Laboratories, &c., &c.

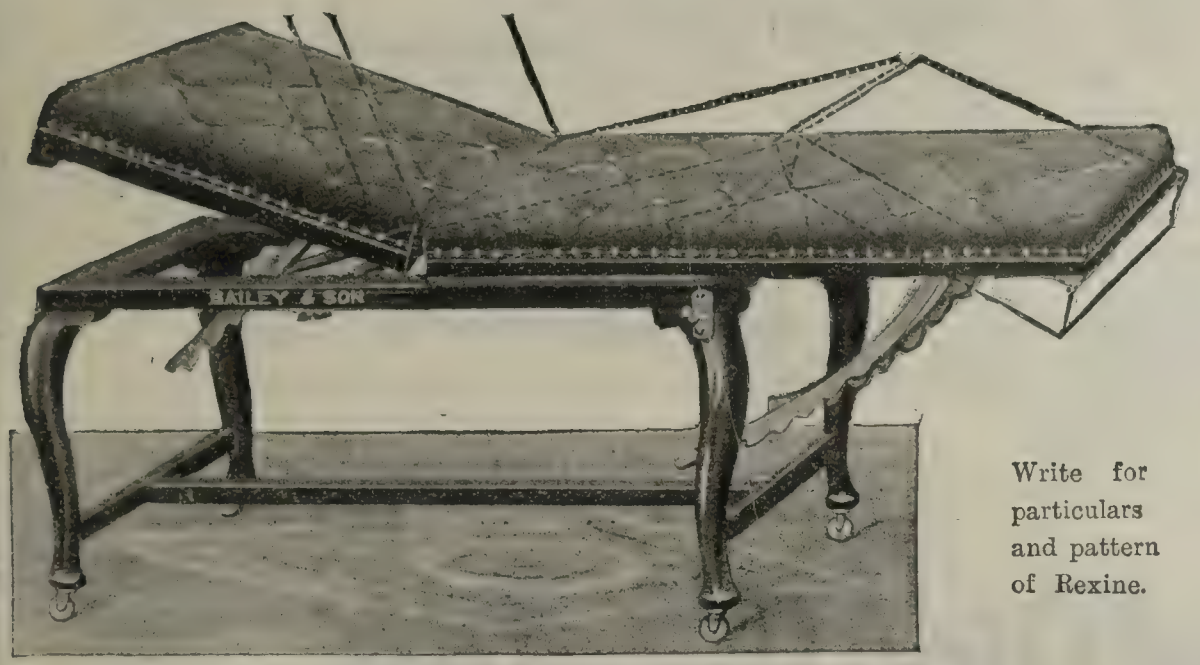
Applications for apparatus should be marked "SURPLUS," and addressed to—

MEDICAL SUPPLY ASSOCIATION, Ltd.
Electrical Department,
167-185, Gray's Inn Road, London, W.C. 1.

stating apparatus required, voltage of your electrical supply, and whether constant or alternating current is available. A detailed specification and estimate will be sent you by return.

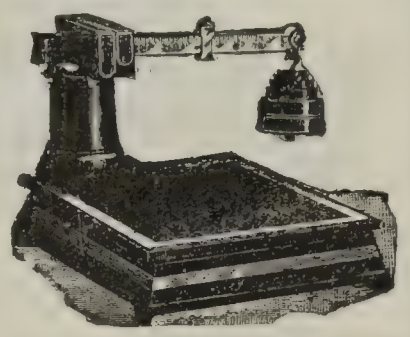
W. H. BAILEY & SON'S
CONSULTING ROOM COUCHES.

Write for CONSULTING ROOM FURNITURE CATALOGUE.



Write for particulars and pattern of Rexine.

Bailey's "Perfection" Consulting Room Couch.
Solid Mahogany, Oak, or Walnut. Upholstered Rexine Leather Cloth (washable). With or without Leg Crutches.



PERSONAL WEIGHING MACHINE
10 inches high. Can be stowed under couch. Weighs to 20 stone.

Surgical Instruments and Appliances - 38, OXFORD STREET,
Hospital and Invalid Furniture - - 2, RATHBONE PLACE, } LONDON, W.1.

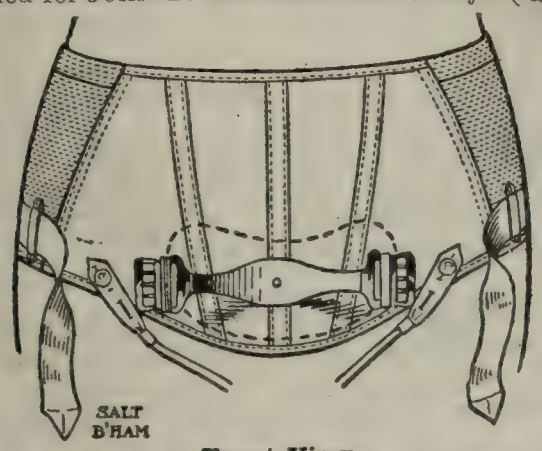
Telegrams: "Bayleaf, London." Telephone: Museum 1484.

SALT & SON, LTD.
(Head Offices): 7, CHERRY STREET
BIRMINGHAM.

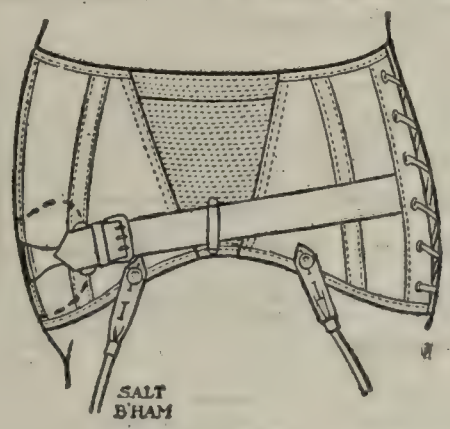
Orthopædic Appliance Specialists. Artificial Limb Manufacturers.

LONDON CONSULTING ROOMS:
14-18, BLOOMSBURY ST. W.C. Museum 3845
Fully qualified Nurse in attendance.
BY APPOINTMENT ONLY.

SALT'S GASTROPTOSIS BELT (PATENT No. 178,713).
as designed for JOHN F. HALL-EDWARDS, Major (late R.A.M.C.), L.R.C.P.Edin., D.M.R. & E.Cantab., F.R.S.Edin.



Front View.



Side View.

Write for Particulars and Measurement Forms.

Extract from article "*The Diagnosis and Treatment of Gastroptosis*," by Major HALL-EDWARDS, in *B.M.J.*, May 14 1921:—"By far the most important item in the treatment is the special abdominal belt for holding the stomach up."

SEND FOR PARTICULARS OF—

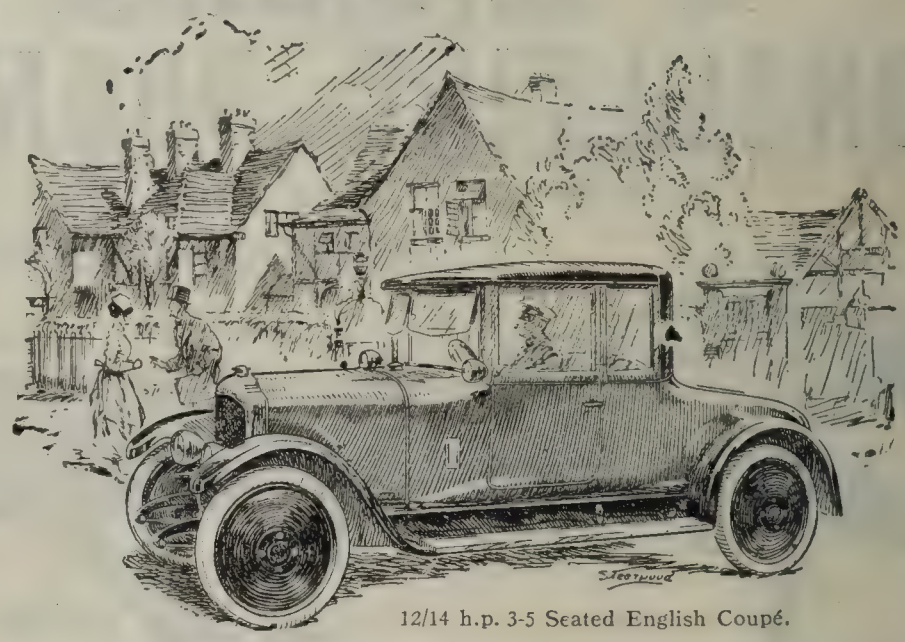
SALT'S REGISTERED ENTEROPTOSIS CORSET.
SALT'S PATENT VARUS BOOT.
SALT'S PATENT KIDNEY BELT, &c., &c.

Proved by Doctors

No class of Motor user is a better judge of a car than a doctor. To meet their requirements a car must be thoroughly reliable, durable, comfortable and economical.

The fact that since the earliest days of motoring the De Dion Bouton has been known as a doctor's car, and has been tested and appreciated by thousands of medical men is therefore the best assurance of its unequalled qualities.

Every owner is a De Dion Bouton enthusiast.



12/14 h.p. 3-5 Seated English Coupé.

12/14 h.p. Chassis with Tyres **£495**

Complete Cars from ... ... **£610** to **£825**

Telephone: Regent 3148 (2 lines)

De Dion Bouton Limited.

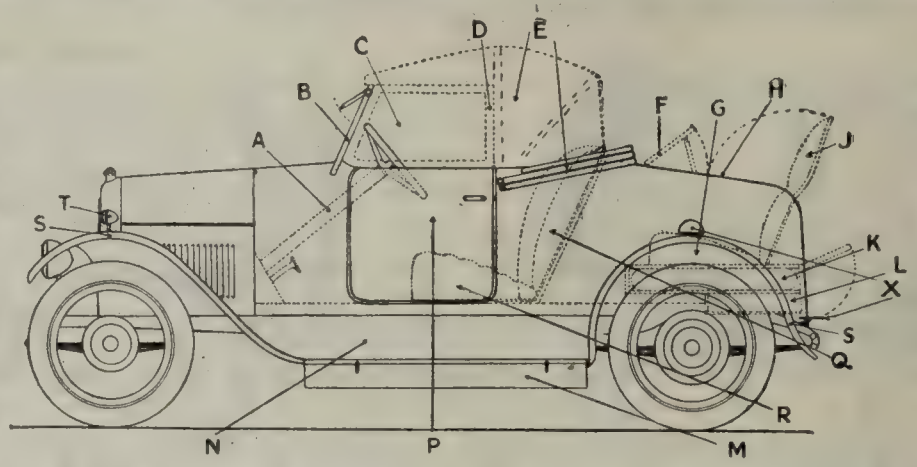
Telegrams: "Andesite, Wesdo, London."

10, Great Marlborough Street, London, W. 1.

PEDIGREE TELLS
ECONOMICAL AND DURABLE.

The new AUSTIN Twelve chassis with OFFORD FEATHERWEIGHT COACHWORK. £13 tax, 30 miles per gallon. Four speeds. Self starter and Dynamo lighting. Full equipment. Seats three on main seat and two in dickey. Doors both sides. All-Weather Hood, &c. A strong economical car for hard service.

A. Specially Raked Steering.
B. Sloping Double Screen, Top Half Adjustable.
C. Side Curtains with Large Windows.
D. Patented Support to make Side Curtain Open with Door.
E. Low Hood Folding Very Compactly.
F. Adjustable Scuttle for Occupants of Dickey Seat.
G. Low, Comfortable aud well Protected Dickey Seat.
H. Nearly Flat Top to Back to take Luggage.
J. Well Sloped Luxurious Back for Dickey Seat.



K. Spare Wheel in Concealed Locker under Dickey.
L. Locker for Side Curtains.
M. Large Convenient Tool Box under Step Platform.
N. Full Anti-Rattle Step Shields.
P. Very Large and Convenient Side Doors.
Q. Softly Padded Sloping Back giving Ample Leg Room.
R. Low Soft Seat wide enough to Seat 3.
S. Strong Domed Mudguards.
T. Side Lamps on Front Wings.
X. Convenient Steps for Entrance to Dickey.

SPECIAL 12.8 H.P. AUSTIN DOCTORS' ALL PURPOSE CAR.

EARLY DELIVERIES
DEFERRED PAYMENTS
EXPERT ADVICE
BODIES for all CHASSIS

Offord & Sons, Ltd.

Established over a century.

67, George Street, Portman Square, W. 1.

Telephone: 99 Paddington. *Telegrams:* "Droffo, London,"

AND AT SOUTH KENSINGTON.

COMPLETE CAR £635
BODY ONLY - £185

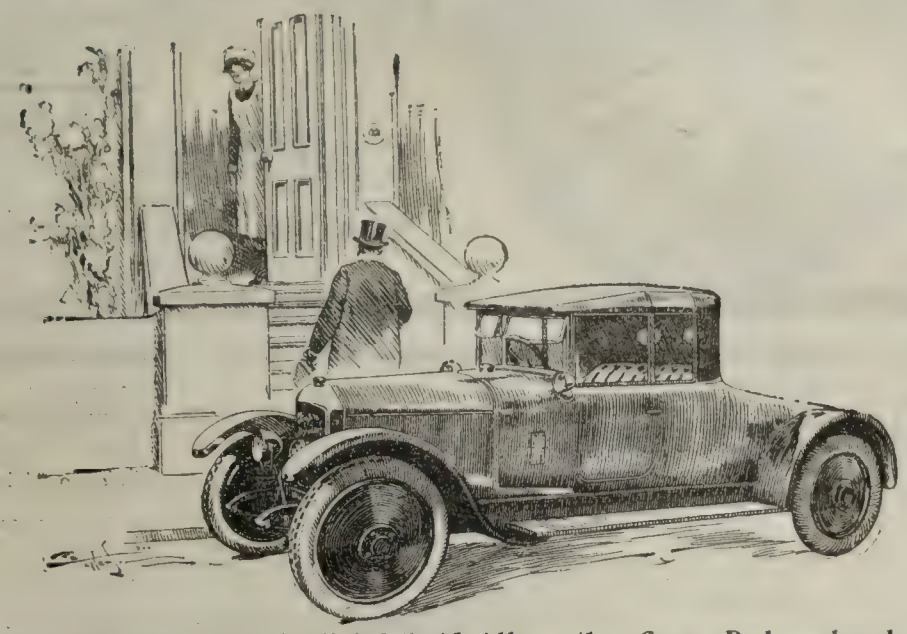
Write for Illustrated List of Six Special Patterns.

AT FIRST SIGHT NOT THE CHEAPEST BUT INCOMPARABLY THE LEAST EXPENSIVE IN THE LONG RUN.

De Dion Bouton

THE DOCTOR'S CAR

We are authorised agents for these world-renowned cars and can offer earliest deliveries of the famous 12/14 chassis, fitted with all styles of English Coachwork. We supply, if required, on Deferred Payments, or will take your present car in part exchange.



12/14 h.p. Model with English 3-5 std. All-weather Coupe Body—closed.

REPRESENTATIVES SENT TO ANY PART, IRRESPECTIVE OF DISTANCE, TO ADVISE AND QUOTE.

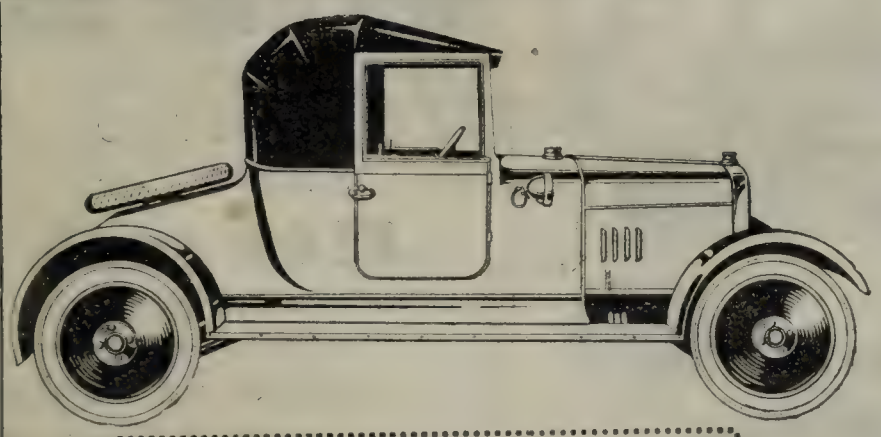
DEFERRED PAYMENTS. PART EXCHANGE. Other makes of Cars supplied on similar terms.

JOHNSON, NEAL & CO., Limited,

Automobile Engineers,

168, REGENT STREET, LONDON, W. 1.

Telephone: REGENT 1940-1. Telegrams: "JONSONEAL REG. LONDON."



10/20 h.p. four cylinders, 65×110 mm. (1,460 c.c.) pump and splash lubrication, fabric cone clutch Bosch magneto ignition, Zenith carburetter, three speeds, right-hand gate change, unit gear box, spiral bevel final back axle drive, 710×90 mm. tyres on disc wheels, Lucas electric lighting and starting.

The Standard Galloway Coupé - -	**£495**
The Galloway 4-Seater - - -	**£425**
The Galloway 2-Seater - - -	**£385**

Galloway CARS

Another Letter of Appreciation from a Medical Man.

27th February, 1922.

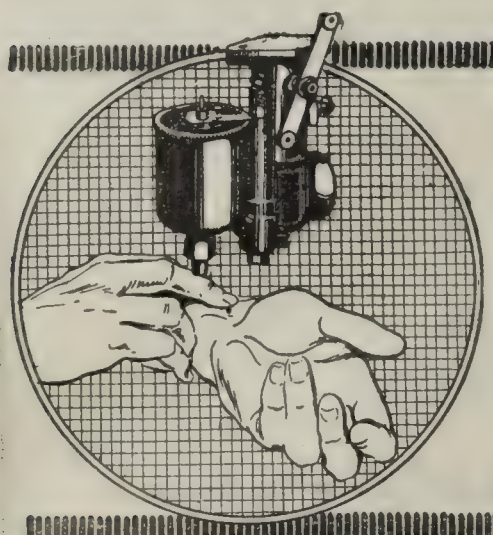
"It is now nearly five months since I took delivery of my Galloway Coupé, and it has been in daily use for professional purposes during that period.

The engine is quiet, powerful, and easy to start. The steering, springing and bodywork are all excellent. The car is most economical on oil and petrol, and I have nothing but praise for its performance. I consider it an ideal car for a medical man."

The above is only one of numerous gratifying expressions of opinion which we are constantly receiving. Local Trial Runs on application to:

GALLOWAY MOTORS, LTD.

Tongland, Kirkcudbright, N.B.



The Zenith is the Popular Pulse Regulator

for every type of car. It ensures for the engine that even, unhurried pulsation which is the signal of perfect running and good order in the mechanism.

ZENITH CARBURETTERS

while ensuring petrol economy, are a boon to the medical profession because of their absolute dependability when it is a question of quick starting and rapid acceleration.

HAVE ONE ON A MONTH'S TRIAL.

ZENITH CARBURETTER CO. LTD., 40-44, Newman Street, London, W. 1.

Telephone: Museum 4812-4813. *Telegrams: Zenith Museum. 4812, London.*

ROVER. MORRIS-COWLEY. HUMBER. ROLLS-ROYCE. WOLSELEY. RILEY. TALBOT-DARRACQ. AUSTIN. LANCHESTER.

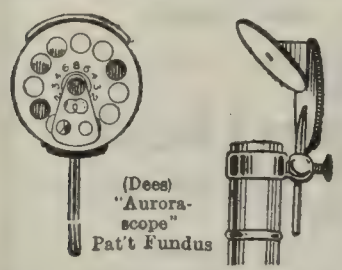
A DOCTOR'S CAR

is always in perfect running order—it is essential that it should be so. They are, as a rule, well cared for cars of the *best* makes, and can be guaranteed to give satisfactory service under all conditions.

Many Doctors put into practice the very good policy of having a new car every year and that is the reason why we have on our Register particulars of many such Doctor's cars that are for sale. Cars that are in perfect condition and running order, and that are being used daily. A good second-hand car such as these is infinitely better value than an inferior new car at the same price, Why not let us refer you to the owners of such cars which are on our Register? Tell us the type of car you would prefer and your price limit. There is no charge to you—our service is to our registered members.

THE MOTOR SALES REGISTRY, LIMITED, 11, WARWICK ROW, COVENTRY.

OVERLAND. FORD. R.M.C. CHEVROLET. HILLMAN. STANDARD. CALCOTT. ALVIS. DAIMLER. SWIFT. SINGER



(Dees) "Aurora-scope" Pat't Fundus Atttachment | Attachment in situ.

(Dees) FUNDUS "AURORASCOPE" ATTACHMENT.

"PATENT"

We absolutely guarantee that a novice can see every detail of the Retina.

PRICE: "Fundus" Attachment, **£2 : 2 : 0** (postage 6d.). Fundus "Aurorascope," Complete, **£3 : 3 : 0** (postage 0d.). Model Practice Eye—with the use of which Students can easily become proficient in Ophthalmoscopy, Retinoscopy, and Sight-Testing—Price **12/6** (postage 6d.). Your Morton Converted **25/-**

The "AURORASCOPE" CO., Ltd., Fulwood House, Fulwood Place, High Holborn, W.C. 1.
(side Chancery Lane Tube station). WHERE DEMONSTRATIONS ARE GIVEN DAILY.

As the demand for our "AURORASCOPE" exceeds the supply we cannot send goods on approval.



Standard

Light 2 & 4-Seaters: 8 & 11 h.p.

Exeter, 1/5/22.

"I have one of your 11.9 'Standard' Coupés and it has been doing doctor's work for the last 10 years; it is only right that I should let you know what an excellent car it has proved to be. The work is continuous, but it is still going strong."

——, M.B., B.Ch., M.R.C.S., L.R.C.P.

11 h.p. (Rating 13·9) 2-Seater, £515; 4-Seater, £525.

Send for particulars.

The Standard Motor Co., Ltd., Coventry. London Showrooms: 49, Pall Mall, S.W. 1.



Count them on - the Road -

Registered Trade Mark

Absolute Protection in every kind of weather

NEW LIGHT CARS

HUMBER,
STANDARD,
SWIFT, etc.

£100 cash

Balance by instalments to suit your convenience.

Any make of car supplied.

Your old car taken in part payment.

SAUNDERS GARAGE, GOLDER'S GREEN, N.W.11

SPECIAL OFFERS! **Specially Manufactured WHITE GLAZED BOTTLE WRAPPER**

5 Reams, **4/-** per Ream | **10** Reams, **3/6** per Ream. (8-oz. Bottle Wrapper. 500 sheets.)
4-oz. Wrappers (500 sheets) 6d. per Ream less above.
2-oz. do. do. 1s. do. ,,
Bottle Labels: 3/6 per 1,000; 5,000, **3/-**; 10,000, **2/6.** The Mixture. Own wording.

PROFESSIONAL ENVELOPES.
Good Quality ... **8/6** per 1000.
Foreign Postage extra. All Carriage Paid United Kingdom.

We make all kinds of Stationery for the Profession —Loose Leaf Ledgers, a/c Forms, Memos, etc.

HAMILTON'S *Printers,* **BURNLEY.**

Instant Relief



and permanent correction of your Bunion trouble is afforded by

Scholl's Bunion Reducer

Worn in usual Shoe, prevents bulging. Three sizes, **2/6** each.

Booklet 'The Feet and Their Cure' sent free on request

The Scholl Mfg., Co., Ltd., 1-4, Giltspur Street, London, E.C. 1.

NAME PLATES IN SOLID BRONZE
With Cream Fired Vitreous Enamel Letters.
IMPERISHABLE and CLEARLY VISIBLE
Dignified Appearance.
NEVER REQUIRE CLEANING.
Send Particulars for Free Sketch. Illustrated List Free.
TOWNSHENDS LTD., 46, Ernest St., Birmingham.

DISPENSING BOTTLES

ARE STILL FALLING IN PRICE.

FINEST QUALITY ENGLISH BOTTLES
(No Cheap Foreign)
at Lowest Prices Carriage Paid.

Write for Prices—
H. JESSOP (Dept. B), **27, Westgate, Burnley**

Strawberry Ether Extractive for Sprue.

We have this in course of preparation according to important communication to the "British Medical Journal" of May 6th.

Enquiries will receive immediate attention.

W. MARTINDALE, Manufacturing Chemist
10, NEW CAVENDISH STREET, LONDON, W. 1.
Telegraphic Address—"MARTINDALE, CHEMIST, PHONE, LONDON."
Telephone Nos.—LANGHAM 2440 and 2441.

IN THE CASE OF INFANTS AND CHILDREN

THE administration of Nujol is a most advantageous method of exhibiting paraffin in the case of infants and children.

Nujol is a pure and uniform product which is so palatable that the addition of flavouring agents or other diluents is quite unnecessary.

Nujol forms and maintains regular bowel habit.

Nujol acts mechanically, softens, moistens, lubricates, promoted peristalsis, absorbs and removes poisonous products.

Nujol can be given at any age, for any length of time, in doses, adjusted to the needs of every individual case.

Special terms are given to Maternity and Child Welfare Clinics.

Samples and authoritative literature dn application.

To **NUJOL DEPT., ANGLO-AMERICAN OIL CO., Ltd., Minerva House, Bevis Marks, London, E.C. 3.**

Please send Booklets marked :—

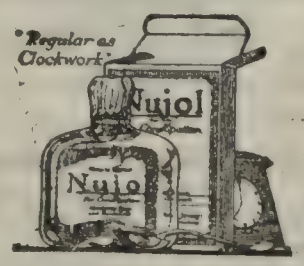
"IN GENERAL PRACTICE." (Especially prepared for the Physician).

The following may also be of interest to the Physician :

"A SURGICAL ASSISTANT." "IN WOMEN AND CHILDREN."

Also Sample.

Name..... *Address*.....



Sal Hepatica

THE STANDARD SALINE LAXATIVE.



Infectious diseases, such as pneumonia, influenza, tuberculosis, meningitis, diphtheria, infantile paralysis, or in fact any of those diseases due to pathogenic bacteria, could many times be warded off if the body were protected by a healthy blood stream that is swarming with phagocytes.

The accumulation of waste in the intestinal tract permits of the absorption of poisonous material or toxins into the blood, which are then distributed to other parts of the body through the entire circulatory system, thereby producing in a mild way a general toxemia. This contaminated blood is not only a carrier of poison but also in its impaired state is unable to properly perform one of its greatest functions; that of protecting the body from disease by destroying any invading micro-organism.

Wherever a disturbance of function or structure of any part of the body occurs, there is produced by these functional changes toxins which must be eliminated as waste products in order to prevent their absorption into the circulation. This is necessary, or else the body cannot regain its normal condition.

To produce proper elimination, *Sal Hepatica* is the ideal preparation for the Practitioner to recommend, owing to its efficiency, palatability, and low cost to the patient. If frequently administered, it will aid to a considerable degree in warding off disease.

A trial bottle of Sal Hepatica will be sent to members of the medical profession upon request to :—

STONE-BALLANTINE, LIMITED, 13, Well Court, Queen Street, London, E.C. 4.

On sale by wholesalers, THOS. CHRISTY & CO., 4-12, Old Swan Lane, E.C.; BUTLER & CRISPE, 80, Clerkenwell Road, E.C. 1; AMERICAN DRUG SUPPLY CO., LTD., 6, Northumberland Avenue, W.C. 2; MAY ROBERTS & CO., LTD., 7, Clerkenwell Road, E.C. 1; FRANCIS NEWBERRY & SONS, LTD., 27, Charterhouse Square, E.C.1; and R. HOVENDEN & SONS, LTD., 29-33, Berners Street, W. 1.

ORANGE GROVE



A CHAIN OF CIRCUMSTANCES

WHICH SECURES A PERMANENT INCOME OF

£500

PER ANNUM ON EACH FIVE-ACRE ORCHARD.

1. Proximity to the Railway, enabling produce to be quickly marketed. No point on the Prudential Estates more than two and-a-half miles from Rail head.
2. Suitability of soil and correct irrigation. This Company is developing the finest Citrus Estate in the British Empire.
3. Directors are well-known public men in South Africa.
4. Management is undertaken for absentee owners for a small percentage of the profits.
5. An unlimited market for the fruit grown, because it reaches the markets of Europe and America during the summer months.
6. The life of an orange tree is given as from 40 to 60 years if the tree is well cared for.

To procure a five-acre Orange Orchard in South Africa the outlay involved is only £562 10s., or £125 per annum for five years. Larger acreage pro rata. The investor is the actual freeholder.

The ratio of profit is conservative, since the Union Government in a pamphlet stated that groves in full bearing have yielded from £200 to £300 per acre.

Full particulars, plans, etc. from Dept. 60.

SOUTH AFRICAN PRUDENTIAL, Ltd.
79, Queen Victoria Street, E.C. 4.



RAILWAY STATION

"*Tycos*" Sphygmomanometer

for the quick and accurate determination of both DIASTOLIC and SYSTOLIC readings of Arterial Blood Pressure. Obtainable from all reputable dealers.—Particulars free from SHORT & MASON, Ltd., Macdonald Road, Walthamstow, London, E. 17.

ARHÉOL ($C_{15}H_{26}O$)

Active principle of Sandalwood Oil.

Used with conspicuous success in

Gonorrhœa,

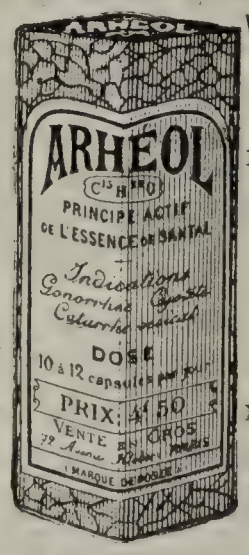
Vesical Catarrh, Cystitis, etc.

ARHÉOL

Directions: 10 to 12 Capsules daily.

ASTIER LABORATORIES:
45, Rue du Docteur Blanche, PARIS.

For Samples and Literature address—



WILCOX, JOZEAU & CO.,
49, Haymarket, London, S.W. 1.

Australasia:
Messrs. Joubert & Joubert, 552, Flinders Street, MELBOURNE.

Canada:
Messrs. Rougier Bros., 210, Lemoine Street, MONTREAL.

India:
Messrs. The Anglo-French Drug Co., Ltd., P.O. Box 460, BOMBAY. P.O. Box 86, CALCUTTA. 171, Broadway, MADRAS.

VITAMINES.

For Food Value and Digestive Properties you should recommend

CLARK'S CREAMED BARLEY

THE NEW BRITISH BREAKFAST FOOD

WRITE FOR A FREE SAMPLE.

GEORGE CLARK & SON, LTD.,
7, Broadway Works, Millwall Dks., London, E. 14

ALLIANCE DRUG AND CHEMICAL CO.

10, Beer Lane, Gt. Tower St., E.C. 3.

Telephone: CENTRAL 1300.

Tel. Address: "NALTROF," BILGATE, LONDON.

Established 1812—Reorganised 1902.

The Company specializes in providing the Medical profession at ***the lowest possible*** *inclusive prices (no charge for Bottles, &c. or Cases, &c.) with pure and reliable Drugs, Chemicals, Pharmaceutical Preparations, Compressed Tablets, Pills, Surgical Dressings, and Stock Mixtures of approved Formulæ as used by the London and other Hospitals.*

We append a few sample prices for guidance of the great saving that can be effected.

NOTE.—Only Terms Net Cash with order without discount, or orders received through London Merchants or Bankers. Goods carriage forward. All packages free. Export cases extra.

NEW DETAILED PRICE LIST NOW READY.

INFUSIONS CONCENTRATED.

1-7 in 6 lb. Bottles.

Aurant @ 2/9 lb.	Gentian @ 1/9 lb.
Aurant Co. @ 2 9 lb.	Rhei @ 3/- lb.
Columbæ @ 1/5 lb.	Senegæ @ 3/8 lb.
Cinchon Acid @ 3/- lb.	

Lassars Paste, 14 lbs @ 1/10 lb.; 1 lb. @ 2/2 lb.
*Lin. Belladon. Meth., 5 lbs. @ 4/3 lb.; 1 lb. @ 4/8.
*Liq. Æther Nitros (Sp. Ether Nit Substitute, 5 lb. @ 2/3 lb.
*Liq. Ammon. Acet. Conc. (1-7) 6 lbs. @ 1/3 lb.
" " Aromat., 6 lbs. @ 1/- lb.
Morph. Hydrochlor. P.B. 1 oz. at 10/- oz.
Petroleum Jelly Flav. P.B. 7 lbs. @ 9½d. lb.
Bismuth Carb., 3 lbs. @ 13/7 lb.
Chloroform Pur., 8 lbs. @ 4/2 lb.
Pot. Bromide, 7 lbs. @ 1/1 lb.
Quinine Sulph, 4 ozs. @ 3/6 oz.

PILLS TASTELESS COATED.

Potass. Iodid. P.B., 3 lbs. @ 17/6 lb.
Soda Sulphas Feathery cryst., 7 lbs. @ 3d. lb.
Sp. Æther Nit. P.B., 4½ lbs. @ 5/8 lb.; 1 lb. @ 6/1
Sp. Amon. Aromat. P.B., 5 lbs. @ 4/2 lb.
Syr. Cascara Aromat. P.B., 6 lbs. @ 2/10 lb.
" Glycero-Phosph. Co., 6 lbs. @ 2/4 lb.

SYRUPS.

Aurant, B.B., 7 lbs. @ 2/- lb.
Easton, B.P., 7 lbs. @ 2/- lb.
Ferri Iodid, P.B., 7 lbs. @ 1/10 lb.
Ferri Phosp. Co., 7 lbs. @ 10d. lb.
Hypophosph. Co., B.P.C., 7 lbs. @ 1/8 lb.
Pruni. Virg., B.P., 7 lbs. @ 1/6 lb.
Rhamni, 7 lbs. @ 1/8 lb.
Rhei, P.B., 7 lbs. @ 1/5 lb.
Scillæ, P.B., 7 lbs. @ 1/1 lb.
Sennæ, P.B., 7 lbs. @ 1/6 lb.
Tolut, P.B., 7 lbs. @ 1/1 lb.

TABLETS COMPRESSED.

	Per 1000..
Blaud's (Sugar-Coated), gr. 5	4/9
Nitroglycerini, P.B., gr. 1-50th	6/-
Perchloride of Mercury (Coloured)	13/-
One Tablet in 1 pint of Water is equivalent to 1-1000.	
Thyroid Gland, gr. 5	15/6

We endeavour to adhere to prices quoted, but as same fluctuate from day to day, they must be considered as subject to change without notice.

TINCTURES.

In 5 lb. Bottles.

	B.P.	Aquos.		B.P.	Aquos.
Belladon ...	4/6	2/-	Hyoscyam ...	5/-	2/9
Benzoin Co.	5/7	—	Nucis Vom.	4/3	1/4
Camph. Co.	3/4	1/6	Opii	4/-	3/-
Card. Co. ...	3/1	1/7	Quin. Amon.	4/2	—
Gentian Co.	3/4	1/8	Rhei Co. ...	3/1	2/1

Ung. Acid Boric P.B., 28 lb. pail @ 1/3 lb.
" Hydrarg. P.B., 7 @ 2/8 lb.
" " Ammon., 7 lbs. @ 2/3 lb.
" Ichtamolis B.P.C., 7 lbs. @ 3/- lb.
" Zinci Ox., Benz., 28 lbs. @ 1/2 lb.

*Minimum quantity at these prices: Home Trade 3. Export 12 Winchester Quarts assorted.

HORLICK'S MALTED MILK

THE ORIGINAL

The Ideal All-Weather Food-Drink.

— Made in England. —

Horlick's Malted Milk is meat and drink in one, because it contains all necessary nutritive elements in the correct proportions demanded by Nature to support life and maintain health. Composed of the extracts of selected malted barley and wheat flour, combined with pure, Pasteurised cow's milk, it is perfectly digestible and rapidly assimilated, while Vitamines, those growth-promoting essentials, are supplied by both the milk and the grain.

Ready in a moment by stirring briskly in hot or cold water only.

To secure the original, specify Horlick's when prescribing

Samples will be forwarded free and postage prepaid to Members of the Medical Profession on application to

HORLICK'S MALTED MILK CO., SLOUGH, BUCKS, ENGLAND.

The STANDARD HÆMATINIC.

"The employment of Bi-Palatinoids places the administration of exceedingly unstable compounds like ferrous carbonate, phosphate and arsenate, upon a sounder and more scientific basis."—THE LANCET.

"BI-PALATINOIDS"

(No. 500)

OF NASCENT FERROUS CARBONATE.

Sample and Literature on application.

OPPENHEIMER, SON & CO., LTD.,
179, Queen Victoria Street, London, E.C.4.
Entirely British House since Foundation in 1891.

Santal Midy

FOR INTERNAL TREATMENT OF GONORRHOEA URETHRITIS, and other affections of the GENITO-URINARY TRACT.

Santal Midy Capsules have been prescribed with uniform success for over 30 years. Distilled from carefully selected Mysore Santal Wood, the oil is bland and remarkably

FREE FROM THE IRRITANT AND NAUSEATING EFFECTS

which are provoked by many preparations. There is marked absence of Gastric and other disturbances, diarrhœa and skin erruptions. Its mild chemotactic properties permit its administration in relatively large doses without fear of too violent reaction or intolerance.

SANTAL MIDY CAPSULES

may be prescribed and **relied upon** in all stages of Gonorrhœa, and in other forms of Urethritis and affections of the Genito-Urinary tract.

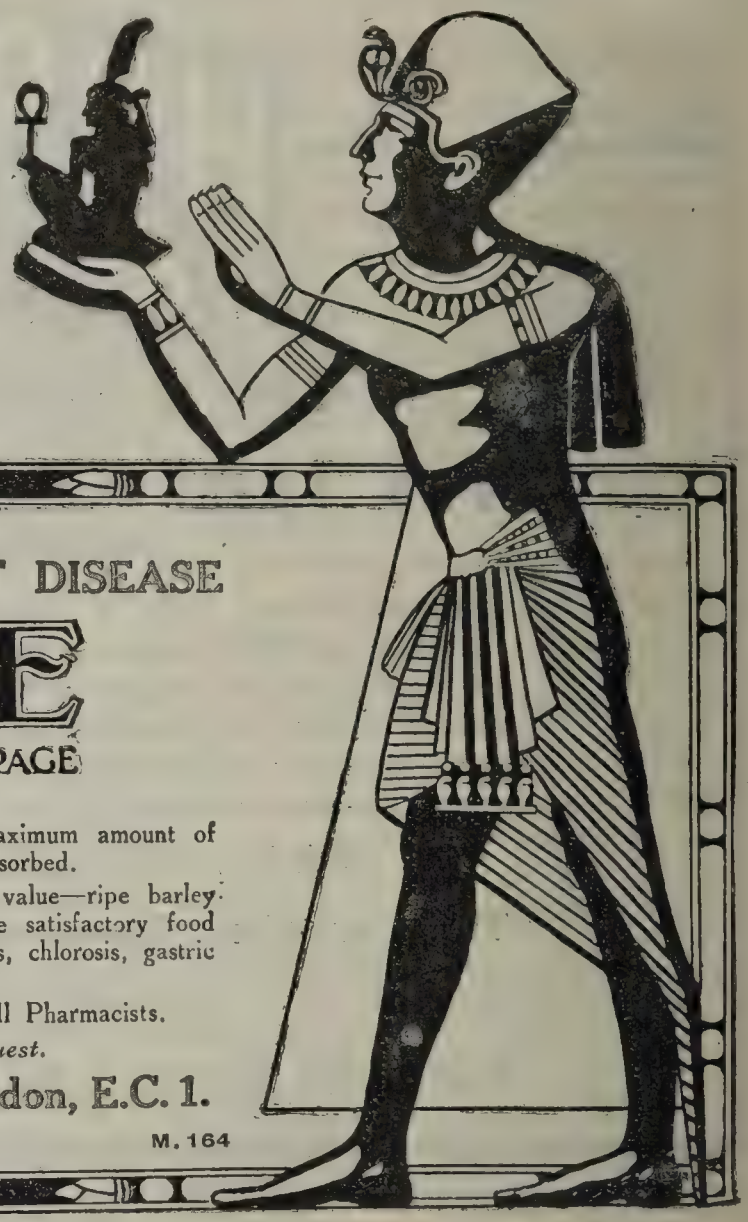
The capsules contain 5 drops, and usually 10 to 12 are given daily in divided doses.

Prepared in the **Laboratoire, de Pharmacologie Generale, 8 Rue Vivienne, Paris,** and sold by most Chemists and Wholesale Druggists throughout the world.



SETIY I.

The Second King of the 19th dynasty, Father of Ramses II.



IN THE DIETETIC TREATMENT OF DISEASE

OVALTINE

TONIC FOOD BEVERAGE

"Ovaltine" furnishes the system depraved by illness with a maximum amount of approved nutriment, in a form that is easily digested and wholly absorbed.

The nutritive constituents of "Ovaltine" are of unquestionable value—ripe barley-malt, creamy milk and fresh eggs, flavoured with cocoa. No more satisfactory food could be prescribed for use in the dietetic treatment of tuberculosis, chlorosis, gastric or duodenal ulcer, neurasthenia, insomnia, etc.

This delicious and nourishing food-beverage is obtainable from all Pharmacists.

A liberal supply for Clinical Trial sent free on request.

A. WANDER Ltd., 45, Cowcross St., London, E.C. 1.

Works: KING'S LANGLEY, HERTS. M.164

Valentine's Meat-Juice

"For a Tired Stomach."

In **Dyspepsia, Catarrh** of the **Stomach** or **Intestines,** or **Gastric Irritability** from any cause, when the **Digestive Organs** reject milk and other foods, **Valentine's Meat-Juice** will be **Retained** and Demonstrate its Power to **Restore** and **Strengthen**

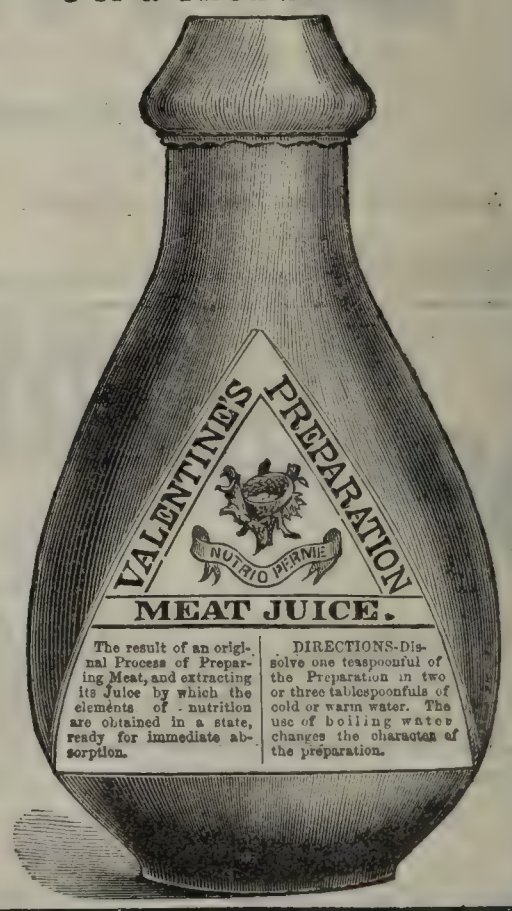
It is in constant use in Hospital and Private Practice and endorsed by eminent medical men.

Physicians are invited to send for Clinical Reports.

For sale by European and American Chemists and Druggists.

VALENTINE'S MEAT-JUICE COMPANY,

Richmond, Virginia, U. S. A.



B 50

PIONEERS AND EMPIRE BUILDERS: No. 184
FIFTH PERIOD—circa 6000 to 2000 B.C.

TRADE MARK 'TABLOID' BRAND VICHY SALT
(EFFERVESCENT, ARTIFICIAL)

A few other 'Tabloid' Effervescent products:—

'Tabloid' Three Bromides, Effervescent
Bottles of 25

'Tabloid' Lithium Citrate, Effervescent, gr. 5
Bottles of 25, 100 and 500

'Tabloid' Carlsbad Salt, Effervescent
Bottles of 25

'Tabloid' Sodium Phosphate, Effervescent, B.P., gr. 60
Bottles of 25

For full list, see Wellcome's Medical Diary

A compact presentation of the important elements contained in the natural water of the Grande Grille Spring.

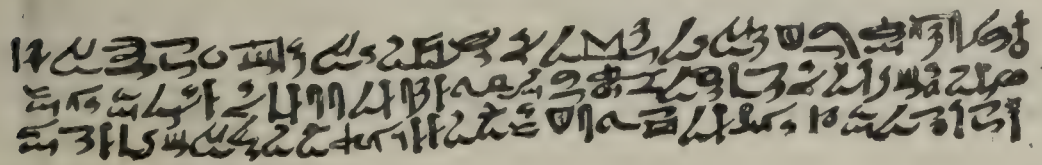
Admirable for prescribing when increased consumption of fluid is essential.

Easily carried; quickly makes a refreshing and effervescent draught with plain water.

Supplied in convenient tubes of 25

BURROUGHS WELLCOME & CO., LONDON
NEW YORK MONTREAL SYDNEY CAPE TOWN MILAN
SHANGHAI BUENOS AIRES BOMBAY
All communications intended for the Head Office should be addressed to SNOW HILL BUILDINGS, LONDON, E.C. 1
London Exhibition Room: 54, Wigmore Street, W.

EXTRACTS FROM THE OLDEST MANUSCRIPT WHICH INDICATE THE HIGH MORAL IDEALS ATTAINED BY THE EGYPTIANS AT A VERY EARLY DATE.—The work of Ptahhetep not only takes us back to the beginnings of the "wisdom of the Egyptians," but reveals the heights already attained by these pioneers in the domain of morals and religion. As charity was the principal virtue to them, mischief-making was the chief vice. The portion of manuscript here reproduced reads: "If thou desirest a good way of life, exempt from ill, keep thyself from all mischief-making. Mischief-making is a fault, a malady coming from the evil one. It is not an existence to enter into that way. It puts parents, brothers, men and women into enmity with each other. It alienates husbands and wives from each other. It draws to itself everything that is evil. It involves all iniquities. If a man dwell in righteousness, truth and justice walk in all his ways. He makes of them his riches, there is no room for mischief-making." In one chapter the writer points out that wealth and power are but a trust: "If thou hast become great after having been lowly, let not thy heart be hardened through thy elevation. Thou art but become the steward of the goods of God. Put not thy neighbour behind thee; let him be as a companion." In another, improper conversation is banned: "Do not repeat an improper remark. Do not listen to it." And in a third he defines the proper relationship of work and play: "He who doth accounts all day long hath not a pleasant moment; yet he who enjoyeth himself all day long doth not provide for his house."



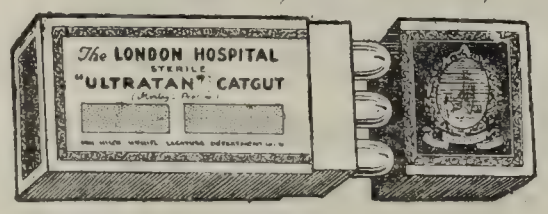
DATE: Treatise composed Vth dynasty (some authorities), c. 4000 B.C. to c. 2800 B.C.
Present copy XIth or XIIth dynasty (other authorities), c. 3000 B.C. to c. 2000 B.C.

COPYRIGHT

London Hospital Catgut

Prepared throughout at the London Hospital.

In the preparation of the usual 5 ft. and 10 ft. lengths of "London Hospital" Catgut, 14 in. and 30 in. lengths are left. These lengths are supplied in boxes containing 100 ft. and in sealed glass tubes (ready for immediate use), convenient and economical for general surgery.



"Ultratan" Catgut, 10, 20, 30 and 40 day, each tube containing two 14 in. ligatures, all sizes, per box of 12 tubes **10/-**

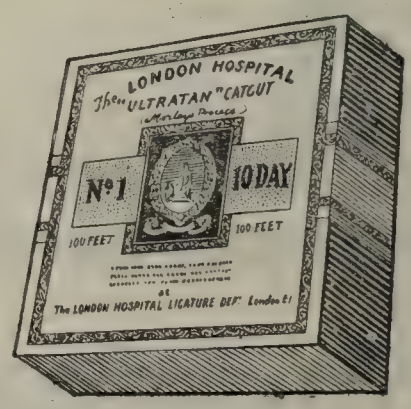
Plain Catgut, three 14 in. ligatures in each tube, per box of 12 tubes **10/-**

"Ultratan" and Chromicized Catgut

DRY, requiring external sterilization.

100 feet boxes of 14 inch lengths	Per box of 100 ft.	100 feet boxes of 30 inch lengths	Per box of 100 ft.
No. 4/0 ...	6/-	No. 4/0 ...	7/-
„ 3/0 ...	7/-	„ 3/0 ...	8/-
„ 2/0 ...	8/-	„ 2/0 ...	9/-
„ 0 ...	9/-	„ 0 ...	10/-
„ 1 ...	11/-	„ 1 ...	12/-
„ 2 ...	14/-	„ 2 ...	15/-
„ 3 ...	17/-	„ 3 ...	18/-
„ 4 ...	19/-	„ 4 ...	20/-
„ 5 ...	20/-	„ 5 ...	21/-
„ 6 ...	21/-	„ 6 ...	21/-

Sizes 5/0 and 6/0 made to order.



Plain Non-hardened (Raw) Catgut

DRY, requiring external sterilization.

100 feet boxes of 14 inch lengths	Per box of 100 ft.	100 feet boxes of 30 inch lengths	Per box of 100 ft.
No. 4/0	4/-	No. 4/0	4/-
„ 3/0	4/6	„ 3/0	5/-
„ 2/0	5/-	„ 2/0	6/-
„ 0	5/6	„ 0	7/-
„ 1	7/-	„ 1	8/-
„ 2	10/-	„ 2	11/-
„ 3	12/-	„ 3	13/-
„ 4	14/-	„ 4	15/-
„ 5	15/-	„ 5	16/-
„ 6	15/-	„ 6	16/-

Sizes 5/0 and 6/0 made to order.

Sole Distributors:

Allen & Hanburys Ltd., 48 Wigmore Street, W.1.

USE YOUR CAR WHILST WE ARE SELLING IT FOR YOU.

¶ You may or may not be desirous of selling your car at present, but doubtless it would be very acceptable to you to be provided with opportunities to sell it at a price you yourself consider favourable. Our organisation makes this possible, and the only cost to you is a registration fee of one guinea per annum.

¶ As a member of the medical profession, whose calling imposes daily use of a car under all weather conditions, you will realise that a "new car every year" is a resolve, ideal in theory, but not so easy to put into practice. Our organisation and continuous service make this possible. It enables you to sell your car at your own price, and to get another new car when it is most convenient for you to do so.

¶ Safeguard yourself against the undue depreciation of your car by registering particulars of it with us, when we will keep you advised from time to time of prospective purchasers at your price, leaving it to you to communicate with them if you wish.

¶ A registration form and full particulars will be sent post free per return upon request.

"Service with Security"

THE MOTOR SALES REGISTRY, LIMITED, 11, WARWICK ROW, COVENTRY.

OVERFATNESS

Dr. WILLIAM T. CATHELL'S TREATMENT.

Reliable and Harmless.

Doctors are frequently asked by their patients for something to make them thinner, and Dr. WILLIAM T. CATHELL'S method shows how this may be done safely and gradually.

A verbatim copy of a Lecture, by William T. Cathell, A.M., M.D.Baltimore, on Overfatness, will be sent free on application to

ALFRED BISHOP, Ltd., Manufacturing Chemists, 48, SPELMAN STREET, LONDON, E. 1.

PNEUMOSAN IN TUBERCULOSIS.

In every stage of Tuberculosis, where no impression can be made with routine or any other known treatment, use Pneumosan (Amyl-thio-trymethylamine), a homogeneous chemical substance, with a clinical record of 10 years. Pneumosan is well tolerated and has rapid inhibitory action; it is alterative and phagocitic. Well indicated in early and advanced cases and considered by a large number of Physicians to be the most reliable therapeutic agent in every type of Tuberculosis.

The Medical Superintendent of Birmingham General Dispensary, writes: "During a period of 18 months I treated 103 cases of Pulmonary Tuberculosis. A large number were in a very advanced stage owing to the fact that Pneumosan was tried as a forlorn hope, where no other treatment seemed applicable. I obtained most striking results in early as well as in very advanced cases. A great point in its favour is that I have never known any untoward effect to follow its administration."

Pneumosan is issued in vials containing 20 injections at 15/6 and in boxes of 10 ampoules at 10/-.

Sole Manufacturers:

THE PNEUMOSAN Company, 307, Euston Road, LONDON, N.W. 1.

Telephone No.: MUSEUM 1191. Telegraphic & Cable Address: "NUMOCON, EUSROAD, LONDON."

Agents for Burma: E. M. de SOUSA & Co., 271, Dalhousie Street, Rangoon.

Agents for Transvaal: SIVE BROTHERS & KARNOVSKY, LTD., Kerk & Frazer Streets, Johannesburg.

A NEW ELECTRIC
MICROSCOPE LAMP
(Rd. No. 687872)
with opalite bulb giving critical illumination.

SPECIALLY DESIGNED FOR RESEARCH WORK

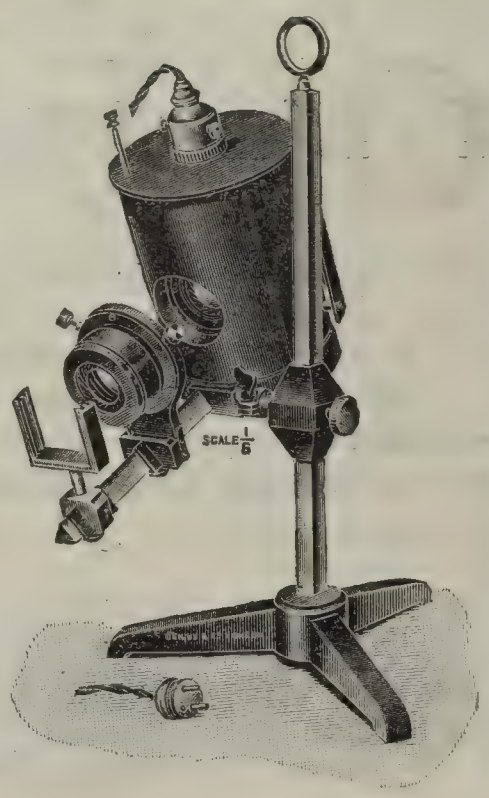
Price, including two iris diaphragms, aplanatic condenser, light filter holder, flexible wire, and wall plug,

£12 10s.

Descriptive pamphlet on application to the Makers :—

OGILVY & CO.,
18, Bloomsbury Square, London, W.C.1.

Optical and Mechanical Repairs executed on the Premises.



British Agents for E. LEITZ, Wetzlar.
Microscopes, Microtomes, Photomicrographic Apparatus, Epidiascopes, Projection-Drawing Apparatus, Prismatic Binoculars, etc.

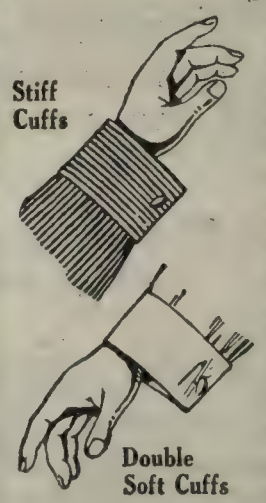
A GREAT BOON TO GENTLEMEN

Always Clean Unfrayed Cuffs

3 Pairs of Detachable Cuffs with the Lyndals Shirt (Soft or Stiff).

You can change your soiled cuffs as easily as you change your collar. With the

LYNDALS SHIRT
(*Patent No. 137025*).



and its 3 pairs of Detachable Cuffs you never have soiled or frayed cuffs. Every wearer is delighted with the comfort of clean cuffs every day

The **Lyndals Shirt** is saved unnecessary washing, it is not excessively laundryworn only because of soiled cuffs, and therefore outlasts any two ordinary shirts of equal quality.

Smart and tasteful patterns in durable Cambrics, Unions, Zephyrs, and Ceylons

PRICES, **8/6, 10/6, 12/6,** and upwards POST FREE. Stiff Cuffs 2/- extra.

Call or write for Patterns and Illustrated Price List. Please state if Cotton or Woollen Patterns. Enclose 4d. stamps for Postage. We have no shop. Lift to Showrooms.

LYNDALS LTD.,
(Dept. B.M.) Old Bond Street House, 6, 7, 8, Old Bond Street, London, W.

DIABETIC FOODS

Recent research in the treatment of diabetes has been productive of much new data.

Unfortunately the knowledge acquired has had little practical value for the general practitioner. The limitation of starchy foods and sugar, within the tolerance of the patient, remains the principal factor in treatment.

CALLARD & CO. maintain the high standard of their products, which has always distinguished them.

SAMPLES FREE TO DOCTORS AND PATIENTS.

CALLARD & CO., *Food Specialists* 74 (M.J.) **Regent Street, London, W.1.**

Dr. CHAUMIER'S CALF LYMPH

GLYCERINATED AND REINFORCED
THE CHEAPEST AND MOST ACTIVE LYMPH.
PREPARED UNDER THE
Most Minute Antiseptic Precautions.
Supplied in Tubes, sufficient to vaccinate 1 or 2 persons at **8d.** each. 10 persons at **1s. 3d.** per tube. 25 persons at **2s. 3d.** per tube. Collapsible tubes (40 vaccinations) **3s. 9d.** each.
Packing and postage 2d. in addition.

Agents for Great Britain:
ROBERTS & CO.,
76, New Bond St., LONDON, W.

CATALOGUE OF SECONDHAND SURGICAL INSTRUMENTS OSTEOLOGY, MICROSCOPES, POST FREE. Telephone CITY 1706.



Half Sets of Osteology, Articulated Skeletons and Disarticulated Skulls, Secondhand Surgical Instruments, Osteology, and Microscopes bought, sold and exchanged.

MILLIKIN & LAWLEY, 165, STRAND, LONDON, W.C. 2.

The Latest Aurorascope Novelty.



(DEES) **PNEUMATIC AURORASCOPE EAR SPECULUM.**

☛ We absolutely guarantee a Novice can see the Umbo, Triangle of Light, Handle of the Mallius, and oscillate the Tynpanum.

A Specialist writes: "This new Attachment to the Aurorascope is a masterpiece of ingenuity and simplicity."

SPECIAL ATTACHMENT TO THE AURORASCOPE ... PRICE **£2 - 2 - 0**

The Instrument complete in Case with Battery and two extra size Ear Specula, price **£3 3/0**; postage 1/6 U.K.

AURORASCOPE CO., LTD., Fulwood House, Fulwood Place, Holborn, W.C. 1.
(next Chancery Lane Tube Station) **where demonstrations are given daily.**

The "A.B.C." of DIET.
Because it is *very rich in the Vitamins* 'A.' 'B.' & 'C.' there is no tonic food more serviceable in wasting diseases.

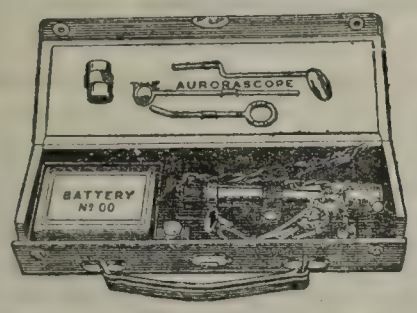
'ROBOLEINE'

Delicate children say there is no tonic food that they find so palatable.

OPPENHEIMER, SON & CO., Limited,
179, QUEEN VICTORIA STREET, LONDON, E.C. 4.

Samples and Literature on application.

THE SPECIAL HOSPITAL AND COLONIAL PATTERN OUTFIT.
Price £3-10-0 or in Solid Leather Case £4-4-0
Postage in U.K. 1/6.



DEES **AURORASCOPE** (REG. PATENT
The G.P. POCKET THROAT AND EAR OUTFIT.
A NOVICE can see at the bedside, in daylight, the Vocal Cords, Drum of the Ear, Optic Disc, Transillumination of the Antrum and Sinuses, and everything in the range of Rhinology, Ophthalmology, Laryngology and Aural Surgery. Certified correct by Specialists and Leaders of the Profession.
PRICES: Best Quality Outfit in Silk-lined Case or Leather Wallet with Spherical Lens Attachment complete and recommended, **£2/2/0.** Registered Post 1/- in U.K.
Second Quality, without Magnifying Lens Attachment, **£1/1/0.** Reg. Post, 6d.
Adaptor, Flex Wire (Conversion), including Special Battery for four hours' permanent lighting, **12/6.**
AURORASCOPE CO., LTD., Fulwood House, Fulwood Place, Holborn, W.C. 1
(next to Chancery Lane Tube Station) **where demonstrations are given daily.**
STOCKED BY ALL SURGICAL INSTRUMENT MAKERS.
As the demand for the "AURORASCOPE" exceeds the supply we cannot send goods on approval.

DISPENSING BOTTLES
Also VIALS and BLUE POISON.
FURTHER REDUCED PRICES.
I. ISAACS & CO.,
North London Glass Bottle Works,
106, MIDLAND ROAD, LONDON, N.W. 1.
ESTABLISHED 100 YEARS.
'Phone: Museum 4209. Telegrams: "Isaglasbot, Kincross, London."

BRASS NAME PLATES
For the Profession.
The Plates are manufactured in stout metal, deeply engraved, mounted on polished mahogany blocks with fastenings ready for fixing.
COOKE'S (Finsbury), LTD.,
Brass Plate Engravers, Memorial Brasses, &c.
FINSBURY PAVEMENT HOUSE, LONDON, E.C. 2.
Telephone: London Wall 2446 (3 Lines).
And at Walbrook, E.C., and Bradford, Yorks.
SEND FOR ILLUSTRATED CATALOGUE.

The SIXTY Policy
is the ideal contract for Medical Men.
Write for particulars to the
NATIONAL PROVIDENT INSTITUTION,
48 GRACECHURCH STREET, E.C. 3.

HAVE YOUR SUIT TURNED
FR CO. *For Free Descriptive Booklet write* FR CO.
THE INVISIBLE REPAIR CO
St. Martin's Court, Ludgate Hill, London, E.C. 4.
(Dept. M.J.) (ONLY ADDRESS)

PURE OLIVE OIL SOAP
MADE AT
Abrahams Vineyard, Jerusalem.
SIX SHILLINGS a dozen—*Postage extra.*
Apply Secretary, 75, Brook Green, W. 6.

BRASS NAME PLATES
Send for List 18a.
MEMORIAL TABLETS
Send for Book 18.
F. OSBORNE & CO, Ltd.,
27 EASTCASTLE ST., LONDON W.1.

DROITWICH BRINE BATHS
for RHEUMATISM, &c.
WARNING.—The Public are warned that the TREATMENT CAN ONLY BE OBTAINED AT DROITWICH in the NATURAL BRINE.
Treatments include Nauheim Baths and Aeration Baths (modern adaptation of celebrated French Whirlpool System).
LOVELY HOLIDAY DISTRICT. GOOD HOTELS, &c.
Illustrated Booklet post free from
J. H. HOLLYER,
15, Corbett Estate Offices, Droitwich (Worcs.).
SPECIAL FACILITIES TO MEDICAL MEN.

North of England.—Tuberculosis officer, wife certificated nurse, wishes as Resident Patient CHILD with early phthisis or surgical tuberculosis (full Alton treatment). Bracing country, governess, outdoor shelter, pretty garden next farm. Highest references given and received. — Address, No. 2906, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

Trained Nurse would Receive 3 or 4 YOUNG CHILDREN in her house in lovely part of Devon. Special attention given to diet. Large garden and play field. Own poultry and eggs. Vicar and doctor's recommendations. Moderate terms.—SMITH, Springfield, Seaton, Devon.

Trained Nurse has Vacancy for PATIENT requiring care. Slight mental, nerve, or chronic case. Exceptionally well-appointed house near London. Delightful grounds. Highest references. From 7 guineas weekly.—Address, No. 2727, B.M.J. Office, 429, Strand, W.C.

WYE HOUSE, BUXTON.
For the treatment of Ladies and Gentlemen mentally afflicted. Voluntary Boarders received. Situated 1,200 ft. above sea level, facing S.; 14 acres of ground.—For terms apply to the Resident Medical Superintendent, W. W. HORTON, M.D.
Nat. Tel. 130.

ST. GEORGE'S RETREAT,
Burgess Hill, Sussex.
An old-established licensed house under the management of the "Augustinian Sisters," for the treatment of LADIES MENTALLY AFFLICTED. Grounds nearly 300 acres. Drives and motoring. Marine, Brighton Residence for change. Voluntary boarders taken. Separate Villa for Feeble-Minded cases. Visiting Physicians. London 1¼ hours.—For terms apply to the Superioress.
Telephone: (Post Office 90).
Telegrams: "Wivelsfield Green."

HEIGHAM HALL, NORWICH.
Telephone: **For Upper and Middle Classes.** 80 Norwich.
A Private Home for Cure of Ladies and Gentlemen suffering from Nervous and Mental Diseases. Extensive pleasure grounds. Private Suites of Rooms with Special Attendants available. Boarders received without certificates.
Terms from 4 guineas weekly. Patients sent for.
Apply, Dr. G. STEVENS POPE or Mrs. POPE, Resident Licensees.

CHEADLE ROYAL, CHEADLE, CHESHIRE.
This Hospital for **MENTAL DISEASES** with its seaside branch Glan-y-Don, Colwyn Bay, is for the Treatment of PRIVATE PATIENTS of the UPPER and MIDDLE CLASSES. Voluntary Boarders received.
For terms, etc., apply to the Superintendent, J. SUTCLIFFE, M.R.C.S., or he may be seen at 72, Bridge Street, Manchester, on Tuesdays and Fridays from 2 to 3. Telephone: No. 208 Cheadle Hulme.

FOR THE
TREATMENT OF LADIES
suffering from Mental Affections.
THE MOAT HOUSE, TAMWORTH, STAFFS.
Telephone: 108 Tamworth.
For terms, &c., apply to the Licensees CLAUDE HOLLINS; or Mrs. S. A. MICHAUX (Resident), or to the Medical Attendant, Dr. LOWSON.

Telephone & Telegrams: "Haynes, Brentwood, 45."
Littleton Hall, Brentwood, Essex.
Large grounds. 400 ft. above sea. HOME for LADIES Mentally Afflicted. Voluntary Boarders received. Stations: Brentwood, 1 mile; Shenfield, 1 mile; Liverpool Street, 26 minutes.—Apply, Dr. HAYNES.

STRETTON HOUSE,
Church-Stretton, Shropshire.
A Private HOME for the treatment of Gentlemen suffering from Mental diseases. Bracing hill country. See "Medical Directory," p. 2218.—Apply to Medical Superintendent. 'Phone, 10 P.O. Church-Stretton.

Grove House, All Stretton,
Church Stretton, Shropshire.
A Private HOME for the care and Treatment of a limited number of ladies mentally afflicted. Climate healthy and bracing.
Medical Superintendent, Dr. MCCLINTOCK.

ALLANTON HOUSE,
NEWMAINS, LANARKSHIRE.

Devoted to the care of LADIES of the upper classes only. The estate is extensive with bracing air. It is very retired and well situated for the treatment of Neurasthenic, Nervous and Senile Conditions.

References: Prof. GEORGE ROBERTSON, Dr. RISIEN RUSSELL, Dr. OSWALD and others.

Terms and particulars on application to "Superintendent, Allanton House, Newmains, Lanarkshire.

Nearest Station: Hartwood, Cal. Rly.

INEBRIETY.
DALRYMPLE HOUSE, RICKMANSWORTH, HERTS.

For the treatment of **gentlemen** under the Act and privately. Established 1883 by an Association of prominent medical men and others for the study and treatment of Inebriety.

For particulars, apply to F. S. D. HOGG, M.R.C.S., &c., Resident Medical Superintendent.

Telephone: 16 Rickmansworth.

BARNWOOD HOUSE
HOSPITAL FOR MENTAL DISEASES,
BARNWOOD near GLOUCESTER

Telephone: No. 7, Barnwood.

Exclusively for PRIVATE PATIENTS of the UPPER AND MIDDLE CLASSES.

This Institution is devoted to the care and treatment of persons of both sexes at moderate rates of payment.

Voluntary boarders not under certificates are admitted.

Under special circumstances the rates of payment may be reduced by the Committee.

The MANOR HOUSE for Ladies only, which is entirely separate from the Hospital and standing in its own grounds, is utilised exclusively for voluntary patients.

For further information apply to ARTHUR TOWNSEND, M.D., the Medical Superintendent.

DUFF HOUSE,
BANFF, SCOTLAND.
TREATMENT OF DISORDERS OF THE STOMACH AND INTESTINES, INCLUDING TROPICAL DISEASES, HEART DISEASE, DIABETES

and other complaints which need skilled chemical, bacteriological, protozoological or cardiographic investigation and dietetic treatment.

The House is fitted with laboratories, X-Ray Installation, Medical Baths, Central Heating, and Lifts.

The climate is mild, and the rainfall the lowest in Scotland.

Apply, THE SECRETARY, Duff House, Banff.

CITY OF LONDON MENTAL HOSPITAL,
DARTFORD, KENT.

Under the Management of a Committee of the Corporation of the City of London.

PRIVATE PATIENTS are received at a weekly charge of Two Guineas and upwards.

Apply to the MEDICAL SUPERINTENDENT.

BISHOPSTONE HOUSE, BEDFORD.

PRIVATE HOME for MENTALLY AFFLICTED LADIES. Ten only received. Terms, 6 gns. weekly. Apply, Medical Officer, or Mrs. PEELE. *Telephone 708.*

ST. ANDREW'S HOSPITAL
FOR MENTAL DISEASES,
NORTHAMPTON.

President—

The Right Hon. the EARL SPENCER, K.G.

This Registered Hospital receives for treatment PRIVATE PATIENTS of the UPPER and MIDDLE CLASSES of both Sexes. The Hospital, its branches (including a Seaside Home at Llanfairfechan, North Wales), and its numerous villas are surrounded by nearly a thousand acres of Park and Farm.

Voluntary Boarders without Certificates received.

For particulars apply to DANIEL F. RAMBAUT, M.A., M.D., the Medical Superintendent.

TELEPHONE No. 56.

TREATMENT OF INEBRIETY AND THE MORPHIA HABIT, ETC.
CAPEL LODGE RETREAT & SANATORIUM,
Near FOLKESTONE.

Situated on the SUNNY CLIFFS OVERLOOKING THE SEA, for the Treatment and Cure of Alcoholic and Drug Inebriety—14 acres of private grounds. Billiards, &c., &c.
Terms from 4 guineas weekly. For full particulars apply E. NORTON, M.D., Capel Lodge, near Folkestone.

THE ROYAL EARLSWOOD INSTITUTION
FOR MENTAL DEFECTIVES, REDHILL, SURREY.
(FORMERLY THE EARLSWOOD ASYLUM.)

FOR THOSE REQUIRING CONTROL with EXPERT SUPERVISION, and needing SPECIAL TRAINING in useful Occupations, SCHOOLS, FARMING, and various TRADE WORKSHOPS.

ALL outdoor games, EXCELLENT BAND by Male Staff.

Apply to the Secretary, Mr. HARRY HOWARD, 14–16, Ludgate Hill, London, E.C. 4. 'Phone: City 529.

THE COPPICE, NOTTINGHAM.
HOSPITAL FOR MENTAL DISEASES.
President: The Right Hon. the EARL MANVERS.

This Institution is exclusively for the reception of a limited number of **Private Patients** of both sexes, of the **Upper and Middle Classes**, at moderate rates of payment. It is beautifully situated in its own grounds on an eminence a short distance from Nottingham, and from its singularly healthy position and comfortable arrangements, affords every facility for the relief and cure of those mentally afflicted.

For terms, &c., apply to the Medical Superintendent.

Home
for the care and treatment of
Mentally Afflicted Ladies.
OTTO HOUSE,
47, North End Rd., West Kensington, W.14.

The Home stands in large grounds close to West Kensington Station.

For Terms, apply to Miss BRODIE, Resident Lady Superintendent.

Telephone: Hammersmith 1004.

MRS. SUTHERLAND,
(Licensed Proprietress.)

THE FLOWER HOUSE
BECKENHAM LANE, S.E. 6.

Telephone: **BROMLEY 57.**

A PRIVATE HOME of the highest class for Gentlemen suffering from Mental and Nervous Disorders.

Voluntary Patients received. A beautifully furnished Mansion. Twenty-five acres of well timbered grounds, including unrivalled flower gardens. Recently officially approved by the Ministry of Pensions as a Home for ex-officers.

Billiard-room, Gymnasium, Concert Hall, and Electrophone.

For terms and further particulars apply ALFRED E. PRICE, M.D., M.S., Medical Superintendent.

SPRINGFIELD HOUSE
Near BEDFORD.

(Telephone No. 17.)

A PRIVATE HOME FOR MENTAL CASES.

Ordinary Terms, Five Guineas per week (including Separate Bedrooms for all suitable Cases without extra charge).

For forms of admission, &c., apply to the **Drs. BOWER**, as above, or at 5, Duchess Street, Portland Place, W. 1., on Tuesdays, from 4 to 5.

"Telegrams, RELIEF, OLD CATTON." *Telephone,* 290 NORWICH.

THE GROVE, OLD CATTON,
NORWICH.

A High-class Private Nursing Home for Ladies desiring **Curative Treatment** for Nervous Affections. **Hysterical** and **Borderland Cases** in the early stages, and those suffering from **Insipient** mental trouble are received as **Voluntary Boarders.** Apply to the Misses MCLINTOCK, or to Dr. S. BARTON, 34, Surrey Street, Norwich, Visiting Physician.

FENSTANTON,
CHRISTCHURCH ROAD,
STREATHAM HILL, S.W. 2.

A Private HOME for the Care and Treatment of a limited number of Ladies with Mental and Nervous Disorders.

Large Mansion with 12 acres of ground. (See Medical Directory, pp. 2208).—Apply, J. H. EARLS, M.D., Resident Physician. Tel.: Brixton 175.

THE GRANGE,
NEAR ROTHERHAM.

A HOUSE licensed for the reception of a limited number of ladies of unsound mind. Both certified and voluntary patients received. This is a large country house with beautiful grounds and park, 5 miles from Sheffield. Station, Grange Lane, G.C. Railway, Sheffield. Telephone No. 34, Rotherham.

Resident Physician—GILBERT E. MOULD, L.R.C.P., M.R.C.S. Consulting Physician—CROCHLEY CLAPHAM, M.D., F.R.C.P.E.

BOREATTON PARK,
BASCHURCH, SALOP.

A first-class Country Mansion especially adapted for the reception of a limited number of Ladies and Gentlemen mentally affected.

For particulars, apply Dr. SANKEY.

LONDON LOCK HOSPITAL,
DEAN STREET and HARROW ROAD, W.

Founded 1746.

PRIVATE WARDS for PAYING PATIENTS of both sexes.—For particulars apply to H. J. EASON, F.C.I.S., Secretary. Tel.: No. 3866 Paddington.

"HYGEIA" NURSING HOME,

VENTNOR, ISLE OF WIGHT.



Palms growing near "Hygeia."

"Hygeia" Nursing Home is beautifully situated. Ventnor has probably the most equable climate in England. The Home is sheltered from the North and East by the downs and obtains the maximum amount of sunshine. It was specially designed for a Nursing Home in 1903, and owing to its great success was enlarged and came under the special interest of the late Sir Victor Horsley.

It has now been re-opened for the treatment of those bronchitic types of chest trouble, tubercular and others, which do so well with a maximum amount of sunshine, and is therefore particularly suitable for bed cases of "ante" or "post" sanatorium patients.

The Home contains upwards of 16 large rooms with balconies, with large and up-to-date bathrooms, etc. A lift connecting all floors, central heating, electric lighting.

Every care is taken to see that diet is suited to the needs of each individual patient, and vegetables and fruit are obtained from the gardens attached to the Home.

A Doctor is always at hand in cases of emergency, and trained nurses are on duty night and day.

Ventnor is 92 miles from London and is reached in about four hours.

For medical references, terms, etc., apply to the Secretary. 'Phone: 29 Ventnor.



YARROW CONVALESCENT HOME

BROADSTAIRS.

For CHILDREN of WELL-EDUCATED PEOPLE OF VERY LIMITED MEANS

100 Beds. Boys, ages 4 to 12. Girls, ages 4 to 14.

Charge 10/- a week for each child.

This Fee is subject to addition or deduction according to Parents' means.

The usual stay is four weeks, but some wards are reserved for serious cases requiring special treatment, and for these a lengthened stay may, under some circumstances, be granted, and the age limit raised to 14 for Boys and 16 for Girls.

The Home faces the sea, and is open all the year, being as well adapted for winter as for summer residence.

PARTICULARS CAN BE OBTAINED FROM THE SECRETARY, 116, VICTORIA STREET, WESTMINSTER, LONDON, S.W. 1.

THE OLD MANOR, SALISBURY.

TELEPHONE 51.

A PRIVATE HOSPITAL FOR THE CARE AND TREATMENT OF THOSE OF BOTH SEXES SUFFERING FROM MENTAL DISORDERS,

Extensive Grounds. Detached Villas. Chapel. Garden and Dairy Produce from own Farm.

Terms very moderate. *Illustrated Brochure on application to The Secretary.*



NORTHWOODS HOUSE,

WINTERBOURNE, near BRISTOL.

For PRIVATE TREATMENT OF MENTAL DISEASES.

Situated in a large park in a healthy and picturesque locality, easily accessible by rail viâ Bristol, Winterbourne, Patchway, or Yate Stations. Uncertified Boarders received.—For further information see Medical Directory, page 2215. Terms moderate. Apply to Dr. J. D. THOMAS, Resident Physician and Licensee, for full particulars.

CAMBERWELL HOUSE,

33, PECKHAM ROAD, LONDON, S.E.

Telegrams: "Psycholia, London." Telephone: New Cross 1057.

For the Treatment of Mental Disorders.

Completely detached villas for mild cases. Voluntary Boarders received. 20 acres of grounds, including extensive allotments on which gardening is encouraged. Tennis, croquet, squash racquets, and all indoor amusements. Daily Services in Chapel.

Senior Physician: FRANCIS H. EDWARDS, M.D., M.R.C.P. An Illustrated Prospectus, giving full particulars and terms, may be obtained on application to the Secretary.

HOVE VILLA, BRIGHTON.—A Convalescent Branch of the above to which all Suitable Patients may be sent on Holiday.

HAYDOCK LODGE, Newton-le-Willows, LANCASHIRE

A PRIVATE MENTAL HOSPITAL FOR THE UPPER AND MIDDLE CLASSES ONLY, EITHER VOLUNTARY, OR UNDER CERTIFICATE.

Patients treated and classified according to their social and mental condition. Terms from £2 2s. 0d. Private appartments on special terms.
Established for 60 years. Under the same management 25 years. Recovery rate 50 per cent. Situated midway between MANCHESTER and LIVERPOOL.
Two miles from Newton-le-Willows Station on the L. & N. W. Railway, connecting it with all parts.

Medical Staff.

Resident Medical Proprietor CHARLES T. STREET, M.R.C.S., L.R.C.P., LIVERPOOL: 47, Rodney Street.
Resident Medical Superintendent J. C. WOOTTON, M.R.C.S.ENG., L.R.C.P.LOND. Dr. STREET. Thursday: 2to4.
Visiting & Consulting Physicians } Sir JAMES BARR, LL.D., M.D., F.R.C.P., 72, Rodney St., Liverpool. Telephone 2456 Royal. Liverpool.
G. E. MOULD, Physician for Mental Diseases to the Sheffield Royal Hospital, The Grange, Rotherham.

Consulting Rooms—
MANCHESTER: Winter's Buildings, St. Ann's St Dr. P. G. MOULD; Dr. G. E. MOULD, Tuesdayand Thursday 12 to 1.30. Telephone 7611 Manchester
Other days by appointment.
For further particulars and Forms of admission apply Resident Proprietor, Haydock Lodge, Newton-le-Willows. Tele.: "STREET, Ashton-in-Makerfield." Tel.: 11 Ashton-in-Makerfield.

THE DEESIDE SANATORIA IN SCOTLAND

FOR THE OPEN-AIR TREATMENT OF

PULMONARY TUBERCULOSIS and ALLIED DISEASES

At BANCHORY and MURTLE.

Medical Director - - DAVID LAWSON, M.A., M.D., F.R.S.E.

These Sanatoria are situated amongst **Ideal Surroundings** in **Middle Deeside**, the reputation of whose **Climate** in the treatment of Lung Diseases is well established.

Both Institutions are well equipped with **Research Laboratory, Throat Room, Dental facilities,** and powerful **X-Ray Plant. Full Day and Night Nursing Staffs** are employed.

Special Treatment by artificial **Pneumothorax** (with X-ray Control), the various **Tuberculins,** and Autogenous **Vaccines,** etc., are employed in suitable cases without extra charge.



NORDRACH-ON-DEE

At BANCHORY, near BALMORAL.

Apply—

Dr. IAN STRUTHERS STEWART.



TOR-NA-DEE SANATORIUM

AT MURTLE.

Senior Physician - - J. M. JOHNSTON, M.B., Ch.B.Ed., D.P.H.
Assistant Physician - JAMES LAWSON, M.D.(Ed.), M.R.C.P.E.
Junior Physician - - A. C. FOWLER, M.B., Ch.B.(Aberd.).

Officers recommended by the Scottish Branch of the British Red Cross Society obtain priority in regard to admission. This Branch of the Society is prepared to contribute £1 11s. 6d. per week towards paying the fees of Officers whose admission meets with their approval.

Apply Secretary, Sanatorium, Murtle, Scotland.

MUNDESLEY SANATORIUM.



Specially built for the Treatment of Pulmonary and other forms of Tuberculosis. Aspect SS.W., on a carefully chosen site. Pure, bracing air. High sunshine record. One mile from the coast. Electric light throughout. X-ray installation. Full day and night Nursing Staff.

Resident Physicians:

S. VERE PEARSON, M.D.(Camb.), M.R.C.P.(Lond.).
GEOFFREY LUCAS, B.A.(Camb), M.D.(Durham).
L. WHITTAKER SHARP, M.B.(Camb).

Apply Secretary, Sanatorium, Mundesley, Norfolk.

GROSVENOR SANATORIUM

For the Open-air Treatment of Pulmonary Tuberculosis.

APPROVED BY MINISTRY OF HEALTH.

Specially built in delightful surroundings. Sheltered walks in grounds of 260 acres. 57 miles from London. Good train service.

The Institution is equipped with X-Ray Installation, &c. Artificial Pneumothorax Treatment, Tuberculins and Vaccines are given in suitable cases.

FEES:—56/- per week.

Medical Superintendent - - J. ABERDEIN MILNE, M.B., Ch.B., D.P.H.
Assistant Medical Officers - - H. J. TWIGG, M.B., C.M.; A. Y. MILNE, M.B., Ch.B.

For further particulars apply The Secretary, Grosvenor Sanatorium, Kennington, Nr. Ashford, Kent.

PALACE SANATORIUM, MONTANA-SUR-SIERRE

Tuberculosis Cure Station, 5,000 feet high, SWITZERLAND.

Accommodation for 100 Patients.

Principal Resident Medical Officer: BERNARD HUDSON, M.D.(Cantab.), M.R.C.P.,
Late Physician to the Queen Alexandra Sanatorium, Davos Platz.

Full particulars from the Secretary, 5, Endsleigh Gardens, London, N.W. 1

MENDIP HILLS SANATORIUM

Specially built, facing South. 300 acres of Sanatorium grounds—meadow and woodland; sheltered pine avenues. Altitude 800 feet, magnificent view for miles south; hot water radiators and electric light.
Special features are breathing and graduated exercises, and continuous inhalation. Individual attention.
For particulars apply SECRETARY, Hillgrove Wells, Somerset. Resident Physician: Dr. C. MUTHU.

DARTMOOR SANATORIUM 750 FEET.

Tuberculin used only for suitable cases. Within easy reach of the moor. X-Ray Apparatus recently installed. Resident Physicians: C. H. BERRY, M.R.C.S., L.R.C.P.; E. A. CRICHLOW, M.R.C.S., L.R.P.C.—For particulars apply C. H. BERRY, M.R.C.S., Sanatorium, Chagford, Devonshire. Telephone: 11 Chagford.

ROYAL HYDROPATHIC ESTABLISHMENT

(Connected with the famous Thermal Mineral Springs),

MATLOCK BATH, DERBYSHIRE.



WRITE FOR PROSPECTUS.

Excellent suites of baths for ladies and gentlemen, comprising Turkish, Russian, Thermal Mineral Water and Medicated Baths (Nauheim, Sulphur, Brine, Pine, &c.), Aix and Vichy Douches, Massage, and every kind of Electrical Treatment. Staff of Trained Nurses, Masseuses, Masseurs, and skilled attendants. Bracing climate. Perfect sanitation. Central heating, Electric lighting. Over 20 acres of grounds, games, tennis, bowls, &c.

IDEAL FOR RHEUMATIC AFFECTIONS, CONVALESCENCE and "REST" CURE.

Resident Physician: Dr. C. T. GASKING.

Telegrams: "Royal, Matlock Bath." **Telephone: Matlock 184.**

SMEDLEY'S HYDRO,

MATLOCK

Established 1853

LARGEST AND MOST COMPLETE.

Resident Physicians: G. C. R. HARBINSON, M.B., B.Ch., B.A.O.(R.U.I.); R. MACLELLAND, M.D., C.M.(Edin.)

Unrivalled suites of Baths for Ladies and for Gentlemen, including Turkish and Russian Baths, Aix and Vichy Douches, Massage and Weir Mitchell treatment, an Electric Installation for Baths and Medical purposes, Dowsing Radiant Heat, D'Arsonval High Frequency, Roentgen X-Rays, Nauheim Baths, etc. Special provision for Invalids. Milk from own farm. Large Winter Garden. Night attendance. Rooms well ventilated and all bedrooms warmed in Winter. A large Staff (upwards of 60) of trained Male and Female Nurses, Masseurs, and Attendants.

Prospectus and full information on application to **H. CHALLAND, Managing Director.**
Telegrams—"SMEDLEY'S, MATLOCK" Telephone—No. 17.

BEN RHYDDING HYDRO,

on the Yorkshire Moors, near ILKLEY.

Ideal for Neurasthenia, Convalescence and Rheumatic Affections. The most modern Electrical Treatment and Massage.

For terms, apply MANAGER.
Resident Physician: G. COOPER, M.D.

PEEBLES HYDRO.

Beautifully situated 600 feet above sea level. Facing South, completely sheltered from North and East. 22 miles from Edinburgh.
All modern Baths, Douches, Massage and Electrical treatments. Resident Physician: K. R. COLLIS HALLOWES, B.A., M.B., B.Ch., B.A.O.
IDEAL HEALTH RESORT.
Electric Light, Central Heating, Electric Lift, three Billiard Tables, Ball Room, Winter Garden, Swimming Bath, Hard and Grass Tennis Courts, Croquet Lawn, Golf Course.
Prospectus from Manager.

Jersey.—Doctor living in the prettiest part of the island will take RESIDENT PATIENT. Slightly mental case not objected to. Psychotherapy if required.—Address, No. 2800, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C.

GRAMPIAN SANATORIUM

KINGUSSIE, INVERNESS-SHIRE.

Specially built for the Open-Air Treatment of Tuberculosis, and opened in 1901. Bracing mountain air. Elevation 860 feet above sea-level. Sheltered situation in pine wood. Graduated walks.
Electric light throughout building and in shelters. Fully equipped X-Ray Plant. Inoculation Treatment available for patients—24 beds. Trained Nurse on duty all night. Terms 5 to 6 guineas per week. Medical Superintendent, FELIX SAVY, M.B., Ch.B.
For particulars apply to the Secretary.

SHROPSHIRE ORTHOPÆDIC HOSPITAL,

OSWESTRY (Station: Gobowen, G.W.R.).

OPEN-AIR WARDS.

PRIVATE WARDS, 5 Gns. per week, exclusive of Surgeon's fees, but inclusive of X-rays, splints, plasters, massage and gymnasium.
A limited number of beds are available in the GENERAL WARDS at 2½ Gns. per week, inclusive.
For particulars apply the Superintendent.

Neurasthenic, Rest Cure and CHRONIC CASES are received from 5 guineas weekly in doctor's country home. Golf, tennis, &c. Own poultry, fruit and vegetables. Tel. 194 Chertsey. —Apply, Dr. ALEXANDER, Harcourts, Chertsey.

NORTHAMPTONSHIRE SANATORIUM,

CREATON, near NORTHAMPTON.

Under the Management of the Committee of the Northampton Branch of the National Association for the Prevention of Tuberculosis.

Exclusively for moderately early cases of Pulmonary Tuberculosis, either sex.

Private Patients are received at a charge from 2½ guineas a week. Telephone: 9 Creaton.
Apply to the Medical Superintendent.

BOURNEMOUTH HYDRO.

With finest Sun-lounge and Marine Balcony on the South Coast.
Every kind of Bath.
Every kind of Massage.
Every kind of Electricity.
Every kind of Diet.
Carlsbad and Vichy Waters, &c.
High Frequency. Electric Lift.
Prospectus from Secretary. *Telep.* 341.
Resident Physician:—W. JOHNSON SMYTH, M.D.

HARROGATE

The most recent analyses of the famed

"OLD SULPHUR" WATER

reveal the presence of 7·056 parts per 100,000 of BARIUM.

Cardiac cases sent to Harrogate increase in number year by year!

List of Medical complimentary facilities, Medical and "Lay" Brochures free on request to

F. J. C. BROOME, General Manager,
HEALTH BUREAU,
HARROGATE.

BRACING **SUNNY**

Climatic Resorts at 6,000 ft. in the Pyrenees.

FONT ROMEU.
GRAND HOTEL.

LUCHON SUPERBAGNERES.
HOTEL DE SUPERBAGNERES.

Summer and Winter Seasons.

Particulars from—The MANAGER, GRAND HOTEL, FONT ROMEU (Pyrenees Orientales);
The MANAGER, HOTEL DE SUPERBAGNERES, LUCHON (Hte. Garonne); and
OFFICE FRANÇAIS DU TOURISME (Dept. E), 56, Haymarket, London, S.W. 1.

SPORTS **RESTFUL**

Doctor receives in his charming comfortable large well furnished Residence. PATIENT requiring care, rest-cure, supervision. Excellent cuisine. 2 Nurses and Nurse-Masseuse, 4 servants, highest refs.—Dr. MEYRICK, 48, Ennismore Gardens, S.W. 7. Tel: Kens. 2130.

MIDDLESEX HOSPITAL MEDICAL SCHOOL, W.1.

PRIMARY F.R.C.S. COURSE

Classes in **Anatomy** and **Physiology** will commence on JULY 3RD.

The Classes will not meet in August, but will resume early in September and continue until the date of the Examination.

ANATOMY, including Embryology.

MONDAYS, TUESDAYS, WEDNESDAYS, THURSDAYS and FRIDAYS at 12 noon.

Members of the Class will be able to use the Dissecting Room for the purpose of reading with dissected "parts" at any time during School hours.

PHYSIOLOGY.

MONDAYS, TUESDAYS and THURSDAYS in July.

In September, October and November, four days a week.

VIVA VOCE CLASSES including test papers. There will be HISTOLOGY CLASSES throughout the Course.

The inclusive fee for both subjects is £16 16s. (for one subject £8 8s.)

Intending candidates are reminded that it is desirable to join these Classes at the commencement of the Course if possible.

For further particulars apply to A. E. WEBB-JOHNSON (Dean) C.B.E., D.S.O., F.R.C.S., or to R. A. FOLEY, School Secretary.

Private Classes Now Being Formed.

D.P.H.

(All Subjects)

Pathology

Write to "GRADUATE," No. 1900, *British Medical Journal*, 429, Strand, W.C. 2.

Stammering, successfully treated by a Medical Man himself once a sufferer, now a Public Speaker.—Address, No. 200, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C.

LONDON HOMŒOPATHIC HOSPITAL.

POST-GRADUATE SUMMER COURSE

TIME TABLE—JULY 3 to 14.

Monday, 3rd—10.30 a.m.	Dr. J. H. Clarke	Hahnemann's Place in Medicine.
4.20 p.m.	Dr. E. A. Neatby	Clinical Observations on the Menopause with special reference to Treatment.
Tuesday, 4th—10.30 a.m.	Dr. Miller Neatby	Foundations of Modern Cardiography.
4.30 p.m.	Dr. C. H. Eccles	A Medical Paper.
Wednesday, 5th—10.30 a.m.	Dr. A. Bowie	X-Ray Demonstration.
4.30 p.m.	Mr. James Johnstone	Diagnosis of the "Acute Abdomen."
Thursday, 6th—10.30 a.m.	Dr. J. Weir	Homœpathic Philosophy. Essentials in Prescribing.
4.30 p.m.	Dr. Goldsbrough	Medicine and the Mind.
Friday, 7th—10.30 a.m.	Dr. D. M. Borland	Symptoms that count in Prescribing.
4.30 p.m.	Dr. P. Hall-Smith	Pain and its Homœpathic Therapeutics.
Saturday, 8th—1.30 a.m.	Dr. M. L. Tyler	Mental Deficiency with Results of Treatment
Monday, 10th—10.30 a.m.	Mr. P. Bernard Roth	Lateral Curvature.
4.30 p.m.	Dr. Spiers Alexander	Commoner Diseases of the Eye, and their Homœpathic Treatment.
Tuesday, 11th—10.30 a.m.	Dr. Miller Neatby	Heart-block with three Illustrative cases.
4.30 p.m.	Dr. G. Burford	The Therapeutics of Malignant Disease—Part 1
Wednesday, 12th—10.30 a.m.	Dr. E. Bach	Causes of Failure in Vaccine Therapy.
4.30 p.m.	Mr. James Eadie	The Treatment of Hæmorrhoids.
Thursday, 13th, 10.30 p.m.	Dr. G. Burford	The Therapeutics of Malignant Disease—Part 2
4.30 p.m.	Dr. J. Weir	Homœopathic Philosophy. The Second Prescription.
Friday, 14th—10.30 a.m.	Dr. D. M. Borland	The Finding of the Remedy.
4.30 p.m.	Dr. H. Fergie Woods	Case-taking in Children.

Apply to the Dean, Educational Course, London Homœopathic Hospital, Great Ormond Street, and Queen Square, W.C. 1.

STAMMERING, SPEECH DEFECTS.

BEHNKE METHOD. Estab. 1882. Carried on by Miss BEHNKE at 39, Earl's Court Square, S.W. 5.

PUPILS received into residence, Summer Holidays, at Miss BEHNKE'S house in the country.

"Thoroughly physiological principles."—*Lancet.*

"The method is scientifically correct and perfectly effective."—*Guy's Hospital Gazette.*

"STAMMERING, CLEFT PALATE SPEECH, LISPING," 2/4, of Miss BEHNKE, 39, Earl's Court Square, S.W. 5.

POST-GRADUATE COLLEGE

West London Hospital, Hammersmith, W. 6.

The Hospital Practice is reserved exclusively for Post-graduates, and a Reading and Writing Room is provided for them. Prospectus from the DEAN.

F.R.C.S.Edin.

The TUTORIAL CLASS for the next Examination will commence shortly, Correspondence Tuition if desired.—For particulars apply FRED. GRAHAM, M.D., F.R.C.S.Ed., 16, Mayfield Gardens, Edinburgh.

ST. MARY'S HOSPITAL MEDICAL SCHOOL.

PADDINGTON, W. 2.
(University of London.)

FINAL F.R.C.S. COURSE.

A Course of Instruction in Clinical Surgery, Surgical Anatomy, Surgical Pathology and Bacteriology, with Tutorial Classes, in preparation for the Final F.R.C.S. Examination in November next, will begin in July.

Time-table and particulars may be obtained from the Secretary.

C. M. WILSON *(M.C.)*, M.D., F.R.C.P., Dean.

ANSTEY PHYSICAL TRAINING COLLEGE,

ERDINGTON, BIRMINGHAM,
offers well-educated Women complete Teacher's Training in SWEDISH EDUCATIONAL GYMNASTICS, MEDICAL GYMNASTICS AND MASSAGE, DANCING in all its Branches, GAMES, SWIMMING, ANATOMY, HYGIENE, &c.
Three years' Course,
GOOD APPOINTMENTS AFTER TRAINING.

EDINBURGH POST-GRADUATE COURSES in MEDICINE.

IN CONNECTION WITH THE

UNIVERSITY AND ROYAL COLLEGES.

1922.

Post-Graduate Courses will be held this year from 14th August to 9th September inclusive, and will comprise (1) a GENERAL MEDICAL COURSE and (2) a GENERAL SURGICAL COURSE. The composite fee for EACH Course will be 10 Guineas for the four weeks or 6 Guineas for either the first or second fortnight.

A series of SPECIAL LECTURES, open to all graduates, will be delivered thrice weekly during the month, on subjects of general Medical and Surgical Interest, including recent advances in treatment.

In addition to the above the following SPECIAL COURSES have also been arranged:—
During the SUMMER TERM (MAY—JULY)—CLINICAL THERAPEUTICS and SURGICAL PATHOLOGY; **during the SUMMER TERM (MAY—JULY) and AUTUMN TERM (OCTOBER—DECEMBER)**—DISEASES OF EAR, NOSE AND THROAT, and VENEREAL DISEASES; **during the first fortnight of AUGUST**—DISEASES OF CHILDREN; and **during the period of the GENERAL COURSES (AUGUST—SEPTEMBER)**—EXAMINATION of the BLOOD, VACCINE THERAPY, and PHYSIOLOGICAL and BIOCHEMICAL METHODS for the INVESTIGATION of DISTURBANCES of RESPIRATION, CIRCULATION and METABOLISM.

Further particulars as to the Courses may be had on application to the HON. SECRETARY, POST-GRADUATE COURSES IN MEDICINE UNIVERSITY NEW BUILDINGS, EDINBURGH.

MEDICAL CORRESPONDENCE COLLEGE

19, WELBECK STREET, LONDON, W. 1.
Telephone LANGHAM 1166.

PROVIDES HIGHLY SUCCESSFUL ORAL AND POSTAL COACHING FOR ALL MEDICAL EXAMINATIONS.

Special Preparations for all Surgical Qualifications.

F.R.C.S. ENGLAND. (Primary & Final.) CH.M. EDINBURGH. M.C. CANTAB. F.R.C.S. EDINBURGH. M.S. LONDON.
And all other Surgical Degrees and Diplomas.

¶ The remarkable success of Students of the Medical Correspondence College at the higher Surgical Examinations is specially noteworthy.

¶ Both at the Primary and Final F.R.C.S. England the majority of our Students are successful at the first attempt, and Candidates who have failed at these Exams. on several previous occasions get through without difficulty after going through our courses.

¶ The Surgical Tutors of the College all hold either the M.S.Lond. or F.R.C.S.England, or both, and are highly experienced teachers.

¶ The Postal Courses are thoroughly clear, concise, and up-to-date, and the test questions are carefully selected from those set at previous Examinations so as to embrace all parts of the subject. By working systematically through the Course the Student is brought up to the examination standard in the minimum time and much unnecessary reading is saved.

VALUABLE BOOK

"How to Pass the F.R.C.S." free on application to the Secretary.

M. D. THESIS

(Cambr., Edin., Glasg., Durham, &c.)
SKILLED COACHING, GUIDANCE, and ADVICE, from Specialist Tutors, in conformity with the Regulations of the various Universities.
Apply for particulars and free booklet. "Hints on Writing a Thesis for the M.D. Degree," to the SECRETARY, Medical Correspondence College, 19, Welbeck Street, London, W. 1.

Seamen's Hospital Society.

LONDON SCHOOL of TROPICAL MEDICINE

Endsleigh Gardens, N.W.1.

Sessions will commence 25th September, 1922, and 8th January, 1923, approximately.

For Prospectus and further particulars apply to The Secretary, London School of Tropical Medicine, Endsleigh Gardens, N.W., or to the Head Office, Seamen's Hospital, Greenwich, London, S.E.

UNIVERSITY EXAMINATION POSTAL INSTITUTION.

17, RED LION SQUARE, LONDON, W.C.1
Telephone: CENTRAL 6313.

Principal: Mr. E. S. WEYMOUTH, M.A.(Lond.)
POSTAL OR ORAL PREPARATION FOR ALL MEDICAL EXAMINATIONS
For Prospectus (24 pages), apply to the Principal.

SOME RECENT SUCCESSES.

M.D.(Lond.), 1901-21; (7 Gold Medalists during 1913-21 - - **256**
M.S.(Lond.), 1902-21 (including 3 Gold Medalists) - - - **18**
M.B., B.S.(Lond.), *Final* 1906-21 **131**
Primary F.R.C.S.(Eng.), 1906-21 - **87**
Final F.R.C.S.(Eng.), 1906-21 (Primary 20, Final 19 successful, 1920) **64**
M.R.C.P.(Lond.), 1914-21 (15 successful in 1920) **48**
D.P.H. (Various) 1906-21 (Including 23 in 1920). - **194**
F.R.C.S.(Edin.), 1918-21 - **20**
M.R.C.S., L.R.C.P. *Final* 1910-21 **148**
M.D.(Durh.) (Practitioners) 1906-21 (including 6 during 1918-1920) **29**
M.D. Various. By Thesis. Numerous successes.
Preparation also for M.B.(Cantab., etc.), D.P.M., D.O., L.M.S.S.A., Triple Qualification, etc., also Medical Preliminary.

ORAL CLASSES

in Anatomy, Physiology, Medicine, Pathology, Midwifery, Gynæcology and Surgery always in progress; for M.B., B.S., M.D.Durham; Conjoint Final; F.R.C.S.(Eng. and Edin), etc.

Small Private Residential

SCHOOL for PHYSICAL and MENTAL DEVELOPMENT of ABNORMAL and BACKWARD CHILDREN. Special attention given to HEALTH; PHYSICAL CULTURE; DIETS, Etc. SEPARATE HOUSE for SENIOR GIRLS with EDUCATIONAL ADVANTAGES.—Particulars, Principal, ST. PAUL'S HOUSE, Upper Maze Hill, St. Leonards-on-Sea.

Liverpool School of Tropical MEDICINE.

COURSES OF INSTRUCTION (lasting three months) for the Diploma, and also in Veterinary Parasitology, commence about SEPTEMBER 15th and JANUARY 7th.—Prospectus from the Hon. DEAN, School of Tropical Medicine, University of Liverpool.

Preliminary Examinations.

The COLLEGE OF PRECEPTORS holds Preliminary Examinations for Medical and Dental Students in London and at Provincial Centres in March, June, September, and December. For Regulations, apply to the Secretary, College of Preceptors, Bloomsbury Square, London, W.C.1.

SCHOOLS for BOYS and GIRLS, TUTORS for ARMY, and ALL EXAMS.

Messrs. J. & J. PATON, having an intimate, unique and up-to-date knowledge of the BEST SCHOOLS and TUTORS in this country and on the Continent, will be pleased to AID PARENTS in their choice by sending (free of charge) prospectuses and TRUSTWORTHY INFORMATION.
The age of the pupil, district preferred, and rough idea of fees should be given. 'Phone, write, or call. J. & J. PATON, Educational Agents, 143, Cannon Street, London, E.C.4. Telephone 5053 Central

THE ARDMAY HOTEL

Woburn Place, Russell Square, W.C.
IS THE RECOGNISED
Residence for Medical Men.
Special Inclusive Terms to Students.

F.R.C.S.(Edin.)

A TUTORIAL CLASS for the next Examination commences shortly.
Particulars from CHAS. R. WHITTAKER, F.R.C.S., Anatomical Department Surgeons Hall, Edinburgh

UNIVERSITY OF CAMBRIDGE.

DIPLOMA IN MEDICAL RADIOLOGY AND ELECTROLOGY.

Six months' Courses of Lectures and Practical Instruction in Part I. (Physics & Electro-Technics), and in Part II. (Radiology & Electrology) will be given in London beginning October 3rd, 1922, and in Cambridge and London beginning January 9th, 1923, for Examination at the end of the Courses.
For further particulars, apply to STANLEY MELVILLE, M.D., Office of B.A.R.P., 12, Stratford Place, London, W., and to F. SHILLINGTON SCALES, M.A., M.D., Medical Schools, Cambridge.

ROYAL NAVAL MEDICAL SERVICE.

SHORT SERVICE SCHEME.

The Admiralty are prepared to accept applications for entry as SURGEON LIEUTENANTS for Short Service in the Royal Navy.
Period of Service—3 years, with option to extend for further twelve months.
Pay—26s. 6d. per diem, or £483 12s. 6d. per ann.
Gratuity on discharge—£8 6s. 8d. for each completed month of service, or £100 per annum.
Equipment allowance—£50, payable on joining.
Age of candidates—Not to exceed 30 years.
Surgeon Lieutenants on the Short Service Scheme will be considered for transfer to the Permanent Service under certain conditions after six months service.
Regulations for entry and form to be filled up by candidates will be supplied on application to the Medical Director General, 68, Victoria Street, London, S.W.1.

Society for Relief of Widows AND ORPHANS OF MEDICAL MEN.

A MEETING of the Court of Directors will be held at 11, Chandos Street, W.1, on WEDNESDAY, JULY 5th, at 5.30 p.m., to transact the usual business of such Courts.
E. BLACKETT,
11, Chandos Street, Secretary.
Cavendish Square, W.1., June 21st. 1922

Glasgow Post-Graduate
MEDICAL ASSOCIATION.

Under the auspices of the Association a comprehensive scheme of POST-GRADUATE TEACHING has been arranged for the summer months.

From MAY till OCTOBER there will be conducted, in the Infirmaries and Hospitals in the city, CLINICAL COURSES in MEDICINE, SURGERY and a variety of SPECIAL SUBJECTS. There will also be available a limited number of whole-time and part-time CLINICAL ASSISTANTSHIPS.

Qualified Medical Practitioners may enrol for the Clinical Courses for periods of one month or more. Clinical Assistants will be enrolled for periods of not less than three months. Syllabus with full particulars will be sent on application to the ACTING SECRETARY, Post-Graduate Medical Association, The University, Glasgow.

Chair of Preventive
MEDICINE.

The Trustees of QUEEN'S UNIVERSITY, Kingston, Canada, invite applications for the Chair of Preventive Medicine. The Salary is $3.500.00 (with consultation privileges) rising to $4.000.00 on confirmation of the appointment at the end of two years.

Candidates must send letters of application, stating qualifications, accompanied by testimonials (not more than three) to Professor JAMES MILLER, c/o Canadian Bank of Commerce, 2, Lombard Street, London, before July 20th. Arrangements will be made subsequently for personal interviews.

W. E. MCNEILL, Registrar.

Guy's Hospital Medical
SCHOOL.

GULL STUDENTSHIP.

Applications are invited for the Gull Studenship in Pathology and Allied Subjects, which is now vacant. The Studentship is open to Candidates under 35 years of age who have studied in the Medical School of Guy's Hospital, is of the Annual Value of about £250, and is tenable for 3 years.

Further particulars may be obtained from the Secretary to the Board of Electors, to whom applications must be addressed at the office of the Medical School, not later than July 7th, 1922.

Guy's Hospital Medical
SCHOOL.

BEANEY SCHOLARSHIP, MATERIA MEDICA.

The Beaney Scholarship in Materia Medica is now vacant. The Scholarship is open to Candidates who have received part, at least, of their Medical Education at Guy's Hospital, is of the Annual Value of about £50, and is tenable for 3 years.

Further particulars may be obtained from The Dean, with whom applications must be lodged not later than July 7th, 1922.

Countess of Dufferin's Fund,
India.
WOMEN'S MEDICAL SERVICE.

Medical Woman required for post of PROFESSOR IN PATHOLOGY to the LADY HARDINGE MEMORIAL COLLEGE, Delhi, and PATHOLOGIST to the Hospital. Salary Rs.750 per mensem, with furnished quarters. Consulting practice allowed.

Two Medical Women are also required for GENERAL SERVICE. Initial salary Rs.550 per mensem, with furnished quarters.

Apply in all cases on special forms by July 7th.

Full particulars and forms can be obtained from Hon. Secretary, U.K. Branch of Dufferin Fund, c/o Sir HAVELOCK CHARLES, India Office, S.W. 1.

Ministry of Pensions.

ORTHOPÆDIC CENTRE, Birmingham. 350 beds.

Vacancies will arise shortly for two JUNIOR MEDICAL OFFICERS (SURGEONS), unmarried, at the HIGHBURY GROUP OF HOSPITALS, Moseley, Birmingham.

Salary in each case £350 per annum, plus lodging, fuel and light. Appointed candidates must live in and be prepared to take up duties on August 1st, next.

The appointments offer a good opportunity for young Surgeons who wish to specialise in Orthopædic work.

Applications, stating age, experience and War Service, together with copies of recent testimonials to be sent by June 30th, the Chairman of the Committee, Highbury Hospital, Moseley, Birmingham.

2nd June, 1922.

Leeds Public Dispensary.

LOCUM TENENS required (either sex) for a few weeks, commencing July 1st. Salary 5 guineas weekly, third class railway fare.

Applications, with copies of three recent testimonials, to be addressed to the Secretary of the Faculty, Public Dispensary, North Street, Leeds.

Medical Superintendent
WANTED.

The Guardians of the Poor of the PARISH OF ST. MARY, Islington, require a legally qualified Medical Man as Medical Superintendent of their Infirmary at Highgate Hill. Salary £1,000 per annum, together with unfurnished residence, coals, gas and washing, subject to deductions under the Poor Law Officers' Superannuation Act, 1896. No bonus will be paid. Candidates must be not less than 35, or more than 48 years of age, have been for at least 10 years in practice as a Medical Man and be competent to discharge the duties of the Office in accordance with the Regulations.

Candidates must be duly registered under the Medical Acts and be qualified by law to practise both medicine and surgery in England and Wales, such qualification being established in the case of persons registered before the 30th day of June, 1887, by the production to the Guardians of a Diploma, Certificate of a Degree, Licence, or other Instrument granted or issued by competent legal authority in Great Britain or Ireland, testifying to the medical and surgical qualifications of the candidate for such Office. They must also have a Degree from one of the Universities.

Candidates must also state whether they have held the appointment of House Physician or House Surgeon in a Public General Hospital.

The Infirmary is certified for 728 beds and the Staff numbers 288, of whom 154 are resident.

The Infirmary is a training school for Nurses and the person appointed will be required to supervise the instruction given to Probationer Nurses under the Syllabus of the General Nursing Council.

The appointment will be made subject to the production of Birth Certificate and satisfactory Medical Examination.

Written application must be made on forms which can be obtained at these Offices and must be sent to me on or before the 12th July, 1922, accompanied by copies of not more than three testimonials as to competency and evidence of qualification. Selected candidates will have notice when to attend.

Personal canvassing of the Guardians will be held a disqualification.

Guardians' Offices, By Order,
St. John's Road, ALBERT KING,
Upper Holloway, N.19. Clerk.
17th June, 1922.

West London Hospital,
Hammersmith Rd., W.6. (160 beds).

HONORARY MEDICAL RADIOGRAPHER required. Candidates must be duly qualified medical practitioners and have had experience of Radiological work, especially X-Ray diagnosis. The successful candidate will have full control of and be fully responsible for all matters relating to X-Ray diagnosis. Applications, accompanied by copies of testimonials should reach me not later than Wednesday, 19th July. Candidates must attend a Special Meeting of the Medical Council on Friday, 21st July at 4.30 p.m. and prior to that date call upon and send copies of application and testimonials to each member thereof. They must not canvas members of the Board, but nevertheless must send copies of application and testimonials to each member thereof, and be in attendance at a meeting of the Board, who will elect on Tuesday, 25th July at 5 p.m. H. A. MADGE, Secretary.

St. George's Hospital, S.W.1.

A RESIDENT MEDICAL OFFICER (male) required for the above Hospital's Convalescent Branch (Atkinson Morley's Convalescent Hospital), at Copse Hill, Wimbledon. Appointment, to date from 1st October next, will be an annual one, tenable for three years, and subject to re-election each year. Salary at the rate of £300 per annum, with quarters and board.

Applicants, who must be registered under the Medical Acts, should send their applications, with copies of two recent testimonials, to the undersigned not later than the 22nd July, 1922.

Patients requiring active Medical and Surgical Treatment are received at the Hospital, where special facilities are available for Surgical Tuberculosis.

JAMES M. CHURCHFIELD,
19th June, 1922. Secretary-Supt.

Royal Hospital, Richmond,
Surrey.

Applications are invited for the post of HOUSE SURGEON (Male) to this Hospital. Salary £150 per annum, with board, furnished apartments and washing. Candidates must be fully qualified and registered. Applications, stating age, experience, and copies of three recent testimonials, should be forwarded to the undersigned not later than the 27th June. RICHARD ALLEN, Secretay.

Northampton General
HOSPITAL.

Wanted, a HOUSE SURGEON (male) from July 1st to Sept. 16th. Remuneration 45 guineas. Board, residence, washing and attendance provided.

Applications, stating age, qualifications, &c. with copies of testimonials, to be sent to the undersigned.

C. S. RISBEE, Secretary-Superintendent.

Festiniog Union.

APPOINTMENT OF MEDICAL OFFICER AND PUBLIC VACCINATOR FOR THE DEUDRAETH DISTRICT AND THE POOR LAW INSTITUTION, PENRHYNDEUDRAETH.

The Guardians invite applications for the above joint appointment. The District comprises the parishes of Penrhyndeudraeth and Llanfrothen and part of Llandecwyn, with an area of 11,077 acres and population of 1,726.

The salary as District Medical Officer will be £42 per annum, and as Institution Medical Officer £115 per annum, and the fees payable as Public Vaccinator will be 5/9 for each successful case at the homes of the person vaccinated, 2/6 at the Surgery, 2/6 for each case of successful revaccination, and 1/- for each birth entry, subject to deductions (except as to vaccination fees) under the Superannuation Act, 1896.

The Guardians will supply expensive medicines, but the person appointed is to supply ordinary medicines to the paupers free of charge.

Applications, stating age, qualifications, and accompanied by three recent testimonials, to reach me by the 5th July next.

A knowledge of Welsh is essential.

By order, DAVID JONES,
Portmadoc. Clerk to the Guardians.
15th June, 1922.

County Council of the West
RIDING OF YORKSHIRE.

CHIEF TUBERCULOSIS OFFICER.

The County Council of the West Riding of Yorkshire invite applications for the appointment of Chief Tuberculosis Officer.

Salary £750 per annum, rising to £800 per annum on the 1st April, 1923.

Further particulars and form of application may be had from the undersigned, by whom all applications must be received not later than the 3rd July, 1922.

FRANCIS ALVEY DARWIN,
County Hall, Clerk of the County Council.
Wakefield. 12th June, 1922.

South London Hospital for
WOMEN, South Side, Clapham Common, S.W.4.

The Board of Management invite applications from fully qualified medical women for the undermentioned appointments:

HOUSE SURGEON. Appointment for a period of six months from September 1st.

HOUSE PHYSICIAN. Appointment for a period of six months from September 16th. Salary in each case at the rate of £100 per annum with board, residence and laundry. Particulars respecting applications to be obtained from the Secretary.—Applications, with copies of testimonials, to reach the Secretary at the Hospital not later than the first post on July 10th.

The Royal Infirmary,
Sheffield.

The weekly Board of Management invite applications for the post of OPHTHALMIC HOUSE SURGEON.

The salary attached to the appointment is £150 per annum, with board and residence.

There are 52 Ophthalmic Beds, and the post offers exceptional opportunities of gaining experience in Ophthalmology.

Applications, with copies of testimonials, to be addressed to the undersigned.

Board Room. JNO. W. BARNES,
June, 1922. Secretary.

St. Bartholomew's Hospital.

VENEREAL DEPARTMENT.

Applications are invited for a part-time PATHOLOGIST to the above Department.

Appointment will be made for one year from the 1st October, 1922, with eligibility for re election.

The salary attached to the office is £300 per annum.

Applications and testimonials must be left with the undersigned, from whom further particulars may be obained on or before Monday, the 24th July, 1922.

THOMAS HAYES,
15th June, 1922. Clerk to the Governors.

West Bromwich and District
HOSPITAL. (105 Beds)

Wanted, a RESIDENT ASSISTANT HOUSE SURGEON (male). He must be doubly qualified and unmarried. Salary £180 per annum, with board, residence, and washing.

Applications, stating age, and if possessing a knowledge of Ophthalmic Surgery, and accompanied by copies of testimonials, should be sent to me.

The candidate appointed will be required to take up his duties immediately.

By Order, FRANK I. HANCOCK,
Secretary & Superintendent.

APPOINTMENTS—Important Notice.

(a) British Islands.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, 429, Strand, London, W.C. 2.

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE.		**PUBLIC HEALTH.**
ENGLAND.	**WALES** (*continued.*)	
MIDDLESBOROUGH, SOUTH BANK, & ESTON. (*Medical Aid Associations or Workmen's Clubs.*)	GILFACH GOCH, GLAMORGAN. (*Workmen's Medical Scheme.*)	COUNTY BOROUGH OF BARROW-IN-FURNESS. (*Assistant M.O.H. and Clinical Tuberculosis Officer.*)
NEWBOTTLE COLLIERY. (*Workmens Medical Association.*) *Fence Houses, Durham.*	LLWYNYPIA, CLYDACH VALE, PENYGRAIG, GLAMORGAN. (*Workmen's Medical Scheme.*)	CITY OF BIRMINGHAM. (*Assistant School Medical Officer.*)
HORDEN COLLIERY LODGE, DURHAM. (*Workmen's Medical Association.*)	MARDY, GLAMORGAN, (*Workmen's Medical Scheme.*)	CHESHIRE COUNTY COUNCIL. (*Whole-time District Tuberculosis Officer.*)
WALES.	OAKDALE, MON. (*Medical Officer for Model Village and Cottage Hospital.*)	LANARK COUNTY: LOWER WARD DISTRICT. (*Assistant Medical Officer of Health.*)
ABERTRIDWR, GLAMORGAN. *Windsor Colliery.* (*Medical Scheme.*)	OGMORE VALLEY, GLAMORGAN. (*Workmen's Medical Scheme.*)	PLYMOUTH EDUCATION AUTHORITY. (*Assistant School Medical Officer* [*Lady*].)
EBBW VALE, MON. (*Workmen's Medical Society.*)	TONDU and ABERKENFIG, GLAMORGAN. (*Workmen's Medical Scheme.*)	SAFFRON WALDEN BOROUGH AND R.D.C. (*Medical Officer of Health; Medical Supt. of Isolation Hospital; Asst. County Med. Officer.*)
GARW VALLEY, GLAMORGAN. (*Workmen's Medical Scheme.*)	TREORCHY, PARK & DARE (GLAMORGAN). (*Workmen's Medical Scheme.*)	COUNTY BOROUGH OF WEST BROMWICH. (*Tuberculosis Officer and Assistant Medical Officer of Health.*)

(b) South Africa.

Town or District	Town or District.
NATAL PROVINCIAL ADMINISTRATION. GOVERNMENT HOSPITAL, DURBAN. (*Senior Resident Physician.*) (*Senior Resident Surgeon.*)	UNIVERSITY OF CAPE TOWN. (*Senior Lectureships.*) (*Lectureships.*)

(c) Other Colonial Appointments.

Medical practitioners are requested not to apply for any appointment referred to in the following table without having firstcommunicated with the Honorary Secretary of the Division or Branch named in the second column, or with the Medical Secretary of the British Medical Association, 429, Strand, London, W.C. 2.

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. (*All Friendly Society Appointments.*)	Dr. R. H. TODD (Hon. Sec., New South Wales Branch), B. M. A. Building, 30–34, Elizabeth Street, Sydney, N.S.W.	QUEENSLAND. (*Brisbane Associated Friendly Societies' Institute.*)	Dr. R. MARSHALL ALLAN (Hon. Sec., Queensland Branch), Adelaide Street, Brisbane.	VICTORIA. (*All Institute or Medical Dispensaries; Manchester Unity Independent Order of Oddfellows*).	Dr. FRANK DAVIES (Hon. Sec., Victorian Branch), Medical Society Hall, E. Melbourne, Victoria.
				WESTERN AUSTRALIA. (*Contract and Lodge Practices.*)	Hon. Sec., Western Australian Branch, No. 6, Bank of New South Wales Chambers, St. George's Terrace, Perth.

Address: 429, Strand, W.C.2.
June 20th, 1922.

By order of the Council of the British Medical Association,
ALFRED COX, Medical Secretary.

County Borough of Rotherham

SCHOOL MEDICAL OFFICER.

The Education Authority invite applications from registered medical practitioners (male) for the position of School Medical Officer. Commencing salary £700 per annum.

The officer appointed will be required to devote his whole time to the work of the School Medical Service.

It is desirable that candidates should possess experience in School Hygiene, the X-ray treatment of Ringworm, and in the study of Diseases of Children.

Applications, stating age, qualifications and experience, accompanied by copies of not more than three recent testimonials, must reach the undersigned not later than Wednesday, 28th June, 1922. Canvassing will disqualify.

Education Offices, Rotherham. JAS. A. MAIR, Secretary for Education.

Newcastle-on-Tyne

DISPENSARY.

Applications are invited for the post of RESIDENT MEDICAL OFFICER. Applicants must be doubly qualified and registered and be prepared to remain at least three years.

Salary £350 for the first year, £375 for the second year and £400 for the third year, together with furnished apartments, free coal, light and attendance.

Forms of application and information as to the duties may be obtained from the Resident Medical Officer at the Dispensary.

Applications to be sent to the Honorary Secretary JOSEPH CARR, Chartered Accountant, 26, Mosley Street, Newcastle-on-Tyne, not later than the 10th July, 1922. Canvassing not allowed.

Westminster Hospital,

Broad Sanctuary, S.W.1.

The offices of ASSISTANT HOUSE PHYSICIAN and ASSISTANT HOUSE SURGEON will be vacant on 1st August. The appointments are for 3 months, non-resident, board provided, to be followed by six months as House Physician and House Surgeon respectively, with board and lodging in the Hospital, and an honorarium at the rate of £52 per annum in each case.

Candidates must be registered male medical practitioners.

Applications should be addressed to the undersigned.

CHARLES M. POWER, Secretary.

University College Hospital.

Gower Street, W.C.1.

Required a Half-time MEDICAL OFFICER to assist in Clinical Investigation and Research in the treatment of cases of Malignant Disease by Radium, to keep notes and records, and to prepare an Annual Report in connection therewith.

Salary £250 per annum.

Applications, accompanied by not more than three recent testimonials, must reach the Secretary of the Hospital by noon on Wednesday, June 28th, 1922.

Hospital of St. John and

ST. ELIZABETH, 40, Grove End Rd., N.W.8.

Applications are invited for the post of ASSISTANT PHYSICIAN to this Hospital. Applications, with three testimonials, to be sent to the SECRETARY, at the Hospital, by the 1st of July.

Royal Devon and Exeter

HOSPITAL, Exeter. (200 beds.)

ASSISTANT HOUSE SURGEON.

Applications are invited for the post of male Assistant House Surgeon at this Hospital. The appointment is for six months, but candidates are eligible for re-election.

Salary at the rate of £150 per annum, with board apartments and washing.

Applications, giving full particulars as to age, qualifications, together with certificate of registration, and copies of recent testimonials, should be sent to the undersigned, on or before Tuesday, 27th inst.

By Order of the Committee.
Dated 9th June, 1922. S. S. COLE, Secretary.

Leeds City Infectious Diseases

HOSPITALS, Seacroft.

Required, a SECOND ASSISTANT MEDICAL OFFICER, early in July. Candidates must be qualified in Medicine and Surgery, registered and unmarried. Salary £250 per annum, with board, lodging and washing. Three recent testimonials.

Application before June 30th, to Medical Superintendent, City Hospitals, Seacroft, Leeds.

Devon Mental Hospital.

THIRD ASSISTANT MEDICAL OFFICER, Male (single) required. Salary £300 per annum, with furnished quarters, board and laundry.

The appointment will be subject to the provisions of the Asylums Officers' Superannuation Act, 1909.

Apply, at once for form of application to THE CLERK, The Devon Mental Hospital, Exminster.

Wanted.—Welsh-speaking, outdoor ASSISTANT, industrial district, Carnarvonshire. View Partnership if satisfactory. Usual bond. Write stating age, experience, married or single and other essential particulars to No. 2316, BRITISH MEDICAL JOURNAL Office 429, Strand, W.C.2.

Wanted, qualified indoor ASSISTANT (single). Scotsman preferred and with some experience, for good-class country practice in Berks. Motor cyclist. £350 p.a. View Partnership if suitable. Give particulars.—Address, No. 2913, BRIT. MED. JOUR. Office, 429, Strand, W.C,

Wanted.—Outdoor Assistant, married, for private and panel Practice in Midlands. House available. Salary according to experience, and com. Must be energetic, keen on work. Usual bond.—Add., stating age, experience, nationality and refs., No. 2912, B.M.J., 429, Strand, W.C.

Wanted, about the end of July, a qualified Indoor ASSISTANT in a Glamorganshire colliery district. Would suit a newly qualified man. Salary £300 per annum. Usual bond.—Address, with references, No. 2907, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C.

Wanted by M.B., B.S., M.R.C.S., L.R.C.P., ASSISTANTSHIP with view to partnership or succession. North of England preferred. Capital available.—Address, No 2914, BRIT. MED. JOUR. Office, 429, Strand, W.C.

Wanted, Post as Ship Doctor or ASSISTANTSHIP ABROAD by a medical man, age 32. Had own practice; experience in panel and private practice; excellent testimonials.—Address, No. 2915, B.M.J. Office, 429, Strand, W.C.

Wanted.— A well qualified MEDICAL WOMAN, with sound experience in children's diseases to assist doctor in working-class neighbourhood in London. Non-resident. Write fully, stating experience and qualifications, to No. 2929. BRIT. MED. JOUR. Office, 429, Strand, W.C.

Assistant wanted, London. Private panel, frequent charge. Experienced. Energetic worker with view future to suitable. Unfurnished rooms, surgery. Full particulars and two references essential. — Address No. 2904, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C.

Assistantship wanted by M.R.C.S., L.R.C.P. (London), ex-H.S., preferably with view to Partnership. Experience of private and panel practice.—Address, No. 2920, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C.

Assistantship, preferably to Manage Branch Practice, wanted by qualified man with experience. Good references.—Address, No. 2930, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C.2.

As Secretary.—Trained nurse, qualified in dispensing and able to typewrite, requires post as Secretary. Experienced. —Address, No. 2917, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

Federated Malay States.— ASSISTANT required about the end of the year. Commencing salary £630 rising to £840 per annum. Fours years agreement. Prospect of partnership. Applicants should be about 30 years of age and unmarried. Apply, General Manager, SCHOLASTIC, CLERICAL & MEDICAL ASSN., Ltd, 12, Stratford Place, Oxford Street, W.1.

Lady, M.B., Ch.B., D.P.H., desires post as ASSISTANT to doctor. Some experience in general practice.—Apply, "Locum," Cefnkynaston, Cefn, Ruabon, N. Wales.

M.B., B.S. Lond., D.P.H., desires PART-TIME WORK in London. Afternoon and evening of Mondays and Fridays not available. 5 years army service. Special experience in Bacteriology and Tropical medicine.—Address, No. 2911, BRIT. MED. JOUR. Office, 429, Strand, W.C.

Part-time work wanted, London; week-ends, evening surgeries, &c. Experience panel, &c.—Address, No. 2908, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C.

General Physician practising off Harley Street would act as DEPUTY FOR PHYSICIAN during holiday season. Used to highest class practice. Speaks French.—Address particulars in confidence to No. 2811, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

Medical Officer required for Oil Refinery in the Tropics. Young and experienced Tropical diseases. Knowledge of Spanish advantage.—Reply, Box 150, c/o DAWSON'S, 17, Craven Street, Strand, W.C. 2.

Ships' Surgeoncy required.— Doctor having disposed of Practice desires long VOYAGE. Physically fit. Experienced sailor. Highest references given and required. Free July 16th.—Address No 2924, BRITISH MED. JOURNAL Office, 429, Strand, W.C. 2.

Chemist.–Fully-qualified man required as Manager and Buyer for a Department about to be opened. Knowledge of Optics a recommendation. —Apply immediately for application form, which must be completed and returned to arrive not later than first post on July 3rd.— DARLINGTON CO-OPERATIVE SOCIETY, Priestgate, Darlington.

Husband and Wife (educated, good appearance), monetarily affected by slump, SEEK POSITION together. Could be very useful to professional man: doors, telephone, housework and general service; car driving and cleaning. Whole-hearted service from employer's point of view given. Unimpeachable references. Interview requested.—Add., No. 2928, B.M.J. Office, 429, Strand.

Wanted to live in, Dispenser BOOK-KEEPER. Applications, stating experience and remuneration required, to Dr. SUGDEN, Coltishall, Norwich,

LOCUM TENENS

supplied by

Messrs. JOHN BELL & CROYDEN, Ltd.

(Inc. ARNOLD & SONS).

Phone requirements, Transfer Dept., City 5240, or wire "Instruments, London."

Wanted Locum Tenens from August 21st for three weeks. Small Practice, small country town. Good house, very large garden. 3 guineas a week, 1 return railway fare, and hospitality to doctor and wife.—Address, No. 2830, B.M.J. Office, 429, Strand, W.C. 2.

Wanted.—Locum Tenency in quiet Country Practice from July 15th, in exchange for hospitality for self, wife and child of 5 months. Advertiser is a regular Medical Officer at present on furlough. Can bring own car.—Add., No. 2923, BRIT. MED. JOUR. Office, 429, Strand, W.C.

Wanted.—Locum, 2nd half July. Light practice, N.E. Coast Scotland. Tennis, golf, bathing. Beautiful scenery. Excellent for busy practitioner requiring holiday. Live in.— State essential particulars to Dr. JOHNSTONE, Cromarty.

FOR LOCUM TENENS APPLY TO
Mr. PERCIVAL TURNER
The Oldest and only Agent who for 40 years has supplied substitutes at short notice without fee to principals.
4, ADAM STREET, STRAND, LONDON, W.C.2
Teleg.: "Epsomian, London." 'Phone: Gerrard 399.
After 5 p.m.—'Phone: Epsom 695.

As Locum.—G. P. (15 years' experience locum work), open to engagement. Free June 30th. References 1920 and 1921. Fees by arrangement.—Apply, ARTHUR NORRIS, Wymondham, Norfolk.

General Medical Agency, Limited, are prepared to arrange for providing LOCUM and ASSISTANTS and negotiating PARTNERSHIPS etc., in the Medical and Dental professions. Applicants for position as Locum, Assistants or Partners are invited to register without charge.—Apply to Secretary, C. R. SANDS, A.C.A., 12, Victoria Street, Nottingham.

Lady Doctor (Scotch), experienced in general practice and infant welfare work, would act as LOCUM till July 23rd, and again in Sept. and October.—Address, No. 2918, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C.

LOCUM TENENS
PROVIDED
AT AN HOUR'S NOTICE.
Apply to
Mr. W. S. ATKINS
(Late of ARNOLD & SONS, London)
43, BEDFORD STREET, STRAND, W.C. 2.
Telegraphic Address:
"Positions, Westrand, London."
Telephone; Regent 229.

Locum Tenency, without midwifery, desired by medical man. Age 62. Active. Well received. Good references. Terms, seven guineas, with travelling expenses. Free after 28th to August 15th.—Dr. RHODES, 64, Bonham Road, London, S.W.2.

Wanted, Progressive Middle and Working-class PRACTICE, with good panel, by Scottish Graduate. Age 40. Seventeen years' experience all kinds of practice, Hospital staff, Parish Medical Officer, &c. Reasonable terms only. Would consider partnership with succession. Particulars in confidence to Dr. "G," 30, Bolton Road, Pendleton, Manchester.

Wanted, for first two or three weeks in September, Exchange PRACTICE with seaside practitioner. Advertiser has nice garden with tennis court and beautiful country round; light work during Sept. Within 1 hour of London fast train, and ¼ hour inland sp't, and 400 ft. above sea level.—Address, No. 2932, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C.2.

Wanted, private Practice, with or without panel in London, or within 30 miles. Receipts over £1,000 per annum. Nice house with garden preferred. Partnership entertained. — Apply, PEACOCK & HADLEY, 19, Craven Street, Strand, W.C. 2. (No charge unless sale effected).

Wanted.–Country or Country town PRACTICE producing over £1,000 per annum. Panel not objected to. Good house with garden essential. Send full details in confidence.—Mr. W. S. ATKINS, Medical Transfer Agency, 43, Bedford Street, Strand, W.C. 2.

Wanted by F.R.C.S., aged 30, a good-class PRACTICE or PARTNERSHIP in country town, near the sea preferred, in S. or East of England. Income about £1,000. Now free.–Apply BLUNDELL & Co., Walter House, 418/422, Strand, London, W.C. 2.

Wanted, Country or Country Town PRACTICE, about £1,000 per annum, with nice house and garden, and easy access to good schools.—Address particulars in confidence to No. 2919, BRIT. MED. JOUR. Office, 429, Strand, W.C.

Wanted by M.B., B.S., a PRACTICE of about £1,500 with some panel in a suburb or central part of London.—Apply, BLUNDELL & Co., Walter House, 418/422, Strand, W.C.2.

Wanted, Practice (private and panel) doing £1,500 or over. Good house and garden, and social and educational advantages essential.—Address, No. 2931. BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

Wanted, Panel and Private PRACTICE in or near London. Receipts over £1,000 a year. Necessary capital available.—Address, No. 2902, BRIT. MED. JOUR. Office, 429, Strand, W.C.

Death Vacancy.—North Wales. Near Coast, about £1,500 a year. Old established. Very little opposition. On rail. Panel worth £900 a year. Other appts. £550. Choice of houses. Locum in charge. All sport. Open to offers.—Apply, No. 7173, Mr. PERCIVAL TURNER, 4, Adam St., Strand, W.C. 2.

Bradford.—Lucrative Panel and General PRACTICE. Receipts over £3,000. Panel over 2,400. Rent of house £60. Freehold can be purchased.—Apply No. 1992, REYNOLDS & BRANSON, Ltd., 13, Briggate, Leeds.

For Disposal.—A good Prac- TICE is not always to be had directly, but Mr. PERCIVAL TURNER can generally offer applicants something suitable. Nearly all the best Practices are sold by him without being advertised.—Full information free on application to 4, Adam St., W.C.2.

Glam.—An old-estab. general PRACTICE situated in a large town. Receipts over £2,200. Panel 2,000. Fees 2/6 upwards. Nice house in central position, containing 4 bedrooms, &c. Rent £75 p.a. or would sell. Premium for Practice £2,500.—Apply, Folio 539, Mr. W. S. ATKINS, Medical Transfer Agency, 43, Bedford Street, Strand, W.C. 2.

London.—£2,800 a year. Panel and mixed PRACTICE for immediate sale owing to ill-health. Very old established. Panel and appts. bring in £1,800. Midwifery refused. Great scope. Good corner house.—Apply, No. 7145, Mr. PERCIVAL TURNER, 4, Adam St., Strand, W.C.2.

Good-class Spa Practice with house and garden FOR SALE. Small panel. Beautiful country. All sports.—Address No. 2925, BRITISH MED. JOURNAL Office, 429, Strand, W.C. 2.

Leeds.—Panel and Private PRACTICE. Present turnover about £1,500. Panel 800. Bachelor quarters with consulting room and dispensary available. Premium £1,000. An additional panel of 300 can be transferred from an adjacent practice.—Apply No. 2003, REYNOLDS & BRANSON, Ltd., 13, Briggate, Leeds.

Large and Small Practices Wanted at once; have numerous buyers with capital available. Sales satisfactorily arranged. Send full details to The General Manager, Messrs. JOHN BELL & CROYDEN, Ltd., Incorporating Messrs. Arnold & Sons, Transfer Dept., 6, Giltspur St., E.C.1.

London, N.W.—£1,700 a year old-established good-class family PRACTICE in favourite suburb. Fees 7/6 to 21/-. Good corner house. Small panel. X-Ray outfit if required. Easily worked.—Apply, No. 7140, Mr. PERCIVAL TURNER, 4, Adam Street, Strand, W.C.2.

London, N.W.—Non-panel PRACTICE. Receipts, 1921, £800. Fees mostly 10/6. Easily worked. No conveyance. Leasehold corner house. For SALE. Price for house and practice, £2,000.—Address, No. 2916, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C.2.

Lincs.—An unopposed non- panel Practice situated in a country district producing over £1,500 p.a. Fees 5/- upwards. Excellent house with large garden, &c., at rental. Premium £1,250.—Apply, Folio 540, Mr. W. S. ATKINS, Medical Transfer Agency, 43, Bedford Street, Strand, W.C. 2.

Medical Practice for imme- diate disposal. The old-established private Practice carried on by the late Dr. John Martin, of 13, Palmyra Square, Warrington, for the past 15 years will be sold by private treaty. House not yet available but good rooms near to could be had for use of surgery. To an energetic man there is an excellent nucleus to build up a lucrative practice. For further particulars apply to Messrs. HENRY GREENALL & COY., Solicitors, Warrington.

Manchester.—A general PRACTICE situated in an industrial part, Receipts over £1,500, including panel value £1,000. Fees 2/6 upwards, ample scope. Nice house in central position containing 4 bedrooms, &c. No garden. Rent £40 p.a. Premium £1,750.—Apply, Folio 610, Mr. W. S. ATKINS, Medical Transfer Agency, 43, Bedford Street, Strand, W.C 2.

North of England.—For Sale a pleasant, unopposed Country PRACTICE and an attractive small house with modern fitments, outbuildings, garden and field. Fine and convenient situation. Income £1,300. Combined price £4,000. Or a Partnership with succession in 1924 at latest might be arranged.—Add., No. 2813. B.M.J., Strand.

North Wales. — Unopposed country PRACTICE for sale. Welsh essential. Premium 1 year. About £1,200 to £1,400 per annum. — RAINFORD, 40, Hamilton Street, Hoole, Chester.

To Purchasers.—Do not Buy without expert assistance. With 40 years' experience Mr. PERCIVAL TURNER can advise in all cases. Terms free on application to 4, Adam Street, Strand, W.C.2. Telephone: Gerrard 399. Telegrams: "Epsomiam London."

North-west of England. — £1,500 a year. High-class non-dispensing, non-panel PRACTICE, with scope for increase. Practically no night work or midwifery. Ample introduction. Good house on outskirts of town, small garden, fine view. Near pleasant country and coast. A splendid opportunity for the right man.—Address No. 2921, BRITISH MED. JOURNAL Office, 429, Strand, W.C. 2.

North Wales.—An old-estab. PRACTICE situated in a Colliery district. Receipts £3,300. Panel 3,300. Fees 2/6 upwards. Appts. £1,200 p.a. Excellent Schools 3 miles away. Nice house containing 5 bedrooms, &c., large garden and garage. Rent £100 p.a. Premium £4,000, payable £1,500 down and the balance spread over a period of four years.—Apply, Folio 521, Mr. W. S. ATKINS, Medical Transfer Agency, 43. Bedford Street, Strand, W.C.2.

Practice wanted in London or suburbs or within about 50 miles, returning an income from £1,000 to £1,500 a year. Applicant is prepared to purchase at once and can pay the premium in cash for a satisfactory practice. Particulars in confidence to No. 5691, Mr. PERCIVAL TURNER, 4, Adam Street, Strand, W.C.2.

Practice exchange: in South West Coast Town, £1,400, good house, lease; for Practice on Surrey Hills or other bracing place. — Address, No. 2829, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

Required at once.—Practices and PARTNERSHIPS.—Mr. W. S. ATKINS (late of ARNOLD & SONS, London), has a large number of Clients who are seeking Practices and Partnerships, and wish to settle down at once.—Send full particulars, in confidence, to Mr. W. S. ATKINS, Medical Transfer Agency, 43, Bedford St., Strand, London, W.C. 2.

South Africa.—£4,000 a year. Large seaport town. Good house and garden. Large European population.—Apply, No. 7174, Mr. PERCIVAL TURNER, 4, Adam Street, Strand, W.C. 2.

Situated amidst romantic scenery, S. Wales, PRACTICE £2,100 p.a., fixed appointments £2,000, private £100. Commodious modern house overlooking valley of Taff. Second small house suitable for partner. ½ share £1,600, whole practice £3,000. No offers.—Add., No. 2909, BRIT. MED. JOUR. Office, 429, Strand, W.C.

South Coast.—£2,200 a year. In a favourite resort increasing practice. Panel 1,400. House in good thoroughfare. Partnership introduction. No dispensing. Little night work.—Apply, No. 7103, Mr. PERCIVAL TURNER, 4, Adam Street, Strand, W.C.2.

Required in London or Suburbs General PRACTICE with Panel, producing over £1,000 p.a. Nice house at rental. Send full details in confidence to Mr. W. S. ATKINS, Med. Transfer Agency, 43, Bedford St., Strand, W.C.

Yorkshire.—Over £2,300 a a year. Old established. Panel 1,600. Rapidly increasing district on outskirts of large town. No immediate opposition. Large house and garden, tennis lawn, &c., on lease. Would suit two men. Premium 3,000 guineas.—Apply, No. 7172, Mr. PERCIVAL TURNER, 4, Adam St., Strand, W.C.2

Small town in nice Country district in South Wales. Well established colliery, panel and agricultural PRACTICE. Receipts January to April this year £556. Panel 1,600. Good fees. House on lease.—LEE & MARTIN, Ltd., 71, Temple Row, Birmingham.

Birmingham. — Nucleus. Established 18 months. Receipts last year £525. Panel 170, increasing daily. Excellent prospects. House for Sale. Price with Practice, £750.—LEE & MARTIN, Ltd., 71, Temple Row, Birmingham.

Large Midland Town—Prac- tically unopposed.—Old-established Industrial PRACTICE.—Receipts £1,470. Panel 1,800. Transferable Appointments. Fees 3/6 to 5/-. House £60. Lease or for Sale.—LEE & MARTIN, Ltd., 71, Temple Row, Birmingham.

South Yorkshire.—Un- opposed old-estabished Industrial Panel and Private PRACTICE. Receipts over £2,300. Good house and garden.—LEE & MARTIN, Ltd., 71, Temple Row, Birmingham.

West Midlands. — Partner- SHIP. One-third share in mixed Practice. Receipts over £2,200. Panel 1,880. Preliminary Assistantship if desired.—LEE & MARTIN, Ltd., 71, Temple Row, Birmingham.

Wanted by an experienced practitioner, aged 32, bachelor, ex-H.S., H.P., speciality ear, nose, and throat, Half-share PARTNERSHIP of about £1,000 in London or the South, in a practice not entirely industrial.—Apply, "R. W.," 9, Mountney Road, Eastbourne.

Banff.—Partnership in old- established Practice. Receipts £1,000, great scope. Suit energetic single man. Vendor opening up practice 8 miles away with excellent prospects. Good sport. Half-share £500.—MANCHESTER MEDICAL & SCHOLASTIC ASSOC., 8, King Street.

Derbyshire.—Partnership in lovely district. Receipts £3,400. Price fourth share (increased to one-third later) 2 years' purchase part deferred. Scope for surgery. Cottage hospital. Fishing, golf.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 8, King Street.

Partnership. Nearly £3,000 a year. Within 70 miles of London on the outskirts of large town, and increasing. Panel over 2,000, and other appointments about £400 a year. Residential district. One-third share at first. Small house available. Personally known and recommended.—Apply, No. 7176, Mr. PERCIVAL TURNER, 4, Adam Street, Strand, W.C. 2.

Partnership, general Country Practice. Scope for surgery. All sports. Nice house for sale, part can remain.—Address, No. 2706, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

Partnership with succession when required in old-stablised mixed practice. Panel nearly 1,900 and steadily growing. Receipts about £4,000. Easily worked. Beautiful house in own grounds. Half share £2,000.—Address, No. 2922, BRIT. MED. JOUR. Office, 429, Strand, W.C. 2.

Partner wanted, £2,600 a yr., mixed practice and panel; ⅓ share for sale. London 20 mins. main line. House available, buy or rent. Good scope for energetic man.—Address, No. 2903, BRIT. MED. JOUR. Office, 429, Strand W.C.

Partner wanted in country Practice of about £2,300 a year, ¼ Share to commence. Single preferred, not over 32.—Write, "Silex." Box 1632, WILLINGS, 30, King Street, Covent Garden, W.C. 2.

North Wales. — Partner wanted in lucrative industrial Practice. Large panel. Share worth £800 *nett* guaranteed, larger share later. Excellent opportunity for active man. House available if required. Prem. £1,500, half down.—No. 2732, B.M.J. Office, 429, Strand, W.C.2

Wanted.—Zeiss or Leitz MICROSCOPE with Abbe Condenser and movable stage, suitable for sanatorium purposes. Must be in first-class condition. State price and particulars to Dr. WHITLEY, South Granville House, Jesmond, Newcastle-upon-Tyne.

Advertiser has several crates of LOVELY WHITE FLINT MEDICINE BOTTLES. 4 oz. 18/-; 6 oz. 19/6; 8 oz. 20/6. £5 orders Carriage Paid. Ordinary Pale Green Bottles stocked in all sizes.—Address, No. 2828, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C.

Electric Light Bath on couch, full length, carbon lamps, 4 Arc lamps, towel-drawer, &c. £35 or near offer. LARGE X-RAY SCREENING STAND, nearly new, 6ft. 8in. high, complete, with fittings. £50 or near offer.—H. J. MONSON, Radiographer, 26, Manchester Street, W.1

Static Machine, 8 plate, 36in., dust proof glass case, all accessories, patent wave device. £80, fixed in London; guaranteed. MERCURY VAPOUR LAMP, nearly new; accessories. Test. £30 or near offer.—Address, No. 2927, BRITISH MEDICAL JOURNAL Office, 429, Strand, WC.

Special to Students and those requiring a first-class MICROSCOPE. We are able to offer a few only of the well-known Koristka Folding Travelling Microscopes, which are brand new, and listed at £38, at a specially reduced price of £20. This offer is made to ensure immediate disposal of our stock of this model, and to make room for a slightly improved pattern which is now ready for delivery from the factory. There are only a few for disposal, and the offer can under no circumstances be repeated. We will arrange to supply on Deferred Payment Terms if desired. £4 cash down and twelve equal payments of £1 9 4. Strict approval if desired. *Specification*: Koristka 1922 model, compact folding pattern, fine and coarse adjustment, square stage, three eyepieces, and three objectives, 2/3rds, 1/6th, and 1/12th inch oil immersion, Abbe condenser, with iris, complete in case, and special platform for use of microscope on tripod stand. These are brand new 1922 instruments, not secondhand. To secure one of the limited number immediate application must be made.—THE CITY SALE AND EXCHANGE, 81, Aldersgate Street, London, E.C. 1.

Wanted to purchase.— *British Medical Journal*, July, 1914 to December, 1922. Bound preferred. State price.—E. F. WESLEY, 28, Essex Street, London, W.C.2.

Furniture and Fittings, prac- tically new, of Consulting Room and Waiting Room, with NUCLEUS of Practice, to be disposed of. Main road, good position, London, S.W.—Address No. 2910, BRITISH MEDICAL JOURNAL Office, 429, Strand, W C. 2.

Large Building constructed for HOSPITAL or CONVALESCENT HOME on hygienic principles of the very best materials and appointments. 30 rooms, including operating room, 12 lavatories, 3 bathrooms; central heating. Well situated in one of the healthiest resorts on the South Coast. In perfect condition throughout for immediate occupation. Suitable for Hydro, Hospital or Convalescent Home. At to-day's prices would cost over £30,000 to build. Owing to exceptional circumstances freehold can be had at a very low figure.—Write, X., c/o STANLEY ELLIOTT ADVERTISING AGENCY, 83, Farringdon St., London, E.C.4.

A small, well-equipped PATHOLOGICAL LABORATORY close to Harley Street. Terms £60 yearly. Also part-time use of Consulting Room from 4 until 6, £120. Address, No. 2604, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

TO THE PROFESSION.

Medical men requiring **DISTINCTIVE DRESS** can secure perfectly tailored clothes made to measure in 24 hours. Finest quality materials at most reasonable prices. **SUITS AND OVERCOATS** in great variety from £6 6s. *Patterns post free.* A PERFECT FIT GUARANTEED.

SPECIAL OFFER.

Black or Grey Jacket and Vest for professional or evening wear, £4 14s. 6d.

Visitors to London can be measured and fitted the same day.

HARRY HALL, 207, OXFORD STREET, W. 1. 149, CHEAPSIDE, E.C.2.

'PHONES: MUSEUM 820-821, CITY 2086.

HIGHEST AWARDS 12 GOLD MEDALS for EXCELLENCE

ESTABLISHED OVER 35 YEARS.

INCOME TAX.—£430 SAVED.

Reduction of Tax obtained in recent cases for Medical Clients, £178—£121—£75—£56. One Client writes: "Dr. M—— "is delighted with the way in which you are man- "aging what has always been a perfect nightmare "to him." Consult us ***to-day*** and see what we can save ***you*** in worry and money. *Specimen Sheet of our "Simplex" Doctor's Account Book free on request.*

HARDY & HARDY, Taxation Consultants, Office B, 292, High Holborn, London, W.C. 1.

Splendid opportunity Colonies,

young doctor PURCHASE doctor's HOUSE, PRACTICE, etc. No rents nor rates, house California style, hot water heated, furniture elegant, electric light, spacious office, waiting room, garage, stable. Built by owner, retiring, age 49. Bank references required before negotiations. Early possession. Offers accepted.—Apply, DYSON, 36, Warbreck Hill Road, Blackpool.

Bournemouth, in Parkstone.

Vacant. Freehold. £1,350. 4 rec. 6 bed. garage. Stabling. South Aspect. Close golf. Trams. Admirably suitable for doctor. RUMSEY & RUMSEY, Parkstone, Dorset.

Park Crescent, Portland

Place.—SPACIOUS HOUSES to be Let on Lease, overlooking ornamental gardens, Regent's Park. Suitable for first-class Private and Professional Residences.—For particulars apply to Mr. JOHN MURRAY, F.R.I.B.A., 11, Suffolk Street, Pall Mall, S.W.1.

To Members of the Medical

Profession.—PICCADILLY (just off), in one of London's most imposing Squares. A GROUND FLOOR comprising three fine rooms, &c. Available as Consulting Rooms. Reasonable inclusive rental. —Apply, Messrs. KNIGHT, FRANK & RUTLEY, 20, Hanover Square, W. 1.

Bed-Sitting Room in doctor's

house close to Harley Street. Use of Consulting Room if required. Moderate terms.—Address, No. 1714, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

Consulting Room, use Wait-

ing, 'Phone, light, attendance. Reasonable terms.—"G." 42, Gordon Square, W.C.1. 'Phone: Museum 4295.

Corner of Harley Street,

Ground Floor ROOM with everything ready for Radiologist or Dentist. Dark-room same floor.—Address, No. 1907, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C. 2.

Ford Sedan for Sale. Good

running order and condition, eighteen months use. 2 new tyres. Self-starter, right hand drive. Cost £450, offers.—Address No. 2905, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C.2.

No Deposit Required.—Our

unique system of Deferred Payments enables you to purchase a Car without paying a deposit. Four per cent. interest only.—Practically any make supplied.—HENLY & Co., 91, Great Portland Street, W. Langham 1926.

Doctors' A/c Forms printed

in best style—250, 12s. 6d.; 500, 17s. 6d.; 1,000, 25s. Letter heads, Post Card heads, Calling Cards, &c., at equally moderate rates. Samples sent.

R. ANDERSON & SON,
Printers, 1, HILL PLACE, EDINBURGH.

Liverpool Stanley Hospital.

TWO HOUSE SURGEONS required for July 1st next. Salary £120 per annum, with board, residence and laundry. Candidates must be on the Medical Register, and submit their applications to the undersigned, accompanied by copies of three recent testimonials.

FRANK WHITE, Hon. Secretary.

Manchester Northern

HOSPITAL for WOMEN and CHILDREN, Park Place, Cheetham Hill Road, Manchester.

The Committee of Management require the services of a duly qualified HOUSE SURGEON, to commence duties at an early date. Salary, with apartments and board, £200. Applicants must state age and experience, and send copies of recent testimonials.

The Committee of Management also require the services of an ASSISTANT MEDICAL OFFICER. The duties will consist in attendance in the Out-patient Department three mornings weekly under the direction of the Honorary Medical Staff. Salary £50 per annum.

Applications to be sent to the Secretary, Mr. HUBERT TEAGUE, 38, Barton Arcade, Manchester.

All Saints' Hospital for

GENITO-URINARY DISEASES.

Out-patients' Department and Offices, 49/57, Vauxhall Bridge Road, S.W. 1.

In-patient Department, 91, Finchley Road, N.W. 8.

RESIDENT HOUSE SURGEON required on June 27th next for a period of six months, subject to re-election. The House Surgeon has every opportunity of gaining experience in all branches of Cystoscopy and Urethroscopy. Salary at the rate of £160 per annum, together with board, lodging and washing. Applications for the post, stating age, experience, qualifications, and enclosing copies of testimonials, should be sent to the Secretary immediately. A. WRIGHT, Secretary.

Addenbrooke's Hospital,

Cambridge.

Applications are invited for the post of HOUSE SURGEON (male) which will be vacant on July 17th, 1922.

The appointment will be for six months.

Salary at the rate of £130 per annum, with board, residence and laundry.

Candidates, who must be duly registered, are requested to forward their applications, stating age, qualifications, etc., together with copies of not more than four recent testimonials, to the undersigned, on or before Thursday, July 6th, 1922.

W. H. HEAD,
Secretary-Superintendent.

Hampstead General Hospital,

Haverstock Hill, N.W.3.

APPOINTMENT OF GYNÆCOLOGIST.

Applications are invited for the position of Gynæcologist to the Hospital.

Candidates must be Fellows or Members of the Royal College of Physicians, London, or Fellows of the Royal College of Surgeons, England.

Applications, stating age, qualifications, together with copies of not more than three testimonials should reach the Secretary not later than July 7th. Further particulars may be obtained on application.

Ancoats Hospital,

Manchester.

HONORARY RADIOLOGIST. Applications are invited for the post of Honorary Radiologist at the above Hospital. Candidates must be fully qualified and have had experience in the work.

The successful candidate will be expected to attend each morning of the week for at least two hours (10 to 12).

Further particulars may be had from the SECRETARY of the Hospital, to whom applications, together with three testimonials, should be forwarded not later than Monday, June 26th.

Ingham Infirmary, South

SHIELDS.

Wanted, SENIOR and JUNIOR HOUSE SURGEONS, (Male) to commence duty on the 1st July. Salaries £200 and £150 respectively with residence board and washing. No out-visiting. Candidates must hold registered qualifications in medicine and surgery. The appointment will be terminable by one month's notice. Applications stating age and accompanied by copies (which will not be returned) of recent testimonials, to be sent to the undersigned from whom further particulars may be obtained.

JOHN POTTER, Secretary.

Required, Assistant to the

Medical Superintendent at the BRITISH HOSPITAL, PORT SAID; £500 per annum. Free quarters, board and laundry; unmarried. Should have been House Surgeon in large hospital. Knowledge of tropical medicine desirable.—Applications to THE CHAIRMAN, British Hospital at Port Said, 19, Berkeley Street, W. 1.

Male House Surgeon required

for PETERBOROUGH INFIRMARY on July 7th (65 beds). Remuneration at the rate of £200 p.a., with board and washing.—Applications, with testimonials, to be sent to A. C. TAYLOR, Secretary, The Infirmary, Peterborough.

City of London Hospital for

DISEASES OF THE CHEST, Victoria Park, E 2. ('Bus, rail, and tram, Cambridge Heath, G.E.R.)

A vacancy will occur in the post of ASSISTANT MEDICAL OFFICER in the Out-patient Department early in August next.

Attendance is required on Monday, Thursday and Saturday afternoons at 2 p.m. Salary at the rate of £100 per annum.

Applications are invited to be sent to the undersigned on or before Monday, the 17th July, 1922.

GEORGE WATTS, Secretary.

The Cancer Hospital (Free)

(Incorporated under Royal Charter), Fulham Road, London, S.W. 3.

The Committee are prepared to receive applications for the post of ASSISTANT to the Electrical and Radio-Therapeutic Department.

The appointment is subject to rules, a copy of which can be obtained from the undersigned.

Applications, with copies of not more than three recent testimonials, to be sent in not later than Wednesday, July 5th, 1922, to

J. COURTNEY BUCHANAN, Secretary.

The House Committee of the

ROYAL VICTORIA INFIRMARY, NEWCASTLE-UPON-TYNE, invite applications for the post of SECRETARY and HOUSE GOVERNOR. Salary £700 per ann. Candidates must give full particulars as to qualifications, experience, age, etc.

Applications, with two recent testimonials, must be sent in not later than Thursday, the 29th June, 1922, and addressed "House Governor & Secretary."

R. H. P. ORDE,
15th June, 1922. House Governor & Secretary.

St. Mary's Hospital for Women

AND CHILDREN, Plaistow, E. 13.

An HONORARY ANÆSTHETIST required for Tuesday afternoons. The appointment is for twelve months, renewable on the recommendation of the Medical Committee.

Applications, stating qualifications, etc., to be sent to the Secretary at the Hospital as soon as possible.

14th June, 1922.

Royal United Hospital, Bath.

Wanted, a HOUSE PHYSICIAN and a JUNIOR HOUSE SURGEON (Males). Must be duly registered medical practitioners. Salaries £180 and £150 respectively.

Applications with copies of recent testimonials must be sent to the undersigned.

By Order of the Board,
J. M SHEPPARD, F.C.I.S., Secretary.

Monkwearmouth and

SOUTHWICK HOSPITAL, Sunderland.

HOUSE SURGEON wanted, to take up duties at end of present month. Must be fully qualified and capable.

Salary £200 to £250 will be paid according to experience and capabilities, with free board, attendance, and laundry.

Apply, giving particulars, copies of testimonials, to the Secretary, as above.

The Middlesex Hospital, W.1.

Applications are invited for the office of CASUALTY MEDICAL OFFICER, vacant 1st July. Salary £104 per annum. Board and residence provided. The appointment is for six months.

WALTER KEWLEY,
19th June, 1922. Secretary-Superintendent.

The Throat Hospital,

Golden Square, W.1.

A RESIDENT HOUSE SURGEON is required. Salary £100 per annum with board, laundry, etc.

Applications, with copy of three recent testimonials, should be sent in to me not later than Friday, the 7th July next. WM. HOLT,

Secy. & House Governor.

Bolingbroke Hospital,

Wandsworth Common, S.W. 11.

Applications are invited for the post of HOUSE SURGEON. Salary at the rate of £120 per annum with board, residence and laundry.

Applications with copies of testimonials should be sent as soon as possible to

W. S. RANDOLPH BISS,
Secretary-Superintendent.

Wanted, Locum Tenens

ASSISTANT MEDICAL OFFICER. Male, single, under 30. Salary 7 guineas per week, with apartments, board and washing.

Apply to the Medical Superintendent, CHESHIRE COUNTY MENTAL HOSPITAL, Parkside, Macclesfield.

The Metropolitan Asylums

BOARD invite applications for appointment as SENIOR ASSISTANT MEDICAL OFFICER in their Children's Hospital Service for duty at QUEEN MARY'S HOSPITAL FOR CHILDREN, Carshalton, Surrey. The Hospital accommodates 810 children, and there is a staff of five Assistant Medical Officers. A large proportion of the beds are reserved for Orthopædic cases (including Surgical Tuberculosis). Candidates must be under thirty-five years of age and unmarried, and preference will be given to those who have had previous surgical experience with some experience of administration. Commencing salary, including bonus, £645 5s. per annum rising (with bonus at present rate) to £709 13s. per annum.

The candidates appointed will be required to reside in the Hospital, and to pay for board, lodging, and washing at the rate fixed from time to time by the Board's Finance Committee. At present the rate is £130 per annum.

Applications to be received not later than 10 a.m. on Thursday, 29th June, 1922, on forms obtainable from the Deputy Clerk, Metropolitan Asylums Board, Embankment, London, E.C. 4.

G. A. POWELL,
13th June, 1922. Deputy Clerk to the Board.

The Metropolitan Asylums

BOARD invite applications for appointment as JUNIOR ASSISTANT MEDICAL OFFICER in their Children's Hospitals Service for duty at QUEEN MARY'S HOSPITAL FOR CHILDREN, Carshalton, Surrey. The Hospital accommodates 810 children, and there is a staff of five Assistant Medical Officers. A large proportion of the beds are reserved for tubercular cases, especially those requiring surgical treatment. Candidates must be under thirty-five years of age, and unmarried. Salary £515 6s. per annum (including bonus).

The candidates appointed will be required to reside in the Hospital, and to pay for board, lodging, and washing at the rate fixed from time to time by the Board's Finance Committee. At present the rate is £130 per annum.

Applications to be received not later than 10 a.m. on Thursday, 29th June, 1922, on forms obtainable from the Deputy Clerk, Metropolitan Asylums Board, Embankment, E.C. 4.

G. A. POWELL,
13th June, 1922. Deputy Clerk to the Board.

Norwich Incorporation of THE POOR.

APPOINTMENT OF RESIDENT MEDICAL OFFICER.

The Guardians of the above Incorporation require a male Resident Medical Officer for their Institution, who will also be required to act as Medical Officer to the Board's Scattered Homes for Children. Salary £500 a year, with board and attendance in small furnished flat.

Applicants should be between the ages of 25 and 35, and should have held posts as House Surgeon or House Physician at a General Hospital, and preferably had experience of mental cases. Experience in a similar Institution will be an additional recommendation.

For further particulars of duties, etc., apply to
E. J. W. HUGGINS,
St. Andrew Street, Clerk to the Guardians.
Norwich. 17th June, 1922.

Queen Charlotte's Lying-in HOSPITAL, Marylebone Road, N.W.1.

ASSISTANT RESIDENT MEDICAL OFFICER. (Male or Female) required. Applicants must be registered. The appointment is for four months. The selected candidate will be expected to proceed to the appointment of Senior Resident Medical Officer (also for four months) at the end of the term of office, on the recommendation of the Medical Staff. The salary of the Assistant Resident Medical Officer is at the rate of £60 per annum, and of the Senior Resident Medical Officer £100 per annum, with board, residence and washing allowance (4s. per week).

Applications with copies (not originals) of not more than three testimonials will be received by the Secretary up to 30th June. Canvassing is prohibited. Duties to commence 1st August.

ARTHUR WATTS, Secretary.

Dewsbury & District General INFIRMARY.

HOUSE SURGEON wanted. Salary £200 per annum, with board, residence, and laundry. Candidates must be fully qualified and registered.

Applications, stating age and qualifications, together with copies of three testimonials, to the undersigned.

EDWARD HEMINGWAY, Gen. Secretary.

Dundee District Asylum.

A.M.O. (Male) required for the Institution at Westgreen. Salary at the rate of £293 per annum, with board, apartments, and laundry.

Applications, with copies of testimonials to be lodged with the Medical Superintendent.

Camberwell Infirmary.

ASSISTANT MEDICAL SUPERINTENDENT.

The Guardians of the Poor of the Parish of St. Giles, Camberwell, invite applications for the appointment of Assistant Medical Superintendent for their Infirmary.

Remuneration at the rate of £500 per annum, rising by yearly increments of £50 to a total of £650, with board, lodging, and washing provided.

Candidates should be between 30 and 40 years of age, and must be prepared to carry out the rules and regulations pertaining to the Infirmary, the Institution, and the scattered Homes. It is essential that they should have had experience as Resident Medical or Surgical Officers in an Infirmary or Hospital.

Candidates must possess the requisite qualification to practise in Medicine and Surgery prescribed in the General Consolidated Order of the Local Government Board, and be registered under the Medical Act, 1858.

Forms of application can be obtained upon application here, and the same must, when duly completed, be returned to me not later than the 30th inst.

Information as to the duties can be obtained upon application to the Medical Superintendent (in the first instance by letter), at the Infirmary, Brunswick Square, Camberwell, S.E, 5.

H. ERNEST MOTT, Clerk to the Guardians.
Guardians' Offices,
29, Peckham Road, S.E.5. 13th June, 1922.

Bristol General Hospital.

A Meeting of the Election Committee will be held at the Hospital on Wednesday, July 12th next at 1 o'clock p.m. to appoint an HONORARY DENTAL SURGEON.

By Section 8, s.s. 1 of the Rules of the Hospital, no person shall be eligible to the office of Dental Surgeon unless he possesses a registered surgical qualification or be a Licentiate in Dental Surgery of a College of Surgeons of Great Britain or Ireland, and produce evidence thereof to the Committee.

Attention of candidates is drawn to Rule 6, Section 7: 'No member of the Honorary Staff shall hold an appointment in any other medical charity without sanction of the Committee." Candidates are requested to send their applications, with copies of testimonials and proof of qualification, to the undersigned on or before Monday, July 10th next, from whom further particulars may be obtained.

By order of the Committee,
THOMAS W. GREGG,
14th June, 1922. Secretary.

Blackburn & East Lancashire ROYAL INFIRMARY.

Wanted, SECOND HOUSE SURGEON (male) at a salary of £250 per annum, with board, residence, laundry, &c. to commence duties as early as possible. The hospital contains 152 beds with X-Ray and Massage Departments, V.D. Clinics, Pathological Laboratory, Eye, Ear, Nose and Throat Dept., &c. Last year there were 2489 In-patients and 6942 out-patients. There were 1856 in-patient operations and 706 out-patient operations. There is no outside work and the resident staff consists of three Surgeons.

Applications, with copies of testimonials, stating age, nationality, experience, &c. to be sent to the undersigned as early as possible.

Royal Infirmary, NATHAN A. SMITH,
Blackburn. General Supt. & Secretary.
June 16th, 1922.

East London Hospital for CHILDREN & DISPENSARY FOR WOMEN, Shadwell, E.1.

ASSISTANT SURGEON.

The Board of Management invites applications for the post of Assistant Surgeon to see out-patients on two days in each week.

By Section VI, Sub-section 20 of the Constitutions of the Hospital, every Assistant Surgeon shall be a Fellow of the Royal College of Surgeons of England.

An honorarium of £50 is attached to the post.

Applications, with copies of testimonials, should be addressed to the undersigned and delivered at the Hospital on or before Saturday, July 1st, 1922.

By Order of the Board of Management,
W. M. WILCOX, Secretary.

The General Hospital, Birmingham.

Applications are invited for the following Resident posts as from July 15th next:—

HOUSE PHYSICIAN (six months). Salary £100.*

HOUSE SURGEON (nine months, first three months in Casualty Department). Salary £100.*

HOUSE SURGEON TO SPECIAL DEPARTMENTS (Skin and Venereal). Salary £125.*

* Salaries will be reduced by £30 on Oct. 1st next.

Applications should be sent to the House Governor before July 1st.

THE ASSOCIATION OF CERTIFICATED BLIND MASSEURS,

224-6-8, GREAT PORTLAND STREET, LONDON, W. 1.
(Telephone: LANGHAM 2542).

President:
Sir ROBERT JONES, K.B.E., C.B., F.R.C.S.

Fully-qualified Blind Masseurs and Masseuses (trained at St. Dunstan's and the National Institute for the Blind) can be obtained on application to Secretary.

City of Manchester.

MEDICAL OFFICER OF HEALTH.

Applications are invited from duly qualified medical practitioners not exceeding 45 years of age, for the office of Medical Officer of Health for the City of Manchester, at a salary of £1,700 per annum for the first year, rising to £2,000 by annual increments of £100, such salary not to bear any bonus. A printed statement of the duties and conditions attached to the appointment will be forwarded on application, by letter only, addressed to the Town Clerk, and all candidates are required to acquaint themselves therewith.

Sealed applications, with recent testimonials endored "Medical Officer of Health" are to be delivered to the Town Clerk, Town Hall, Manchester on or before the 31st day of July, 1922.

Canvassing in any form, oral or written, direct or indirect, will be regarded as a disqualification, and applications and testimonials, or copies thereof, are not to be sent to members of the Committee or of the Council.

Town Hall, Manchester. P. M. HEATH,
15th June, 1922. Town Clerk.

Township of Leeds Infirmary.

ASSISTANT MEDICAL OFFICER.

The Guardians of the above Township require the services of an Assistant Medical Officer for the Indoor Institutions, Beckett Street, Leeds. Salary £380 per annum, together with board, washing, apartments, and attendance (subject to deductions under the Poor Law Officers' Superannuation Act, 1896).

Applicants must be in possession of both medical and surgical qualifications, as required by the Orders of the Ministry of Health. The Medical Superintendent of the Township Infirmary will give any information as to duties, etc., on application to him.

Applications, stating qualifications, and giving particulars of present and prior occupations, and Military service, if any, together with copies of three recent testimonials, must be received by me not later than noon of Saturday, the 8th July.

Selected candidates will receive due notice to attend.

JAMES H. FORD, Clerk to the Guardians.
Poor Law Offices,
South Parade, Leeds. 12th Jnne, 1922.

The Royal Eye and Ear HOSPITAL, Bradford.

The Committee invite applications for the posts of HONORARY OPHTHALMIC SURGEON.

HONORARY ASSISTANT OPHTHALMIC SURGEON, and

HONORARY AURAL SURGEON, for which the following qualifications are requisite, viz:—F.R.C.S. of England, Edinburgh or Ireland, Master in Surgery of a British University, or a Diploma or Degree in Ophthalmic or Aural Medicine and Surgery. The successful candidates will be expected to confine themselves to their own speciality in both hospital and private practice.

Applications, stating age, qualifications and experience, accompanied by two or more testimonials to be sent to the undersigned.

N.B. The Honorary Assistant Ophthalmic Surgeon is a Candidate for the Senior post.

C. V. WOODCOCK, Secretary.

Royal South Hants & South-AMPTON HOSPITAL, Southampton.

Required, a HOUSE PHYSICIAN. Candidates must be doubly qualified and willing to engage for twelve months. Salary £150 per annum, with rooms, board and laundry. Duties to be taken up on 20th July, 1922.

Applications, stating age, with printed copies of testimonials (limited to five) to be sent to the undersigned before the 1st July, 1922.

T. A. FISHER HALL,
13th June, 1922. Secretary.

East London Hospital for CHILDREN, Shadwell, E.1.

Applications are invited for the post of HOUSE SURGEON (male), the appointment is for six months. Board, residence and laundry are provided. Salary at the rate of £125 per annum.

Applications with testimonials to be sent to the undersigned not later than Saturday, July 8th, 1922.

W. M. WILCOX, Secretary.

The Hospital for Sick Children

Newcastle-upon-Tyne. (74 beds).

Applications are invited for the post of JUNIOR RESIDENT MEDICAL OFFICER (Male). Salary £150 per annum, with board, residence and laundry. Duties to commence 1st July.

Application, stating age and copies of testimonials to be sent to the Secretary, Mr. NEIL BRODIE, 18, City Road, Newcastle, not later than 26th June.

Telephone: Langham 2728.
Telegrams: "Assistiamo, London."

NURSES

MALE OR FEMALE.

TRAINED NURSES FOR MENTAL, MEDICAL, SURGICAL AND FEVER CASES.

Nurses reside on the premises and are available for urgent calls, Day or Night.

THE NURSES' ASSOCIATION

(In conjunction with the MALE NURSES' ASSOCIATION),

29, York Street, Baker Street, London, W.1.

(Mrs.) MILLICENT HICKS, *Superintendent*
W. J. HICKS, *Secretary.*

ESTABLISHED OVER 40 YEARS.

Mr. PERCIVAL TURNER

4 & 5, ADAM STREET, STRAND, W.C. 2.

Telegrams: "EPSOMIAN, LONDON." *Telephone:* GERRARD, 399. After Office Hours—EPSOM, 695

LOCUM TENENS provided—no charge to Principals.

Every description of AGENCY and ACCOUNTANCY work undertaken

FOR DISPOSAL.—PRACTICES AND PARTNERSHIPS in Town and Country. Incomes from £500 to £4,000 a year. Full details will be sent free to intending purchasers on application.

ST. LUKE'S HOSPITAL.

ESTABLISHED 1751.

PRIVATE NURSING STAFF DEPARTMENT.

TRAINED NURSES for **MENTAL** and **NERVOUS CASES** can be had immediately.

Apply to LADY SUPERINTENDENT, 19, Nottingham Place, London, W.1. Telephone: Mayfair 5420.

NORTHERN BRANCH.—Apply, LADY SUPERINTENDENT, 57, Clarendon Rd., Leeds. 'Phone: Leeds 2616.

THE

NEW MENTAL NURSES CO-OPERATION,

139, Edgware Road; Marble Arch, W.

Specially trained Nurses for Mental and Nerve cases. All Nurses are insured against accident.

Apply the SUPERINTENDENT.

Telegrams: "Psyconurse, Edge, London." *Telephone:* No. 6105 Paddington.

ARMY & NAVY MALE NURSES CO-OPERATION.

Patroness: HER MAJESTY, QUEEN ALEXANDRA.

This Society supplies fully-trained Medical, Surgical or Mental Male Nurses, Valet-Attendants and Masseurs of unquestionable character, who have been thoroughly trained in the Naval and Military Hospitals.

Address: SECRETARY, 11A, Welbeck St., London, W.

Tel.: Restoring, London. T/N: 2534 Mayfair.

St. John's and St. Thomas's HOUSE.—Trained and experienced MEDICAL, SURGICAL, MATERNITY NURSES and MASSEUSES can be obtained by application, personally or by letter, to the Sister-in-Charge, 12, Queen's Square, W.C. 1. (Tel. No. 7161 Museum) or to Matron, St. Thomas's Hospital (Tel. 4191 Hop). Telegraphic address: "Private Nurses, London."

JOHN BELL & CROYDEN, Limited,

Incorporating ARNOLD & SONS,

have been exclusively instructed to dispose of a number of soundly established and lucrative Practices situated respectively LONDON CITY, LONDON SUBURBS, HOME COUNTIES, MIDLAND COUNTIES AND WALES. THE MEDICAL TRANSFER DEPARTMENT is under the direction and control of the Company's GENERAL MANAGER, whose experience places at the disposal of the Profession

PERFECT SERVICE—RELIABILITY—INTEGRITY & COURTESY

in all matters pertaining to

PURCHASE and SALE OF PRACTICES and in the SELECTION OF LOCUM TENENS.

Please address your communications to —

The General Manager, JOHN BELL & CROYDEN, Ltd.

Incorporating ARNOLD & SONS, 6, Giltspur Street, E.C.

Telegraphic Address: "Instruments, London." Telephone No. City 5240.

MALE NURSES LTD.

Telephone 5969 MAYFAIR — (TEMPERANCE) ASSOCIATION 24, NOTTINGHAM ST., W.1. — Telegrams "GENTLEST, LONDON."

FEMALE NURSES

Telephone 5969 MAYFAIR — (TEMPERANCE) ASSOCIATION 24, NOTTINGHAM ST., W.1. — Telegrams "GENTLEST, LONDON."

CERTIFICATED HOSPITAL NURSES (MALE AND FEMALE) AVAILABLE DAY AND NIGHT FOR MEDICAL, SURGICAL, MENTAL, AND ALL CASES.

TERMS FROM £3 3/- ALL NURSES ARE FULLY INSURED AGAINST ACCIDENT **M. J. QUINLAN, SECRETARY.**

MALE NURSES Temperance CO-OPERATION, Ltd.

Phone: Mayfair 3297. Telegrams: Assuaged, London.

Superior Male Nurses and Valet Attendants for Mental, Medical, Travelling, and all cases.

MALE NURSES (TEMPERANCE) CO-OPERATION LTD. TOTAL ABSTINENCE THE OLDEST ESTABLISHED

Mental Nurses' Association, Ltd.

(FEMALE)

Phone: Mayfair 2287. Telegrams: Isolation, London.

Superior Mental Nurses (Male and FEMALE) supplied at a moment's notice day or night for all Nerve and Mental cases.

8, HINDE STREET, MANCHESTER SQUARE, LONDON, W.1.

Both Institutions are under the same Management.

Secretary: W. WALSHE.

NORTHERN BRANCHES—

MANCHESTER—237, Brunswick Street. *Phone: Central 4699. Tele.: Assuaged, Manchester*

EDINBURGH—7, Torphichen Street. *Phone: Central 2715. Tele.: Assuaged, Edinburgh*

All Nurses are insured under Employers Liability Act.

TELEPHONES: London, 1277 Mayfair. Manchester, 5213 Central. Glasgow, 477 Central. Dublin, 531 Ballsbridge.

NURSES MALE AND FEMALE

TELEGRAMS: Tactear, London. Surgical, Glasgow. Tactear, Manchester. Tactear, Dublin.

CAVENDISH TEMPERANCE MALE NURSES CORPORATION, LIMITED.

LONDON: 43, NEW CAVENDISH ST. MANCHESTER: 176, OXFORD ROAD. GLASGOW: 26, WINDSOR TERRACE. DUBLIN: 23, UPPER BAGGOT ST.

Superior trained Nurses for Medical, Surgical, Mental, Dipsomania, Travelling and all cases. Nurses reside on the premises, and are always ready for urgent calls, Day or Night. Skilled Masseurs and Masseuses and good Valet Attendants supplied.

Terms from £3 3s. 0d.

Apply, THE SECRETARY or LADY SUPERINTENDENT.

MR. HERBERT NEEDES,

31. BEDFORD ST., STRAND, W.C. 2.

(Gerrard 3873.) (Estab. 1860.)

This Agency (the Oldest in the Kingdom) undertakes the SALE of PRACTICES and PARTNERSHIPS, AUDITS and VALUATIONS and the SUPPLY of LOCUMS and ASSISTANTS.

No Charge to Purchasers. All Business receives Mr. NEEDES' personal attention.

1. HALF SHARE of good-class Practice in outlying suburb returning about £1,000 a year. No panel. Appts. over £500, with vacancy on staff of local Hospital. Convenient house and garden on lease at £85. Partner should be under 40 years of age, and one keen on surgery preferred. Moderate premium from suitable man.
2. HALF SHARE of unop. PRACTICE in desirable residential district within 100 miles. Returns about £2,000. Excellent shooting, fishing, golf, etc. Small house available. Succession to whole in 5 years. Prem. £1,700. Suitable for man 30–35.
3. SALOP.—PRACTICE of £1,400 in small industrial district on fringe of beautiful country. No resident opposition. Panel and appts. £700. Nice house and garden. Rent under £40. Price £2,000.
4. WEST OF ENGLAND.—In a residential Suburb of good city, a PRACTICE of about £1,400 a year, including a select panel of 800. Vendor does not dispense. Fees 3/6 to 10/6. Mids. 3 to 10 gns. Very convenient residence with garden. Rent £80.
5. IN ONE OF THE BEST RESIDENTIAL SUBURBS of Manchester, an old-estab. PRACTICE, in vendor's hands 14 years, and returning £900 a year, including small panel of over £100 & appt. of £50–60. Car not required. Good semi-detached double-fronted house with garden back and front. Price for goodwill and freehold only £2,500, of which £800 can remain on mortgage.
6. WEST RIDING (Yorks).—PRACTICE in country town averaging over £2,500 a year (1921 over £3,000) including panel of 1,900. Good fees and scope for surgery. Two houses can be had at joint rental of £112. Premium £3,750, of which one third can be paid by deferred instalments. Would suit two friends, though can be worked single-handed by active incumbent.
7. GOOD CLASS WEST-END PRACTICE for sale, with efficient Partnership introduction. Average returns about £2,000. Expenses confined to car. Commodious residence, leasehold to go with goodwill. Prem. for both £5,000, of which £2,000 can be paid in yearly instalments.
8. REQUIRED country PRACTICE of £800 to £1,200 p.a. in any part South of Derby. House with 5–6 bedrooms and garden essential, preferably on lease. Cash for suitable investment.

Details in reply to above received in strict confidence.

THE MEDICAL AGENCY,

WATERGATE HOUSE,

York Buildings, Adelphi, W.C. 2.

Managing Director: J. A. REASIDE.

Telegrams: "TUBERCLE, LONDON." Telephone: GERRARD, 8351.

The Agency undertakes the Transfer of Practices. Introduction of Partners, Investigations for Purchasers, Valuations, Negotiation of Terms, the Supply of Locum Tenens and Assistants, and Medical Accountancy.

LEE & MARTIN, LTD.,

THE BIRMINGHAM MEDICAL AGENCY.

71, TEMPLE ROW, BIRMINGHAM.

TELEGRAMS: "Locum, Birmingham." TELEPHONE: 1116 Central, B'ham.

Transfers of Practices and Partnerships arranged

Accounts Investigated & Income-tax Returns prepared

"LOCUMS" AND ASSISTANTS SUPPLIED.

THE MANCHESTER MEDICAL AND SCHOLASTIC ASSOCIATION, LTD.,

8, KING STREET.

Telegraphic Address: "STUDENT, MANCHESTER."

TRANSFERS and PARTNERSHIPS arranged, and Investigations, Valuations, &c. undertaken.

ASSISTANTS & LOCUM TENENS SUPPLIED.

PRACTICES for sale. Particulars on application.

DR. J. FIELD HALL,

(FIELDHALL LIMITED)

MEDICAL TRANSFER AGENT,

28, Craven Street, Strand, W.C. 2.

Telephones { GERRARD 4667. GERRARD 2099.

Telegrams: "FIELDHALL, WESTRAND-LONDON."

ESTABLISHED 1863.

PEACOCK & HADLEY,

(Mr. A. HADLEY)

MEDICAL TRANSFER AGENCY,

19, Craven Street, Strand, W.C. 2.

Telegrams: Herbaria, Westrand—London.

Telephone: Central 1112.

LOCUM TENENS and ASSISTANTS supplied.

FOR DISPOSAL.

1. MIDLANDS.—Large Town. Old-established PRACTICE, returning about £4,000 a year. Panel and clubs yield £1,700. Good house, moderate rent. Premium 1½ years' purchase.
2. SOUTH COAST TOWN.—Middle-class private and panel PRACTICE. Receipts last year £2,250, about half from panel and clubs. Good house, 12 rooms. House and Practice for sale on very easy terms.
3. NORTH WALES.—Popular Holiday Resort. Good-class PRACTICE held many years by Vendor. Receipts about £2,000 a year. Large house with modern requirements. Long lease. Premium £3,000.
4. NORTHERN COUNTY.—Near Coast. Town and Country PRACTICE. No opposition. Receipts average £2,700 p.a. Good house, garage, etc. Premium £3,000. Good schools, &c., near.
5. MANCHESTER.—Middle and working-class PRACTICE. Receipts £1,500 a year (£1,000 from Health Insurance). Scope for increase. Nice corner house. Rent £40, long lease. Premium £1,750.
6. YORKS.—Suburb of large town. General and Panel PRACTICE. Receipts £2,300 p.a. Panel 1,770. Good corner house. Rent £50, lease. Premium £2,700 on very easy terms.
7. SEASIDE RESORT (SOUTH WALES).—Middle-class PRACTICE, now yielding £800 to £900 a year. Scope for increase. Good fees. Good 12-roomed house, large garden, garage, etc. Rent £120. Premium £1,000.
8. SMALL SANATORIUM.—Situated in a beautiful district, Midlands. Accommodating 15 to 20 patients. Profits last year, £2,000. Ten years' lease. Goodwill and furniture £2,000.
9. LONDON, N.E.—Old-established PRACTICE Receipts about £1,750 (£930 from panel). Commodious house £75 p.a., lease if desired. Branch surgery, rent £42. Premium £2,500.

No charge to purchasers or for enquiries.

MR. J. C. NEEDES,

(P. W. Needes).

Medical Partnership and Conveyancing Agency

8, DUKE STREET, ADELPHI, W.C. 2.

(Late 1, ADAM STREET, ADELPHI.)

Telegrams: "Aquirement, Westrand, London."
Telephone: Gerrard 3543.

This Agency (which has been established since 1875) undertakes the Sale of Practices, the Introduction of Partners, Valuations, Investigations on behalf of Purchasers, the supply of trustworthy Locum Tenens and Assistants, and every other description of Medical Agency business.

N.B.—No charges made to purchasers.

1. SOUTH-EAST COAST.—In a favourite seaside watering place, a well-established mixed-class and non-dispensing PRACTICE, worth last year £2,243 including panel £859 and clubs £234. Visits 3/6 to 31/6. Very little midwifery (12 cases yearly) or night work. House (10 rooms) must be purchased for £1,000 but only £200 required down and remainder on Mortgage. Moderate premium (£2,750) will be accepted for practice, part by instalments.
2. SURREY.—In a very pleasant residential town within an hour's run of London. A small PRACTICE worth last year nearly £350 is for disposal through advancing age of the Incumbent. Held many years. Visits 5/- to 21/-. Midwifery refused. Desirable residence containing 3 reception rooms, 5 bedrooms, dressing room, bathroom, etc. with about ½ an acre of garden attached. Rent £110 a year on lease. Ample scope for an energetic gentleman.
3. SOUTH AFRICA.—University and Hospital Town. Old-established non-dispensing PRACTICE, held 15 years by present incumbent. Income about £1,000 a year. Usual fee 10/6; a few at 5/- and 7/6. Midwifery discouraged (about 30 cases yearly). Fees 10 guineas upwards. Consulting room in centre of town. Residence available with ample accommodation. Premium £3,000. Six months' introduction given.
4. ABOUT 60 MILES FROM LONDON.—In a beautiful Country District, within a few miles of a large Town, an old-established PRACTICE (held 20 years by vendor), worth £2,000 p.a., of which over £1,500 is derived from panel and appointments. Easily worked. Good house (3 reception rooms, 6 bedrooms, bathroom, &c.). Rent £60 a year on lease. Premium only £2,500. Good hunting, fishing, shooting, &c.

BLUNDELL & CO.,

Walter House, 418-422, Strand, W.C. 2.

(Entrance Bedford Street.)

Telephone: 7148 GERRARD.

Inland Telegrams: "BLUNDELL, 418, STRAND."

Cable Address: (via Eastern) "RECALLABLE, LONDON."

LOCUMS SUPPLIED.

West End. — Promising NUCLEUS of £400, worked at Consulting Rooms in best position, with long lease. Fees 1 gn. and 2 gns. Vendor has neglected the practice, and the prospects ought to be very good. Premium only £250.

Wales.—Very old-established PRACTICE in country town in agricultural district. Rece pts average £1,350. Scope for minor surgery. Good house and garden, garage, etc. Good fishing, tennis, etc.

Channel Isles. — Promising NUCLEUS.

Unopposed Country Practice near the Sea. Receipts about £1,400. Panel 600. Fees good. Prosperous district. Good house with bathroom, garage and an acre of garden.

Near Oxford Circus.—Practice of £750 including panel about 1,200. Valuable lease.

Australia. — Unopposed PRACTICE of £1,350. Appointments £250. Farming district with beautiful climate. Rent £78. Premium £950.

North Riding. — Unopposed NUCLEUS. Panel £200. Poor Law and M.O. appointments. Station in the place. Nominal premium.

London, S.W.—Mixed Practice of £1,700, with 1,170 panel, near West End. Fees 3/6 up. Very convenient house with long lease. Rent £70.

Death Vacancy.— North Wales. Country PRACTICE of about £1,200 including 1,000 panel. Appointments £100 and good-class private practice.

Cheshire.—Middle and working-class PRACTICE on the coast. Receipts £2,300 increasing. Panel 1,100. Premium £2,500. Convenient house in best position.

East London.—Practice of £1,200, near the City. Panel £800. Rent £35.

Cathedral City.—Middle and working-class PRACTICE of £1,530 including panel 1,700. Opposition declining. Scope for active man. House in best position.

Liverpool.—Partnership with Succession to good-class Practice of £3,000 in residential suburb. Small panel.

Home County. — Old-established unopposed PRACTICE of £1,250 in nice district near two towns and not far from the sea. Panel £500, appointment £22. Good house and large garden can be bought. Good society and golf. Vendor retiring.

Derbyshire. — Half-share of £1,500. Premium £750, £500 down. Small town near good schools. Panel 1,200. Appointments £180. House with low rent.

West Riding.—Practice of £1,200 in important town. Panel 1,100. No midwifery. Great scope. Rent £45. Premium £1,500.

County Town in the Midlands. Middle and working-class PRACTICE of £1,500. Panel £870. Appointments £280. Scope for increase. House with 5 bedrooms. Premium £1,500.

Midlands.—Practice of £900 in small country town in beautiful district. Good proportion of panel and appointments. Scope for active man. Vendor retiring. Good house and garden, can be rented.

Midlands.—Partnership. Third share of £2,100 in residential place. Scope for surgery.

West Riding.—Middle and working-class PRACTICE of £2,300. Panel 1,770. Rent £45.

Nursing Home.—Profits have been over £1,000. Rent £80. Price £800, including furniture. Would suit a lady doctor

Purchasers stating their requirements can have Particulars of other Practices not advertised.

THE

SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION,

(Formerly at 22, Craven Street, Trafalgar Square, W.C.) LIMITED

12, STRATFORD PLACE, OXFORD STREET, W. 1.

Telegraphic Address: "TRIFORM, WESDO, LONDON." *Telephone: MAYFAIR 2400.*

Practices and Partnerships for Disposal. No charge to Purchasers.

LONDON, S.E.—(1) Very old-established PRACTICE over £1,000 p.a. in Suburban District. Panel 620. No midwifery. No conveyance. Very attractive detached corner house (6 bedrooms). Very good garden. Premium 1¼ years' purchase.

SOUTH OF ENGLAND.—(2) Favourite Watering Place. Old-established PRACTICE about £1,150 p.a., including good appointments and panel. Premium £1,500.

SOUTH OF ENGLAND.—(3) Under 85 miles from London. Well-established PRACTICE over £2,000 p.a., in delightfully situated Market Town. Panel 970. Good detached house. Cottage Hospital.

MIDDLESEX.—(4) PARTNERSHIP in middle and working-class Practice over £2,000 p.a.. Panel 2,000. House with 3/4 bedrooms. Rent £45. Premium one-half share £1,500.

KENSINGTON.—(5) PARTNERSHIP (with view to succession) in good-class non-dispensing Practice, £2,400 p.a., in Residential District. Premium one-third or one-half share 2 years' purchase Partner must be experienced in good-class Practice.

SCOTLAND.—(6) Health Resort. Good-class increasing PRACTICE £700. Panel 270/280. Commodious and convenient house Sport of all kinds.

NORTH-WEST OF ENGLAND.—(7) PRACTICE about £1,400 in one of the richest farming districts, easy distance of Health Resort. Panel 750. Practice compact. Good family house (6 bedrooms). Rent £45. Premium £1,600 or near offer, payable £1,000 down.

YORKSHIRE (WEST RIDING).—(8) ASSISTANT required (with view to Partnership or Succession) in unopposed Country Practice about £1 500 p.a. Panel 1,643. After preliminary assistantship one-third share offered without payment of premium and remainder at 1½ year's purchase.

LONDON, N.—(9) Cash and Panel PRACTICE £3,000 p.a. Panel 2,600 (about). Premium 1½ years' purchase, part by instalments. Would suit two friends.

TRANSVAAL.—(10) Unopposed PRACTICE £2,000 p.a. in agricultural district. About three-fourths income from appointments. Premium £2,000 part by instalments.

HOME COUNTIES.—(11) PARTNERSHIP in good Country Town Practice over £5,400. Panel under 2,000. One-fifth Share at 2 years' purchase. Scope for speciality.

NORTH LONDON.—(12) Good middle-class PRACTICE between £2,800/£3,000 per annum in outlying Residential District. Panel 755. No appointments. Excellent house. Premium 1½ years' purchase.

UNIVERSITY TOWN.—(13) Well established PRACTICE suitable for Lady Doctor. Income over £1,500 increasing and being carried on by Medical Woman. (Appointments worth nearly £300, limited Panel). Premium £1,300.

YORKSHIRE (WEST RIDING).—(14) PRACTICE over £1,100 in small Manufacturing Town. Panel 960. Not much Midwifery. Detached house (5 bedrooms and good garden). Rent £70. Premium £1,500.

NORTH OF ENGLAND.—(15) Lucrative PRACTICE £2,700 p.a., within easy distance of Liverpool. Panel about 1,500. Pleasantly situated house with about 6 bedrooms. Premium £3,500.

LAKE DISTRICT.—(16) Unopposed Country PRACTICE £1,200/1,400 p.a., in Agricultural District. Panel 600. Good house, garden and garage. Rent £50. Premium only £1,500.

NORTH OF ENGLAND.—(17) Mixed PRACTICE about £2,200 p.a., in University City. Panel 2,500. Rent £55. Premium £2,700.

WEST OF ENGLAND.—(18) Small Market Town. PRACTICE about £1,700. Panel 250. Detached house (5 bedrooms) in good repair. Rent £35. Premium £1,650. Cottage Hospital.

PRIVATE ASYLUM.—(19) for Treatment of Mental, Nervous and Kindred Disorders. Half-share PARTNERSHIP in very old-established Home, licensed under the Acts. Capital required about £3,500.

SPECIAL X-RAY & ELECTRO-THERAPEUTICAL PRACTICE.—(20) Nearly £1,300 p.a. in University City. Excellent opening for young, energetic man. Reasonable offer entertained.

SOUTH OF ENGLAND.—(21) Seaport Town. PARTNERSHIP in well-established Practice over £4,000. Premium one-third share 1½ years' purchase. Purchaser must be good Surgeon.

LONDON, S.W.—(22) (Near West End). Mixed PRACTICE about £2,000 p.a. in Suburb. Panel about 1,500. Rent of House £70. Premium 1½ years' purchase.

FAVOURITE HOME COUNTY.—(23) PARTNERSHIP in good-class Practice in picturesquely situated Country Town. Panel 560. Well built house (4/5 bedrooms). Premium for share worth about £1,400, 2 years' purchase.

SOUTH OF ENGLAND.—(24) JUNIOR PARTNER required in Town and Country Practice, about £2,000 p.a. Panel 2,000. One-third share after preliminary assistantship at 2 years' purchase. Cottage Hospital. Good scope.

WESTERN AUSTRALIA.—(25) Well-established PRACTICE over £3,500, in good Town, easy access of important City. Good house, with 5 acres of land to be purchased. Premium for Practice £1,250.

LANCASHIRE.—(26) PARTNERSHIP (with preliminary Assistantship).—In old-established good-class Practice in Manufacturing Town. No panel. Visits 3/6 to £2/2. Premium for share worth about £750 p.a., 1¾ years' purchase, with option to increase. Partner must be a physician.

NORTH OF ENGLAND.—(27) Inland Health Resort. THIRD PARTNER required in increasing mixed Practice £3,400 p.a. Panel 1,900. Premium one-fourth share 2 years' purchase with option to increase up to one-third. Cottage Hospital.

MIDLANDS.—(28) Important up-to-date Town. PARTNERSHIP in Practice over £2,100. Panel 1,500. Semi-detached corner house (8 bedrooms). Premium two-fifths share 1½ years' purchase, to include ⅖ of any increase in receipts. Partner should be about 30 and married.

DEATH VACANCY (NORTH WALES) near coast.—(29) Lucrative country PRACTICE, over £3,000 p.a. (Appts. £550). Panel about 1,000. Premium £2,500.

SOUTH COAST.—(30) Seaport Town. Well-established PRACTICE of £2,400. Panel 1,275. Double-fronted detached house with 5 bedrooms, etc. Rent £65. Premium 1½ years' purchase.

EAST ANGLIA.—(31) Small, select Seaside Resort. Non-dispensing PRACTICE over £600. Panel 300. Excellent house with 8 bedrooms. Premium 1½ years' purchase.

EASTERN COUNTIES.—(32) Unopposed Country PRACTICE in agricultural district. Receipts 1921, £1,900. Panel 680. House (6 bedrooms, etc.) with garden one acre. Rent £60. Premium 1½ years' purchase.

SOUTH OF ENGLAND.—(33) Seaport Town. THIRD PARTNER required in increasing Practice about £2,800 p.a. Panel 2,500. Share worth £650 with option to increase later. Premium £1,000.

WEST MIDLANDS.—(34) Junior PARTNER required in rapidly increasing old-established good class Country Practice over £2,000 p.a. Panel 950. Premium one-third share, £1,000. Knowledge of surgery advantageous.

EAST MIDLANDS.—(35) PARTNERSHIP (with preliminary Assistantship) in old-established Practice over £3,000 in Country Town. Panel 2,200. Premium one-half share, 1½ years' purchase on easy terms.

SOUTH MIDLANDS.—(36) PARTNERSHIP (with view to succession) in unopposed country Practice over £2,000 p.a. in good-class residential district. Panel about 1,000. One-third share after short preliminary Assistantship. Partner should have some experience in general practice and be able to cycle or motor-cycle.

NORTH AFRICA.—(37) Special Ophthalmic PRACTICE of £3,400 among English residents, etc. in up-to-date City. Very good social advantages.

WEST MIDLANDS.—(38) First-rate Country Town. Old-established PRACTICE. Cash Receipts for the last 3 years averaged £2,014 about half being from very easily worked panel. Good house, well-situated, with ample accommodation. Excellent social, educational and sporting advantages. Premium 1½ years' purchase.

LONDON (WEST-END).—(39) PARTNERSHIP in high-class non-dispensing Practice in one of the best residential parts. No panel. Fees usually £1 1s.; some 10/6. No midwifery. Corner house in best position. Premium for share worth about £900, 2 years' purchase.

EASTERN COUNTIES.—(40) Cathedral City. Old-established PRACTICE about £1,400 p.a. Panel 1,750. Practically no midwifery or night work. House contains 4 bedrooms, etc. Premium £1,500.

LANCASHIRE.—(41) PRACTICE averaging £3,500 p.a. in manufacturing town. Panel over 2,000. Visits 3s. to £1 1s. Premium one years' purchase. Eminently suitable for two to buy together. Two houses available. Good Hospital.

NORTH-WEST COAST.—(42) Mixed-class PRACTICE about £2,000 in fashionable Seaside Resort. Appointments worth about £200. No Panel. Excellent double-fronted house (13 bedrooms) Prem. £3,000.

BRISTOL CHANNEL.—(43) Non-dispensing PRACTICE averaging £858 per annum in favourite Watering Place. No panel or midwifery. Cottage Hospital with chance of appointment on Staff. Good scope.

SOUTH COAST.—(44) Health Resort. PARTNERSHIP in well-established Practice of £3,300. Panel 2,000. Premium one-fourth share £1,250. Incoming Partner should be aged 27/30, unmarried, and with some experience in surgery.

WEST MIDLANDS.—(45) Unopposed Country PRACTICE nearly £1,400 p.a. Panel 1,300. House contains 5 bedrooms, etc. Nearly acre garden. Rent £37 on lease. Premium £2,000.

SOUTH COAST.—(46) Health Resort. Mixed-class PRACTICE. Receipts 1921 £2,243. Panel 1,400. Ten-roomed house. Premium £2,750, part by instalments.

ASSISTANTS AND LOCUM TENENS SUPPLIED.

RESIDENT PATIENTS INTRODUCED.

Schools and Tutors in all parts of the Country and Abroad recommended for Boys and Girls.

Revised and amplified edition of MEDICAL PARTNERSHIPS, TRANSFERS AND ASSISTANTSHIPS (BARNARD & STOCKER). *Published by the Association, price* 13/9.

All enquiries to be addressed to Mr. A. V. STOREY, *General Manager.*

Printed and published by the British Medical Association, at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.



Use an

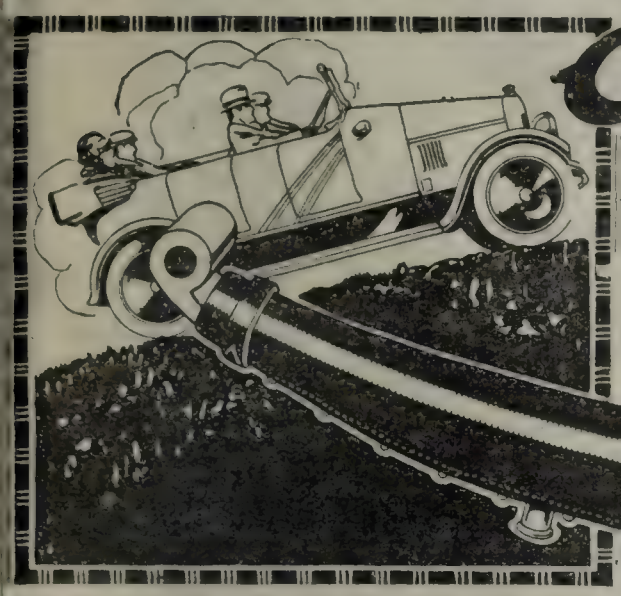
ARIEL

for your messages. It's quick and sure

Prices from £10 10s. Carriage paid by goods train to nearest agent's station.

Catalogue free from

ARIEL WORKS, Ltd., 57, Pourbrook, BIRMINGHAM



An Infallible Cure!!

For LEAF SPRING CONGESTION

DUCO GREASE-RETAINING **GAITERS**

provide the constant means of lubrication which ensures the leaves of the spring being kept free from corrosion and rust, permitting and promoting freedom of movement, improved suspension and greater resiliency, and the elimination of spring breakage.

"DUCO" Booklet gratis and post free.

Obtainable from all Garages from 9 6 each.

Wholesale only: **BROWN BROTHERS LTD.**
(with which is amalgamated THOMSON & BROWN BROTHERS LTD.)
GREAT EASTERN ST., LONDON, E.C. 2; and 14 & 15, UPPER MARYLEBONE ST., W. 1 (off Great Portland St., W.), and Branches.

The "BARTON"

SPHYGMOMANOMETER

possesses the great advantage of being a very active and reliable instrument, extremely light and portable, and always ready for use, those absolute essentials for the apparatus of a busy Medical Practitioner.

Reduced Price ... £3-3-0.



The Surgical Manufacturing Co., Ltd.,

SURGICAL INSTRUMENT MAKERS to the WAR OFFICE, &c.

83-85, MORTIMER STREET, LONDON, W.1.

A Valuable Aid for DOCTORS and their PATIENTS

The "ACOUSTIQUE" the NEW way to hearing, has successfully overcome disappointment and scepticism because it *is entirely different* from all else. Medical Men know cases vary greatly (even temperament bears on the case), so that deafness can only be successfully helped by INDIVIDUAL TREATMENT. This is the secret of success of of the "ACOUSTIQUE," which is INDIVIDUALLY FITTED to the requirements of each case Nerve cases can be fitted and an Eminent Aural Surgeon was recently impressed by the NATURAL results. Another one has recently enlisted the permanent services of the "ACOUSTIQUE" to complete the valuable assistance afforded by him. The "ACOUSTIQUE" is made in 24 types—one for EVERY case. An exclusive feature is the 'Non-Head Attachment': thus it is as inconspicuous for men as women, leaving the hands free, and the whole is the smallest, lightest, BEST, most natural and strongest (far reaching) aid ever made, combining portability with utility.

The "ACOUSTIQUE" has been supplied to Royalty, and letters of testimony bear many most Distinguished names including many Doctors. A special invitation is made to deaf members of the faculty, and all those interested in deaf cases NO FEE is charged for interview and Mr. R. H. DENT (the Originator) will be pleased to make an appointment (for your convenience), by letter, wire, or 'phone, 1380 Mayfair.—*To Aural Surgeons and Doctors: your prescriptions of individual cases correctly made up and patients fitted in your presence.*

MAYFAIR 1380.

Mr. R. H. DENT'S

"ACOUSTIQUE"

UNDER DISTINGUISHED PATRONAGE

FOR DEAF EARS

95, Wigmore St., LONDON, W.1.

(4 doors from Duke Street.)



Printed and published by the British Medical Association, at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of London.

UNIVERSITY OF ILLINOIS-URBANA
3 0112 063819194